

Consortium Agreement for the National Alliance for Water Innovation (NAWI)

The NATIONAL ALLIANCE FOR WATER INNOVATION (“NAWI”), is a DOE Energy Innovation Hub (“Hub”) selected for federal funding under the U.S. Department of Energy (DOE) Office of Energy Efficiency and Renewable Energy (EERE) Advanced Manufacturing Office Funding Opportunity Announcement Number DE-FOA-0001905 for the Energy-Water Desalination Hub (“DOE FOA”). This consortium agreement (the “Agreement” and “Consortium Agreement”) sets out the rights and responsibilities of all parties that are performing work under NAWI funding as part of the Consortium. Throughout the Consortium Agreement and its Appendices, NAWI is also referred to as the “NAWI Hub” and the “NAWI Energy-Water Desalination Hub”.

RECITALS

Whereas, NAWI is a DOE Energy Innovation Hub established to address water security issues in the U.S. through multidisciplinary early stage research and development for energy-efficient and low-cost desalination technologies that will enhance the economic, environmental, and energy security of the nation;

Whereas, the DOE selected Lawrence Berkeley National Laboratory (LBNL) as the Lead Institution for NAWI;

Whereas, DOE National Laboratories are receiving their NAWI Funding for participating in NAWI directly from the DOE, or if requested by DOE through DOE Contractor Orders issued through LBNL, and the other Consortium Members are receiving their NAWI Funding and providing cost share via Project agreements, such as Subcontracts or Collaborative Research and Development Agreements issued through LBNL;

Whereas, in accordance with the DOE FOA, NAWI will conduct its activities as a single operating organization of researchers, with activities carried out in multiple site locations; and

Whereas, this Agreement is intended to implement the objectives of the DOE FOA and to document the understandings between, and the procedures to be followed by, the Consortium Members in furtherance of the goals of NAWI.

CHARTER AND MISSION

The mission of the NAWI Energy-Water Desalination Hub shall be to advance the circular water economy by developing next-generation autonomous, precise, resilient, intensified, modular, and electrified water treatment technologies through a nationally-coordinated program of early-stage applied research.

To advance the mission of NAWI, the NAWI Alliance membership organization (“NAWI Alliance”) and the NAWI Research Consortium (“NAWI Consortium”) were created.

The NAWI Alliance will be a nationally-recognized cross-industry membership organization committed to the common goal of advancing water treatment research, science and technology in the U.S. and stimulating research collaborations to lower the cost and energy of water treatment.

The NAWI Alliance will engage U.S. organizations across the supply chain of water treatment as well as organizations or individuals that comprise the water innovation ecosystem with benefits including, the opportunity to attend annual and specialty meetings; gain access to online resources including publications, presentations and software; and participate in technology roadmapping programs.

In addition to the NAWI Alliance, in an effort to establish a successful Hub, NAWI brings highly-qualified, deeply committed researchers and engineers together in this “Consortium”, who will develop and execute an integrated portfolio of collaborative research and development to advance the technical goals of the program. The Consortium consists of research and industry Consortium Members with experience performing peer-reviewed research in desalination or related water treatment processes who: (a) were selected to conduct a research project; and (b) have signed this Consortium Agreement.

This Consortium Agreement enables rapid start-up of research projects and allows flexible redeployment of research activities between Consortium Members - enabling the NAWI Hub research program to have agility to respond to changes in research priorities during the life of the Consortium.

DEFINITIONS AND CONSORTIUM MEMBERS

1. DEFINITIONS

- 1.1. “Alliance Agreement” refers to the agreement entered into by an institution of higher education; an appropriate State or Federal entity, including a DOE/NNSA Federally Funded Research and Development Center; a nongovernmental organization with expertise in advanced energy technology research, development, demonstration, or commercial application related to the NAWI Energy-Water Desalination Hub; or other relevant entity the Secretary of Energy determines appropriate to join the NAWI Alliance organization and participate in the activities or events of the NAWI Hub. Members of the Alliance are referred to as “Alliance Members.”
- 1.2. “Background IP” means IP that is: (i) in existence prior to or first produced outside of NAWI Funding, except, in the case of Inventions, the Invention must have been conceived outside of work funded by NAWI and not first actually reduced to practice through work funded by NAWI, (ii) legally necessary for performance of NAWI Work, (iii) owned or licensed by a Consortium Member who can grant the right to practice such IP and (iv) identified in writing by such Consortium Member.
- 1.3. “Computer Software” or “Software” means (i) computer programs that comprise a series of instructions, rules, routines, or statements, regardless of the media in which recorded, that allow or cause a computer to perform a specific operation or series of operations; and (ii) recorded information comprising source code listings, design details, algorithms, processes, flow charts, formulas, and related material, including manuals and instructional materials, that would enable the computer program to be produced, created, or compiled.
- 1.4. “Consortium Member” means an entity that: (a) is an institution of higher education; an appropriate State or Federal entity, including a DOE/NNSA Federally Funded Research and Development Center; a nongovernmental organization with expertise in advanced

energy technology research, development, demonstration, or commercial application related to the NAWI Energy-Water Desalination Hub, and is incorporated or otherwise formed under the laws of a State or territory of the United States with majority domestic ownership or control and have a physical place of business in the United States unless a waiver is granted as provided in Appendix I – Foreign Entity Participation Plan , and (b) has been selected for NAWI Funding, (i) to receive federal NAWI Funding, and/or (ii) has committed to providing cost-share (either in-kind or funds-in), and (c) has signed this Agreement, the IPMP, and the NDA.

- 1.5. "Consortium Member Representatives" means all employees, faculty, and staff and Participating Researchers of a Consortium Member participating in NAWI.
- 1.6. "CRADA" means a Cooperative Research and Development Agreement under the Stevenson-Wylder Act (15 USC 3710a).
- 1.7. "DOE FOA" means DOE FOA Number DE-FOA-0001905 for the Energy-Water Desalination Hub.
- 1.8. "DOE Contractor Orders" or "DCO(s)" means a research order or agreement between DOE M&O contractor laboratories.
- 1.9. "Effective Date" means effective for each Consortium Member as of the date of Consortium Member's contract representative's signature to this Agreement.
- 1.10. "Intellectual Property" or "IP" means technical information, Inventions, developments, discoveries, methods, techniques, formulae, algorithms, data, or processes, and any other legally protectable information, including Computer Software, and not including trade secrets. Intellectual Property also includes patent applications, patents, copyrights, trademarks, and mask works, and any other legally protectable information, including Computer Software.
- 1.11. "Intellectual Property Management Plan" or "IPMP" refers to Appendix A in which the Consortium Members have agreed upon management of intellectual property rights.
- 1.12. "Inventing Consortium Member" means the Consortium Member whose Participating Researcher is an inventor or creator of NAWI IP.
- 1.13. "Invention" means any discovery or a new device, method, or process developed from study and experimentation that is or may be patentable or otherwise protectable under Title 35 of the United States Code.
- 1.14. "Management Responsibility" means serving as a supervisor, manager, executive, officer, or member of a Governance Board.
- 1.15. "National Laboratory" means LBNL, ORNL, NREL, NETL, or any other U.S. DOE national laboratory that becomes a Research Consortium Member, and collectively as "National Laboratories" or "National Labs".
- 1.16. "NAWI COI Administrator" means the administrator appointed by the lead institution who has responsibility for maintaining copies of all disclosures and conflict management plans ("CMP's") from the lead institution and Consortium Member institutions, and for sharing those documents with the LBNL COI program manager.

- 1.17. “NAWI Funding” or “NAWI Funds” means all funds contributed, received or spent by Consortium Members under a Project agreement, including all Federal funding and non-federal cost share cash and in-kind funds.
- 1.18. “Subject Invention” means any Invention of a Consortium Member that is conceived or first actually reduced to practice in the performance of NAWI Work or under NAWI Funding.
- 1.19. “NAWI IP” means all IP created, conceived, or first actually reduced to practice in the performance of NAWI Work. Copyright in scientific and technical articles published in academic, technical or professional journals, symposia proceedings or similar works is specifically excluded from NAWI IP.
- 1.20. “NAWI Key Personnel” refers to individuals carrying out a management role or having Management Responsibility at NAWI, or as identified in the NAWI Proposal submission or the NAWI Annual Operating Plan, including individuals serving on the NAWI executive team, governance board and research council.
- 1.21. “NAWI Principal Investigator(s), NAWI PI or NAWI PIs” means a Consortium Member Principal Investigator as identified by in a proposal to NAWI or DOE, or in the NAWI Operating Plan, or identified as conducting NAWI Work at a NAWI Consortium Member.
- 1.22. “NAWI Work” means any work, research, or activity performed by a Consortium Member during its respective Participation Period in NAWI pursuant to or under this Agreement, as set further forth in a Project agreement, CRADA, or Subcontract.
- 1.23. “NAWI” or “NAWI Hub” or “NAWI Energy-Water Desalination Hub” means the National Alliance for Water Innovation Hub selected for federal funding under the U.S. Department of Energy (“DOE”) Office of Energy Efficiency and Renewable Energy (“EERE”), Advanced Manufacturing Office Funding Opportunity Announcement Number DE-FOA-0001905 for the Energy-Water Desalination Hub (“DOE FOA”).
- 1.24. “Non-Federal Cost-Share” means in-kind and/or cash contributions provided by an NAWI Alliance Member and/or Consortium Member for a NAWI Project.
- 1.25. “Non-Disclosure Agreement” or “NDA” refers to an agreement under which the Consortium Members have agreed to protect each Consortium Member’s proprietary information shared in the course of and under NAWI Work. This Agreement includes a Consortium NDA in Appendix B.
- 1.26. “Participating Researcher” means any individual who is performing NAWI Work for a Consortium Member.
- 1.27. “Participation Period” is defined as the period of time during which a Consortium Member is part of NAWI.
- 1.28. “Project” means a specific and distinct work scope performed by a defined subset of Participating Researchers for a NAWI research scope that is funded by NAWI, either through NAWI funds, DOE direct funding to NAWI Consortium Members for NAWI Work or through Non-Federal Cost Share. A “Project agreement” can be a CRADA, a

Subcontract, a DOE Contractor Order, or a DOE direct funding agreement or mechanism such as a Work Authorization Statement (WAS) or Annual Operating Plan (AOP).

- 1.29. "Subcontract" means a subcontract or the Project agreement which flows NAWI Funds and terms to a Consortium Member for Project work.
- 1.30. "Technology Transfer Office" or "TTO" is defined as a division or department of a Consortium Member, or an organization, such as a non-profit organization or a foundation, that engages in transferring technology on behalf of the Consortium Member.
- 1.31. "Technical Contact" means the individual identified in Appendix J as the technical representative or contact for a Consortium Member. "Administrative Contact" means the individual identified in Appendix J as the administrative representative or contact, authorized to receive all notices in this Consortium Agreement and its Plans.
- 1.32. "Trademark" or "Service Mark" means a distinctive mark, symbol, or emblem used in commerce by a producer or manufacturer to identify and distinguish its goods or services from those of others.

2. CONSORTIUM MEMBERS

- 2.1. The list of Consortium Members will be amended as new Consortium Members join and is included as Appendix J - Current Consortium Members.

3. RIGHTS AND RESPONSIBILITIES OF CONSORTIUM MEMBERS

- 3.1. Consortium Members agree to abide by the terms of the Consortium as described in the individual Project agreements, including Subcontracts or CRADAs executed between LBNL and the Consortium Members for NAWI Work, and further described in this Agreement and its attachments and signed by all the Consortium Members, and any other requirements set forth in the FOA or directed by DOE. Consortium Members must also maintain membership in the NAWI Alliance and sign the NAWI Alliance Agreement.
- 3.2. Consortium Members are encouraged to respond to NAWI Requests For Proposals (RFPs) to conduct NAWI Work.
- 3.3. Consortium Members agree to work collaboratively and cooperatively under NAWI to further the mission and goals of NAWI. Consortium Members are encouraged to fully participate in NAWI and agree to the following:
 - 3.3.1. Attend NAWI project team meetings, Consortium meetings, and the Annual Alliance meetings,
 - 3.3.2. Participate in Technology Roadmapping, DOE reviews, Topic Areas activities, and lead and participate in NAWI research and development;
 - 3.3.3. Provide timely, accurate and complete responses to required reports, compliance forms and financial documents;
 - 3.3.4. Coordinate government affairs and public affairs activities with NAWI designated staff;

- 3.3.5. Identify and secure eligible cost share, and meet its estimated cost share percent of total project costs to support NAWI's required cost share; and
- 3.3.6. During the RFP process, put forward research projects that have at least 25% cost share.
- 3.4. It is the goal of the NAWI Hub to foster U.S. domestic innovation and economic growth in the water technology industry, and NAWI Funding is intended to be directed toward U.S. institutions and all work performed in the U.S, and whenever possible, on research projects for which there is U.S. industry support. Accordingly, Consortium Members agree to the Foreign Entity Participation Plan attached in Appendix I, the U.S. Manufacturing Plan attached in Appendix H, and the Export Control Plan attached in Appendix C. Consortium Members agree to also flow down the applicable requirements of their respective CRADAs, Subcontracts, or Project agreements and this Consortium Agreement to any lower tier subcontractors, partners or licensees.
- 3.4.1. All NAWI Consortium Members must be incorporated (or otherwise formed) under the laws of a State or territory of the United States, must have majority domestic ownership or control and must have a physical location for business operations in the United States. Should any NAWI Consortium Member change from domestic ownership or control to majority foreign ownership or control, or no longer have a physical location for business operations in the US, in such case NAWI Consortium Members agree to promptly notify and seek a Foreign Entity Participation waiver approved by DOE AMO through the execution of Waiver Request process outlined in Appendix I to provide the required waiver information to DOE, and then will accept the final decision of the DOE.
- 3.4.2. As set forth herein, all NAWI Work must be performed in the United States and by U.S. entities, unless a waiver is granted as outlined in Appendix I.
- 3.4.3. To ensure the NAWI Hub meets its objective to benefit U.S. domestic innovation, economic growth, and manufacturing, it is important that the NAWI Alliance and Consortium membership be predominately comprised of U.S. entities.
- 3.5. Each Consortium Member agrees that all of its Consortium Member Representatives will be advised of the terms and conditions of this Agreement and each Consortium Member will be responsible for its respective Consortium Member Representatives' compliance with such terms and conditions.
- 3.6. Consortium Members should make every effort to purchase American-made supplies and equipment within the United States in the performance of NAWI Work. Compliance with the Buy American Act (Pub.L. 72-428 and related laws) might be applicable and required, and will be designated in subsequent Project or collaborative research agreements.
- 3.7. Among the Consortium Members, each Consortium Member, to the extent required by law, has sole and exclusive responsibility to provide workers compensation and other insurance liability coverage, benefits and compensation for its Consortium Member Representatives.
- 3.8. When Consortium Members Representatives are onsite at another Consortium Member's facilities, those Consortium Members Representatives shall be subject to and comply with

the policies and procedures, including and required orientation and training, of the host Consortium Member which shall be provided in advance of Consortium Members Representatives commitment to go onsite. Consortium Members shall work together to resolve if these policies and procedures conflict with the Consortium Member's own policies and procedures. Access to the respective Consortium Member facilities is a privilege that can be revoked, restricted or have conditions placed upon it by the host Consortium Member for any reason.

- 3.9. Each Consortium Member represents that its Consortium Member Representatives are properly trained in relevant laboratory procedures, safety and equipment operation, and when requested, shall provide evidence of such training to a host Consortium Member. Although a host Consortium Member may provide safety information and training to another Consortium Member's Consortium Member Representatives, the sending Consortium Member retains sole responsibility for the acts and omissions of its own Consortium Member Representatives.
- 3.10. Each accessing Consortium Member Representative's access to another Consortium Member's facilities is contingent upon their continuing Affiliation with the accessing Consortium Member. For purposes of this paragraph, "Affiliation" means that person's legal employer and/or school of matriculation. If the accessing Consortium Member Representative's affiliation with his or employer and/or school of matriculation ends, that Consortium Member Representative's access to any NAWI facilities will terminate until such time as that person has a new or renewed affiliation with a Consortium Member.
- 3.11. Consortium Members may not use any NAWI funds, including any cost share funds, to influence or attempt to influence, directly or indirectly, congressional action on any legislative or appropriation matters.
- 3.12. During the Participation Period, under Section 7.3 of this Agreement, Consortium Members will provide all necessary certifications and documentation required for acceptance and participation in NAWI, including any conflicts of interest, export control and SF-LLL disclosures to NAWI's Operations Director or NAWI Compliance Manager at NAWI@lbl.gov, unless otherwise directed by NAWI.
- 3.13 Consortium Members of NAWI agree to meet the applicable requirements with regards to quality assurance, inspection, and audit as required in the FOA, and the Consortium Members' respective Project agreement, Prime Contract, subcontract or CRADA.

4. MANAGEMENT AND GOVERNANCE

- 4.1. The Executive Team shall be responsible for the day-to-day management and oversight of NAWI and shall drive the strategic vision and direction of NAWI Hub based on substantial involvement of DOE AMO, and input from the Governance Board and the NAWI Alliance, and advisory bodies such as a Research Advisory Council, Industry Advisory Council, and an Innovation and Commercialization Council.
- 4.2. The Executive Team shall include the Executive Director, the Research Director, the Operations Director, the Finance and Compliance Director, the Partnerships Director, and Topic Area Leads.

- 4.2.1. Subject to DOE oversight and approvals, the Executive Director shall have full authority and responsibility for the execution of the NAWI, including approval for budgetary and scope changes for Project agreements and all aspects of the NAWI Hub. As LBNL is the lead, the Executive Director shall be employed by LBNL.
 - 4.2.2. The Research Director shall oversee the Research Advisory Council and Topic Area Leads, and the research program.
 - 4.2.3. The Operations Director shall oversee all administrative functions of NAWI, including project management, financial management, subcontract execution, DOE engagement and any foreign engagement.
 - 4.2.4. The Finance and Compliance Director shall oversee all NAWI financial and compliance activities including budgeting, cost accounting, contracting and financial compliance.
 - 4.2.5. The Partnerships Director shall oversee all aspects of NAWI's Alliance Program including member recruitment, meetings, membership policies and membership engagement and the Innovation and Commercialization Council.
- 4.3. The Executive Director will report to a Governance Board. The Executive Team and the Governance Board will work closely with the DOE AMO Technology Manager to direct and monitor NAWI research and development programs. The Governance Board shall be made up of senior leaders from the LBNL, NREL and ORNL, along with representatives appointed by the DOE AMO and representatives from outside cost-share partners.
 - 4.4. A Research Advisory Council (RAC) is intended to include technical leaders and senior advisors that have expertise in the identified challenge areas, the roadmapping lead and deputy, as well as three seats appointed by DOE AMO and shall be led by and report to the Research Director. The Research Advisory Council provides technical reviews of the roadmaps, reviews NAWI project proposals, advises and assists individual NAWI research performers, and monitors important research and technology developments outside the Consortium in research programs with which they are familiar.
 - 4.5. An Industry Advisory Council (IAC) is intended include industry representatives to ensure that industry priorities in desalination research are represented in the NAWI Hub research program.
 - 4.6. An Innovation and Commercialization Council (ICC) is intended to include leaders in the entrepreneurial, investor, incubator and manufacturing sectors and commercialization and training programs, to ensure that the NAWI Hub supports the potential for rapid commercialization and technology transition to US manufacturing and industry.
 - 4.7. All individuals participating in NAWI Work, including the NAWI Executive Team, Research Advisory Council, NAWI Key Personnel, and NAWI PIs and Participating Researchers, will provide all proper required disclosures and follow the requirements described in Appendix D

5. COLLABORATION AMONG CONSORTIUM MEMBERS

- 5.1. LBNL shall be the lead member of the NAWI Consortium and shall be responsible for Subcontracts and Project agreements to NAWI Consortium Members to flow down NAWI Hub-specific terms and conditions. National Laboratories shall receive NAWI Funds directly from the DOE subject to NAWI Hub-specific requirements, or if requested by DOE by DOE Contractor Orders from LBNL to flow down NAWI Hub-specific requirements.
- 5.2. Collaboration among Consortium Members is key, and therefore, NAWI research projects are intended to be collaborations between multiple researchers. To facilitate collaboration and sharing, the Consortium will adopt and use collaboration tools and procedures to promote and sustain cross-sector sharing between Consortium Members across all levels - in individual Project Teams, between Consortium Members and projects, and between the Research Consortium and the NAWI Alliance organization.
- 5.3. In NAWI research project collaborations, Consortium Member Representatives are expected to be cooperative and forthright, and to proactively communicate any concerns or issues to their colleagues and the NAWI Executive Team. Further, Consortium Members will collaborate and communicate in accordance with the Communications Plan (Appendix G), report on, utilize, and commercialize intellectual property in accordance with the IPMP (Appendix A), and share and manage data and information in accordance with the NDA (Appendix B) and Data Management Plan (Appendix F). To that end, Consortium Members are encouraged to address conflicts via a proactive resolution approach. An exemplary approach is described in the Conflicts section (Section 8) of Publication Plan (Appendix E). Project results will be shared at the annual Consortium and NAWI Alliance Meetings and reported quarterly to DOE AMO.
- 5.4. To the extent possible, NAWI Consortium will adopt the collaboration framework as described in the proposal submitted by LBNL in response to the FOA. The Research Director will oversee this entire program and provide TAL teams with support and guidance in furtherance of the NAWI Hub's mission.
- 5.5. Research project proposals will be scored on a range of published criteria. The criteria will be part of the annual Request for Proposals (RFP) issued by NAWI.

6. COST SHARING

- 6.1. Cost share is a requirement of the DOE FOA and NAWI's, cost share commitment is at least 25% of the total allowable costs for research and development projects (i.e., the sum of the Government share, including FFRDC costs if applicable, and the recipient share of allowable costs equals the total allowable cost of the project) and must come from non-Federal sources unless otherwise allowed by law. Thus, Consortium Members agree to contribute cost share and conduct the majority of the NAWI Work as projects that include cost-share. During the RFP process, Consortium Members should put forward research projects that have at least 25% cost share identified (during the project idea review phase) and committed (during the proposal submission and review phase).

- 6.2. As part of participation in NAWI and due to the collaborative nature of the Research Consortium, under each Project agreement executed, Consortium Members are legally responsible for paying their entire cost share contributed to a Project. If the funding agreement is terminated prior to the end of the Project period, the contributing Consortium Member will be required to contribute at least the cost share percentage of total expenditures incurred through the date of termination of any NAWI project. Each Consortium Member is responsible for managing cost share contributions to NAWI and enforcing its cost share obligation assumed by the Consortium Members in their respective Project or related agreements.
- 6.3. The amount contributed by individual Consortium Members may vary, as long as the cost share provided is allowable, verifiable, cash or in-kind, necessary and reasonable for the project, and documented when spent. This Section 6 describes the responsibilities and requirements of Consortium Members for cost sharing for NAWI Projects. Consortium Members agree to provide their estimated cost share for each annual budget period. All Cost Share must be allowable per the Project agreement and 2 CFR 200 as amended by 2 CFR 910 (For-Profit entities), as applicable.
- 6.4. If the Consortium Member fails to meet its cost sharing obligations, NAWI through LBNL may recover some or all of the funding provided under the Project agreement, and the amount NAWI would seek to recover would be predicated on AMO and LBNL's analysis of the Consortium Member's compliance with their cost sharing obligation under the Project agreement.
- 6.5. NAWI Consortium Members agree to provide any required cost share documentation and reporting required by the DOE and documentation in accordance with the cost share funding partner and report on such cost share expenditure as required by DOE.

7. OVERSIGHT OF NAWI EFFORTS AND COMPLIANCE

- 7.1. Reflecting the collaborative nature of NAWI, compliance with NAWI policies and procedures by Consortium Member Representatives is a responsibility of the Consortium Member. Each Consortium Member should ensure that its own established processes for intellectual property management, and management of data and information, publications and communications, conflicts of interest, export control, procurement, foreign entity participation, and licensing are aligned with this Agreement and its attached plans, policies and procedures.
- 7.2. Consortium Membership can be revoked if persistent deficiencies in compliance with the responsibilities listed above are not resolved after 30 days from the time written complaint is lodged by the NAWI Executive Team to the representative of the Consortium Member in question. In such instance, NAWI may terminate the Consortium Member's participation in NAWI Consortium if NAWI determines, after direction from DOE AMO, that such termination is in the best interest of NAWI. NAWI may also separately terminate a Consortium Member's Project agreement according to its terms.
- 7.3. To assure oversight and compliance with NAWI and DOE approved plans, policies and procedures, LBNL will designate or appoint a person to the position of Compliance

Manager for NAWI whose responsibilities may include, but not be limited to, developing and implementing NAWI's Consortium compliance program. The Compliance Manager may be responsible for, among other things: (i) developing or administering training modules to NAWI PIs, (ii) receiving and maintaining documentation for proposed and approved NAWI project submissions, (iii) coordinating with the U.S. Department of Energy (DOE), (iv) maintaining a library of NAWI program document summaries and reports, (v) maintaining a record of voluntary disclosures by NAWI Consortium Members for conflicts of interest and export control; (vi) receiving and maintaining a library of NAWI Consortium Members' certifications, (vii) periodically reviewing NAWI Consortium Members compliance with this Consortium Agreement and NAWI policies, plans and procedures.

8. POLICIES, PLANS, AND AGREEMENTS

- 8.1. The following policies, plans, and agreements are attached as appendices and incorporated by reference. These reflect NAWI policies, plans, and procedures as approved by DOE AMO. As such they may be subject to change based on DOE AMO direction or guidance to NAWI. LBNL and NAWI reserve the right to change these policies, plans, and procedures and will provide appropriate advanced notice (e.g., 30 days) to all current Consortium Members of any changes prior to implementing any of those changes or modifications.
- 8.2. Consortium Members agree to comply with NAWI policies, plans and procedures as laid out in the plans attached as appendices. The plans are attached as follows:
 - 8.2.1. Appendix A - Intellectual Property Management Plan (IPMP)
 - 8.2.2. Appendix B - Non-Disclosure Agreement (NDA)
 - 8.2.3. Appendix C - Export Control Plan
 - 8.2.4. Appendix D - Conflict of Interest Plan
 - 8.2.5. Appendix E - Publication Plan
 - 8.2.6. Appendix F - Data Management Plan
 - 8.2.7. Appendix G - Communications Plan
 - 8.2.8. Appendix H - U.S. Manufacturing Plan
 - 8.2.9. Appendix I - Foreign Entity Participation Plan
 - 8.2.10. Appendix J - Current Consortium Members

9. NOTICES

- 9.1. All notices and other administrative documents provided in connection with this Agreement shall be in writing and shall be personally delivered, mailed, emailed or faxed to the Consortium Members whose contact information is as set forth in Appendix J, or as a Consortium Member may hereafter specify in writing to the others. All notices and other administrative documents to be submitted to any Consortium Member hereunder shall be submitted to the Administrative Contact identified for that Consortium Member

unless otherwise set forth herein. All notices regarding technical information or publication shall be submitted to the Technical Contact. Notice shall be effective when personally delivered, emailed, or faxed, or two days after being mailed.

10. MISCELLANEOUS

- 10.1. Use of Names. No Consortium Member shall use the name of any other Consortium Member in any advertising, press release or publicity material with reference to NAWI Hub, or any product or service resulting from NAWI, without that Consortium Member's prior written concurrence except as required by law. Consortium Members agree that such written approval is not required for NAWI or DOE to release Consortium Member's name and a non-confidential abstract for research or governmental reporting purposes, press releases, or conference presentations.
- 10.2. Laws, Regulations and Compliance. Each Consortium Member shall comply in all material respects with all applicable laws and regulations (including without limitation United States export control laws) relating to its activities under this Agreement and that each Party is solely responsible for its own compliance.
- 10.3. Export Control. The NAWI Hub will address participation by foreign entities (organizations, companies or persons) on a case-by-case basis, and will ensure measures that properly protect export-controlled information are in place. Each Consortium Member agrees to comply with the Export control Plan set forth in Appendix C – Export Control Plan and Appendix I – Foreign Entity Participation Plan. Subject to limited review for patentability and any policies and procedures provided in Appendix C and per the individual NAWI Project agreement, it is intended that each Consortium Member may publish, release, or otherwise disseminate data produced during the performance of this Agreement without the prior review of NAWI. Each Consortium Member is responsible for its own compliance with the U.S. export laws.
- 10.4. Publication. Subject to limited review for patentability and any policies and procedures provided in Appendix C and per the individual NAWI Project agreement, it is intended that each Consortium Member may publish, release, or otherwise disseminate data produced during the performance of this Agreement without the prior review of NAWI in accordance with Appendix E - Publication Plan, and Appendix F - Data Management Plan.
- 10.5. Liability. Liability shall be apportioned as follows: For Consortium Members performing under an M&O contract, DCO, CRADA, subcontract or Project agreement, liability shall be as specified in their respective M&O contract, DCO, CRADA, subcontract or Project agreement. For all other purposes under this Agreement, each Consortium Member is responsible and assumes the liability for its own acts and omissions, and those of its officers, agents, employees or students, to the full extent allowed by law. No Consortium Member shall be liable for any indirect, special or consequential damages, whether arising in contract, negligence, or otherwise.
- 10.6. Term and Termination. This Agreement shall begin as of the Effective Date for the first Consortium Member and remain in effect for so long as the NAWI Hub exists. Each Consortium Member shall have the right to terminate its participation in NAWI upon sixty

- (60) calendar days' written notice to all other Consortium Members. As defined, the Effective Date to each Consortium Member as of the date such Consortium Member signs and continuing for the term of NAWI Work or until such Consortium Member is otherwise no longer a Consortium Member of NAWI.
- 10.7. Order of Precedence. Except for the apportionment of liability as specified in Section 10.3 above, in the event of a conflict between a Consortium Member's Project agreement, (i.e., DCO, CRADA or Subcontract, or WAS) and/or this Agreement, the Project agreement, CRADA and/or Subcontracts take precedence over this Agreement.
- 10.8. Non-assignability. Except as otherwise explicitly permitted herein or as agreed by all the Consortium Members in writing, no Consortium Member may assign any rights or obligations it has under this Agreement. Notwithstanding, the National Labs may assign their rights and responsibilities under this Agreement to the Government or any successor-in-interest for management and operation of their National Lab.
- 10.9. Independent Contractors. For purposes of this Agreement and all effort associated herewith, each Consortium Member shall be, and shall be deemed to be, an independent contractor and not an agent or employee of any other Consortium Member. No Consortium Member shall have the authority to make any statements, representations or commitments of any kind, or to take any action that shall be binding on any other Consortium Member, except as may be explicitly authorized herein or in writing by the Consortium Member to be bound.
- 10.10. Survival. The following sections shall survive any termination of a Consortium's Member's participation under this Agreement: Section 10.3, Sections 6-10 of Appendix A - Intellectual Property Management Plan; Sections 4 and 5 and the confidentiality, use, and/or non-disclosure obligations in Appendix B - Non-Disclosure Agreement; Sections 4.3.4 and 4.4 in Appendix C - Export Control Plan; Section 4 in Appendix D - Conflict of Interest Management Plan; Section 7, 8, and 9 in Appendix F - Data Management Plan; and Appendix H - U.S. Manufacturing Plan, as well as provisions of this Agreement which would naturally survive termination or expiration of this Agreement.
- 10.11. Entire Agreement and Amendment. This Agreement constitutes the entire agreement of the Consortium Members with respect to membership and participation in the NAWI Consortium, and all prior negotiations, representations, understandings and agreements are superseded hereby. The provisions of this Agreement may be modified, amended, or waived, and such modifications are binding upon Consortium Members after appropriate notice period has been provided and elapsed.
- 10.12. Representations and Certifications. Each Consortium Member represents and certifies that it is permitted to enter into this Agreement, and that the undersigned representative thereof is authorized to execute this Agreement on its behalf and bind it to the terms and conditions set forth herein.
- 10.13. Disputes. If any claim or controversy between the parties arises out of this Agreement ("Dispute") and not covered by the dispute resolution procedures laid out in Appendix A - Intellectual Property Management Plan or Appendix E - Publication Plan, the parties shall first make a good faith effort to resolve the Dispute through their management. In

the event such good faith negotiation fails to settle any Dispute within sixty (60) days from notice of the Dispute, the parties shall try in good faith to settle the dispute by alternative dispute resolution procedures such as non-binding mediation, before resorting to any dispute resolution by arbitration or through litigation. Nothing contained herein is intended to limit any of the rights or remedies that the Consortium Members may have under law, or to limit exercise of any other provision found in this Agreement, or a Consortium Member's Subcontract, CRADA or Project agreement.

- 10.14. Each Consortium Member acknowledges that LBNL as the lead for NAWI has the right to sign NAWI Hub agreements to i) add Consortium Members to this Agreement upon prior written Notice to the existing Consortium Members, ii) sign a NAWI Alliance Agreement to accept a new NAWI Alliance Member, and iii) countersign a NAWI non-disclosure agreement.
- 10.15. All work performed by an DOE Office of Science (SC) Laboratory with a non-governmental third-party as part of this consortium will be funded directly to the DOE SC Laboratory by the Government and subject to the DOE SC Laboratory's contract with the Government.
- 10.16. All work performed by a DOE SC Laboratory with a non-governmental third party as part of this consortium will be performed under a separate CRADA between LBNL, the DOE SC Laboratory and the non-governmental third party, with respect to the work performed by the DOE SC Laboratory. All work performed by a DOE SC Laboratory under such CRADA, including rights in intellectual property generated in the work performed by the DOE SC Laboratory, shall be governed by such CRADA initiated by LBNL.
- 10.17. Signatures. This Agreement, and any amendments hereto, may be executed in counterparts, each of which when so executed shall be deemed an original, and all such counterparts shall constitute one and the same instrument. The Consortium Members agree that electronic/facsimile transmissions of this signed Agreement and any amendments hereto shall be regarded and accepted as if they bore original signatures.
- 10.18. By signing this Agreement, CONSORTIUM MEMBER agrees to be bound by the terms of this Agreement and its Appendices, including the Consortium's Operative Documents for managing (a) intellectual property, (b) confidential and proprietary information, (c) export control, (d) conflict of interest, (e) publications, (f) data management, (g) communications, (h) U.S. Manufacturing, and (i) foreign entity participation. Copies of these policies and procedures can be reviewed at the password protected site: <http://https://www.nawihub.org/----->. CONSORTIUM MEMBER further agrees to be bound by all NAWI policies, procedures and requirements, flowed to Consortium Member through its Project agreement for NAWI Funding.

IN WITNESS WHEREOF, the Consortium Members have executed this Agreement, in duplicate originals, by their respective and duly authorized officers on the day and year written.

**THE REGENTS OF THE
UNIVERSITY OF CALIFORNIA
THROUGH LAWRENCE BERKELEY
NATIONAL LABORATORY**

By: _____
[Redacted Signature]

Name: Horst Simon, Ph.D.

Title: Deputy Laboratory Director

Date: _____
[Redacted Date]

At

**ENERGY, LLC
NATIONAL RENEWABLE ENERGY
LABORATORY**

By: _____
[Redacted Signature]

Name: William T. Farris

Title: Associate Laboratory Director,

Innovation Partnering and Outreach

Date: 2/12/2020

**UT-BATTELLE, LLC
OAK RIDGE NATIONAL LABORATORY**

By: _____
[Redacted Signature]

Name: Nicole Porter

Title: Prime Contract Administrator

Date: 2/13/2020

APPENDIX A - INTELLECTUAL PROPERTY MANAGEMENT PLAN (IPMP)

1. BACKGROUND

- 1.1. The National Alliance for Water Innovation (“NAWI”), is a U.S. DOE Energy Innovation Hub, established to address water security issues in the U.S. through multidisciplinary early stage research and development for energy-efficient and low-cost desalination technologies that will enhance the economic, environmental, and energy security of the nation. Funding for NAWI is provided through the Funding Opportunity Announcement (FOA) Number DE-FOA-0001905 for the NAWI Energy-Water Desalination Hub with cost share provided through public and private funds.
- 1.2. NAWI Consortium Members are committed to enhancing water security in the U.S. through the application of technologies developed with NAWI Funding. NAWI Consortium Members comprise member institutions that are institutions of higher education; appropriate State or Federal entities, including DOE/NNSA Federally Funded Research and Development Centers; nongovernmental organizations with expertise in advanced energy technology research, development, demonstration, or commercial application related to the NAWI Energy-Water Desalination Hub, and incorporated or otherwise formed under the laws of a State or territory of the United States with majority domestic ownership or control and have a physical place of business in the United States unless a waiver is granted as provided in Appendix I – Foreign Entity Participation Plan. The current list of Consortium Members are attached as Appendix J.

2. NAWI STRUCTURE FOR DEVELOPING IP

- 2.1. NAWI will perform its mission to develop novel water technologies through a clearly defined research and development program that is funded by DOE AMO and NAWI Funding. Once the NAWI roadmap has been designed, NAWI will solicit, review, approve, and fund research proposals from Consortium Members and other responders. Successful applicants will become Consortium Members of NAWI and may receive and participate in the Consortium under NAWI Funding.
- 2.2. All research projects will be conducted under a Project agreement, including a Subcontract, DCO or CRADA, except in the case of a research project with a DOE national laboratory a lab work authorization that contains NAWI Hub-specific requirements. Project agreements, including Subcontracts, DCOs, or CRADAs, will be managed by LBNL and will be developed and executed on a project by project basis and will flow down all DOE required terms and conditions, including those related to IP. Furthermore, each Project will be based on a full proposal including detailed budgets, a specific plan to comply with NAWI’s US manufacturing plan and a commercialization plan.

3. BACKGROUND IP

- 3.1. Consortium Members of a Project shall use reasonable efforts to identify Background IP for said Project and shall disclose said Background IP to NAWI during the Project proposal submission period and/or the Project agreement negotiation period. Disclosed Background IP should include details regarding the availability for licensing, including

any limitations such as prior licenses in specific field of use or territories and be included in any Project agreement if applicable to the Project.

- 3.2. Each Consortium Member of a Project will have the right to practice or use Background IP for the sole purpose of carrying out NAWI Work specified in said Project. If a Consortium Member does not have an ownership interest in Background IP, such Consortium Member shall not disclose such Background IP to a third party in accordance with its agreement with NAWI and other parties to NAWI Projects, as applicable, except with the owner's prior written permission and under confidentiality obligations no less restrictive than those contained in such agreements. In the case of Background IP, the right to practice is granted only to the extent that the owner(s) of such Background IP can grant such rights.
- 3.3. Licensing of NAWI Background IP for any purpose other than carrying out NAWI Work, if agreed to by the Consortium Members, shall be the subject of separate licensing agreements between the Consortium Members.

4. NAWI IP

- 4.1. **RIGHTS TO, INCLUDING INVENTORSHIP OF, NAWI IP** will be determined in accordance with the laws of the United States, including patent, trademark, and copyright law.
- 4.2. The inventorship, right to elect title to, and licensing of NAWI IP created by employees of DOE National Laboratories, with the exception of NETL, will be subject to the Management and Operating (M&O) contract terms and conditions of the employing National Laboratories. The M&O contracts provide that National Laboratories have the right to elect to retain title to and manage the licensing of Inventions made by their employees.
- 4.3. The inventorship, right to retain title to, and licensing of NAWI IP created by employees of NETL will be subject to 37 CFR § 501.
- 4.4. The inventorship, right to elect title to, and licensing of NAWI IP created by Consortium Member Representatives will be subject to the terms and conditions of the Consortium Member's respective CRADA, DCO, Subcontract or Project agreement and the EERE Class Patent Waiver W(C) 2016-004.
- 4.5. Where the Inventing Consortium Member elects title to Subject Inventions, the U.S. Government retains certain rights, including a Government use license and march-in rights.
- 4.6. Nothing herein shall be construed to transfer or change title in and to Background IP, nor is it the intention of the Consortium Members to have Background IP become NAWI IP.
- 4.7. Consortium Members may seek to obtain Trademark/Service Mark protection on products or services generated under this Agreement in the United States or foreign countries. If jointly owned or generated, the ownership and other rights relating to the Trademark/Service Mark shall be as mutually agreed to in writing by the Consortium Members originating the products, services, or Trademark/Service Mark. The Consortium Member(s) originating the Trademark/Service Mark on products or services generated under a Project agreement or CRADA in the United States or foreign countries shall have

the full right, title, and interest in such Trademark or Service Mark subject only to the Government's retained right to use the mark on any similar goods or services as set forth herein. Consortium Members hereby acknowledge that the Government shall have the right to indicate on any similar goods or services produced by or for the Government that such goods or services were derived from and are a DOE version of the goods or services protected by such Trademark/Service Mark, with the Trademark/Service Mark and the owner thereof being specifically identified. In addition, the Government shall have the right to use such Trademark/Service Mark in print or communications media.

5. USE OF NAWI IP

- 5.1. Each Consortium Member of a Project shall have the right to practice or use all NAWI IP for the purpose of carrying out NAWI Work specified in said Project. Unless NAWI Consortium Members have an ownership interest in NAWI IP they shall not disclose NAWI IP to third parties without the owners' prior written permission. Such disclosure may be covered under the Non-Disclosure Agreement in Appendix B or the project Consortium Members may determine the need to enter into a specific NDA for the Project. Such non-disclosure agreement will be under confidentiality obligations no less restrictive than the NDA contained in Appendix B.

6. MANAGEMENT OF NAWI IP

- 6.1. Each Consortium Member will require its Consortium Member Representatives to report all potential NAWI IP to its respective TTO or equivalent (the date of receipt of such NAWI IP by the TTO shall be the "Receipt Date") and DOE in accordance with its own policies on disclosures of IP and as required under the applicable Project agreement..
- 6.2. The Inventing Consortium Member shall have sixty (60) days from the Receipt Date to report all NAWI IP to DOE and NAWI's Operations Director at NAWI@lbl.gov and any other Inventing Consortium Members.
- 6.3. NAWI may provide advisement on IP filings, prosecution, and maintenance of NAWI IP. Inventing Consortium Members may solicit input from NAWI, but shall retain sole authority to select IP counsel, and shall promptly provide or instruct external counsel to provide NAWI's Operations Director at NAWI@lbl.gov with all serial numbers, filing dates, and shall give notice to NAWI of the abandonment or issuance of all patents within sixty (60) days of such abandonment or issuance.
- 6.4. Each Consortium Member agrees that if it is an owner of potentially jointly-owned NAWI IP, it will promptly disclose such NAWI IP to any Consortium Members who are potentially joint owners of such rights, and any documentation and information necessary to enable such Consortium Member to establish any rights to which it may be entitled.
- 6.5. For NAWI IP that is jointly owned by more than one Consortium Member, the Inventing Consortium Members who are Consortium Members will use reasonable efforts to enter into an Inter-Institutional Agreement (IIA), as applicable, prior to licensing such joint NAWI IP to an entity other than such Inventing Consortium Members. The IIA may specify the lead institution for patent and licensing activities, and it may also determine

how patent costs and any potential licensing revenue are to be shared among the Inventing Consortium Members.

- 6.6. In order to ensure that NAWI Consortium Members holding title to Subject Inventions are taking the appropriate steps to commercialize Subject Inventions, DOE requires that upon request, each Consortium Member holding title to any NAWI IP submit annual reports for 10 years from the date the NAWI IP was disclosed to DOE on the utilization of the NAWI IP and efforts made by Consortium Member or their licensees or assignees to stimulate such utilization. The reports must include information regarding the status of development, date of first commercial sale or use, gross royalties received by the Consortium Member, and such other data and information as DOE may specify.
- 6.7. If any dispute arises relating to intellectual property between Consortium Members, the parties are encouraged to negotiate a resolution and use alternative dispute resolution processes. An exemplary approach is described in the Conflicts section (Section 8) of Publication Plan (Appendix E). If the matter has not been resolved through negotiation, either Party may initiate other alternative dispute resolution processes such as non-binding mediation of the controversy or claim, using a mutually agreed upon mediator. Nothing contained herein is intended to limit any of the rights or remedies that the Consortium Members may have under law, or to limit exercise of any other provision found in a Consortium Member's Subcontract, DCO or Project agreement or CRADA.

7. LICENSING OF NAWI IP

- 7.1. The owning Consortium Member(s) of any NAWI IP are not required to grant any other Consortium Member or non-NAWI Consortium Member any commercial option or license except as required under a CRADA, DCO, Subcontract or Project agreement.
- 7.2. Within thirty (30) days following the execution of any license for NAWI IP, the Inventing Consortium Member of the licensed NAWI IP who executed the license shall notify NAWI's Operations Director at NAWI@lbl.gov.
- 7.3. All licenses granted to NAWI IP created with NAWI Funding are subject to overriding obligations to the United States Federal Government under 35 U.S.C. §§200-212 (Bayh-Dole Act), EERE Class Patent Waiver, Appendix H - the U.S. Manufacturing Plan and other applicable regulations (including a non-exclusive, non-transferable, irrevocable, paid up license to practice or have practiced the NAWI IP for or on behalf of the United States Government throughout the world, and utilization reporting, as described in Section 6.6).
- 7.4. In all intellectual property licenses executed for NAWI IP, Consortium Members retain the right on behalf of themselves to practice their respective NAWI IP for educational and non-commercial research purposes, including sponsored research and collaborations.

8. DISTRIBUTION OF LICENSING REVENUE

- 8.1. Each Consortium Member will comply with its respective policies regarding the distribution of licensing revenue, and in the case of jointly owned NAWI IP, the terms and conditions in an Inter-Institutional Agreement (IIA), if applicable.

9. REPORTING NAWI IP

- 9.1. On a quarterly basis during the Participation Period, Consortium Members shall provide to NAWI's Operations Director at NAWI@lbl.gov a report of technology transfer transactions, such as patent options, licenses, and assignments involving NAWI IP.

10. RELATIONSHIP BETWEEN AGREEMENTS

- 10.1. The respective Project agreements, CRADAs and/or Subcontracts, of the Consortium Members sets forth the treatment of and obligations related to election of title and ownership of intellectual property rights of the individual Consortium Members of NAWI, and any option rights required to be granted under a CRADA. This Agreement is subject to the IP provisions of any Project agreement, CRADAs and Subcontracts for NAWI Projects.
- 10.2. In the event of a conflict between a Consortium Member's Project agreement, such as CRADA or Subcontract, and/or this Agreement, the order of precedence is as follows: the Project agreement, e.g., CRADA and/or Subcontract, and then this Agreement.
- 10.3. If all Consortium Members participating in a Project agree to execute a different IPMP, then such Consortium Members shall report such different IPMP to NAWI's Operations Director at NAWI@lbl.gov, and such different IPMP shall take precedence over this IPMP for such Project and should be incorporated into or referenced by the Project agreement (i.e., the Consortium Members' respective CRADAs or Subcontracts for the Project).

11. CONSORTIUM MEMBERSHIP UPDATES AND SURVIVAL

- 11.1. All NAWI Consortium Members will execute this IP Management Plan. NAWI shall provide this agreement in the same form for new NAWI Consortium Member's signature. Consortium Members will not be required to re-circulate the Agreement for signing by all Consortium Members when a new Consortium Member is added. A list of current Consortium Members is in Appendix J, and will be updated and redistributed to all Consortium Members upon addition of a new Consortium Member.
- 11.2. The Consortium Members agree to be bound by the terms of this IP Management Plan, with an Effective Date to each Consortium Member as of the date such Consortium Member signs and continuing for the term of NAWI Work or until such Consortium Member is otherwise no longer a Consortium Member of NAWI.
- 11.3. Survival. All clauses in this IP Management Plan including obligations that are intended to continue shall survive termination of membership in the Consortium. The following sections shall survive any termination of a Consortium's Member's participation under this IP Management Plan: 4, 5, 6, 7, 8, and 9.

IN WITNESS WHEREOF, the authorized representatives of the Consortium Members have executed this IP Management Plan as set forth below:

**THE REGENTS OF THE
UNIVERSITY OF CALIFORNIA
THROUGH LAWRENCE BERKELEY
NATIONAL LABORATORY**

By: [Redacted]
Name: Russell Carrington, Ph.D.
Title: Chief Technology Transfer Officer
Date: 2/5/2020

**UT-BATTELLE, LLC
OAK RIDGE NATIONAL
LABORATORY**

By: [Redacted]
Name: Jennifer Caldwell
Title: Group Leader, Tech Commercialization
Date: 2/13/2020

**ALLIANCE FOR SUSTAINABLE
ENERGY, LLC
NATIONAL RENEWABLE ENERGY
LABORATORY**

By: [Redacted]
Name: Anne Miller
Title: Technology Transfer Director
Date: 2/11/2020

APPENDIX B - NON-DISCLOSURE AGREEMENT (NDA)

The National Alliance for Water Innovation (“NAWI”), is a U.S. DOE Energy Innovation Hub, established to address water security issues in the U.S. through multidisciplinary early stage research and development for energy-efficient and low-cost desalination technologies that will enhance the economic, environmental, and energy security of the nation. Funding for NAWI is provided through the Funding Opportunity Announcement (FOA) Number DE-FOA-0001905 for the NAWI Energy-Water Desalination Hub with cost share provided through public and private funds.

A NAWI Consortium was created and consists of research and industry Consortium Members with experience performing peer-reviewed research in desalination or related water treatment processes who: (a) were selected to conduct a research project; and (b) have signed the Consortium Agreement. This multi-party Non-Disclosure Agreement (“NDA”) is for sharing confidential information within the NAWI Consortium.

All Consortium Members are parties to this NDA (individually “Party” or collectively “Parties”) as of the Effective Date of the Consortium Agreement to which this NDA is an appendix. An “Additional Party” is defined as a party who is not listed in Section 2 of the Consortium Agreement and has executed an Additional Party NDA, template attached as Exhibit 1 of the NDA. Subject to approval under the process set forth in Paragraph 1 below, any other person or entity that executes an Additional Party NDA (Exhibit 1 of this NDA), which is accepted by NAWI’s Operations Director at NAWI@lbl.gov, will become a Party to this NDA effective as of the date of such approval.

In order to protect certain Information (defined herein below) exchanged by and among the Parties for the purpose of facilitating research and development collaborations under NAWI program activities (the “Purpose”), the Parties hereby agree:

1. DISCLOSING/RECEIVING PARTIES

- 1.1. A Recipient shall not use or disclose Information other than in accordance with the terms and conditions of this NDA. It is agreed that Information disclosed and received under this NDA may be mutually shared by the Parties unless further restricted (e.g., by the disclosing Party). Parties may restrict access from other Parties by the terms of the Project agreement for a particular Project.
- 1.2. Administrative and Technical Contacts: Each Party’s representative for coordinating disclosure or receipt of Information is identified in Appendix J as “Technical Contact” and each Party’s representative for receiving notices is identified in Appendix J as “Administrative Contact.” These contacts may be amended by written notice of a change to NAWI’s Operations Director at NAWI@lbl.gov. NAWI’s Operations Director will distribute the updated Appendix J upon receiving such notice.
- 1.3. The Parties agree to the following process to add Additional Parties to this NDA:
 - 1.3.1. The additional party executing a copy of Additional Party NDA; and
 - 1.3.2. NAWI’s Operations Director accepting and executing such Additional Party NDA, and providing via e-mail to all the Parties’ Technical Contacts identified in Appendix

J and Administrative Contacts for notices identified in Paragraph 16, with the copy of such fully executed Additional Party NDA (Exhibit 1).

2. DESCRIPTION OF INFORMATION

2.1. The Information disclosed under this NDA is: information of each of the Parties related to the NAWI program activities that a Party considers to be proprietary information or business sensitive, privileged, commercial and/or financial information, including, research and development objectives, plans, and management plans, and may also include specific background information, when such Information is clearly identified and marked as “Confidential” in accordance with Paragraph 8 by the Party owning or having the right to disclose the Information. If such Information is not confirmed and documented in this express manner, no Party to this NDA shall have an obligation of confidentiality with respect to such Information.

3. RESTRICTIONS

3.1. Any Party receiving Information (“Recipient”) from a Party disclosing such Information under this NDA (“Discloser”) shall maintain the Information in confidence and may disclose the Information only to its employees, students, contractors, subcontractors, or agents a) having a need to know such Information to fulfill the Purpose and (b) who are legally bound by law, policy or written agreement or obligation to safeguard Information to substantially the same extent as the Recipient is bound to do so under this NDA. The Discloser of Information shall remain the Party that first discloses such Information, even if a Party subsequently discloses such Information in furtherance of the Purpose. Prior to being granted access to Information, employees, students, contractors, subcontractors, or agents of a Recipient shall be advised concerning the requirements and restrictions of this NDA, directed to use and safeguard the Information properly and not to disclose such Information without proper authorization. Except as otherwise required herein, if disclosure of Information to a third party becomes necessary, the third Party may be added as an Additional Party to this Agreement and NDA prior to the disclosure and in accordance with the procedures to add Additional Parties. All parties, whether Parties to this NDA or included as Additional Party, may share Information with each other.

3.2. Notwithstanding the foregoing, because the United States (“U.S.”) Government has ownership, authority, control, audit, and inspection rights over all activities conducted at each of the National Laboratories’ facilities, Information may be disclosed to employees of the U.S. Government who are subject to the U.S. Trade Secrets Act (18 U.S.C. 1905) regarding further disclosure, a designee of the U.S. Government, or employees of NETL site support contractors and persons working at NETL for educational purposes who have agreed to keep the Information confidential.

4. CONFIDENTIALITY PERIOD

4.1. This NDA and each Recipient’s duty to protect Information expires (7) seven years from the Effective Date of this NDA.

5. DISCLOSURE PERIOD

- 5.1. This NDA applies to Information described in Paragraph 2 that is actually disclosed to a Recipient under this Agreement, within six (6) years after the Effective Date of the Agreement and marked in accordance with Paragraph 8 below.

6. STANDARD OF CARE

- 6.1. Each Recipient shall protect the Information received hereunder by using the same degree of care that Recipient uses to protect its own information of a like nature but no less than reasonable care. Upon discovery of any misuse, theft, loss, destruction, or unauthorized disclosure of protected Information, the Recipient shall promptly notify the Discloser in writing (e-mail shall suffice) and take action to prevent further disclosure and to recover any protected Information already disclosed.

7. THIRD PARTY INFORMATION

- 7.1. A Discloser may only disclose a non-Party's proprietary information when authorized to disclose such proprietary information to the Recipient. In the event a Discloser discloses a non-Party's proprietary information, the Discloser represents that it is authorized to disclose such proprietary information to the Recipient, and the Recipient agrees to treat such proprietary information as the Discloser's protected information.

8. MARKING

- 8.1. A Recipient's obligations shall only extend to Information that is described in Paragraph 2, and that: is (a) marked as "confidential," "business sensitive," "protected information" or "proprietary"; or (b) is expressly identified as confidential, business sensitive or proprietary in an oral or visual disclosure and is appropriately documented and summarized in writing by the Discloser consistent with Paragraph 2, within thirty (30) days of disclosure.

9. EXCLUSIONS

- 9.1. This NDA imposes no obligation upon any Recipient with respect to Information that:
- 9.1.1. Was rightfully in Recipient's possession (without obligations of confidentiality) before receipt from Discloser;
 - 9.1.2. Is or becomes a matter of public knowledge through no fault of Recipient
 - 9.1.3. Is rightfully received by Recipient to the best of Recipient's knowledge from a third party without a duty of confidentiality
 - 9.1.4. Is disclosed by the owner of the Information to a third party without imposing a duty of confidentiality on the third party;
 - 9.1.5. Recipient can demonstrate is independently developed by employees of Recipient who did not have access to such Information;
 - 9.1.6. Must be disclosed under operation of law or regulation; or
 - 9.1.7. Is disclosed by Recipient with prior written approval of the owner of the Information.

- 9.2. In the event a Recipient is subjected to any legal process that seeks to require it to produce Information that is clearly marked as protected Information for inspection or review in a judicial or administrative proceeding, the Recipient shall promptly provide notice and a copy of the legal process to the Discloser in order that the Discloser may have an opportunity to challenge the legal process or seek a protective order. If, in the absence of a protective order, a Recipient is compelled to produce Information to a tribunal or be found liable in contempt and subjected to a penalty, the Recipient may disclose such Information to the tribunal.

10. NO WARRANTY

- 10.1. Each Discloser represents that it has the right to make the disclosures under this NDA. No warranties, including warranties against infringement, are made by any Party under this NDA. Any Information exchanged under this NDA is provided "as is," without any warranty or representation whatsoever, express or implied. The Parties make no warranty or representation whatsoever as to the sufficiency or accuracy of the Information provided hereunder or as to any results obtained therefrom.

11. RIGHTS

- 11.1. All Information shall remain the property of the Discloser. No license to a Party, under any patent, trademark, copyright, or any other intellectual property right of any Party, is either granted or implied by the conveying of Information to such Party. This NDA shall not restrict Recipient from reassigning any of its employees, students, contractors, subcontractors, or agents to perform similar or identical work for or with others, but such employees, students, and other individuals shall not use any other Party's Information that is subject to this NDA.

12. EXPORT LAWS AND REGULATIONS

- 12.1. The Parties acknowledge that the export of goods and/or technical data from the United States may require some form of export control license from the United States (U.S.) Government and that failure to obtain such export control license may result in criminal liability under the laws of the U.S. Each Party agrees to comply with applicable government export and import laws and regulations.
- 12.2. The Parties acknowledge the need for prompt mutual notification should any Discloser or Recipient identify an export control restriction for any Information disclosed or received under this NDA. The Parties shall observe the process provided for in Section 4.2.1 in Appendix C - Export Control Plan.
- 12.3. Some of the Parties conduct their activities as fundamental research under U.S. export regulations, and may have many foreign persons who are students and employees. Accordingly, no Party may transfer to any other Party, without receiving written permission from that Party's export control officer or designated official, any information that is known to be export controlled under the International Traffic in Arms Regulations or under the Export Administration Regulations, except information that is classified as EAR99. The Parties agree to assist receiving Parties by providing all applicable Export

Control Classification Numbers (ECCN) and/or the specific U.S. Munitions List (USML) Category information for such export controlled information.

13. SUPREMACY OF EXECUTIVE ORDER AND FEDERAL LAW

13.1. Notwithstanding the foregoing, the Parties agree that the provisions of this NDA shall be interpreted so that they are consistent with and do not supersede, conflict with, or otherwise alter a Party's (or such Party's employee's) obligations, rights, or liabilities created by existing statute or Executive order relating to (1) classified information, (2) communications to Congress, (3) the reporting to an Inspector General of a violation of any law, rule, or regulation, or mismanagement, a gross waste of funds, an abuse of authority, or a substantial and specific danger to public health or safety, or (4) any other whistleblower protection. The definitions, requirements, obligations, rights, sanctions, and liabilities created by controlling Executive orders and statutory provisions are incorporated into this NDA and are controlling.

14. MISCELLANEOUS:

- 14.1. This NDA imposes no obligation on any Party to disclose, purchase, transfer, or otherwise dispose of any Information, technology, services or products.
- 14.2. This NDA does not create any agency or partnership relationship. Each Party is responsible for its own expenses incurred as a result of any discussions between the Parties.
- 14.3. Any modifications to this NDA shall be made in writing and signed by all Parties to this NDA. Facsimile signatures and signatures provided on an electronic copy of a document (e.g., PDF format) are deemed equivalent to original signatures for purposes of this NDA. Notwithstanding the foregoing, a change to the representatives and contacts identified in Sections 2 or Appendix J of the Consortium Agreement, or do not require a signature of all the Parties but may be accepted by the NAWI Operations Director.
- 14.4. This NDA and all Information received hereunder by a National Laboratory may, as applicable, be transferred to DOE or its designee upon termination of that National Laboratory's Prime Contract with DOE, in accordance with specific rights established in that National Laboratory's Prime Contract.
- 14.5. This NDA may be signed in two or more counterparts, each of which shall be deemed an original, and all of which taken together shall be deemed one and the same instrument.
- 14.6. Any Party may terminate participation in this NDA upon fifteen (15) calendar days prior written notice to the other Parties. Termination or expiration of this NDA for any reason shall not relieve any Party of any obligation in Paragraph 4 or Paragraph 5 herein.
- 14.7. Except as described in 14.5 herein, this Agreement may not be assigned without the prior express written authorization of the other Parties. All obligations incurred by a Recipient under this Agreement with respect to Information shall be binding on its authorized successors and assigns.

15. NOTICES

15.1. Any notices to be given under this NDA, other than those contemplated by Paragraph 1, shall be in writing and addressed to the Parties as shown in Appendix J, and shall be:

15.1.1. Delivered by certified or registered first class mail;

15.1.2. Sent by facsimile to the other Party(ies) at its facsimile number indicated above or to such other facsimile number as the Party(ies) will have previously furnished to the other Party(ies) by proper notice, with machine confirmation of transmission;

15.1.3. Sent by electronic mail; or

15.1.4. Sent by commercial courier service;

15.2. And shall be deemed to have been given or made as of the date received.

In Witness Whereof, the Parties hereto have duly executed this NDA that is effective as to each Consortium Member as of the Effective Date, and to each Additional Party the date the Additional Party's participation is accepted by NAWI's Operations Director at NAWI@lbl.gov.

**THE REGENTS OF THE
UNIVERSITY OF CALIFORNIA THROUGH
LAWRENCE BERKELEY NATIONAL
LABORATORY**

**UT-BATTELLE, LLC
OAK RIDGE NATIONAL LABORATORY**

By: 
Name: Russell Carrington, Ph.D.
Title: Chief Technology Transfer Officer
Date: 2/5/2020

By: 
Name: Jennifer Caldwell
Title: Group Leader, Tech Commercialization
Date: 2/13/2020

**ALLIANCE FOR SUSTAINABLE
ENERGY, LLC
NATIONAL RENEWABLE ENERGY
LABORATORY**

By: 
Name: Anne Miller
Title: Technology Transfer Director
Date: 2/11/2020

Exhibit 1 - Additional Party NDA

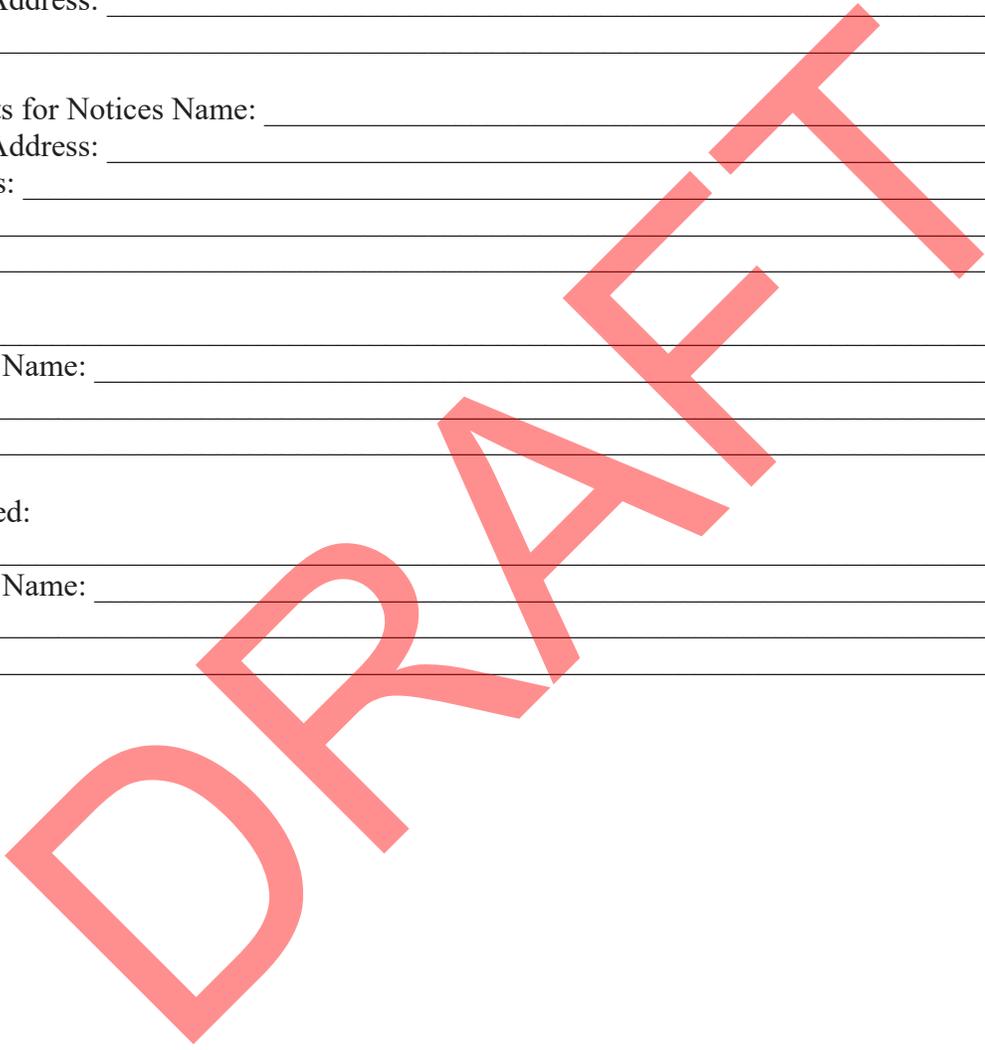
The _____, hereinafter referred to by “_____”, having an address at _____, hereby agrees to be bound by the terms and conditions of this Non-Disclosure Agreement, including any modifications to the NDA to which this Exhibit 1 is attached.

Representative Name: _____
Email Address: _____
Phone: _____

Contacts for Notices Name: _____
Email Address: _____
Address: _____
Phone: _____
Fax: _____

By: _____
Printed Name: _____
Title: _____
Date: _____

Accepted:
By: _____
Printed Name: _____
Title: _____
Date: _____



APPENDIX C - EXPORT CONTROL PLAN

1. BACKGROUND

- 1.1. The National Alliance for Water Innovation (“NAWI”) is a U.S. DOE Energy Innovation Hub selected, established to address water security issues in the U.S. through multidisciplinary early stage research and development energy-efficient and low-cost desalination technologies that will enhance the economic, environmental, and energy security of the nation. Funding for NAWI is provided through the Funding Opportunity Announcement (FOA) Number DE-FOA-0001905 for the NAWI Energy-Water Desalination Hub with cost share provided through public and private funds.
- 1.2. NAWI is led and operated by Ernest Orlando Lawrence Berkeley National Laboratory (LBNL), which is managed and operated by The Regents of the University of California under the authority of its Prime Contract No. DE-AC02-05CH11231 with the U.S. DOE.
- 1.3. Exports from the United States are regulated under the International Traffic in Arms Regulations (“ITAR”), the Export Administration Regulations (“EAR”), and the Office of Foreign Assets Controls (“OFAC”). The ITAR, which is administered by the Directorate of Defense Trade Controls (“DDTC”) of the Department of State, regulates the export of defense related articles and technical data. The EAR, which is administered by the Bureau of Industry and Security (“BIS”) of the Department of Commerce, regulates the export of non-defense articles and technology. OFAC, which is administered by the Department of Treasury, regulates transactions with embargoed and sanctioned countries. Significant civil and/or criminal fines and prison sentences can be imposed on persons violating the ITAR, EAR, or OFAC regulations.

2. EXPORT CONTROL COMPLIANCE COMMITMENT BY NAWI CONSORTIUM MEMBERS

- 2.1. This Export Control Plan and Procedures (“Plan”) establishes the framework and procedures for identifying, disclosing, mitigating and resolving export control risks that arise from activities funded in connection with the National Alliance for Water Innovation. This Plan applies to all NAWI Work performed by NAWI PIs and Participating Researchers at their respective NAWI Consortium Member locations. The meaning of each of these terms is as defined in the Definitions in the NAWI Consortium Agreement to which each Consortium Member has executed. This Export Control Plan outlines the specific compliance safeguards that NAWI will implement across the NAWI Hub’s activities.
- 2.2. Each NAWI Consortium Member has responsibility to determine applicability with export control laws and regulations and ensure compliance. Export control laws and regulations may apply to individual research projects, depending on the nature of the research tasks. Under no circumstances may foreign entities (organizations, companies or persons) receive access to export controlled information unless proper export procedures have been satisfied and such access is authorized pursuant to law or regulation. NAWI and its Consortium Members will address participation by foreign entities (organizations, companies or persons) on a case-by-case basis, and will ensure measures that properly protect export controlled information are in place.

- 2.3. Consortium Members of NAWI understand that materials and information used in and/or resulting from the performance of NAWI Work may be subject to export control laws (including but not limited to ITAR and EAR) and that each Consortium Member is responsible for its own compliance with such laws, and the Export Control Plan and Procedures set forth in this document.
- 2.4. Failure to obtain an export control license or other authority required by law from the U.S. Government may result in civil and/or criminal liability under applicable laws and regulations, forfeiture of subcontract or Project funds received, expulsion from the NAWI Hub, and to the extent permitted by law, indemnification of LBNL, other Consortium Members, and the federal government for any monetary damages caused by non-compliance. Such indemnification of LBNL is not applicable to DOE national laboratories or state entities or agencies not permitted to indemnify third parties by law or statute.
- 2.5. Each NAWI Consortium Member will establish a screening and review process and conduct a review to determine the deemed or actual export control risk in each NAWI project prior to the beginning of any NAWI Work conducted by the NAWI Consortium Member. This review process should include, at a minimum, review by a NAWI Consortium Member designated institutional official for export control compliance with input from the NAWI PI overseeing the NAWI Work or designated scientific and technical personnel knowledgeable in the research area of energy-water desalination research. The NAWI Consortium Member's designated official will determine whether any export or deemed export of the NAWI Work requires U.S. government authorizations or licenses and the impact to the NAWI research. The designated official will work with the NAWI PI on any appropriate technology control plan, adjustment of the NAWI work, or obtaining the appropriate government authorizations or licenses (e.g., from the BIS or DDTC).
- 2.6. Certain exceptions to the ITAR and EAR may apply allowing the disclosure of technical data or technology that is in the public domain or is commonly taught in universities without the approval of the DDTC or BIS. (22 C.F.R. §120.10(a)(5).) (15 C.F.R. §734.3(b)(3), 7, 8 and 9.) Notwithstanding, especially because of the likely participation by foreign scientists and students in the NAWI program at NAWI Consortium Member institutions, NAWI Consortium Members must ensure that they have a system in place to determine whether there is the possibility of deemed export violations in the course of NAWI Work or the extent the NAWI Work is not export controlled.
- 2.7. Instances may arise in which some of the results of the research conducted with the NAWI framework are restricted and not published and shared broadly within the scientific community, e.g., as protected CRADA information, or as required to comply with export control restrictions or other applicable laws and regulations such as the Energy Policy Act of 2005 ("EPAAct"). Under Section 2.2 of this Appendix C, NAWI and its Consortium Members will ensure measures that properly protect such information are in place.

3. CONSORTIUM MEMBER COMPLIANCE MANAGER.

- 3.1. NAWI Consortium Members will have procedures to review all NAWI Work assigned to the NAWI Consortium Member to determine whether there are any export control risks, obtain appropriate authorizations and implement any necessary controls to manage such export control risks. Each NAWI Consortium Member shall designate an institutional official to manage export control for the NAWI Consortium Member and whose

responsibilities shall include, but not be limited to, developing and implementing the Consortium Member's NAWI export law compliance program prior to accepting and/or during participation in NAWI Work. The institutional official is most often responsible for, among other things:

- 3.1.1. Developing export control training modules;
 - 3.1.2. Maintaining adequate documentation for export control analysis conducted for proposed and approved project submissions;
 - 3.1.3. Classifying and making export control determinations for the institution;
 - 3.1.4. Seeking and obtaining government export control authorizations; and
 - 3.1.5. Overseeing the institutional program related to restricted party screening.
- 3.2. Consortium Members are responsible for reporting to NAWI any export control disclosures, violations or exchanges under this Agreement within 7 business days.
- 3.3. LBNL will select or appoint a person to the position of NAWI Compliance Manager for NAWI whose responsibilities may include, but not be limited to, developing and implementing NAWI's Consortium compliance program. The Compliance Manager may be responsible for, among other things: (i) maintaining a library of NAWI Consortium Members' certifications (e.g., See Art. 4.7), (ii) maintaining documentation for proposed and approved NAWI project submissions including export control analysis, (iii) coordinating with the U.S. Department of Energy (DOE), (iv) maintaining a library of NAWI program document summaries (See Art. 4.3.), (v) maintaining a record of voluntary disclosures by NAWI Consortium Members (See Art. 4.6.), (vi) maintaining a list of NAWI Consortium Members registered with the DDTC. .

4. REQUIRED COMPLIANCE MEASURES.

4.1. Training

4.1.1. Consortium Members' employees participating in any NAWI research shall attend any online training program to be provided by the NAWI Compliance Manager prior to, or within one month after, starting work on the NAWI program and annually thereafter. Consortium Members' employees will certify attendance in the manner provided by the NAWI Compliance Manager. Consortium Members will execute a certification substantially as follows:

4.1.1.1. [Consortium Member] hereby certifies that it is knowledgeable of, agrees to abide by, and is in compliance with the requirements of the U.S. Sanction Regulations including, International Traffic In Arms Regulations and the Export Administration Regulations, in the performance of efforts under this NAWI program.

4.2. Advance Notification To The Compliance Manager and Receiving Consortium Members.

4.2.1. Upon completion of a review under Section 2.5 of this Appendix C by a NAWI Consortium Member, if a NAWI Consortium Member determines that technical data or items are export controlled at a level above EAR99 and must be provided to another NAWI Consortium Member under NAWI Work, the providing NAWI Consortium Member must give advanced notification to the recipient NAWI Consortium Member(s) designated official for export control and the NAWI

Compliance Manager. This advanced notification should occur prior to commencing any project but not later than thirty (30) days prior to sending such technical data or items to the recipient NAWI Consortium Member and must receive written approval from the receiving NAWI Consortium Member's designated export control official that the receiving NAWI Consortium Member may receive the export controlled information or item.

- 4.2.2. In such advanced notification, the providing NAWI Consortium Members shall advise the Compliance Manager and the other receiving NAWI Consortium Members participating in the specific NAWI project of the following: (i) the name of the project, (ii) the description of the project, (iii) the identification of the USML category(ies) under which the project or technical data falls and whether such constitutes significant military equipment, (iv) the identification of the Export Control Classification Numbers (ECCN(s)) under which the related project or technology falls, (v) whether the approval of the DDTC or the BIS is required to export the project or technical data or technology related to the project thereto, (vi) any exceptions which would allow the Consortium Members to export the project technical data or technology related thereto without the otherwise required approval of the DDTC or the BIS, and (vii) in what format technical data or technology will be maintained (e.g. identify the name of any specifications).
 - 4.2.3. The NAWI Compliance Manager will notify the Consortium Members in writing of any concern with the Consortium Members' analysis of the required export control, but it will be the obligation of the Consortium Members to ensure compliance with export control laws in the performance of the project.
- 4.3. Documenting Export Controlled Project Information.
- 4.3.1. NAWI Consortium Members shall document technical data or technology developed for projects under the NAWI Consortium in writing. That writing shall identify: (i) the title of the document (the name should be descriptive of the information contained in the document), (ii) if project information is determined to be export controlled, the USML category(ies) and/or ECCN(s) applicable to any data included in the document, (iii) the name(s) of the principal author(s) of the document, and (iv) contact information for persons to whom questions regarding the document should be directed.
 - 4.3.2. NAWI Consortium Members shall advise the NAWI Compliance Manager of the immediately above referenced information within 10 days of the date of creation of the document.
 - 4.3.3. NAWI Consortium Members shall mark all documents containing export controlled technical data or technology related to the NAWI Hub with one of the following legends (whichever is applicable) or some similar legend:
 - 4.3.3.1. "This document contains information the export of which is regulated by the International Traffic in Arms Regulations. Exports of this document or disclosure of its contents to any person who is not a citizen or permanent resident of the United States (or a protected refugee) without the prior approval of the Directorate of Defense Trade Controls is prohibited."

4.3.3.2. “This document contains information the export of which is regulated by the Export Administration Regulations. Exports of this document or disclosure of its contents to any person who is not a citizen or permanent resident of the United States (or a protected refugee) without the prior approval of the Bureau of Industry and Security may be prohibited.”

4.3.3.3. “NOTICE: DOCUMENT CONTAINS EXPORT CONTROLLED INFORMATION”

4.3.4. The providing and receiving NAWI Consortium Members and NAWI Compliance Manager shall maintain a library of the information set forth in the first paragraph of this Article 4.3. The U.S. Department of Energy may, upon request, be given access to such library.

4.4. Records Retention.

4.4.1. NAWI Consortium Members shall maintain for a period of 5 years following completion of the NAWI program, records of: (i) any documents created pursuant to Article 4.3 and (ii) any export approvals received from the DDTC or BIS, or Treasury.

4.5. Voluntary Disclosures.

4.5.1. NAWI Consortium Members shall inform in writing the NAWI Finance and Compliance Director within 5 days of making voluntary disclosures of violations or possible violations of the ITAR, the EAR, or OFAC regulations related to Consortium Members’ performance of NAWI Work generally describing the nature of reported violations or possible violations and any corrective actions taken. Unless the disclosing Consortium Members otherwise agree, the NAWI Finance and Compliance Director shall not further disclose such information to any party except the U.S. Department of Energy (and then only with the U.S. Department of Energy’s agreement not to further disclose such information except as required by law).

4.6. Restricted or Denied Party Screening.

4.6.1. NAWI Consortium Members shall conduct restricted party screening on all entities and individuals involved in the NAWI program. This includes, but not limited to, all vendors, subcontractors and entities providing cost share to the NAWI Consortium Member, prior to issuing any contract or Project Agreement with the entity. Such screening shall be conducted against all of the following lists:

4.6.1.1. Department of Commerce – Bureau of Industry and Security Lists

4.6.1.1.1. Denied Persons List

4.6.1.1.2. Unverified List

4.6.1.1.3. Entity List

4.6.1.2. Department of State – Bureau of International Security and Non-proliferation and Directorate of Defense Trade Controls Lists

4.6.1.2.1. Nonproliferation Sanctions

4.6.1.2.2. AECA Debarred List

4.6.1.3. Department of the Treasury – Office of Foreign Assets Control Lists

4.6.1.3.1. Specially Designated Nationals List

4.6.1.3.2. Foreign Sanctions Evaders List

- 4.6.1.3.3. Sectoral Sanctions Identifications (SSI) List
- 4.6.1.3.4. Palestinian Legislative Council (PLC) List
- 4.6.1.3.5. The List of Foreign Financial Institutions Subject to Part 561 (the Part 561 List)
- 4.6.1.3.6. Persons Identified as Blocked (PIB) Solely Pursuant to E.O. 13599 Treasury Department

4.6.2. NAWI Consortium Members shall advise the Finance and Compliance Director if the NAWI Consortium Member receives a positive match for a vendor or entity or an individual of the Consortium when conducting restricted party screening, and the actions that the Consortium Member took (e.g., removed the vendor or entity from the project). NAWI will provide notice to DOE and AMO within 7 business days.

4.7. Compliance Manager Reviews.

4.7.1. Consortium Members will certify to NAWI, e.g., annually, that they are in compliance with all applicable export control laws, regulations, and with these Procedures. NAWI Consortium Members shall cooperate fully in any review by the Compliance Manager and/or DOE of the Consortium Members' compliance with the ITAR, the EAR, and OFAC regulations. The Consortium Members shall remain responsible for the acts and omissions of their officers, directors, employees, and agents.

DRAFT

APPENDIX D – CONFLICT OF INTEREST PLAN

1. PURPOSE

- 1.1. The National Alliance for Water Innovation (“NAWI”) is a U.S. DOE Energy Innovation Hub, established to address water security issues in the U.S. through multidisciplinary early stage research and development for energy-efficient and low-cost desalination technologies that will enhance the economic, environmental, and energy security of the nation. Funding for NAWI is provided through the Funding Opportunity Announcement (FOA) Number DE-FOA-0001905 for the NAWI Energy-Water Desalination Hub with cost share provided through public and private funds.
- 1.2. NAWI is led and operated by Ernest Orlando Lawrence Berkeley National Laboratory (LBNL), which is managed and operated by The Regents of the University of California under the authority of its Prime Contract No. DE-AC02-05CH11231 with the U.S. DOE.
- 1.3. The National Alliance for Water Innovation (“NAWI”) is committed that all individuals conducting NAWI Work, including NAWI Key Personnel, NAWI PIs and NAWI Participating Researchers, will maintain the highest professional standards and must conduct themselves in accordance with these standards in their relationships with each other, with NAWI Alliance and Consortium Members, and with the public.
- 1.4. This Conflict of Interest Plan (Plan) establishes requirements for identifying, disclosing, mitigating and resolving conflicts of interest that arise from activities funded in connection with the National Alliance for Water Innovation. This Plan applies to all NAWI Key Personnel, NAWI PIs and Participating Researchers as defined in the Consortium Agreement and below.
- 1.5. The overall goal of this Plan is to ensure that all PCOIs, OCOIs and conflicts of commitment are reported, examined, and resolved in a manner that protects the interests of NAWI and DOE. This Plan is to be interpreted and applied in a manner that achieves the following purposes:
 - 1.5.1. Identification and timely reporting to the NAWI Consortium Member, and the designated NAWI project representative at LBNL and, when appropriate, DOE, of any set of facts that creates a PCOI, OCOI or conflict of commitment.
 - 1.5.2. Timely actions and resolution of PCOIs, OCOIs and conflicts of commitment in a manner that is fair to the parties concerned and protects the interests of NAWI.

2. DEFINITIONS

- 2.1. “NAWI Key Personnel” refers to individuals carrying out a management role or having Management Responsibility at NAWI, or as identified in the NAWI Proposal submission or the NAWI Annual Operating Plan, including individuals serving on the NAWI executive team, governance board and research council.
- 2.2. “NAWI Principal Investigator(s), NAWI PI or NAWI PIs” means a Consortium Member Principal Investigator as identified by in a proposal to NAWI or DOE, or in the NAWI Operating Plan, or identified as conducting NAWI Work at a NAWI Consortium Member.

- 2.3. “Participating Researcher” means any individual who is performing NAWI Work for a Consortium Member.
- 2.4. “NAWI Work” means any work, research, or activity performed by a Consortium Member during its respective Participation Period in NAWI pursuant to or under this Agreement, as set further forth in a NAWI Project agreement, such as a CRADA, or Subcontract.
- 2.5. “Management Responsibility” means serving as a supervisor, manager, executive, officer, or member of a Governance Board.
- 2.6. “Organization Conflict of Interest” or “OCOI” refers to a set of facts where a Consortium Member (1) is biased because of its financial, contractual, organizational, or other interests which relate to the work under this agreement, and (2) obtains any unfair advantage over other parties by virtue of its performance of this agreement.
- 2.7. “Personal Conflict of Interest” (PCOI) occurs when an individual:
- 2.7.1. has a Significant Financial Interest or Relational Interest in a third party (e.g., business associates or a business enterprise, a non-profit organization, foreign or domestic universities, private entities or government, or someone who has a Relational Interest to the individual), and
 - 2.7.2. that relationship creates, appears to create, or potentially creates a conflict between the individual’s:
 - 2.7.2.1. duty of fairness, objectivity, and adherence to NAWI rules in connection with the individual’s assigned role or responsibility or research, and
 - 2.7.2.2. his/her self-interest or the interests of the third party; or
 - 2.7.3. uses company resources, non-public information, or affiliation with NAWI for personal purposes or benefit, or uses his/her position at NAWI for the benefit or gain of third parties.
- 2.8. “Personal Interest” means any interest of an individual that could be viewed as potentially affecting objective judgment and decision-making in connection with NAWI. Examples include, but are not limited to, Significant Financial Interests, and relationships meeting the definition of a Relational Interest.
- 2.9. “Relational Interest” means an individual’s spouse, children, parents, siblings, or partner.
- 2.10. “Significant Financial Interest” means a financial interest consisting of one or more of the following interests of the researcher or the researcher's spouse and dependent children for the following categories: (a) Any income received from the entity in the twelve months preceding the disclosure exceeds \$10,000. Included are consulting fees, honoraria, and the equity interest value at the date of disclosure as determined by public prices or other reasonable measures of fair market value; (b) Any stock or stock options received from the entity in the twelve months preceding the disclosure, when aggregated, that exceeds a value of \$10,000 current market value if publicly traded; otherwise, the best reasonable valuation, or amount of investment); (c) Intellectual property rights and interests, upon receipt of income, exceeding \$10,000 during the twelve months preceding disclosure from such rights and interests. However, SFIs do not include royalties received from the

researcher's employment with a consortium member. This term "financial interest" does not include the following types of financial interests: (a) salary, royalties, or other payments paid to the researcher by their primary Consortium member employer; or (b) Income from investment vehicles, such as mutual funds and retirement funds and retirement funds, in which investigator does not directly control investment decisions.

3. ROLES AND RESPONSIBILITIES

3.1. Requirements for Personal Conflict of Interest

- 3.1.1. To the extent reasonably feasible, all individuals in NAWI covered by this Plan should seek to manage Personal Interests in a manner that avoids Personal Conflict of Interest (PCOI) concerns, including avoid having Significant Financial Interests or a Management Responsibility for any entity that does business with NAWI, seeks to do business with NAWI, or competes with NAWI. As job responsibilities change and Personal Interests evolve, however, PCOIs can arise simply due to new circumstances.
- 3.1.2. Each NAWI Consortium Member institution will have procedures in place for identifying, disclosing, and reporting Personal Interests for its PIs and Participating Researchers. The disclosure and reporting requirements must include initial, annual and ongoing reporting of information, and within 30 days of acquiring a new Personal Interest. Disclosures must address, at minimum, all of the elements in the sample disclosure form (Attachment I). NAWI PIs and Participating Researchers are required to comply with all PCOI procedures.
- 3.1.3. Each NAWI Consortium Member will designate an individual Conflict of Interest (COI) Administrator to be responsible for collecting information for that Institution. Consortium Member Institutions are responsible for providing, if requested, all positive disclosures of personal interest, conflict of interest reviews, and any resulting conflict of interest management plans to the LBNL Conflict of Interest Program Manager. Consortium Members that are DOE Labs will provide positive disclosures of personal interest, conflict of interest reviews, and any resulting conflict of interest management plans to their respective DOE Site Offices, along with anything required in other locally established conflict of interest procedures.
- 3.1.4. NAWI Consortium Member Institutions will have procedures to review all Personal Interests and determine whether they pose an apparent or actual conflict of interest.

3.2. Requirements for Organizational Conflicts of Interest

- 3.2.1. Failure to identify and properly address OCOI issues can significantly damage NAWI's reputation with research sponsors, DOE, and the research community. Therefore, it is essential that OCOI issues be avoided if at all possible and that they be promptly and fully examined and addressed as soon as they are identified.
- 3.2.2. Each NAWI Consortium Member will implement procedures to solicit potential OCOI concerns from NAWI PIs and Participating Researchers. These procedures should be designed to identify all current and pending support for NAWI PIs related to energy-water desalination research. Disclosures must address, at minimum, all of

the elements in the sample disclosure form (Appendix I Attachments 1-4). For each source of support, include:

- 3.2.2.1. Name of funding source or supporting organization
 - 3.2.2.2. Title of Research Project
 - 3.2.2.3. Funded Amount, or Budget
 - 3.2.2.4. Award Term
- 3.2.3. Procedures will also identify the NAWI Consortium Member's current or pending business relationships with companies, organizations, or entities engaged in energy-water desalination research. Additional detail may be requested by the LBNL Conflict of Interest Program to support this information.
- 3.2.4. COI Administrators for Consortium Member Institutions are responsible for providing all OCOIs, OCOI reviews, and any resulting conflict of interest management plans to the LBNL Conflict of Interest Program Manager.
- 3.2.5. NAWI Consortium Member will submit required information to the LBNL Conflict of Interest Program upon becoming an NAWI Consortium Member, and within 60 calendar days of becoming aware of a new potential OCOI, or new or additional facts arise, that potentially create an OCOI that were not disclosed in a previous Organizational Conflict of Interest for the NAWI Consortium Member.
- 3.2.6. LBNL Conflict of Interest program will review Consortium Members' OCOI mitigation plans, in coordination with the NAWI Consortium Member as appropriate, and revise mitigation plans if necessary. LBNL COI Program will involve DOE AMO Technology Manager in situations where a Significant COI is identified and as otherwise needed.

4. REVIEW OF CONFLICTS OF INTEREST

- 4.1. Each NAWI Research or Industry Consortium Member will establish a review process to determine whether a potential or actual conflict of interest exists with the energy-water desalination research conducted by the NAWI Consortium Member per the research plan associated with the Project agreement, Subcontract, CRADA, or other collaboration agreement. This review process should include, at a minimum, review by scientific and technical personnel knowledgeable in the research area of energy-water desalination research, as well as review by an appropriate institutional official. Reviewers will determine whether a researcher's Personal Interest is directly related to the NAWI Work, and if so whether that interest affects the NAWI research, or is impacted by it, and therefore constitutes a Personal Conflict of Interest.
- 4.2. Should a NAWI Consortium Member determine that any of its NAWI PIs who are current or proposed NAWI Key Personnel has a potential or actual conflict of interest related to NAWI, the NAWI Consortium Member should prepare a conflict of interest management plan designed to eliminate or mitigate the conflict of interest. This plan may provide for the temporary removal of NAWI Key Personnel or NAWI PIs from participation in NAWI activities pending DOE review.

The same review process takes place when a NAWI PI reports a new Personal Financial Interest.

5. RECORDS

- 5.1. NAWI Consortium Member are required to maintain records related to any PCOI or OCOI reporting and resolution for at least 6 years, or longer, in accordance with the NAWI Consortium Member's internal policies, the NAWI Project agreement, the NAWI Consortium Agreement and any other direction provided by DOE through LBNL.

6. PROCEDURE FOR MANAGING CONFLICTS OF INTEREST

- 6.1. When a NAWI Consortium Member determines that an individual management plan is required to mitigate a NAWI PI or NAWI Consortium Member's potential or actual PCOI or OCOI, that management plan is to be implemented prior to the Consortium Member's expenditure of NAWI funds awarded in a Project agreement. The management plan must specify the actions required to manage the conflict of interest, and must include:
 - 6.1.1. The role and principal duties of the conflicted NAWI PI
 - 6.1.2. Details of the specific COI
 - 6.1.3. Conditions of the management plan (i.e., the specific mitigation measures that will be taken for the identified COI, what corrective actions will be taken should the covered party fail to adhere to the management plan)
 - 6.1.4. How the plan will safeguard objectivity in the research activity
 - 6.1.5. Confirmation of the NAWI PI's agreement to the plan and
 - 6.1.6. How the plan will be monitored
- 6.2. Typically, a plan might include actions such as: (i) reassigning certain research responsibilities to another individual; (ii) reassignment of supervisory responsibility or line management reporting to another individual; (iii) requiring disclosure to staff and co-researchers or funders of a Management Responsibility or Relational Interest; (iv) requiring supervisory review of proposed actions that could be affected by the conflict; or (v) divestment of a Significant Financial Interest. The existence of a potential or apparent PCOI does not necessarily mean a NAWI PI has acted improperly. However, a failure to report an actual, potential, or apparent conflict, to the designated NAWI Consortium Member COI administrator and to the LBNL COI program administrator, could result in disciplinary action up to and including removal of NAWI responsibilities from the NAWI PI with a PCOI, and/or the NAWI Consortium Member.
- 6.3. Consortium Member Institutions are responsible for providing and must provide all positive disclosures of personal and organizational interest, conflict of interest reviews, and any resulting conflict of interest management plans to the LBNL Conflict of Interest Program Manager. The notification must include: 1) A copy of the Consortium Member Institution's current COI policy; 2) A detailed description of the COI; and 3) A COI management plan that contains all the information and actions the applicant/recipient plans to take and has taken in order to manage, eliminate, neutralize, mitigate or otherwise resolve the COI.

- 6.4. The LBNL Conflict of Interest program will review members' COI mitigation plans, in coordination with the NAWI Consortium Member as appropriate, and revise a mitigation plan if necessary with the assistance of the NAWI Consortium Member's input. LBNL COI Program will involve DOE AMO Technology Manager as appropriate.

7. ENFORCEMENT

- 7.1. Failure of an individual to file a complete and truthful conflict of interest disclosure at the beginning of the project, annually, or when a new interest is obtained, or failure to comply with any conditions or restrictions directed or imposed, including failure to cooperate with appointed award-monitoring bodies, will be grounds for discipline pursuant to Human Resources policy of the NAWI Consortium Member and/or other applicable employee or student disciplinary policies. Disciplinary action may include removal of a NAWI PI or Participating Researcher or Consortium Member from the NAWI project. At its discretion or at DOE's direction, NAWI may require the individual or the Consortium Member be removed from the NAWI project.
- 7.2. Individuals failing to file a complete and truthful conflict of interest disclosure are subject to civil and/or criminal penalties under 18 U.S.C. § 1001. Individuals must acknowledge their understanding of these penalties when completing a disclosure.
- 7.3. In addition, federal regulations may require reports to DOE of any violations of federal regulations and Laboratory policy.

8. REPORTING TO DOE

- 8.1. Lawrence Berkeley National Laboratory, as the NAWI lead institution, will promptly notify the AMO Technology Manager within ten (10) calendar days of becoming aware of any significant COI issues arising at any of the Consortium Member Institutions. The notification must include: 1) A copy of the Consortium Member's current COI policy; 2) A detailed description of the COI; and 3) A COI management plan that contains all the information and actions the applicant/recipient plans to take and has taken in order to manage, eliminate, neutralize, mitigate or otherwise resolve the COI. A significant COI will be deemed to exist: (a) where actual or apparent conflict of interest or conflicts of commitment are disclosed involving: Executive Team members; Governance Board members; NAWI Key Personnel, Research Council members, Principal Investigators; and persons involved in a procurement action over \$25,000.
- 8.2. NAWI Members that are DOE Labs will provide positive disclosures of personal interest, conflict of interest reviews, and any resulting conflict of interest management plans to their DOE Site Offices, along with anything required in other locally established conflict of interest procedures.

9. COI PLAN ACKNOWLEDGEMENT AND MONITORING

- 9.1. Each Consortium Member must certify that they will design and implement procedures designed to comply with this Appendix D - NAWI Conflict of Interest Plan. Such procedures are subject to review and approval by Lawrence Berkeley National Laboratory as the Lead Institution for NAWI.

- 9.2. NAWI Consortium Members are responsible for monitoring compliance with management plans for individual NAWI PIs employed by that institution.

10. STANDARDS OF CONDUCT

- 10.1. During the term of participation in the NAWI Hub, each NAWI Consortium Member will maintain written standards of conduct addressing expectations concerning ethical behavior and requirements for disclosing, resolving and reporting potential conflicts of interest governing the conduct of its Participating Researchers in compliance with the conflicts of interest requirements in 2 CFR 200.318 and this Conflict of Interest Plan. Consortium members must maintain written standards of conduct covering conflicts of interest and governing the actions of its employees engaged in the selection, award and administration of contracts. No employee, officer, or agent of a Consortium Member may participate in the selection, award, or administration of a contract supported by NAWI if he or she has a real or apparent conflict of interest.

11. FOREIGN SUPPORT

- 11.1. All individuals covered by this Plan, including Participating Researchers are required to disclose any financial ties to foreign universities, private entities and governments outside of the United States, including any participation in a foreign government talent recruitment program from designated countries of risk. Such disclosures will be included in the NAWI PI's Personal Financial Interest Form.
- 11.2. All individuals covered by this Plan, including Participating Researchers, will disclose all current and pending support related to energy-water desalination research, including support from foreign entities or organizations.

ATTACHMENT I - SAMPLE PERSONAL FINANCIAL INTEREST DISCLOSURE

NAWI Personal Conflict of Interest (COI) Disclosure Request

The Regents of the University of California in its role as Management and Operating contractor for the Ernest Orlando Lawrence Berkeley National Laboratory (LBNL) along with DOE National Laboratories, industry, academia, and non-profits have formed the National Alliance for Water Innovation (NAWI) to establish an Energy-Water Desalination Hub.

All NAWI management and technical personnel must identify potential, apparent, or actual organizational and individual conflicts of interest. This shall include applicants, their members, and senior/key personnel named in the application. Negative responses are also required.

Each person designated as “NAWI Key Personnel”, “NAWI PIs”, and a “Participating Researcher” must submit a disclosure statement that identifies any past, current, and planned interests, including relational interests, which may create a conflict of interest. The statement must be signed by the submitter. At a minimum disclosures should include all personal and financial interests and relationships that could affect personnel’s dedication to achieving NAWI’s objectives and/or their objectivity in:

- participating in program guidance and management
- designing, conducting and reporting research,
- making financial or business decisions, and/or
- reporting inventions that arise from your efforts under the NAWI program.

In making these disclosures, please provide enough information to identify how a significant COI might arise.

Disclosure

Identify any direct¹, indirect, relational or related financial interest(s)² related to the work to be conducted as part of this proposed project. Interests are relational if held by you, your spouse, parents, siblings, children or partner. Interests are related to the research if the interests:

- could be affected by the results or outcome of the research,
- are in the sponsor of the research (even if unrelated to the research being proposed), or
- are in another entity conducting research or business that could be affected by the research

[LIST HERE or NONE]

Identify your institutional affiliation(s) and employment, including but not limited to, full-time, part-time, contractor, consulting positions, and advisory positions.

[LIST HERE or NONE]

Identify all positions and scientific appointments both domestic and foreign, including affiliations with foreign entities or governments. This includes titled academic, professional, or institutional

appointments whether or not remuneration is received, whether full-time, part-time, or voluntary (including adjunct, visiting, or honorary), and the area of research for each position or appointment, if applicable.

[LIST HERE or NONE]

Identify current or pending participation in programs sponsored by foreign governments or entities, including foreign government talent recruitment programs.

[LIST HERE or NONE]

List all research that is similar, or related to, the research to be conducted NAWI that you have been engaged in during the last 5 years, or are now performing, or reasonably expect to be engaged in next two years with any entity. Attach other pages as necessary.

- Describe Research.
- Employer/Institution.
- Sources of Funding.
- Other Support. Other support includes *all* resources made available to a researcher in support of and/or related to *all* of their research and development endeavors, regardless of whether or not the resources have monetary value (e.g., in-kind) and regardless of whether they are based at the institution the researcher identifies for the NAWI project. All resource and financial support from all foreign and domestic entities, including but not limited to, in-kind, such as travel, office/laboratory space, equipment, supplies, or personnel; gifts provided with terms or conditions (including gifts provided directly to the individual rather than through the research institution); financial support for laboratory personnel; and participation of student and visiting researchers supported by other sources of funding.
- State whether work is completed, current, or anticipated.
- For current or anticipated work, state your time commitment.

[LIST HERE or NONE]

List all applications or proposals for this project or for related work (i.e., work that relates directly or indirectly to the proposed R&D project) pending or approved with any Federal or non-Federal entity (including, without limitation, the following, domestic and foreign: industry, private investors, and foreign, state, or local governments).

[LIST HERE or NONE]

Certification

I am not participating in any activities with an outside organization where I am asked to provide or discuss ongoing NAWI or NAWI partner/sponsor proprietary technology or software, unpublished or unpatented research with the outside organization or its clients and partner organizations. Should my circumstances change, I will immediately update my COI/NDA disclosure.

I am providing this conflict of interest disclosure as part of my participation in the DOE funded NAWI. I certify under penalty of perjury that the information contained in this disclosure form is accurate and complete. I understand false statements or misrepresentations may result in civil and/or criminal penalties under 18 U.S.C. § 1001. I further understand and agree that (1) this certification is ongoing and continues until one (1) year after the end of my participation in NAWI; and (2) I have a responsibility to update this disclosure, as necessary.

Signature: _____ Date: _____

NAME (PRINT): _____

Definitions

1. WHAT IS A DIRECT FINANCIAL INTEREST?

Income³ exceeding \$10,000 or 5% ownership related to the research

2. WHAT IS A RELATED FINANCIAL INTEREST?

Whenever it could reasonably appear that the research to be undertaken could be affected by, or have an effect on an investigator's financial interest, the financial interest is "related" to the sponsored project. The following are financial interests "related" to the sponsored project:

- The Investigator is conducting a project where the results could be relevant to the development, manufacturing, or improvement of the products or services of the entity in which the Investigator has a financial interest.
- The Investigator has a financial interest in an entity which might manufacture or commercialize a drug, device, procedure or any other product used in the project or that will predictably result from the project.
- The Investigator receives income exceeding \$10,000 (including payments to the Compensation Plan) from a single entity for consulting activities that would reasonably appear to be related to the research.
- The Investigator has a financial interest in an entity and the sponsored project will subcontract a portion of the work, or lease property, or make purchases from the entity.
- The Investigator receives a payment specifically for recruiting or enrolling a human subject in the study.
- There is an intellectual property interest, such as an invention or a patent (actual, planned, or applied for) or a copyright for software assigned or licensed (or to be assigned or licensed) to a party other than the Investigator's employing institution.

3. WHAT IS CONSIDERED INCOME?

- Income from a single (for profit) business entity including salary, consulting fees, honoraria, royalties, dividends, or any other payments or consideration with value
- Equity in any one enterprise in the form of stock, stock options, real estate, or any other investment or ownership interest
- A management position, such as board member, director, officer, partner, or trustee in any business entity

- A position as employee in any business entity
- A loan arrangement with a business entity
- Income, from a single public or non-profit entity including salary, consulting payments, honoraria, royalties, or any other payments or consideration with value

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ATTACHMENT II – SAMPLE ORGANIZATIONAL CONFLICT OF INTEREST

**Organizational Conflict of Interest Disclosure Statement for
National Alliance for Water Innovation Energy-Water Desalination Hub**

Proprietary and Confidential Business and Economic Information

Team Member:

List all current and pending support related to energy-water desalination research. For each source, include:
 Name of funding source or supporting organization
 Title of Research Project
 Funded Amount, or Budget
 Award Term

1. Nature of interest or business relationship:

Other entities involved:

Past? ___ Current? ___ Planned? ___

2. Nature of interest or business relationship:

Other entities involved:

Past? ___ Current? ___ Planned? ___

3. Nature of interest or business relationship:

Other entities involved:

Past? ___ Current? ___ Planned? ___

4. Nature of interest or business relationship:

Other entities involved:

Past? ___ Current? ___ Planned? _____

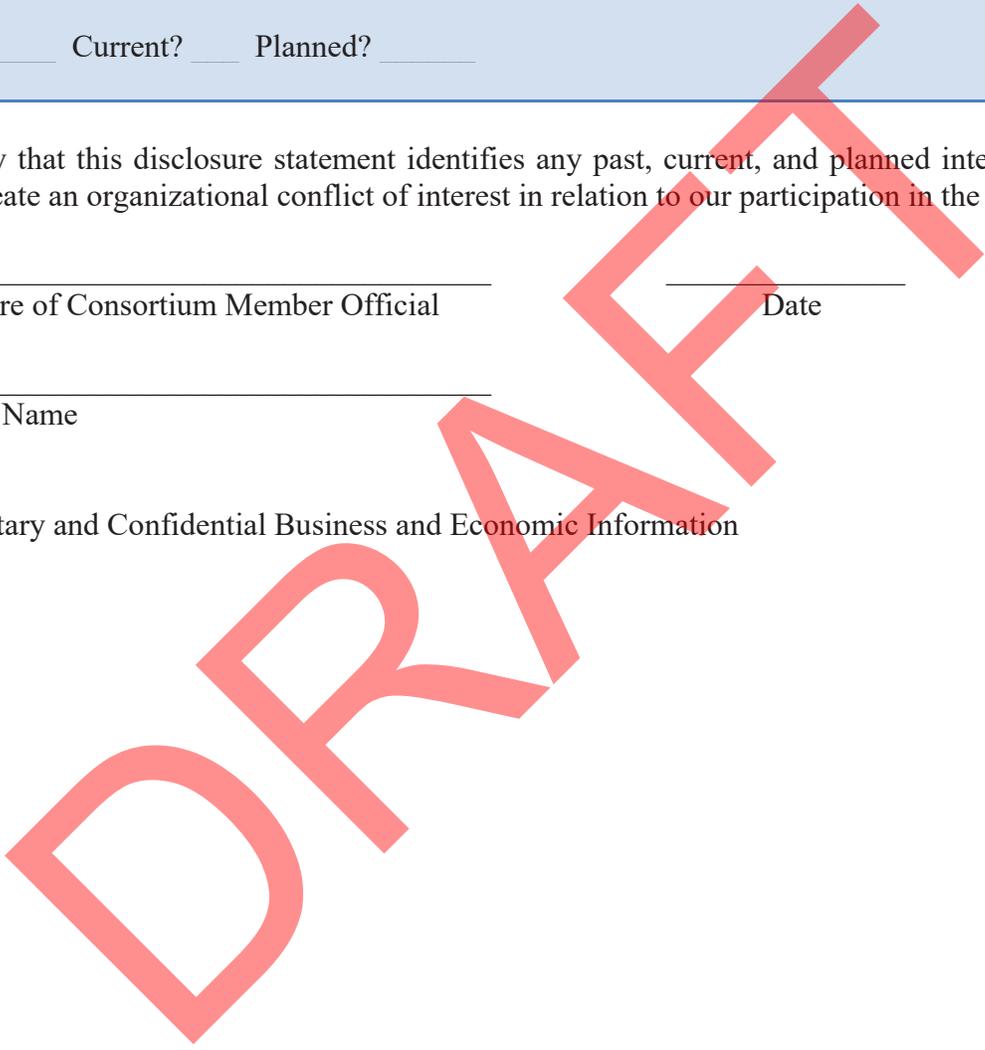
I certify that this disclosure statement identifies any past, current, and planned interests, which may create an organizational conflict of interest in relation to our participation in the NAWI.

Signature of Consortium Member Official

Date

Printed Name

Proprietary and Confidential Business and Economic Information



ORGANIZATIONAL CONFLICT OF INTEREST CERTIFICATE

Organizational Conflict of Interest Certificate
National Alliance for Water Innovation (NAWI)

NAWI Consortium Member Institution: _____

I hereby certify that we are not aware of the existence of any facts that would create an organizational conflict of interest in relation to our participation in the NAWI.

Signature of Institutional Official for
[NAWI Consortium Member]

Date

Printed Name

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ATTACHMENT III- PROJECT SELECTION CONFLICT OF INTEREST MITIGATION GUIDANCE

NAWI

Project Selection Conflict of Interest Mitigation Guidance

1. Overview:

National Alliance for Water Innovation, (NAWI or “NAWI Hub”) is a high-profile public-private partnership that will impact U.S. manufacturing. As part of its best practices approach to business operations, the NAWI Hub will actively identify and manage conflicts of interest (COI), whether actual or perceived, affecting the operations of the NAWI Hub.

This NAWI Hub Project Selection COI Mitigation Guidance applies to all NAWI R&D project selection processes and all persons involved in the project selection process including individuals on the:

- A. NAWI Executive Team and Key Personnel,
- B. NAWI Research Advisory Board, and
- C. Reviewers of any NAWI R&D proposal or white paper

2. Definitions:

- a. “Organization Conflict of Interest” or “OCOI” refers to a set of facts where a Consortium Member (1) is biased because of its financial, contractual, organizational, or other interests which relate to the work under this agreement, and (2) obtains any unfair advantage over other parties by virtue of its performance of this Agreement.
- b. “Personal Conflict of Interest” (PCOI) occurs when an individual:
 - i. has a Significant Financial Interest or Relational Interest in a third party (e.g., business associates or a business enterprise, a non-profit organization, foreign or domestic universities, private entities or government, or someone who has a Relational Interest to the individual), and
 - ii. that relationship creates, appears to create, or potentially creates a conflict between the individual’s:
 1. duty of fairness, objectivity, and adherence to NAWI rules in connection with the individual’s assigned role or responsibility or research, and
 2. his/her self-interest or the interests of the third party; or
 - iii. uses company resources, non-public information, or affiliation with NAWI for personal purposes or benefit, or uses his/her position at NAWI for the benefit or gain of third parties.
- c. “Personal Interest” means any interest of an individual that could be viewed as potentially affecting objective judgment and decision-making in connection with NAWI. Examples include, but are not limited to, Significant Financial Interests, and relationships meeting the definition of a Relational Interest.
- d. “Relational Interest” means an individual’s spouse, children, parents, siblings, or partner.

- e. “Significant Financial Interest” means a financial interest consisting of one or more of the following interests of the researcher or the researcher's spouse and dependent children for the following categories: (a) Any income received from the entity in the twelve months preceding the disclosure exceeds \$10,000. Included are consulting fees, honoraria, and the equity interest value at the date of disclosure as determined by public prices or other reasonable measures of fair market value; (b) Any stock or stock options received from the entity in the twelve months preceding the disclosure, when aggregated, that exceeds a value of \$10,000 current market value if publicly traded; otherwise, the best reasonable valuation, or amount of investment); (c) Intellectual property rights and interests, upon receipt of income, exceeding \$10,000 during the twelve months preceding disclosure from such rights and interests. However, SFIs do not include royalties received from the University of California Regents. This term “financial interest” does not include the following types of financial interests: (a) salary, royalties, or other payments paid to the researcher by their primary Consortium member employer; or (b) Income from investment vehicles, such as mutual funds and retirement funds and retirement funds, in which investigator does not directly control investment decisions.

3. Approaches to Managing COI for Individuals Serving on a NAWI Selection Team and/or as a Proposal or White Paper Reviewer

For any person that is serving on a NAWI project selection team, and/or is a proposal or white paper reviewer that will review and recommend projects for funding are required to recuse themselves in instances where a conflict of interest has been identified.

4. Approaches to Managing Project Selection COI for Executive Team:

The reviewers will recommend the selection of Projects to the Executive Team. Executive Team members will be required to recuse themselves in instances where a conflict of interest has been identified. For projects when the subject matter of the proposal involves an elected or waived Subject Invention from one of the Member Laboratories or Consortium Members, or one in which the Member Laboratories or Consortium Members intends to elect to retain title under the NAWI Project agreement, the Member Laboratory or Consortium Member will promptly notify LBNL, who will in turn notify the DOE Contracting Officer and AMO Technology Manager.

5. Examples of Organization Conflicts to avoid:

Individuals serving on a NAWI project selection team and any NAWI reviewers should seek to avoid organizational conflicts including the following:

- a. Unequal access to information: an unfair competitive advantage resulting from obtaining information not generally available to others seeking funding.
- b. Impaired objectivity: assessing performance of or evaluating submissions of your own organization or a direct competitor seeking NAWI support.
- c. Biased ground rules: having provided engineering or technical assistance or written the work requirements for a funding opportunity where someone within your own organization is an applicant.

- d. Serving as an evaluator on RFP submissions which have been developed by the evaluator's organization or for which the evaluator's organization is an expected recipient or sub-recipient of funds.

6. Annual Review and Potential Revisions to this Plan

As necessary, the NAWI Executive Team and the LBNL Conflict of Interest Program Management will periodically review COI management activities, plans and guidelines and may amend, subject to review by DOE, to this plan and other plans and policies to adhere to best practices.

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APPENDIX E - PUBLICATION PLAN

1. INTRODUCTION

- 1.1. The National Alliance for Water Innovation (“NAWI”) is a U.S. DOE Energy Innovation Hub, established to address water security issues in the U.S. through multidisciplinary early stage research and development for energy-efficient and low-cost desalination technologies that will enhance the economic, environmental, and energy security of the nation. Funding for NAWI is provided through the Funding Opportunity Announcement (FOA) Number DE-FOA-0001905 for the NAWI Energy-Water Desalination Hub with cost share provided through public and private funds.
- 1.2. Determining authorship is an important component of upholding the integrity of the research and scholarly enterprise and serves as an explicit way of assigning responsibility and giving credit for intellectual work. Authorship credit should be given to those who contribute and participate in substantive ways to scholarly and scientific work and should honestly and accurately reflect actual contributions. Fair and equitable determination of authorship is important to the reputation, academic promotion, and funding support of the individuals involved, and to the strength and reputation of the authors’ respective institutions.
- 1.3. Many institutions and peer-reviewed journals have established standards for authorship that have consistent key principles. Experience with best practices demonstrates that being transparent and communicating these key principles at the beginning of projects helps to promote constructive, conflict-free collaborations. In practice, various inducements have fostered authorship practices that fall short of these standards. Whereas ghost writing and gift authorship reflect one extreme, more commonly substandard practices are employed to improve the credibility of intellectual work, increase competitiveness for publication or funding, or to avoid interpersonal conflict.
- 1.4. As early as possible in the research or scholarly process, collaborators should discuss the general requirements for authorship of any manuscript that will report results of joint work. This does not mean deciding who will - or will not - be an author. Rather, the principles guiding authorship decisions should be discussed, potentially with reference to this or similar guidance documents. To prevent misunderstandings, it is recommended that discussions of authorship standards be held openly and frequently within collaborative projects. A common understanding/agreement should be established between coauthors early in the writing process for each manuscript, and these agreements should be reviewed and revised as needed to reflect changes in the actual contributions of each individual.
- 1.5. Disagreements sometimes arise regarding who should be named as an author or contributor to intellectual work and the order in which individuals should be listed. Some of these disputes are a result of failed communication and expectation setting. These guidelines are meant to serve as a set of standards that are shared by the National Alliance for Water Innovation (“NAWI”) community as a whole, to help facilitate open communication through adherence to common principles. These principles apply to all publications, whether published or prepared for internal use or for broad dissemination.

2. NAWI SPECIFIC ACKNOWLEDGEMENTS

2.1. The following acknowledgement of support is required:

2.1.1. For peer reviewed and technical papers:

2.1.1.1. Acknowledgment: “This material is based upon work supported by the National Alliance for Water Innovation (NAWI), funded by the U.S. Department of Energy, Energy Efficiency and Renewable Energy Office, Advanced Manufacturing Office under Funding Opportunity Announcement DE-FOA-0001905.”

2.1.2. For news releases, public-facing web stories, features, or narratives, posted to the web or sent to public mailing or social media lists:

2.1.2.1. Acknowledgment: “This work was supported by the National Alliance for Water Innovation (NAWI), funded by the U.S. Department of Energy, Energy Efficiency and Renewable Energy Office, Advanced Manufacturing Office.”

2.1.3. For visual presentations, such as posters and electronic slides, of work that was supported by the Energy Efficiency and Renewable Energy Office: use of the Energy Efficiency and Renewable Energy Office logo in accordance with published policies and guidelines.

2.2. NAWI will also require, whenever possible, that publications of NAWI Work include instructions on how underlying data can be accessed. Such instructions will be developed in coordination with the development of the Data Repository as described in Appendix F.

3. REPORTING REQUIREMENTS

3.1. All publications and visual presentations should be submitted to the NAWI Research Director at the same time they are provided to a non-NAWI Party.

3.2. All press releases should be approved by the NAWI Communications Manager prior to release.

4. APPLICABILITY

4.1. These guidelines apply to all parties who conduct NAWI research including, but not limited to, Consortium Members, principal investigators, research staff, faculty, students, postdoctoral researchers, technicians, and staff.

4.2. Designing an ethical and transparent approach to authorship and publication of research is the responsibility of the principal investigator(s). This guidance document outlines the ethical responsibilities of the investigator(s) and the NAWI resources available to support implementation of the principles outlined herein.

4.3. NAWI acknowledges and appreciates that there are many different standards across fields regarding authorship (e.g., the order in which authors are listed). As a result, each research team should have conversations and clear guidelines around discipline-specific standards of authorship and, if needed, should supplement these guidelines with a description of their own customary ways of deciding who should be an author and the order in which

authors will be listed. If such standards are documented in writing, they should be made available to all collaborators and discussed at the beginning of the collaboration.

5. CRITERIA FOR AUTHORSHIP

5.1. NAWI recommends that authorship be based on the following four criteria, defined by the International Committee for Medical Journal Editors:

- 5.1.1. Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; and
- 5.1.2. Drafting the work or revising it critically for important intellectual content; and
- 5.1.3. Final approval of the version to be published; and
- 5.1.4. Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

5.2. Some diversity exists across academic disciplines regarding acceptable standards for substantive contributions that would lead to attribution of authorship. This guidance is intended to allow for such variation in disciplinary best practices while ensuring authorship is not inappropriately assigned.

6. ACKNOWLEDGEMENTS, GIFT, AND GHOST AUTHORSHIP

- 6.1. Individuals who do not meet the requirements for authorship, but who have provided a valuable contribution to the work, should be acknowledged for their contributing role as appropriate to the publication. Gift authorship should not be conferred on those who have not made intellectual contributions to the work or whose intellectual contributions are limited. For example, provision of routine technical services or a valuable reagent, referral of patients or participants for a study, assistance with data collection and management, or review of a completed manuscript for suggestions, are activities unlikely to meet criteria for authorship. Although not qualifying as co-authors, individuals who assist with the research effort in these ways may warrant appropriate acknowledgement in the completed paper or presentation.
- 6.2. Ghost authorship is intentionally not identifying as an author someone who made substantial contributions to the research or writing of a manuscript that merited authorship. It includes employing authors for hire with the understanding that they will not be credited. Ghost authorship is not a practice that meets the principles outlined in this guidance.

7. IMPLEMENTATION

- 7.1. Successful implementation of these guidelines relies on a commitment to collegiality and open, frank, consistent communication and expectation-setting throughout the research and scholarly process. Integral to the implementation of these guidelines are the following:
- 7.2. Research groups should discuss authorship credit/criteria, presentation of joint work, and future directions of the research as early as practical, and frequently, during the course of their work. This should involve explicit discussion of expectations of continued collaboration if a contributor who would normally be considered an author leaves the

project or institution during the conduct of the work. The lead investigator should initiate these discussions; however, any collaborator may raise questions or seek clarity throughout the course of the collaboration. Each lab or group may consider having a written guiding document in place.

- 7.3. Collaborators are expected to adhere to good laboratory practices, including maintaining a complete laboratory notebook and annotating electronic files, as these practices will aide in identifying and clarifying individuals' contributions to a project.
- 7.4. Disposition of collaborative data and research materials should be mutually agreed upon among collaborators as early as practical and in accordance with any data-sharing and retention requirements.
- 7.5. Laboratories, departments, and educational programs supporting scholarly work at NAWI should include in any procedure manuals these guidelines and a description of their own customary ways of deciding who should be an author and the order in which authors are listed. These guidelines and customary practices should be included in orientation of new members.
- 7.6. Discussion of the principles of authorship outlined in this guidance should be integrated into any responsible conduct of research course that is taught at NAWI.

8. CONFLICTS

- 8.1. Conflicts related to authorship may arise at any time during the research or scholarly process, resulting from differing perceptions of one's contributions and resulting attribution of credit. NAWI recommends adherence to the following procedures when a dispute arises, unless disagreements are a result of alleged fabrication or falsification of data or plagiarism.
- 8.2. Resolution of disputes among collaborators through open and collegial discourse and mutual agreement is strongly encouraged. To facilitate this process, any prior decisions or discussions among authors, including verbal or written agreements between coauthors, should be reviewed and considered. These guidelines and any documented customary practices in the relevant discipline should be applied, as appropriate. Extending an invitation to a mutually agreed upon party outside the group who is familiar with publication norms in the field to informally serve as a neutral facilitator may ensure that all viewpoints are weighed and considered and objectively applied. It is expected that most disputes will be resolved collegially among collaborators.
- 8.3. If the disagreement cannot be resolved among collaborators, input should be sought from a neutral third party, such as the NAWI Executive Team, as outlined below.
- 8.4. Topic Area Lead resolution
 - 8.4.1. The collaborators should engage their Topic Area Lead to facilitate a resolution of the dispute acceptable to all parties. This assumes that the Topic Area Lead is not a direct party to the dispute and does not otherwise have a conflict of interest. If multiple Topic Area Leads are involved in the dispute or the Topic Area Lead has a conflict, the parties may opt to engage the NAWI Research Director.

8.4.2.If the dispute involves doctoral research by a student, the student should refer the matter to their advisor. If the advisor has a conflict (i.e., is a coauthor of the work), then a referral should be made to the NAWI Organizational Representative at their institution to facilitate resolution.

8.5. Resolution at the Executive Director level

8.5.1.If the steps outlined above are not able to yield timely resolution, the Executive Director may work to negotiate a resolution of the dispute acceptable to the parties.

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APPENDIX F - DATA MANAGEMENT PLAN

1. OVERVIEW

- 1.1. The National Alliance for Water Innovation (“NAWI”) is a U.S. DOE Energy Innovation Hub, established to address water security issues in the U.S. through multidisciplinary early stage research and development for energy-efficient and low-cost desalination technologies that will enhance the economic, environmental, and energy security of the nation. Funding for NAWI is provided through the Funding Opportunity Announcement (FOA) Number DE-FOA-0001905 for the NAWI Energy-Water Desalination Hub with cost share provided through public and private funds.
- 1.2. A data management system (“DMS”) will be developed for the NAWI that will allow rapid sharing of data and collaboration amongst DOE and participating teams. This secure, collaborative DMS will be integrated with a publicly accessible Data Repository (“DR”), which will store and disseminate vetted information with the greater scientific community and the general public for validation of NAWI Work and further research and collaboration. Combined, the DMS and DR will be a web-accessible data collection, management, and dissemination solution that will be integrated with the greater scientific data sharing community. It will be built using the underlying technology developed for the U.S. Department of Energy (“DOE”) Geothermal Data Repository (“GDR”) and the DOE Marine and Hydrokinetic Data Repository (“MHKDR”), which already contain the appropriate mechanisms for user and team management, the necessary infrastructure to properly secure data in a DOE cyber vetted and approved environment, and connections to external data sharing and dissemination partners, including DOE’s Office of Science and Technical Information (“OSTI”) and Data.gov. Developed and maintained by the National Renewable Energy Laboratory (“NREL”), these existing systems have been built using modular, extensible code and have an excellent track record of providing user-tested, real-world data management solutions built on GSA and Energy Efficiency and Renewable Energy (“EERE”) Data Management Principles. NAWI will leverage these existing systems and the substantial investments already made in them by the Geothermal and Water Power Technology Offices to quickly and cost-effectively develop the framework for a data management solution that satisfies the requirements of this FOA, while allowing project resources to be focused on customizations that will benefit the Advanced Manufacturing Office (“AMO”) and the water community.
- 1.3. Whenever possible, all data displayed in publications resulting from work efforts performed during this project, including any models and simulation tools, will be made available to the public by the time of publication. Additionally, any data leveraged by the project to do the work efforts outlined in this proposal, if not subject to proprietary restrictions, will also be made available at the time of publication. Data made available to the public will be freely accessible to the public through the DR and on all of the partner sites the DR shares its data catalog with, including but not limited to the DOE Data Explorer, OSTI’s Data Cite catalog, and Data.gov; instructions for accessing relevant data will be included in publications. The project team will submit all relevant data to be displayed in a publication to the DR at least two weeks prior to publication, to ensure the data are publicly available by the time of publication.

2. DATA TYPES AND SOURCES

- 2.1. NAWI will collect and produce high-quality, curated data, including models, simulation tools, inputs, sample outputs, and code. The data repository will be designed in such a way that it will be capable of handling and storing any type of data generated. Data could consist of a wide variety of information (regardless of its representation in tables, charts, figures, etc.) stored digitally including but not limited to: experimental, observational, modeling, and simulation data; codes, software, and algorithms (Software); text; numeric information; images; video; audio; and geospatial data. Initially, data will reside in a secure collaboration space where DOE and Consortium Members will have access to the data during research and model development. This collaboration space will also provide an opportunity for Consortium Members to help refine and validate the data, ensuring quality prior to public release. Eventually, all data collected by this project will be made available to the public for further validation, research, and collaboration.
- 2.2. By using a secure cloud-based architecture, the DMS will be able to scale rapidly to support the ever-changing needs of “big data” and will be able to support the collection and dissemination of any data type.

3. DATA MANAGEMENT SYSTEM DEVELOPMENT

- 3.1. The DMS will be built leveraging the same underlying technology used to develop the GDR and MHKDR, and will reside in NREL’s secure cloud environment, which has been fully vetted and approved for use by both DOE and NREL cyber security teams.
- 3.2. Data from experiments, models, simulations, and other work will be aggregated in a secure collaboration space, accessible by DOE and NAWI Consortium Members. This space will allow collaborators from multiple national laboratories, universities, and other partners to easily and securely share assets with one another throughout their respective project lifecycles. Once refined, curated for quality, and approved for public release, data in the collaboration space will be “published” to the DR through an application programming interface (“API”) that will enable seamless integration between the DMS and the DR. Once published to the DR, data will follow the curation and dissemination process outlined below and will become available to users of dozens of sites and data systems through the federation of metadata to a network of data sharing partners (see Dissemination and Sharing, below).

4. DATA REPOSITORY DEVELOPMENT

- 4.1. The DR will be built leveraging the same underlying technology used to develop the GDR and MHKDR, and will also reside in NREL’s secure cloud environment. The data repository will leverage the substantial investment in data provenance and preservation made by other DOE programs, and the more than 5 years of experience, user feedback, and improvements that have been made since inception. The DR will be capable of accepting any type of data or file and will assist users with organizing them into complete data packages coupled with metadata to support the understanding and discovery of the data. Data submitted to the DR will reside in a secure vault during a mandatory curation process, at which time data science and domain experts will review the data submissions for completeness, appropriateness, and proper attribution. Once curated, data submission

will be published to the publicly accessible portion of the data repository where they will be discoverable by users and search engines, and disseminated to a network of data sharing partners.

5. DATA SYSTEM INTEGRATION

- 5.1. Both the secure DMS and the DR will be integrated on an architectural level to allow for the easy publishing of large datasets from the secure environment to the publicly accessible environment. Additionally, NAWI will work with project team members on the development of an API that will allow collaborators to seamlessly download and publish datasets directly into the DR from command line scripts or code within models.

6. USE OF STANDARDS AND MODELS

- 6.1. The DMS will leverage work done by NREL, DOE's Office of Science and Technical Information ("OSTI", eLink system: <https://www.osti.gov/mlink/>), and the General Services Administration's ("GSA") Project Open Data (<https://project-open-data.cio.gov/v1.1/schema/>, a requirement for Data.gov) to adopt a set of core metadata that has been designed to optimize the dissemination of scientific data while meeting all existing EERE, DOE, and White House policies on open data management. Metadata models and schemas developed by these agencies will be used to increase the utility and exposure of NAWI data. Whenever possible, standard data models will be used by the project team to ensure data are disseminated in the most useful formats possible. Data submitted to NAWI will automatically receive a Digital Object Identifier ("DOI") through the DR's connection to OSTI, as part of the curation process.

7. DISSEMINATION AND SHARING

- 7.1. Data displayed in publications resulting from this work will be submitted to the DR at least two weeks prior to publication to ensure the data are publicly available by the time of publication. Data will be freely accessible to the public on the DR site, through NAWI, and across a network of data sharing partner sites, including but not limited to the DOE Data Explorer, OSTI's Data Cite catalog, and Data.gov; instructions for accessing relevant data will be included in publications. The DR team will conduct regular training sessions for project participants on effective data organization to ensure that data submissions are packaged in useful, logical bundles and contain sufficient, accurate metadata to reach the widest audience possible.

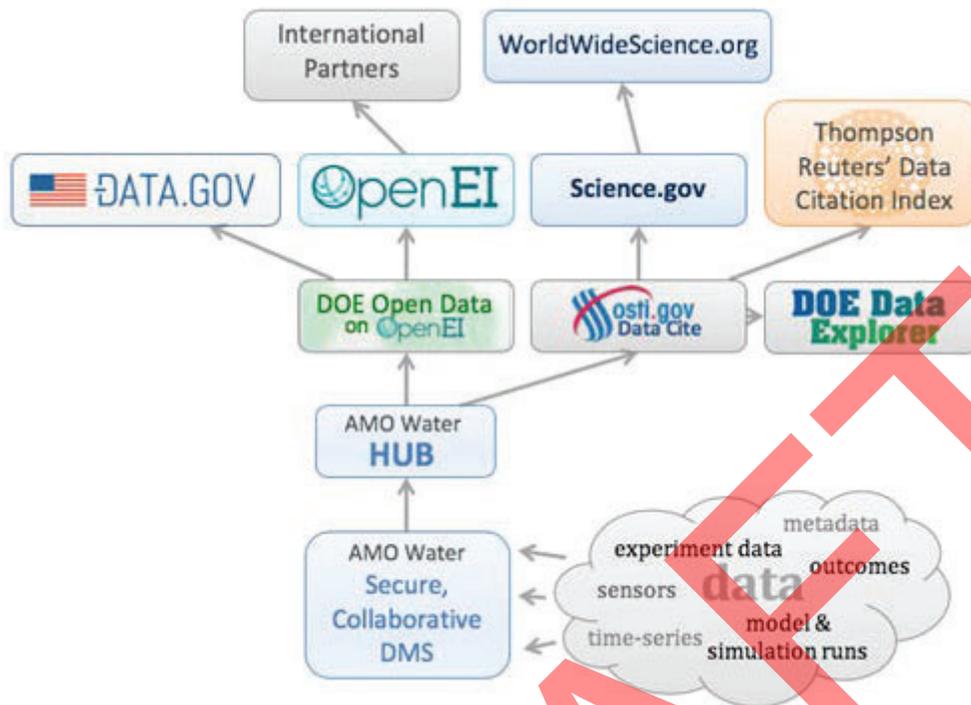


Figure 1. The propagation of NAWI data through the network of data sharing partners.

- 7.2. Metadata about the data within the DR will be federated (shared) with the above network of data sharing partners (and many others), allowing users of any of these sites to search for and access NAWI data directly without duplication of storage or efforts. Many of the sites above (e.g., Data.gov) are well established and see monthly traffic in the millions of visitors. Disseminating NAWI data to the network of data partners has the potential to reach an audience orders of magnitude larger than is possible with a single site.
- 7.3. All research data displayed in publications resulting from the proposed work will be made publicly accessible at the time of publication, and instructions for accessing relevant data will be included in publications. All other data shall be made publicly available as soon as they are complete, vetted, and ready for public consumption; and no later than two weeks prior to the end of the project lifecycle.

8. LICENSE, USE, AND CITATION

- 8.1. All data generated under this award will be made available to the public through the default license of Creative Commons Attribution 4.0, and will be free for use, reuse, derivative use, and any other use both public and private as long as proper attribution is credited to the creator(s). A derivative of standard open source license, the Creative Commons Attribution license requires only that the authors of the data be properly attributed for their work. The adoption of this license helps with the audit trail of disseminated information and encourages the proper citation of data. Additionally, the data repository developed for this project will provide users of data with a pre-populated, properly formatted citation for each dataset to enable convenient copy-paste into any derivative works.

- 8.2. Codes, software, and algorithms (Software), including model and simulation tools, will be made available to the public, where appropriate, under an open source software license. Copyright in Software will be managed by Consortium Members in accordance with the Intellectual Property Management Plan (Appendix A).

9. PROVENANCE AND PRESERVATION

- 9.1. During the course of the NAWI Hub, all data, including sensitive, proprietary, and other restricted-use data will be stored on a secure, collaborative DMS on OpenEI. The DMS is capable of securely storing proprietary data in an access-controlled, cloud-based environment that has been vetted and approved by both NREL and DOE cyber security departments. The use of this DMS will allow NAWI Consortium Members to collaborate on data-driven work efforts while conforming to DOE cyber security policies.
- 9.2. Data stored in this system will benefit from redundancies already built into the secure cloud environment, which utilizes infinitely scalable drives and thrice-redundant storage for real time error detection and correction. An additional, sustainable data backup system will archive critical data using a scalable, time-based backup strategy proven to enable restoration of old files while hedging the growth of potential storage costs.

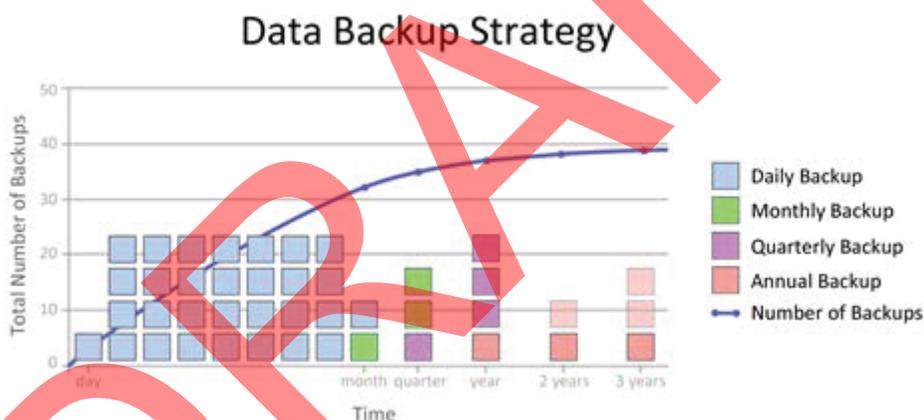


Figure 2. Sustainable Data Backup Strategy

- 9.3. The NAWI Hub will be leveraging a persistent data provenance and preservation strategy. Data submitted to the DR will be expected to persist indefinitely within the data system. Any modifications to data that have already been made available to the public will be submitted as new, supplemental data products to preserve the provenance of the previous submissions and any research activities that may have already utilized them.
- 9.4. This provenance strategy is essential for building trust in the scientific community, enabling validation by collaborators, the scientific community and the public, and ensuring that any data cited in derivative works continue to be discoverable, supporting the validity of those works.

10. PROTECTION OF RIGHTS

- 10.1. It is not anticipated that projects in the NAWI Hub will produce any personally identifiable information (“PII”). Data to be submitted to the DR should be screened for PII and any

PII should be removed from the data before submission. Further, all data will be purged of any PII during the curation and vetting process, prior to public release.

- 10.2. For data that will be generated through the course of the proposed work, the NAWI PI will determine what types of data should be protected from immediate public disclosure by DOE (e.g., protected data) and what types of data that DOE should be able to release immediately. Similarly, for data developed outside of the proposed work at private expense that will be used in the course of the proposed work, the NAWI PI will indicate whether that type of data will be subject to public release or kept confidential (e.g., limited rights data). Any use of limited rights data or labeling of data as protected will be consistent with this DMP and the Project agreement.
- 10.3. The DR will support the secure storage of protected data and data temporarily subjected to a proprietary agreement. Data resulting from proprietary agreements (e.g., cooperative research and development agreements (CRADAs) or other public-private partnerships) may optionally be placed in a secure, time-release vault until the moratorium on such data has elapsed. The release date for proprietary data will be determined by NAWI, with the NAWI PIs and DOE at or before the time of submission.
- 10.4. Metadata about protected data will still be made available to the public immediately after curation and will be disseminated to the network of data partners, including a general description of the data and a primary contact. This is a strategic distinction designed to avoid duplication of effort across the scientific community. Not only will this inform the community that these data exist, it will also allow anyone interested in these data to contact the original data submitters and attempt to obtain an advanced copy of the data or to collaborate on ongoing, related work.

11. DATA QUALITY

- 11.1. All data used in the NAWI Hub will be carefully vetted and curated by each Project team prior to submission and the NAWI Hub as part of the normal data curation process. Curation for the NAWI Hub will entail the review of data submitted to the DR to improve its discoverability, relevance, and usefulness.
- 11.2. Specially appointed curators will have advanced access to recently submitted data through a secure curation dashboard, where they will review the metadata provided for each new submission. Curators will check for accuracy and completeness of the metadata, and its relevance to the actual data submitted.
- 11.3. Submitted data will be reviewed for:
 - 11.3.1. Relevance to ensure the metadata is descriptive of the data submitted;
 - 11.3.2. Appropriateness to make sure they are suitable for eventual public release and do not inadvertently contain personally identifiable information (“PII”), protected, controlled or limited rights data, or other obviously inappropriate content; and
 - 11.3.3. Completeness to ensure no critical components are missing.
- 11.4. Curators will work with data submitters to finalize the data submission before approving it for public release. Curators will also be able to request and assign Digital Object

Identifiers (“DOIs”) to approved submissions through the DR’s built-in connection to OSTI’s e-link system. DOIs for each dataset will display prominently on the dataset landing page for easy reference.

- 11.5. Data resulting from Project activities will be also vetted by the NAWI Hub team prior to publication. Vetting will include rigorous review verification, including statistical analysis and scrubbing for outliers. Machine learning algorithms will also serve as an additional check on data quality as their regular application will involve repeated analysis of data to identify patterns and anomalies.

12. RATIONALE

- 12.1. The Data Management Plan for the NAWI Hub is designed to maximize the utility of data while protecting proprietary interests and preserving the project outcome. The data management strategy outlined by this plan will increase the impact of the NAWI Hub by ensuring data quality throughout the NAWI Hub lifecycle, preventing data loss, enabling validation and reproducibility of outcomes, and by disseminating the results of those outcomes. The resulting publicly-accessible data will allow the advanced manufacturing industry to build upon the successes of other projects to advance future studies in the field and provide valuable resources to the industry as a whole.
- 12.2. By utilizing existing, proven data repositories as a foundation for NAWI, the NAWI Hub will be able to meet data curation, information dissemination, and data management requirements while avoiding duplication of effort and reserving project resources for the development of custom solutions and optimizations specific to the program needs.

APPENDIX G – COMMUNICATIONS PLAN

1. OVERVIEW

- 1.1. The National Alliance for Water Innovation (“NAWI”) is a U.S. DOE Energy Innovation Hub, established to address water security issues in the U.S. through multidisciplinary early stage research and development for energy-efficient and low-cost desalination technologies that will enhance the economic, environmental, and energy security of the nation. Funding for NAWI is provided through the Funding Opportunity Announcement (FOA) Number DE-FOA-0001905 for the NAWI Energy-Water Desalination Hub with cost share provided through public and private funds.
- 1.2. The goal of the NAWI Communications Plan is to effectively communicate NAWI’s research opportunities, activities, accomplishments, and benefits with all stakeholders. The Communications Plan describes how NAWI will manage communication and outreach with all internal and external audiences, including Consortium Members, NAWI Alliance Members, the water research and treatment communities, current and prospective industry partners, state and regional policymakers, educational institutions, trade and professional associations, the news media, and the American public.
- 1.3. As a DOE Energy Innovation Hub, NAWI aims to establish itself - and by extension, DOE - as a key player in advancing the nation’s research agenda to address our water security needs. Clear, compelling, coordinated, and comprehensive communications is a strategic priority in securing NAWI’s success.
- 1.4. In addition, because NAWI is made up of leading energy-water experts from industry, academia, and premier science labs, it is uniquely qualified to provide needed thought leadership on the complex subject of energy-water innovation. NAWI communications efforts are therefore designed to position NAWI and its Executive Team and researchers as the preeminent experts in their fields.
- 1.5. The Communications Plan targets three broad audience groups:
 - 1.5.1. Internal: communication with NAWI’s internal stakeholders to facilitate coordination, collaboration, and integration across the NAWI Hub.
 - 1.5.2. Research: communication and outreach to the greater water research community to share scientific findings, enhance cross-fertilization of ideas, forge partnerships, and build a water desalination research community.
 - 1.5.3. External: communication and outreach to external audiences to build awareness of NAWI, publicize NAWI research findings and accomplishments, cultivate a cadre of ambassadors for the water desalination and treatment research community through student interns, and contribute to the national conversation around ensuring a secure energy-water future.
- 1.6. Sections 3 to 5 below describe each audience group and the messages to and desired outcomes for each audience, and how the outcomes will be achieved.
- 1.7. Each Consortium Member will notify the NAWI Communications & Membership Manager of any NAWI Hub press releases and use best efforts for notification to NAWI

of other publicity information regarding the Member's participation in the NAWI Hub and provide DOE a minimum of five business days to review and offer input.

2. ORGANIZATION

- 2.1. The NAWI Communications & Membership Manager will report to the Partnerships Director.
- 2.2. The National Labs and each partner research institution will contribute content that will be strategically coordinated under the direction of the NAWI Communications & Membership Manager.
- 2.3. All news releases and feature articles will adhere to DOE clearance procedures for National Laboratory content.

3. INTERNAL COLLABORATION

3.1. Audiences:

- 3.1.1. DOE/EERE
- 3.1.2. National Laboratories
- 3.1.3. NAWI Research Consortium
- 3.1.4. NAWI Board and Councils

3.2. Collaboration among NAWI Consortium Members is key. All of NAWI Projects are intended to be collaborations between multiple researchers. Therefore, it is imperative that common tools and procedures are used to facilitate and promote collaboration and sharing.

3.3. The Consortium will adopt and use common collaboration tools and procedures to promote and sustain cross-sector sharing between Consortium Members across all levels.

3.3.1. Project teams will meet virtually at least once a month, preferably using video conferencing (e.g., Zoom Video Conferencing).

3.3.2. Project teams will collaborate frequently. For example, daily communication using tools such as messaging tools (e.g., Slack), face-to-face meetings, screen sharing, integrated file sharing and milestone progress, and project risks tracked on a common platform (e.g., the Jira platform).

3.3.3. Data will be stored and managed in a common platform (e.g., Confluence) or as requested by NAWI Operations Director.

3.3.4. Project teams will compile quarterly reports that are then submitted and reviewed with DOE.

3.3.5. Project results will be reported at the annual Consortium and NAWI Alliance meetings.

4. RESEARCH ECOSYSTEM

4.1. Audiences:

- 4.1.1. current NAWI Alliance Members and Consortium Members

- 4.1.2. prospective NAWI Alliance and Consortium members
- 4.1.3. industry decision makers and R&D leaders
- 4.1.4. water research community, including non-profits, utilities, etc.
- 4.1.5. trade and professional associations
- 4.2. A cornerstone of the NAWI vision is building strong collaborations and partnerships with academia, national laboratories, industry, and trade groups to maximize scientific intellectual exchanges and help meet research targets. To that end, the objectives of the Communications Plan to these audiences include:
 - 4.2.1. build the water innovation research community
 - 4.2.2. position NAWI as the leader of the water research community
 - 4.2.3. publicize NAWI road-mapping outcomes
 - 4.2.4. disseminate research findings of the Consortium to NAWI Alliance members and to the greater water treatment research community, including academia and industry
 - 4.2.5. build awareness of and membership in the NAWI Alliance
 - 4.2.6. facilitate communication among NAWI Alliance members
- 4.3. NAWI leaders have established ongoing two-way dialogue with a full spectrum of stakeholders, including the members of the NAWI Alliance. Continued exchanges with these stakeholders will be critical, and plans are underway to build on this foundation of engagement.
- 4.4. Conferences, Meetings, & Presentations.
 - 4.4.1. The NAWI Alliance will be engaged in regular meetings to discuss current NAWI activities, connect with researchers, and network amongst each other. Part of this effort will include an annual meeting, as well as technical planning meetings related to roadmapping efforts in Year 1.
 - 4.4.2. Consistent messaging for NAWI is being created for use by NAWI leadership and researchers to promote NAWI, the impacts of the research, and the benefits of being a member of the NAWI Alliance. On an ongoing basis, the Executive Team will identify opportunities for speaking engagements, exhibits, and sponsorships at meetings at the international, national, state, and regional levels, such as:
 - 4.4.2.1. Water Leader Summit in Milwaukee, WI
 - 4.4.2.2. WateReuse Symposium in San Diego, CA
 - 4.4.2.3. WaterPro Conference in Nashville, TN
 - 4.4.2.4. AWT Annual Convention and Expo in Palm Springs, CA
 - 4.4.2.5. One Water Summit in Austin, TX
 - 4.4.2.6. IDA World Congress on Water Reuse & Desalination in Dubai

4.4.2.7. World Water-Tech North America in Toronto, Canada.

4.4.3. A list of potential and planned meeting and conference activity will be released periodically. The Executive Team will also continue to pursue more targeted meetings with individual industry associations and major corporations with potential for future partnership.

4.4.4. The Communications Team will make itself available to customize presentations and materials for specific meeting and conference audiences on an as-needed basis. Promotional activities will be planned in conjunction with high-profile speaking engagements, presentations, exhibits, and sponsorships, and opportunities will be leveraged for promotion through conference planners.

4.5. Briefings & Webinars

4.5.1. Briefings and webinars allow NAWI leadership and researchers to connect directly with stakeholders and share information on initiative accomplishments, findings, and activities. The Communications Team will support the Executive Team by developing presentations and other outreach materials to maximize the impact of planned stakeholder interactions, as well as new opportunities for briefings and webinars aimed at key stakeholder groups.

4.6. Ongoing Status Updates

4.6.1. The Communications Team will help manage a website that details project progress and status for internal-only distribution to NAWI members, including the NAWI Alliance. In addition, the Communications Team will work with the Executive Team to produce a bulleted roundup summarizing recent NAWI accomplishments and activities for regular email distribution to internal stakeholders. This will also include early access to reports and other NAWI-related materials that will be publicly accessible.

5. EXTERNAL OUTREACH

5.1. Audiences:

5.1.1. general public

5.1.2. state and local elected officials and policymakers

5.1.3. state, regional, and local agencies

5.1.4. members of Congress, key aides, and staffers

5.1.5. other non-DOE federal agencies with an interest in water-related research (e.g., USDA, EPA, USGS)

5.1.6. educational institutions

5.1.7. science policy organizations and professional societies

5.1.8. major electronic and print news media

5.1.9. specialized water and scientific media

5.2. General Outreach and Communications

5.2.1. The objectives of NAWI's general communications are to:

- 5.2.1.1. publicize NAWI research activities, roadmap, and accomplishments
- 5.2.1.2. solidify support for NAWI from stakeholders and decision makers
- 5.2.1.3. amplify the expertise of NAWI researchers and NAWI Alliance members
- 5.2.1.4. communicate the societal benefit and scientific impact of NAWI to demonstrate return on investment
- 5.2.1.5. maximize reach by leveraging DOE and partner communications resources
- 5.2.1.6. recognition of NAWI as leader in water desalination and treatment research
- 5.2.1.7. establish NAWI as a key player and preeminent thought leader in water-energy innovation.

5.2.2. To achieve these objectives, NAWI will leverage existing National Laboratory channels while strategically integrating new NAWI-branded platforms.

- 5.2.2.1. NAWI website (NAWIhub.org). The Communications Team will develop a visually appealing, easy-to-use website with robust content for all stakeholders. The website will serve as the primary platform for publicizing information to the public, as well as for disseminating learnings to partners and NAWI Alliance members.
- 5.2.2.2. Social Media. Platforms such as Twitter and Facebook will quickly push out content to the public as well as to partners and affiliates. They will also serve to build community and help establish NAWI as a credible and valued leader in water innovation.
- 5.2.2.3. Lectures. Researchers will be selected to give talks as part of a "Distinguished Lecturers" series. The talks will be advertised to universities, societies, and industry. In addition, each NAWI researcher will contribute to outreach by regularly presenting research results at national and international meetings and other standard venues. Similarly, the NAWI Alliance Members will organize town halls and special topical sessions at major scientific meetings.
- 5.2.2.4. Media outreach. Recognizing that media coverage of NAWI researchers and accomplishments can incalculably amplify announcements as well as lend credibility, the Communications Team will strive for strategic earned media placements by proactively engaging with major national, industry, and technical media and cultivating relationships with key journalists and media outlets.
- 5.2.2.5. Annual Report. The Communications Team will produce an annual publication reviewing the year's accomplishments and other noteworthy news for dissemination to all stakeholders.

- 5.2.2.6. Newsletters, fact sheets, other publications. Fact sheets and one-pagers will be developed, enabling any National Lab employee or research partner to be a NAWI ambassador. Materials will spotlight successes and work in progress and will be updated as appropriate.
- 5.2.3. Education Outreach
- 5.2.4. NAWI is committed to increasing and diversifying the pool of STEM undergraduates, graduate students, and postdoctoral researchers, while working towards training the next generation of scientists and engineers. Maintaining NAWI's world-class science is dependent on robust, comprehensive training and development opportunities for early-career scientists, postdocs, and students.
- 5.2.5. NAWI plans to:
 - 5.2.5.1. leverage its partners strong student and postdoc training programs and create a rich environment for developing a new generation of energy-water researchers
 - 5.2.5.2. build an online library of videos and other educational materials
 - 5.2.5.3. hold town hall-style forums at large science conferences, such as the American Geophysical Union, designed to engage students, postdocs, and early-career scientists
 - 5.2.5.4. develop the NAWI Next-Gen Program, an opportunity for students and early-career scientists at NAWI institutions to learn about, and contribute to, NAWI's scientific vision and strategy.
- 5.3. Measurement and Tracking
 - 5.3.1. Efforts will be made to measure and track results of strategies and tactics over time, while recognizing that measurements might demonstrate correlation but not necessarily causality. Tracking will incorporate tangible metrics on publications, website usage, media coverage, and social media activity, as well as harder-to-measure feedback relating to NAWI's overall reputation, stakeholder awareness, and partnership cultivation progress.

APPENDIX H - U.S. MANUFACTURING PLAN

1. BACKGROUND

- 1.1. The National Alliance for Water Innovation (“NAWI”), is a US DOE Energy Innovation Hub, established to address water security issues in the U.S. through multidisciplinary early stage research and development that will enhance the economic, environmental and energy security of the nation. Funding for NAWI is provided through the Funding Opportunity Announcement (FOA) Number DE-FOA-0001905 for the NAWI Energy-Water Desalination Hub with cost share provided through public and private funds.
- 1.2. NAWI is led and operated by Ernest Orlando Lawrence Berkeley National Laboratory (LBNL), which is managed and operated by The Regents of the University of California under the authority of its Prime Contract No. DE-AC02-05CH11231 with the U.S. DOE.
- 1.3. NAWI Consortium Members are committed to enhancing water security in the US through the application of technologies developed under this award. NAWI is a national organization and its members represent federal and state agencies, DOE National labs, Universities, and the private sector.

2. U.S. MANUFACTURING PLAN FOR DOMESTIC LARGE BUSINESSES, DOMESTIC SMALL BUSINESSES, EDUCATIONAL INSTITUTIONS AND NONPROFITS

- 2.1. NAWI members agree that a goal of the NAWI Hub is to provide benefit to the U.S. manufacturing sector, including the ability to deploy and refine methods, materials and processes that are developed by the members through NAWI Funding awards. NAWI Consortium Members who perform such projects and receive NAWI Funding will agree to the following commitment as a condition of their receipt of federal funding and/or cost share:
 - 2.1.1. Any products embodying any Subject Invention or produced through the use of any Subject Invention will be manufactured substantially in the United States. (Referred to hereinafter as “the U.S. Competitiveness Provision”). This requirement will be binding on any sub-awardee and any assignee or any entity otherwise acquiring rights to any Subject Invention including subsequent assignees.
- 2.2. NAWI will be developing early stage technology (TRL2-4) through NAWI funding awards. For such early stage technologies, a clear commercial product or technology may be difficult to identify. In lieu of the U.S. Competitiveness Provision, NAWI Consortium Members may propose an alternate U.S. Manufacturing Plan with more specific commitments that would be beneficial to the U.S. economy and competitiveness. For example, an applicant may commit specific products to be manufactured in the U.S., commit to a specific investment in a new or existing U.S. manufacturing facility, keep certain activities based in the U.S. or support a certain number of jobs in the U.S. related to the technology.
- 2.3. DOE will review such plans, and will determine at its sole discretion if the more specific commitments would provide a sufficient benefit to the U.S. economy and industrial competitiveness. If accepted, the alternate U.S. Manufacturing Plan together with the

specific commitments will become part of the terms and conditions of that NAWI Project agreement.

- 2.4. For all other NAWI Project agreements, the U.S. Competitiveness Provision shall be incorporated as part of the terms and conditions of the award as the U.S. Manufacturing Plan for that award.

3. U.S. MANUFACTURING PLAN FOR LICENSEES AND ASSIGNEES OF NAWI SUBJECT INVENTIONS

- 3.1. In order to enhance U.S. industrial competitiveness, all licenses or assignments issued by the owners of NAWI Subject Inventions shall contain the U.S. Competitiveness Provision.
- 3.2. A prospective licensee or assignee may propose an alternate U.S. Manufacturing Plan with more specific commitments that would be beneficial to the U.S. economy and competitiveness. For example, a prospective licensee may commit specific products to be manufactured in the U.S., commit to a specific investment in a new or existing U.S. manufacturing facility, keep certain activities based in the U.S. or support a certain number of jobs in the U.S. related to the technology.
- 3.3. DOE will review such plans, and will determine at its sole discretion if the more specific commitments would provide a sufficient benefit to the U.S. economy and industrial competitiveness. If accepted, the alternate U.S. Manufacturing Plan together with the specific commitments will become part of the terms and conditions of the NAWI Subject Invention license or assignment.

DRAFT

APPENDIX I - FOREIGN ENTITY PARTICIPATION PLAN

1. INTRODUCTION

- 1.1. The National Alliance for Water Innovation (“NAWI”), is a U.S. DOE Energy Innovation Hub, established to address water security issues in the U.S. through multidisciplinary early stage research and development for energy-efficient and low-cost desalination technologies that will enhance the economic, environmental, and energy security of the nation. NAWI Alliance and Consortium Members are committed to enhancing water security in the U.S. Funding for NAWI is provided through the Funding Opportunity Announcement (FOA) Number DE-FOA-0001905 for the NAWI Energy-Water Desalination Hub with cost share provided through public and private funds.
- 1.2. It is the goal of the NAWI program to foster U.S. domestic innovation and economic growth in the water technology industry, and NAWI research funding is intended to be directed toward U.S. institutions.

2. MEMBERSHIP COMPOSITION

- 2.1. To ensure the NAWI Hub meets its objective to benefit U.S. domestic innovation, economic growth, and manufacturing, it is important that the NAWI Alliance and Consortium membership be predominately comprised of U.S. entities. NAWI will maintain an overall membership level of at least 90% U.S. entities.

3. FOREIGN ENTITY PARTICIPATION

- 3.1. EERE invests in research and development as part of the DOE’s broad portfolio approach to addressing our Nation’s energy and environmental challenges. Specific to the Energy-Water Desalination Hub, EERE seeks to address water security issues in the U.S. and all participants, including Consortium members, Alliance members, subcontractors, and CRADA participants, in the NAWI Hub must be incorporated (or otherwise formed) under the laws of a State or territory of the United States with majority domestic ownership or control and have a physical place of business in the United States. Entities who do not meet these requirements are considered foreign entities.
- 3.2. To ensure that purpose is not frustrated by foreign involvement, foreign entities seeking to participate in NAWI must demonstrate the following waiver criteria to the satisfaction of the NAWI Hub leadership and DOE that:
 - 3.2.1. its participation is in the best interest of the NAWI Hub, U.S. industry, and U.S. economic development;
 - 3.2.2. adequate Intellectual Property (IP) and data protection protocols exist between the U.S. subsidiary and its foreign parent organization;
 - 3.2.3. the work is conducted within the U.S. and the entity acknowledges the U.S. Manufacturing Plan; and
 - 3.2.4. the foreign entity will satisfy other conditions that may be deemed necessary by the NAWI Hub or DOE to protect U.S. government interests.

- 3.3. Certain characteristics make some Foreign Entities more likely to meet the waiver criteria to the satisfaction of DOE and the NAWI Hub than others. For example, foreign companies that have current U.S. manufacturing capacity and major facilities within the U.S. that operate and employ people in the U.S., and can readily implement manufacturing improvements or provide significant R&D capabilities have greater potential benefit to the Institute and its mission than an entity with no U.S. presence. Foreign Entities with small or no current U.S. presence could be considered for participation, but may be less likely to meet the Foreign Entity participation criteria. Commitments to locate in the U.S. or expand U.S. operations could be a positive consideration depending on the strength of the commitment, and any demonstrated unique value or resources.
- 3.4. Some projects within NAWI may be subject to export control laws and regulations. Under no circumstances may Foreign Entities (organizations, companies or persons) receive access to export controlled information unless proper export procedures have been satisfied, as per the Export Control Plan. Measures that properly protect export controlled information must be in place prior to a Foreign Entity's participation.
- 3.5. Foreign entities seeking to participate in NAWI as NAWI Alliance Members must be approved by NAWI and DOE. Foreign entities seeking to be Consortium Members and receive NAWI Funding must submit and be granted a waiver according to the process in this Appendix I.

4. NAWI PARTICIPATION REQUIREMENTS

- 4.1. NAWI and LBNL will require that Key Personnel, members of the Executive Team, Governance Boards and advisory councils for the NAWI Hub, and all Participating Researchers comply with LBNL's Affiliate processing program as implemented for NAWI. Generally, most Participating Researchers are able to work with LBNL as Affiliates. However, Affiliates who are from certain countries need DOE permission and authorization from other U.S. Government agencies to work with LBNL and NAWI, a process which can take 6 months or longer to obtain with no guarantee of approval.
- 4.2. All entities participating in NAWI must be incorporated (or otherwise formed) under the laws of a State or territory of the United States with majority domestic ownership or control and have a physical place of business in the United States.
- 4.3. Individuals or Organizations from the U.S. Department of State, List of State Sponsors of Terrorism may not be a NAWI Alliance Member or NAWI Consortium Member. The current list may be found here <https://www.state.gov/j/ct/list/c14151.htm>.
- 4.4. To request a waiver of requirement of domestic incorporation, ownership, control and physical place of business, the foreign entity must submit an explicit waiver request providing the information as shown in Section 5 below. The waiver request must be approved by the NAWI Executive Director and DOE before a foreign entity may participate in NAWI activities. The waiver request must demonstrate to the satisfaction of the NAWI Hub's leadership and DOE that the foreign entity meets the above waiver criteria along with any other requirements made by DOE.

- 4.5. Applicants do not have the right to appeal NAWI Executive Director or DOE's decision concerning a waiver request.
- 4.6. A similar waiver request may be required to be submitted by NAWI to the DOE Office providing DOE Lab site office oversight (e.g., DOE Office of Science and/or DOE's Office of EERE, NNSA, or Fossil Energy) for separate approval of a waiver for eligibility to participate in the NAWI Hub as an NAWI Alliance or Consortium Member.

5. AMO FOREIGN ENTITY PARTICIPATION WAIVER REQUEST

5.1. Entity Information:

- 5.1.1. Name:
- 5.1.2. Point of contact:
- 5.1.3. Proposed type of involvement with the NAWI:
- 5.1.4. DUNS number for the proposed foreign participant and any foreign parent organization:

5.2. Country and Ownership Information

- 5.2.1. Country of incorporation:
- 5.2.2. The extent of the ownership/level control by foreign entities:
- 5.2.3. Whether the entity is state owned or controlled:
- 5.2.4. A summary of the ownership breakdown of the foreign entity:
- 5.2.5. The percentage of ownership/control by foreign entities, foreign shareholders, foreign state or foreign individuals:

5.3. Rationale

- 5.3.1. The rationale for proposing a foreign entity participate in the NAWI must address the waiver criteria below. The foreign entity must demonstrate to the satisfaction of the NAWI Hub leadership and DOE that:
 - 5.3.1.1. its participation is in the best interest of the NAWI Hub, U.S. industry, and U.S. economic development:
 - 5.3.1.2. adequate Intellectual Property (IP) and data protection protocols exist between the U.S. subsidiary and its foreign parent organization:
 - 5.3.1.3. the work is conducted within the U.S. and the entity acknowledges and agrees to the U.S. Manufacturing Plan:
 - 5.3.1.4. the foreign entity will satisfy other conditions that may be deemed necessary by the NAWI Hub or DOE to protect U.S. government interests.
- 5.3.2. The rationale also must include a description of why the foreign entity's participation is essential to the project:

5.4. U.S. Contribution

- 5.4.1. A description of the project's anticipated contributions to the U.S. economy:
 - 5.4.2. How the foreign entity's participation will benefit U.S. research, development and manufacturing, including contributions to employment in the U.S. and growth in new markets and jobs in the U.S.:
 - 5.4.3. How the foreign entity's participation will promote domestic American manufacturing of products and/or services:
- 5.5. Intellectual Property and U.S. Manufacturing Plan
- 5.5.1. A description of the likelihood of Intellectual Property (IP) being created from the work and the treatment of any such IP.
 - 5.5.2. A signed statement from the proposed member certifying the entity agrees to comply with the U.S. Manufacturing Plan. The signed statement must also explain how the proposed member will comply with the consortia's U.S. Manufacturing Plan
- 5.6. Access to Proprietary and Sensitive Information
- 5.6.1. A description of the extent to which the proposed member will have access to sensitive information that is restricted from release (e.g., export controlled information, NAWI partner/sponsor proprietary technology or software, unpublished or unpatented research, etc.) through participation as a member and, if applicable, participation in NAWI Hub projects.
- 5.7. Place of Performance
- 5.7.1. Countries where the work will be performed:
 - 5.7.2. A signed statement certifying the entity agrees to comply with the requirement that all work for NAWI be conducted within the U.S. or the countries listed. A description how the proposed member will comply with this requirement.
- 5.8. Additional Information for DOE approval
- 5.8.1. Risk Assessment
 - 5.8.2. If the proposed Member would receive access to sensitive information as identified in 5.6.1, provide a description of the protections in place to ensure the restrictions on the sensitive information are met and the information is not shared with restricted foreign countries, restricted persons and entities, or other unauthorized releases. The consortia should clearly indicate its position on the adequacy of the IP and data protection protocols of the proposed member.
 - 5.8.2.1. A risk assessment with respect to IP and data protection protocols should include the export control risk based on the data protection protocols, the technology being developed and the foreign entity and country.
 - 5.8.2.2. Statements to DOE as to whether NAWI believes the data protection protocols are adequate and description of the risk assessment - high, medium

or low risk of data leakage to a foreign entity or any other concerns with export controls.

5.8.2.3. Agreement to Additional Terms and Conditions for DOE Approval

5.8.2.3.1. Additional language may be necessary to be added to any Project agreement to protect IP, complete export control determinations, mitigate risk, etc. and proposed member must provide a signed statement that they will agree to any additional language required by DOE.

5.8.2.4. EERE may require additional information before considering the waiver request.

6. FOREIGN WORK

- 6.1. All NAWI Work must be performed in the United States. This requirement does not apply to the purchase of supplies and equipment, so a waiver is not required for foreign purchases of these items. However, Consortium Members should purchase supplies and equipment within the United States in accordance with their Project agreement terms. There may be limited circumstances where it is in the interest of NAWI or a Project to perform a portion of the work outside the United States. To seek a waiver of the Performance of Work in the United States requirement, the applicant must submit an explicit waiver request. A separate waiver request must be submitted for each entity proposing performance of work outside of the United States.
- 6.2. Overall, a waiver request must demonstrate to the satisfaction of EERE that it would further the purposes described in the FOA and is otherwise in the economic interests of the United States to perform work outside of the United States. A request to waive the *Performance of Work in the United States* requirement must include the following:
- 6.2.1. The rationale for performing the work outside the U.S. (“foreign work”);
 - 6.2.2. A description of the work proposed to be performed outside the U.S.;
 - 6.2.3. An explanation as to how the foreign work is essential to the project.
 - 6.2.4. A description of the anticipated benefits to be realized by the proposed foreign work and the anticipated contributions to the US economy:
 - 6.2.4.1. The associated benefits to be realized and the contribution to the project from the foreign work;
 - 6.2.4.2. How the foreign work will benefit U.S. research, development and manufacturing, including contributions to employment in the U.S. and growth in new markets and jobs in the U.S.;

- 6.2.4.3. How the foreign work will promote domestic American manufacturing of products and/or services;
 - 6.2.5. A description of the likelihood of Intellectual Property (IP) being created from the foreign work and the treatment of any such IP;
 - 6.2.6. The total estimated cost (DOE and Recipient cost share) of the proposed foreign work;
 - 6.2.7. The countries in which the foreign work is proposed to be performed; and
 - 6.2.8. The name of the entity that would perform the foreign work.
- 6.3. EERE may require additional information before considering the waiver request.
 - 6.4. The applicant does not have the right to appeal EERE's decision regarding a waiver request.
 - 6.5. A similar waiver request may be required to be submitted by NAWI to the DOE Office providing DOE Lab site office oversight (e.g., DOE Office of Science and/or DOE's Office of EERE, NNSA, or Fossil Energy) for separate approval of a waiver for performance of work outside the U.S. by a Consortium Member.

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APPENDIX J - CURRENT CONSORTIUM MEMBERS

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For the most current list of NAWI Consortium Members please see <https://www.nawihub.org/consortium-org>. For questions or to update your institution contacts please email NAWI-Agreements@lbl.gov.

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