

DRAFT
COOPERATIVE RESEARCH AND DEVELOPMENT AGREEMENT
BETWEEN THE BUREAU OF RECLAMATION AND THE partner's name
FOR title of project BY THE WATER QUALITY IMPROVEMENT CENTER (WQIC),
YUMA, ARIZONA

This Cooperative Research and Development Agreement is entered into by and between the PARTNER and (hereafter "PARTNER"), ADDRESS and the Bureau of Reclamation (hereafter "Reclamation"), under the authority of the Technology Transfer Act of 1986 (Public Law 99-502), Section 11, "Cooperative Research and Development Agreements." The parties agree as follows:

Article 1. Definition.

1.1 The term "cooperative research and development agreement" means the research activities described in Article 2 that are jointly undertaken by PARTNER and Reclamation.

1.2 The term "invention" means any invention or discovery, which is or may be patentable under Title 35 of the United States Code.

1.3 The term "made" in relation to any invention means the conception or first actual reduction to practice of such invention.

1.4 The term "Proprietary Information" means information which embodies trade secrets developed at private expense or which is confidential business or financial information provided that such information:

- (i) Is not generally known or available from other sources without obligations concerning its confidentiality;
- (ii) Has not been made available by the owners to other without obligation concerning its confidentiality; and
- (iii) Is not already available to the Government without obligation concerning its confidentiality.

1.5 The term "Subject Data" means all recorded information first produced in the performance of this Agreement.

1.6 The term "Subject Invention" means any invention conceived or first actually reduced to practice in the performance of work under this Agreement.

Article 2. Statement of Work

Cooperative research performed under this Agreement shall be performed in accordance with the Statement of Work attached hereto as Appendix A. Any modification to this initial scope shall be by mutual agreement between PARTNER and Reclamation.

Article 3. Term of Project and Financial Obligation

3.1 3.1 The term of the project is from the date of the last signature of the parties to October 30, 2004. This term may be extended by written consent of both parties. PARTNER's total contribution is estimated at \$73,500. Of the total stated above, \$55,000 is direct cash contribution to Reclamation and \$18,500 is

in-kind services and resources. PARTNER shall, upon signing this Cooperative Research and Development Agreement (CRADA), advance to the United States for deposit in a special account the initial sum of \$18,875, which shall be applied toward the United States' effort on the project. The first payment must be received prior to project initiation.

Upon signing the CRADA, please enclose a check for the first payment in the amount of \$18,875 to Reclamation for services provided as required under this agreement.

Please forward the funds to be advanced to the following address:

**Yuma Area Office
Bureau of Reclamation
7301 Calle Agua Salada
Yuma, Arizona 85364
Attn: Daniel Hsu, YAO-1100**

PARTNER will be billed by Reclamation for remaining balances every six months after the receipt of the signed CRADA or unless this contract is terminated on a six month interval. The payments are as follows:

1. First payment (One to six months)
2. Second payment (Six months to twelve months) and Interim report preparation
3. Third payment (Twelve to eighteen months)
4. Fourth payment (Eighteen to twenty four months) and Final Report preparation
5. etc.

Reclamation will provide its standard monthly operating expense report to PARTNER reflecting associated costs. Any remaining funds will be returned to PARTNER at the completion of this Agreement.

3.2 The contribution of Reclamation shall be in the form of labor, technical support, and facilities.

Article 4. Patent Rights, Ownership, and Licenses

4.1. Reporting. Reclamation shall promptly report to the Cooperator each Subject Invention disclosed to Reclamation by its employees. The Cooperator shall promptly report to Reclamation each Subject Invention disclosed to it by its employees.

4.2. Cooperator Employee Inventions. Reclamation, on behalf of the U.S. Government, waives any ownership rights the U.S. Government may have in Subject Inventions made by the Cooperator's employees under the project and agrees that the Cooperator shall have the option to retain title to any such employee Subject Invention. The Cooperator shall promptly notify Reclamation upon making this election and agrees to file patent applications on such Subject Invention at its own expense and in a timely fashion. The Cooperator agrees to grant to the U.S. Government on its employee's Subject Inventions a nonexclusive, irrevocable, paid-up license in the patents covering a Subject Invention to practice or have practiced, throughout the world by, or on behalf of the U.S. Government. Such nonexclusive license shall be evidenced by a confirmatory license agreement prepared by the Cooperator in a form satisfactory to Reclamation. Also see Paragraph 4.5.

4.3. Reclamation Employee Inventions. Reclamation, on behalf of the U.S. Government, shall have the initial option to retain title to each Subject Invention made by its employees. Reclamation shall promptly notify the Cooperator upon making this election and agrees to file patent applications on such Subject Invention at its own expense and in a timely fashion. Also see Paragraph 4.5.

4.4. Joint Inventions. Joint Subject Inventions shall be jointly owned. Unless otherwise agreed in writing, the Cooperator shall be responsible for filing a patent application in a timely fashion. If Cooperator does not file a patent application within six (6) months after disclosure, Reclamation may file a patent application on such jointly owned Subject Invention.

4.5. Filing of Patent Applications. The party having the right to retain title and file a patent application on a specific Subject Invention may elect not to file a patent application thereon provided that it so advises the other party within 90 days from the date it reports the Subject Invention to the other party. Thereafter, the other party may elect to file a patent application on the Subject Invention and the party initially reporting such Subject Invention agrees to assign its right, title, and interest in such Subject Invention to the other party and cooperate with such party in the preparation and filing of a patent application thereon. The assignment of the entire right, title, and interest to the other party shall be subject to the retention by the party assigning title to a nonexclusive, irrevocable, paid-up license to practice, or have practiced, the Subject Invention throughout the world. In the event that neither of the parties to this agreement elect to file a patent application on Subject Invention, either or both (if a joint invention) may, at their sole discretion and subject to reasonable conditions, release the right to file to the inventor(s) with a license in each party of the same scope as set forth in the immediate preceding sentence. The parties will jointly agree how to handle the expense, filing, and ownership of foreign patents.

4.6. Patent Expenses. All of the expenses attendant to the preparation and filing of patent applications as specified in Paragraph 4.5 above shall be borne by the party filing the patent application. Any post-filing and post-patent fees shall also be borne by the same party. Each party shall provide the other party with copies of the patent applications it files on any Subject Invention along with the authority to inspect and make copies of all documents retained in the official patent application files by the applicable patent office.

4.7. Exclusive License. Reclamation on behalf of the U.S. Government, hereby agrees to grant to the Cooperator an exclusive license in each U.S. patent application, and patents issued thereon, covering a Subject Invention made by Reclamation employees, including a jointly owned Subject Invention, subject to the reservation of an irrevocable, royalty-free license to practice and have practiced the Subject Invention on behalf of the U.S. Government, and such other terms and conditions as are specified by Reclamation in such exclusive license. The specific royalty rates for such exclusive license are negotiable, however they will be based on rates conventionally granted in the field of practice for inventions with reasonably similar commercial potential. The royalty rates will also reflect the relative contributions of the Parties to the invention.

Article 5. Data and Publication.

5.1 Release Restrictions. Reclamation shall have the right to use all Subject Data for any Governmental purpose, but shall not release such Subject Data publicly except: (i) when reporting on the results of sponsored research may publish Subject Data, subject to the provisions of paragraph 5.3 below; and (ii) where such release is required pursuant to a request under the Freedom of Information Act (5 U.S.C. Section 552) provided, however, that such data shall not be released to the public if a patent application is to be filed (35 U.S.C. Section 205) until the parties having the right to file have had a reasonable time to file. If a patent application has been filed, then the patent application data shall not be released and will be treated as Proprietary Information until after the resulting patent is awarded, subject to the Freedom Of Information Act.

5.2 Proprietary Information. PARTNER shall place a Confidential or Proprietary Notice on all information it delivers to Reclamation under this Agreement which PARTNER asserts is proprietary or confidential. Reclamation agrees that any information designated as proprietary or confidential which is furnished by PARTNER to Reclamation under this Agreement, shall be used by Reclamation only for the purpose of carrying out this Agreement. Information designated as proprietary or confidential shall not be disclosed, copied, reproduced or otherwise made available in any form whatsoever to any other person, firm, corporation, partnership, association or other entity without the consent of PARTNER except as such information may be subject to disclosure under the Freedom of Information Act (5 U.S.C 552). Reclamation agrees to use it's best efforts to protect information

designated as proprietary or confidential from unauthorized disclosure. PARTNER agrees that Reclamation is not liable for the disclosure of information designated as proprietary or confidential which after notice to and consultation with PARTNER it is jointly determined by Reclamation and PARTNER in writing to disclose.

5.3 Publication.

5.3.1 PARTNER may submit for publication the results of the research work associated with this project. Depending on the extent of contribution made, employees of Reclamation may be cited as co-authors. In no event, however, shall the name Reclamation be used in any publications without prior written consent.

5.3.2 Reclamation and PARTNER agree to confer and consult prior to the publication of Subject Data to assure that no Proprietary or Confidential Information is released and that patent rights are not jeopardized. Prior to submitting a manuscript for review which contains the results of the research under this Agreement, or prior to publication if no such review is made, each party shall be offered an opportunity to review such proposed publication and to file patent applications in a timely manner, if it is so entitled under this Agreement.

Article 6. Termination.

6.1 PARTNER and Reclamation each have the right to terminate this agreement upon 30 days notice in writing to the other party.

Article 7. Disputes.

7.1 Settlement. Any dispute arising under this Agreement which is not disposed of by agreement of the parties shall be submitted jointly to the signatories of this Agreement. A joint decision of the signatories or their designees shall be the disposition of such dispute.

7.2 If the signatories are unable to jointly resolve a dispute within a reasonable period of time after submission of the dispute for resolution, the matter shall be submitted to arbitration pursuant to the Administrative Dispute Resolution Act (PL 101-552; 5 U.S.C. ' 581 et. seq.) Any opinion of the arbitrator shall be advisory as it relates to Reclamation. However, the advisory opinion of the arbitrator shall become final 30 days after it is served upon the parties. Reclamation may extend this 30 day period for an additional 30-day period by serving a notice of such extension on PARTNER before the end of the 30-day period.

The Commissioner of Reclamation is authorized to terminate these proceedings or vacate any opinion issued by the Arbitrator before the opinion becomes final by serving written notice on PARTNER to that effect, in which case the opinion shall be null and void.

7.3 Continuation of Work. Pending the resolution of any dispute or claim pursuant to this article, the parties agree that performance of all obligations shall be pursued diligently in accordance with the direction of the Reclamation signatory.

Article 8. Liability

8.1 Property. Neither party shall be responsible for damages to any tangible property of the other party provided pursuant to this Agreement.

8.2 PARTNER's Employees. PARTNER agrees to indemnify and hold harmless the U.S. Government for any loss, claim, damage, or liability of any kind involving an employee of PARTNER arising in connection with this Agreement, except to the extent that such loss, claim, damage or liability arises from the negligence of Reclamation or its employees. Reclamation shall be solely responsible for the payment of all claims for the loss of property, personal injury or death, or otherwise arising out of any negligent act or omission of its employees in connection

with the performance of work under this Agreement, as provided under the Federal Tort Claims Act. Likewise, PARTNER shall be solely responsible for the payment of all claims for the loss of property, personal injury or death, or otherwise arising out of any negligent act or omission of its employees in connection with the performance of work under the Agreement.

8.3 No Warranty. Reclamation states that it has the authority to enter into this Agreement without the infringement of the rights of others, Reclamation makes no other express or limited warranty as to the conditions of this research or any invention or product, whether tangible or intangible, made or developed under this Agreement, or the merchantability, or fitness for a particular purpose of the research or any invention or product.

8.4 Indemnification. To the extent permitted by law, PARTNER holds the U.S. Government harmless and indemnifies the Government for all liabilities, demands, damage expenses and losses arising out of the use by PARTNER, or any party acting on its behalf or under its authorization, of Reclamation's research and technical developments or out of any use, sale or other disposition by PARTNER, or others acting on its behalf or with its authorization, of products made by the use of Reclamation's technical developments. This provision shall survive termination of this Agreement. Notwithstanding the foregoing, the Recipients agrees to assume liability only for the consequences of its own negligence.

8.5 Force Majeure. Neither party shall be liable for any unforeseeable event beyond its reasonable control not caused by the fault or negligence of such party, which causes such party to be unable to perform its obligations under this Agreement (and which it has been unable to overcome by the exercise of due diligence), including, but not limited to, flood, drought, earthquake, storm, fire, pestilence, lightning and other natural catastrophes, epidemic, war, riot, civic disturbance or disobedience, strikes, labor dispute, or failure, threat of failure, or sabotage of the facilities, or any order or injunction made by a court or public agency. In the event of the occurrence of such a force majeure event, the party unable to perform shall promptly notify the other party. It shall further use its best efforts to resume performance as quickly as possible and shall suspend performance only for such period of time as is necessary as a result of the force majeure event.

Article 9. Miscellaneous

9.1 No benefits. No member of, or delegate to the United States Congress, or resident commissioner, shall be admitted to any share or part of this Agreement, nor to any benefit that may arise therefrom; but this provision shall not be construed to extend to this Agreement if made with a corporation for its general benefit.

9.2 Governing Law. The construction, validity, performance and effect of this Agreement for all purposes shall be governed by the laws applicable to the Government of the United States.

9.3 Entire Agreement. This Agreement constitutes the entire Agreement between the parties concerning the subject matter hereof and supersedes any prior understanding or written or oral agreement relative to said matter.

9.4 Headings. Titles and headings of the Sections and Subsections of this Agreement are for the convenience of reference only and do not form a part of this Agreement and shall in no way affect the interpretation thereof.

9.5 Amendments. If either party desires a modification in this agreement, the parties shall, upon reasonable notice of the proposed modification by the party desiring the change, confer in good faith to determine the desirability of such modification. Such modification shall not be effective until all parties sign a written amendment hereto by their representatives duly authorized to execute such amendment.

9.6 Assignment. Neither this Agreement nor any rights or obligations of any party hereunder shall be assigned or otherwise transferred by either party without the prior written consent of the other party except that PARTNER may assign this Agreement to the successors or assignees of a substantial portion of PARTNER's business interest to which this Agreement directly pertains.

9.7 Notices. All notices pertaining to or required by this agreement shall be in writing and shall be directed to the signator(s).

9.8 Independent Contractors. The relationship of the parties to this Agreement is that of independent contractors and not as agents of each other or as joint ventures or partners.

9.9 Use of Name or Endorsements. (a) PARTNER shall not use the name of Reclamation or the Department of the Interior on any product or service which is directly or indirectly related to either this Agreement or any patent license or assignment agreement which implements this Agreement without the prior approval of Reclamation. (b) By entering into this Agreement Reclamation does not directly or indirectly endorse any product or service provided, or to be provided, by PARTNER its successors, assignees, or licensees. PARTNER shall not in any way imply that this Agreement is an endorsement of any such product or service.

9.10 Severability. Should any provision of this Agreement subsequently be determined to be invalid, illegal or unenforceable, said provision shall at that time be deemed severed from this Agreement, but only to the specific extent of its invalidity, illegality or unenforceability, and such reformed provision as well as all other provisions of the Agreement shall be unaffected and shall continue in full force and effect.

Article 10. Duration of Agreement and Effective Date.

10.1 Duration of Agreement. It is mutually recognized that the development program cannot be rigidly defined in advance, and that the contemplated time periods for completion of each phase are good faith guidelines subject to adjustment, by mutual agreement, to fit circumstances as the development program proceeds. In no case will this Agreement extend beyond October 30, 2004, unless it is revised in accordance with Article 9 of this Agreement. The provisions of Article 4, 5, 7, and 8 shall survive the termination of this Agreement.

10.2 Effective Date. This Agreement shall enter into force as of the date of the last signature of the parties.

IN WITNESS WHEREOF, the parties, intending to be legally bound, have executed this Agreement through their authorized representatives on the dates set forth below.

For PARTNER:

For the Bureau of Reclamation:

Signature: _____

Signature: _____

Typed Name: _____

Typed Name: _____

Title: _____

Title: YDP Manager, Research Director

Date: _____

Date: _____

Appendix A

STATEMENT OF WORK

Title of Project at the Water Quality Improvement Center (WQIC), Yuma Desalting Plant, Yuma, AZ

Abstract:

Description of project

Problem and Study Summary:

Statement of problem

Goals and Objectives:

The goal of this project is to State goals

Past Work:

Describe any past work

Study Design and Methods:

Test Equipment: Describe equipment to be used

Test Method: Describe test method

Experimental design: Describe design

Measurements: Describe measurements to be taken

Test Duration: Describe duration and considerations associated w/duration

Estimated Cost:

PARTNER's estimated cash cost payment to Reclamation is \$???. Costs will be tracked by Reclamation, and PARTNER will pay only for Reclamation's actual costs. Reclamation will provide in-kind contributions. The following table shows the description of research tasks and the breakdown in responsibilities for In-Kind or Cash contributions to the CRADA.

Description	In-Kind Value or Cash Contributions from PARTNER	In-Kind Value or Contributions from Reclamation/WQIC
Develop research program and matrix of research	PARTNER labor costs for development of the Research Plan and Test Matrices. Value:\$?	Technical personnel to review and provide comments on the Research Proposal and Research Matrices. Value:\$?

<p>Specially-designed test skids for research.</p>	<p>Reclamation Facility Charge; Cost payable to Reclamation \$500.</p> <p>PARTNER will provide funding for the fabrication of the test skids.; Cost payable to Reclamation: ?.</p>	<p>Provides WQIC infrastructure including data acquisition system, fully-equipped research bench, specialty instruments and equipment, and water suitable for making test solutions. (Capital value of facility exceeds \$2,000,000).</p>
<p>Receiving, setup, and connections for the test skids</p>	<p>PARTNER's technical personnel will provide assistance in review of the equipment and concurrence with the setup and installation. Value: \$??</p>	<p>Operations and technical personnel will assist in logistics, modification of WQIC facility, integration of the research skids. Value: \$??</p>
<p>Conduct research program, collection of data, and maintenance (ie. calibration and repairs) to research equipment.</p>	<p>Reclamation's cost for direct job supplies and material. Cost payable to Reclamation: \$??</p> <p>Reclamation's labor and overhead costs assisting in conduct of the research: Cost payable to Reclamation: \$???</p> <p>PARTNER personnel will provide labor for the coordination of the research program including data monitoring. Value:\$???</p>	<p>Operations and technical personnel will provide facility and equipment coordination, logistics, and technical assistance, as needed. Value: \$??</p>
<p>Laboratory analyses of samples for major ion constituents</p>	<p>Reclamation's cost for analysis of water samples: Cost payable to Reclamation: \$???</p>	<p>Conduct analyses at the WQIC laboratory of up to 12 water samples for major ion constituents.</p>
<p>Analysis of data collected in the research program.</p>	<p>Reclamation's labor and overhead costs in removing, cleaning and data analyses: Cost payable to Reclamation: \$???</p> <p>PARTNER technical personnel will analyze, review and concur with the data . Value:\$???</p>	<p>Technical personnel will provide peer review of data and calculations, and evaluation of results performed by principle investigator</p>
<p>Written research report</p>	<p>PARTNER's technical personnel will provide assistance in review of the report and concurrence with the findings. Value: \$???</p>	<p>Technical personnel will provide peer review of final report performed by principle investigator.</p>

Benefits to PARTNER:

Successful completion of this study will provide information of the describe benefits

Benefits to the Reclamation:

At the conclusion of research under this CRADA, a transfer of technology will take place between Reclamation and the PARTNER. The results from this study provides critical data that will showdescribe benefits

The results of the research under this CRADA will benefit Reclamation by providing information and potential solutions todescribe problem that results will help solve.

Key Personnel:

Reclamation will provide equipment, coordination, logistics, and expertise to help conduct the research. PARTNER will provide engineering support for evaluating the research data and reviewing the research report. Communications to Reclamation will be maintained by telephone or electronic means.

Project Officers:

For PARTNER:

For Reclamation: Teh-An (Daniel) Hsu, WQIC Research Coordinator