



University Transportation Research Center
RFP Cover Sheet

Title: Potential Tidal Power for New Jersey
Proposal Number: 2010-15
Sponsor: NJDOT
Date Issued: January 28, 2010
Pre-Proposal Meeting: Contact NJDOT by February 16, 2010
RFP Due at NJDOT: by March 3, 2010
RFP Closing Date: March 3, 2010

If you plan to apply:

1. Please contact Camille Crichton-Sumners (camille.crichton-sumners@dot.state.nj.us) or Stephanie Nock (609-530-5637 or STEPHANIE.NOCK@dot.state.nj.us) to request a pre-proposal meeting, and so that you will receive information about this meeting if it is held. *This meeting will be your only opportunity to ask questions about this proposal.*
2. If you plan to submit a proposal through UTRC, please notify us by email at peickemeyer@utrc2.org and ckamga@utrc2.org. Please indicate whether you are open to teaming up with faculty at other universities on this project.

Proposal submission guidelines:

Please contact Camille Kamga (ckamga@utrc2.org, 212-650-8087) to discuss submission logistics. After UTRC confirms that the proposals' budgets meet UTRC and NJDOT guidelines, please use the UTRC cover sheet available at <http://www.utrc2.org/research/resourcesforpis.php> for submission of printed proposals to NJDOT.

Proposals must be prepared in accordance with NJDOT's Information and Instructions for Preparing Proposals. Please visit: <http://www.state.nj.us/transportation/refdata/research/pdf/techpropresproj.pdf>

For questions about budget preparation, contact: Camille Kamga, ckamga@utrc2.org

NJDOT has not specified a budget or timeline for this project. Please note that matching funds up to \$35,000 are available from UTRC for this RFP.

New Jersey Department of Transportation
Bureau of Research
RESEARCH PROJECT
Request for Proposals
2010 Program

Date of RFP
01-28-10

Closing Date
03-03-10

Potential Tidal Power for New Jersey
Project 2010-15

(Proposals must be prepared in accordance with NJDOT's *Information and Instructions for Preparing Proposals*. Please visit: <http://www.state.nj.us/transportation/refdata/research/pdf/techpropresproj.pdf>
Revised Proposal Evaluation Forms are available for your information on the website.)

Proposals will be based on the merit of the information contained in the proposal. Budgets will be evaluated separately. Please place three (3) copies of the budget for this project in a separate sealed envelope.

1. RESEARCH PROBLEM STATEMENT, BACKGROUND AND OBJECTIVES

If only 1% of the New Jersey shoreline was ultimately utilized for tidal energy production, it could contribute an estimated 500 MW or more of clean, renewable energy based on presently available or technology designed for manufacture in New Jersey during the next 2-3 years, while adding over \$1 Billion to the New Jersey economy in the next decade.

NJDOT could incorporate tidal power into Marine Transportation System projects and facilities, as well as into bridge-power applications. A proposed New Jersey Tidal Power Assessment would include the following:

1. Identification and evaluation of tidal zones along the coast of New Jersey.
2. Identify known tidal technology that could be utilized in New Jersey.
3. Identification of potential locations in marinas, docks, jetties, bridges and other shoreline infrastructure where known tidal technology could be sited. Also identify any exclusionary conditions or zones.
4. Estimates of water speeds available at potential sites from river and tidal flows along with water depth data that would result in an accurate assessment of total potential power output.
5. Calculation of tidal power potential from each tidal zone along the New Jersey coast.
6. Roadmap potential pathways and strategic partners, including New Jersey public utilities, for tidal power development in New Jersey based on all of the above.
7. Recommend 20 primary locations based on the potential for project success as well as the value to the State and the New Jersey's Marine Transportation System.

An example of such a project is the potential placement of water turbines in the Point Pleasant Canal from which energy gained could be used to power the New Jersey State Police Marine Services Bureau Station Point Pleasant.

The University partner is required to include an expert consultant firm familiar with the subject matter as part of the research team.

2. Tasks

[Provide a listing of appropriate general tasks divided into phases based on types of work (e.g., laboratory, field) or by year (e.g., year 1, year 2) or other appropriate milestones]

The NJDOT is seeking the insight of proposal responders on how best to achieve the research

objectives. Proposers are expected to describe a research effort that can realistically be accomplished as expeditiously as possible. Proposals must present the proposers' current thinking in sufficient detail to demonstrate their understanding of the problem and the soundness of their approach for conducting the required research.

PHASE I – Literature Search

Conduct a literature search of the current state of the practice.

After the award of the project, a more comprehensive literature search should be conducted. At the completion of this literature search, the PI will make a presentation to the Research Project Selection and Implementation Panel to discuss their findings and to discuss the appropriate research approach.

PHASE II – Research Approach and Anticipated Results

Clear description of how you will solve the problem and implement anticipated findings. Work may be divided into phases (e.g., Laboratory, Field or Year 1, Year 2) as necessary to clarify tasks. *Exit Criteria* must be developed during this phase.

3. Implementation and Training Plan

The PI must meet with the Research Project Selection and Implementation Panel (RPSIP) and other NJDOT units to present the findings and as appropriate train these personnel in the use the project results.

The PI will develop an implementation plan as per the guidelines provided by NJDOT Research Bureau.

4. Deliverables: [List of minimum deliverables necessary to complete the project]

- Presentation of Summary of Literature Search Results
- Discussion to Support and Refine the Project Tasks
- Project work plan.
- Technical Memorandum on the survey results
- Technical memorandum on the measures that are working or not working
- Technical memorandum on actions taken
- Interim Status reports suitable for Senior Leadership if required
- Quarterly Reports, and
- Final report with appropriate tables, graphs and charts in hard copy version, PDF file format, Word, and on CD ROM. Two copies plus one per RSIP member of each presentation, technical memorandum, draft final report and Final Report (plus 10 copies). The Final Report and Tech Brief are due three (3) months before the end date of the project to allow time for review by the Research Project Selection and Implementation Panel. Final Acceptance will be granted upon receipt of ten copies of the approved final report.

5. Contract Time:

The PI must provide the anticipated research study duration based on the proposed tasks. Consideration should be given to potential impediments so that adjustments are incorporated into the schedule minimizing the need for time extensions.

6. Contacts:

A meeting may be scheduled with interested parties upon request after the RFP's are distributed to refine the objectives and deliverables and to promote a better understanding of the research needs. Questions on this topic **shall not** be directed to any Research Project Manager, Research Customer, or any other NJDOT person. All questions and answers would be addressed **during this meeting**. Contact Camille Crichton-Summers (Camille.CrichtonSummers@dot.state.nj.us) on or before February 16, 2010 to confirm your interest in participating in such a meeting.

7. DEADLINE

Proposals (10 single-bound copies) are due at the NJDOT Bureau of Research no later than 4:00 p.m. March 3, 2010

Authorization to Begin Work: as negotiated

8. Delivery Instructions:

For private, paid messenger services such as Federal Express, DHL, UPS, etc., or for hand-carried deliveries:

2010 PROPOSAL-NJDOT
New Jersey Department of Transportation
Bureau of Research
1035 Parkway Avenue
Trenton, New Jersey 08625-0600

For U.S. Postal Service mail:

New Jersey Department of Transportation
ATTN: Camille Crichton-Summers
Manager, Bureau of Research
PO Box 600
Trenton, New Jersey 08625-0600