# 2010 Request for Proposals for Research at the National Crude Oil Spill Fate and Natural Attenuation Research Site

## Introduction

The U.S. Geological Survey Minnesota Water Science Center, in collaboration with Enbridge Energy Limited Partnership, Beltrami County, and the Minnesota Pollution Control Agency, is soliciting proposals for projects to be conducted after July 1, 2010, at the National Crude Oil Spill Fate and Natural Attenuation Research Site (Site), located northeast of Bemidji in Beltrami County, Minnesota. Research proposals that have a short or long term potential for matching funds are especially encouraged from academic institutions and private industry. In considering research proposals you are encouraged to consult with industry, academic and trade organizations as well as review previous research that has been conducted at the site. Background about the Site and previous research is available on the web at http://mn.water.usgs.gov/projects/bemidji/.

Total funding available in 2010 is $30,000. Proposals may be for projects 1 to 2 years in duration, or for longer term projects that can leverage the available equipment and resources at the site.

A major function of the site is to informally bring together members of academia, consultants and industry. One important event that occurs annually is an informal presentation involving researchers conducting work at the site. This is an opportunity to gain a broad perspective and consider how different research may have applicability to individual projects.

## Proposal Deadline

Proposals are due by midnight (Central Daylight Time) on March 28, 2010. Proposals must be submitted electronically (Word (.doc) or Adobe (.pdf) file attachment) to Dr. Melinda Erickson, merickso@usgs.gov.

## Program Objectives

Funding for this research program is made available through a Collaborative Agreement between the U.S. Geological Survey Minnesota Water Science Center, Enbridge Energy Limited Partnership, Beltrami County, and the Minnesota Pollution Control Agency. The overall Collaborative Agreement purpose is to establish and maintain the National Crude Oil Spill Fate and Natural Attenuation Research Site (Site) to meet the following objectives:

- Support the advancement of science, research, and education on the fate, transport and natural attenuation of crude oil contamination in the subsurface;
- Support research on crude oil contamination remediation strategies;
- Provide research and learning opportunities to industry, consultants, regulatory, educational, and research institutions;
- Make Site research results widely available to the public, including persons involved in petroleum pollution and contaminant remediation such as researchers, industry, consultants, regulators, teachers, and students.

## Research Priorities

The primary research priority is improving the understanding of the mobilization, attenuation, transport, and fate of crude oil in the subsurface. Examples of desired research include, but are not limited, the following:

- Investigation of the natural attenuation of groundwater contamination from petroleum hydrocarbons;
- Investigation of the behavior and fate of vapors in the unsaturated zone above crude-oil contaminated soil and groundwater;
- Development and testing of practical methods for investigation and *in-situ* remediation of crude oil contaminated sites;
- Development and testing of alternative or enhanced *in-situ* remediation strategies.

## Budget

The total funding available is limited to $30,000, and proposals up to $30,000 will be considered; typically, research grants may be provided in the $3,000 - $8,000 range. Because the total cost of requests is likely to greatly exceed available funds, applicants are encouraged to request only essential resources. No specific funding match is required, but priority will be given to projects that demonstrate that matching funding will significantly leverage the requested funds.

## Proposal Review, Selection, and Award Process

Proposals that are incomplete, that do not conform to the Proposal Instructions, that are scientifically questionable, that are in conflict with or redundant with current research at the Site or elsewhere, or that pose risk to the site not be considered for funding.

Proposals will be reviewed and rated based on several factors, including scientific merit and likelihood of success, meeting the research priorities specified in this RFP, and leveraging of requested funds with matching funds. Detailed scoring categories are provided with this RFP.

## Proposal Instructions

On all pages (the cover page, main body, and supporting documents of the proposal) use 12 pt font, and leave a minimum of 1-inch margins all around. Proposals must consist of the following three elements:

### *Cover page*

Limited to 1 page. Include the following, in the given order, on the cover page:

- Title, short but descriptive;
- Project duration;
- Funding requested;
- Matching funds pledge;
- Principal Investigator(s) name and affiliation, with full contact information for the lead PI;
- Abstract, 300 words maximum.

### *Main body of the proposal*

Limited to 6 numbered pages, including tables, figures, and references. Include the following, in the given order, in the body of the proposal.

- Title, same as on the Cover page;
- Introduction, including identifying research gap to be filled or research area to be expanded upon, and the relationship of proposed work to current work at the Site or elsewhere;
- Nature, scope, and objectives of project, including brief timeline;
- Methods, procedures, and facilities, including enough information to permit evaluation of the technical adequacy of the approach to satisfy the objectives;
- Student training provided during the project (e.g., undergraduate or graduate student participation in the work);
- Expected deliverable, including an information dissemination plan;
- A description of the liability insurance that will cover any proposed work at the site;
- Cited references.

### *Supporting documents*

Include the following, in the given order:

- Abbreviated CV for each investigator, 1 page maximum each;
- Budget summery, in the budget form provided with the RFP;
- Budget explanation, in the budget explanation form provided with the RFP;
- Matching fund commitment documentation, in the form of a letter e-signed by a person qualified to make the commitment.

## Other information

All grantees will be required to acknowledge the funding or sponsoring entity as the "National Crude Oil Spill Fate and Natural Attenuation Research Site, a collaborative venture of the USGS, Enbridge Energy Limited Partnership, the Minnesota Pollution Control Agency, and Beltrami County."

Successful grantees will be paid directly by Enbridge under the direction of the MPCA, or directly from the MPCA.

## Proposal and Budget Questions

Proposal and budget questions may be addressed to either Melinda Erickson, 763/783-3231, merickso@usgs.gov, or Jim McCann, 651/757-2159, Jim.Mccann@state.mn.us.

## Budget Form

Project Title:

| Cost Category | Requested | Other (match) | Total |
|---|---|---|---|
| Salaries and Wages<br><br>-Principal Investigator_____<br><br>-_____<br><br>-_____<br><br>-_____<br><br>Total Salaries and Wages | $<br><br><br><br><br><br><br><br><br><br>$ | $<br><br><br><br><br><br><br><br><br><br>$ | $<br><br><br><br><br><br><br><br><br><br>$ |
| Fringe Benefits | $ | $ | $ |
| Supplies | $ | $ | $ |
| Equipment | $ | $ | $ |
| Services | $ | $ | $ |
| Travel | $ | $ | $ |
| Other direct costs | $ | $ | $ |
| Total direct costs | $ | $ | $ |
| Indirect costs on Requested share | $ | XXX | $ |
| Indirect costs on Other (match) share | XXX | $ | $ |
| Total estimated costs | $ | $ | $ |

## Budget explanation

Project Title:

| |
|---|
| **Salaries and Wages**. Provide estimated hours and the rate of compensation proposed for each individual. |
| |
| **Fringe Benefits**. Provide the overall fringe benefit rate applicable to each category of employee proposed in the project. |
| |
| **Supplies**. Indicate separately the amounts proposed for office, laboratory, computing, and field supplies. |
| |
| **Equipment.** Identify non-expendable personal property having a useful life of more than one year and an acquisition cost of more than $5,000/unit. If fabrication of equipment proposed, list parts and materials required for each, and show costs separately from the other items. |
| |
| **Services.** Identify specific tasks for which these services would be used. Estimate amount required and the unit rate. |
| |
| **Travel.** Provide purpose and estimated costs for all travel. |
| |
| **Other Direct Costs**. Itemize costs not included elsewhere, including publication costs. Costs for services should be included and justified under "Services" (above). |
| |
| **Indirect Costs**. Provide negotiated indirect ("Facilities and Administration") cost rate. |
| |

## Scoring Criteria

| Scoring Categories and Criteria | Weighting |
|---|---|
| **Research Relevance** | |
| **To what extent is the proposal aligned with the research priorities of the site Collaborative Agreement?**<br>• Has this work or very similar work, been funded and/or published elsewhere?<br>• Do the ideas/techniques/methods presented in the proposal improve the way we apply or look at our science?<br>• Likelihood that the project will contribute to science and/or expansion of knowledge<br>• Scientific merit, creativity and innovation<br>• Is the work feasible?<br>• Has the need for the research been demonstrated to be significant?<br>• What are the likely important contributions of this research?<br>• Is the hypothesis clearly stated and the experimental design correctly chosen to test the hypothesis?<br>• Is the literature cited complete or are important references left out?<br>• Is the proposal clearly written and informative? Does it convey the essence of the research? | 20 |
| • How will the results of the research be useful to identified end users?<br>• Will the research likely present new ideas? If it contains new information, is it a fundamentally useful contribution or is it only marginally useful? | 15 |
| **Subtotal** | **35** |
| **Quality/capability** | |
| • Has the purpose of the research been clearly described?<br>• Are the research hypothesis and objectives clear and appropriate?<br>• Is there a well-defined problem statement?<br>• Has knowledge of the relevant literature been demonstrated?<br>• Method - is it adequately described?<br>• Is the approach feasible and are the methods adequate?<br>• Can a timely outcome be achieved?<br>• Is there a plan for results dissemination? | 30 |
| • Is the applicant's ability to accomplish the proposed work (background and documented experience and skills of the Principal Investigator and Co-Investigators) clear?<br>  o availability of the investigators (adequate time devoted to the proposal)<br>  o expertise achieved by cooperating with specialists, trans-nationally<br>• Time-limited opportunities that require immediate funding<br>• Matching support from other sources<br>• Availability of alternate and/or future funding sources<br>• Career development of young researchers?<br>• Evidence that junior applicants will be working as independent investigators?<br>• Is there the necessary infrastructure to support the research?<br>• Adequacy of institutional resources, facilities, equipment to support the research | 20 |
| • Has the applicant provided adequate budget justification? | 15 |
| **Subtotal** | **65** |
| **Total** | **100** |