

Nebraska Information Technology Commission

Project Proposal Form

**New or Additional State Funding Requests
for Information Technology Projects**

FY2007-2009 Biennium

Project Title	Laboratory Information Management System (LIMS)
Agency/Entity	HHSS-R&L PHA Laboratory

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Notes about this form:

1. **USE.** The Nebraska Information Technology Commission (“NITC”) is required by statute to “make recommendations on technology investments to the Governor and the Legislature, including a prioritized list of projects, reviewed by the technical panel, for which new or additional funding is requested.” Neb. Rev. Stat. §86-516(8) In order to perform this review, the NITC and DAS Budget Division require agencies/entities to complete this form when requesting new or additional funding for technology projects.
2. **WHAT TECHNOLOGY BUDGET REQUESTS REQUIRE A PROJECT PROPOSAL FORM?** See the document entitled “Guidance on Information Technology Related Budget Requests” available at <http://www.nitc.state.ne.us/forms/>.
3. **DOWNLOADABLE FORM.** A Word version of this form is available at <http://www.nitc.state.ne.us/forms/>.
4. **SUBMITTING THE FORM.** Completed project proposal forms should be submitted as an e-mail attachment to rick.becker@nitc.ne.gov.
5. **DEADLINE.** Completed forms must be submitted by September 15, 2006 (the same date budget requests are required to be submitted to the DAS Budget Division).
6. **QUESTIONS.** Contact the Office of the CIO/NITC at (402) 471-7984 or rick.becker@nitc.ne.gov

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Section 1: General Information

Project Title	Laboratory Information Management System (LIMS)
Agency (or entity)	HHSS-R&L PHA Laboratory
Contact Information for this Project	
Name	Dalton Johnson
Address	3701 South 14 th Street
City, State, Zip	Lincoln, Nebraska 68502
Telephone	471-8457
E-mail Address	dalton.johnson@hhss.ne.gov

Section 2: Executive Summary

Provide a one or two paragraph summary of the proposed project. This summary will be used in other externally distributed documents and should therefore clearly and succinctly describe the project and the information technology required.

The NHHS R&L Laboratory is in the process of identifying a new Laboratory Information Management System (LIMS) to replace their current system, LabVantage SeedPak (version 3.98.1). The current system is outdated (Oracle 7.4.3). The new system will improve the efficiency for sample tracking, quality assurance documentation, record-keeping, document archival, data management, and data reporting. All of these enhancements will help the HHS Lab achieve and maintain accreditation under the National Environmental Laboratory Accreditation Program (NELAP) and/or the Environmental Protection Agency (EPA).

Section 3: Goals, Objectives, and Projected Outcomes (15 Points)

- Describe the project, including:
 - Specific goals and objectives;

The project's main goal is to implement a LIMS that will support the current and future needs of the HHSS-R&L Laboratory. Through the selection and implementation of a new LIMS the HHSS-R&L Laboratory will complete the following:

- Increase sample turnaround time by improving the sample tracking and flow through the lab, reducing the amount of data entry time for sample receipting, reduce analyst time for sample grouping and querying, electronically enter data from lab instrumentation, storing of all instrument data in an electronic format for easy review and approval, streamline approval system for data release, and user friendly report editing tools.
- Improve customer service by allowing customers to have access to their sample results through a secure web portal, allow flexible sample reporting options such as email, fax, hardcopy, spreadsheet, etc., provide interface options for the lab's internal customers, and allow for easy sample turnaround tracking and querying.

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- Provide a clean and easy to use accounting tool for accounts receivables by allowing automatic invoicing and an exporting data system to interface with the State of Nebraska Peoples Soft accounting software.
- Enhance the quality assurance of the lab with a LIMS that will track all reagents, controls and standards used in an analysis, automatically graph all quality control samples related to a testing method, and allow for easy query of sample or quality control data. It will also provide a quick and easily searchable data base for quality assurance documentation, including but not limited to ancillary equipment checks, equipment maintenance logs, staff training documentation, and proficiency result tracking.

- Expected beneficiaries of the project; and

The expected beneficiaries of this project will be the HHSS lab staff, Monitoring and Compliance, Engineering Services, Water Well Standards, Consumer Health Services, Department of Environmental Quality, and citizens of Nebraska.

- Expected outcomes.

The new system will improve the efficiency for sample tracking, quality assurance documentation, record-keeping, data management, data reporting and document archival.

2. Describe the measurement and assessment methods that will verify that the project outcomes have been achieved.

The project will be broken into four different phases. The HHSS Laboratory management team, and lab staff will determine when each phase has been completed.

Phase I (January 2007 (or contract award date, if earlier/later) to March 2007)

- a. Acquisition and installation of LIMS
- b. Training for system administrators/database managers

Phase II (April 2007 to June 2007)

- a. Start testing of LIMS (using sample work flow)
- b. Acceptance of LIMS (by work area)
- c. Interface laboratory analytical equipment with LIMS
- d. Acceptance of laboratory equipment interfacing

Phase III (July 2007)

- a. Training and familiarization of lab staff

Phase IV (August 2007)

- a. Switch over from old LIMS to new LIMS

3. Describe the project's relationship to your agency comprehensive information technology plan.

Not applicable

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Section 4: Project Justification / Business Case (25 Points)

4. Provide the project justification in terms of tangible benefits (i.e. economic return on investment) and/or intangible benefits (e.g. additional services for customers).

The HHSS Laboratory already has an existing LIMS but it is outdated. The LIMS was installed in 1997 and runs on Oracle version 7.4.3, which is no longer supported by Oracle. With constantly changing technology and new innovations in data management, the HHSS Laboratory management team budgeted and has approved going forward with the acquisition of a new LIMS. Some of the benefits are:

- The new LIMS will enable staff to do more testing in a shorter time period and reduce data entry errors.
- The drinking water program will have easy access to compliance data for public water systems.
- Shorter turnaround time for sample tests due to less manual data manipulation
- Web access for HHSS staff, public and private customers

5. Describe other solutions that were evaluated, including their strengths and weaknesses, and why they were rejected. Explain the implications of doing nothing and why this option is not acceptable.

The only other solution that was considered is the “do nothing” solution. This is not acceptable because our current LIMS is outdated and not a supported database. If our current LIMS were to quit functioning we would have to go back to a paper reporting and tracking system that we replaced 9 years ago. This would create an obvious decrease in efficiency, which would require, at a minimum, two additional FTE’s to deal with the increased paperwork. Not to mention that it could increase sample testing turnaround times.

6. If the project is the result of a state or federal mandate, please specify the mandate being addressed.

Not applicable.

Section 5: Technical Impact (20 Points)

7. Describe how the project enhances, changes or replaces present technology systems, or implements a new technology system. Describe the technical elements of the project, including hardware, software, and communications requirements. Describe the strengths and weaknesses of the proposed solution.

The overall enhancements would be to improve upon the current LIMS functionality that we currently have. The following is a list of enhancements beyond the basic functions that the HHSS Laboratory has with its current LIMS:

- Paperless work environment, work towards all electronic data review
- Decrease data query time
- Improved menu functionality and navigation of LIMS
- Add to the quality assurance documentation and make these records easy to retrieve electronically

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- Interface all lab equipment for data capture which will reduce manual data entry time and potential data entry errors
- Allow for data archiving
- Improve the sample tracking throughout the laboratory
- Allow for electronic sample orders which reduces staff time spent on the telephone taking orders
- Provide customers with a web interface to their sample results which reduces postage costs and mailing delays, and staff time spent processing reports

The new LIMS will be installed and run on an independent network consisting of two data servers, the lab equipment PC's, and workstation PC's. The LIMS software will be installed on all workstation PC's and instrument PC's that need to communicate with the LIMS. The only change in hardware will be the additional two data servers, needed to store all laboratory data.

8. Address the following issues with respect to the proposed technology:

- Describe the reliability, security and scalability (future needs for growth or adaptation) of the technology.

The technology chosen will need to conform to all industry security, imaging and record retention standards and provide a scalable platform that can support the HHSS laboratory.

- Address conformity with applicable NITC technical standards and guidelines (available at <http://www.nitc.state.ne.us/standards/>) and generally accepted industry standards.

The technology chosen will be required to conform to the applicable NITC technical standards and guidelines.

- Address the compatibility with existing institutional and/or statewide infrastructure.

The technology chosen will be completely compatible with present Network and Internet protocol environments.

Section 6: Preliminary Plan for Implementation (10 Points)

9. Describe the preliminary plans for implementing the project. Identify project sponsor(s) and examine stakeholder acceptance. Describe the project team, including their roles, responsibilities, and experience.

The RFP will require bidders to provide a comprehensive master project work plan that fully describes how the bidder intends to manage, implement and support the LIMS project. All final plans must be approved by the LIMS Project Manager. The following components, at a minimum, must be included in the master project work plan:

- A. Schedule
- B. Project Organization and Personnel
- C. System Specifications and Detailed Design
- D. Bidder's and State's Responsibilities (staffing requirements, technical capabilities, labor and materials)
- E. Custom Coding
- F. Delivery (how it will be accomplished)

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- G. Installation and Testing
- H. Acceptance Procedure for LIMS
- I. Training
- J. Follow-up
- K. On going customer service
- L. Warranties
- M. Maintenance agreement

The master project work plan should be as comprehensive as possible and should clearly describe how the bidder intends to prove that the LIMS meets the specifications of the RFP. The HHSS Laboratory expects that the LIMS will be a one year (or less) project using a phased, modular approach for purchasing and implementation. This approach will allow the HHSS Laboratory to use its available funding, staffing and other resources in an effective and efficient manor.

LIMS project manager:	Dalton Johnson
LIMS QA manager:	Sandi Irons
LIMS HHSS lab implementation team:	At least one volunteer from each work team in the lab

10. List the major milestones and/or deliverables and provide a timeline for completing each.

The project will be broken into four different phases. The HHSS Laboratory management team, and lab staff will determine when each phase has been completed.

Phase I (January 2007 (or contract award date, if earlier/later) to March 2007)

- a. Acquisition and installation of LIMS
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Phase II (April 2007 to June 2007)

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Phase III (July 2007)

- a. Training and familiarization of lab staff

Phase IV (August 2007)

- a. Switch over from old LIMS to new LIMS

11. Describe the training and staff development requirements.

The HHSS laboratory will include training as part of the RFP. This will include training for database management, system administrator, and end users. The HHSS LIMS Project Manager will also provide training during Phase IV.

12. Describe the ongoing support requirements.

The HHSS Laboratory will maintain an ongoing service agreement with the vendor to provide technical support and software upgrades. There will also always be a need for a system

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administrator to coordinate the daily maintenance tasks and perform the editing of reports, special data requests by customers, answer lab staff questions, provide new staff training, etc.

Section 7: Risk Assessment (10 Points)

13. Describe possible barriers and risks related to the project and the relative importance of each.

Barriers and risks to the project include the following:

- Setting up the internal network, the vendors can provide advice on the structure of the network but typically do not do the physical network setup.
- Installation of the LIMS software on HHSS workstation PC's
- Available staff time to help test the new LIMS.

14. Identify strategies which have been developed to minimize risks.

The RFP will include a detailed specification list. This list will cover all aspects of the laboratory's needs, most of which will be required for the vendor to comply to. This list will be the main weight of the scoring for the RFP.

Section 8: Financial Analysis and Budget (20 Points)

15. Financial Information

Financial and budget information can be provided in either of the following ways:

(1) If the information is available in some other format, either cut and paste the information into this document or transmit the information with this form; or

(2) Provide the information by completing the spreadsheet provided below.

Instructions: Double click on the Microsoft Excel icon below. An imbedded Excel spreadsheet will be launched. Input the appropriate financial information. Close the spreadsheet. The information you entered will automatically be saved with this document. If you want to review or revise the financial information, repeat the process just described.



Excel Spreadsheet
(Double-click)

16. Provide a detailed description of the budget items listed above. Include:

- An itemized list of hardware and software.
 - 2 new servers (possibly 3 servers)
- If new FTE positions are included in the request, please provide a breakdown by position, including separate totals for salary and fringe benefits.
 - There will not be a need for any additional FTE positions.

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- Provide any on-going operation and replacement costs not included above, including funding source if known.
 - Not applicable
- Provide a breakdown of all non-state funding sources and funds provided per source.
 - The funding for the LIMS project will all come directly from the HHSS laboratory's cash fund.

17. Please indicate where the funding requested for this project can be found in the agency budget request, including program numbers.

The fund number that this will come from is 22082.

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Section 8: Financial Analysis and Budget

**Estimated costs for the HHSS
Laboratory LIMS**

Expenditures for new hardware, software and services. Also includes expenditures for ongoing support and maintenance

(Revise dates as necessary for your request.)

	Estimated Prior Expended	Request for FY2007-08 (Year 1)	Request for FY2008-09 (Year 2)	FY2009-10 (Year 3)	FY2010-011 (Year 4)	Future	Total
1. Personnel Costs							\$ -
2. Contractual Services							
2.1 Design							\$ -
2.2 Programming							\$ -
2.3 Project Management							\$ -
2.4 Implementation Services							\$ -
3. Supplies and Materials							\$ -
4. Telecommunications							\$ -
5. Training		\$ 2,000.00	\$ 2,000.00				\$ 4,000.00
6. Travel		\$ 2,000.00	\$ 2,000.00				\$ 4,000.00
7. Ongoing support and maintenance Costs		\$ -	\$ 15,000.00	\$ 15,000.00	\$ 15,000.00	\$ 15,000.00	\$ 60,000.00
8. Capital Expenditures							
8.1 Hardware		\$ 20,000.00					\$ 20,000.00
8.2 Software		\$ 150,000.00	\$ 150,000.00				\$ 300,000.00
8.3 Network		\$ 3,000.00					\$ 3,000.00
8.4 Other		\$ 2,000.00					\$ 2,000.00
TOTAL COSTS	\$ -	\$ 179,000.00	\$ 169,000.00	\$ 15,000.00	\$ 15,000.00	\$ 15,000.00	\$ 393,000.00
General Funds							\$ -
Cash Funds (22082)		\$ 179,000.00	\$ 169,000.00	\$ 15,000.00	\$ 15,000.00	\$ 15,000.00	\$ 393,000.00
Federal Funds							\$ -
Revolving Funds							\$ -
Other Funds							\$ -
TOTAL FUNDS	\$ -	\$ 179,000.00	\$ 169,000.00	\$ 15,000.00	\$ 15,000.00	\$ 15,000.00	\$ 393,000.00