



ENERGY CHOICE OHIO CONSUMER EDUCATION WEBSITE

REQUEST FOR QUOTE (RFQ)

STATE TERM SCHEDULE

RFQ NUMBER: 12182012PUCO

DATE ISSUED: DECEMBER 18, 2012

The Public Utilities Commission of Ohio is requesting quotations from offerors who hold State Term Schedule Contracts with the State of Ohio, to build a highly-interactive website to improve awareness, trust and understanding of market-based utility services in Ohio.

QUOTATION DUE DATE AND TIME: 1/11/2013, 1:00 P.M., EST

SEND QUOTATIONS TO: Ohio Public Utilities Commission
180 East Broad St.
Columbus, OH 43215-3793
Attn: Holly Karg, Jeffrey McNaughton

INQUIRY PERIOD BEGINS: 12/18/2012

INQUIRY PERIOD ENDS: 01/09/2013

OPENING DATE: 01/11/2013

CONTRACT AWARD DATE: 01/25/2013

CONTRACTOR BEGINS WORK: 02/01/2013

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ATTACHMENTS

- Attachment "A" General Guidelines for Development
- Attachment "B" System Requirements Specification Template

PART ONE: PURPOSE, SCOPE OF WORK, TIMELINE AND TERMS OF ENGAGEMENT

1.0 PURPOSE

To address the need to educate Ohio consumers of legislative changes affecting the electric and natural gas utility industry in Ohio, the Public Utilities Commission of Ohio (PUCO, Commission) created the Office of Retail Competition (ORC) in June, 2012. The mission of the ORC is to improve awareness, trust and understanding of market-based utility service in Ohio.

The PUCO is seeking quotations from Offerors for the development of a highly-interactive website to compliment the ongoing awareness campaign. The consultant must have experience with developing interactive tools and the backend pages to populate calculated results.

The successful Contractor will submit pricing at or below their maximum State Term Schedule rates. The Contractor selected for this project will also meet all of the requirements listed in this document, and will provide the most satisfactory solution, as determined by the evaluation team, at the lowest price. The work will be performed under contract between the Contractor and the PUCO.

2.0 OVERVIEW

The core areas that encompass this project are web development and integration of data, which include, but are not limited to:

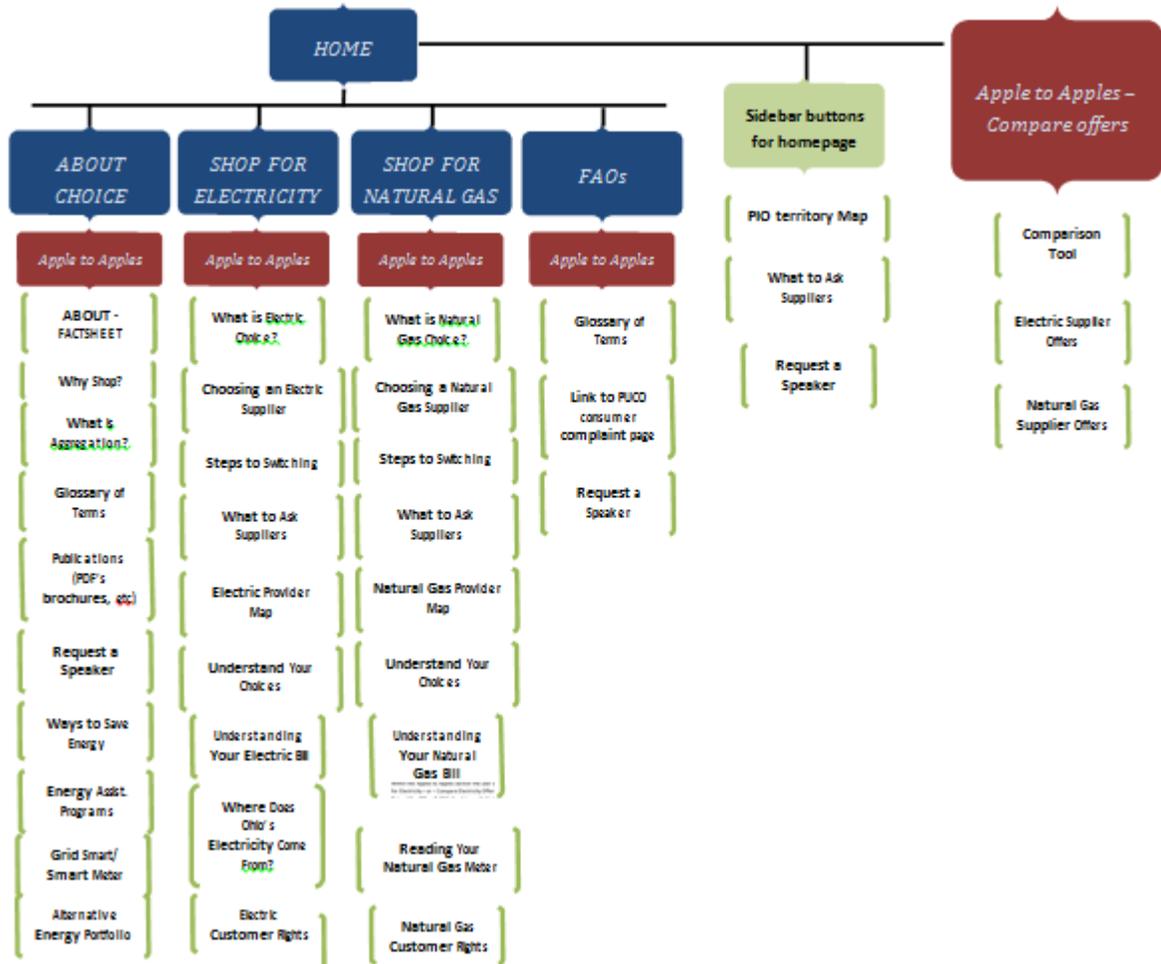
- Develop website to include various interactive tools and calculating capabilities.
- Create an interactive tool that allows the user to compare service offers, and calculate estimated costs while factoring in the address and other variables provided by the user.
- Create a secure portal for service providers to submit their offerings to include in the comparison tool utilized by the website user.
- Write code in format currently being used by PUCO staff (see attachment A).
- Develop website and all components to be easily monitored and navigated by PUCO staff.
- Ensure compatibility with licenses and web based programs currently held and utilized by PUCO.
- Strictly follow State of Ohio design guidelines.
- Provide language translation capabilities.

3.0 SCOPE OF WORK AND DELIVERABLES

3.1 Website

The following is an example sitemap for Energy Choice Ohio. Under “Home” there are a variety of static pages to be created. Content will be supplied by the Commission. As an

example of desired functionality, please peruse: <http://powertochoose.org/> and <http://www.papowerswitch.com/>.



3.2 Apples To Apples

Transition the current Apples to Apples charts to more navigation and user-friendly selection comparison tool. This tool would allow consumers to enter their address, zip code or possibly their current utility to generate a list of suppliers with offers of which they can choose. Once this list generates, the user will have the ability to select which suppliers they'd like to compare more in-depth or closely.

3.2.1 Comparison Tool

Rate

Within the Apples to Apples section the user should immediately be instructed to select “Shop for Electricity – or – Compare Electricity Offers” and “Shop for Natural Gas – or – Compare Natural Gas Offers.” With the data available through the suppliers

input of details, the rate comparison tool should include, but not be limited to, for comparison:

Price per Kwh comparison (price to compare)

- ☑ Length of contract term
- ☑ Renewable energy %
- ☑ Termination fee
- ☑ Promotions availability
- ☑ Special terms to consider
- ☑ Fixed or Variable rate

3.2.2 Calculator

Rate

Develop a rate calculator that would factor in information provided by the user (address, tax rate, average monthly usage, etc). With the information the user provides and the supplier offer they have selected to calculate, this should provide the user an estimate on what their monthly generation cost will be. From here they can use that amount to compare to their current utility bill to determine if switching would provide a savings.

3.2.3 end Portal

Back-

There is to be a back-end portal for suppliers/marketers to input their offers and submit for real time offers. Thus any consumer using the calculation or comparison tools will have real time offer information. This also puts the responsibility of updating offers regularly on the supplier and not on PUCO staff. This portal will not be viewable or accessible to the general public, it will be login and password protected. The PUCO will retain the rights to remove offers that are not inline with CRES/CRNGS rules, etc.

The following is an example outline of what the back-end portal will allow for suppliers to input:

- Each marketer/supplier will have an entry point – Log In and Password
- Each supplier should be able indicate whether the information they are submitting is for residential or business class customers.

The available selections of offers will populate for both residential and business consumers, however the utility should indicate which type(s) of consumers the specific offer targets. This will show up in their listing.

Upon entry of the system each supplier may provide the following information (for example):

Residential

Name Phone
Fax
Email

Website

There will be a box to check indicating whether or not the utility is currently active. This box must be checked in order for the utility and offer to appear on the Apples to Apples chart.

Non-Residential

Name Phone
Fax
Email

Website

There will be a box to check indicating whether or not the utility is currently active. This box must be checked in order for the utility and offer to appear on the Apples to Apples chart.

Additionally, there will be options for the supplier to select which business customer class it is serving.

Small Business Large
Medium Business
Business
Industrial

After submitting the above information the supplier should be able to enter the next screen and provide specifications to include, but not limited to:

Company
Products (simple description of offer)
Website
Terms URL (provides direct link to the terms of offer/contract)
Facts URL (provides direct link to the FAQs)
Special terms (provides text box for the supplier to input information detailing the current special offer, if one exists)
Contract terms (drop down menu selection tool)
Cancel fee
Box to check if there is a current special promotion
Promotion description (provides text box where the supplier can detail the promotion)

There should be a field where the supplier can enter the rate offers for various load/usage:

For example, for the electric Apples to Apples comparison:

500/1000/2000 kwh: _____ ¢

/ _____ ¢ / _____ ¢

Prepaid (drop down of yes or no)

Prepaid URL (provides a direct link to the prepaid information)

Product type (provides a drop down of selections, "fixed", "variable", ... what else?)

Renewable % (provide space for the supplier to input the percentage of their energy that is retrieved from renewable energy)

*This offer screen should include a selection box to check if Active. This will then populate in the Apples to Apples chart.

The system should allow for a review of the offer. When the supplier completes the input of the information relating to the offer, they should have a submit button which then takes them to a review screen.

**The Apples to Apples for the natural gas comparison should be similar in functionality.

3.2.4 Additional Functionality

- A. The option to translate into other languages.
- B. Automatic archiving of offers.
- C. There may be a need for export of "offers compared" capabilities.

4.0 PROJECT TIMELINE

The following is a tentative timeline for the vendor selection process. The timeline for the remaining project items will be provided by the Contractor in their response to the RFQ. The final timeline will be reviewed and approved by PUCO as part of the project plan. The project end date is a firm date and is not negotiable.

Milestone	Start Date	Expected Completion Date
Proposals Due	1/11//2013	
Evaluation Committee Review	1/18/2013	
Final Selection/Contract Negotiations	1/25/2013	
Project Commencement	2/01/2013	
Approved Project Plan and System Requirements Specification Documents	XX/XX/201X	XX/XX/201X
Delivery and Acceptance of Interactive Static		

Web Pages		
Delivery and Acceptance of Apples and Apples with all Tools and Features		
Installation, Demo and Approval of Operational System conforming PUCO Development Guidelines		
System Testing, Demo and Customer Acceptance of System on PUCO Provided Environments		
Final Acceptance of Production Quality Software, Completion of User and Admin Documents, and Training	XX/XX/201X	XX/XX/201X
Project End		5/31/2013

Each software deliverable must include the following milestones: design and code review, coding and unit testing, integration testing, system testing, demos to customers, and acceptance criteria documentation and approval.

5.0 OF ENGAGEMENT

TERMS

5.1 Service, Support Documentation

The Contractor must provide detailed programming documentation within the source code, in addition to an electronic version of the design and end user documentation covering core system functions, at a minimum. Upon project completion, all source code, which includes all documentation and training materials, becomes the property of the Public Utilities Commission. The Offeror's proposal must include a list of all the tools required for development and support (compilers, special libraries, etc.).

The proposal must also include a list of all client and server hardware and software requirements for the new application. (Hardware and operating system software may be acquired by the Commission, separate from this proposal).

Software installation, user training, knowledge transfer and the first year of support must be included in the Offeror's proposal.

5.2 Confidentiality

Due to the confidential and sensitive nature of some of the data used by the PUCO, the Contractor will be required to assure compliance with federal and state privacy and ethics laws, in addition to a confidentiality statement provided by the Commission that restates specific state statutes and Commission rules governing access of personally identifiable information and non-disclosure of confidential and sensitive information.

5.3 Working Conditions

The selected Offeror (“Contractor”) will work under the direction of the Project Administrator and will also work with additional staff members of the Commission. The Commission’s business hours are 8:00 a.m. to 5:00 p.m., Monday – Friday. The Contractor is responsible for all software required to develop the system. The complete solution must be implemented and fully tested on the Commission’s hardware and software environment, with Commission staff present before final acceptance of the application.

Meetings, interviews, and training must be conducted at the office of the Commission during normal business hours unless otherwise scheduled by the Commission staff.

5.4 Payment Schedule

The total cost in the Offeror’s proposal must be represented as a Not-to-Exceed Fixed Price for the project. Payments will be made upon completion of each milestone and related deliverable(s) noted in the table below, not to exceed the total price quoted by the Contractor:

Task and Associated Deliverable	Total Cost
Approved Project Plan and System Requirements Specification Documents	
Delivery and Acceptance of Interactive Static Web Pages	
Delivery and Acceptance of Apples To Apples with all Tools and Features	
Installation, Demo and Approval of Operational System conforming PUCO Development Guidelines	
System Testing, Demo and Customer Acceptance of System on PUCO Provided Environments	

Final Acceptance of Production Quality Software, Completion of User and Admin Documents, and Training	
Final Project Sign-Off	
Total Not-to-Exceed Fixed Price	

* Hourly rate must include all related Contractor expenses but cannot include travel, meals, lodging, etc.

5.4.1 Bill to Address

The Contractor must submit invoices for completed milestones and deliverables to the bill-to address on the purchase order by the first business day of the month after completion. The Contractor must include the following information on all invoices:

- Organization Name and Address Organizational
- Contact Person, Telephone Number, and Email address Contact
- Federal Tax Identification Number Federal
- Contract Number Contract
- Description of deliverable(s) or milestone(s) completed and related hours Itemization

PART TWO: RFQ INQUIRIES, FORMAT AND AMENDMENTS

1.0 RFQ INQUIRIES

Offerors may make inquiries regarding this RFQ any time during the inquiry period listed on the RFQ cover sheet. The PUCO may not respond to any improperly formatted inquiries. The PUCO will try to respond to all inquiries within 48 hours, excluding weekends and holidays. The PUCO will not respond to any inquiries received after 8:00 a.m. on the inquiry period end date. The PUCO may extend the proposal due date or make changes to the RFQ through an amendment. Amendments may be provided one business day prior to the proposal opening date.

To make an inquiry, Offerors must use the process outlined below:

- Access the State Procurement Web site at <http://procure.ohio.gov/>.
- From the Navigation Bar on the left, select “Find It Fast”.
- Select “Doc/Bid/Schedule #” as the Type.
- Enter the RFQ number found on the first page of this RFQ (the RFQ number begins with “DAS”).
- Click the “Find It Fast” button.
- On the document information page, click the “Submit Inquiry” button.
- On the document inquiry page, complete the required “Personal Information” section by providing:
 - First and last name of the prospective Offeror’s representative who is responsible for the inquiry;
 - Name of the prospective Offeror;
 - Representative’s business phone number, and
 - Representative’s e-mail address.
- Type the inquiry in the space provided, including:
 - A reference to the relevant part of this RFQ;
 - The heading for the provision under question, and
 - The page number of the RFQ where the provision can be found.
 - Click the “Submit” button.

An Offeror submitting an inquiry will receive an immediate acknowledgement that the State has received the inquiry as well as an e-mail acknowledging receipt. The Offeror will not receive a personalized response to the question nor notification when the State has answered the question.

Offerors may view inquiries and responses on the State’s Procurement Web site by using the “Find It Fast” feature described above and by clicking the “View Q & A” button on the document information page.

All questions must be submitted by 8:00 am on Jan. 9, 2013. Questions submitted after this time will not receive a response from the Commission.

2.0 AMENDMENTS TO RFQ

If the PUCO decides to revise this RFQ before the proposal due date, amendments will be posted on this website. When an amendment to this RFQ is necessary, the PUCO may extend the proposal due date through an announcement sent to all Offerors. Amendment announcements may be provided any time before 5:00 p.m. on the day before the proposal is due.

3.0 PROPOSAL FORMAT

Each proposal must be organized in the same format as described below. Any material deviation from the format outlined below may result in a rejection of the non-conforming proposal. Each proposal must contain an identifiable tab sheet preceding each section of the proposal.

3.1 Cover Letter

The cover letter must provide the following and be signed by an individual authorized to legally bind the Offeror.

- A statement regarding the Offeror's legal structure (e.g., an Ohio corporation), Federal tax identification number, and principal place of business;
- The name, address, phone number, and fax number of a contact person who has authority to answer questions regarding the proposal.
- The Offeror's valid State Term Schedule (STS) number and expiration date.
- A statement that the Offeror is not now, and will not become subject to an "unresolved" finding for recovery under Revised Code Section 9.24, prior to the award of a Contract arising out of this RFQ, without notifying PUCO of such finding.
- An executed "Standard Affirmation and Disclosure Form" pursuant to Executive Order 2011-12K.

3.2 Certification

Each proposal must include the following certification on company letterhead signed by an individual authorized to legally bind the Offeror.

(Insert Company name) affirms they are the prime contractor and the proposed Project Manager is an employee of (insert Company name).

(Insert Company name) affirms it shall not and shall not allow others to perform work or take data outside PUCO without express written authorization from the Agency Project Representative.

(Insert Company name) affirms that all personnel provided for the Project, who are not United States citizens, will have executed a valid I-9 form and presented valid employment authorization documents.

(Insert Company name) affirms that any small business program participants will provide necessary data to ensure program reporting and compliance.

(Insert Company name) agrees that it is a separate and independent enterprise from the State of Ohio and the Departments of Administrative Services and PUCO. (Insert Company name) has a full opportunity to find other business and has made an investment in its business. Moreover (insert Company name) will retain sole and absolute discretion in the judgment of the manner and means of carrying out its obligations and activities under the Contract. This Contract is not to be construed as

creating any joint employment relationship between (insert Company name) or any of the personnel provided by (insert Company name) or the Departments of Administrative Services and PUCO.

(Insert Company name) affirms that the individuals supplied under the Contract are either (1) employees of (insert Company name) with (insert Company name) withholding all appropriate taxes, deductions or contributions required under law or (2) independent contractors to (insert Company name).

If the Offeror's personnel are independent contractors to the Offeror, the certification must also contain the following sentence:

(Insert Company name) affirms that it has obtained a written acknowledgement from its independent contractors that they are separate and independent enterprises from the State of Ohio and the Departments of Administrative Services and PUCO for all purposes including the application of the Fair Labor Standards Act, Social Security Act, Federal Unemployment Tax Act, Federal Insurance Contributions Act, the provisions of the Internal Revenue Code, Ohio tax law, worker's compensation law and unemployment insurance law.

3.3 Offeror Profile

The Offeror profile must include the Offeror's legal name, address, and telephone number; home office location; date established; ownership (such as public firm, partnership, or subsidiary); firm leadership (such as corporate officers or partners); number of employees; number of employees engaged in tasks directly related to the Work; and any other background information that will help the evaluation team gauge the ability of the Offeror to fulfill the obligations of the Contract.

3.4 Offeror Requirements

The Offeror must provide three (3) project references that clearly demonstrate its experience in implementing large projects using .NET framework 3.5 or higher, Visual Studio 2008, SQL Server 2008, and Oracle 10g.

For each project reference the Offeror must provide the following information:

- Name of the organization;
- Project details; and

- The reference's Contact/Project Manager including name, phone number and e-mail address.

Each reference must be willing to discuss the Offeror's performance with the evaluation team.

The Offeror will provide a resume for each staff person assigned to the project that details their experience in building systems utilizing the same or similar technologies and of the same or larger scale. In addition to identifying the level of experience each person has, a brief description of the individual's responsibilities for this project will also be provided.

In addition to the identification of the staff to be used for the project, the Offeror will also provide a detailed action plan outlining how it will go about replacing any staff member that may no longer be able to continue on this project. In addition to this succession plan, the Offeror will also describe how they intend to manage the project and how regular communications will be maintained with the state in terms of meeting the stated deliverables of the project.

3.5 Candidate Profile

Offerors must provide resumes for candidates that will work on the project and will be available for the project. This requirement, though suggested for all candidate team members, is required for the project manager, forms-design lead, and technical lead.

Candidates must include three (3) project references where successful completion of a similar project is demonstrated; references must include the following information:

- Name of the organization;
- Project details; and
- Contact/Project Manager including name, phone number, and e-mail address.

Each reference must be willing to discuss the Offeror's performance with the evaluation team.

All candidates may be required to pass a background check. In addition, ***all candidates employed by or otherwise under contract to the Offeror will be required to meet PUCO's confidentiality and information disclosure policies.***

3.6 Quote

Offeror must provide its quote on company letterhead. Offeror must provide the total cost estimate for completing the scope of work and deliverables described in the RFQ. Costs must include the part number, if applicable, position description, hourly rate, number of hours and page number according to the State Term Schedule being utilized.

An Offeror's proposal may be removed from consideration if their quoted cost exceeds the hourly rate stated in their State Term Schedule. See Part Four: Sample Quote.

3.7 Executive Order 2011-12K

Offeror must affirm it will abide by the requirements of Executive Order 2011-12K (Attachment H). Offeror must submit an executed Contractor/Subcontractor Affirmation and Disclosure form (Attachment I) as part of its proposal.

3.8 Minority Business Enterprise (MBE) Certification

Offeror must provide letter of certification from the State of Ohio indicating that the Offeror is currently registered as an MBE within the State of Ohio.

3.9 State Term Schedule Number

Offeror must provide current State Term Schedule Number, indicating which Commodity Category the Schedule Number was approved for. The State Term Schedule number must be registered under the same name, principal, and address as the Offerer of this RFQ.

4.0 PROPOSAL SUBMITTAL

Each Offeror must submit **five (5)** complete, sealed, and signed hard copies of its proposal, and each proposal must be clearly marked "**Energy Choice Ohio Consumer Education Website**" on the outside of its envelope. Proposals must be sent to Holly Karg, Director of Public Affairs, Public Utilities Commission of Ohio 180 E. Broad St., Columbus, Ohio, 43215, by the proposal due date and time listed on the first page of this RFQ. Electronic proposal submission in PDF format made in addition to, but not in lieu of the above, is recommended and should be sent directly to holly.karg@puc.state.oh.us.

All proposals and other material submitted will become the property of the PUCO and may be returned only at PUCO's option.

Ohio Revised Code (ORC) Section 9.24 prohibits the PUCO from awarding a Contract to any Offeror(s) against whom the Auditor of State has issued a finding for recovery if the finding for recovery is "unresolved" at the time of award. By submitting a proposal, the Offeror warrants that it is not now, and will not become subject to an "unresolved" finding for recovery under ORC 9.24, prior to the award of a Contract arising out of this RFQ, without notifying PUCO of such finding.

5.0 REJECTION OF PROPOSALS

PUCO may reject any proposal that is not in the required format, does not address all the requirements of this RFQ, or that PUCO believes is excessive in price or otherwise not in its

interest to consider or to accept. In addition, PUCO may cancel this RFQ, reject all the proposals, and seek to do the work through a new RFQ or other means.

PUCO may reject late proposals regardless of the cause for the delay.

PUCO may reject any Proposal that takes exception to the terms and conditions and/or pricing of the State Term Schedule.

PART THREE: SELECTION PROCESS

1.0 SELECTION OF PROPOSAL

In the proposal evaluation phase, the evaluation team will rate the proposals submitted in response to this RFQ based on the Scope of Work sections of the response. The Offeror that provides the best value to the PUCO will be selected. Best value will be determined by reviewing the Offeror’s organizational capabilities and viability, the Offeror’s and staff’s qualifications and experience, the Offeror and staff’s previous work performance, the proposed plan for completing the work, software functionality, and the cost. In addition, the evaluation team may require some Offerors to interview, make a presentation about their proposal, or demonstrate their products and services. Presentations, demonstrations, and interviews will be scheduled at the convenience and discretion of the PUCO. The PUCO may record any presentations, demonstrations, and interviews. ***Product performance and acceptance criteria will be established prior to awarding the final contract.***

PART FOUR: SAMPLE QUOTE

1.0 SAMPLE PROPOSAL SUBMITTAL

Offeror must provide its quote on company letterhead. Offeror must provide the total cost estimate for completing the scope of work and deliverables described in the RFQ (see sample table below). Costs must include the part number, if applicable, position description, hourly rate, number of hours and page number according to the State Term Schedule being utilized. An Offeror’s proposal may be removed from consideration if their quoted cost exceeds the cost stated in their State Term Schedule.

STS Page No.	STS Labor Category/Part #	STS Hourly Rate	# Hours	Total Cost \$

	Total Not-To-Exceed Fixed Price:			\$

Attachment A

General Guidelines for Development

1. Deliverables:
 - a. Development documentation (see attached System Requirements Specification-Template)
 - i. Functional requirements
 - ii. UML Use Cases (to include wireframes)
 - iii. Application Design
 - iv. Data Model
 - b. User documentation
 - c. Developed application integration into PUCO tools and methodologies.
 - d. Application beta testing
 - e. Final application
2. General Process Work Flow:
 - a. Submit requirements, use cases, application design, and data model for review. (see attached System Requirements Specification-Template).
 - b. Upon approval by PUCO, begin development.
 - c. Upon completion, integration into PUCO's TFS and Test Environment including SSO (single sign on authentication) API and Logging API. This step requires developer to be on-site.
 - d. Develop test plans.
 - e. Test plan review by PUCO.
 - f. Upon approval by PUCO, begin system testing. This step requires developer to be on-site.
 - g. Review of test results
 - h. Final User Documentation submitted and reviewed.
 - i. Upon approval by PUCO, Deploy to PUCO Test Environment and begin Beta Testing (by OPA).
 - j. Upon approval by PUCO, project completed.
3. There must be adherence to the implementation using:
 - .NET framework 4.0 or higher
 - All coding must be written in Visual Basic
 - Visual Studio 2010 Ultimate or higher
 - SQL Server 2008 R2 or higher
 - MS Server 2008 R2 with IIS 7
 - Microsoft Team Foundation Services TFS must be used for deployment
 - Standard browsers (current versions of Chrome, Firefox, Safari and Explorer)
 - No third party tools except the above mentioned are to be used unless a recommendation by the vendor is approved by the PUCO prior to its use. The PUCO has full authority to reject the recommendation.
 - Authentication shall use existing PUCO Single Sign On (SSO) API.
 - All code created must be able to function in a Microsoft Network Load Balance environment.
 - jQuery JavaScript Library and extensions are the preferred choice for client side programming.

4. Development Costs: The vendor is responsible for costs associated with the development of this application. The PUCO maintains the TFS, Testing, and Production environments.
5. Architecture:
 - Adherence to PUCO Architecture (UI -> BL -> DL -> Stored Procedures/DB) and code layers as developed
 - Entity Framework available in .NET framework is not allowed to be used in architecture and layer implementation.
 - Microsoft Team Foundation Services TFS must be used for the source code control, bug testing, and deployment
 - Use the PUCO logging API implemented in Portal for the error reporting.
 - a. Architecture must be documented by the vendor, reviewed, and approved by the PUCO staff. PUCO has the full authority to reject architecture that is not in compliance with the standards set. The vendor is expected to rectify any disparities. (see attached System Requirements Specification-Template)
6. Design/Coding
 - The vendor is responsible for implementation of a consistent design..
 - All coding must be written in Visual Basic (no C# or other languages) using Visual Studio 2010 or higher..
 - Design and coding must be documented for each phase by the vendor, and must be reviewed and approved by the PUCO staff. PUCO has the full authority to reject design or code that is not in compliance with the standards set. The vendor is expected to rectify any disparities. (see attached System Requirements Specification-Template)
7. System Testing:
 - The vendor is responsible for:
 - Unit testing
 - System testing
 - Creating agreeable acceptance criteria with clients and executing them to their satisfaction
 - Creating test scenarios and cases
 - Automating test cases for the regression and feature testing
 - Creating and managing test data for all of the above testing
 - Test scenarios and cases must be reviewed by the PUCO staff. PUCO has the full authority to recommend additional tests and the vendor is expected to implement them.
8. Beta Testing/Deployment:
 - Vendor is responsible for fixing/resolving issues and bugs during beta testing and deployment, coming up with agreeable acceptance criteria with clients and executing them to their satisfaction, and creating and managing test data for all of the above testing.
 - Vendor must use TFS for creating/assigning/closing/tracking bugs as they find during beta and deployment cycles and providing reports to the project team for their review.

- Vendor is responsible to make certain system builds for beta and deployment are regression tested and work.
- Vendor is responsible for the training, documentation (architecture, design, system administration, user documentation) and a successful handoff to the PUCO development team.

Attachment B
Systems Requirements Specification

Version x.x
Month dd, yyyy

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1. Introduction

1.1. Purpose

The Systems Requirements Specification (SRS) is designed to express the behavioral, performance, and development requirements of this product and serves as the fundamental requirements document for the development of the product. The Systems Requirements Specification includes a description of every input into the system, every output from the system and all functions performed by the system in response to input or in support of an output. The SRS meets IEEE830 standards and is the exclusive requirements document to be used in development; all design and testing choices must be compatible with this document.

1.2. Scope

The scope of the SRS identifies the magnitude of what the product will cover. The Systems Requirements Specification is intended for review by the client to ensure that all desired functional, performance and development requirements have been stated in a way such that they are:

Readable: minimizes misinterpretations by developers and testers by using clear, concise, unambiguous, and complete language.

Testable: will be used for strategies in Master Test Plan, Functional Test Plan, and other formal testing documents.

Modifiable: changes easily as requirements change, accommodates Requirements Traceability Matrix, see section 4 of this document, and Change Management Policy.

Useable for Operations: will be used as a living document after project is completed for operations and maintenance. Maintenance projects use the SRS to obtain a greater understanding of the system when changes need to be made.

Traceable: works with the Requirements Traceability Matrix to ensure components, responsibilities, and test cases link to minimize impact for requirements change and localize defects.

Buildable: will be used by developers to write code from specifications.

Documentable: will be used to write user manual and technical manual to help train new staff.

1.3. References

This is a complete list of all documents referenced elsewhere in this document.

1. Systems Analysis and Design in a Changing World , Satzinger, Burd, Jackson, 3rd edition.
2. The Object Oriented Approach Concepts, System Development and Modeling with UML, Satzinger, Orvik, 2nd edition.

1.4. Standards

This is a complete list of all standards used in this document.

1. IEEE 830-1993 – The content and qualities of a good Systems Requirements Specification (SRS) are described and several sample SRS outlines are presented. This recommended practice is aimed at specifying requirements of software to be developed but also can be applied to assist in the selection of in-house and commercial software products.

1.5. Definitions

This section contains a list of definitions for organizational specific words that are not universal.

Systems Requirements Specification

<client name>
<system name>

GUI – Graphical User Interface

WSID – Workstation Identification Number

DB - Database

2. Overall Description

This section of the SRS describes the general factors that affect the product and its requirements. This section does not state specific requirements. Instead, it provides a background for those requirements, which are defined in detail in section 3, and makes them easier to understand.

2.1. Project Abstract

Project Name: <system name>

Customer Departments: <users, developers, testers, trainers, etc>

Authors: <team name>, <team member names>

Date: <date>

2.1.1. Project Scope

[A brief description of the scope of this system; what other Project(s) it is associated with, and anything else that is affected or influenced by this document.]

2.1.2. Background

[A page or two that summarizes the current system and provide some motivation for a new system at this time. The main audience for this section would be designers and implementers who join the project later and are not familiar with the current system. If this is a new system, describe what business need this system will solve. Compare the proposed new system to other competing systems.]

2.1.3. System Purpose

[Specify:

- **Who** will use/benefit from the new system
- **Where** the system and its users are
- **What** is the scope of the new system
 - What the new system will be responsible for
 - What the new system will not be responsible for (drawn from responsibilities that might be conceivably within the scope of the system)
- **Why** there is a need for this system]

2.1.4. System Mission

[Describe the goal of the system in terms of its business purpose in two to four clear, concise sentences.]

2.1.5. System Functions / Responsibilities

[This section describes the functional objectives of the system, expressed in a natural language style and organized by priority. Functional objectives are typically expressed as a

positive statement of what the system will do. Justify each objective with its business purpose (IR AC IS) and make it measurable (money, time, resources).]

2.2. Functional Objectives

[<Priority> The system shall <function>, creating <IR AC IS benefit>. Evidence of success will be measured by <x> improvement in <measurable performance>]

<... repeat for all Functional Objectives ...>

2.3. System Constraints

System Constraints restrict options of design, behavior, appearance or operation. They become requirements due to factors outside the normal problem domain. System Constraints describe how the product operates inside various circumstances and limit the options designers have if building the product. This section specifies design constraints imposed by other standards, hardware limitations, communication interface limitations, etc. There are a number of attributes of software that can serve as requirements.

2.3.1. User Interface Constraints

User Interface Constraints consist of 2 parts: the logical characteristics of each interface between the software product and its users and all the aspects of customizing (preferences) the interface with the person who is using the system.

[This section should include all of those requirements that affect usability. Examples:

- Specify the required training time for a normal users and power users to become productive at particular operations.
- Specify measurable task times for typical tasks, or
- Base usability requirements of the new system on other systems that the users know and like.
- Specify requirements to conform to common usability standards – e.g., IBM's CUA standards, or the GUI standards published by Microsoft for Windows 95.]

For example,

- It will take a user x hours of training to be certified a normal user
- It will take a user y hours of training to be certified a power user
- It will take a user z hours of training to be certified an administrator.
- The system shall require a maximum of x seconds for loading and logging into the system.
- It will take the system administrator x hours to setup and install the system for the first time.
- The system's Graphical User Interface (GUI) should adhere to Industry standards so that the GUI will look the same on a variety of operating systems such as Windows XP and Linux.
- The system shall have a free flowing interface to keep the usability of it to simple and easy. Complex actions and or fancy artwork shall not be included to keep the system complexity minimized.

2.3.2. Hardware Constraints

Hardware Constraints include configuration characteristics, what devices are to be supported, how they are to be supported, and communication protocols, any applicable characteristics or limits on primary and secondary memory or memory storage, any hardware interfaces that are to be supported by the software, including logical structure, physical addresses, expected behavior, etc.]

2.3.3. Software Constraints

Software Constraints are assumptions that particular pieces of software will be available and are necessary to the functioning of the product. This section describes software interfaces to other components of the software system. These may be purchased components, components reused from another application, or components being developed for subsystems outside of the scope of this SRS, but with which this software application must interact.

For example,

- System must run on linux.
- Java must be installed on the operating system.

2.3.4. Communications Constraints

Below is a list of communication devices or protocols with which the product must interact.

For example,

- System must be able to communicate with printer.
- System must communicate through TCP/IP.

2.3.5. Data Management Constraints

This is a detailed description of constraints for data flow to data management software and equipment outside the scope of the project.

For example,

- System must export financial data to a financial data management program (gnucash)

2.3.6. Operational Constraints

Below is a list of restrictions on how the product will run when in its environment.

For example,

- The throughput of the system shall be kept to x seconds on average but to a maximum of y seconds if the system is under heavy load.
- The throughput of the system shall be y transactions per second.
- The system shall have an average of 10 current projects stored and up to a Maximum 50 projects.
- The system shall have an average of 50 workers currently logged in and up to a Maximum of 100 users logged in.
- The system shall use a maximum of x% of memory, y% of disk space and z% of company internet bandwidth.
- The system shall be available x% of the work day which is between 6am and 6pm.
- The system will have x hours of Mean Time Between Failures (MTBF).
- The system will have y hours of Mean Time To Repair (MTTR).
- Maximum Bugs or Defect Rate
- Minor Bugs (displaying incorrect information, other display glitches) these will be kept to a maximum of x bugs/KLOC.
- Critical Bugs (such as user having too much access, not having enough access) these will be kept to a maximum of y bugs/KLOC.

- Major Bugs (such as system crash, loss of data, failure to create output) these will be kept to a maximum of z bugs/KLOC.

2.3.7. Site Adaptation Constraints

This is a detailed description of data or initialization sequences specific to a given site.

2.3.8. Design Standards Compliance

There are a number of attributes of software that can serve as requirements. The following list specifies factors that must be established for the system to work. Existing standards and regulations impose the following constraints on the system.

For example,

- The system shall be designed using open sources languages and or freeware software.
 - The system interface shall be developed using the Java Programming Language version 1.5 to be able to run on multiple OS.
 - The system shall be developed using MySQL version 5.0 or higher to store data.
 - The system shall be developed using CLIPS version 6.24 to help build the expert system.
 - The system shall be designed be able to switch interfaces and or back end (databases).
 - Front End software should be designed for easy portability to Aspect J or AJAX software.
 - Back End software should be designed for easy portability to a higher capacity and faster database system.
- System Operational Parameters

2.4. Other Constraints

Below is a list of all other interfaces that impose design constraints.

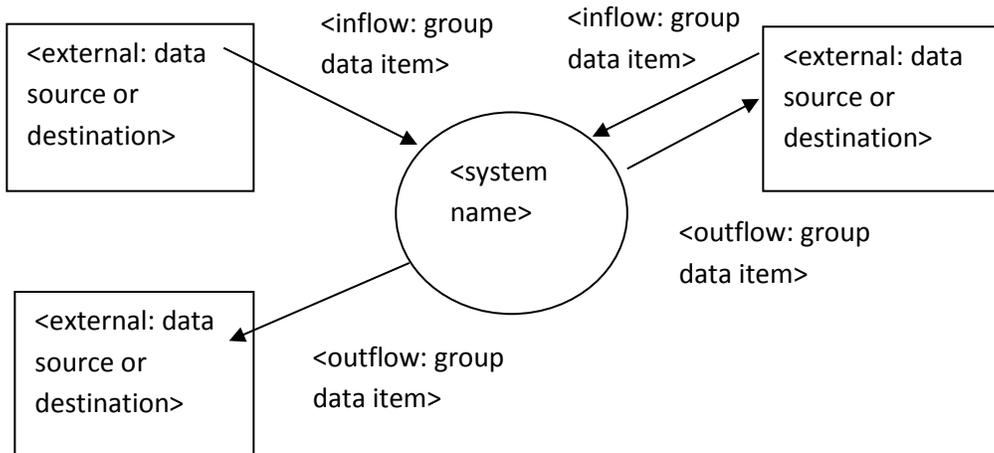
3. System Events and Data Flows

3.1. Event Table

Event	Trigger	Source	Activity	Response	Destination
[Occurrences at a specific time and place that trigger system processing]	[data inflow or time that system detects]	[ultimate creator of trigger. May be a person, department, or system. If event type is temporal, this is left blank.]	[system process that results from trigger]	[data that system produces. If only internal effects are made, then this is 'n/a']	[ultimate destination of data response.]

3.2. Context Diagram

Context diagrams use data flow diagramming (DFD) notation to illustrate the scope of a problem and the source, sinks of data and control that flows into and out of a system.



3.3. Product Functions - System Activities

This subsection of the SRS provides a summary of the major processes that the software will perform, which includes the system tasks and features from the Product Requirements document and Project Charter.

2.2.1 [Activity]

[Description]

<repeat for all activities>

3.4. User Characteristics

User Characteristics describe those general characteristics of the intended users of the product including educational level, experience, and technical expertise.

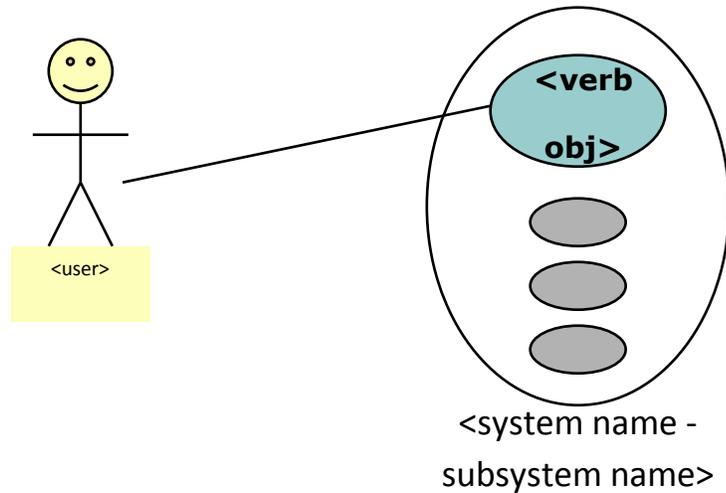
<system name> users consist of the following:

- Managers who wish to perform system administration functions as well as export company financial information.
- <repeat for all users and system externals>

4. Specific Requirements

This section of the SRS contains all the system requirements to a level of detail sufficient to enable designers to design a system that satisfies those requirements. Testers can use this section to test that the system satisfies those requirements and technical writers can create the necessary support documentation for operations and maintenance. Note: Use Cases are in priority order.

4.1. Use Case Diagram - organized by subsystem



4.2. Use Cases

Use Cases are requirements from the Client translated into unambiguous language. A Use Case may have multiple inputs or outputs as part of the same functional flow. A Use Case without any input or output is not valid. The detailed requirements of a Use Case tend to be extensive. For this reason, it is recommended that careful consideration be given to organizing the requirements in a manner optimal for understanding. Subcases are identical to use cases except where noted. This section provides descriptions of all the use cases devised for this system.

Each use case description provides the following information:

4.2.1. Use Case Scenario <#>

	<Use Case Name>
Purpose	A brief description of what the user is trying to accomplish.
Actor	A person or external system outside the scope of the system that triggers step one of the Detailed Description.
Input Data	A list of all external data needed for the use case to be performed.
Output Data	A list of all data produced by the use case execution.
Invariants	A condition which is maintained throughout the use case. This section is used to highlight assumptions made for the sake of the use case.
Pre-conditions	Conditions which must hold for the use case to be applicable. It is assumed that these conditions are true prior to the beginning of the use case, and will not be true when the use case completes.
Post-conditions	Conditions which are guaranteed to hold after completion of the use case.
Basic Flow:	A single, error-free path, which may contain subflows, calculations, logical structures, etc.
Alternative Flow(s):	All exception and error cases, including where/how they were triggered
Extension Points:	<<includes>> and <<extends>> cases and where they were referenced
Business Rules:	The rationale for this case, also explains exceptions and errors
Notes	Any other relevant information not included in the above sections.

4.2.2. Use Case <#> Prototype

[Complete set of simple discovery prototypes showing all user interaction for basic and alternate flows.]

4.2.3. Use Case <#> Object Interaction Diagram

[Sequence or Collaboration diagram showing all participating classes and messages that trigger response for basic and alternate flows.]

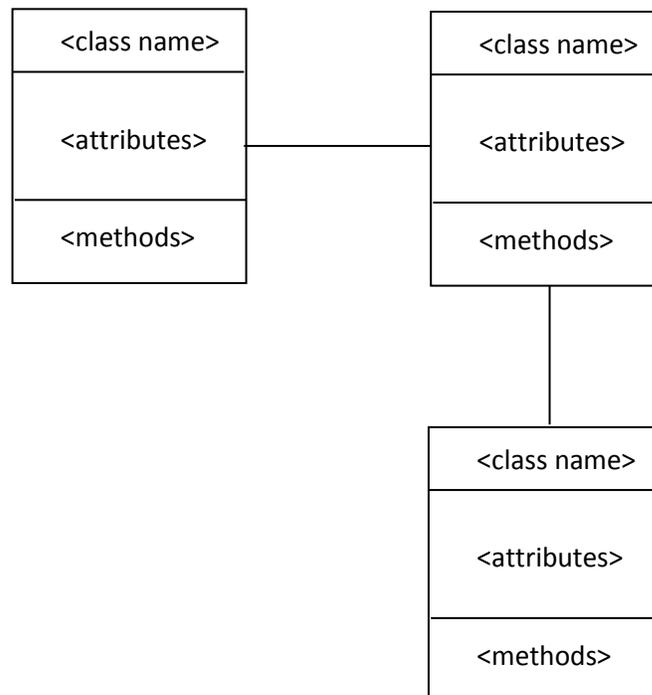
<... repeat for all Use Cases...>

5. Validated Object Model

The Validated Object Model is a visual representation of the idealized problem domain. The consistency between the Sequence Diagrams and the Object model validates the requirements.

5.1. Class Diagram

The Class diagram shows the structural scope-of control- entities and relationships in the problem domain of the Object Model.



5.2. Class Specifications

Class Specifications are the prose detail necessary to elaborate the definitions of each class attribute and algorithm of each class operation.

<repeat for each class>

Class	<class name>
Parent	<if any>
Description	<in prose>
Attributes	
<attribute name>	<description>
Methods	
<method name>	<description and any parameters>