Project Investment Justification

Version 01.01

A Statewide Standard Document for Information Technology Projects

Arizona Smoke Management Data System (AZ SMDS)

Agency Name:	***Arizona Department of Environmental Quality (ADEQ)***
Date:	**September 30, 2013**
Agency Contact Name:	**Buck Forst**
Agency Contact Phone:	
Agency Contact Email:	

Hover for Instructions

I. Management Summary*

There is currently no database in place to aid in the request/approval process, data storage, and emissions calculations for prescribed burns in Arizona. A variety of forms are used to conduct the Arizona Smoke Management Program and allow for a request and approval process for prescribed burns. These forms include Annual Registrations, Burn Plans, Daily Burn Requests, and Daily Burn Accomplishments. Due to the lack of a burn approval and database management system, the tracking, storing, and analyzing of prescribed burn data is a manual and labor intensive, process. The current system involves thousands of documents per year being submitted to ADEQ, predominantly via facsimile, many of which then must be manually entered into Excel spreadsheets in order for any electronic record to exist and for any data analysis to be done. Every prescribed burn conducted in Arizona must be registered, have a plan on file, have a request submitted by 2pm on the business day prior to burning, and have an accomplishment form submitted by 2pm on the business day following the burn.

II. Project Investment Justification (PIJ) Type*

☐ **Yes** ☒ **No** Is this document being provided for a Pre-PIJ / Assessment phase?

If Yes,

Identify any cost to be incurred during the Assessment phase.	$
Based on research done to date, provide a high-level estimate or range of development costs anticipated for the full PIJ.	$

Explain:
Click here to enter text.

☐ **Yes** ☒ **No** Will a Request for Proposal (RFP) be issued as part of the Pre-PIJ or PIJ?

III. Business Case

*A. Business Problem**

No electronic record is currently kept of Burn Plan Forms. Daily Burn Requests are manually entered onto a Word form so that approvals can be posted online for the purpose of informing the burn requesters whether then have approval and for general public knowledge. There is no mapping mechanism for daily approvals, and no online record exists for the public or for burners to recall past burn approvals. Typically anywhere from 700 to 2,000 requests may be submitted during any given year, meaning an equal number of accomplishments must also be submitted. Each of those burns must have a plan on file, meaning dozens of new Burn Plan Forms may be submitted each year with hundreds remaining active at any given time. Each burning agency must also submit at the beginning of the year an Annual Registration for the burn plans that they expect to be actively burning on in the coming year. Because of the detailed nature of all this data, and because of the fact that it would require time intensive manual entry, many documents have no electronic record kept at all. Condensed data taken from the Burn Request and Burn Accomplishment Forms must be manually entered over a number or weeks at the end of every year into Excel spreadsheets in order to do emissions calculations. This process is time consuming and allows for only minimal QA/QC to occur and limited data analysis capabilities.

*B. Proposed Business Solution**

Purchase and Further Develop Already Available Software Specific to Smoke Management Data

Up until very recently, there were no commercially available databases for smoke management data. Smoke management database development has advanced in recent years, and a review of currently in-use databases resulted in the discovery of the Airshed Management System being used by the Montana/Idaho Airshed Group for the purpose of prescribed burn approval and smoke management data storage. The Arizona Smoke Management Program is looking to improve upon their communication, data handling, and data storage in a way that will streamline their permit approval process while allowing for more accurate and advanced data and emissions reporting. With some minimal further development and minor changes to make it better fit the current Arizona prescribed burn approval process, the Montana/Idaho Airshed Management System would serve to answer many of the needs of the Arizona Smoke Management Program, especially those related to the storing and processing of smoke management data.

Efficiency in the Day-to-Day Burn Request/Approval Process, Data Handling, QA, and Reporting

The ADEQ Smoke Management Program was developed to depend upon communications via facsimile. This system of communications is outdated, and requires the storage of thousands of hard copy smoke management documents. Currently, for any data processing, data QA, or data reporting to occur, data must be manually entered into programs such as Microsoft Word or Excel. Due to time and labor constraints, much of the smoke management data that are currently gathered in Arizona gets no electronic record, or are stored in Word or Excel Documents which are limited in their effectiveness as data storage and processing tools.

*C. Quantified Benefits**

x	Service enhancement
	Increased revenue
	Cost reduction
x	Problem avoidance
x	Risk avoidance

Explain:

The proposed solution is to use a contractor that has previously build a similar system for Montana and Northern Idaho Airshed Management System and have that system adapted to ADEQ's Smoke Management Program requirements. This database has been in use for 2 years. It has a proven track record and meets many of the same regulatory requirements as Arizona's. This project will be funded either by grant already awarded to State Forestry for use by ADEQ to develop a prescribed burn smoke management database, or if problems arise in securing or transferring and using those funds, through the Air Quality Fee Fund or other ADEQ funding. The project risk score is 11. The project offers a solution to many of the current

challenges to an out-dated, manual system of hard copy reports and records and communications by facsimile. This system offers the advantages of using a tried-and-true system already developed, supported, but to modify it for ADEQ's operations.

IV. Technology Approach

*A. Proposed Technology Solution**

Air Sciences Inc. www.airsci.com/ developed an on-line data base system for Montana and Northern Idaho to manage their prescribed burns, called the Airshed Management System (AMS) http://www.smokemu.org/ This system has many of the same requirements that ADEQ's system would need. This system would greatly improve our ability to manage prescribed burns by allowing for online form submittal, electronic form and data storage, an electronic online request/approval process, and mapping of prescribed burn request, approval, and accomplishment data. Air Sciences has been contacted and could provide a system to meet ADEQ's needs using the base that they have already developed for Montana and Northern Idaho.

B. Technology Environment

Develop a SQL [MySQL] database for ADEQ's existing and future burn permit data and migrate all existing data to the SQL database

- Develop a relational database to store registrations, permits, burn requests and completions, and AP-42 style emissions calculations. Support data fields such as users, PLSS sections, vegetation types, and counties to also be stored.
- Host the database on a website, maintained by a hosting service that would have a direct link from the ADEQ website.

Develop a secure Web-based interface for burners and administrators to enter and manage burn permits and requests-to-burn, and to run reports;

- This task is to include a public website with contact, FAQ, and About pages related to the ADEQ Burn Program.
- Ensure the web-based interface is password-protected, the system was not encrypted, and passwords were not encrypted in the database.
- Ensured compatibility with many web browsers, including older browsers required by federal agencies.
- Data entry/management pages should include QA/QC checks to prevent erroneous entries.
- A simple look-up tool should be included to convert PLSS centroids to Latitude/Longitude.
- Several user types should be developed that limited or expanded access to permit data, reporting tools, and site notification pages. For example:
    - a "meteorology" user would have limited access to pages to manage weather forecasts for posting on the home page.
    - An "ADEQ Rep" users would have expanded access to permitting information for groups of users all belonging to the same forest district or administrative unit.

Develop a Google Map to display proposed, approved, and completed burns by date, and filter and display accompanying meta-data as a replacement for Client's existing map tool used with ArcMap;

- This task includes not only views of various burns but also perform the burn authorization process in a map-based environment.
- The map interface should be developed using Google Maps API v3.

Oversee and perform, as applicable, any additional tasks requested by Client.

C. Selection Process

- E-Permitting – In 2005 a PIJ was written and provided to ITS. The PIJ was signed off in 2005 and a RFP for an e-permitting system went out in 2007. The winning proposal was from EnfoTech for $59,310. This program did not move forward
- Arizona State University – A web-based system for the US Forest Service was contracted to be built by Arizona Statue University in 2007. The system was to develop a database and a forms management system and to have a server communicate with the ASU modeling center cluster. In 2008, ADEQ funded a second task to work with the data management system and provide additional imaging and reporting capabilities. This project was cancelled under fiscal budget cuts and no product was delivered.
- Internal Development – Options for internal development of this database have been explored. Unlike a permitting database that is used by multiple divisions, this data is unique to Air Quality and further limited to a single program. Thus, as division wide IT projects get prioritized this program is often at the bottom of the list

V. Project Approach

*A. Project Schedule**

Project Start Date: 3/1/2013 **Project End Date**: 9/1/2014

B. Project Milestones

Major Milestones	Start Date	Finish Date
Phase 1 - Evaluation	Mar 2013	Sept 2013
Phase 2 – Development of Statement of Work, Procurement of Services	July 2013	Oct 2013
Phase 3 – Development of the Database	Oct 2013	March 2014
Phase 4 – Testing, Implementation & Training	April 2014	Aug 2014
Phase 5 - Production	March 2014	Sept 2014

VI. Roles and Responsibilities

A. Project Roles and Responsibilities

Name	***Titles***	***Project Role/Responsibility***
Theresa Rigney	Air Assessment Section Manager	Project Sponsor

Brad Busby	Evaluation Unit Manager	Technical Project Manager
Currently Vacant	ADEQ Smoke Management Coordinator	Technical Expert
Ron Sherron	US Forest Service/ADEQ Liaison	Technical Expert, Representative of the F/SLM
Buck Forst	IT Project Manager	IT Sponsor, Project Manager
Daniel Pinkstaff	Procurement Manager	Procurement Staff

B. Project Manager Certification

- [ ] Project Management Professional (PMP) Certified
- [x] State of Arizona Certified
- [ ] Project Management Certification not required

C. Full-Time Employee (FTE) Project Hours

Total Full-Time Employee Hours	560
Total Full-Time Employee Cost	$14,157

VII. Risk Matrix, Areas of Impact, Itemized List, PIJ Financials

VIII. Project Approvals

A. *Agency CIO Review**

Key Management Information	Yes	No
1. Is this project for a mission-critical application system?	x	
2. Is this project referenced in your agency's Strategic IT Plan?		x
3. Is this project in compliance with all agency and State standards and policies for network, security, platform, software/application, and/or data/information as defined in http://aset.azdoa.gov/security/policies-standards-and-procedures, and applicable to this project? If **NO**, explain in detail in the "XI. Additional Information" section below.	x	
4. Will this project transmit, store, or process sensitive, confidential or Personally Identifiable Information (PII) data? If **YES,** in the "XI. Additional Information" section below, describe what security controls are being put in place to protect the data.	x	
5. Is this project in compliance with the Arizona Revised Statutes (A.R.S.) and GRRC rules?	x	
6. Is this project in compliance with the statewide policy regarding the Accessibility to Equipment and Information Technology for Citizens with Disabilities?	x	

B. *Project Values**

The following table should be populated with summary information from other sections of the PIJ.

Description	Section	Number or Cost
Assessment Cost (if applicable for Pre-PIJ)	II. PIJ Type - Pre-PIJ Assessment Cost	**$**
Total Development Cost	VII. PIJ Financials tab	**$50,537**
Total Project Cost	VII. PIJ Financials tab	**$59,537**
FTE Hours	VI. Roles and Responsibilities	**560**

C. *Agency Approvals**

Contact	Printed Name	Signature	Email and Phone
Project Manager:	Buck Forst		
Agency CIO:	Gary A. Heller		

IX. Optional Attachments

A. *Vendor Quotes*

X. Glossary

XI. Additional Information

Links:

ADOA-ASET Website

ADOA-ASET Project Investment Justification Information Templates and Contacts

Email Addresses:

Strategic Oversight

ADOA-ASET_Webmaster@azdoa.gov