

April 26, 2021

Binh Qiu IT Procurement Officer 1516 Ninth Street, MS-7 Sacramento, CA 95814

Stanfield Systems, Incorporated is pleased to submit the attached proposal in response to the California Energy Commission's Request for Offer (RFO 20-409.00-008) for Software Support and Maintenance, Dynamic Simulation Transportation Energy Model (DynaSim). Company name, address, and phone number, and the email and phone number of the authorizing individual are included in the signature block below.

Stanfield Systems is a California certified Disabled Veteran Business Enterprise (DVBE) and Small Business (Certification Number 23905).

Stanfield Systems has included our full CMAS contract (3-18-70-1074G).

Stanfield Systems plans to perform 100% of the work for this project. All proposed staff described in the included proposal are scheduled to be available to this project on the dates described in the RFP and our response.

If you have any questions regarding our proposal or if you require any additional information, please feel free to contact me at any time. We thank you for your time and consideration and we look forward to working with the California Energy Commission on this very important project.

Sincerely,

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Response to

CALIFORNIA ENERGY COMMISSION

REQUEST FOR OFFER #20-409.00-008

SOFTWARE SUPPORT AND MAINTENANCE

DYNAMIC SIMULATION TRANSPORTATION ENERGY MODEL (DYNASIM)

April 26, 2021

Submitted by:

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1 Introduction

Stanfield Systems has been meeting the information technology needs of State and Federal government, commercial, and non-profit organizations in California and across the United States since January 2000. We are owned and managed by an experienced and knowledgeable team of Air Force Veterans each with a wide range of skills and accomplishments covering a large variety of information systems technologies and all phases of the system development life cycle.

Our core competencies are software development, comprehensive information technology project solutions, and providing technical resources in support of projects. We develop software solutions that are tailored to customer culture and requirements. By innovatively applying industry standard processes and technologies, we enable our solutions to evolve along with customer needs and a rapidly changing information technology field.

Stanfield Systems' philosophy on all projects is to work closely with our customers, when things are going smoothly or when problems are encountered, to ensure the true value of the overall project is recognized. We are rigorous in our attempts to meet project milestones and budgets, but we will not sacrifice quality simply to meet a schedule. We do this by projecting realistic schedules and cost estimates and by maintaining open and honest communication with our customers.

Stanfield Systems' mission to be a premier provider of technical services is guided by our corporate values. Above all, we always demand and practice honesty, integrity, and ethics in our business dealings. A culture of trust is beneficial to both our customers and us and makes it much easier to get the job done as a team of people working together to execute a successful project. We deliver real value to our clients by providing top quality technical services and solutions at reasonable rates.

Stanfield Systems has already successfully navigated the challenges of this flexible, highpowered system, making their team uniquely qualified for providing updates and extended maintenance.

- We have firsthand experience interacting with DynaSim analysts and understand their roles and responsibilities. We have internalized their expectations and requirements for transportation modeling.
- We understand the strengths and limitations of existing DynaSim models, allowing us to suggest paths forward that maximize Commission return on investment in their modeling system.
- We are intimately familiar with the challenge of implementing software models in a fashion that accounts for the Commission's hardware-imposed memory, processing, and precision constraints.
- We know DynaSim design history, including tradeoffs between precision, speed, and space requirements. We know where and how these decisions are implemented in DynaSim, and we can quickly leverage this knowledge to optimize DynaSim for different operating environments.
- We are familiar with Energy Commission administrative processes and we have successfully worked with these processes during the development and pilot phases of the DynaSim project.

2 Response Overview

The cover letter and table of contents precede this response. All other response requirements, except for the CMAS contract are included in this response in order. The CMAS contract is submitted as a separate file due to its size.

3 Response to Requirements

Stanfield Systems' approach for DynaSim support and maintenance utilizes processes that Stanfield Systems put in place for support of DynaSim current support and maintenance project. Where appropriate, these processes have been updated to reflect specific requirements for the support and maintenance project. Our approach includes processes and activities for

- transition,
- project reporting,
- general maintenance and support, and
- enhancements and modifications

3.1 Transition

Stanfield Systems is currently providing support to the DynaSim system, so we expect transition activities to be minimal. The processes we propose here reflect the processes that are currently being used to provide support. Once the new support and maintenance project begins, we will coordinate with the Energy Commission to review these processes and identify areas where additional details or changes are required.

We will analyze any existing support requests, change requests, or defect reports and establish a baseline for tracking and reporting status. We will make updates to the online tracking system as necessary to grant appropriate access or establish tracking defaults and reports for the support and maintenance project.

3.2 **Project Reporting**

Each month during the project, the Stanfield Systems project director will prepare a written status report and meet with Energy Commission staff to report and discuss project status. Status reports will include the following items:

- Helpdesk Contact Report Each month Stanfield Systems will provide a summary of support requests, defects, or other issues which were reported during the previous month. This summary will include a short description of the request and the current status. For requests that were resolved during the month, the report will include a short summary of the resolution. For requests that remain open, the report will summarize current and projected activity and provide an updated estimate for projected completion.
- Software Repair Summary Each month Stanfield Systems will provide a summary of software defects open at any time during the past month. This summary will include a short description of the defect and the current status. For defects that were resolved during the month, the report will include a short summary of the resolution. For defects that remain open, the report will summarize current and projected activity and provide an updated estimate for projected completion. Stanfield Systems will maintain an updated status of all defects in their online tracking system.
- Software Update Summary Each month Stanfield Systems will provide a summary of all change requests that were open or active at any time during the past month. For preliminary action items such as preparing an estimate or quote, Stanfield Systems will report the status and projected completion. For approved change requests, Stanfield Systems will provide the status, a summary of work completed during the past month, any issues encountered, and any updates to previously planned activities, costs, or schedules.
- Budget report Stanfield Systems will summarize the project budget to include amount expended during the past month, amount expended to date, and amount remaining. The report will include the overall budget, the Maintenance and Support budget, and the

Enhancement and Modification budget. A detailed budget report will also be provided for each approved change request that is in progress.

3.3 General Maintenance and Help Desk Support

Stanfield Systems provides Help Desk (Technical) Support to assist the Energy Commission in using, understanding, operating, and configuring the DynaSim application and infrastructure. Stanfield Systems also provides Maintenance Support to correct identified defects in the DynaSim Application.

3.3.1 Help Desk Support

DynaSim users request Help Desk (Technical) Support with an email or phone call to the Stanfield Systems support staff. Typically, Energy Commission requests are routed through one of the DynaSim Administrators at the Energy Commission. Within two hours of receiving a support request, Stanfield Systems support staff will acknowledge receipt with an email or phone response. Stanfield Systems prefers email in order to leave a document trail; however, if the request is received by phone, Stanfield Systems will attempt to respond by phone in addition to following up with an email. In acknowledging the support request, Stanfield Systems support staff will attempt to immediately resolve the request; however, if this is not possible, Stanfield Systems will describe a plan of action and provide an estimate for following up with the initiator of the request. Upon completion of a support request, Stanfield Systems will send an email summarizing the resolution.

Stanfield Systems will enter all technical support requests into their online tracking system to facilitate tracking and reporting. Upon completion of a support request, Stanfield Systems will send an email summarizing the resolution. Stanfield Systems will also document resolution of all support requests in the online tracking system and report the status of support requests at scheduled status meetings.

3.3.2 Defect Management

If a support call reveals a defect in the DynaSim application, Stanfield Systems will manage the defect through their defect management system. A defect is defined as a problem with the DynaSim application in which the application does not work as designed or does not yield correct results. Stanfield Systems uses an online defect tracking system to track all defects, describe corrective action, and track defects to resolution. Stanfield Systems' defect management process is depicted in Figure 1 and described here.



Figure 1. Defect Management Process

3.3.2.1 Report Defect

When an issue with DynaSim is discovered, the DynaSim User reports the issue to the DynaSim Administrator according to Energy Commission procedures. The DynaSim Administrator works with the user and/or the Energy Commission IT Staff to analyze the cause of the issue. The DynaSim Administrator may also initiate a support request with Stanfield Systems to assist in analyzing the issue. If the Energy Commission determines that the issue

results from a defect in the DynaSim application, then the DynaSim Administrator or the Stanfield Systems support staff records the defect in the online tracking system. If the issue has already been entered in the tracking system as a support request, then the issue will be updated to indicate that it is considered a defect. The record of the defect should include:

- A description of the problem
- All error messages
- An example of any incorrect results as well as the expected results
- Steps necessary to duplicate the problem

3.3.2.2 Validate Defect

Once a defect has been reported, the Stanfield Systems support staff validates that the problem is truly a defect in the application and that the defect is not a duplicate of other defects recorded in the online tracking system. In validating the defect, the Stanfield Systems support staff will try to duplicate the problem. If insufficient information is provided to duplicate the problem, Stanfield Systems will contact the DynaSim Administrator for additional information. If the defect is determined to be invalid, it will be closed in coordination with the DynaSim Administrator.

3.3.2.3 Classify Defect

Stanfield Systems classifies all defects based on the severity of the problem (i.e. the degree to which it impacts system functionality) and the priority or urgency for correcting the problem. Stanfield Systems applies the following severity classification scheme.

- Critical (Severity 1) Significant problem with a key system component such as the database, user interface, or model controller that makes the entire system unavailable or unusable.
- Major (Severity 1) Significant problem with a key system component such as the database, user interface, or model controller that affects the entire system. A defect is classified as Major if either of the following criteria applies.
 - DynaSim Analysts are unable to accurately and reliably prepare, run, or analyze model scenarios. This includes accurately and reliably processing model inputs and analyzing model results.
 - DynaSim Administrators are unable to accurately and reliably perform administrative functions necessary for analysts to prepare, run, or analyze model scenarios
- Normal (Severity 1 or 2) Problem with a system component such as a single model, user interface capability, or report that has only a localized effect. If the user requires resolution of the problem in order to accomplish time critical tasks, then a "Normal" defect will be considered as "Severity 1". This will be recorded in the tracking system by marking the defect as "Urgent" priority (see priority classification scheme that follows). Otherwise a "Normal" defect will be considered as "Severided as "Severity 2".
- Minor (Severity 2) Problem in which results are incorrect, but the incorrect results do not adversely impact the preparation, running, and analysis of model scenarios.
- Trivial (Severity 2) Misspelled word, minor graphical rendering error, or other nonfunctional defect. These types of defects or problems include "cosmetic" problems such as fonts, layout, formatting on reports, and formatting on system displays that do not adversely affect the data or calculations being displayed or reported.

Stanfield Systems applies the following priority classification scheme.

- Urgent (Severity 1) Requires correction before proceeding with other tasks.
- Normal (Severity 2) Requires correction before current version or release can be approved.
- Low (Severity 2) Scheduled for correction as dictated by other project priorities. In general, only defects classified as "Minor" or "Trivial" priority will be assigned a "Low" priority.

3.3.2.4 Schedule and Assign Defect

Once a defect has been validated and prioritized, Stanfield Systems estimates the effort and resources needed to resolve the defect. Based on the effort and priority, Stanfield Systems then schedules resolution of the defect and coordinates this schedule with the DynaSim Administrator. Severity 1 defects will be resolved and deployed to the Energy Commission servers as quickly as possible. Severity 2 defects will be scheduled for resolution and deployment to the Energy Commission servers so as to minimize inconvenience on DynaSim users. Stanfield Systems recommends a regular release schedule (e.g. once a quarter), but will coordinate an acceptable schedule with the Energy Commission. Where possible and agreed to by all parties, Stanfield Systems will schedule deployment of multiple defect resolutions and changes requests at one time.

3.3.2.5 Resolve Defect

Assigned Stanfield Systems development staff will coordinate with DynaSim users as necessary to clearly understand the defect. Development staff will then implement the necessary design or code changes to resolve the defect. Upon resolution, development staff will test the change in the development environment. Development testing involves unit testing to verify that the defect is resolved correctly and regression testing to verify that the change did not adversely affect related parts of the DynaSim application.

3.3.2.6 Verify Defect

Once an individual developer has verified that the fix resolves the defect, changes are integrated onto the development server. At this point, a different developer verifies that the change works correctly and runs regression tests on the test server to verify that other parts of the DynaSim application were not adversely impacted.

At this point, the fix is ready for deployment to the Energy Commission server and will be deployed according to the previously agreed upon schedule. Changes will be deployed as described in the release management procedures in Section X of this document. Once deployed on the Energy Commission server, a DynaSim user is responsible for verifying that the defect has been resolved. Once verified, the defect is closed.

3.4 Enhancements and Modifications

Stanfield Systems provides enhancement and modification support to add or improve DynaSim functionality. This includes enhancements or modifications to the DynaSim models, user interface, or reports in addition to recommendations for upgrading hardware infrastructure. All requests for enhancements or modifications must be approved by the Energy Commission's Configuration Control Board in accordance with Energy Commission Change and Issue Management procedures.

For enhancements and modifications, Stanfield Systems applies their feature-driven development process in which each new enhancement is considered a new feature in the DynaSim application. Where possible, we group several related features into a feature set that is deployed as a new version of DynaSim. For each feature set, we work closely with users to analyze and understand detailed requirements, and we implement these requirements as features in the relevant components. We perform peer reviews and regression testing for each

feature set before releasing to the user for acceptance testing. For enhancements and modifications, our feature driven process involves the following activities.

3.4.1 Requirements Development and Management

Requirements for each enhancement or modification are identified in a change request that is approved in accordance with the Energy Commission's change and issue management process. Upon request for pricing, Stanfield Systems provides a high-level cost estimate identifying the high level requirements and a rough estimate of cost and schedule. Stanfield Systems will provide the high-level cost estimate within 2 working days for Urgent Change Requests and within 10 working days for Non-Urgent Change Requests.

Once the Energy Commission reviews the high-level cost estimate and decides to move forward with the request, Stanfield Systems works with Energy Commission staff to better understand and refine requirements. Stanfield Systems documents the detailed requirements in a statement of work.

Stanfield Systems incorporates the statement of work into a formal quote along with a detailed cost estimate and a schedule containing tasks and milestones associated with detailed design, implementation, testing, and documentation. For Urgent Requests, Stanfield Systems will prepare a quote within 3 working days of receiving notice to move forward. For Non-Urgent Requests, Stanfield Systems will prepare a quote within 10 working days of receiving notice to move forward.

Stanfield Systems proceeds with implementing the enhancement after the Energy Commission authorizes the work by approving the formal quote. All changes are verified against the requirements documented in the formal quote.

3.4.2 Plan by Feature Set

In general, the formal quote defines the feature set for Stanfield Systems' feature driven development process. The formal quote incorporates the plan for implementation of the feature set. In some cases; however, more than one change request may be combined to form a feature set. In such cases, Stanfield Systems develops an integrated plan for all change requests that make up the feature set.

3.4.3 Design by Feature Set

A design package for each feature set is created and added to the Software Design Document. Details of component classes, methods, and variables are described in pseudo code embedded as comments in the actual software. Model algorithm design is described with mathematical equations and parameters. Stanfield Systems creates templates and storyboards to document user interface and report design. These templates are also included in the Software Design Document. Upon completion of the component design packages, developers conduct peer reviews to verify that the design conforms to accepted design practices and properly implements associated requirements.

The Energy Commission reviews software design packages to verify that the design meets specified requirements. Once the Energy Commission has reviewed and approved a design package, any modifications to the approved design require renegotiation and additional review and approval (handled in a manner similar to a new change request). This will likely include an updated quote for implementing the design modification.

3.4.4 Build by Feature Set

Software developers implement the approved design for the feature set. Features are allocated to software components for which the following development activities occur.

- The developer implements the approved design for the feature or component. Developers use the Visual Studio integrated development environment (IDE) to implement C# and .NET components.
- The developer invokes automated code-checking processes to ensure developed code conforms to approved conventions and standards. These standards are maintained in the integrated development environment and shared by all developers.
- The developer coordinates with another developer to review the code for adherence to the approved design and appropriate in-line documentation (comments).
- The developer creates and executes unit test cases for the feature or component. Test cases are documented as automated scripts in the development environment or as separately developed documents. Unit testing applies black box techniques to verify functionality and white box techniques to verify code coverage and error handling. Unit tests are automated to the extent possible using unit testing tools provided by the development environment.
- Upon successful completion of code inspections and unit testing the feature set is integrated into the development baseline using the version control system.

3.4.5 Test by Feature Set

An independent developer conducts integration/system testing for the feature set. Integration testing reruns parts of the unit tests along with overall system tests to ensure that the new features work properly in conjunction with the remainder of the system. Regression testing is also performed to ensure all previous functionality continues to work after integration of the new features.

Upon successful completion of integration and regression testing, Stanfield Systems deploys the feature set to the Energy Commission server for User Acceptance Testing. To release the changes, Stanfield Systems follows the process described for Release Management in Section 3.5.

3.4.6 Hardware infrastructure guidance

Upon approved request by the Energy Commission, Stanfield Systems will conduct performance testing and provide guidance on appropriate hardware infrastructure for upgrading the DynaSim system. This infrastructure guidance will also include system configuration and optimization recommendations.

3.5 Release Management

Stanfield Systems' feature-driven development process incorporates multiple related software features and defect fixes into software releases. Stanfield Systems closely manages these releases to ensure that no existing capability is unintentionally impacted and all new changes work as expected. This release management process involves version control, integration and regression testing, and quality reviews. Stanfield Systems applies widely used industry tools for version control, automated testing, and defect tracking to reduce the chance of human error in updating large software releases.

DynaSim releases include delivery of compiled DynaSim executable code, uncompiled DynaSim source code, and database schema and code. While DynaSim as a system is written in a multiple programming languages, including ASP.NET (C#), SQL, and Matlab, the system will be released as one entity.

3.5.1 Release Process

Stanfield Systems' configuration management staff (in this case a senior developer on the team) follows a well-defined process to release code into a test or production environment. Stanfield

Systems' release process involves the following activities to move from development to the Energy Commission server.

The first step is to deploy the code to the Stanfield Systems system test server. This involves the following activities.

- In preparation for release, all verified code changes for the release are packaged into a baseline in the version control system (Visual Studio Team System). This is typically created as a branch in the version control system.
- Using Visual Studio, code changes are published directly to the Stanfield Systems test server. The configuration management staff verifies that the changes are deployed correctly.
- Using Visual Studio, Stanfield Systems compares database schema and creates a script to deploy schema changes to the Stanfield Systems test server. Schema changes include database tables and stored procedures
- If any data changes are required, then the developers create SQL scripts. When ready for release, these are combined and organized into a single script for deployment to the server.
- Prior to deploying database changes, Stanfield Systems takes a full backup of the existing database.
- Once all database scripts are ready, each script is executed on the Stanfield Systems test server. The configuration management staff verifies that the changes are deployed correctly.
- Once the database changes are verified, Stanfield Systems creates a new backup with the new baseline.

Once the initial deployment is verified, Stanfield Systems deploys all changes to a staging environment on Stanfield Systems servers. This involves the following activities.

- All files on the system test server are packaged into a release library file (e.g. compressed .zip file).
- Previously released changes on the staging environment server are backed up into an archive file. This archive file is available to rapidly restore to the previous working version in the event the new release does not work.
- After verifying that a backup archive file has been created, the new changes are copied to the server from the release library file.
- Stanfield Systems creates a backup of the existing staging database. This backup is available to rapidly restore to the previous working version in the event the new release does not work.
- Each of the database scripts is executed in the staging environment.
- Once all changes are deployed, the configuration management staff verifies that the code is installed correctly.

After verifying that changes have been properly deployed to the staging environment, Stanfield Systems is ready to release the changes to the Energy Commission. This involves the following activities that are completed in coordination with the Energy Commission Information Technology staff.

• The previous release of DynaSim is backed up into an archive file. This archive file is available to rapidly restore to the previous working version in the event the new release does not work.

- After verifying that a backup archive file has been created, the new changes are copied to the Energy Commission server from the release library file.
- The existing DynaSim database is backed up. This backup is available to rapidly restore to the previous working version in the event the new release does not work.
- Each of the database scripts is executed on the Energy Commission database.
- Configuration management staff verify that the changes are deployed correctly.
- Stanfield Systems assists DynaSim Administrators and Analysts in performing user acceptance testing on the new release. If testing is not successful, the DynaSim Administrators can choose to restore to the previous version.

3.5.2 Release Environments

Stanfield Systems maintains three working versions of implemented software – Development, Test/Integration, and Staging. These versions are maintained in separate environments to ensure that development, testing, and deployment activities do not interfere with each other. Stanfield Systems' release environments are described in this section.

The Energy Commission also maintains two environments – one for user acceptance testing and one for production. These environments are maintained by Energy Commission ITSB staff.

3.5.2.1 Development

Each developer maintains their own development version of the code. Developers check out code into their development environment from the Test/Integration Environment. Developer modified versions of code are maintained on the developer's computer.

3.5.2.2 Test/Integration

Stanfield Systems maintains an integrated version of all application software on the Test/Integration server. Configuration management staff deploys compiled code to the Test/Integration server after it has been verified in the development environment.

3.5.3 Release Documentation

For each release, Stanfield Systems will make necessary changes to the Software Design Document and the Online Help (User Manual). Upon delivery of a release, Stanfield Systems will also deliver software release notes that summarize new features, changes, and bug fixes included in the release.

3.6 Tools

Stanfield Systems has a comprehensive development environment in place for maintaining the DynaSim system. This includes several automated tools that were used during the development of DynaSim.

3.6.1 Development

Stanfield Systems uses Microsoft Visual Studio Professional for .NET development.

3.6.2 Version Control

Stanfield Systems uses Microsoft Visual Studio Team System for version control of all development, test, and production code. Stanfield Systems will use this version control system for the entirety of the project.

For portability to the Energy Commission's version control system at the end of a release, Stanfield Systems will build a file archive that includes all of the source code files. Stanfield Systems will then deliver that archive to the Energy Commission and their IT staff can import it into the Energy Commission version control system.

3.6.3 Automated Build

Developers use Visual Studio build utilities in the development environment. Standardized project configurations are managed by the version control system so that all developers are using the build process in the same way.

3.6.4 Testing

Stanfield Systems uses Visual Studio Team System (Test Edition) to automate user interface and performance tests. For model tests, Stanfield Systems uses a test harness within the DynaSim system. Other tests are manually performed against documented test scripts or defect descriptions.

3.6.5 Defect Tracking

Stanfield Systems uses Jira by Atlassian for defect and issue tracking. Jira is a cloud-hosted project management and bug/issue tracking system.

3.7 Team Qualifications (Similar Tasks and Technology)

As the developer of the DynaSim system, Stanfield Systems is uniquely qualified to support and maintain DynaSim. We are highly knowledgeable in all aspects of the DynaSim system design, implementation, and installation and are comfortable with the Energy Commission requirements and processes. Upon initiation of the support and maintenance project, our team can immediately begin work responding to support requests and analyzing potential enhancements.

Stanfield Systems has a long history of application development and maintenance, model development and maintenance, and technical support as evidenced by our project references in Section 5. Stanfield Systems has been actively involved in DynaSim development and maintenance as well as the other projects provided as references.

Our strongest and most relevant project reference is the DynaSim development project. This project covers all required qualifications.

- Our team re-engineered and enhanced Energy Commission energy and transportation models for integration into DynaSim
- We re-engineered and enhanced models and provided reports for evaluating policy alternatives with respect to transportation energy consumption and emissions.
- Using ASP.NET (C#), SQL Server, and Matlab, we designed and implemented a complex software framework for integrating several models with a common interface and data repository.
- We established and managed DynaSim support processes over 11 years of development and maintenance.

Other offeror references confirm our long-term success at software development, model implementation, and technical support.

4 Staff Resumes

4.1 Tim Jacobs – Project Director

Overview:

Stanfield Systems' corporate leader for exploiting technology to deliver valued solutions to government and commercial customers. Researches and develops innovative information visualization solutions for managing and understanding complex information domains and provides senior software engineering and architectural support for diverse information management problems.

Over 25 years of diverse software engineering experience in software development and maintenance, software architecture, configuration management, process improvement, project management, graduate education and research, and technical management. Includes five years conducting research in distributed software architectures and information visualization while teaching graduate courses in software engineering, information visualization, and computer graphics.

Education:

Ph.D. in Computer Science, University of Utah

M.S. in Computer Systems, Air Force Institute of Technology

M.S. in Business Administration, Boston University

B.S. in Computer Science, Air Force Academy

Experience:

Stanfield Systems, Incorporated, Folsom, CA Chief Technology Officer

Sep 2003 - Present

- Lead architect and system integrator for the California Energy Commission's Dynamic Simulation Transportation Energy Model (DynaSim) which is used to predict energy usage and guide public policy in the State of California. This project reengineers multiple legacy modeling applications as a single Web-application using a service-oriented architecture with an integrated Web-based user interface. (ASP.NET, C#, SQL Server, Visual Studio Team System)
- Technical director and lead engineer for the Air Force Combat Ammunition System (CAS). CAS is the authoritative system for Air Force combat ammunition. CAS provides an integrated webbased solution for munitions management, inventory, accountability, and fiscal control. CAS is engineered as a multi-tier service-oriented architecture. Dr. Jacobs directs all software life-cycle activities using a Disciplined Agile Delivery process with bi-monthly iterations. (Eclipse, Java, Spring, Shiro, Hibernate, AngularJS, JavaScript, Oracle RDBMS)
- Technical director and lead architect for the Air Mobility Command geospatial integration portal (AMC.Maps). AMC.maps provides for access, aggregation, integration, visualization and storage of geospatial information and services for the global mobility mission. The capability provides a framework, architecture, and standards for the efficient interoperability and sharing of global geospatial data and services to accomplish the full spectrum of global mobility mission activities. Dr. Jacobs directs all Web Application development and enhancement services, database configuration and data management services, and enterprise architecture development. (.NET, Oracle RDBMS, ESRI ArcGis)
- Lead Engineer for the Air Force Reserve Command's (AFRC) Electronic Case Tracking (ECT) System sustainment effort. This application manages workflow and form generation for the AFRC medical community to coordinate with a reserve member's chain of command to make line of duty determinations for medical care. Dr. Jacobs directs all software lifecycle activities necessary to keep this critical application working effectively. (.NET, VB, C#, Visual Studio, SQL Server, Team Foundation Server)

- Technical lead for the California Energy Assurance Planning CalEAP Web Application. This
 application provides a web-based, interactive, collaboration platform for local California
 communities and agencies to research and develop energy assurance plans for key
 infrastructure in the event of a disaster. Dr. Jacobs led the technical implementation team for
 this project and provided technical expertise for deployment and hosting. (MVC.NET, C#, SQL
 Server, Visual Studio Team System, NHibernate)
- Technical lead for the CalVet mobile app for the California Department of Veterans Affairs. This
 app informs California veterans of their benefits and connects them with service providers to
 assist them in utilizing their benefits. The CalVet app was voted "Best in Show" at the 2012
 Government Mobility Conference. Dr. Jacobs' performed a key role in all life cycle activities,
 leading requirements gathering sessions, designing the user interface and application flow, and
 directing the technical implementation team. (iOS, Android, xCode, Eclipse, Java, Objective C,
 SVN, Team Foundation Server)
- Engineered and directed development of Stanfield Systems' Visual Information Management (VIM) Toolkit. The VIM Toolkit provides a software framework and configurable tools for accessing, organizing, manipulating, and presenting information so that analysts and decision makers can rapidly assimilate, understand, and respond to operational situations. (J2EE, Eclipse, MySQL)
- Principal investigator on Air Force research project to develop visual interfaces for command and control of cyber operations. Developed a comprehensive information model and visualization framework to assist commanders, analysts, and operators in planning, executing, and assessing the effects of offensive and defensive operations in cyberspace.
- Principal investigator and lead architect on an Air Force research project to develop an information management toolkit for a global, Web-centric, command and control network. Provides powerful visualization interfaces that interact with multiple software components to administer and operate the networked information space. (J2EE, Eclipse, MySQL)
- Chief architect for automated Web-based directory service for California's Disabled Veteran Business Enterprise Alliance. (J2EE, Eclipse, MySQL)

Air Force Institute of Technology, Dayton, Ohio Assistant Professor of Computer Science

1998-2003

Managed a collaborative research project for military command and control. Coordinated team efforts to architect a distributed system framework, develop data management and retrieval modules, and design meaningful visual presentations for a military operations center linking a variety of diverse, distributed data sources and **applications**. Coordinated funding and integration with external institutions and research laboratories.

- Directed the engineering and development of a variety of research applications
 - Integrated visual environment for engineering multi-agent systems. Developed modules for ontological modeling and visual debugging based on the Unified Modeling Language (UML). Integrated modules with existing Java[™] applications.
 - Interactive 3-D weather visualization products for air operations mission planning including unique atmospheric conditions affecting the airborne laser.
 - Object-oriented plug-and-play application framework for distributed collaborative visualization. Extended JavaBeans[™] and Jini[™] technologies to support user configurable visualization for collaborative analysis and planning.
 - o Interactive, 3-D visual displays for airlift planning and situational analysis.
- Developed and taught graduate courses in software engineering, information visualization and computer graphics; supervised 15 student researchers.

1986-1990

Pentagon Communications Agency, Arlington, Virginia Technical Manager

- Planned and directed software process improvement efforts for 130 developers:
 - Led a formal, internal organizational process assessment using the Software Process Appraisal methodology developed by the Software Engineering Institute.
 - Developed project management methods and tools which were successfully employed on many corporate software projects. Advised and assisted project managers in the implementation of key software management practices.
 - Implemented key process areas required for a defined process (Capability Maturity Model, Level 3).
- Directed the development and maintenance of a large corporate budget system:
 - Developed a client-server subsystem for creating, presenting, and analyzing corporate budget options. Led a 15 person team in designing, integrating, and testing a software environment with diverse database, graphical interface, and application tools (Ingres database, SQL, Ingres 4GL, and Microsoft Office).
 - o Coordinated installation of hardware and software for hundreds of users.

Headquarters U.S. Air Forces Europe, Ramstein, Germany Technical Manager

- Adapted structured design methodologies for use on a multi-million dollar development contract. Worked with management and developers to implement methodology and improve project coordination and system understanding.
- Implemented configuration management and software process and quality controls for two major development efforts and numerous systems under maintenance. Involved more than 100 people, millions of dollars, extensive hardware, and thousands of software files. Reduced errors by 60 per cent and saved 400 man hours annually.
- Directed 12 person configuration management and quality assurance team.

Headquarters Electronic Security Command, San Antonio, Texas 1983—1986 Software Engineer

 Led the development and installation of numerous software releases for command, control, and intelligence systems at four overseas locations. Coordinated design and testing of software, installation of hardware, and training of administrators and users.

Selected Publications:

- Timothy Jacobs and Benjamin Musial, "Interactive Visual Debugging with UML", in *Proceedings* of the ACM Symposium on Software Visualization, San Diego, California, June 2003.
- Jonathan Dileo and Timothy Jacobs, "Integrating Ontologies into Multiagent Systems Engineering", in *Proceedings of the Fourth International Bi-Conference Workshop on Agent-Oriented Information Systems*, Bologna, Italy, 2002.
- Timothy Jacobs and Sean Butler, "Collaborative Visualization for Military Planning", in *Java/Jini Technologies*, Sudipto Ghosh, Editor, Proceedings of SPIE Vol. 4521, pp. 42—51, 2001.

Professional Affiliations:

IEEE Computer Society, ACM SIGSOFT

4.2 Evan Morrison – Developer

<u>Overview</u>

A dedicated software developer who is passionate about clean and concise code, as well as implementing industry best practices. A natural leader experienced in agile management and open source development. Excels at team collaboration and delivering high quality software solutions to the customer. Provides a breadth and depth of knowledge across multiple verticals in state government, federal government, and commercial sectors.

Languages and Technologies

Operating Systems:	Linux, UNIX, Windows 7, Windows 8, Windows 10
Languages:	Java, C, C++, C#, HTML, JavaScript, Python, SQL
Frameworks:	Eclipse, Notepad++, XOJO, .Net, Xamarin, SpecFlow
Practices:	Agile management, GIT repository, JIRA, Confluence

Professional Experience

Stanfield Systems, Inc. Application Developer

June 2016 – Present

Dynamic Simulation Transportation Energy Model (DynaSim)

Lead developer for the California Energy Commission's Dynamic Simulation Transportation Energy Model (DynaSim) which is used to predict energy usage and guide public policy in the State of California. Software life-cycle activities performed on this project include analysis of new requirements; reverse engineering and design of solutions; implementation across entire technology stack; testing; and development of deployment scripts. Significant accomplishments include:

- Implemented major release of DynaSim that includes database managed configurations, instance and scenario filters, exporting and implementing comments for data instances, and more.
- Updated web application pages, business logic, and data management methods to include database schema and stored procedures.

Technologies include ASP.NET, C#, SQL Server, Visual Studio Team System.

Electronic Case Tracking (ECT) System.

Troubleshoot and maintain the ECT system for the Air Force Reserve Command. ECT is a work flow management system for filling-out and tracking medical forms for Air Force Reserve members. Software life-cycle activities performed on this project include analysis of new requirements; reverse engineering and design of solutions; implementation across entire technology stack; testing; and development of deployment scripts. Significant accomplishments include:

- Built and updated web pages of the application using .Net
- Created and maintained workflows within the application
- Managed SQL Server database by creating and updating store procedures and adjusting database schema

Technologies include Visual Studio, .NET, C#, VB, SQL Server, NHibernate.

Mobile Incident Compliance System (MICS).

Participate as an agile team member to develop MICS for Prep-ICS, LLC. MICS is an integrated system consisting of an administrative Web site, a mobile application for iOS or Android, and a web services API for accessing organizational information. MICS provides analytics and information services for emergency management incidents Significant accomplishments include:

- Designed database architecture for both the web and mobile devices (SQL Server and SQLite)
- Constructed API to access SQL Server using entity framework
- Implemented synchronization to keep web and mobile application's databases consistent
- Built UI pages for mobile application using Xamarin
- Created BDD tests using Specflow for the API, synchronization, and Mobile UI testing

Technologies include Visual Studio, Azure Cloud Services, MVC.Net C#, SQL Server, Entity Framework, Xamarin, SQLite, Specflow, iOS, Android

Stellartech Research Corp., Santa Clara, CA Manufacturing Engineer

June 2015-August 2015

- Developed software to easily record test data for a variety of biomedical product assurance tests given to the FDA
- Supported manufacturing engineers by procuring parts and updating data bases
- Participated in the process of developing a manufacturing procedure to build a new product

Tantalum Pellet Company, Phoenix, AZ Project Programmer

June 2014 – August 2014

- Performed data analysis on the process of creating capacitor capsules and helped reduce the margin of error, so that less parts had defects
- Programmed servo motors to precisely shaped flat metal disks into capacitor lids had even thickness throughout the lid
- Developed an intuitive graphical user interface (GUI) that allowed user to control servo motors easily

Education

B.S., Computer Science, University of California, Santa Cruz

5 References

Offeror and Consultant References are the same. All consultants are employees of the offeror and have provided services on at least two of the referenced projects.

5.1 DynaSim

This project is ongoing, with the current contract expiring at the end of May 2021.

ATTACHMENT A: OFFEROR REFERENCE FORM

INSTRUCTIONS: Offeror to fill out Sections 1-3. Client to fill out Sections 4 & 5. Both Offeror and Client must sign document.

1. Offeror/Contractor		
Name:	Primary Contact Phone Number:	
Stanfield Systems	(916) 358-7120	
Reference is for: Offeror Both	Offeror and Consultant (if same)	

2. Client		
Client Name:	Contact Name:	
California Energy Commission	Gene Strecker	
Address:	Contact Phone:	
1516 9 th St, Sacramento, CA 95814-5512	(916) 628-1285	

3. Project/ Work		
Name of Project:	Dates Served on Project (from/to):	
Dynamic Transportation Simulation Model	July 2008 – March 2016	
(DynaSim)		

Overall Project Description: Stanfield Systems developed and currently maintains the Dynamic Transportation Energy Modeling System (DynaSim) for the California Energy Commission. For this system, Stanfield Systems migrated DynaSim energy forecasting models from Excel and Fortran to Matlab and wrapped the resulting Matlab models in web services implemented with the .NET Framework. Each model operates against a Microsoft SQL Server data source with information objects exposed as .NET web services. Multiple model services are orchestrated into Web application scenarios to forecast energy usage for transportation energy sectors such as transit, personal auto travel, commercial auto travel, freight rail and truck transportation, and aviation freight and passenger transportation. Analysts dynamically configure application scenarios by selecting or importing input data and configuring parameters that specify how models for different energy sectors interact to forecast overall energy usage for California.

Stanfield Systems followed their Agile, Feature-Driven Development process to develop DynaSim over several iterative releases. Each release applied one or more requirements-design-build-test cycles and integrated new modeling services with user interface features, data services, reporting features, or other infrastructure services such as security or on-line help. This process enabled Energy Commission analysts to start working with the system relatively early in the project while continually adding and evolving system functionality to meet user requirements. This early exposure was important for analysts to understand the impact of model changes and integration, thereby providing earlier insight into potential issues that helped improve development efforts later in the project.

Data services provide access to a dynamically configured data warehouse that stores energy modeling facts across several different dimensions. Flexibility comes from user configurable refinement or addition of virtual fact tables through the user interface. An XML schema defines how other services store data in the data warehouse. The DynaSim data services implementation is unique in that it automatically applies user-specified weighting factors to convert data to the appropriate dimension resolution (e.g., county or region) for sharing and feedback among energy models or for reporting at a user-selected dimension resolution. Data services have also been optimized for high performance in the commonly occurring case where billions of data objects must be updated in a single batch at the end of a model run.

Services and/or Deliverables Provided (include CMAS classification(s) utilized): Stanfield Systems provided all development and enhancement services for the DynaSim project across 4 separate development releases and multiple enhancements. This support includes requirements elicitation and documentation, software design and implementation, testing and quality assurance, project management, defect and change management, and technical support. CMAS classifications utilized on this project include Project Manager, Senior Technical Architect, Product Architect, IT Specialist, Systems Analyst

Technology Used (platform, software, etc.): Stanfield Systems implemented all .NET data services, modeling services, and presentation services using Visual Studio Professional and Visual Studio Team Suite. Business and data layer logic was implemented in C# classes and SQL Server stored procedures. For reporting, Stanfield Systems designed reports with Microsoft SQL Server Business Intelligence Development Studio and deployed reports to Microsoft SQL Server Reporting Services. The user interface interacts with SQL Server Reporting Services to specify report parameters, run the report, and view results.

Hours on Project:

Approximately 17,000 hours for Stanfield Systems team across development project and 2 support and maintenance project. Approximately 6,400 of those hours performed by proposed staff members for this project.

Was the project or contract terminated prior to successful conclusion? No. If "yes," please explain the reason.

4. Reference Project Involvement		
	YES	NO
Can you validate that the Offeror Company listed performed the services described? (If no, please explain)	X	
During this specific project or engagement, did you manage or have direct oversight the Offeror's work? (If no, please explain)	x	

5. Contractor Assessment		
Criteria	Rating (see key below)	
Please rate the Firm's ability to complete the contracted work on schedule and within budget.	Excellent	

Please rate the Firm's ability to produce and deliver quality and timely work products per the contract.	Excellent
Please rate the Firm's resources' professionalism and technical expertise at performing contracted work.	Excellent
Please rate your overall satisfaction with the Firm.	Excellent

Rating	Definition
Poor	Did not meet all requirements; poor workmanship; hard to work with
Average	Met bare minimum requirements; average workmanship; neither hard/nor easy to work with
Above Average	Met or exceeded all requirements; good workmanship; easy to work with
Excellent	Exceeded all requirements; excellent workmanship; very easy to work with

Offeror Company:

By signing below, I am certifying that the services described above (or on an attached sheet) were provided to this reference client, and they support the CMAS job titles/classifications.

Timothy M. Jacobs, CTO

Printed Name and Title

Signature of Offeror

Reference Client Agency or Company:

By signing below, I am verifying that the services described above (or on an attached sheet) provide an accurate description of the services provided to my agency/company by the Offeror Company named above.

Gene Stree

Signature of Reference Client

Date

Printed Name and Title Energy Commission Supervisor IF (retired)

5.2 ECT

This project ended in December 2018.

ATTACHMENT A: OFFEROR REFERENCE FORM

INSTRUCTIONS: Offeror to fill out Sections 1-3. Client to fill out Sections 4 & 5. Both Offeror and Client must sign document.

1. Offeror/Contractor		
Name:	Primary Contact Phone Number:	
Stanfield Systems	Tim Jacobs, (916) 358-7120	
Reference is for: Offeror Both Offeror and Consultant (if same)		

2. Client	
Client Name:	Contact Name:
Air Force Reserve Command (AFRC)	Alec R. Yarborough
Surgeon General (SG)	
Address:	Contact Phone:
HQ AFRC/SGSI, 155 Richard Ray Blvd,	(478) 327-0074
Robins AFB, GA 31098	

3. Project/ Work		
Name of Project:	Dates Served on Project (from/to):	
Electronic Case Tracking (ECT) System	March 2013 - Present	

Overall Project Description: Stanfield Systems modernized and maintains the Electronic Case Tracking (ECT) System for the Surgeon General's office in the Air Force Reserve Command. The ECT System is an extension of the Automated Line of Duty (ALOD) System which provides the AFRC with an automated tool to administer and manage LOD determination thereby ensuring the required medical care is provided for deserving service members. It provides a Web-based, user-friendly tool to initiate and complete documents required for LOD investigations and medical case processing. ECT also provides AFRC a means to collect and manage the data and documents relating to injuries, illnesses, diseases, and it generates the required investigation reports. The ECT System extends ALOD by incorporating additional business workflows for processing other administrative records in the Surgeon General's office.

Stanfield Systems applied our agile Feature-Driven Development process to modernize ALOD over several iterative releases. Each release applied one or more sprint cycles and integrated new workflows, user interface features, data services, reporting features, technology upgrades or other capability improvements. Stanfield Systems performs continuous testing and integration in which tests are performed any time changes are made to the product baseline. Once a feature is completed, developers test new features against requirements and regression tests are run against all system components. Features are integrated into a system test environment where independent testers evaluate system features using operational data.

Services and/or Deliverables Provided (include CMAS classification(s) utilized): Stanfield Systems provided all development and enhancement services for the ECT system across multiple releases. This support includes requirements elicitation and documentation, software design and implementation, testing and quality assurance, defect and change management, and technical support. CMAS classifications utilized on this project include Senior Technical Architect, Technical Architect, IT Specialist, Systems Analyst.

Technology Used (platform, software, etc.): ECT is implemented as a three-tiered Web application using Microsoft ASP.NET and Microsoft SQL Server 2008 R2. Object-relational mapping in the data access layer is implemented with nHibernate. Multi-level, role-based user authentication and access control is implemented through Microsoft Internet Information Services Forms Authentication that interacts with a third-party application for authentication using a Public Key Infrastructure (PKI). Email notification is configured into the ECT workflow leveraging AFRC's SMTP mail server.

Hours on Project: Over 13,000 hours for Stanfield Systems team. Approximately 7,500 of those hours performed by proposed staff members for this project. Was the project or contract terminated prior to successful conclusion? No. If "yes," please explain the reason.

4. Reference Project Involvement		•
	YES	NO
Can you validate that the Offeror Company listed performed the services described? (If no, please explain)	X	
During this specific project or engagement, did you manage or have direct oversight the Offeror's work? (If no, please explain)	· X	

5. Contractor Assessment		
Criteria	Rating (see key below)	
Please rate the Firm's ability to complete the contracted work on schedule and within budget.	Excellent	
Please rate the Firm's ability to produce and deliver quality and timely work products per the contract.	Excellent	
Please rate the Firm's resources' professionalism and technical expertise at performing contracted work.	Excellent	
Please rate your overall satisfaction with the Firm.	Excellent	

Rating	Definition		
Poor Did not meet all requirements; poor workmanship; hard to v			
Average	Met bare minimum requirements; average workmanship; neither hard/nor easy to work with		
Above Average	Met or exceeded all requirements; good workmanship; easy to work with		
Excellent	Exceeded all requirements; excellent workmanship; very easy to work with		

Offeror Company:

By signing below, I am certifying that the services described above (or on an attached sheet) were provided to this reference client, and they support the CMAS job titles/classifications.

Timothy M. Jacobs Printed Name and Title

Signature of Offeror

Date Signed

Reference Client Agency or Company:

By signing below, I am verifying that the services described above (or on an attached sheet) provide an accurate description of the services provided to my agency/company by the Offeror Company named above.

Alec R. Yarborough Health Info Sys Branch Chief Printed Name and Title

Signature of Reference Client

5.3 AMC.Maps

This project ended in April 2019.

ATTACHMENT A: OFFEROR REFERENCE FORM

INSTRUCTIONS: Offeror to fill out Sections 1-3. Client to fill out Sections 4 & 5. Both Offeror and Client must sign document.

Name:	Primary Contact Phone Number:	
Stanfield Systems	Tim Jacobs, (916) 358-7120	
Reference is for: Offeror Both Offeror and Consultant (if same)		
· · · · · · · · · · · · · · · · · · ·		
2. Client		
Client Name:	Contact Name:	
Air Mobility Command (AMC) Geospatial	Michael Whittle (Program Manager for	
Integration Office (GIO)	Prime Contractor, SIST)	
Address:	Contact Phone:	
1264 Hawks Flight Ct Suite 210	(916) 987-3261 x209	
1201 Harrio Flight Ot., Outo 210		

Name of Project:	Dates Served on Project (from/to):
AMC.Maps	December 2013 - Present

Overall Project Description: Stanfield Systems enhances and maintains the AMC.Maps Web application and technical infrastructure for the AMC Geospatial Integration Office. AMC.maps provides for access, aggregation, integration, visualization and storage of geospatial information and services for the global mobility mission. The capability provides a framework, architecture, and standards for the efficient interoperability and sharing of global geospatial data and services to accomplish the full spectrum of global mobility mission activities.

Services and/or Deliverables Provided (include CMAS classification(s) utilized): Stanfield Systems provided all Web Application development and enhancement services, database configuration and data management services, enterprise architecture development, and technical management and oversight. Stanfield Systems performed this work as a subcontractor to SI Systems Technologies under the Air Force's NETCENTS II program. CMAS classifications utilized on this project include Senior Technical Architect, IT Specialist, Systems Analyst.

Technology Used (platform, software, etc.): AMC.Maps is implemented as a multitiered Web application using Microsoft ASP.NET, Oracle Relational Database Management System, and ESRI ArcGIS server.

Hours on Project: Approximately 5700 hours performed by proposed staff members for this project.

Was the project or contract terminated prior to successful conclusion? No. If "yes," please explain the reason.

4. Reference Project Involvement		1
	YES	NO
Can you validate that the Offeror Company listed performed the services described? (If no, please explain)	X	
During this specific project or engagement, did you manage or have direct oversight the Offeror's work? (If no, please explain)	Х	

5. Contractor Assessment		
Criteria	Rating (see key below)	
Please rate the Firm's ability to complete the contracted work on schedule and within budget.	Excellent	
Please rate the Firm's ability to produce and deliver quality and timely work products per the contract.	Excellent	
Please rate the Firm's resources' professionalism and technical expertise at performing contracted work.	Excellent	
Please rate your overall satisfaction with the Firm.	Excellent	

Rating	Definition		
Poor	Did not meet all requirements; poor workmanship; hard to work with		
Average	Met bare minimum requirements; average workmanship; neither hard/nor easy to work with		
Above Average	Met or exceeded all requirements; good workmanship; easy to work with		
Excellent	Exceeded all requirements; excellent workmanship; very easy to work with		

Offeror Company:

By signing below, I am certifying that the services described above (or on an attached sheet) were provided to this reference client, and they support the CMAS job titles/classifications.

Timothy M. Jacobs, CTO Printed Name and Title

Signature of Offeror

1/12/2017 Date Signed

Reference Client Agency or Company:

By signing below, I am verifying that the services described above (or on an attached sheet) provide an accurate description of the services provided to my agency/company by the Offeror Company named above.

Michael Whittle Deputy Program Manager Printed Name and Title

Signature of Reference Client Date Signed

6 CMAS Contract

A copy of the CMAS contract is attached, to include the reference contract with pricing.

7 ATTACHMENT C: COST WORKSHEET

Responder must provide the hourly rate, estimated total hours for each task, and totals as defined in the table below for each staff working on the project.

Consultant Name	Job Title/ Classification	Rate Per Hour
Timothy Jacobs	Project Director / Senior Technical Architect	\$204.62
Evan Morrison	Developer / Senior IT Specialist	\$92.52

Task	Job Title/Classification(s) to be used	Est. # of Hours	Est. Cost	Total
1	General Maintenance and Help Desk			
1	Support			
	Senior Technical Architect	240	\$204.62	\$49,108.80
	Senior IT Specialist	240	\$92.52	\$22,204.80
2	Enhancements and Modifications to			
2	Dynasim			
	Senior Technical Architect	96	\$204.62	\$19,643.52
	Senior IT Specialist	96	\$92.52	\$8,881.92
	Offer Total			\$99,839.04

7.1 Invoices

Stanfield Systems will invoice monthly for actual hours expended by each resource during the month.

Stanfield Systems does not anticipate other direct costs. Stanfield Systems assumes that any third-party licenses or hardware will be acquired independent of this contract.

8 Attachment D: Service Level Agreement

Stanfield Systems responses to the designated service levels are indicated in the table below. Unless otherwise indicated, all response times refer to prime time hours (8:00 AM – 5:00 PM Pacific Time, Monday – Friday exclusive of State holidays). If the required response time goes beyond 5:00 PM, the remaining time will be carried forward to the next work day. Response times are also dependent on receiving appropriate system access to troubleshoot problems and install changes. Without access, Stanfield Systems is unable to guarantee response times.

Service Levels for DynaSim Maintenance and Operations Phase

The Energy Commission has set a series of Minimum Acceptable Service Levels as they relate to service level monitoring and reporting. These service levels will be delivered by the responder and monitored by the Energy Commission in support of maintenance and operations. Maintenance and operations will begin at the conclusion of the Pilot phase of DynaSim implementation.

Table C 1.1: Help Desk Service Levels, Measurable Events and Target Levels			
Measurable Event	Service Level Requirement	Responder's Response	
Contractor's Technical Support: Prime Time (M-F 8:00 AM – 5:00 PM Pacific Time) Callers will be Energy Commission Employees and other users that have been identified as "DynaSim Users". Typically calls from end users will be fielded first by the DynaSim Administrator in the Fuels and Transportation Division. If the issue cannot be resolved by the DynaSim Administrator, the issue will be presented to the contractor's technical support.	Calls will be answered live or via voicemail. If a message is left on the contractor's voicemail system, the message will be returned within two hours.	DynaSim users request Help Desk (Technical) Support with an email or phone call to the Stanfield Systems support staff. Typically, Energy Commission requests are routed through one of the DynaSim Administrators at the Energy Commission. Within two hours of receiving a support request during prime time hours, Stanfield Systems support staff will acknowledge receipt with an email or phone response. Stanfield Systems prefers email in order to leave a document trail; however, if the request is received by phone, Stanfield Systems will respond by phone in addition to following up with an email. In acknowledging the support request, Stanfield Systems support staff will attempt to immediately resolve the request; however, if this is not possible, Stanfield Systems will describe a plan of	

		action and provide an estimate for following up with the initiator of the request.
Incident Closure Notice (via email) (Prime Time)	Incident Closure Notices will be sent by the contractor to the DynaSim Administrator within 24 hours of incident closure	Stanfield Systems will enter all technical support requests into their online tracking system to facilitate tracking and reporting. Upon completion of a support request, Stanfield Systems will send an email summarizing the resolution within 24 hours of closure. Stanfield Systems will also document resolution of all support requests in the online tracking system and report the status of support requests at scheduled status meetings.

Table C 1.2: Administration and Security Service Levels, Measurable Events, and Target Levels

Measurable Event	Service Level Requirement	Responder's Response
Password Resets (Prime Time)	Password Resets will be handled by the Energy Commission DynaSim Administrator or Energy Commission Information Technology Services Branch (ITSB) technical support.	No response required

Security Incident Reporting – Report detection of unauthorized access to automated files and databases, as well as incidents involving loss, damage, or misuse of information assets.	This will be the responsibility of the Energy Commission ITSB.	No response required
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Table C 1.3: Backup and Recovery Service Levels, Measurable Events, and Target LevelsMeasurable EventResponder's Response					
Backup Services – Ad hoc (on request)	100% Full back-up of some or all system data at the request of the Energy Commission DynaSim Administrator within 24 hours of receiving the request. This will be the responsibility of the Energy Commission ITSB.	No response required			
Backup Services - Daily	Full backups are done initially and incremental are done nightly This will be the responsibility of the Energy Commission ITSB.	No response required			
Backup Services – Weekly	Full backups are done initially and incremental are done nightly This will be the responsibility of the Energy Commission ITSB.	No response required			
Backup Services – Monthly	Full backups are done initially and incremental are done nightly This will be the responsibility of the Energy Commission ITSB.	No response required			

Recovery Services – Ad hoc (on request) 100% Restore of previously backed up data (some or all) on request of the En Commission DynaSim Administrator wit three (3) business days. (Prime Time) receiving request (including notification Energy Commission when successfully completed). This will be the responsibility of the Energy Commission		No response required
Recovery Services – Routine Recovery Test (Annual)	100% Restore of previously backed up system data and restoration of DynaSim operations within three (3) business days (Prime Time) of initiating recovery test. This will be the responsibility of the Energy Commission ITSB.	No response required
Recovery Services – Disaster Recovery Plan Recovery Conditions Met	In the event of a major disaster, Recovery Time Objective (RTO) for applications is 4 weeks as identified in the Energy Commission's Disaster Recovery Plan Performed based on published Disaster Recovery Plan recovery conditions being met and as identified by either the Contractor or the Energy Commission. The Disaster Recovery Plan is an Energy Commission document. This will be the responsibility of the Energy Commission ITSB.	No response required

Table C 1.4: Data Archive and Restoration Service Levels, Measurable Events, and Target Levels				
Measurable Event	Service Level Requirement	Responder's Response		
Archive Services – Ad hoc (on request)	100% Archive of selected/specified data within a DynaSim Account in response to a request received from the DynaSim Account Holder immediately upon user initiation of the archive feature. The contractor may be asked to assist with the archiving of categories, scenarios, or data.	Stanfield Systems will assist with archiving DynaSim data in response to a support request from the DynaSim Administrator. Archive services will follow the same process as other support requests. Assistance with archive requests will require appropriate access to the production version of DynaSim.		

Table C 1.5: System Service Severity Levels				
Severity Level 1				
Problem or Situation Causing this Impact	Frequency of Update to the Energy Commission	Escalation Procedure Responder's Response		
The Energy Commission will make the initial assessment as to whether the problems described below are network, hardware or application related. The contractor is only responsible for supporting application related problems. System not accessible for DynaSim Users due to application errors. System not able to support DynaSim Users' ability to accurately and reliably perform routine modeling or other system functions. System not able to support the DynaSim application's administrative functions. System not able to process modeling input or analysis. System not able to process or generate reports.	The Energy Commission should receive a status report within the first 60 minutes of when the problem is first detected/reported and every 8 hours thereafter until resolved. The status reports to the Energy Commission will be reported "live" via phone during Energy Commission Business Hours and via email outside of those hours.	Once an incident report has been determined to be a defect with the DynaSim application, Stanfield Systems will manage the defect in accordance with their defect management process (see Section 3.3.2 of this proposal). For Severity Level 1 defects, Stanfield Systems will acknowledge receipt of the defect report within 60 minutes and will provide a preliminary assessment regarding the estimated time to repair, test, and implement a resolution. Stanfield Systems will provide follow-on status reports every 8 hours or as otherwise agreed to in the resolution plan negotiated with the Energy Commission. Stanfield Systems will report status to the DynaSim administrator by phone; however, if unable to reach the administrator by phone, Stanfield Systems will report status via email.		
Severity Level 2				
Problem or Situation Causing this	Frequency of Update to the Energy	Escalation Procedure		
Impact	Commission	Responder's Response		

"Cosmetic" problems such as fonts, layout, and formatting on reports or system displays that do not adversely impact the data or calculations being displayed or reported. The Energy Commission to receive a status report within the first 2 hours of when the problem is first detected/reported. The status report should include an estimated time to repair, test and implement the fix.

The status reports to the Energy Commission will be submitted via email.

Stanfield Systems recommends that Severity Level 2 reporting take place along with routine monthly reporting; however, Stanfield Systems agrees to acknowledge receipt and provide an additional assessment within two hours after a support request has been classified as a Severity Level 2 defect. The initial assessment will include the estimated time to repair, test, and implement a resolution or will recommend that the defect resolution be deferred to a later time in order to resolve other more pressing issues.

I d	is, and rarger Levels	
Measurable Event	Service Level Requirement	Responder's Response
Production System – Aggregate Availability	Target 98% Severity 1: each minute down counts as one (1)	System availability depends on server, client, and network availability concerns that are beyond the control of Stanfield
	Severity 2: each minute down counts as one- tenth (0.1) minute of unavailability	Systems in their role as application support contractor. In accordance with other service level requirements,
	Availability will be tracked on a monthly basis	Stanfield Systems will do what they can to minimize system unavailability due to
	Example Calculation:	application errors.
	Available minutes in a month with 20 business days = 9,600 minutes (20X8X60)	
	Total availability of the application must be 98% or total unplanned outage during normal business hours cannot exceed 2% of 9,600 minutes.	
	9,600 X 2% = 192 minutes/month	
	This includes availability of web access to the application, operation of the application, and all processing required in order to deliver all system functionality and support. In total, the cumulative duration of loss of any mission essential function caused by the application failures shall not exceed the specified value. A mission essential function is any function or feature whose loss requires unscheduled maintenance or intervention.	

Table C 1.6: Systems Availability Service Levels, Measurable Events, and Target Levels

Measurable Event	Service Level Requirement	Responder's Response
Timely Resolution of Application Problems and Trouble Tickets	Severity Level 1: 100% within 6 hours Severity Level 2: 85% within ten (10) business days (Prime Time)	Stanfield Systems will make every effort to resolve Severity Level 1 problems within 6 hours; however, in some cases this may not be possible due to the complexity of the problem. In such cases, Stanfield Systems will dedicate all available resources to resolving the problem as quickly as possible. Stanfield Systems will provide their best estimate of the length of time needed to resolve the problem.
		To improve both user and developer efficiency, Stanfield Systems recommends that Severity Level 2 problems be incorporated into releases that are scheduled to facilitate testing and to minimize impact on DynaSim users; however, where possible, Stanfield Systems will resolve Severity Level 2 problems within 10 business days as required by the Energy Commission.
		In all cases, Stanfield Systems response times are dependent on timely access to the DynaSim application for troubleshooting and timely response by Energy Commission IT staff to deploy modified code, database updates, or environment modifications.

Table C 1.7: System Problem Resolution Service Levels, Measurable Events, and Target Levels

Table C 1.7: System Problem Resolution Service Levels, Measurable Events, and Target Levels			
Measurable Event	Service Level Requirement	Responder's Response	
Timely Resolution of DynaSim Application Change Requests	Meet timelines reflected in proposals and mutually agreed to between Contractor and the Energy Commission for 85% of all approved change requests.	Stanfield Systems agrees to the required timelines. Change requests will be managed in accordance with Stanfield Systems' proposed Enhancement and Modification process (see Section 3.4).	

9 Project Team (How Project will be Supported)

The project team consists of Stanfield Systems staff located in Folsom, California. Stanfield Systems has been very active in DynaSim development and support and is very knowledgeable regarding DynaSim requirements, design, and implementation. Stanfield Systems staff will provide all administration, management, and development tasks for this project.

9.1 Team Organization and Responsibilities

With a small staff for this project, team members will participate in many different life cycle activities. Staff organization and responsibilities are depicted in Figure 2 and described here. Staff resumes are provided in Section 4.



Figure 2. Project Team Organization

- Project Director (Tim Jacobs) Stanfield Systems' project director is the primary interface between Stanfield Systems and the Energy Commission for project management and reporting. The project director tracks status and effort for support calls and defects, and he prepares estimates and tracks progress for enhancements. The project director leads status meetings and reports status to the Energy Commission. He is Stanfield Systems' first level contact for technical support and defect reporting and is responsible for validating and allocating support requests and defects to the appropriate team member. He provides expertise in overall DynaSim architecture and design and specialized expertise in DynaSim database design and administration.
- Contract Administrator (Chris Nail) Stanfield Systems' contract administrator manages contract invoices and payments and communicates directly with the Energy Commission on issues related to these activities.
- Developer (Evan Morrison) The developer performs requirements gathering and analysis activities. The developer maintains the enabling system framework (i.e. user interface, data layer, online help, and reporting). The developer creates release

packages for deployment to the Energy Commission servers. The developer executes design, development, and testing activities to meet requirements and resolve defects.

10 Payee Data Record

STATE OF	CALIFORNIA – DEPARTMENT OF FINANCE	
PAYEE	DATA RECORD	

(Required when receiving payment from the State of California in lieu of IRS W-9 or W-7) STD 204 (Rev. 03/2021)

Section 1 – Pa	vee Information
----------------	-----------------

NAME (This is required. Do not leave this line blank. Must match the payee's federal tax return)

Stanfield Systems, Inc.

BUSINESS NAME, DBA NAME or DISREGARDED SINGLE MEMBER LLC NAME (If different from above)

MAILING ADDRESS (number, street, apt. or suite no.) (See instructions on Page 2)

	7'	8	Sutter	St.,	Suite	108
--	----	---	--------	------	-------	-----

CITY, STATE, ZIP CODE folsom, CA 95630			E-MAIL ADDRESS admin@stanfieldsystems.com				
Section 2 – Entity Type							
Check one (1) box only that matches the entity type of the Payee listed in Section 1 above. (See instructions on page 2)							
SOLE PROPRIETOR / INDIVIDUAL	CORPORA	TION (see	e instructions on page 2)				
SINGLE MEMBER LLC Disregarded Entity owned by an individual	L (e.g., de	entistry, chiropractic, etc.)					
	LEGAL (e.g., attorney services)						
ESTATE OR TRUST	EXEMPT (e.g., nonprofit)						
	⊠ ALL OTHERS						
Section 3 – Tax Identification Number							
 Enter your Tax Identification Number (TIN) in the appropriate box match the name given in Section 1 of this form. Do not provide r The TIN is a 9-digit number. Note: Payment will not be processe For Individuals, enter SSN. If you are a Resident Alien, and you do not have and are no SSN, enter your ITIN. Grantor Trusts (such as a Revocable Living Trust while the g not have a separate FEIN. Those trusts must enter the individual, enter SSN (ITIN if applicable prefers SSN). For Sole Proprietor or Single Member LLC (disregarded e sole member is an individual, enter SSN (ITIN if applicable prefers SSN). For Single Member LLC (disregarded entity), in which the business entity, enter the owner entity's FEIN. Do not use f entity's FEIN. For all other entities including LLC that is taxed as a corporate estates/trusts (with FEINs), enter the entity's FEIN. 	Social Security Number (SSN) or Individual Tax Identification Number (ITIN) OR Federal Employer Identification Number (FEIN) <u>6 8 D 4 4 2 9 0 1</u>						
Section 4 – Payee Residency Status (See instructions)							
CALIFORNIA RESIDENT – Qualified to do business in California	a or maintains	a permane	ent place of business in California.				

CALIFORNIA NONRESIDENT - Payments to nonresidents for services may be subject to state income tax withholding.

□No services performed in California

□Copy of Franchise Tax Board waiver of state withholding is attached.

		Section 5	– Certifica	tion				
I hereby certify under penalty of perjury that the information provided on this document is true and correct. Should my residency status change, I will promptly notify the state agency below.								
NAME OF AUTHORIZED PAYEE Christopher A. Nail	REPRESENTA	TIVE	TITLE Business Manager			E-MAIL ADDRESS cnail@stanfieldsystems.com		
SIGNATURE	Spel		DATE TELEPHON 04/19/2021 916-608-80		TELEPHON 916-608-80	IE (include area code) 06		
Section 6 – Paying State Agency								
Please return completed form to:								
STATE AGENCY/DEPARTMENT OFFICE California Energy Commission			UNIT/SECTION Accounting					
MAILING ADDRESS 1516 9th Street, MS–2			FAX (916) 654–4428			TELEPHONE (include area code) (916) 654–4400		
CITY Sacramento	STATE CA	ZIP CODE 95814		E-MAIL ADDRESS		3		

11 Bidder Declaration

		2.			
	Subcontractor Name, Contact Person, Phone Number & Fax Number	If no subcontractors will be use	c. If you are a California certifie	 Prime bidder information (Reviena. Identify current California centre. b. Will subcontractors be used e.g., list the proposed products pro	
	Subcontractor Address & Email Address	d, skip to certification belov	ed DVBE: (1) Are you a bi (2) If the contra provided in this	ew attached Bidder Declar ertification(s) (MB, SB, NVSA for this contract? Yes N produced by your firm, state your firm will perform, etc.)	8
	CA Certification (MB, SB, NVSA, DVBE or None)	v. Otherwise, list all su	roker or agent? Yes act includes equipmen s contract (quantity ar	ation Instructions pr , DVBE): SB, DVBE o 🖌 (If yes, indicate) if your firm owns the . Use additional sheet	IDDER DECLARA
	Work performed or goods provided for this contract	abcontractors for this contract. (A	No 🖌 nt rental, does <u>vou</u> r company owr nd value)? Yes 🗌 No 🗌 N/A 🖌	rior to completion of this form): or None (If "None", go to the distinct element of work your transportation vehicles that will is, as necessary.	TION
	Corresponding % of bid price	Attach addition	n at least 51% c	: ltem #2) <u>r firm</u> will perfo deliver the pro	
	Good Standing?	al pages if	of the equip	rm in this c ducts to th	
	51% Rental?	necessary):	oment	ontract e State,	

State of California—Department of General Services, Procurement Division GSPD-05-106 (REV 08/09) Verbal Version

ω CERTIFICATION: By signing this form, I certify under penalty of perjury that the information provided is true and correct. Signature: Christian le y fait Date Signed: 4/19/2521

Page 1 of 1

Printed Name: CHRLSTOPHER A. NAIL

12 DVBE Declarations

DISABLED VETERAN BUSINESS ENTERPRISE DE DGS PD 843 (Rev. 9/2019)	CLARATIONS					
Formerly STD. 843 Instructions: The disabled veteran (DV) owner(s) and DV manager(s) of the Disabled Veteran Business Enterprise (DVBE) must complete this declaration when a DVBE contractor or subcontractor will provide materials, supplies, services or equipment [Military and Veterans Code Section 999.2]. Violations are misdemeanors and punishable by imprisonment or fine and violators are liable for civil penalties. All signatures are made under penalty of perjury.						
SECTION 1						
Name of certified DVBE: Stanfield Systems, Inc.	DVBE	Ref. Number: 23	905			
Description (materials/supplies/services/equipment proposed):	SOFTWARE ENG	INGERING				
Solicitation/Contract Number: AFO 20-409,00-008	SCPRS Ref. Number:	(FOR STATE U	SE ONLY)			
SECTION 2						
APPLIES TO ALL DVBEs. Check only <u>one</u> box in Section 2 a	nd provide original sig	jnatures.				
✓ I (we) declare that the <u>DVBE is not a broker or agent</u> , as def materials, supplies, services or equipment listed above. Als	ined in Military and Vete so, complete Section 3 b	erans Code Section elow if renting ec	on 999.2 (b), of quipment.			
Pursuant to Military and Veterans Code Section 999.2 (f), I (principal(s) listed below or on an attached sheet(s). (Pursua expended for equipment rented from equipment brokers pur credited toward the 3-percent DVBE participation goal.)	we) declare that the <u>DV</u> ant to Military and Vetera rsuant to contracts awar	<u>BE is a broker or</u> ans Code 999.2 (ded under this se	agent for the (e), State funds action shall <u>not</u> be			
All DV owners and managers of the DVBE (attach additional pages v	with sufficient signature blo	cks for each person	to sign):			
	, AL					
David J. Doherty (Printed Name of DV Owner/Manager)	(Signature of DV-Owned	er/ Manager)	(Date Signed)			
(Printed Name of DV Owner/Manager)	(Signature of DV Own	er/Manager)	(Date Signed)			
Firm/Principal for whom the DVBE is acting as a broker or agent: (If more than one firm, list on extra sheets.)	(P	rint or Type Name)				
Firm/Principal Phone: Address:						
SECTION 3	}					
APPLIES TO ALL DVBES THAT RENT EQUIPMENT AND DEC	LARE THE DVBE IS N	OT A BROKER.				
Pursuant to Military and Veterans Code Section 999.2 (c), (d ownership of the DVBE, or a DV manager(s) of the DVBE. T accordance with Military and Veterans Code Section 999 et.	l) and (g), I am (we are) The DVBE maintains cer seq.	the DV(s) with a tification require	t least 51% ments in			
 The undersigned owner(s) own(s) at least 51% of the quantities for use in the contract identified above. I (we), the DV owner agency my (our) personal federal tax return(s) at time of cert Veterans Code 999.2, subsections (c) and (g). Failure by the personal federal tax return(s) to the administering agency as (c) and (g), will result in the DVBE being deemed an equipmed Disabled Veteran Owner(s) of the DVBE (attach additional pages with 	ty and value of each pie s of the equipment, have tification and annually th e disabled veteran equip s defined in Military and tent broker.	<u>ce of equipment</u> e submitted to the ereafter as define <i>ment owner(s) to</i> <i>Veterans Code</i> 9 person to sign):	that will be rented e administering ed in <i>Military and</i> o submit their 99.2, subsections			
	(0)					
(Printed Name)	(Signature)		(Date Signed)			
(Address of Owner)	(Telephone)	(Tax Identification	Number of Owner)			
Disabled Veteran Manager(s) of the DVBE (attach additional pages	with sufficient signature blo	cks for each persor	n to sign):			
(Printed Name of DV Manager)	(Signature of DV M	anager)	(Date Signed)			
		1	Dage 1 of 1			
PRINT CLEAR						

RESOLUTION NO: 21-xxxx-1c

STATE OF CALIFORNIA

STATE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION

RESOLUTION - RE: STANFIELD SYSTEMS INC. PURCHASE ORDER

RESOLVED, that the State Energy Resources Conservation and Development Commission (Energy Commission) approves a purchase order with Stanfield Systems, Inc., for \$99,839.04 of COIA funds to provide software support and maintenance to the DynaSim modelling framework, to support Energy Commission forecasts of transportation energy demand; and

FURTHER BE IT RESOLVED, that this document authorizes the Executive Director to execute the same on behalf of the Energy Commission.

CERTIFICATION

The undersigned Secretariat to the Commission does hereby certify that the foregoing is a full, true, and correct copy of a Resolution duly and regularly adopted at a meeting of the California Energy Commission held on June 9, 2021.

AYE: NAY: ABSENT: ABSTAIN:

> Patricia Carlos Secretariat