General Services Administration

Federal Acquisition Service

Technology Transformation Services

Centers of Excellence

1800 F Street NW | Washington, DC | 20405

IDTBD - OPM Calculator Replacement

DRAFT
Performance Work Statement

1.0 Background and Purpose

1.1 Background

GSA's Centers of Excellence (CoE), in conjunction with the U.S. Office of Personnel Management (OPM), is modernizing the Federal Annuity Claims Expert System (FACES). Retirement Services (RS) is the OPM program division responsible for the administration of retirement benefits. RS staff members depend on FACES to adjudicate about 80,000 federal retirement benefit actions every year. FACES is a reliable and accurate system, but it was built with tools that are no longer supported by the manufacturer.

Benefit calculations are provided by an engine that is independent of the FACES desktop app. This calculator is an outdated Excel workbook where business rules are expressed as hard-coded formulas. Updating formulas is a laborious process, even more so because not all calculations are located in the Excel workbook. One-third are executed elsewhere in FACES, which makes fixing bugs more difficult and limits the development of new features.

1.2 Purpose

OPM is replacing both the FACES desktop app and the calculator that the app relies on to determine retirement benefits. The app replacement and the calculator replacement are separate projects, but the teams supporting each will communicate regularly. (Both projects will begin at roughly the same time, but the Government expects to complete the replacement app well in advance of the the replacement calculator due to the complexity of populating the new service with legacy calculations.)

The purpose of the OPM Calculator Replacement contract is to replace the current calculator with a calculation service. Rather than replicating an approach based on formulas, the service will introduce a system for managing business rules that, when applied, will result in calculations. The calculator will be wrapped in an Application Programming Interface (API) that will provide access for the FACES app, as well as for applications created outside of OPM. The current FACES app and its replacement must both access the new calculation service.

2.0 Scope

The Contractor will select (or build) a business rules management system (BRMS), customize it to match Retirement Services' needs, work with RS staff to translate existing calculations into the BRMS and create an API. The Government would prefer that the Contractor recommend a third-party's BRMS with a strong, verifiable record of performance. Contractors who propose their own BRMS must prove that the system is able to handle the workload and complexity supported by the current calculator (3,000 daily calculations and more than 1,000 business rules/formulas.)

The work outlined below will satisfy each of the objectives listed in Section 2.1.1 of this PWS.

2.1 Performance objectives

2.1.1 PWS Objectives

1. Deliver a robust BRMS loaded with all legacy calculations
2. Deliver a modern calculation service that can be accessed by the current FACES app, its replacement app and qualified third party applications
3. Provide the capability for RS staff to rigorously test the output of the new calculation service

2.1.2 Tasks

In order to achieve the PWS objectives, the Contractor, will perform the following tasks. The first column is the name of the task that will be performed and which of the objectives it fulfills. The second column provides a description of what the task itself entails with a reference to the associated deliverable(s) that will be produced.

Task and Objective	Task Description
First task: Implement BRMS **Objective fulfilled:** 1	The Contractor must prove that the BRMS they recommend has handled workloads and complexity similar to that required by retirement benefits adjudication. The current calculator handles 3,000 calculations per day and utilizes more than 1,000 inter-related formulas. Implementation will include these steps: ● Stand up distinct environments for the development, testing, staging and production of business rules

	● Design and install an administrative interface that allows RS staff without coding skills to create and edit business rules ● Work with RS staff to translate all existing benefits calculations into the new system ● Use the existing calculator database to facilitate third party system integration ● Develop a tool for auditing all business rule changes ● Design and facilitate training for creating and editing business rules
Second task: Introduce service **Objective fulfilled:** 2	The replacement will leverage modern technology much more than is possible with the current calculator. It will be designed as a web service accessible via an application program interface (API). The contractor will be expected to define and lead modern software development practices, iteratively designing and testing the service with users throughout development. Introducing the service will require these steps: ● Create an MVP based on the simplest legacy calculation and then add progressively more complex calculations ● Integrate the calculation service with existing OPM systems, none of which can be adjusted and some of which are outdated ● For each published rule set, develop an API to allow third party access ● Work with OPM staff to switch incoming cases over to the new service when the accuracy of the calculation service meets acceptable levels ● Introduce redundancy in communication and function ● Collaborate with OPM staff to define a disaster recovery plan for the calculation service
Third task: Design and implement testing **Objective fulfilled:** 3	The current calculator is highly reliable and accurate. The Contractor will need to prove the same (or better) level of service before switching over to the calculation service. Also, testing the impact of potential changes will be an essential aspect of the RS staff's management of business rules. Their current process is defensive in nature; it must be proactive going forward. To accomplish all of this, the Contractor will be expected to: ● Catalog all test cases that OPM has relied on for the legacy calculator ● Design automated testing that compares the results of the calculation service against the results of the legacy

	calculator
	● Design and install an administrative interface for non-technical people to use to create and run test cases against business rules before and after implementation
	● Design and facilitate training for creating and implementing test cases

2.1.3 Deliverables

In conjunction with performing the tasks outlined above, the Contractor will provide the following deliverables. The first column is the name of the deliverable and the task it fulfills. The second column provides a description of what the deliverable itself entails. The third column outlines when the deliverable will be provided (along with reference to any updated version that will be provided) along with objectively quantifiable performance metrics that will permit the Government to accept the deliverable as being complete.

Deliverable	Description	Timing and Acceptance
Name: Initial BRMS installation **Task:** Implement BRMS (task 1)	The Contractor must load the BRMS they recommended in their proposal onto an OPM device.	**Due:** 30 days after award **Criteria:** Accepted and approved by the Government
Name: Business rule admin tool **Task:** Implement BRMS (task 1)	The tool RS staff will use to create new, and edit existing business rules. The Government prefers the tool to be an existing product that has worked successfully elsewhere, but a tool created by the Contractor may also be considered.	**Due:** 60 days after award with future drafts to be developed and addressed on a per sprint basis **Criteria:** Accepted by Government after successful testing with users
Name: Business rule admin tool training materials **Task:** Implement BRMS (task 1)	Training for creating and editing business rules. The Government expects the materials to be tailored to Retirement Services' needs.	**Due:** 60 days after award **Criteria:** Accepted by Government after successful testing with users

Name: Auditing tool **Task:** Implement BRMS (task 1)	A tool for auditing all business rule changes. Retirement Services needs to be able to research any change over the life of the BRMS. The tool should allow a non-technical person to easily find information, without the need for training on the tool.	**Due:** 60 days after award **Criteria:** Accepted by Government after successful testing with users
Name: Business rule environments **Task:** Implement BRMS (task 1)	The Contractor must stand up four distinct environments: Development, testing, staging and production.	**Due:** 60 days after award **Criteria:** Accepted and approved by the Government
Name: API specs **Task:** Introduce service (task 2)	The Contractor will provide specifications for the application program interface (API) they intend to build.	**Due:** 30 days after award **Criteria:** Must satisfy OPM security reqs; accepted and approved by the Government
Name: Calculation service Minimum Viable Product (MVP) **Task:** Introduce service (task 2)	The Contractor must create a minimal viable version of the calculation service that is capable of calculating retirement benefits for a basic case.	**Due:** 45 days after award **Criteria:** Must complete successful calculations for 10 basic benefits cases
Name: Calculation service API **Task:** Introduce service (task 2)	The Contractor will introduce a web-accessible calculation service API that allows third-party access to each published rule set.	**Due:** 60 days after award **Criteria:** Satisfies OPM security reqs; acceptance based on successful access from simulated third party
Name: Calculation service beta version	Before all legacy calculations are translated into the BRMS, the contractor must prove the full functionality of the calculation service.	**Due:** 90 days after award **Criteria:** The service must receive an external query via API, produce a calculation based on the appropriate

Task: Introduce service (task 2)		business rules via the BRMS and provide a response via API
Name: Calculation service disaster recovery plan **Task:** Introduce service (task 2)	The Contractor will collaborate with RS staff to create a plan for what to do if the calculation service suffers critical failure.	**Due:** 150 days after award **Criteria:** Draft accepted and approved by the Government
Name: Automated testing reports **Task:** Design and implement testing (task 3)	The Contractor must produce reports that display results from the calculation service compared to results from the legacy calculator.	**Due:** 90 days after award **Criteria:** Successful testing of the reports with users; Successfully compare reports on the calculation of 250 cases
Name: Testing admin tool **Task:** Design and implement testing (task 3)	The Contractor must design and install an administrative interface non-technical people can use to create and run test cases against business rules. They must see the impact of a business rule both before and after it is implemented.	**Due:** 120 days after award **Criteria:** Accepted by Government after successful testing with users

2.1.4 Transition activities

In order to ensure the successful implementation of the efforts associated with this PWS, Contractor will perform the following activities upon being notified they must transition the project to another team (whether a Government team or otherwise). The first column is the name and a description of the transition activity. The second column provides the standard upon which transition activity will be measured.

Transition Activity	Quality Standard
Knowledge transfer. The Contractor will work with RS and OCIO staff to insure that OPM gains the knowledge that will be essential to launching and operating the calculation service. Key areas of knowledge	The PM and Technical Lead will attend daily transition meetings during the final two weeks of the Contractor's service. ● Each transition meeting will last up to 60 minutes each

include: BRMS, calculation service API, calculation testing, service disaster recovery and logistics.	
Documentation. The Contractor will finalize all documentation including training materials, technical specifications and a final report.	Final report will be delivered to OPM's OCIO. ● The report must be free of any grammatical, typographical, or factual errors, must be submitted no later than seven (7) days prior to the end of the POP, and may not be resubmitted more than once
Completed and partial artifacts. Ideally, the app will be completed before the end of the Contractor's service. If not, it is expected that the Contractor will make every effort to prepare partial work such that OPM staff (or their agents) will be well-positioned to complete the work.	All artifacts, including software and code, must be delivered to OPM's OCIO at the end of the Contractor's service. Documentation for each artifact must: ● Describe artifact's level of doneness ● Suggest remaining steps for completion

2.2 Operating constraints

2.2.1 Government constraints

The calculation service must comply with all federal systems security regulations, including the National Institute of Standards and Technology (NIST), the Federal Information Security Management Act (FISMA), and the Federal Risk and Authorization Management Program (FedRAMP).

3.0 Contractor roles and responsibilities

3.1 Roles and responsibilities

The Contractor must designate both a Project Manager (PM) and a Technical Lead as Key Personnel for this project. The PM will be a direct liaison to the Government product team, and will be responsible for the supervision and management of all of the Contractor's personnel. The Technical Lead must have a full understanding of the technical approach to be used by the Contractor's team and will be responsible for ensuring that the Contractor's team follows that approach.

Key Personnel substitutions must be approved by the Government in writing, and will only be justified by the Government request, sudden illness, death, change of employment, or

termination of employment for cause. Contractor requests for a substitution of Key Personnel must include a detailed explanation of the justifying circumstances, and a complete résumé for the proposed substitute or addition, including skills, experience, education, training, and security level. The Government's failure to approve a proposed substitution will not constitute grounds for non-performance by the Contractor, or form a valid basis for any claim for money or any equitable adjustment.

3.2 Key Personnel

3.2.1 Project Manager (PM)

The PM will be a direct liaison to the Government product team, and will be responsible for the supervision and management of all of the Contractor's personnel.

3.2.2 Technical Lead

The Technical Lead must have a full understanding of the technical approach to be used by the Contractor's team and will be responsible for ensuring that the Contractor's team follows that approach.

3.3 Conflict of interest

The Contractor recognizes that, as a result of successfully being awarded the work associated with this PWS, they will have to mitigate any potential conflict of interest for future work related to CoE efforts at OPM.

4.0 Government roles and responsibilities

4.1 Makeup of team

The Government team consists of the CO, the PM, the Contracting Officer's Representative (COR), the Alternate Contracting Officer's Representative (ACOR), a CoE Lead, and (if applicable) a Technical POC (TPOC).

4.2 Contracting personnel

4.2.1 GSA Contracting Officer

The CO for this buy is identified on the cover page. Questions, comments, issues, or responses must be submitted through the methods outlined in this solicitation. Any other forms of communication will not be considered. After award, the CO will delegate most of the day-to-day tasks to the COR, ACOR, CoE Lead, and (if applicable) TPOC.

4.2.2. GSA Project Manager

The PM provides primary contract oversight. The PM ensures the contracting officer representative (COR) is trained before performing any COR duties and supports the COR's

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performance assessment activities. Additionally, the PM will also provide input for the Contractor's performance at periodic points in time.

4.2.3 Other members

A delegation letter for both the COR and ACOR will be provided to the awardee, outlining the contractual roles and responsibilities of the COR and ACOR. The roles and responsibilities of the CoE Lead and TPOC will be provided no later than the kickoff meeting that will follow award. The names and email addresses of the entire team will also be provided no later than the kickoff meeting as well.

5.0 Terms and conditions

5.1 Travel and other direct costs (ODC)

The Contractor may find it necessary to send selected staff to the Retirement Operations Center (ROC) in Boyers, PA throughout the term of this contract. At peak, trips to the ROC may occur weekly. Trips to Macon, GA are less likely, but may be required occasionally.

5.2 Period and place of performance

The estimated period of performance consists of a base for approximately 12 months. All work will occur at OPM locations, primarily in Washington, DC. Trips to Boyers, PA and Macon, GA may also be necessary.

5.3 Payment and invoicing procedures

{{RFQ 5.11}}

6.0 Pricing

Pricing sheet provided via separate cover using the template provided.