

Proposal for Funding made to:
Atlantic Coast Cooperative Statistics Program
Operations and Advisory Committees
150N. Highland Street, Suite 200 A-N
Arlington, VA 22204



Electronic Trip-Level Reporting for the
Potomac River Fisheries Commission
Commercial Fisheries Sector
Revised and Updated Maintenance Request **August 11, 2021**

Submitted by:
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Potomac River Fisheries Commission
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Applicant Name: Potomac River Fisheries Commission

Project Title: Electronic Trip-Level Reporting for the Potomac River Fisheries Commission (PRFC) Commercial Fisheries Sector

Project Type: Maintenance Project: Year One
(No change in scope of work, continued emphasis on Electronic Data Reporting using eTrips, increasing participation, and integration with PRFC databases)

Principal Investigator: Martin L. Gary, PRFC Executive Secretary

Project Manager: Martin L. Gary, PRFC Executive Secretary

Requested Award Amount: **\$215,612.00** for the year two maintenance project. This is intended to scale both participation and supporting IT infrastructure.

Requested Award Period: **March 1, 2021 through February 28, 2022**

Original Date Submitted: June 15, 2021

Revised Date Submitted: **August 13, 2021**

Objective: This is the second year of the project to report trip-level catch and effort data, using the ACCSP eTrips tools, from Commercial license holders who fish within the jurisdiction of the Potomac River Fisheries Commission (PRFC) beginning in the 2022 season, which begins in July 2021 for the FY22 licenses and January 2022 for the CY22 licenses, and continuing in the 2023 seasons, which begins in July 2022 for the FY23 licenses and January 2023 for the CY23 licenses.

Need:

ACCSP and its partner agencies have established the collection of trip-level data as the standard which all agencies should strive to reach and maintain. Over 60 years ago, PRFC began collecting catch and effort data from commercial shellfish (oyster and crab) and finfish permit holders, which are submitted weekly. Storage of the data in electronic databases has taken place since the late 1980s. Since that time, more details regarding the catch have been collected in terms of targeting specific locations, species, and gear. The data are reported at the trip-level on a daily basis and are submitted weekly to PRFC and provided to ACCSP twice annually for the previous calendar year.

The second year of the project will work to increase the use of census-style reporting by expanding the use of ACCSP eTrips technology among a group of PRFC Commercial license holders and evaluating the efficacy of this method compared to traditional methods.

Participating license holders will use ACCSP eTrips tools to report their catch and effort in PRFC managed waters, along with paper reports provided to PRFC to be submitted by PRFC staff also using ACCSP eTrips tools. Electronic harvest reporting has been discussed in the proceedings of meetings of advisory committees to the PRFC and the Commission itself for several years, and numerous harvesters have expressed an interest and willingness to participate. Many commercial constituents are already participating in electronic harvest reporting in Maryland or Virginia, and are eager for similar opportunities to report electronically for PRFC.

Results and Benefits:

During the second year of the project, trip-level reporting to collect catch and effort data from commercial permit holders - harvesters is a goal for all ACCSP partners. On average, on an annual basis (Table 1):

Table 1: Average Count of License Holders and Daily Catch Reports for FY19 & CY19

Gear	License Holders	Daily Catch Reports
Oyster	215	300
Crab	432	11,500
Fish	742	14,000

Presently, the PRFC staff collect, organize, validate, obtain corrections, and enter the catch data for each License Holder - Harvesters, which is a rather labor-intensive effort that potentially induces errors and is time consuming; therefore, the data stored and available for decision making reports can be lagging. The anticipated benefits use of ACCSP eTrips are faster data entry with less errors and less staff hours required.

Data Delivery Plan: During the second year of the project, ACCSP eTrips will collect all catch data reports either directly entered by commercial harvesters or entered on their behalf by PRFC staff. PRFC will leverage the ACCSP eTrips database API to synchronize eTrips catch data with the current custom designed Microsoft Access Data Management System that has been in use for many years for ALL the catch data records that are NOT being entered directly into ACCSP eTrips by the commercial harvesters. The PRFC staff will be entering catch data for some of the paper reports that are submitted to PRFC by the commercial harvesters (see Task 2 in the Approach).

PRFC will continue transmitting data twice per year for all catch reports submitted for the prior year but excluding the records that have been entered into ACCSP eTrips. This will be discontinued once two consecutive reports show 100% consistency with data from ACCSP eTrips.

Approach:

During the second year of the project, PRFC will continue to move away from the current Microsoft (MS) Access databases and Operator interface code that require all license issuing and catch data reporting performed by PRFC staff. PRFC will continue to expand its participation rate and update/improve training processes and materials. Additionally, PRFC will maintain a contract with a Software Development provider company or consultant to continue to maintain relevant interfaces and continue to develop the upgraded cloud application.

During Year 2, PRFC will be in maintenance for the following items:

1. Task 1: Continued Identification of commercial harvesters to participate:

In the second year of the project, continue to expand participation in the project. The commercial harvester community is comprised of a mix of limited entry and open access fishery participants. Though the number varies year to year, approximately 1,400 commercial harvesters are candidates, and based upon the most recent license metrics, the target would be an additional 10% = 280 participants in year two for ACCSP eTrips. The participants will be volunteers. This would provide a reasonable sample within each Gear category that is manageable for the purpose of gaining expertise with how to use the ACCSP eTrips tools, developing enhanced training guides & gaining feedback for future participant expansion.

2. Task 2: ACCSP eTrips installation and training for commercial harvesters. It is anticipated that on average, four (4) hours will be provided to each harvester to support on data entry, submission and use of mobile devices and software. Included within the four hours are staff hours for making presentations at meetings, developing/updating “cheat sheet” guides, and identifying enhancements and overall process improvement. In addition to the harvesters, the PRFC staff will enter a sampling of a variety of paper catch reports into ACCSP eTrips:

The PRFC staff will augment the commercial harvesters ACCSP eTrips submissions to ensure a more comprehensive data set is being processed for the purpose of identifying enhancement requests for the ACCSP eTrips tools and the data can be successfully processed (downloaded, modified / corrected, and uploaded).

3. Task 3: Maintenance of MS Access required interfaces until ACCSP eTrips collected is data is verified as 100% matching with PRFC records:

- a. Download ACCSP eTrips data from ACCSP
- b. Maintain an Operator Interface to validate downloaded data
- c. Upload verified data to ACCSP

Harvest data entered directly into the ACCSP database using eTrips must also be stored within the PRFC database for the foreseeable future until verification of

data and reported occur. The developed software tools will need to be maintained to support the steps of downloading the ACCSP data, viewing & correcting the data if necessary.

4. Task 4: During year two of the project, PRFC intends to continue its migration towards a more modern database platform that is cloud-based, has a more consistent Operator Interface, and is able to be upgraded more efficiently. The requirements will be documented, and the selected vendor will continue to develop and implement.
5. Task 5: During year two of the project PRFC will continue to procure cloud-based resources and work with ACCSP to consider database options that may be more applicable and thus provide cost saving up-front and long term during the sustainment and maintenance phases.
6. Task 6: Continue development and maintenance of web based PRFC applications to perform PRFC office automation functions:
 - a. Process License issue and renewal requests
 - b. Print Licenses and associated tags, flags, and catch report forms, etc..
 - c. Processing paper catch reports
 - d. Reporting interface – currently there are approximately 25 unique reports with many that have sub-options
 - e. Database Utility interface – currently there are approximately 13 unique operations required to modify lookup tables, set/re-set sequencing, and perform database integrity checks and repair
 - f. Transition MS Access data tables to the Oracle database
- a. Train and test the new interface. Prior to the complete cutover from the existing MS Access based database applications ensure that all functionality has been incorporated and performs successfully
- b. Perform modifications as necessary to resolve technical problems
- c. Perform updates as necessary to support new requirements

The current (historical) PRFC data will be exported, possibly reformatted, and imported into the new database system. At this point in time the two systems would be considered “functionally equivalent” and parallel testing can be conducted to ensure all requirements have been implemented. When the new system is mostly successful then the old system can be retired.

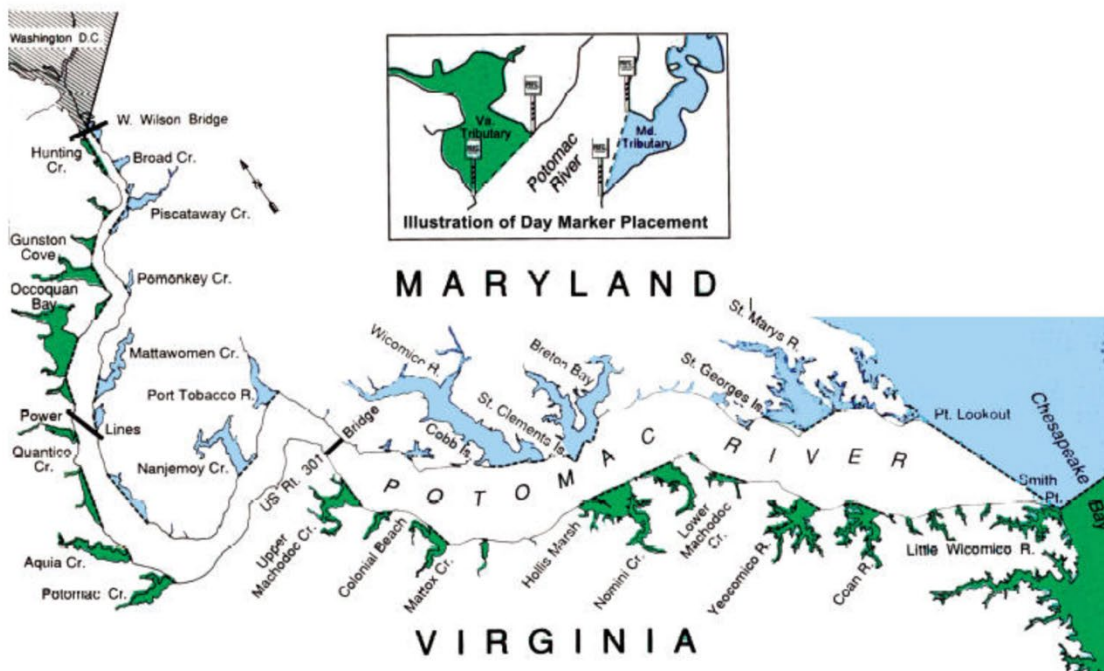
7. Task 7: Continue to increase the number of commercial harvesters using the ACCSP eTrips-tools:

The long-range optimal goal would be to have 100% of the commercial harvesters using the ACCSP eTrips tools but a more realistic goal would be to have at least 90% participation by the end of the fourth year. The target for each year, starting with Year 2 would be to increase the participation by at

least 10% of the total number of commercial harvesters. To facilitate the effort to meet these goals:

- i. Provide direct support as needed using PRFC staff via phone or in-person
- ii. Presentations at various Committee meetings with demonstrations and open for questions
- iii. Creating short “tri-fold” instructions specific to various topics
- iv. Creating short YouTube video tutorials specific to various topics
- v. Utilize existing ACCSP support products (e.g., videos, tech support and other)
- vi. Incentivizing future participation by using various strategies, such as:
 1. Successful strategies used by other jurisdictions (e.g., Rhode Island license endorsement)
 2. Establishing a fee for having the PRFC staff perform the ACCSP eTrips data entry such as a flat fee - \$100 per License Holder per year
 3. Fee per Gear Type - \$25 for each gear type license
 4. Fee per Week per Gear Type - \$5 for each weekly report for each gear type license

Geographic Location: Jurisdictional waters of the Potomac River Fisheries Commission. From the Woodrow Wilson Bridge (District of Columbia Demarcation) downriver to the confluence of the Chesapeake Bay. Approximately 100 nautical miles.



Milestone Schedule:

Task # / Month	Project Period Month												
	1	2	3	4	5	6	7	8	9	10	11	12	
T1: Identification of License Holder Participants	X	X	X	X	X	X	X	X	X	X	X	X	X
T2: eTrips installation & training; data entry	X	X	X	X	X	X	X	X	X	X	X	X	X
T3: MS Access Operator Interface Maintenance	X	X	X	X	X	X	X	X	X	X	X	X	X
T4: Software modifications	X	X	X	X	X	X	X	X	X	X	X	X	X
T5: Maintain Oracle Cloud Database	X	X	X	X	X	X	X	X	X	X	X	X	X
T6: Develop & Maintain Oracle web-based applications	X	X	X	X	X	X	X	X	X	X	X	X	X
T7: Commercial Harvesters increased participation	X	X	X	X	X	X	X	X	X	X	X	X	X

Project Accomplishments Measurement:

The results of this project will provide the basis to improve the accuracy and timeliness of catch and effort estimations, and could subsequently inform science, stock assessments, and management policies.

The results will help determine the scope of the effort to migrate to a more robust database system that is more accessible to the Commercial License Holders.

PRFC in Year 1 completed one task fully and made progress on many others.

1. Year 1 Task 5 Completed: Established contract for the software development work required to complete Tasks 3 through 6.

PRFC will continue to monitor progress and accomplishment using the following goals and measurements.

Task	Goal	Measurement
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Potomac River Fisheries Commission (PRFC)

ACCSP Funding Proposal: Electronic Trip-Level Reporting for the PRFC Commercial Fisheries Sector Revised and Updated Maintenance Request
Revisions are highlighted in yellow.

T1: Identification of License Holder Participants	Identification of additional 10% commercial harvesters to target for enrollment in eTrips electronic catch reporting.	Records updated to reflect they have been contacted and notified about the opportunity and its benefits.
T2: eTrips installation & training; data entry	100% of identified eTrips participants who request training/support receive in person or electronic training/support.	Participant records updated to note whether training has been provided and support provided.
T3: MS Access Operator Interface Maintenance	100% completion and execution of the interface steps.	Verification that the steps executed correctly and ACCSP/PRFC data is synchronized.
T4: Software modifications	100% of requirements documented in RTM and updated to reflect Year 2 changes in process or ACCSP data requirements.	Verification that RTM is completed and updated.
T5: Maintain Oracle Cloud Database	100% of cloud-based services procured and available.	Verification by PRFC staff that cloud services are invoiced and available.
T6: Develop & Maintain Oracle web-based applications	100% of year 2 requirements identified, developed, and delivered.	Completed RTM showing Year 2 requirements marked as complete and verification by PRFC staff.
T7: Commercial Harvesters increased participation	Marketing materials developed and presented at regular meetings and in routine communications. Incentives identified and presented to the PRFC Commissioners for approval.	Verification by PRFC staff that materials were sent and communicated during meetings. Documented minutes showing discussions at Commissioner meeting.

Cost Summary (Budget):

1. BUDGET FOR PROPOSAL PLANNING – FY2021

Description	Calculation	Cost
Personnel (a)		
Principle Investigator	60 hours @ \$57.57/hr	\$3,429.90
Data Administrator	200 hours @ \$21.12/hr	\$4,223.00
Data Management Specialist	600 hours @ \$11.85/hr	\$7,107.00
Personnel Subtotal		\$14,759.90
Fringe (b)		
n/a		
Fringe Subtotal		\$0
Travel (c)		
n/a		
Travel Subtotal		\$0.00
Equipment (d)		
Oracle Cloud Database:		
a. MySQL DB Services 1 instance, 31 days/month, 24 hours/day 1 OCPU 16 GB RAM 50 GB storage 50 GB backup	\$58/month x 12 months	\$696.00
b. Java Cloud Service Enterprise Edition 1 instance, 31 days/month, 24 hours/day 2 OCPU	\$461month x 12 months	\$5,532.00
c. Cloud Infrastructure 1 instance, 31 days/month, 24 hours/day 2 X9 OCPU 32 GB X9 RAM 50 GB storage	\$164/month x 12 months	\$1,968.00
d. Oracle APEX 1 instance, 31 days/month, 24 hours/day 2 OCPU 1 TB Storage	\$598/month x 12 months	\$7,176.00
Equipment Subtotal		\$15,372.00
Supplies (e)		
n/a		
Supplies Subtotal		\$0.00

Contractual (f)		
In-house Consultant/Developer	396 hours @ \$103/hr	\$40,788.00
Vendor/Developer	1,121 hours @ \$123.60/hr	\$138,555.60
Contractual Subtotal		\$179,343.60
Other (h)		
n/a		
Totals		
Total Direct Charges (i)		\$209,475.56
Indirect Charges (j)	n/a	\$0.00
Total (sum of Direct and Indirect) (k)		\$209,475.56

2. BUDGET - FY2020 - APPROVED BY ACCSP

Description	Calculation	Cost
Personnel (a)		
Principle Investigator	60 hours @ \$55.50/hr	\$3,330.00
Data Administrator	200 hours @ \$20.50/hr	\$4,100.00
Data Management Specialist	600 hours @ \$11.50/hr	\$6,900.00
Fringe (b)		
Principle Investigator	14% of salary	\$455.55
Data Administrator	51% of salary	\$2,092.93
Data Management Specialist	49% of salary	\$3,401.46
Travel (c)		
n/a		
Equipment (d)		
Oracle Cloud Database:		
e. MySQL DB Services 1 instance, 31 days/month, 24 hours/day 50 GB storage 50 GB backup	\$21/month x 8 months	\$168.00
f. Java Cloud Service Enterprise Edition 1 instance, 31 days/month, 24 hours/day	\$550/month x 8 months	\$4,400.00
g. Cloud Infrastructure 1 instance, 31 days/month, 24 hours/day 50 GB storage	\$33/month x 8 months	\$264.00
Supplies (e)		
n/a		

Contractual (f)		
In-house Consultant/Developer	501 hours @ \$100/hr	\$50,100.00
Vendor/Developer	1,180 hours @ \$130/hr	\$140,400.00
Other (h)		
n/a		
Totals		
Total Direct Charges (i)		\$215,612.00
Indirect Charges (j)	n/a	\$0.00
Total (sum of Direct and Indirect) (k)		\$215,612.00

BUDGET NARATIVE

(Requested Funding Period, FY21)

Project: Electronic Trip-Level Reporting for the Potomac River Fisheries Commission (PRFC) Commercial Fisheries Sector

Project Period: 1 March 2020 – 28 February 2021

1 Year Funding: \$209,475.56

Prepared By: Martin L. Gary, PRFC Executive Secretary

Personnel (Salaries) \$14,759.90: Three PRFC employees' salary time will be covered using these funds. The three employees are: Principle Investigator, for 60 hours (\$3,429.90); Data Administrator, for 200 hours (\$4,223.00), and a Data Management Specialist, for 600 hours (\$7,107.00).

Fringe Benefits \$0.00: N/A

Travel \$0.00: N/A

Equipment \$15,372.00: Oracle Cloud Infrastructure (OCI) resources are procured to host the PRFC interface between ACCSP and PRFC's MS Access application on a monthly basis. Additionally, PRFC's modernized application runs on the OCI infrastructure as well.

Supplies \$0.00: N/A

Contractual \$179,343.60:

In-house Consultant – Ray Draper: \$40,788.00

Updating the existing PRFC Access based application will require the knowledge and expertise of the consultant/developer Ray Draper. Ray has designed and developed the entire PRFC application from the ground up over the last 15 years and will be the primary developer of the ACCSP interface. This work will require five (5) months of part-time development work, estimated at 396 hours total, and PRFC has contracted with Ray at a rate of \$103 an hour to perform these services.

Talent & Technical Solutions Corporation (TTSC): \$138,555.60

Developing a new PRFC database, procuring cloud services and infrastructure, and assisting with the PRFC existing application integration will be handled by TTSC. PRFC has contracted with TTSC at a rate of \$123.60 an hour and expects the work to support T3, T4, T6, and T7 to take 12 months of part-time work and an estimated 1,121 hours.

Other \$0.00: N/A

BUDGET NARATIVE

(Approved Funding Period, FY20)

Project: Electronic Trip-Level Reporting for the Potomac River Fisheries Commission (PRFC) Commercial Fisheries Sector

Project Period: 1 March 2020 – 28 February 2021

1 Year Funding: \$215,612.00

Prepared By: Martin L. Gary, PRFC Executive Secretary

Personnel (Salaries) \$14,330.00: Three PRFC employees' salary time will be covered using these funds. The three employees are: Principle Investigator, for 60 hours (\$3,330.00); Data Administrator, for 200 hours (\$4,100.00), and a Data Management Specialist, for 600 hours (\$6,900.00).

Fringe Benefits \$5,950.00: The current PRFC fringe benefit cost is set per employee at: Principle Investigator at 14% of Salary (\$455.55), Data Administrator at 51% of salary (\$2,092.93), and Data Management Specialist at 49% of salary (\$3,401.46). The Principle Investigator falls within the fringe guidelines set forth by NOAA, however, a full breakdown of how the Fringe Benefits are calculated below (PRFC does not have a NICRA established).

		Principle Investigator	Data Administrator	Data Management Specialist
Gross	Annually	\$ 111,000.00	\$ 41,000.00	\$ 23,000.00
	Hourly	\$ 55.50	\$ 20.50	\$ 11.50
Fringe	Health	\$ -	\$ 15,418	\$ 8,333
	Retirement	\$ 13,086	\$ 4,945	\$ 2,696
	Life	\$ 1,499	\$ 566	\$ 309
	Disability	\$ -	\$ -	
	Def Comp	\$ 600	\$ -	\$ -
	Total:	\$ 15,185	\$ 20,929	\$ 11,338
	Per Hour:	\$ 7.59	\$ 10.46	\$ 5.67
Hours / Year:	2000			
	Rate:	14%	51%	49%
		\$ 7.59	\$ 10.46	\$ 5.67
	Hours:	60	200	600
		\$ 455.55	\$ 2,092.90	\$ 3,401.40
	Total Cost:	\$ 3,330.00	\$ 4,100.00	\$ 6,900.00

Travel \$0.00: N/A

Equipment \$4,832.00: Oracle Cloud Infrastructure (OCI) resources are procured to host the PRFC interface between ACCSP and PRFC's MS Access application on a monthly basis. Additionally, PRFC's modernized application runs on the OCI infrastructure as well.

Supplies \$0.00: N/A

Contractual \$190,500.00:

In-house Consultant – Ray Draper: \$50,100.00

Updating the existing PRFC Access based application will require the knowledge and expertise of the consultant/developer Ray Draper. Ray has designed and developed the entire PRFC application from the ground up over the last 15 years and will be the primary developer of the ACCSP interface. This work will require five (5) months of part-time development work, estimated at 501 hours total, and PRFC has contracted with Ray at a rate of \$100 an hour to perform these services.

Talent & Technical Solutions Corporation (TTSC): \$140,400.00

Developing a new PRFC database, procuring cloud services and infrastructure, and assisting with the PRFC existing application integration will be handled by TTSC. PRFC has contracted with TTSC at a rate of \$130 an hour and expects the work to support T3, T4, T6, and T7 to take 12 months of part-time work and an estimated 1,180 hours.


Other \$0.00: N/A

Maintenance Projects History for Primary Program Priorities:

Funding Fiscal Year	Amount	Time Period	Results/Comments
2020	\$215,612.00	1 Mar 2020 – 28 Feb 2021	Pilot implementation of ACCSP eTrips and initial development of PRFC Interface & modernized cloud application

Ranking Guide – Maintenance Projects:

Primary Program Priority	Point Range	Description of Ranking Consideration
Catch and Effort	0 – 10	Rank based on range within module and level of sampling defined under Program design. When considering biological, bycatch or recreational funding, rank according to priority matrices.
Biological Sampling	0 – 10	
Bycatch/Species Interactions	0 – 6	
Social and Economic	0 – 4	
Data Delivery Plan	+ 2	Additional points if a data delivery plan to Program is supplied and defined within the proposal.

Project Quality Factors	Point Range	Description of Ranking Consideration
Multi-Partner/Regional impact including broad applications	0 – 5	Rank based on the number of Partners involved in project OR regional scope of proposal (e.g. geographic range of the stock).
> yr 2 contains funding transition plan and/or justification for continuance	0 – 4	Rank based on defined funding transition plan away from Program funding or viable justification for continued Program funding.
In-kind contribution	0 – 4	1 = 1% - 25% 2 = 26% - 50% 3 = 51% - 75% 4 = 76% - 99%
Improvement in data quality/quantity/timeliness	0 – 4	1 = Maintain minimum level of needed data collections  4 = Improvements in data collection reflecting 100% of related module as defined within the Program design. Metadata is provided and defined within proposal if applicable.
Potential secondary module as a by-product (In program priority order)	0 – 3 0 – 3 0 – 3 0 – 1	Ranked based on additional module data collection and level of collection as defined within the Program design of individual module.
Impact on stock assessment	0 – 3	Rank based on the level of data collection that leads to new or greatly improved stock assessments.

Other Factors	Point Range	Description of Ranking Consideration
Properly Prepared	-1–1	Meets requirements as specified in funding decision document Step 2b and Guidelines
Merit	0 – 3	Ranked based on subjective worthiness

Maintenance funding requested)

Ranking Factors	Point Range	Description of Ranking Consideration
Achieved Goals	0 – 3	Proposal indicates project has consistently met previous set goals. Current proposal provides project goals and if applicable, intermediate metrics to achieve overall achieved goals.
Data Delivery Plan	0 – 2	Ranked based if a data delivery plan to Program is supplied and defined within the proposal.
Level of Funding	-1 – 1	-1 = Increased funding from previous year 0 = Maintained funding from previous year 1 = Decreased funding from previous year
Properly Prepared	-1 – 1	-1 = Not properly prepared 1 = Properly prepared
Merit	0 – 3	Ranked based on subjective worthiness