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**Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force** **Date:** March 2024

<b>Appropriation/Budget Activity</b> 3620F: Research, Development, Test & Evaluation, Space Force I BA 5: System Development & Demonstration (SDD)	<b>R-1 Program Element (Number/Name)</b> PE 1206422SF / Weather System Follow-on
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	135.374	47.110	79.727	49.207	0.000	49.207	39.901	35.753	25.828	9.367	0.000	422.267
65A038: SSA Environmental Monitoring	4.574	1.438	0.000	2.042	0.000	2.042	2.088	2.136	2.184	0.000	0.000	14.462
65A039: WSF-M	130.800	45.672	79.727	47.165	0.000	47.165	37.813	33.617	23.644	9.367	0.000	407.805

**A. Mission Description and Budget Item Justification**

In FY 2023, PE 1206422SF, Weather System Follow-On, Project 644289, Weather Satellite Follow-On, R-1 Line #8 efforts were transferred to PE 1206422SF, Weather System Follow-On, Project 65A039, Weather System Follow-on - Microwave (WSF-M), R-1 Line #20 reflecting the successful completion of Milestone B on 15 May 2020.

Weather System Follow-on program 1206422SF consists of Space Situational Awareness Environmental Monitoring (SSAEM) Project 65A038 and WSF-M Project 65A039.

SSAEM Project 65A038 is a non-ACAT, Class D technology demonstration project to support the international Constellation Observing System for Meteorology, Ionosphere and Climate 2 (COSMIC-2) mission. The SSAEM program provides the acquisition, development and launch/on-orbit support of 18 space/terrestrial weather sensors to COSMIC-2 partnership in coordination with National Oceanic and Atmospheric Administration (NOAA) and Taiwan Space Agency (TASA). COSMIC-2 launched six satellites in an equatorial, Low Earth Orbit (LEO) with 3 SSAEM sensors in each spacecraft in FY 2019. The sensor types are Tri-Global Navigation Satellite System (Tri-GNSS) Radio occultation System (TGRS), Ion Velocity Meter (IVM) and Radio Frequency Beacon (RFB). The SSAEM sensors will address three distinct Joint Requirement Oversight Committee (JROC)-approved Category A weather capability gaps, specifically Gap #4 (Ionospheric Density), Gap #7 (Equatorial Ionospheric Scintillation) and Gap #12 (Electric Field), to provide additional space meteorological data to improve forecast capabilities and improve warfighter navigation/communication capabilities.

The Weather Satellite Follow-on - Microwave (WSF-M) Project 65A039 includes funds for the WSF-M system, the Compact Ocean Wind Vector Radiometer (COWVR) technology demonstration, and the Energetic Charged Particle (ECP) sensor development.

Weather System Follow-on (WSF) is a Low-Earth Orbit (LEO) microwave imaging system developed and delivered by the United States Space Force's Space Systems Command (SSC). WSF is the next generation of space-based passive microwave sensing technology. It will provide U.S. and Allied warfighters with essential weather data, including the measurement of ocean surface wind speed and direction, ice thickness, snow depth, soil moisture, and local spacecraft energetic charged particle environment. The ocean surface wind speed measurement enables tropical cyclone intensity determination by the Joint Typhoon Warning Center. The data gathered by WSF will be provided to meteorologists in support of the generation of a wide variety of weather products necessary to conduct mission planning and operations globally.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2025 Air Force	<b>Date:</b> March 2024
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<b>Appropriation/Budget Activity</b> 3620F: <i>Research, Development, Test &amp; Evaluation, Space Force I BA 5: System Development &amp; Demonstration (SDD)</i>	<b>R-1 Program Element (Number/Name)</b> PE 1206422SF / <i>Weather System Follow-on</i>
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WSF is an Acquisition Category IB program comprised of two Space Vehicles (SV) and their associated command, control, and data dissemination network. Global environmental monitoring data is gathered, stored, and down-linked through the Satellite Control Network (SCN) and disseminated to Air Force and Navy weather centers. Additionally, data is broadcast real time by the satellite for utilization by heritage Direct Readout Terminals that use the data for local weather forecasting.

WSF is a Major Defense Acquisition Program (MDAP) with the Space Force as the lead component. Founded on the Space-Based Environmental Monitoring (SBEM) Analysis of Alternatives (AoA) results, the WSF will be to enable:

- 1) Timely weather collection over broad oceans in support of maneuvering forces;
- 2) Space weather capabilities to characterize operational orbits, space situational awareness, and the ionosphere.

Secondary investments may be supported to address weather gaps identified in the SBEM AoA and validated by the JROC.

COWVR is an on-orbit demonstration project of the new COWVR technology to deliver Weather Gap #3, Ocean Surface Vector Winds (OSVW) and Gap #8, Tropical Cyclone Intensity (TCI).

ECP supports the SBEM Weather Gap #11, Low Earth Orbit Energetic Charged Particle Characterization. To support this requirement, the ECP sensor will be integrated on the WSF-M satellites.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver WSF for weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 1206392SF and 1206398SF.

This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full rate production.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>
Previous President's Budget	48.720	79.727	50.884	0.000	50.884
Current President's Budget	47.110	79.727	49.207	0.000	49.207
Total Adjustments	-1.610	0.000	-1.677	0.000	-1.677
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-1.610	0.000			
• Other Adjustments	0.000	0.000	-1.677	0.000	-1.677

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force Date: March 2024

**Appropriation/Budget Activity**  
3620F: *Research, Development, Test & Evaluation, Space Force I BA 5: System Development & Demonstration (SDD)*

**R-1 Program Element (Number/Name)**  
PE 1206422SF / *Weather System Follow-on*

**Change Summary Explanation**

FY 2023: -1.610M for SBIR/STTR transfer  
FY 2025: +\$2.025M FY25 POM Adjustment (+\$2.038M BPAC 65A038 and -\$0.013M BPAC 65A039)  
FY 2025: The FY 2025 funding request was reduced by \$3.8 million to account for the availability of prior year execution balances.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Air Force										<b>Date:</b> March 2024		
<b>Appropriation/Budget Activity</b> 3620F / 5					<b>R-1 Program Element (Number/Name)</b> PE 1206422SF / <i>Weather System Follow-on</i>				<b>Project (Number/Name)</b> 65A038 / <i>SSA Environmental Monitoring</i>			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>FY 2029</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
65A038: <i>SSA Environmental Monitoring</i>	4.574	1.438	0.000	2.042	0.000	2.042	2.088	2.136	2.184	0.000	0.000	14.462
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**A. Mission Description and Budget Item Justification**

The Space Situational Awareness Environmental Monitoring (SSAEM) program is a non-ACAT, Class D technology demonstration project to support the international Constellation Observing System for Meteorology, Ionosphere and Climate 2 (COSMIC-2) mission. The SSAEM program provides the acquisition, development and launch/on-orbit support of 18 space/terrestrial weather sensors to COSMIC-2 partnership in coordination with National Oceanic and Atmospheric Administration (NOAA) and Taiwan Space Agency (TASA). COSMIC-2 launched six satellites in an equatorial, Low Earth Orbit (LEO) with 3 SSAEM sensors in each spacecraft in FY 2019. The sensor types are Tri-Global Navigation Satellite System (Tri-GNSS) Radio occultation System (TGRS), Ion Velocity Meter (IVM) and Radio Frequency Beacon (RFB). The SSAEM sensors will address three distinct Joint Requirement Oversight Committee (JROC)-approved Category A weather gaps, specifically Gap #4 (Ionospheric Density), Gap #7 (Equatorial Ionospheric Scintillation) and Gap #12 (Electric Field), to provide additional space meteorological data to improve forecast capabilities and improve warfighter navigation/communication capabilities.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver SSAEM for weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 1206392SF and 1206398SF.

The RFB ground station equipment will be transferred to AFRL to continue development and potential fielding options for future ops capability. Operational fixes for TGRS began 2QFY23 and IVM validation finalizes later in FY 2023. Design life has extended through FY 2033 due to system performance exceeding expectations.

**B. Accomplishments/Planned Programs (\$ in Millions)**

	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>
<b>Title:</b> Space Situational Awareness Environment Monitoring (SSAEM)	1.438	0.000	2.042	0.000	2.042
<b>Description:</b> The SSAEM program provides the acquisition, development and launch/on-orbit support of 18 space/terrestrial weather sensors to COSMIC-2 partnership in coordination with National Oceanic and Atmospheric Administration (NOAA) and Taiwan's National Space Organization (NSPO).					
<b>FY 2024 Plans:</b> N/A.					
<b>FY 2025 Base Plans:</b> Implement operational improvements, deliver new upgrades to data products, continue improvements through Solar Maximum period. Rapidly respond to implement system resiliency and situational awareness necessary to operate in the contested space domain. Activities may include, but are not limited to program office support,					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Air Force	<b>Date:</b> March 2024
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<b>Appropriation/Budget Activity</b> 3620F / 5	<b>R-1 Program Element (Number/Name)</b> PE 1206422SF / <i>Weather System Follow-on</i>	<b>Project (Number/Name)</b> 65A038 / <i>SSA Environmental Monitoring</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
studies, technical analysis, experimentation, prototyping, and activities that may leverage commercial and international opportunities.  <b>FY 2025 OCO Plans:</b> N/A  <b>FY 2024 to FY 2025 Increase/Decrease Statement:</b> Funding increase is due to system updates and improvements, adding capability, other sustainment actions.					
<b>Accomplishments/Planned Programs Subtotals</b>	1.438	0.000	2.042	0.000	2.042

**C. Other Program Funding Summary (\$ in Millions)**

N/A

**Remarks**

**D. Acquisition Strategy**

SSAEM post-launch and cal/val support contract is the sole-source contract to University Corporation Atmospheric Research due to their expertise in radio occultation and space weather monitoring for SSAEM sensors. The Justification & Approval (J&A) was approved in June 2018 and the Request for Proposal was released on August 1st, 2018. The contract was awarded in July 2019 for 5-years of post-launch cal/val and on-orbit support. Spacecraft mission life was extended in coordination with NOAA and TASA through FY 2033.



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**Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force** **Date:** March 2024

<b>Appropriation/Budget Activity</b> 3620F / 5	<b>R-1 Program Element (Number/Name)</b> PE 1206422SF / <i>Weather System Follow-on</i>	<b>Project (Number/Name)</b> 65A038 / <i>SSA Environmental Monitoring</i>
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FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<b>Space Situational Awareness</b>	
<b>Environmental Monitoring</b>	
SSAEM Sensor Cal/Val	
On Orbit Activities	
RFBrcyberhardening & Fielding Activities	

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2025 Air Force		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 3620F / 5	<b>R-1 Program Element (Number/Name)</b> PE 1206422SF / <i>Weather System Follow-on</i>	<b>Project (Number/Name)</b> 65A038 / <i>SSA Environmental Monitoring</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>Space Situational Awareness Environmental Monitoring</i></b>				
SSAEM Sensor Cal/Val	1	2023	3	2023
On Orbit Activities	1	2023	4	2028
RFBBr Cyberhardening & Fielding Activities	1	2023	2	2024

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Air Force										<b>Date:</b> March 2024		
<b>Appropriation/Budget Activity</b> 3620F / 5					<b>R-1 Program Element (Number/Name)</b> PE 1206422SF / <i>Weather System Follow-on</i>				<b>Project (Number/Name)</b> 65A039 / <i>WSF-M</i>			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>FY 2029</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
65A039: <i>WSF-M</i>	130.800	45.672	79.727	47.165	0.000	47.165	37.813	33.617	23.644	9.367	0.000	407.805
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**A. Mission Description and Budget Item Justification**

In FY 2023, PE 1206422SF, Weather System Follow-On, Project 644289, Weather Satellite Follow-On, R-1 Line #8 efforts were transferred to PE 1206422SF, Weather System Follow-On, Project 65A039, Weather System Follow-on - Microwave (WSF-M), R-1 Line #20 reflecting the successful completion of Milestone B on 15 May 2020.

The Weather Satellite Follow-on - Microwave (WSF-M) Project 65A039 includes funds for the WSF-M system, the Compact Ocean Wind Vector Radiometer (COWVR) technology demonstration, and the Energetic Charged Particle (ECP) sensor development.

Weather System Follow-on (WSF) is a Low-Earth Orbit (LEO) microwave imaging system developed and delivered by the United States Space Force's Space Systems Command (SSC). WSF is the next generation of space-based passive microwave sensing technology. It will provide U.S. and Allied warfighters with essential weather data, including the measurement of ocean surface wind speed and direction, ice thickness, snow depth, soil moisture, and local spacecraft energetic charged particle environment. The ocean surface wind speed measurement enables tropical cyclone intensity determination by the Joint Typhoon Warning Center. The data gathered by WSF will be provided to meteorologists in support of the generation of a wide variety of weather products necessary to conduct mission planning and operations globally.

WSF is an Acquisition Category IB program comprised of two Space Vehicles (SV) and their associated command, control, and data dissemination network. Global environmental monitoring data is gathered, stored, and down-linked through the Satellite Control Network (SCN) and disseminated to Air Force and Navy weather centers. Additionally, data is broadcast real time by the satellite for utilization by heritage Direct Readout Terminals that use the data for local weather forecasting.

WSF is a Major Defense Acquisition Program (MDAP) with the Space Force as the lead component. Founded on the Space-Based Environmental Monitoring (SBEM) Analysis of Alternatives (AoA) results, the WSF will be to enable:

- 1) Timely weather collection over broad oceans in support of maneuvering forces;
- 2) Space weather capabilities to characterize operational orbits, space situational awareness, and the ionosphere.

Secondary investments may be supported to address weather gaps identified in the SBEM AoA and validated by the JROC.

COWVR is an on-orbit demonstration project of the new COWVR technology to deliver Weather Gap #3, Ocean Surface Vector Winds (OSVW) and Gap #8, Tropical Cyclone Intensity (TCI).

ECP supports the SBEM Weather Gap #11, Low Earth Orbit Energetic Charged Particle Characterization. To support this requirement, the ECP sensor will be integrated on the WSF-M satellites.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Air Force		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 3620F / 5	<b>R-1 Program Element (Number/Name)</b> PE 1206422SF / <i>Weather System Follow-on</i>	<b>Project (Number/Name)</b> 65A039 / <i>WSF-M</i>

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>
<p><b>Title:</b> WSF Microwave Satellite (SV1-2)</p> <p><b>Description:</b> Develop, build, integrate, and test the WSF Microwave (WSF-M) satellites, including bus, payloads, and ground upgrades to satisfy JROC-directed SBEM Capability gaps.</p> <p><b>FY 2024 Plans:</b> Launch, early orbit, checkout, calibration and validation and Initial Operational Capability of WSF-M SV-1. Continue manufacturing and build of SV-2 to include payload and spacecraft unit and subsystems production. Begin SV-2 spacecraft and payload I&amp;T. Rapidly respond to implement system resiliency and situational awareness necessary to operate in the contested space domain. Activities may include, but are not limited to program office support, studies, technical analysis, experimentation, prototyping, etc.</p> <p><b>FY 2025 Base Plans:</b> Complete calibration and validation, and Full Operational Capability of WSF-M SV-1. Conduct integration and test of WSF-M SV-2 to prepare for planned storage. Rapidly respond to implement system resiliency and situational awareness necessary to operate in the contested space domain. Activities may include, but are not limited to program office support, studies, technical analysis, experimentation, prototyping, and activities that may leverage commercial and international opportunities.</p> <p><b>FY 2024 to FY 2025 Increase/Decrease Statement:</b> FY25 decrease due to completion of WSF-M SV-1 launch, calibration and operational acceptance in FY24. Additionally, WSF-M SV-2 long lead purchases completed in FY24.</p>	43.271	76.981	44.734	-	44.734
<p><b>Title:</b> COWVR Tech Demo</p> <p><b>Description:</b> The Compact Ocean Wind Vector Radiometer (COWVR) launch objective supports Category A Weather Requirements, as codified in JROC Memo 092-014, providing on-orbit technology demonstration of the new COWVR technology to deliver Weather Gap #3, Ocean Surface Vector Winds (OSVW) and Gap #8, Tropical Cyclone Intensity (TCI). This is a cooperative mission with NASA for integrating the sensor onto the International Space Station (ISS) as a weather technology demonstration project. The mission designation for the COWVR is Space Test Program Houston Mission #8 (STP-H8). Demonstrating COWVR technology in the space environment remains an important milestone for the microwave data weather mission.</p> <p><b>FY 2024 Plans:</b></p>	2.096	1.640	1.640	-	1.640

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Air Force		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 3620F / 5	<b>R-1 Program Element (Number/Name)</b> PE 1206422SF / <i>Weather System Follow-on</i>	<b>Project (Number/Name)</b> 65A039 / <i>WSF-M</i>

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>
<p>Continue operating the sensor and gathering data for potential inclusion into current weather models. This funding includes but is not limited to payload commanding, data interpretation and dissemination, and other ground operational support.</p> <p><b>FY 2025 Base Plans:</b> Continue operating the sensor and gathering data for inclusion into current weather models. This funding includes but is not limited to payload commanding, data interpretation and dissemination, and other ground operational support.</p> <p><b>FY 2024 to FY 2025 Increase/Decrease Statement:</b> N/A.</p>					
<p><b>Title:</b> ECP</p> <p><b>Description:</b> Energetic Charged Particles (ECP) will support the SBEM Weather Gap 11 and address the Secretary of the Air Force (SECAF) policy which directed each Space Force Satellite Office to plan for ECP sensors on all pre-Milestone B satellite acquisitions. To support this requirement, the ECP sensor will be integrated on the WSF-M satellites.</p> <p><b>FY 2024 Plans:</b> Begin integration and test of ECP payload for SV-2.</p> <p><b>FY 2025 Base Plans:</b> Integrate ECP payload on WSF-M SV-2.</p> <p><b>FY 2024 to FY 2025 Increase/Decrease Statement:</b> FY25 decrease due to ECP for WSF-M SV-2 completing payload integration in FY24.</p>	0.305	1.106	0.791	-	0.791
<b>Accomplishments/Planned Programs Subtotals</b>	45.672	79.727	47.165	-	47.165

<p><b>C. Other Program Funding Summary (\$ in Millions)</b> N/A</p> <p><b>Remarks</b></p> <p><b>D. Acquisition Strategy</b> The acquisition strategy for WSF is based on validated SBEM AoA results from FY 2014 and subsequent acquisition strategy development activities that were conducted in FY 2015. The WSF acquisition strategy focuses on streamlined acquisition processes for providing materiel solutions to OSVW, TCI &amp; LEO ECP, as validated by the</p>
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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Air Force	<b>Date:</b> March 2024
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<b>Appropriation/Budget Activity</b> 3620F / 5	<b>R-1 Program Element (Number/Name)</b> PE 1206422SF / <i>Weather System Follow-on</i>	<b>Project (Number/Name)</b> 65A039 / <i>WSF-M</i>
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JROC; deliver microwave sensing solution to address DoD needs for OSVW and TCI capabilities and deliver space environment sensing solution to address LEO ECP capabilities for on-orbit attributions and support of anomaly resolutions.

The Space Force is conducting a technology demonstration of the Compact Ocean Wind Vector Radiometer (COWVR) sensor on the International Space Station (ISS), utilizing its unique technology demonstration capabilities for on-orbit demonstration of COWVR technology. The Space Systems Command (SSC) Space Test Program Office is the lead Space Force organization spearheading the NASA partnership, with the SSC Space Sensing (SN) Directorate responsible for the COWVR sensor and providing programmatic support to enable COWVR sensor to ISS integration/technology demonstration.

The program awarded a contract for WSF-M with up to two satellites through a full and open competition. The WSF-M first satellite (SV-1) base contract awarded Nov 2017. The pre-priced WSF-M SV-2 option was exercised in Nov 2022. WSF-M SV-2 ILC is 3rd quarter FY 2027. The WSF SV-2 will be functionally equivalent to SV-1. The Naval Research Lab Blossom Point Tracking Facility (BPTF) will be the Satellite Operations Center (SOC) for WSF-M.

The WSF ECP sensor is developed by AFRL and will be integrated onto the WSF-M satellites.

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force** **Date:** March 2024

<b>Appropriation/Budget Activity</b> 3620F / 5	<b>R-1 Program Element (Number/Name)</b> PE 1206422SF / <i>Weather System Follow-on</i>	<b>Project (Number/Name)</b> 65A039 / <i>WSF-M</i>
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<b>Product Development (\$ in Millions)</b>				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
WSF COWVR Technology Demonstration	Various	Various : TBD	1.455	2.096	Apr 2023	1.640	Apr 2024	1.640	Apr 2025	-		1.640	0.000	6.831	-
WSF Microwave System (SV1-2)	C/CPFF	Ball Aerospace, : Boulder, CO	92.963	24.480	Nov 2022	53.625	Nov 2023	21.360	Nov 2024	-		21.360	47.496	239.924	506.890
WSF ECP	C/Various	Various : Various	2.780	0.305	Jan 2023	1.106	Jan 2024	0.791	Jan 2025	-		0.791	0.000	4.982	-
WSF Enterprise Systems Engineering & Integration	C/CPAF	Engility Corp : Andover, MA	3.230	0.791	Nov 2022	2.325	Nov 2023	3.125	Nov 2024	-		3.125	8.224	17.695	-
WSF Technical Mission Analysis	RO	Aerospace Corp. : El Segundo, CA	11.220	6.424	Nov 2022	7.102	Nov 2023	6.975	Nov 2024	-		6.975	11.930	43.651	-
WSF Blossom Point Naval Research Laboratory	MIPR	NRL : Welcome, MD	6.429	6.699	Dec 2022	4.017	Dec 2023	3.986	Dec 2024	-		3.986	14.124	35.255	-
SBIR/STTR	Various	Not specified. : TBD	0.000	1.563		2.790		1.781		-		1.781	3.773	9.907	-
<b>Subtotal</b>			118.077	42.358		72.605		39.658		-		39.658	85.547	358.245	N/A

<b>Management Services (\$ in Millions)</b>				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
WSF FFRDC	RO	Aerospace Corp : El Segundo, CA	4.752	2.753	Nov 2022	3.342	Nov 2023	3.282	Nov 2024	-		3.282	13.559	27.688	-
WSF A&AS	Various	Various : El Segundo, CA	7.394	0.380	Feb 2023	3.572	Feb 2024	3.965	Feb 2025	-		3.965	4.467	19.778	-
WSF Other Support	Various	Various : El Segundo, CA	0.577	0.181	Nov 2022	0.208	Nov 2023	0.260	Nov 2024	-		0.260	0.654	1.880	-
<b>Subtotal</b>			12.723	3.314		7.122		7.507		-		7.507	18.680	49.346	N/A

	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract	
<b>Project Cost Totals</b>		130.800	45.672	79.727	47.165	-	47.165	104.227	407.591	N/A

**Remarks**

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**Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force** **Date:** March 2024

<b>Appropriation/Budget Activity</b> 3620F / 5	<b>R-1 Program Element (Number/Name)</b> PE 1206422SF / <i>Weather System Follow-on</i>	<b>Project (Number/Name)</b> 65A039 / <i>WSF-M</i>
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FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<b><i>Weather System Follow-On</i></b>																												
WSF SV-1 Production/Integration and Test																												
WSF SV-1 Initial Launch Capability																												
WSF SV-1 Initial Operational Capability																												
WSF SV-1 Full Operational Capability																												
WSF ECP Development & Delivery to Prime Contractor for SV-2																												
WSF SV-2 Production/Integration and Test																												
WSF SV-2 Initial Launch Capability																												
WSF SV-2 Initial Operation Capability																												
WSF SV-2 Full Operational Capability																												
COWVR Technology Demonstration On-Orbit Operations																												

**UNCLASSIFIED**

**Exhibit R-4A, RDT&E Schedule Details:** PB 2025 Air Force **Date:** March 2024

<b>Appropriation/Budget Activity</b> 3620F / 5	<b>R-1 Program Element (Number/Name)</b> PE 1206422SF / <i>Weather System Follow-on</i>	<b>Project (Number/Name)</b> 65A039 / <i>WSF-M</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>Weather System Follow-On</i></b>				
WSF SV-1 Production/Integration and Test	1	2023	4	2023
WSF SV-1 Initial Launch Capability	2	2024	2	2024
WSF SV-1 Initial Operational Capability	3	2024	4	2024
WSF SV-1 Full Operational Capability	2	2025	2	2025
WSF ECP Development & Delivery to Prime Contractor for SV-2	4	2024	4	2024
WSF SV-2 Production/Integration and Test	1	2023	2	2027
WSF SV-2 Initial Launch Capability	3	2027	3	2027
WSF SV-2 Initial Operation Capability	2	2028	2	2028
WSF SV-2 Full Operational Capability	2	2029	2	2029
COWVR Technology Demonstration On-Orbit Operations	1	2023	4	2025