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| Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Air Force  |             |         |         |              |  |               |         |         |         | Date: February 2015 |                  |            |
|--|-------------|---------|---------|--------------|--|---------------|---------|---------|---------|---------------------|------------------|------------|
| Appropriation/Budget Activity<br>3600: Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development |             |         |         |              | R-1 Program Element (Number/Name)<br>PE 0305111F I Weather Service |               |         |         |         |                     |                  |            |
| COST (\$ in Millions)  | Prior Years | FY 2014 | FY 2015 | FY 2016 Base | FY 2016 OCO  | FY 2016 Total | FY 2017 | FY 2018 | FY 2019 | FY 2020             | Cost To Complete | Total Cost |
| Total Program Element  | -           | 19.950  | 20.102  | 29.955       | -  | 29.955        | 26.564  | 26.834  | 27.396  | 27.939              | Continuing       | Continuing |
| 672738: Weather Service  | -           | 19.950  | 20.102  | 29.955       | -  | 29.955        | 26.564  | 26.834  | 27.396  | 27.939              | Continuing       | Continuing |
| Quantity of RDT&E Articles   | -           | -       | -       | -            | -  | -             | -       | -       | -       | -                   |                  |            |

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

This budget activity funds operational development necessary to acquire, sustain, and enhance segments of the Air Force Weather Weapon System (AFWWS). Activities also include studies and analysis to support both current program planning and execution and future program planning. Program Management Administration costs include Federally Funded Research and Development Centers and Advisory and Assistance Service. AFWWS provides timely, accurate, consistent and relevant space and atmospheric (a.k.a. terrestrial) weather information for global battlespace situational awareness. AFWWS supports worldwide operations of Air Force and Army warfighters, Special Operation Forces, and other government agencies with weather observing and forecasting capabilities at in-garrison, and deployed locations as well as centralized, reach-back capabilities. AFWWS activities align under four capability areas: Weather Data Collection, Weather Data Analysis and Dissemination, Weather Forecasting, and Product Tailoring/Warfighter Applications. This alignment ensures an integrated and systems-oriented approach to program management decisions.

Weather Data Collection provides automated atmospheric and space environmental sensing capabilities at fixed and deployed locations worldwide. Projects include Next Generation Radar (WSR-88D) and Upper Air Observing Follow-On. FY16 funding will enhance system technical performance based upon state-of-the-art signal processor technology for enhanced discrimination of precipitation types, severe weather detection, and rainfall amount estimations and will continue operationalizing new upper air sounding capability that uses laser technology.

Weather Data Analysis and Dissemination provides a net-centric infrastructure that assimilates worldwide sources of atmospheric and space weather data and produces decision-quality information for warfighters. Improved analysis of real-time weather information supports DoD's Warfighting and Enterprise Information Environment Mission Areas as well as DoD's role in transformation of the National Airspace System through the Next Generation Air Transportation System and enhances Air Force energy security plans. In FY16 Air Force Weather-Web Services (AFW-WEBS) moved into this capability area from Weather Forecasting to better align its function of integration of net-centric capabilities. FY16 funding will continue development of incremental software enhancements and integration of (1) improved analysis capabilities, including processing of data from new environmental sensing satellite sources and (2) Open Geospatial Consortium services, comprised of Web Map Services (WMS), Web Coverage Services (WCS), and Web Feature Services (WFS); which provide more impact-based information and are tailored towards specific missions/use cases.

Weather Forecasting provides advanced scientific numerical weather prediction capabilities for automated, high resolution forecast products for mission execution, rehearsal, and planning. Weather Forecasting includes projects for Numerical Weather Modeling; Weather Services - Live, Virtual, Constructive (WS-LVC, formerly Environmental Data Cube System Support), and the Space Weather Analysis and Forecast System. FY16 funding will continue development of software to integrate advanced atmospheric and space weather forecast capabilities to improve models for warfighter operations. Additionally, Weather Forecasting capabilities will

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| be expanded to both integrate and exploit data from new environmental sensing satellite sources and expanded weather products/services for Live, Virtual, and Constructive events for DoD Modeling and Simulation (M&S) users within Data Center 14866.   |  |  |         |                     |             |               |             |               |
| Product Tailoring/Warfighter Applications provide timely, local, and regional target-scale weather information to operational commanders for a given Area of Responsibility and at tactical levels they provide front-line weather information to warfighters, including weather forces, conducting combat operations. This supports the 'train as you fight' concept by assuring fixed and deployable systems have an equivalent operator look and feel. No FY16 funding is requested. |  |  |         |                     |             |               |             |               |
| This program is in Budget Activity 7, Operational System Development, because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.  |  |  |         |                     |             |               |             |               |
| B. Program Change Summary (\$ in Millions)  |  | FY 2014  | FY 2015 | FY 2016 Base        | FY 2016 OCO | FY 2016 Total |             |               |
| Previous President's Budget   |  | 20.643   | 25.102  | 34.205              | -           | 34.205        |             |               |
| Current President's Budget  |  | 19.950   | 20.102  | 29.955              | -           | 29.955        |             |               |
| Total Adjustments   |  | -0.693   | -5.000  | -4.250              | -           | -4.250        |             |               |
| • Congressional General Reductions  |  | -  | -       |                     |             |               |             |               |
| • Congressional Directed Reductions   |  | -  | -5.000  |                     |             |               |             |               |
| • Congressional Rescissions   |  | -  | -       |                     |             |               |             |               |
| • Congressional Adds  |  | -  | -       |                     |             |               |             |               |
| • Congressional Directed Transfers  |  | -  | -       |                     |             |               |             |               |
| • Reprogrammings  |  | -  | -       |                     |             |               |             |               |
| • SBIR/STTR Transfer  |  | -0.693   | -       |                     |             |               |             |               |
| • Other Adjustments   |  | -  | -       | -4.250              | -           | -4.250        |             |               |
| Change Summary Explanation  |  |  |         |                     |             |               |             |               |
| - FY15 appropriation reduced by \$5M due to availability of prior year execution balances.  |  |  |         |                     |             |               |             |               |
| - FY16 reduction due higher Air Force priorities.   |  |  |         |                     |             |               |             |               |
| C. Accomplishments/Planned Programs (\$ in Millions)  |  |  |         | FY 2014             | FY 2015     | FY 2016 Base  | FY 2016 OCO | FY 2016 Total |
| Title: Next Generation Radar (NEXRAD)   |  |  |         | 0.189               | 0.191       | 0.200         | -           | 0.200         |
| Description: NEXRAD is a tri-agency program that manages a nation-wide doppler weather radar network to provide radar data and products for flight operations and resource protection. This effort was formerly included in "Weather Data Collection."  |  |  |         |                     |             |               |             |               |
| FY 2014 Accomplishments:  |  |  |         |                     |             |               |             |               |

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| C. Accomplishments/Planned Programs (\$ in Millions)   |  | FY 2014  | FY 2015 | FY 2016<br>Base     | FY 2016<br>OCO | FY 2016<br>Total |
| Participated with National Weather Service and Federal Aviation Administration to develop signal processing initiatives such as CLEAN-AP (Clutter Environment Analysis using Adaptive Parameters) and SPRT (Staggered Pulse Repetition Time).<br><br><b>FY 2015 Plans:</b><br>Participate with National Weather Service and Federal Aviation Administration to fine tune and develop differential reflectivity (ZDR) calibration methods.<br><br><b>FY 2016 Base Plans:</b><br>Will participate with National Weather Service and Federal Aviation Administration to develop hail size discriminator algorithms.<br><br><b>FY 2016 OCO Plans:</b><br>N/A |  |  |         |                     |                |                  |
| <b>Title:</b> Upper Air Follow-On<br><br><b>Description:</b> Will provide measurements of environmental conditions up to 40K feet, including factors such as wind speed and direction, pressure, temperature, and humidity, to support warfighter operations. This effort formerly included in "Weather Data Collection."<br><br><b>FY 2014 Accomplishments:</b><br>N/A<br><br><b>FY 2015 Plans:</b><br>N/A<br><br><b>FY 2016 Base Plans:</b><br>Will begin developmental efforts to operationalize technology to gather upper air environmental data.<br><br><b>FY 2016 OCO Plans:</b><br>N/A   |  | -  | -       | 1.000               | -              | 1.000            |
| <b>Title:</b> Weather Data Analysis (WDA)<br><br><b>Description:</b> WDA provides a net-centric infrastructure that assimilates worldwide sources of atmospheric and space weather data and produces decision-quality information for warfighters. In FY15, this effort included AF Weather Web Services (AFW-WEBS) which was formerly included in "Weather Forecasting."  |  | 5.309  | 5.500   | 9.750               | -              | 9.750            |

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| C. Accomplishments/Planned Programs (\$ in Millions)  |  | FY 2014  | FY 2015 | FY 2016 Base        | FY 2016 OCO | FY 2016 Total |
| <p><b>FY 2014 Accomplishments:</b><br/>Enhanced the capability to ingest, process, store, access, and disseminate a new generation of environmental satellite data via upgrades to the large-scale data processing, product generation, presentation system, user interface, and web services architecture.</p> <p><b>FY 2015 Plans:</b><br/>Enhance the capability to ingest, process, store, access, and disseminate meteorological oceanographic data via upgrades to the web services architecture to expand the Open Geospatial Consortium services and improve the presentation system.</p> <p><b>FY 2016 Base Plans:</b><br/>Will enhance the capability to ingest, process, store, access, and disseminate meteorological/oceanographic data via upgrades to the web services architecture to expand the Open Geospatial Consortium services and upgrade the large-scale data processing to accommodate new environmental satellite and numerical weather modeling data.</p> <p><b>FY 2016 OCO Plans:</b><br/>N/A</p> |  |  |         |                     |             |               |
| <p><b>Title:</b> Numerical Weather Modeling (NWM)</p> <p><b>Description:</b> Provides advanced scientific numerical weather prediction capabilities for automated, high resolution forecast products for mission planning, rehearsal, and execution. This effort was formerly titled "Weather Forecasting" and included efforts that are now identified separately.</p> <p><b>FY 2014 Accomplishments:</b><br/>Continued integration of advanced atmospheric and space weather forecast capabilities, including exploitation of a new generation of environmental sensing satellites.</p> <p><b>FY 2015 Plans:</b><br/>Continue integration of advanced atmospheric and space weather forecast capabilities, including continued development and integration of the unified cloud detection capabilities and evaluation of satellite radiances for inclusion in atmospheric models.</p> <p><b>FY 2016 Base Plans:</b></p>   |  | 6.193  | 4.312   | 14.255              | -           | 14.255        |

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| C. Accomplishments/Planned Programs (\$ in Millions)   |  | FY 2014  | FY 2015 | FY 2016 Base        | FY 2016 OCO | FY 2016 Total |
| Will continue integration of advanced atmospheric weather forecast capabilities to include improved cloud forecasting techniques and enhancement of aerosol modeling algorithms.<br><br>FY 2016 OCO Plans:<br>N/A  |  |  |         |                     |             |               |
| <p>Title: Space Weather Analysis and Forecast System (SWAFS)</p> <p>Description: The overall program objective for SWAFS is to enhance and sustain a single integrated space weather software baseline operating in a net-centric environment at all security levels within the AFWA enterprise architecture.</p> <p>SWAFS is now in Spiral 2 development and focuses on new or improved capabilities identified through user feedback on SWAFS's operational capability, existing or planned near-term additional satellite and ground station space weather data sources, and existing and planned near-term models and science-based algorithms that have reached appropriate levels of technical validation.</p> <p>Spiral 3 is currently planned to begin in FY 14 and will focus on advanced capabilities, such as the Full Physics-Global Assimilation of Ionospheric Measurements (FP-GAIM) model, to satisfy future requirements, including the development of other new models and science algorithms that do not currently exist and processing space weather data that is not currently available.</p> <p>Capabilities provided:</p> <p>Return to service; corrective, adaptive, and capability improvement maintenance for the operational software baseline</p> <p>SWAFS accepts space weather data and uses models and/or algorithms to create and disseminate specified space weather analysis and forecast products</p> <p>Users: COCOMs, MAJCOMs, SPADOC, NRO, Navy &amp; Army</p> <p>FY 2014 Accomplishments:</p> |  | 4.064  | 6.483   | 4.000               | -           | 4.000         |

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| C. Accomplishments/Planned Programs (\$ in Millions)  |  | FY 2014  | FY 2015 | FY 2016 Base        | FY 2016 OCO | FY 2016 Total |
| <p>- The FY14 SWAFS Development Delivery will include tasks for the Spiral 2 software development release. Spiral 2 is continued incremental development of capabilities to ingest, process, store, and disseminate space environmental data.</p> <p>- For the SWAFS Spiral 2 software release, the SWAFS program will further develop the Net-Centric capability with enhance the storing capability of all data needed to support current and anticipated SWAFS data processing. In addition, this will help SWAFS to distribute net-centric data to AFWA Web Service. Also, SWAFS will make updates to the software to ensure it can ingest new data such as RDATA and Deep Space Climate Observatory data. Finally SWAFS will investigate the feasibility of ingesting ionosphere parameter values into GAIM-FP.</p> <p><b>FY 2015 Plans:</b><br/>The SWAFS program FY15 development will focus on integration of Global Assimilation of Ionospheric Measurements (GAIM-Full Physics model to improve ionospheric specifications and forecasts; add to the net centric data delivery of space weather to AFW-WEBS to ensure warfighter access to authoritative, deliverable, resilient, and timely space weather data/products.</p> <p>We will also continue to apply new data ingests of COSMIC2/SSAEM, GOES-R, RINEX, and GPS particle data to provide necessary data for scintillation/ionospheric modeling and and satellite anomaly attribution; and model upgrades for the auroral oval, HF comm coverage maps and point-to-point forecasts.</p> <p><b>FY 2016 Base Plans:</b><br/>- The SWAFS program will continue with the Net-Centric data transition as well as SPOSCINDA 2.0 integration. SWAFS will also start working on GAIM-FP enhancements.<br/>- Provide return to service; corrective, adaptive, and capability improvement maintenance for the operational software baseline</p> <p><b>FY 2016 OCO Plans:</b><br/>N/A</p> |  |  |         |                     |             |               |
| <p><b>Title:</b> Weather Services-Live, Virtual, and Constructive (WS-LVC)</p> <p><b>Description:</b> WS-LVC provides environmental representations to the DoD Modeling and simulation community. This effort was formerly previously called Environmenal Data Cube System Support (EDCSS) and included in "Weather Forecasting."</p> <p><b>FY 2014 Accomplishments:</b></p>  |  | 0.500  | 0.690   | 0.750               | -           | 0.750         |

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| C. Accomplishments/Planned Programs (\$ in Millions)  |  | FY 2014  | FY 2015 | FY 2016<br>Base     | FY 2016<br>OCO | FY 2016<br>Total |
| Continued incremental development of a correlated and realistic natural environment for use in tailorable scenarios to create specific effects for warfighter models and simulations.<br><b>FY 2015 Plans:</b><br>Continue development of platform specific data and effects for Air Force assets integration into operational systems.<br><b>FY 2016 Base Plans:</b><br>Will continue incremental development of Air and Space Natural Environment data and associated effects for use in tailorable scenarios within warfighter models and simulations.<br><b>FY 2016 OCO Plans:</b><br>N/A   |  |  |         |                     |                |                  |
| <b>Title:</b> Joint Environmental Toolkit (JET)<br><b>Description:</b> JET provides timely, local and regional target-scale weather information to operational commanders for a given Area of Responsibility, and at tactical levels provides weather information to front-line warfighters in support of combat operations. This effort was formerly titled "Product Tailoring/Warfighter Applications."<br><b>FY 2014 Accomplishments:</b><br>Developed and fielded enhanced software to support weather warnings, pilot briefings, and weather forecaster continuity of operations for regional and tactical weather operations, as well as improved integration with warfighter C4I systems.<br><b>FY 2015 Plans:</b><br>Continue software development and integration of regional and tactical weather systems and integration with warfighter command and control systems.<br><b>FY 2016 Base Plans:</b><br>N/A<br><b>FY 2016 OCO Plans:</b><br>N/A |  | 3.695  | 2.926   | -                   | -              | -                |
| Accomplishments/Planned Programs Subtotals  |  | 19.950   | 20.102  | 29.955              | -              | 29.955           |

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| D. Other Program Funding Summary (\$ in Millions)  |         |         |                 |  |                  |         |         |         |         |                     |            |
| Line Item  | FY 2014 | FY 2015 | FY 2016<br>Base | FY 2016<br>OCO   | FY 2016<br>Total | FY 2017 | FY 2018 | FY 2019 | FY 2020 | Cost To<br>Complete | Total Cost |
| • OPAF: BA07: Line Item # 833070:<br>Weather Observation Forecast  | 16.171  | 16.309  | 21.561          | -  | 21.561           | 20.759  | 23.902  | 21.524  | 21.905  | Continuing          | Continuing |
| • OPAF: BA07: Line Item #<br>837100: Tactical C-E Equipment  | -       | -       | -               | -  | -                | -       | -       | -       | -       | Continuing          | Continuing |
| • OPAF: BA07: Line Item #<br>838010: Comm Elect Mods   | 6.912   | 12.075  | 8.492           | -  | 8.492            | 11.421  | 10.134  | 8.905   | 9.064   | Continuing          | Continuing |
| • OPAF: BA07: Line Item #<br>86190A: Spares and Repair Parts   | 1.146   | 1.605   | 0.278           | -  | 0.278            | 0.990   | 0.939   | 0.803   | 0.817   | Continuing          | Continuing |
| Remarks  |         |         |                 |  |                  |         |         |         |         |                     |            |
| E. Acquisition Strategy  |         |         |                 |  |                  |         |         |         |         |                     |            |
| AF Weather employs an incremental development strategy with a series of incremental Initial Operational Capabilities (IOCs) and software releases to enable rapid development and fielding of capabilities using full and open competition.        |         |         |                 |  |                  |         |         |         |         |                     |            |
| F. Performance Metrics   |         |         |                 |  |                  |         |         |         |         |                     |            |
| Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission. |         |         |                 |  |                  |         |         |         |         |                     |            |



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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Air Force                         |                        |                                  |             |         |            |  |            |                 |            |   |            | Date: February 2015 |                  |            |                          |
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| Appropriation/Budget Activity<br>3600 / 7   |                        |                                  |             |         |            | R-1 Program Element (Number/Name)<br>PE 0305111F / Weather Service |            |                 |            | Project (Number/Name)<br>672738 / Weather Service |            |                     |                  |            |                          |
| Product Development (\$ in Millions)  |                        |                                  |             | FY 2014 |            | FY 2015  |            | FY 2016<br>Base |            | FY 2016<br>OCO                                    |            | FY 2016<br>Total    |                  |            |                          |
| Cost Category Item  | Contract Method & Type | Performing Activity & Location   | Prior Years | Cost    | Award Date | Cost   | Award Date | Cost            | Award Date | Cost  | Award Date | Cost                | Cost To Complete | Total Cost | Target Value of Contract |
| SWAFS, WDA, NWM. Development and integration of weather forecast software           | C/CPAF                 | Northrop Grumman : Bellevue, NE  | -           | 5.635   | Mar 2014   | -  |            | -               |            | -   |            | -                   | Continuing       | Continuing | -                        |
| SWAFS, WDA, NWM. Continued development and integration of weather forecast software | C/CPIF                 | Northrop Grummand : Bellevue, NE | -           | -       |            | 6.579  | Mar 2015   | 4.000           | Mar 2016   | -   |            | 4.000               | Continuing       | Continuing | -                        |
| WDA. Development and integration of weather analysis software                       | C/CPFF                 | Raytheon : Long Beach, CA        | -           | 2.732   | May 2014   | 2.836  | Feb 2015   | 9.750           | Dec 2015   | -   |            | 9.750               | Continuing       | Continuing | -                        |
| JET. Integrate weather systems with warfighter C4I systems                          | C/CPIF                 | Raytheon : Omaha, NE             | -           | 2.878   | Apr 2014   | 1.702  | Jan 2015   | -               |            | -   |            | -                   | Continuing       | Continuing | -                        |
| NWM. Improve numerical weather prediction   | MIPR                   | NCAR : Boulder, CO               | -           | 4.100   | Feb 2014   | 1.598  | Feb 2015   | -               |            | -   |            | -                   | Continuing       | Continuing | -                        |
| NWM. Improve weather forecast capabilities  | MIPR                   | NASA : Greenbelt, MD             | -           | 0.700   | Feb 2014   | 0.670  | Feb 2015   | -               |            | -   |            | -                   | Continuing       | Continuing | -                        |
| NWM. Enhance weather forecast output  | TBD                    | Not specified. : ,               | -           | -       |            | -  |            | 14.255          | Jan 2016   | -   |            | 14.255              | Continuing       | Continuing | -                        |
| Various   | Various                | Various : Various,               | -           | 1.846   | Feb 2014   | 3.353  | Feb 2015   | 0.750           | Feb 2016   | -   |            | 0.750               | Continuing       | Continuing | -                        |
| Subtotal  |                        |                                  | -           | 17.891  |            | 16.738   |            | 28.755          |            | -   |            | 28.755              | -                | -          | -                        |
| Support (\$ in Millions)  |                        |                                  |             | FY 2014 |            | FY 2015  |            | FY 2016<br>Base |            | FY 2016<br>OCO                                    |            | FY 2016<br>Total    |                  |            |                          |
| Cost Category Item  | Contract Method & Type | Performing Activity & Location   | Prior Years | Cost    | Award Date | Cost   | Award Date | Cost            | Award Date | Cost  | Award Date | Cost                | Cost To Complete | Total Cost | Target Value of Contract |
| Subtotal  |                        |                                  | -           | -       |            | -  |            | -               |            | -   |            | -                   | -                | -          | -                        |
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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Air Force |                        |                                |             |         |            |         |   |                 |            |                |  | Date: February 2015 |                  |            |                          |
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| Test and Evaluation (\$ in Millions)                        |                        |                                |             | FY 2014 |            | FY 2015 |   | FY 2016<br>Base |            | FY 2016<br>OCO |  | FY 2016<br>Total    |                  |            |                          |
| Cost Category Item  | Contract Method & Type | Performing Activity & Location | Prior Years | Cost    | Award Date | Cost    | Award Date  | Cost            | Award Date | Cost           | Award Date   | Cost                | Cost To Complete | Total Cost | Target Value of Contract |
| Various   | MIPR                   | Various : ,                    | -           | 0.581   | Jan 2014   | 0.828   | Jan 2015  | 1.200           | Jan 2016   | -              |  | 1.200               | Continuing       | Continuing | -                        |
| Subtotal  |                        |                                | -           | 0.581   |            | 0.828   |   | 1.200           |            | -              |  | 1.200               | -                | -          | -                        |
| Management Services (\$ in Millions)                        |                        |                                |             | FY 2014 |            | FY 2015 |   | FY 2016<br>Base |            | FY 2016<br>OCO |  | FY 2016<br>Total    |                  |            |                          |
| Cost Category Item  | Contract Method & Type | Performing Activity & Location | Prior Years | Cost    | Award Date | Cost    | Award Date  | Cost            | Award Date | Cost           | Award Date   | Cost                | Cost To Complete | Total Cost | Target Value of Contract |
| Program Management Administration AFLCMC                    | Various                | AFLCMC : Hanscom AFB, MA       | -           | 1.063   | Oct 2013   | 2.121   | Oct 2014  | -               |            | -              |  | -                   | Continuing       | Continuing | -                        |
| Program Management Administration SMC                       | Various                | SMC : Los Angeles AFB, CA      | -           | 0.415   | Oct 2013   | 0.415   | Oct 2014  | -               |            | -              |  | -                   | Continuing       | Continuing | -                        |
| Subtotal  |                        |                                | -           | 1.478   |            | 2.536   |   | -               |            | -              |  | -                   | -                | -          | -                        |
|   |                        |                                | Prior Years | FY 2014 |            | FY 2015 |   | FY 2016<br>Base |            | FY 2016<br>OCO |  | FY 2016<br>Total    | Cost To Complete | Total Cost | Target Value of Contract |
| Project Cost Totals   |                        |                                | -           | 19.950  |            | 20.102  |   | 29.955          |            | -              |  | 29.955              | -                | -          | -                        |
| Remarks   |                        |                                |             |         |            |         |   |                 |            |                |  |                     |                  |            |                          |

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**Exhibit R-4, RDT&E Schedule Profile:** PB 2016 Air Force **Date:** February 2015

|  |  |   |
|--|--|---|
| <b>Appropriation/Budget Activity</b><br>3600 / 7 | <b>R-1 Program Element (Number/Name)</b><br>PE 0305111F / <i>Weather Service</i> | <b>Project (Number/Name)</b><br>672738 / <i>Weather Service</i> |
|--|--|---|

|  | FY 2014 |   |   |   | FY 2015 |   |   |   | FY 2016 |   |   |   | FY 2017 |   |   |   | FY 2018 |   |   |   | FY 2019 |   |   |   | FY 2020 |   |   |   |
|--|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|
|  | 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 |
| Collection - Next Generation Radar                                 |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| Collection -- Upper Air Sensing                                    |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| Analysis -- Weather Data Analysis                                  |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| Weather Data Analysis Inc 4 Build B Delivery                       |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| Weather Data Analysis Inc 4 Build C Delivery                       |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| Weather Data Analysis Inc 4 Build D Delivery (MS C)                |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| Forecasting -- Numerical Weather Modeling                          |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| Forecasting -- Live, Virtual, and Constructive Weather Services    |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| Forecasting -- Live, Virtual, and Constructive 1.0 Delivery (MS C) |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| Forecasting -- Live, Virtual, and Constructive 1.1 Delivery        |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| Forecasting -- Live, Virtual, and Constructive 1.2 Delivery        |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| Forecasting -- Space Weather Analysis & Forecasting System         |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| Forecasting--SWAFS Software Delivery Upgrade V.61                  |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| Forecasting--SWAFS Software Delivery Upgrade V.62                  |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| Product Tailoring/Warfighter Applications-- Inc 2 Build C Delivery |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |

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| <b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2016 Air Force |  |   | <b>Date:</b> February 2015 |
| <b>Appropriation/Budget Activity</b><br>3600 / 7                   | <b>R-1 Program Element (Number/Name)</b><br>PE 0305111F / <i>Weather Service</i> | <b>Project (Number/Name)</b><br>672738 / <i>Weather Service</i> |                            |

**Schedule Details**

| <b>Events</b>  | <b>Start</b>   |             | <b>End</b>     |             |
|--|----------------|-------------|----------------|-------------|
|  | <b>Quarter</b> | <b>Year</b> | <b>Quarter</b> | <b>Year</b> |
| Collection - Next Generation Radar                                 | 1              | 2014        | 4              | 2020        |
| Collection -- Upper Air Sensing                                    | 1              | 2014        | 4              | 2019        |
| Analysis -- Weather Data Analysis                                  | 1              | 2014        | 1              | 2020        |
| Weather Data Analysis Inc 4 Build B Delivery                       | 4              | 2014        | 3              | 2015        |
| Weather Data Analysis Inc 4 Build C Delivery                       | 2              | 2015        | 4              | 2017        |
| Weather Data Analysis Inc 4 Build D Delivery (MS C)                | 4              | 2017        | 1              | 2020        |
| Forecasting -- Numerical Weather Modeling                          | 1              | 2014        | 4              | 2020        |
| Forecasting -- Live, Virtual, and Constructive Weather Services    | 1              | 2014        | 4              | 2020        |
| Forecasting -- Live, Virtual, and Constructive 1.0 Delivery (MS C) | 2              | 2014        | 1              | 2016        |
| Forecasting -- Live, Virtual, and Constructive 1.1 Delivery        | 2              | 2015        | 3              | 2016        |
| Forecasting -- Live, Virtual, and Constructive 1.2 Delivery        | 2              | 2016        | 3              | 2017        |
| Forecasting -- Space Weather Analysis & Forecasting System         | 1              | 2014        | 1              | 2020        |
| Forecasting--SWAFS Software Delivery Upgrade V.61                  | 3              | 2015        | 3              | 2016        |
| Forecasting--SWAFS Software Delivery Upgrade V.62                  | 3              | 2016        | 3              | 2017        |
| Product Tailoring/Warfighter Applications-- Inc 2 Build C Delivery | 3              | 2014        | 4              | 2015        |