

**CIMO TT-AO Work Plan, 2013-2014**  
**(Version 2013.1A, Approved, May 2013)**

| No. | ToR | Task Description  | Person Responsible | Action   | Deliverables / Outcome   | Commence | Deadline for Delivery | Status (%) | Comments  | 2013 Budget Estimate | 2014 Budget Estimate |
|-----|-----|---|--------------------|--|--|----------|-----------------------|------------|---|----------------------|----------------------|
| 1   | (a) | Coordinate with CBS ET-ABO on Work Plan & Budget                        | Ch-TT-AO, SO/ARO   | <ol style="list-style-type: none"> <li>Rep. of TT to attend ET-ABO meeting;</li> <li>Coordination between teams.</li> </ol>                | Harmonised Work Plan & Budget for the ABO Program. Report to TT-AO                               | Q3 2013  | Q3 2013               | 0          | May require TF funding for member of TT to attend ET-ABO-1  | 3K                   |                      |
| 2   | (a) | Meeting of TT-AO  | Ch-TT-AO, SO/ARO   | Meeting of TT-AO   | <ol style="list-style-type: none"> <li>Work Program advanced;</li> <li>Report to CIMO</li> </ol> | Q3 2013  | Q1 2014               | 0          | Likely meeting in 2014 but may be brought forward to 2013 if possible.  |                      | 15K                  |
| 3   | (b) | Investigate AMDAR Temperature Bias                                      | S.d.Haan           | <ol style="list-style-type: none"> <li>Review of relevant reference material</li> <li>Consultation with avionics/sensor experts</li> </ol> | Report to TT-AO and CIMO   | Q1 2014  | TBD                   | 5          | <p>May require funding to complete a study on onboard issues, such as deicing.</p> <p>Ref: <a href="#">WMO AMDAR Panel Aircraft Observing System Data Management Workshop, Section 5.1.</a></p> |                      |                      |
| 4   | (b) | Develop plan for AMDAR and WVSS integration into avionics and airframes | A.Hoff, SO/ARO     | <ol style="list-style-type: none"> <li>Drafting and review of plan.</li> <li>Teleconferencing of collaborators</li> </ol>                  | Strategic plan for WVSS Integration  | 2012     | Q2 2014               | 25         | <p>This needs to be harmonized with the WVSS IP and the Global AMDAR Development IP.</p> <p>Ref: WMO AMDAR Panel Session 15 <a href="#">Fin. Rep 4.2.1.</a></p>                                 |                      |                      |

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| 5   | (b) | WVSS Implement. Plan & Project                             | A.Hoff                        | <ol style="list-style-type: none"> <li>1. Drafting and review of plan.</li> <li>2. Teleconferencing of collaborators;</li> <li>3. Finalise and Review IP</li> </ol>   | WVSS IP                | 2012     | Q4 2013               | 25         | Incorporate: <ul style="list-style-type: none"> <li>• Ownership of STCs</li> <li>• Collaboration on STC costs</li> <li>• Integration into airframes</li> <li>• AMDAR Software requirements</li> <li>• Formulation of IP into WMO Project in collaboration with ICAO</li> </ul><br>Ref: WMO AMDAR Panel Session 15 <a href="#">Fin. Rep</a> 4.2.1. |                      |                      |
| 6   | (b) | Turbulence (EDR ) Implement. in AMDAR - Develop IP for EDR | C.Marshall, TT-AO as required | <ol style="list-style-type: none"> <li>1. Drafting and review of plan.</li> <li>2. Teleconferencing of collaborators Liaise with NCAR on software requirements;</li> <li>3. Identify possible airline partner for trial.</li> </ol> | EDR IP                 | Q2 2013  | Q2 2014               | 10         | Possibly include: <ul style="list-style-type: none"> <li>• A trial program with a European airline.</li> </ul><br>Ref: WMO AMDAR Panel Session 15 <a href="#">Fin. Rep</a> 4.2.2.   |                      |                      |

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| 7   | (b) | Review & approve EDR spec. in AMDAR Onboard Software Functional Requirements Specification (AOSFRS) | S.Taylor, A.Hoff, G.Fournier, J.Xu | 1. Review EDR algorithms within the AOSFRS.   | EDR spec. in AOSFRS                         | Q1 2013  | Q3 2013               | 80         | Linked to Task 9.  |                      |                      |
| 8   | (b) | Study on Current & Future Comms & Technology Impact on AMDAR  | SO/ARO, S.Taylor                   | 1. Write Statement of Work<br>2. Identify consultants<br>3. SSA in place<br>Monitor progress  | Study and recommendations produced          | Q3 2013  | 2014                  | 0          | Ref: WMO AMDAR Panel Session 15 <a href="#">Fin. Rep</a> 4.3.2.  | 15K                  | 35K                  |
| 9   | (c) | Finalise and publish AOSFRS <sup>1</sup>  | S.Taylor, A.Hoff, G.Fournier, J.Xu | 1. Conduct final review of AOSFRS;<br>2. Publish AOSFRS as approp.                            | AOSFRS Published                            | 2012     | Q2 2013               | 0          | <ul style="list-style-type: none"> <li>• In combination with ET-ABO;</li> <li>• Final review of spec.;</li> <li>• Publication of spec;</li> </ul> Inclusion in CIMO Guide? | 23K                  |                      |
| 10  | (c) | Approach to avionics manufacture AOSFRS implem.   | S.Taylor, SO/ARO                   | 1. Approach Teledyne Controls re AOSFRS implementation;<br>2. Approach other avionics vendors | Integration of AMDAR into avionics systems. | Q3 2013  | Q4 2014               | 0          | Work towards availability of AMDAR software as a catalogue item of delivery for avionics systems.  |                      |                      |

<sup>1</sup> AMDAR Onboard Software Functional Requirements Specification, see : WMO AMDAR Panel Session 15 [Fin. Rep](#) 4.4.7.

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| 11  | (c) | Boeing 777 AMDR Software Dev.   | Ch-TT-AO, Ch/ET-ABO, SO/ARO,   | Finalise negotiations with AFR and KLM in consult. with E-AMDAR & Meteo-France.<br>1. Review quotation;<br>2. Provide advice on specifications and requirements. | B777 AMDAR Software application        | 2012     | Q3 2013 (delayed – next AFR-KLM meeting to be finalized) | 90         | <ul style="list-style-type: none"> <li>Combined action with ET-ABO</li> </ul> Ref: WMO AMDAR Panel Session 15 <a href="#">Fin. Rep</a> 4.4.7. | 20K                  |                      |
| 12  | (c) | Develop and specify standard for AMDAR Data Optimisation System                             | C. Marshall, S.Taylor,, A Hoff | 1. Determine requirements (consult with FPs);<br>2. Draft specification;<br>Conduct review;<br>Publish spec.   | Addition to CIMO Guide (spec of ADOS). | Q3 2013  | Q4 2014  | 0          | The aim is to develop a functional specification that can be included in the Manual on WIGOS or in CIMO Guide                                 |                      |                      |
| 13  | (d) | Monitor & Review reports from WVSS testing  | A.Hoff                         | 1. Review reports.   | Report to CIMO                         | Q3 2013  | Q4 2013  | Ong.       | Ref: WMO AMDAR Panel Session 15 <a href="#">Fin. Rep</a> 4.2.1.   |                      |                      |
| 14  | (d) | Monitor & report on impact assessment results of TAMDAR humidity & other parameters by UKMO | G.Fournier, C Marshall         | 1. Review reports and analyse results.   | Report to CIMO                         | Q3 2013  | Q4 2014  | 0          |   |                      |                      |
| 15  | (e) | Develop plans for AMDAR & WVSS inter-comparison   | S.d.Haan                       | 1. Determine requirements;<br>2. Analyse options;<br>3. Draft Plan.  | WVSS Inter-comparisons Plan            | Q4 2013  | Q1 2014  | 0          |   |                      |                      |

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| 16  | (e) | Prepare a paper on the status of WVSS-II validation        | 1. B. Ford & Collaborators           | <ol style="list-style-type: none"> <li>1. Prepare outline and scope</li> <li>2. Identify contributors</li> <li>3. Research and draft</li> <li>4. Review</li> <li>5. Publish</li> </ol>   | IOM Report   | Q3 2013  | Q2 2014               | 0          | Provide a summary on all scientific and operational aspects of the WVSS-II sensor and prepare a paper to be published as an IOM report. |                      |                      |
| 17  | (f) | Review & Update Aircraft-based Obs Reg. Mat. In CIMO Guide | G.Fournier, J.Xu<br>S.Taylor, SO/ARO | <ol style="list-style-type: none"> <li>1. Review current status of material and identify requirements for update;</li> <li>2. Coordinate &amp; undertake update;</li> <li>3. Review and complete;</li> <li>4. Provide to WMO Reg. Mat. Board.</li> </ol> | CIMO Guide on Aircraft-based Observations updated.           | Q1 2014  | Q4 2014               | 0          |   |                      |                      |
| 18  | (g) | Attend meetings of relevance to AMDAR Technical Dev.       | TT-AO, SO/ARO                        |  | Meetings attended. Reports produced for CIMO and Secretariat | Q2 2013  | Q4 2014               | Ong.       | This may include: <ul style="list-style-type: none"> <li>• Meeting with avionics vendors;</li> <li>Others.</li> </ul>                   | 15K                  | 15K                  |

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**TASK TEAM ON AIRCRAFT-BASED OBSERVATIONS, TT-AO, TERMS OF REFERENCE**

- (a) Develop and manage the workplan and associated activities of the TT-AO, as well as the budget for the corresponding expenditure of the AMDAR Trust Fund in line with the Trust Fund's Terms of Reference, in collaboration with CBS ET-Aircraft-Based Observations;
- (b) Oversee the scientific and technical development and maintenance of aircraft-based observing systems, from a point of view of instruments and methods of observation, and inform the Commission of latest developments;
- (c) Work closely with ET-A1 in conducting the development and maintenance of technical standards associated with aircraft-based observations, and provision of related specifications to meet user requirements; and,
- (d) Provide the technical review of approved aircraft-based humidity capabilities,
- (e) Liaise closely with ET-A3 for testing and validation of the AMDAR system and aircraft based humidity sensors.
- (f) Provide input for updates of the CIMO Guide relevant to aircraft-based observations, including identification of standards for inclusion in the CIMO Guide and other WMO regulatory documents
- (g) Assist and provide support for training and outreach activities to support the use of aircraft-based observations