FOP-CRuSR, What We've Learned So Far

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On August 30, 2010 under the Commercial Reusable Suborbital Research (CRuSR) Program, NASA awarded two contracts to begin using commercial suborbital reusable launch vehicles (sRLVs) to carry research payloads to the edge of space. These contracts were awarded to Armadillo Aerospace and Masten Space Systems for a total of seven flights with options for more. These are developmental test flights, part of the companies' test program as they progress to fully operational flights. In addition to helping foster the emerging commercial suborbital reusable launch market, the goals of the contracts are to develop, test and streamline procedures for payload preparation, approval and integration and to characterize the flight environment that the payloads will be subjected to.

Since the award, the CRuSR program has been moved into the Flight Opportunities Program (FOP) within the Office of the Chief Technologist, along with the Facilitated Access to the Space Environment for Technology Development (FAST) Program. These two activities will provide test and demonstration flights to researchers developing new cross-cutting technologies. Additionally, sa number of flights will be set aside for NASA Mission Directorates to fly research and scientific payloads.

The first set of flights were flown in December of last year and the last set were completed by ___*tbd(early Feb.?)*___. The initial two payloads were the Suborbital Flight Environment Monitor (SFEM) and the Automated Detection Surveillance – Broadcast (ADS-B) units developed by NASA and the FAA respectively.

This paper will describe the results of the developmental test flights – the procedures that were followed, the facilities that were used, the measured results, and the lessons learned. The paper will also describe how the Flight Opportunities Program will process payloads for commercial sRLV flights in the future.