RADARSAT Constellation Mission – Launch Segment

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ABSTRACT

The RADARSAT Constellation Mission (RCM) is the next mission in the evolution of the RADARSAT Program, with the objectives of ensuring Synthetic Aperture Radar (SAR) C-band data continuity, enhancing operational use of data and improving system reliability. RCM will provide all-weather day and night data in support of Canadian sovereignty and security, environmental monitoring, natural resources management and other government priorities, such as Northern development. RCM involves flying three spacecraft, each weighing approximately 1500 Kg, in a constellation configuration, evenly spaced on the same orbit. The mission development began in 2005 and the final review of the overall mission-level system detailed design (phase C) took place in 2012 and defined the detailed baseline design of the RADARSAT Constellation Mission. In January 2013, the Government of Canada awarded a contract to MDA Systems Ltd. for the implementation phase (phase D), and one year of operation (phase E1). Phase D is now well underway and flight hardware is being assembled and tested. This presentation will give a programmatic overview and status, and a summary of progress for the launch segment which comprises of the launch services provided by SpaceX using the Falcon 9 launcher, and a unique spacecraft dispenser designed and manufactured (currently in phase D) by RUAG Space AB. The baseline launch strategy and configuration is to have a single launch for all three RCM spacecraft, referred to as 3-on-1 configuration. This launch baseline and configuration is a first of its kind and quite innovative as it includes dispensing of the 3 spacecraft sequentially after having dynamically tilted each of them on-orbit. The launch is currently slated to occur during a 90-day launch period which starts on July 17th, 2018.