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Navy Awards Aurora Contract to Develop Sensor System to Monitor Airframes for Damage

Cambridge, MA, April 26, 2010 – The Navy has awarded Aurora Flight Sciences a contract to develop an innovative sensor system to perform damage detection and evaluation. Aurora will utilize state-of-the-art structural health monitoring (SHM) sensors developed by Metis Design Corporation to create a system that can readily be added to airframes to perform non-destructive evaluation (NDE) of composite parts. Such a system would have potential to replace costly and complex manual inspection techniques for composite airframes. These inspections require physical and visual access to components, which is not always available on complex air vehicle platforms.

SHM has the capability to detect small defects in composites with high-resolution accuracy, including incipient damage that is not easily detectable. Additionally, SHM systems spot changes in the material over time, which can be used to monitor airframes for damage incurred during routine operation. This system can be used not only to perform NDE on components, but also to monitor the airframe over its entire life. The knowledge gained from the vehicle health management sensors decreases the down-time of the vehicle while increasing the safety of the crew. According to the project's manager, David Kordonowy, "Interpreting the sensor signal into meaningful information—where the damage is and how extensive it is—has been a major challenge to structural health monitoring until now. Our NDE/SHM concept addresses this difficulty by using calibrated sensors with robust algorithms to detect damage that cannot be seen with the naked eye."

The NDE/SHM contract builds on Aurora's work with Sikorsky Aircraft Corporation on the CH-53K Helicopter. Aurora is a Tier I Supplier to Sikorsky on the CH-53K Heavy Lift program, supplying the Main Rotor Pylon (MRP) and No. 1 and 3 Engine Nacelles.

About Aurora Flight Sciences

Aurora Flight Sciences designs and builds robotic aircraft and other advanced aerospace vehicles for scientific and military applications. Aurora is headquartered in Manassas, VA and operates production plants in Bridgeport, WV and Columbus, MS and a Research and Development Center in Cambridge, MA. To view recent press releases and more about Aurora please visit our web site at www.aurora.aero.

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