

Developing A Corrosion Monitoring System for the JSF

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Aircraft operators, military and civilian, are pressed by regulatory requirements and competitive pressures to address through-life issues and attempt to reduce the operational costs of support. Environmental degradation of a structure, normally culminating in corrosion, is an important consideration here. The breakdown of protective schemes can lead to material damage and is often the precursor of fatigue cracking. Whilst these are issues for ageing structures that might be kept in service well beyond their original design life there is also a move to make new platforms less costly to support and operate. A novel corrosion monitoring scheme, CMS, is being developed for the JSF programme and is based on sensor technology developed at BAE Systems. Leading to this system choice was an exhaustive industry study of available and near term technology. It was also necessary to assess the probable economic benefits of employing a sensor system and integrating its operation into the normal day to day maintenance activity. This was undertaken by the JSF SPHM team. The technology underpinning the CMS for JSF is described along with the operating philosophy as it stands to date. The economic justification will be discussed and the current usage philosophy of the system will be outlined.