

JSF Environmental Team Meets With

International Partners

Critical Design Review Drives Second Meeting

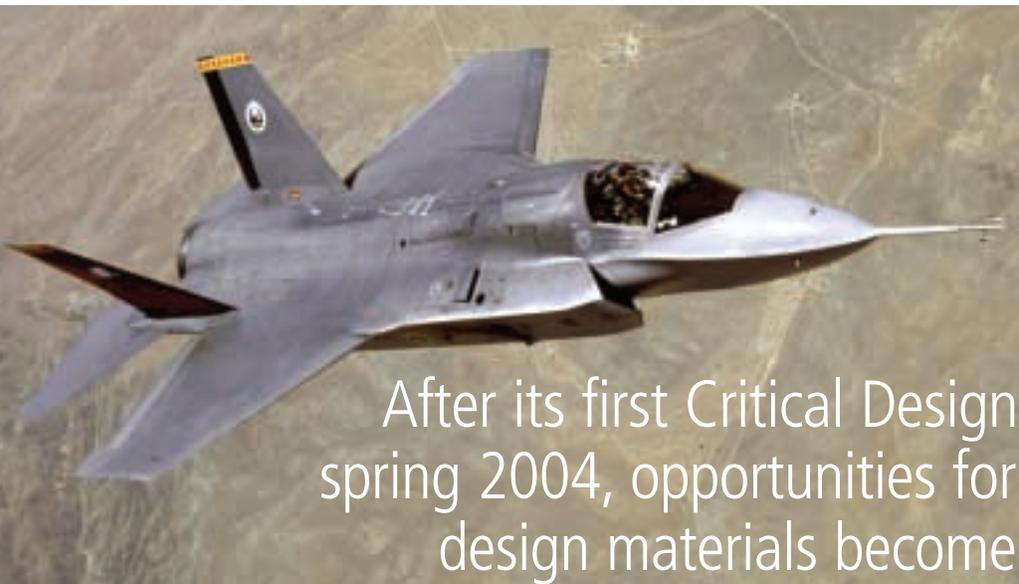
The Joint Strike Fighter (JSF (F-35)) Environmental, Safety and Occupational Health (ESOH) Team traveled overseas in October 2003 for its second meeting with four of its international partners, the United Kingdom (UK), Denmark, the

Netherlands, and Italy. This trip was especially important because the JSF Air System will have its first Critical Design Review (CDR) in spring 2004. After CDR, opportunities for introducing new design materials become more limited, so understanding the ESOH policies, mandates and restrictions of JSF's international partners is

time critical. Given the broad international JSF supplier base, spreading the word concerning the requirements for minimizing hazardous materials is key to unrestricted JSF aircraft basing and deployment outside the continental United States.



These countries are members of the European Union (EU), which has drawn up ESOH guidelines and policy for its member states. Individually, however, some countries' regulations are more stringent than the EU policy. An example of this is the use of Class II Ozone-Depleting Compounds (hydrochlorofluorocarbons (HCFC)—often used as refrigerants/propellants). The EU mandates a phase out of HCFCs, while the Netherlands has already banned their purchase, import



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and use for design, operation, or maintenance and storage of components or systems.

The team began their series of meetings at The Welding Institute near Cambridge, England, where they hosted an ESOH international technology exchange event for the JSF vendor community. The meeting focused on new ESOH technologies under development and their transfer to the F-35 family of manufacturers overseas.

The next meeting occurred in Bristol, England where the ESOH Team met with the UK Ministry of Defense and Rolls Royce. These meetings focused on product substitutions and operational noise constraints within the United Kingdom. The UK Ministry of Defense discussed their requirement to develop a “Safety Case” to support the fitness and safety of the system to operate for all aircraft procured. The Safety Case must include known hazards and may, at the discretion of the project office, include environmental impacts and compliance with the Montreal Protocol. The team recognized the need to support the Safety Case from an ESOH perspective.

JSF Environmental Team's International Partners



The Basics About the MONTREAL PROTOCOL

In 1985, the Vienna Convention established mechanisms for international cooperation in research into the earth's ozone layer and the effects of ozone depleting substances (ODS). 1985 also marked the first discovery of the Antarctic ozone hole. On the basis of the Vienna Convention, the Montreal Protocol on Substances that Deplete the Ozone Layer was negotiated and signed by 24 countries and by the European Economic Community in September 1987. The Protocol called for the parties to phase out the use of chlorofluorocarbons (CFC), halons and other man-made ODSs.

The Montreal Protocol represented a landmark in the international environmentalist movement. For the first time, whole countries were legally bound to reducing and eventually phasing out the use of CFCs and other ODSs. Failure to comply was accompanied by stiff penalties. The original Protocol aimed to decrease the use of chemical compounds destructive to ozone in the stratosphere by 50 percent by the year 1999. The Protocol was supplemented by agreements made in London in 1990 and in Copenhagen in 1992, where the same countries promised to stop using CFCs and most of the other chemical compounds destructive to ozone by the end of 1995. Fortunately, it has been fairly easy to develop and introduce compounds and methods to replace CFC compounds.

In order to deal with the special difficulties experienced by developing countries, it was agreed that they would be given an extended period of grace, so long as their use of CFCs did not grow significantly. China and India, for example, are strongly increasing the use of air conditioning and cooling devices. Using CFC compounds in these devices would be cheaper than using replacement compounds harmless to ozone. An international fund was therefore established to help these countries introduce new and more environmentally friendly technologies and chemicals.



The JSF ESOH Team meetings were in furthering their each country's challenges and for EU policy

felt that these successful understanding of ESOH philosophies, the road ahead implementation.

From England, the team flew to Amsterdam for meetings with Stork-Fokker in Hoogeveen and the Royal Netherlands Air Force in The Hague. The meeting with Stork-Fokker provided insight into their manufacturing processes and some of limitations they face with current and evolving environmental and health regulations. They provided information on how the various regulations are implemented in their operations through an ESOH action plan and emphasized they use the International Organization for Standardization (ISO) 14001 continuous processes model. Next, the Royal Netherlands Air Force provided their timeline for replacing the F-16 with



The JSF ESOH Team poses for a photo after a meeting with the Italian Ministry of Defense in Rome, Italy.
LEFT TO RIGHT: Stacey Luker (Naval Air Depot Cherry Point, NC), Stan Bean (Northrop Grumman Corporation), CAPT Chad Schroeder (Wright Patterson Air Force Base (AFB)), Scott Fetter (Lockheed Martin—Contractor Team Lead), Robert Trice (Lockheed Martin), Jean Hawkins (Naval Air Depot Jacksonville, FL—JSF Team Lead), Rich McKinley (Wright Patterson AFB), MAJ Shelia Neumann (Edwards AFB).

the JSF aircraft. They emphasized health and environmental considerations during maintenance and sustainment. As with most partners, personnel noise exposure and protective equipment were of primary interest. One major concern related to noise was the change in the exposure standard from 85 to 80 decibel levels and how this would effect compliance. During the meeting at The Hague, a representative from the Royal Danish Air Force spoke on behalf of both Denmark and Norway, briefing overall Scandinavian concerns with respect to hazardous materials, noise, and personnel exposure to chemicals in the workplace.

The final meeting was held in Rome, Italy where the JSF ESOH Team met with representatives of Alenia Aeronautica and the Italian Ministry of Defense (MoD). Discussions were focused on the EU's new policies, which the Italian MoD expects to influence their ESOH policies and expand their compliance and personnel exposure monitoring requirements.



The JSF ESOH Team felt that these meetings were successful in furthering their understanding of each country's ESOH philosophies, challenges and the road ahead for EU policy implementation. Team members feel as though these face-to-face interchange are critical to developing meaningful relationships with their partner countries, understand their ESOH management structures and forecast the JSF regulatory requirements abroad.

Another partner meeting is scheduled for the spring of 2004 to draw up a consolidated internationally representative restricted materials list and to discuss other ESOH issues of concern. ⚓

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The Basics About the ISO 14001 STANDARD

The ISO 14001 standard provides a framework for the establishment of an Environmental Management System (EMS). The ISO 14001 standard was promulgated in 1996 and contains the guiding principles of commitment to the environment, tracking environmental performance, and a system of continual improvement. These standards are not specifically oriented to compliance, but rather outline requirements for achieving and maintaining control over environmental processes. The ISO 14001 system has five core components: Environmental Policy, Planning, Implementation and Operation, Checking and Corrective Action, and Management Review.

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