

JOINT STRIKE FIGHTER AIR QUALITY EMISSIONS ESTIMATING**C.F. Webb², J. Hawkins¹**¹*US Navy NADEP Jacksonville, Jacksonville, USA*²*Science Applications International Corporation, Reston, USA*

The Joint Strike Fighter (JSF) is a new attack fighter aircraft to be deployed in the United States and several other countries, including the United Kingdom. It will have a new high performance engine and will be flown differently from any of the legacy aircraft it is slated to replace. The paper will discuss the steps the JSF Program Office is taking to estimate the emissions and mitigate its environmental impacts. The challenges of trying to estimate the emissions of a new engine still being tested and modified, and accounting for the different ways the aircraft will be flown will be discussed. The paper will discuss how emissions estimates are built up from the time-in-mode data, emission indexes, fuel flow rates, and training schedules. The paper will also discuss difficulties getting particulate emissions for fighter aircraft engines. Rather than using JSF engine emissions data, the Harrier class of aircraft will be used to demonstrate how fighter aircraft emissions estimates are built up.