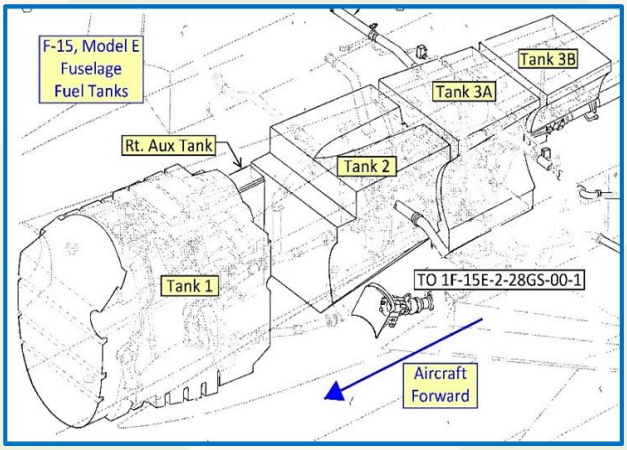
National Defense Center for Energy and Environment

DEMONSTRATION AND VALIDATION OF ROBOTIC WATER JET DE-PAINTING OF AIRCRAFT CONFINED SPACES

PROJECT OVERVIEW

Currently the process requires personnel to enter these fuel cells and manually depaint them for NDI purposes. The use of high-pressure water inside these confined spaces presents a very dangerous work condition for the personnel and has resulted in injury previously. This project seeks to eliminate personnel inside fuselage fuel compartments and to reduce power/water consumption by using water jet robotics, and water recovery/reuse practices to reduce maintenance duration and risk. The technology has application to multiple weapon systems platforms.



Overview of F-15 fuel cells locations

BENEFITS

Stakeholders include Air Force, Navy, and Army maintenance depots and varying airframes. The benefits include reduction in process flow days, reduced in energy consumption, reduction in water pressure, and will improve worker health and safety in relation to high pressured water in confined spaces.

PATH FORWARD

The successful completion of this project promotes a safer and more efficient course of action for this process.

Example of a robotic water jet arm that is being used in our comparison testing

DoD Executive Agent

Office of the Assistant Secretary of the Army for Installations, Energy, and Environment

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FOR FURTHER INFORMATION

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