CREATION OF AN AVIATION PROGRAM FOR OIL SPILL DISPERSION

In September 2004, Aviation Operations Solutions (AOS) contracted with MARINE SPILL RESPONSE CORPORATION (MSRC), a spill response company that represents a consortium of major oil companies, and oil pipeline and tanker companies. The purpose of the contract was to provide aviation expertise to produce an airborne response to oil spills occurring in the oceans and costal waters of the United States.

AOS first had to determine the types of aircraft that could meet the new requirements as to time and ability to deliver enough dispersant. AOS presented the aircraft types and their specifications to MSRC along with the AOS assessments. MSRC determined their requirements and the date the program should be operationally ready.

AOS then assisted in the creation of three separate Requests for Proposal (RFP) to be sent to prospective bidders. The RFPs were for three separate functions with five options in two of the contracts, and different mission requirements. This necessitated considerable research and evaluation on the part of AOS to tailor the RFPs to the missions.

MSRC now has operational airborne dispersant capability on the West Coast of the United States. Additional capability will be added soon to the Gulf of Mexico.

The RFPs include

- Statement of Work
    1. Conditions and purpose of work and an explanation of hazards associated with the type of flying anticipated.
    2. Geographic areas involved.
    3. Aircraft requirements as to speed, minimum payload capacity, and radius of action of the aircraft involved.
    4. Requirements for crew and aircraft availability.
    5. Specific tasks associated with the performance of the contract.

- General Proposal Conditions
- The RFP Process and Timeline
- Stewardship
- Submission requirements
    1. Format
    2. Specific information on aircraft
    3. Copies of FAA Certificates, Safety and Operations Manuals, Training Manuals and Records etc.
    4. Information on the bidding company
        - Safety Record
        - Financial information
        - Key Personnel Resumes
        - Company History

RFP Evaluation Criteria

Technical

Commercial

Safety

Stewardship

History

Financial

Also covered in the RFP are other areas such as:

- Aircraft Maintenance Program
- Flight Personnel
- Support Personnel
- Training Programs
- Drug and Alcohol Testing
- Quality Assurance Programs
- Safety, Environmental, Health and Security Policies and Specifications

Aviation Operations Solutions assisted in the evaluation of the proposals received in response to the RFPs. This process involved the assurance that the requirements of the RFPs were addressed and that the proposals were realistic. A short list of finalists was composed and on-site visits were made by AOS and MSRC for further evaluation of the finalists. AOS conducted operations, maintenance, and safety audits of the finalists to determine their ability to perform the requirements set forth in the RFP. AOS submitted their findings and recommendations to MSRC for final consultation and the

awarding of the contracts. While AOS did not participate directly in the pricing negotiations, they did provide information to MSRC as to operating costs for the type aircraft and industry averages information.

AOS has played a major role in the selection of the airports for both the home base for the aircraft and the staging bases used when necessary. AOS, and MSRC visited the various airports and determined suitability based upon various factors such as safety, reliability, location, availability, and facilities available to support the mission.

AOS has been directly involved in the oversight of the development of the spray system for the large aircraft, the training of the pilots and ground crews, and the maintenance and inspection schedules for the spray planes. AOS was instrumental in the aircraft modification and certification process of the large turbo-prop aircraft, and in the successful testing of the aircraft and spray system, conducted by a team associated with the University of Kansas and the University of Arkansas.

AOS has also developed an operations plan outline that is the basis for all the airborne oil spill dispersant operations. This has required coordination of airspace issues with FAA Air Traffic Control Facilities, Airport Authorities, U.S. Military and the many other entities involved. In some cases, it has been necessary to obtain Letters of Agreement with the facilities involved. AOS has also insured that all parties are aware of, and comply with, the applicable regulations and advisory circulars. Of particular importance is the development of the communications network of frequencies and facilities

needed to support the mission, including the addition of satellite communications to the communications suite.

Government Agency Coordination For Oil Dispersant Operations

Operating several airplanes at very low altitudes out to 200 nautical miles from shore, presents many and varied challenges, especially within airspace that has numerous VFR and IFR helicopter operations. Agreements and the development of procedures were concluded with three Air Route Traffic Control facilities (Houston, Miami and Jacksonville), nine Approach Control facilities and several military facilities. The challenges included:

- Communicating with aircraft operating both VFR and IFR at very low altitude (50 to 100 feet) as far as 200 nautical miles from shore, well beyond VHF radio range.
- Integration of relatively fast, fixed wing aircraft within the Houston Offshore Helicopter Operating Area.
- Integration of fixed wing aircraft into the unique Gulf of Mexico IFR grid system.
- Lost communications procedures
- Procedures for receiving an IFR clearance when leaving offshore oil spill area.
- Integration of Satellite Communications (SATCOM) procedures within the individual ATC facilities.
- Designation of Temporary Flight Restrictions over an oil spill.
- Designation of minimum IFR altitudes for aircraft over the spill area.

- Coordination with military facilities for access to restricted airspace.
- Coordination procedures with local airports for priority handling of dispersant and spotter aircraft.

Compliance with DOD operating procedures within the Air Defense Identification Zone.(ADIZ)

Large Aircraft Certification Process

During development, it became necessary for AOS to become involved in the large airplane certification process due to unforeseen difficulties. To accomplish this an AOS Principal spent many hours working with the FAA to facilitate the aircraft certification process, working with the aircraft owner, employees, Designated Engineering Representatives (DERs), engineers, spray system fabricator, and the test pilot.

The process required aircraft structural re-engineering in support of the spray system and was accomplished within all safety requirements and FAA guidelines.

AOS was a member of the test flight team, and a participant on 21 spray test flights

PERFORMANCE TESTING OF THE SPRAY SYSTEMS

The spray systems were flight tested over four days at a test site in Arizona with AOS participation. AOS served as a facilitator during final installation and system adjustments, and the flight testing.

The installations in both the large and small aircraft were examined and the expected performance was discussed with each contractor. Additionally, assistance was provided in overseeing last minute spray system modifications.

AOS participated in the briefings outlining the spray testing procedures and flight paths and provided coordination between the ground test crew and the flight crew.

AOS participated in the analysis of the preliminary spray system results.