

# **Executive Summary**

## **Defense Suppression in the year 2000**

(U) The Naval Research Advisory Committee (NRAC) was tasked to undertake a 1989 Summer Study on "Defense Suppression in the Year 2000." The Panel membership, enclosed as Section III, included participants from industry, retired military, academia, active DOD civilians in key leadership positions associated with Strike Warfare, two active USN officers, and private consultants that are experts in technologies associated with defense suppression. The Panel membership included five people who actually had experience in conducting strike operations against the enemy's Integrated Air Defense Systems (IADS). This experience factor was an extremely important element in the Panel's deliberations and ultimate conclusions.

(U) The Panel focused its attention on the ground to air threats to the penetrating strike aircraft or weapons. They concentrated on developing a defense suppression package providing a high degree of confidence that our strike aircraft will be able to deliver weapons on target and return safely - against the projected threat of the year 2000. In doing so, the Panel identified five key areas that must be addressed.

- (U) Aircraft/Weapons Survivability
- (U) Soft Kill/Jamming/Interruption of the IADS
- (U) Hard Kill of the IADS components
- (U) Electro-Optical/Infrared (EO/IR) Sensor Suppression
- (U) Tactics Development/Training/Mission Planning

(U) The Panel made recommendations in the five key areas based on the very extensive threat capability that exists now - and on the expanding threat capability projected for the year 2000. In summary, the key recommendations are:

- (1) (U) Employ the synergistic use of jamming and low Radar Cross Section (RCS) platforms. This will provide the defense penetration capability necessary to reach the desired weapons release point - with the minimum probability of detection or weapons launch by the enemy.
- (2) (U) Develop a family of decoys (that is inexpensive, realistic, modular, easy to carry onboard strike aircraft and carrier compatible, including a lethal version) for use in conjunction with strike operations to saturate the enemy IADS. Tacit Rainbow does not meet these requirements.
- (3) (U) Develop an inexpensive, modular standoff strike weapon that can be used for defense suppression, possibly a variant of the Advanced Interdiction Weapon System (AIWS) approach. It is not recommended that the High-speed Antiradiation Missile (HARM) be developed beyond the Air-to-Ground Missile (AGM-88D) version as an Anti Radiation Homing-only (ARH) weapon.

(4) (U) Increase the use of strike weapons for defense suppression (i.e., eliminate the need for exclusive defense suppression weapons). The weapons should be matched by cost and capability against the target value (e.g., special cruise missiles for a precursor strike against high value targets and general purpose AIWS weapons against IADS track radar sites).

(5) (U) Develop and deploy secure, real time data links from collection platforms to strike platforms, and from strike platforms to strike weapons, to ensure that the strike pilot has full situational awareness during the mission. These data links should also reduce the air crew's workload.

(6) (U) Initiate research and development programs, including a review of other service activities, that will devise counters to the EO/IR threats continuing to emerge in the enemy IADS.

(7) (U) Expand Air Wing and Marine Air Ground Task Force (MAGTF) training capability to encompass the full spectrum of Low Observable/Very Low Observable (LO/VLO) platforms, strike weapons, and threat simulators.

(U) In summary, the Panel felt that the Navy's current activities to counter the existing and future threat were evolutionary in nature rather than revolutionary; yet revolutionary approaches are required to deal with the year 2000 threat scenario. Therefore, a substantial change in thinking and investment must take place in the near future to guarantee the required operational capability for both contingency operations and sustained conflicts at the turn of the century.