SUMMARY

This report provides the results of the Interim Military Utility Assessment (IMUA) of four candidate Deployable Oxygen Generation Systems (DOGS) conducted at the Air Force Medical Evaluation Support Activity (AFMESA) Expeditionary Medical Support — Experimental, Exercises &Technology Insertion (EMEDS-XTI) Facility, Fort Detrick, MD, from20 February through 1 March 2002.

- The Expeditionary Deployable Oxygen Concentration System (E-DOCS) 120 developed by Pacific Consolidated Industries
- The Universal Oxygen, Inc. (UnivOx) 80 developed by Universal Oxygen, Inc.
- The Patient Ventilation Oxygen Concentration System (PVOCS) developed by Northrop Grumman
- The Portable Oxygen Generation System (POGS) developed by On Site Gas Systems

The basic methodology and approach for the assessment of the four candidate systems consisted of four stages.

- AFMESA invitation to vendors with description of the parameters of the assessment to include the utilization of the applicable requirements of the DOS ORD, medical layout of the EMEDS +10 as specified in the EMEDS concept of operations (CONOPS), and the schedule of events for the assessment
- Det 1 AFOTEC development of an Assessment Execution Document (AED)
- Identification and scheduling of USAF military EMEDS and other medical users and subject matter experts (SME) to serve as the hands-on operators of the DOGS units during the assessment
- Scheduling of each candidate oxygen generation system for a two-day assessment of each system, comprised of vendor training, operator setup, system specification measurements (oxygen pressure, flow rates, purity, system size, and weights, etc.), and medical scenarios requiring realistic use of oxygen in all “wards” of the EMEDS (operating room [OR], emergency room [ER], critical care unit [CCU], and Recovery Ward).

1. This effort was a preliminary look at the four candidate systems to see if each met the oxygen requirements for the war fighter in a deployed situation.
2. Several considerations for EMEDS improvements in order to better facilitate the use of oxygen generation systems surfaced during the assessment.
3. The USAF medical community should review and modify, as appropriate, the existing Deployable Oxygen System Operational Requirements Document requirements and employment concepts for oxygen in support of operations.
4. A USAF review and possible revision and refinement of DOGS requirements and an examination of the concept of operations (CONOPS) for their employment will facilitate a follow-on assessment that can better examine the capabilities of the candidate systems with a focus of meeting the total EMEDS oxygen demands and build requirements for various EMEDS configurations.