LESSONS LEARNED FOR STRATEGIC DEFENSE TESTING

TR 00-01

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This document is prepared by APT Research Inc. in accordance with contract DASG60-97-D-0002, Task 8. It is the third printing (with minor revisions) of a document originally prepared in 1988 by the author while with Automated Sciences Group, Inc. The opinions and conclusions stated in this document are a product of interviews with personnel previously and currently involved in test program activities and do not reflect positions taken by APT, ASG or any of their customers.

TABLE OF CONTENTS

I. INTRODUCTION

A. Background

Strategic defense technology programs have been conducting test activities since the Nike Zeus program in the 1950's. The test activity level has varied from a peak with the Safeguard Program in the late 1960's and early 1970's to a very low level a decade later. The NMD program of the 1990's brought a significant increase in planned test activities and an expanded overall scope. With this increase in major test activities, it is appropriate to gather the lessons learned from previous activities into a document that will enable the NMD program and other future programs to take full advantage of the experience of the past.

B. Purpose

This document is written to provide information to test program management as it relates to important decisions that are made during a test program. Not all of the lessons will be applicable to each element of the NMD program; however, for all of the planned major NMD elements, the document provides a wealth of background and ample information. As such, it should be reviewed by a spectrum of the management team associated with each test. While this document was initially intended as information for Government test management, it may prove to be beneficial for their contractor support teams, as well.

C. Scope

The emphasis of this document is on lessons to be learned from major strategic defense test programs that have already been accomplished. The majority of those tests were conducted by the Space and Missile Defense Command in Huntsville (most under one of the organization's previous monickers). Similar useful experience has been gained from other development activities for larger missile programs such as Pershing and Patriot. This experience is equally valid and, as such, is included. A related document which is recommended for reading is the "ABM Project History" published for the Government by Bell Laboratories in October 1975. Section 3 of that document is a compilation of lessons learned from a prime contractor's perspective.

D. Approach

This document was compiled through a series of interviews with approximately 40 specifically selected personnel, each of whom were in positions of responsibility during the testing of systems similar to those planned under each NMD program. The approach taken was to conduct a one-hour interview with the individual. An attempt was then made to distill all comments into a specific lesson with an appropriate rationale and, if possible, an example. The focus of these interviews was in two parts: (1) unexpected problems which could have

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