



**BRIEF TO THE:
NATIONAL DEFENSE INDUSTRIAL ASSOCIATION
ON
SYSTEM ENGINEERING &
TEST AND EVALUATION**

**Stephen F. Mendonca
26 February 2003**

System Engineering & Test and Evaluation

- **Event Could be: Test, Training or Experimentation**
- **Event Manager Utilizes System Engineering Principles**
 - Convert requirements to solutions
 - Trade-offs between possible solutions based on
 - **Data accuracies**
 - **Cost**
 - **Risk**
 - **Timeliness**



System Engineering & Test and Evaluation

- **Event Requirements**

- Utilize requirements to develop options
- Translate Event Requirements into an Integrated, Controlled and Safe Event

- **Consider:**

- Accuracies
- Cost
- Risk
- Timeliness



- **Required Infrastructure**

- Trade-offs between Ground Based Radars and GPS
- Trade-offs between Ground Based Voice COMMs and Airborne

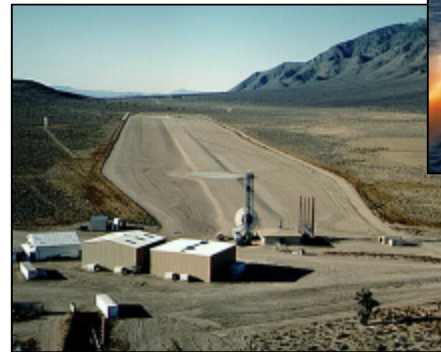
System Engineering & Test and Evaluation

- **Instrumentation Trade-Offs**

- Ground based versus on-board
- Remote destruct ground based versus airborne

- **Event Participants**

- Live and simulated trade-offs
- Hardware-in-the-loop versus digital models



System Engineering & Test and Evaluation

- **During Event**

- Delay versus cancellation versus reschedule
- Instrumentation problems
- Range safety
- Fouled event area

