Back to the Future: The DoD Looks back at the Should Cost Review to Save Buying Power in the Future

Should Cost Review on Evolved Expendable Launch Vehicle (EELV)

Presented by

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DAU West Region
**Back to the Future: The DoD Looks back at the Should Cost Review to Save Buying Power in the Future**

Presented at the Naval Postgraduate School’s 8th Annual Acquisition Research Symposium, 10-12 May 2011, Seaside, CA.
• SCR History
• Better Buying Power
• Why an EELV SCR?
• Direction and Team Formulation
Target Affordability and Control Cost Growth

“I will require the manager of each major program to conduct a Should Cost analysis justifying each element of program cost and showing how it is improving year by year or meeting other relevant benchmarks/or value.”
Foundation in the FAR 15.407-4

- Promote short and long-range cost improvements in contractor’s economy and efficiency
- Two types of SCR: Program and Overhead

- Does not assume contractor’s historical costs reflect efficient and economical operation (Will Cost)
- Evaluate economy and efficiency of contractor’s existing workforce, methods, materials, equipment, real property, operating systems, and management
- Accomplished by a multi-functional government team
Background

MEMORANDUM FOR DIRECTOR, NATIONAL RECONNAISSANCE OFFICE
COMMANDER, AIR FORCE SPACE COMMAND

SUBJECT: Evolved Expendable Launch Vehicle (EELV) Should Cost Review

The Department of Defense is committed to providing assured access to space by developing, fielding, and operating world-class indigenous space launch capabilities. The EELV program is essential to meeting this requirement. However, the program faces significant concerns moving into the future, including unresolved Defense Contract Audit Agency audit issues, significant contract price increases, and uncertainty in supplier readiness. The price growth of the EELV contracts has drawn considerable interest from both the Department and Congress. Your combined Tiger Team effort should address these issues as part of a systematic evaluation of our launch enterprise business approach. As a cornerstone of this activity, I endorse a Should Cost Review (SCR) per FAR 15.407.

The goals of the Should Cost Review will be to: 1) establish an authoritative baseline for current launch capacity and requirements; 2) identify programmatic requirements specifically for EELV; and 3) determine the most probable EELV costs and the factors affecting EELV costs/availability.

I am assigning Mr. Ron Poussard, Director, Air Force Office of Small Business Programs, to lead this important effort. His team will incorporate members from across government and industry. I ask that you give him your utmost support and assistance as this review goes forward. I believe that a rigorous assessment of how our government and industry partnerships does business in this area is critically important to our national security.

Michael B. Donley
DoD Executive Agent for Space

CC: USD(AT&L)

SECAF as DoD Executive Agent for Space tasked Dir NRO and AFSPC/CC

GOALS

- Conduct Should Cost Review IAW FAR Part 15.407-4
- Establish an authoritative baseline for current launch capacity and requirements
- Identify programmatic requirements for EELV
- Determine most probable cost and factors affecting EELV costs/availability
<table>
<thead>
<tr>
<th>Program Should Cost Review</th>
<th>Overhead Should Cost Review</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some initial production has already taken place (FAR)</td>
<td>Dollar amount of Government business (FAR); Projected annual sales to DoD exceed $1 billion (DFARS)</td>
</tr>
<tr>
<td>The contract will be awarded on a sole source basis (FAR)</td>
<td>Level of Government participation (FAR); Projected DoD versus total business exceeds 50 percent (DFARS)</td>
</tr>
<tr>
<td>There are future year production requirements for substantial quantities of like items (FAR)</td>
<td>Level of noncompetitive Government contracts (FAR); Level of sole-source DoD contracts is high (DFARS)</td>
</tr>
<tr>
<td>The items being acquired have a history of increasing costs (FAR)</td>
<td>Volume of proposal activity (FAR); Significant volume of proposal activity is anticipated (DFARS)</td>
</tr>
<tr>
<td>The work is sufficiently defined to permit an effective analysis and major changes are unlikely (FAR)</td>
<td>Major system or program (FAR); Production or development of a major weapon system or program is anticipated (DFARS)</td>
</tr>
<tr>
<td>Sufficient time is available to plan and adequately conduct the should-cost review (FAR)</td>
<td>Corporate reorganizations, mergers, acquisitions, or takeovers (FAR)</td>
</tr>
<tr>
<td>Personnel with the required skills are available or can be assigned for the duration of the should-cost review (FAR)</td>
<td>Other conditions (e.g., changes in accounting systems, management, or business activity) (FAR); Contractor cost control/reduction initiatives appear inadequate</td>
</tr>
</tbody>
</table>

Conduct full review incorporating both types
• Conducted Literature review—not much available
• Formulated team and established goals
• Collected data via RFIs, on-site interviews, observations, etc.
• Identified Cost Reduction Initiative opportunities—consolidated results
• Absent current documentation on the SCR process, much of the effort was trial and error, despite the best efforts to do advance planning

• DAU observed the SCR, captured best practices and lessons learned, documented process and models, and served as thinking partner

“Writing the book as we go”
Planning

• Best Practices
  – “Close to” Inherently Governmental Activity
  – Senior Direction must be have Clearly Stated Goals and Objectives
  – Stakeholder Involvement throughout

• Lessons Learned
  – Stakeholders and Team Members Must Understand SCR Purpose
  – Define “Should Cost” vs “Will Cost” vs “Could Cost”
  – Clarify Contract Support Requirements, Deliverables and Funding
  – Establish Non-Disclosure Agreement Process
  – Identify IT/Networking Needs and Sources to ease communication
  – Establish SCR Leadership Team to be Part of Planning
Organization

• Best Practices
  – WBS cost drivers (use Pareto 80/20 rule) helped shape structure
  – Use Navy Price Fighter and CAIG Cost Estimators – include both skill sets
  – Establish Integration Group to Assess Results
  – Rely on DCMA (DACO and Plant Reps) and DCAA (advisory only)
  – Business Process Team (Contracts, Business Systems including EVM)
  – Use Prime Contractor Personnel by Invitation
  – Include Trainers to Build Training Course for Others

• Lessons Learned
  – Establish clear chain of Command and Flow of Information
  – Use Frequent and Consistent Communication Tools to Entire Team
  – Manage Prime Contractor Role to Avoid Mis-communication
Processes (cont)

• **Best Practices (cont)**
  - Use Face-to-Face Site Visits to Facilities with Introduction Letters and Briefing
  - Use a Common, Protected Web-Based Data Storage with Controlled Access to Allow for Transparency in the SCR Processes.
  - Include General Counsel to Work Access to Data and Conflicts of Interest

• **Lessons Learned**
  - Keep the Methodology Simple
  - Establish Regular In-Person Team Reporting to Team Leads and Director
  - IT networks and applications can be unreliable
  - Document as Teams Make Progress
Processes

• Best Practices
  – Establish Written Team Charters, Templates and a Common Methodology
  – Leverage Work of Others (DCAA, DCMA, OSD) – Did Not Duplicate Work
  – Schedule Regular Stakeholder Updates via Executive Oversight Group
  – Protect Data at All Times
  – Train in All-Hands Meetings and Small Groups

  – Just-in-Time (JIT) Training: Initial Training to frame the effort and instill motivation and a common focus, timely relevant training on data gathering and analysis tools, tailored training on the use of the CRI form, databases and models
  – Embed Technical Writers into Teams – Documentation and Report-Writing
  – Acquire a Central Facility for Review Duration (Networks, Equipment, Creature Comforts)
Findings

The Survey

20. Based on my experience and my participation with this SCR:

11. How would you rate the following during your participation in this event?

5. How many years of acquisition experience do you have?

Select One...

7. How many years of experience do you have?

Select One...

9. What has been your team affiliation?

Integration Group
Launch Capabilities Team
Launch Services Team
Overhead Team
Other

EXPENDABLE LAUNCH VEHICLE SHOULD COST REVIEW

Evolved Expendable Launch Vehicle (EELV) Should Cost Review (SCR) Team Members: In an effort to make the Department's participation in the EELV SCR pay even greater dividends, we respectfully ask that you take a few minutes to respond to this short survey.

Your responses will remain anonymous and your identity will be protected. Your support is greatly appreciated.

1. Tell us about yourself. What best describes your parent organization?

DCMA DAU DCAA SAF SMIC HOAFMC Aerospace NRO AFCAI AT Kuehne BTAS ULA OTHER

If you checked other, please state:

2. What is your primary functional area of expertise?

Select One...

If other, please state:

3. How many years of experience in your primary functional area of expertise do you have?

Select one...

4. Please indicate the highest DAWA certification level(s) you have achieved in the corresponding functional area(s). If you are not DAWA certified, continue to the next question.

Program Management
Systems Engineering
Budget, Cost Estimating and Financial Management
Life Cycle Logistics
Production Quality Manufacturing
Contracting

If you have other Acquisition or DAWA certifications, please list:
Who Participated In The Survey?

Almost Everyone!

Findings

Who Participated In The Survey?

Almost Everyone!

99% Confidence Level

3% Confidence Interval

91 Should Cost Participants

86 Survey Respondents

Organization

High Confidence Sample

DCMA

ULA

NASA

OTHER

AFCAA

BTAS

SMC

5

11

8

2

4

3

5

35

9

1

2

NASA

SMC

AFCAA

BTAS

ULA

DCMA

Aerospace

NRO
Who Participated In The Survey?
Many Functional Areas!

<table>
<thead>
<tr>
<th>Area</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contracting</td>
<td>18</td>
</tr>
<tr>
<td>Cost Estimating</td>
<td>13</td>
</tr>
<tr>
<td>Systems Engineering</td>
<td>12</td>
</tr>
<tr>
<td>Program Management</td>
<td>14</td>
</tr>
<tr>
<td>Financial Management</td>
<td>9</td>
</tr>
<tr>
<td>Production &amp; Quality</td>
<td>4</td>
</tr>
<tr>
<td>Manufacturing</td>
<td></td>
</tr>
<tr>
<td>Auditing</td>
<td>2</td>
</tr>
<tr>
<td>Logistics</td>
<td>1</td>
</tr>
<tr>
<td>Administrative</td>
<td></td>
</tr>
<tr>
<td>Materials Engineer</td>
<td></td>
</tr>
<tr>
<td>Operations</td>
<td></td>
</tr>
<tr>
<td>Propulsion</td>
<td></td>
</tr>
<tr>
<td>Price Analyst</td>
<td></td>
</tr>
<tr>
<td>Acquisition</td>
<td></td>
</tr>
<tr>
<td>Avionics</td>
<td></td>
</tr>
<tr>
<td>Civil Engineering</td>
<td></td>
</tr>
<tr>
<td>Supply Chain Management</td>
<td></td>
</tr>
<tr>
<td>Systems Engineering</td>
<td></td>
</tr>
<tr>
<td>Technical Writer/Editor</td>
<td></td>
</tr>
</tbody>
</table>
Who Participated In The Survey?
Some Pretty Experienced People!

DAWIA Levels

Experience

Years of Experience

Number of Respondents

Levels

Lvl III
Lvl II
Lvl I
Who Participated In The Survey? Not So Much SCR Experience

[Diagram showing SCR Experience distribution: 75% No Experience, 13% 1 SCR, 5% 2 SCR, 6% 3 SCR, 1% w/7+ SCR]
## Findings

### With Regard to Your SCR Participation…

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start-up Well Organized</td>
<td>6%</td>
<td>13%</td>
<td>14%</td>
<td>36%</td>
<td>27%</td>
</tr>
<tr>
<td>Expectations Sufficiently Communicated</td>
<td>3%</td>
<td>10%</td>
<td>13%</td>
<td>49%</td>
<td>25%</td>
</tr>
<tr>
<td>Training was Sufficient/Timely</td>
<td>1%</td>
<td>8%</td>
<td>32%</td>
<td>45%</td>
<td>14%</td>
</tr>
<tr>
<td>Important Information Flowed Freely</td>
<td>4%</td>
<td>11%</td>
<td>18%</td>
<td>46%</td>
<td>21%</td>
</tr>
<tr>
<td>My SCR team was correctly sized/staffed</td>
<td>3%</td>
<td>19%</td>
<td>29%</td>
<td>29%</td>
<td>19%</td>
</tr>
<tr>
<td>The SCR process was clear/straight-forward</td>
<td>2%</td>
<td>9%</td>
<td>13%</td>
<td>47%</td>
<td>27%</td>
</tr>
<tr>
<td>The Site Visits were useful</td>
<td>0%</td>
<td>0%</td>
<td>4%</td>
<td>28%</td>
<td>55%</td>
</tr>
<tr>
<td>My participation had a positive impact</td>
<td>0%</td>
<td>0%</td>
<td>4%</td>
<td>56%</td>
<td>40%</td>
</tr>
<tr>
<td>I would participate in another SCR</td>
<td>0%</td>
<td>2%</td>
<td>19%</td>
<td>32%</td>
<td>47%</td>
</tr>
</tbody>
</table>
## Findings

### Rating the Site Visits...

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Were Useful</td>
<td>0%</td>
<td>0%</td>
<td>4%</td>
<td>32%</td>
<td>64%</td>
</tr>
<tr>
<td>Time Allocated was Adequate</td>
<td>3%</td>
<td>17%</td>
<td>23%</td>
<td>36%</td>
<td>21%</td>
</tr>
<tr>
<td>Interview process was Efficient</td>
<td>0%</td>
<td>5%</td>
<td>23%</td>
<td>53%</td>
<td>19%</td>
</tr>
<tr>
<td>Helpful Host Organization Support</td>
<td>0%</td>
<td>1%</td>
<td>4%</td>
<td>39%</td>
<td>56%</td>
</tr>
</tbody>
</table>
## Findings

**How do you feel?**

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>DoD programs could benefit from the process</td>
<td>1%</td>
<td>0%</td>
<td>11%</td>
<td>42%</td>
<td>47%</td>
</tr>
<tr>
<td>My time a good use of personnel resources</td>
<td>3%</td>
<td>1%</td>
<td>16%</td>
<td>58%</td>
<td>22%</td>
</tr>
</tbody>
</table>
Conclusions

- Significant results with near and long term utility for contract negotiations, budgets and acquisition strategies
- Comprehensive review was labor intensive but necessary
  - Partial reviews may be more efficient but will be limited in scope
- Methodology captured and documented fact-based efficiencies
  - Added to credibility of results
  - Business process review strengthened SPO, DCMA and DCAA partnership
- Senior leadership / stakeholder equity facilitated buy-in
- Government SCR skill sets must be developed
- Training is key