Quantifying the Sustainment Business Case

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Ottawa User Group Meeting
Outline

Background

Canada’s Sustainment Business Case Analysis (SBCA) Process

Quantifying the Sustainment Business Case

Enhancing Future SBCA

Discussion
As part of DND’s *Defence Renewal* initiative, the Sustainment Initiative introduced the SBCA Process to address requirements of the Government of Canada *Defence Procurement Strategy*, in recognition that Support is a Key Industrial Capability and a Major Cost Driver in Defence Acquisition.
THE SBCA PROCESS
Objective of the SBCA is to:

• Provide a standardized approach to existing work
• Align with the TBS Business Case Analysis
• Ensure early engagement of DND, PSPC and ISED as well as the Canadian Defence Industry
Defence Procurement Strategy (DPS)

Deliver the right equipment to the Canadian Armed Forces and the Canadian Coast Guard in a timely manner

► Early and continuous industry engagement
► Defence Acquisition Guide
► Enhanced Challenge Function

Leverage purchases of defence equipment to create jobs and economic growth

► Industrial/Technical Benefits and Value Proposition

Streamline defence procurement processes

► Increased National Defence Contracting Authority
DPS Governance Committees

Director level committees (DGC)
Established for procurements valued between $20M-$100M.

DG level committees (DGGC)
► Established for procurements valued at $100M and above

ADM level committees (ADMC)
► Standing committees established for select procurements valued at $100 M and above

DM level committees (DMGC)
► Standing committees established for select procurements valued at $100 M and above
SBCA Process with DPS Alignment

NOTE: for new Acquisitions, most completed BEFORE Acquisition RFP Release/Contract Award
SBCA Process – Three Phases

1. Strategic Context Phase
   - DPS Engagement Point 1
   - Endorsement of Mandate Package

2. Analysis and Recommendation Phase
   - DPS Engagement Point 2
   - Approval SBCA Report (Sustainment Strategy)

3. Management and Capacity Phase
   - DPS Engagement Point 3
   - Approval Sustainment Solution

SBCA Report (Sustainment Strategy)

APPROVAL

ENDORSEMENT

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4 Principles of Sustainment

Performance

*Equipment that is operationally ready and mission capable*

Value for Money

*The required outcomes are procured at a price commensurate with the market rate for comparable procurements*

Flexibility

*An adaptable and scalable support system that can readily be adjusted to changes in operationally requirements and/or operating budgets*

Economic Benefits

*Leverage industrial benefits from defence procurements to create jobs and economic growth for companies in Canada*

The effectiveness of a sustainment solution will be judged by the degree to which the principles have been optimized
SBCA Key Stakeholders

Defence Industry

DPS Sect Governance

Other GC Depts (GAC, Etc.)

DND

CAF

A / L / M CoEs (3 Dept)

Stakeholders in the SBCA development

ISED

PSPC
ILS Manager’s Challenge – SBCA Options Analysis

Enterprise Value Point of View
- Others aspects of “GOOD” beyond traditional readiness vs LCC performance

Impact
- Sets government direction
  - Constrains Support Solution options

Timing
- Most completed before system selected/contracts awarded
  - Limited data and time available

Quantifiable vs Qualitative Comparisons
- Fact-based and defendable vs subjective
- Relative ranking may be good enough
DND Support Manager’s Challenge – Sell vs Conduct

The SBCA Process

Selling
the Support →
Sustainment Solution
value to Canada
(Government-wide) to
get buy-in, direction and resources

VS

Conducting
the myriad
stakeholders who
create and deliver an
effective, affordable
Support Solution
TOWARDS QUANTIFYING THE SUSTAINMENT BUSINESS CASE
Strategy #1 – Quantifying Subjective Opinion

Approach
► Workshop of key DND/ISED/PSPC stakeholders/SMEs
► Develop joint awareness of
  ► in-service support (ISS) services needed
  ► System characteristics
  ► DND/Industry capacities and capabilities
► Compare Options by service area and by sustainment principle

Methodology
► Analytical Hierarchy Process & Pairwise Comparison adapted to ISS and SBCA

Example
► HALIFAX Class Combat System (HCCS) In-Service Support SBCA
# SBCA Options Grid - HCCS

**Best Overall Option:** Option C (Proposed Option): 1 ISSC

<table>
<thead>
<tr>
<th>Total Option Score by Criteria:</th>
<th>RCN Readiness</th>
<th>Cost</th>
<th>Socio-Economic</th>
<th>Proc Feasible</th>
<th>Mgt Effort</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option A (Status Quo): Current Traditional Contracts</td>
<td>820</td>
<td>700</td>
<td>1090</td>
<td>740</td>
<td>1210</td>
<td>4560</td>
</tr>
<tr>
<td>Option B: 7 ISSCs</td>
<td>730</td>
<td>750</td>
<td>670</td>
<td>770</td>
<td>960</td>
<td>3880</td>
</tr>
<tr>
<td>Option C (Proposed Option): 1 ISSC</td>
<td>700</td>
<td>700</td>
<td>700</td>
<td>700</td>
<td>700</td>
<td>3500</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total Option Score by Service:</th>
<th>Maint</th>
<th>Supply</th>
<th>Eng</th>
<th>TDP</th>
<th>Trng</th>
<th>MIS</th>
<th>ISS Mgt</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option A (Status Quo): Current Traditional Contracts</td>
<td>640</td>
<td>780</td>
<td>750</td>
<td>570</td>
<td>560</td>
<td>510</td>
<td>750</td>
<td>4560</td>
</tr>
<tr>
<td>Option B: 7 ISSCs</td>
<td>540</td>
<td>540</td>
<td>570</td>
<td>530</td>
<td>500</td>
<td>620</td>
<td>580</td>
<td>3880</td>
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<tr>
<td>Option C (Proposed Option): 1 ISSC</td>
<td>500</td>
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<td>500</td>
<td>500</td>
<td>3500</td>
</tr>
</tbody>
</table>
Strategy #2 – Use of Analyzer for SBCA Baseline Comparison System Models

Approach

► Develop high level system support and use model
  ► Status quo systems & Industry RFI feedback
► Compare Options on LCC basis (for target readiness) to help justify against Performance & Value for Money Principles
► Complement with Strategy #1 assessments for other sustainment principles

Methodology

► OmegaPS Analyzer modelling

Example

► PMO JUSTAS SBCA
BCS Modelling – Two Elements

Fleet/Equipment Configuration
- Equipment hierarchical structure
  - Reflect equipment configuration
- Sufficiently detailed and indentured to reflect the equipment under review
  - Platform
  - Prime Equipment
  - Repairable Units (Line, Shop)

Support System Configuration
- Reflects the Logistics Support Organization for the equipment
- Consider multiple lines of maintenance
  - From operator to in-depth maintenance
  - Repair part flows
- Include other cost variables
  - Fixed Costs – equipment cost
  - Recurring support services
  - Unique event (upgrades)
  - ILS resource costs
  - Indirect costs

The BCS Model reflects the relationship between the fleet/equipment and its logistic support system, both within the operational use profile.
The BCS and OmegaPS Analyzer

BCS Model Applicable
- OmegaPS Analyzer supports both equipment and support system structures
- Standard and customizable costs elements can be used
- OPS Analyzer applied in many different instances
  - Equipment selection processes
  - Sustainment Business Case Analysis
  - Annual Operating Plan budget development

Analyzer LCC Output
- Decision processes require cost assessments - LCC
- OPS Analyzer provides a standard as well as customizable Cost Breakdown Structure (CBS)
- Can apply to individual equipment level
- Sensitivity/risk analysis can be conducted
OPS Analyzer/BCS for SBCA

JUSTAS Project
- Conducted early-on Support System BCA
- Net-new support requirement for the CAF – no organic UAV support system
- Analysis “fixed” the physical equipment structure model
- Compare and contrasted support system options

Result
- Active project so specific results are not releasable
- Generated concepts/ideas not previously considered
- Focus on cost drivers
- Created focus on support system requirements
- Assisted to further clarify data requests from industry
SBCA BCS Data Requests

Developed an approach to develop BCS data via RFIs to Industry

- LRU data (12)
- Other Cost Breakdown System elements
  - Implementation/Acquisition costs (16)
  - Sustainment costs (18)
  - Operating costs (2)

Adaptable to Need and Availability

- Alignment with Project/DND CBS
ENABLING ENHANCED FUTURE
SBCA
Support Options Analysis – part of Front End Analysis

► ILS managers/teams need to develop detailed support strategies to create appropriate support solutions
► SBCA is the “40,000 ft” view of this

Better Sales Pitches

► Recognize need to present/justify support solutions to Government
► Recognize value in “damage controlling” Government direction
► Recognize potential to get buy-in to support solution investments/costs

Enterprise Priorities into Our Options Analysis

► How do we bring 4 sustainment principles considerations into more detailed options analysis and eventual support solution design
  ► “Value Proposition has changed how we conduct our daily support business, as it may be the discriminator between near equal performance bids”
Linked “Sales” and “Conductor” Strategies

**Sustainment Strategy (Govt Value-Centric)**

<table>
<thead>
<tr>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value for Money</td>
</tr>
<tr>
<td>Flexibility</td>
</tr>
<tr>
<td>Economic Benefit</td>
</tr>
</tbody>
</table>

**Support Strategy (Performance-Centric)**

<table>
<thead>
<tr>
<th>Equipment Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering</td>
</tr>
<tr>
<td>Maintenance</td>
</tr>
<tr>
<td>Supply</td>
</tr>
<tr>
<td>Training</td>
</tr>
<tr>
<td>Information Management</td>
</tr>
<tr>
<td>Others (Facilities, Procurement, Intellectual Property, Economic Benefits, etc)</td>
</tr>
</tbody>
</table>

Source documents:

- **SBCA Reports**
  - 10s of pages
  - 3 Iterations

- **Support Strategy Docs**
  - (Statement of Support Intent)
  - 100s of pages
  - Many Iterations

**The image contains a flowchart and tables outlining the strategies and their components.**
Reuse of initial BCS models for Support Strategy Development

- Initial BCS models can help ILS managers/teams examine support solution options and develop estimates and cost/impact driver awareness
- SBCA can reuse these models to substantiate recommended sustainment strategies to Government

Consistent Dialogue with Industry

- Using common data and costing approaches/requests for both Enterprise SBCA OA and for Support OA

Enhanced Re-use of Representative Data

- Standard costs and turnaround times for support systems
  - DND internal & Industry norms
- Supply chain benchmarks
- Indicative costs of new sourcing