Best Value For Money adjudications for Industrial Services

C. Lara/CERN

14 November 2013
Agenda

• Industrial Services (IS) contracts
• Principles
• BVFM formula
• Quality criteria
• Bid opening
• Statistics
• Conclusion
What are IS

• Contracts have a high component of manpower (~80% of the contract price is salary)
• Represents ~1’500 contractors’ personnel on the CERN site
• Services executed on both French and/or Swiss territory on the CERN site
• Contracts for a minimum of 3 years (up to 7 years in total)
Transport and handling
Welding
Welding and electromechanical work
Mechanical workshop
Adjudication Basis

- **Lowest compliant**
  or
- **Best Value for Money (BVFM)**

In June 2008, FC agreed to the principle of **most economically advantageous** for service contracts.
Decision on adjudication basis

The decision to adjudicate a contract on a BVFM basis will be taken:

- by the Procurement Service in collaboration with the technical officer
- **before the Market Survey** is launched
- on a case by case basis
Principles

• The award of the contract shall be based on the **price and quality** criteria

• The **price weight** represents at least 50%

• The **quality weight** shall not exceed 50%
Weight of quality and price

- Weight of Quality ($Q_w$) and price ($P_w$) may vary according to:
  - the technical complexity of the activity
  - the technical specification
  - financial considerations
Scoring bids

- Total score = price score + quality score

- **Choices made:**
  - Price score is **based on** the lowest bid
  - Quality score measures technical bid **against** established criteria
Impact of price and quality

Price weight / quality weight = $P_w / Q_w$
Where $P_w + Q_w = 100$

Price

Quality

LOWP = lowest bid
Both diagrams cannot be added
Translation in %

Difference (%) compared to LOWP
\[ X_1 = (\frac{x_1}{LOWP} - 1)100 \]

\( x_1 \) = price of bid \( x \)

Quality points (% de QMAX)
\[ X_2 = \frac{x_2.100}{QMAX} \]

\( x_2 \) = no. of quality points of bid \( x \)
BVFM formula (final choice)

For an adjudication based on 50/50, an offer \( x\% \) more expensive than the lowest bid has to compensated by the same \( x\% \) of quality points.
Compensation for Pw/Qw = 50/50

For Pw/Qw = 50/50
100% of the quality points can compensate a difference up to
100% of the lowest bid (2 x Qw)
Maximum difference in price that could be compensated for Pw/Qw = 75/25

For Pw/Qw = 75/25 → 100% of the quality points can compensate a difference of up to 50% (2 x Qw)
Maximum differences in price that can be compensated

<table>
<thead>
<tr>
<th>Pw/Qw</th>
<th>Price curve ( P(X_1) = -(\frac{1}{2}) \cdot X_1 + Pw )</th>
<th>Quality curve ( Q(X_2) = (Qw/100) \cdot X_2 )</th>
<th>Maximum theoretical difference (%) ( X_1 = 2Qw ) For ( X_2 = 100 )</th>
<th>Ratio Q Points /extra cost ( X_2/X_1 = 100/(2Qw) )</th>
</tr>
</thead>
<tbody>
<tr>
<td>50/50</td>
<td>(-(1/2) \cdot X_1 + 50)</td>
<td>((1/2) \cdot X_2)</td>
<td>100</td>
<td>1</td>
</tr>
<tr>
<td>60/40</td>
<td>(-(1/2) \cdot X_1 + 60)</td>
<td>((2/5) \cdot X_2)</td>
<td>80</td>
<td>5/4</td>
</tr>
<tr>
<td>70/30</td>
<td>(-(1/2) \cdot X_1 + 70)</td>
<td>((3/10) \cdot X_2)</td>
<td>60</td>
<td>5/3</td>
</tr>
<tr>
<td>75/25</td>
<td>(-(1/2) \cdot X_1 + 75)</td>
<td>((1/4) \cdot X_2)</td>
<td>50</td>
<td>2</td>
</tr>
<tr>
<td>80/20</td>
<td>(-(1/2) \cdot X_1 + 80)</td>
<td>((1/5) \cdot X_2)</td>
<td>40</td>
<td>5/2</td>
</tr>
<tr>
<td>90/10</td>
<td>(-(1/2) \cdot X_1 + 90)</td>
<td>((1/10) \cdot X_2)</td>
<td>20</td>
<td>5</td>
</tr>
</tbody>
</table>

100% of the MAX quality points can compensate up to: \( 2 \times Qw \) %
Adjudication formula

Weighted score:

Total weighted score = (weighted quality score) + (weighted price score)

Where:

Weighted quality score = \( \frac{\text{Quality weight} \times \text{Quality score}}{\text{Maximum quality score}} \)

The maximum price score is awarded to the lowest compliant bid.

Weighted price score = \( \text{price weight} - 50 \times \frac{\text{price for bid}}{\text{price of lowest bid}} - 1 \)
Quality criteria

• **Quality criteria** shall be:
  • Objective → measurable
  • Specific for each activity → relevant
  • Impartial → fair competition
  • Transparent → bidders informed
Quality criteria and scoring

- Adjudication quality criteria are defined prior to dispatch of the IT

- Quality criteria and scoring will be defined in a Memorandum drafted by PS and Technical Dept.

- Criteria shall be submitted to Head of FP/PI for approval
# Contractual organisation

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Scoring mechanism</th>
<th>Quality scores</th>
</tr>
</thead>
</table>
| A. Contractual organisation | X points for X FTEs assigned for ... above X FTEs.  
1 FTE being defined as 2000 hours of work per year.  
Below a certain number of FTE this criterion can be eliminatory. | X |

| B. Qualification of the key personnel | X points for university degree or equivalent diploma in ...;  
X points for higher technical diploma (HND, HNC, or equivalent) in...,  
X points for technical diploma in ...;  
X points for at least 5 years of professional experience in;  
X points for at least 3 years of professional experience in ... within the contractor’s firm or within the CERN environment (pro rata per year);  
X points for practical experience in organising the maintenance of ...;  
X points if personnel hold a certification (e.g. work at height, Cat. B worker)  
X points – good working knowledge of English and French, both speaking and writing.  
The total shall be calculated according to a number of FTE. 1 FTE being defined as 2000 hours of work per year. | X |
Test, bidder’s experience, QA, training, supplementary personnel, tools and quality of bid

<table>
<thead>
<tr>
<th>C. Test</th>
<th>Please see attached scoring file</th>
</tr>
</thead>
<tbody>
<tr>
<td>D. Bidder’s experience</td>
<td>2 references, max X points per reference: X points if technically relevant (X points for each field covered) X points if comparable in value (pro rata to value)</td>
</tr>
<tr>
<td>E1. QA Contract start up phase</td>
<td>X points if very good, X points if good, X points if satisfactory, 0 points if poor X points for X additional high level (‘start-up expert’) personnel during the start-up period (X points per man-month per additional person)</td>
</tr>
<tr>
<td>E2. QA Transparency of management of hourly vs fixed price activities</td>
<td>Up to X points for the transparency of management of hourly versus fixed price activities</td>
</tr>
<tr>
<td>F1. Training For past training in the references provided</td>
<td>X points for each day of technical training above X days per year.</td>
</tr>
<tr>
<td>F2. Training For future training</td>
<td>X points for each day of technical training above X days per year.</td>
</tr>
<tr>
<td>G. Experienced supplementary personnel</td>
<td>X points for each supplementary personnel member within the firm, with similar qualifications/experience as the contract personnel members already in place, that can be made available within X weeks</td>
</tr>
<tr>
<td>I. Tools and equipment</td>
<td>X points if a particular tool or equipment is provided</td>
</tr>
<tr>
<td>J. Quality of the bid</td>
<td>X points if very good, X points if good, X points if satisfactory, 0 points if poor</td>
</tr>
</tbody>
</table>

Total number of points = Maximum score for quality 200
Technical tender documents

The technical specification shall:

- define minimum contractual obligations of future contract
- describe technical and delivery requirements

Quality criteria:

- Are used to score the quality of the bid for services which exceed the minimum requirements indicated in technical specification
Double enveloppe procedure

- One envelope for the technical bid (evaluation questionnaire and tech. info) and
- a second envelope for the commercial bid with prices (tender form)

- Both envelopes shall be sent in a single envelope
Bid opening

- Each technical bid is evaluated and scored according to the pre-defined adjudication criteria.

- Once technical scores have been finalised, a second opening is organized for the commercial opening of compliant bids.

All members of evaluation panel are bound to confidentiality.
Statistics

- no. adjudications
- no. contracts
- total contract amounts in MCHF

<table>
<thead>
<tr>
<th>Year</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>6</td>
<td>8</td>
<td>3</td>
<td>6</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>2009</td>
<td>6</td>
<td>8</td>
<td>3</td>
<td>8</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>2010</td>
<td></td>
<td></td>
<td>22</td>
<td></td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td></td>
<td></td>
<td></td>
<td>143</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>45</td>
</tr>
</tbody>
</table>

Note: The chart shows the number of adjudications, contracts, and total contract amounts in MCHF for each year from 2008 to 2013.
% of contracts placed with the...

- Lowest bidder: 57%
- 2nd lowest bidder: 31%
- 3rd lowest bidder: 9%
- 4th lowest bidder: 3%
Price difference compared to the lowest bid (in %)

- 0%: 57%
- <5%: 17%
- 5%-10%: 14%
- 10%-20%: 12%
Weighted Pw/Qw

- 50/50: 40%
- 60/40: 12%
- 70/30: 20%
- 80/20: 20%
- Others: 8%
Conclusion

- Bids of better quality
- Evaluation questionnaire draws the bidders’ attention to resources necessary for the future contract
- Better understanding to CERN’s requirements may lead to less surprises at the start of the contract
Procurement web site

Cristina.lara@cern.ch