

## Position Paper Total Cost of Ownership

### 1. Background

European suppliers of cable accessories are well known for reliable, high quality products. With their knowledge, experience and large investments in R&D, they played an important role in achieving the high performance level of the today's electricity networks.

The introduction of prequalification and tendering (obligatory by law) has made the European market more and more transparent and accessible.

### 2. Message to be communicated

European suppliers feel the need to motivate utilities to look at more aspects than price only. European cable accessories differ in technique but they have a common thing to offer: quality, reliability, service and support, and that is what should also be taken into account. Because the economic value is still the easiest way to compare the products, the utilities should put the product price in a larger perspective, **namely Total Cost of Ownership**.

### 3. Total Cost of Ownership

Total Cost of Ownership (TCO) provides a cost basis for determining the economic value of a product. It is a complete assignment of all costs of a product- which are direct and indirect- during the life cycle. TCO can be used as a method to compare these costs for alternative products. The following components can be considered:

- Product price
- Quality and reliability (adherence to European or equivalent quality standards)
- Service and support

and depending on the type of product there can be many more different items.

### 4. TCO for cable accessories

Based on the components mentioned above we can determine the following specific cost elements that are relevant to evaluate the economic value of cable accessories:

- **Training costs**  
These costs are initial and can be amortized over the service life of the product. It goes without saying that training highly contributes to the quality of the performance of the product.
- **Installation costs**  
This element comprises product price, jointers costs (labor, travelling, tools, etc.) and civil works. These costs can be written off based on the service life of the product. Simplification on installation procedures can also contribute avoiding failures.
- **Failure costs**  
Lower quality products will have higher failure rates, are therefore less reliable and therefore will have higher failure costs which are basically the replacements of the product.

- **Compensation costs**  
When the network is interrupted because of a defective product, utilities can often be held responsible for the damage caused to industry and consumers. These costs are sometimes set by Governments e.g. for interruptions larger than x minutes/hours. With large consumers, penalties could also occur.
- **Logistic costs**  
Delivery of non-performance can have a significant influence on the utility's operational activities, e.g. quality rejects and stock outs. The cost for this can be related to the jointers costs (delay time in case of rejected products or late delivery).

### **Business benefits to European Utilities**

Besides the above mentioned cost elements there are also business benefits for utilities that could be taken into account. The public image of the utility may never be at risk. Maintaining an image of reliability can contribute to financial benefits. Because of the fact that these elements are very difficult to specify they have not been included in our calculation cases below.

### **5. Practical use**

Using TCO in the purchasing process requires basic economical, financial and technical know-how. To convince managers that TCO analysis is not complicated and time consuming, we present some hypothetical examples to illustrate the practical use of TCO.

|   | <b>Product A</b> | <b>Product B</b> | <b>Product C</b> |
|---|------------------|------------------|------------------|
| <b><u>Product data</u></b>                                  |                  |                  |                  |
| Price   | €50              | €70              | €90              |
| Installation time (hrs)                                     | 1                | 1                | 0.5              |
| Failure rate  | 1%               | 0.5%             | 0.5%             |
| <b>Training costs</b>                                       |                  |                  |                  |
| Jointers, trainers and material, related to service life    | €5.000           | €5.000           | €5.000           |
| <b>Installation costs</b>                                   |                  |                  |                  |
| Material, jointers and civil costs, related to service life | €55.000          | €60.000          | €50.000          |
| <b>Failure costs</b>  |                  |                  |                  |
| Material, jointers and civil costs, related to failure rate | €24.000          | €13.000          | €11.000          |
| <b>Compensation costs</b>                                   |                  |                  |                  |
| Related to failure life                                     | €25.000          | €13.000          | €13.000          |
| <b>Logistic costs</b>                                       |                  |                  |                  |
| Labor costs(year) related to delivery performance           | €6.000           | €6.000           | €6.000           |
| <b>TCO per annum</b>  | <b>€115.000</b>  | <b>€97.000</b>   | <b>€85.000</b>   |

Of course the actual costs for each component can be calculated in various ways. Utilities are encouraged to develop their own models based on actual data from their own experience.

## **6. Conclusions**

Ultimately suppliers and utilities have the same goal: an uninterrupted electricity supply. To achieve this goal, European suppliers invest constantly in the improvement of their products. R&D is oriented on both technical and economic (installing time) aspects which leads to reliable and cost efficient products.

European utilities are strongly assessed on their performance. Statistics such as SAIDI (average interruption duration per customer per annum) and SAIFI (average number of interruptions per customer per annum) are widely used in Europe. Reliability of cable accessories are therefore of great importance and should always be an important factor in selecting the right product/supplier. Total Cost of Ownership is the right method and serves the long-term interests of utilities.

### **Why should utilities consider TCO?**

- ✓ **Provides a structured method to compare products and suppliers**
- ✓ **Anticipates a well-considered decision based on price and quality**
- ✓ **Ensures cost-effective results of your assets**
- ✓ **Focuses on the total performance of your suppliers**
- ✓ **Gives you a to be customized checklist to collect important information from your supplier**
- ✓ **Contributes to a reliable image of your company**