Improving the Pricing Procedures

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Abstract
The article contains an analysis of the pricing practice in the field of the state defense order (SDO): key requirements, current pricing procedure and new principles of the state price regulation in the field of public defense since 2018; methods for determining prices for SDO products; and recommendations for improving the method of indexation by cost items.

Key words: State defense order, costs, pricing, controlling

Introduction
In the context of the disunity of the regulatory and legal framework of pricing for products supplied under the state defense order (SDO), the enterprises of the military industrial complex face objective difficulties at the stage of formation and coordination of prices for supplies of products under the SDO. The drastic changes that have taken place in the procedure of state regulation of prices since 2018 require adaptation to new requirements and rules. The shift in approaches to the definition of prices leads to reorganization in relations between the general executors and performers.

Analysis of the regulatory and legal framework and literature sources reveals the emergence of a new pricing concept in the field of the SDO. The Government of the Russian Federation signed Decree No. 1465 "On approval of the Procedures of state regulation of prices for products supplied under the state defense order" on December 2, 2017. The unified statutory act on the procedure for state regulation of prices in the field of the SDO establishes the following:

- objectives and principles of state regulation of prices for SDO products;
- methods for determining prices for products supplied under SDO;
- procedure and conditions for the application of price types for products under the SDO, including the procedure for converting prices into fixed ones;
- procedure for determining the profitability (profit) in the price of products supplied under the SDO.
- procedure for determining forecast prices;
- procedure for determining the initial (highest) price of a public contract [1,2].

A peculiarity of the new concept of the SDO pricing is a statutory anti-cost model of pricing for supplies under the SDO. For example, depending on the type (characteristics) of products, works and services supplied under the SDO, different mechanisms for determining the price will be used: market values (exchange indicators) will be analyzed, or the "classical" model – "costs plus profits" – will be used.

The innovation is the introduction of a new system for fixing the base price, on the basis of which the price for products will be found by simply multiplying by the current producer price index within 5 years and "frozen" at the level of the previous period for the 6th year of the product supply. At the same time, the new rules establish the conditions (grounds) and the procedure for reviewing such a price. In turn, the cost method, which determines the level of the base price, is divided into 2 methods: direct indexation and the method of indexation by cost items.

Methods
The analysis reveals that it is recommended to use producer price indices by types of economic activity when finding prices for SDO products, including in price indexing, indexing by cost items (method of price indexation and method of indexing by cost items). The index method for calculating the prices of products supplied under the SDO is based on applying the corresponding index (the producer price index by economic activities and (or) other indices) to the base value of the price (costs). Price calculation using the price indexing method is performed by indexing the value of basic price for the producer price index by the corresponding type of economic activity.

If the price is calculated for several years of the expected period for the product supplies, the following formula is used:
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where:
PK is the product price calculated using the method of the price indexing for the k-th year of supply;
Pb is the basic product price;
in is the price index for the n-th year by the corresponding type of economic activity, ranging from 1 to k;
the product price calculated using the method of indexing prices by cost items;
Cbj is the value of the j-th cost item in the base product price;
j is the ordinal number of the cost item in the base product price ranging from 1 to k;
ji is the producer index price for the j-th type of economic activity; and
Pr is the profit. If the price is calculated for several years of the expected period of the product supplies, the following formula is used:

\[ P = \sum_{j=1}^{l} (Cbj * ij) + Pr, \] (2)

where:
P is the product price calculated using the method of indexing prices by cost items;
Cbj is the value of the j-th cost item in the base product price;
j is the ordinal number of the cost item in the base product price ranging from 1 to l;
ji is the producer index price for the j-th type of economic activity; and
Pr is the profit. If the price is calculated for several years of the expected period of the product supplies, the following formula is used:

\[ Pk = \sum_{j=1}^{l} \left( Cbj \cdot \prod_{n=1}^{k} \left( \frac{Cbj}{n} \right) \right) + Pr, \] (3)

where:
Pk is the product price calculated using the method of price indexing for the k-th year of supply;
in is the producer price index by the corresponding type of economic activity, ranging from 1 to k;
in is the ordinal number of the year of application of the corresponding index, ranging from 1 to k; and
k is the year of the product supply [5, 6].

The price calculation in case of its revision due to the change in the basic indicators of the forecast of the socioeconomic development of the Russian Federation is carried out using the method of indexing the cost items with the following formula:

\[ PR = \sum Cconst + \sum CPj \cdot ijf + kj \cdot (CPj \cdot ijf) + Pr, \] (4)

where:
PR is the value of the revised price;
Cconst is the costs in the production price that remain constant;
CPj is the j-th type of costs in the product price that is subject to revision;
ijf is the producer price index by the type of economic activity "former", applied to the j-th cost item that is subject to revision;
ijn is the producer index price by type of economic activity "new", applied to j-th cost item that is subject to revision; and
kj is the coefficient of the j-th cost item standard, calculated as a relative value from the revised cost item [8, 9]. According to the Accounting policy of the organization, such cost items may include: transportation and procurement costs; fuel and energy for technological purposes; additional payroll; insurance premiums, etc.

As such, the analysis of the method of indexing by cost items in the formation of prices for products supplied by the SDO executor reveals that regulatory and legal documents regulating the price formation mechanism do not cover the analysis of the quality and reliability of materials and components used by the SDO executor in manufacturing products, the price for which forms the indexed costs, and, consequently, the SDO prices. The authors believe that the concept of the lowest purchase prices in the SDO requires specification in this case. A mechanism for controlling the quality and reliability of products that form the indexed costs in the SDO is required. Besides, questions arise about the correctness of the SDO price indices’ definition. The authors believe that they should be calculated taking many economic criteria into account. It is proposed to allocate the SDO controlling centers in terms of costs and quality/reliability characteristics of indexed items.

This study develops a sequence of steps in arranging accounting for the SDO controlling centers, as shown in the figure (Figure 1) [10, 11].

The initial stage of arranging the accounting and control of production costs by controlling centers is the development of a controlling map that defines organizational units specifically responsible for controlling costs and quality. The list of controlling centers is established in accordance with the organizational structure of the enterprise, based on the specialization of branches and the degree of independence [9, 10].

The technological structure of the enterprise must be taken into account when determining control centers, its vertical and horizontal reviews must be
developed. The former is limited to the area of activities of each person responsible for the center; the latter predetermines the hierarchical ladder of persons taking managerial decisions.

1. Allocating the SDO controlling centers, determining the structure
   Arrangement of business processes of the enterprise, interrelation and mutual relations between subdivisions are studied

2. Analysis of costs and quality characteristics by the SDO controlling centers
   Cost breakdown, determining requirements for quality characteristics

3. Ensuring conditions of accounting operation by the controlling centers
   A mechanism to introduce accounting by the controlling centers into the existing accounting system of the enterprise is under development. Development of a work plan for analytical accounts by the controlling centers, process maps, quality standards, norms, standards, etc.

4. Formation of internal reporting forms for the SDO controlling centers
   Creation (improvement) of management reporting forms for responsibility centers

5. Formation of information flows for responsibility centers
   Development of the procedure for collecting and processing information from the SDO controlling center

6. Formation of indicators for assessing the activities of the SDO controlling center
   Composition and content of the resultant indicators of the SDO controlling centers are formed

7. Development of the regulation for the internal accounting and control by the SDO controlling centers
   The Regulation defines goals, tasks and functions of the SDO controlling center, procedures for analyzing costs and quality characteristics, and a mechanism for assessing the efficiency of the controlling center

Figure 1. Stages of arranging the SDO controlling centers

Important conditions for the efficiency of the controlling centers for costs and quality include the following: the ability to establish a production order for cost reduction, quality control, as well as obtaining accounting information on the actual costs for each cost center. Particular attention at this stage of the SDO controlling centers’ operation should be paid to the control of quality characteristics.

In the context of the formation of the SDO controlling centers based on production subdivisions at enterprises, it is required to develop regulatory and legal documents that determine the autonomy degree of the centers and the responsibility of their managers and regulate the relationships among subdivisions within the enterprise. Due to this, it is proposed to use the "Regulation on controlling centers" in the controlling centers, which regulates the center operation.

To improve the efficiency of the SDO controlling system, it is required to build an organizational analytical structure (an analytical controlling center) that analyzes and coordinates information flows based on the data of the SDO controlling centers for costs and quality characteristics.

Results

The study calculates the price for the supply of serial products using the method of indexing by cost items for 2018 (Table 1). The calculation uses the indices officially adopted by the letter of the Ministry of Economic Development of Russia No. 28216-AT/DOZi dated October 5, 2017.

<table>
<thead>
<tr>
<th>Line numbers</th>
<th>Names of cost items</th>
<th>2017 base</th>
<th>Result of the calculation using the method for 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Costs of materials – total</td>
<td>1,262,489.72</td>
<td>1,332,332.56</td>
</tr>
<tr>
<td>2</td>
<td>Labor costs of the main production workers – total</td>
<td>24,177.32</td>
<td>26,099.83</td>
</tr>
<tr>
<td>3</td>
<td>Costs of preparation and mastering of production – total</td>
<td>3,396.90</td>
<td>3,572.47</td>
</tr>
<tr>
<td>4</td>
<td>Production costs</td>
<td>1,405,934.56</td>
<td>1,485,522.97</td>
</tr>
<tr>
<td>5</td>
<td>Nonproduction costs</td>
<td>35,148.36</td>
<td>37,088.07</td>
</tr>
<tr>
<td>6</td>
<td>Total cost price</td>
<td>1,441,082.92</td>
<td>1,520,611.03</td>
</tr>
<tr>
<td>7</td>
<td>Profit</td>
<td>56,676.56</td>
<td>59,815.67</td>
</tr>
<tr>
<td>8</td>
<td>Price (without VAT)</td>
<td>1,497,759.42</td>
<td>1,580,226.71</td>
</tr>
</tbody>
</table>

Table 1. Calculating the product price using indexing by cost items
Results of calculating the expected price for 2018 using the method of indexing by cost items: 1,580,226.71 (growth index is 105.51) are shown.

Conclusion
In the context of the disunity of the regulatory and legal framework of pricing for products supplied under the SDO, the enterprises of the military industrial complex face objective difficulties at the stage of formation and coordination of prices for supplies of products under the SDO. The shift in approaches to the definition of prices leads to reorganization in relations between the general executors and performers.

Based on the study results, the scheme of the priority in choosing methods for determining prices for the SDO products is presented. It is shown that the cost method, which determines the level of the base price, is divided into two methods: direct indexing and the method of indexing by cost items. The key problem is the insufficiently efficient system of the SDO controlling. In order to improve the SDO pricing procedure, it is proposed to allocate the SDO controlling centers by costs, quality and reliability characteristics, as well as to establish an analytical controlling center that analyzes and coordinates information flows and substantiates prices.

References