

Terms of reference for selection of a consultant for development of a new methodology for valuation of assets in Sofiyska Voda JSC

1. Background information on the project

The project “*Improvement of the Asset Management in Sofiyska Voda JSC through Elaboration of a New Assets Valuation Methodology*” is funded by the Danube Water Program. The official partner of the project is the Bulgarian Water Association (BWA). The project activities will be performed within one calendar year.

2. Objective(s) of the assignment

The main objective of the current contract is the development of a new methodology for valuation of the physical condition of the assets in Sofiyska Voda JSC.

In consistency with the Concession Agreement, signed between Sofiyska Voda JSC and the Municipality of Sofia in 1999, Sofiyska Voda JSC has acquired the right to use and at the same time is obligated to maintain the public assets in good condition. The concessionaire is obligated to update the Assets Register on annual basis along with performing valuation of the assets. The methodology, which is used at the moment, was created years ago, and Sofiyska Voda JSC receives recommendations by Municipality of Sofia for development of a new document which assesses more exhaustively and in detail the physical condition of the assets. The methodology for assessment should be closely related to the planning of the annual investment and repair programs of the company.

3. Scope of work

The Consultant will perform activities related to the development of a new methodology for asset valuation which should include and improve the four main methodologies currently in use in Sofiyska Voda JSC:

- Methodology for valuation of overground facilities
- Methodology for valuation of buildings
- Methodology for valuation of the water supply network
- Methodology for valuation of the sewerage network

Methodology for valuation of overground facilities

This methodology for valuation of the overground facilities includes the following types of facilities:

- Reservoirs

- Chlorination stations
- Pumping stations for potable water and wastewater
- Wastewater treatment plant (WWTP)
- Potable water treatment plants (PWTP)
- Pressure-boosting installations
- Overflow shafts along the sewerage network
- Sanitary restricted areas (SRA)
- Assets in “Beli Iskar” water system

The different types of assets are broken down into the following categories:

- Class (types of facilities – PWTP, WWTP, Reservoirs, etc.);
- Object (specific object – e.g. reservoir Lozenetz,);
- Sub object (a separate object in the main object according to the technological scheme – e.g. “dry chamber” in a reservoir,);
- Group of elements (e.g. „pipe lining” in sub object „dry chamber”,);
- Element (e.g. „steel pipe Ø900mm”,)

In the process of evaluating the objects in the different classes all elements are described and valued. The individual elements are evaluated on site by a specialist and are given a score (1-5), depending on their condition – (1 - Very good; 5 - Very bad). The total score of a group of elements is formed as an average of the scores of all of the elements which the group consists of. Each group of elements is assigned a weight, depending on the significance of the group for the operation of the entire facility (object). The total score of an object is determined as a weighted average of all of the scores of the separate groups of elements, which the object consists of.

The updated methodology should contain more detailed and objective criteria for valuation of the separate groups of elements, as well as quantitative indicators. It is also necessary to review more closely the chosen weight coefficients and make them more precise, if necessary. Specific criteria for asset valuation, which allow writing-off, should be determined.

To date the results from the valuations are filled in an Excel table, and the Consultant is expected to develop a new e-form, where the scores will be entered. The new form should allow the preparation of table forms for the valuation both for all facilities and by functional groups, classified per location and years and other predetermined criteria. The evaluation presented in the electronic model must allow the possibility to trace the condition of the assets over the years, as well as it must give information about the reasons that led to changes in the condition of the respective asset.

The electronic model should allow for management of versions of documents or contain another mechanism to preserve the forms of assessment in a format that cannot be subject to revision after finalizing the specific assessment.

A revision should be made and recommendations provided on establishing a unique identification in which the individual assets have a uniform codification which is to be used by all departments of the company.

The valuation should cover only assets which are maintained and operated by Sofiyska Voda JSC.

Methodology for valuation of buildings

The current methodology for valuation of buildings is developed in 2012 and describes the process of obtaining a total score for the overall condition of the buildings. The main elements of the buildings are divided into separate groups, which are valued individually on a scale (1-5), depending on their condition – (1 - Very good; 5 - Very bad). The overall score is obtained as a weighted average of the scores of the individual basic elements of the buildings.

The main elements of the buildings are divided into the following groups:

- Roof
- External wall covering
- Internal wall and floor covering
- Window frame
- Electric installation
- Plumbing installation
- Heating, plumbing installation (heating, ventilation and air conditioning installation)

The updated methodology should contain more detailed criteria for the assessment of the separate groups of elements and quantitative indicators as well. At the discretion of the consultant, the main elements of the buildings can be regrouped and fire detection and fire extinguishing systems can possibly be added. It is also necessary to review more closely the chosen weight coefficients and make them more precise, if necessary.

To date the results from the valuations are filled in an Excel table, and the Consultant is expected to develop a new e-form, where the scores will be entered. The new form should allow the preparation of table forms for the valuation both for all facilities and by functional groups, classified per location and years and other predetermined criteria. The evaluation presented in the electronic model must allow the possibility to trace the condition of the assets over the years, as well as it must give information about the reasons that led to changes in the condition of the respective asset.

The electronic model should allow for management of versions of documents or contain another mechanism to preserve the forms of assessment in a format that cannot be subject to revision after finalizing the specific assessment.

The valuation should cover only assets which are maintained and operated by Sofiyska Voda JSC.

A revision should be made and recommendations provided on establishing a unique identification in which the individual assets have a uniform codification which is to be used by all departments of the company.

Specific criteria for asset valuation, which allow writing-off, should be determined.

The consultant is expected to review the possibility for possible consolidation of the Methodologies for valuation of buildings and overground facilities.

Methodology for valuation of the water supply network

For the purpose of this analysis and valuation of the water supply network, data are used from the Geographic Information System (GIS) for all pipelines in the database, including those with an unclear status.

Data are used only for water mains, registered in the following GIS categories:

- Impounding structures;
- Strategic water mains (incl. in collectors);
- Distribution water mains (incl. in collectors and empty ones);
- Dischargers;

The existing methodology assesses the network by the following aspects

- Problems with potable water quality related to customers' health
- Aesthetic water quality problems - the main factor affecting the taste of potable water is the material of the water supply network and the internal buildings' installation.
- Hydraulic deficiencies - the network is valued in its entirety, based on objective indicators such as the water main diameter, determining possible low pressure.
- Structural performance problems - at valuation of water mains in this category, the frequency of operational events (failures) for conduits of same material and diameter, is taken into account.

The network is divided into groups of elements, each group including elements of the same material and diameter for which a score is determined by the four parameters above. The overall score of each group of elements is determined as an average of the individual scores of the four sets of criteria.

In the process of developing the new methodology, it is expected that the following requirements will be met:

- To use and revise the available information for the water supply network by giving the respective recommendations and guidelines for improving the organization, archiving and quality of the collected data;
- To consider the opportunity for using data for external factors with significant impact on the hydraulic and operational parameters, which are not included in the current methodology, such as: soil type, galvanic corrosion, type of the road surface and traffic intensity, as well as for adding technological parameters which at the present are included partially – material, diameter, profile, length – and the data for location, number of failures and number of the respective repair activities;
- To consider the possibility for use of data from the already established hydraulic models of the water supply network, by taking into consideration the fact that there are no developed detailed models for the entire territory, yet;
- To stringently determine and define the individual assets subject to valuation. The final methodology should allow more detailed valuation of assets compared to the current one, as well as ways for even more in-depth valuation in the future;
- To revise and give recommendations regarding establishing a unique identification in which the individual assets have a uniform codification which is to be used by all departments of the company.
- To determine specific criteria for asset valuation, which allow writing-off;
- The valuation should cover only assets which are maintained and operated by Sofiyska Voda JSC;
- To develop a new electronic form, in which the valuations are to be entered. The new form should allow the preparation of table forms for the valuation both for all water mains and by functional groups, classified per location and years and other predetermined criteria. The evaluation presented in the electronic model must allow the possibility to trace the condition of the assets over the years, as well as it must give information about the reasons that led to changes in the condition of the respective asset.
- The electronic model should allow for management of versions of documents or contain another mechanism to preserve the forms of assessment in a format that cannot be subject to revision after finalizing the specific assessment.

Methodology for valuation of the sewerage network

The survey and collection of information on the network of Sofiyska Voda JSC are carried out by the following departments: Sewerage Modelling, Sewerage Services and GIS.

In the valuation of the sewerage network, data from GIS are used for all sewers in the database which are regularly commissioned. The company has not included in the analysis sewers with unclear status, which are not maintained.

The approach at the establishing of the GIS database has assumed that the lines of the sewers will be interrupted by connections, i.e. – one line did not exist for the section from a shaft to a shaft and respectively the company did not have one unique number, it had several numbers. Currently, a process for the merging of these sections has been initiated.

The existing methodology evaluates the network in the following aspects:

- Hydraulic characteristics - the network is assessed on basis of the diameter of the sewer;
- Environmental protection – to date the overflowing facilities and their overflowing sewers have been assessed. The direct discharges into rivers could be added to this valuation;
- Structural integrity – in addition to the current reporting of cases with registered collapses, the results from CCTV surveys could be added;
- Operational behavior –includes operational events resulting from roots, larger deposits, oils, narrowing of connections, clogging etc. Here, the results from CCTV surveys could be added, as well.

In the process of developing the new methodology, it is expected that the following requirements will be met:

- To use and revise the available information about the sewer network by giving the respective recommendations and guidelines for improving the organization, archiving and quality of the collected data;
- To consider the possibility of using data for external factors with significant impact on the hydraulic and operational parameters, which are not included in the current methodology, such as: soil type, galvanic corrosion, type of the road service and traffic intensity, as well as for adding technological parameters, which at present are included partially – material, diameter, profile, length - and the data for location, number of failures and number of the respective repairs;
- If possible, the total score of the sewers should take into consideration the strategic significance of the sewer, by using data on the drained area, the number of customers, etc.;
- To stringently determine and define the individual assets subject to valuation. The final methodology should allow more detailed valuation of assets compared to the current one, as well as ways for even more in-depth valuation in the future;
- To revise and give recommendations regarding establishing a unique identification in which the individual assets have a uniform codification which is to be used by all departments of the company.
- To determine specific criteria for asset valuation, which allow writing-off;
- The assessment should cover only assets, which are maintained and operated by Sofiyska Voda JSC;

- To consider the possibility for use of data from the already established hydraulic models of the sewer network by taking into consideration the fact that there are no developed detailed models for the entire territory, yet;
- To take into account the trends in the development, namely CCTV sewer inspection; in view of the fact that there is no available information from CCTV surveys for the entire network and most of the surveys are made without coding of visual control and without a form for the survey (report);
- The methodology should be developed flexibly so that sewer valuation could be made with and without the availability of CCTV surveys or hydraulic model;
- The methodology should be developed so that the assessments could be visualized with the software available in the Company (ArcMap; InfoNet) or recommendations should to be made for upgrade or purchase of new one. In case visualization is impossible using the available software products, a new electronic form should be elaborated, where the evaluations will be entered. The new form should allow the preparation of table forms for the valuation both for all sewers and by functional groups, classified per location and years and other predetermined criteria. The evaluation presented in the electronic model must allow the possibility to trace the condition of the assets over the years, as well as it must give information about the reasons that led to changes in the condition of the respective asset.
- The electronic model should allow for management of versions of documents or contain another mechanism to preserve the forms of assessment in a format that cannot be subject to revision after finalizing the specific assessment.

4. Expected Outcomes

The final result from the implementation of the contract for hired consultancy services is the development of a new methodology for valuation of the physical condition of the assets.

In the course of work, the Consultant must be in constant touch with the staff of Sofiyska Voda JSC. The company is obliged to provide all the available information needed for timely and qualitative execution of the consulting service, including the current methodology for valuation of the physical condition of the assets.

The consultant is obliged to discuss with representatives of Sofiyska Voda JSC the final product and make the necessary corrections prior to its final delivery.

5. Qualification requirements and basis for evaluation (Evaluation criteria)

- The participant may be a legal entity or association of such;

- The tenderer should have completed until the time of the submission of the bid at least 1 (one) contract similar to the subject of the notice;
- The tenderer should provide at least 1 (one) letter of reference issued with regard to quality implementation of contract/s similar to the subject of the notice;
- The team of consultants, proposed by the contractor to implement the contract with, must meet the following requirements:
 - At least 3 (three) consultants to be with higher technical education (at least Master's degree), of which at least 1 (one) with a "Water Supply and Sewerage" degree and 1 (one) with an Information Technology degree;
 - At least 1(one) of the consultants to be with higher business education, at least Master's degree;
 - At least 1 (one) of the consultants to have practical experience in the development of analytical documents on topics similar to the subject of the notice;

The following experience will be considered as an advantage:

- regional experience in the development of analytical documents on topics similar to the subject of the notice;
- scientific research, publications, participation in R&D projects, or similar;

The proposals will be evaluated using the optimal quality/price ratio method (Quality- and cost-based selection).

The evaluation will be carried out in two stages:

- The first stage involves an assessment of the general qualification and experience of the candidate, incl. scientific studies, publications, participation in scientific research and other types of projects, similar to the topic of the terms of reference;
- The second stage involves an assessment of the proposed methodology and price.

The first three candidates who receive the highest score on the first stage will be allowed to submit documents for the second stage.

Evaluation of the technical part (T1)

The evaluation of the technical part of the offers received shall be done based on the following criteria, applicable for each one of the members of the respective teams:

- I. General qualification - **10 points:**
 - Academic degree - "Doctor"- **10 points;**
 - Academic degree – "Master" - **7 points;**

- Academic degree – “Bachelor” - **4 points**;

The academic degrees should be acquired in the area of technical and/or economic sciences.

II. Project adequacy - **50 points**

- Description of the offered methodology - **40 points**
 - Compliance with the requirements set in the terms of reference - **18 points**;
 - Manner of execution – work organization, allotment of the tasks between experts and interaction scheme with Sofiyska Voda JSC with regard to the execution, reporting, coordination and acceptance of the work - **12 points**;
 - Identified risks related to the elaboration of the methodology and way to minimize their effect – **10 points**.
- Scientific studies, publications, participation in scientific research and other types of projects, similar to the topic of the terms of reference - **10 points**:
 - Participation in scientific research or other types of projects close in topic to the terms of reference: **5 points**
 - 1 to 3 projects - **2 points**
 - over 3 projects - **5 points**
 - Scientific studies and publications similar in topic to the terms of reference: **5 points**
 - 1 to 3 studies and publications - **2 points**
 - over 3 studies and publications - **5 points**

III. Relevant experience - **40 points**

- Experience in the respective area - **30 points**
 - to 3 years - **10 points**
 - from 3 to 5 years - **15 points**
 - from 5 to 10 years - **20 points**
 - over 10 years - **30 points**
- Experience at regional level in the respective area - **10 points**
 - to 3 years - **3 points**

- from 3 to 5 years - **5 points**
- from 5 to 10 years - **7 points**
- over 10 years - **10 points**

Total score: 100

The total score of the technical part (T1) will be calculated as an arithmetic mean of the separate scores of all members of the respective teams.

Experts' qualification shall be evaluated based on the following documents enclosed with the offer:

- CV- according to template;
- enclosed document copies for completed education;
- references;
- copies of civil contracts or other types of documents in proof of the participation in scientific research projects;
- copies of civil contracts for consultancy services;
- copies of labor contracts and/or employment record books in proof of the professional experience in the respective area;
- list of scientific studies and/or publications.

Evaluation of the price offer (T2)

T2 – Total score received from the evaluation of the price part of the offer.

Evaluation of the price offer shall be calculated using the following formula:

$$T2 = \frac{\text{Minimum price offered}}{\text{Price offered}} \times 100,$$

where “Minimum price offered” is the lowest price offered by a candidate (in EUR, VAT included).

“Price offered” is the price offered by the respective candidate according to his price offer (in EUR, VAT included).

Complex evaluation (CE)

The complex evaluation of the offer of each participant shall be calculated using the following formula:

$$\mathbf{CE = P1+P2}$$

where:

P1 - Evaluation of the technical part, with relative weight 80% into the complex evaluation, calculated using the formula:

$$\mathbf{P1 = T1 \times 0.80}$$

T1 - Total score received from the evaluation of the technical part of the offer

P2 – Execution price, with relative weight 20% into the complex evaluation, calculated using the formula:

$$\mathbf{P2 = T2 \times 0.20}$$

T2 - Total score received from the evaluation of the price part of the offer

The company that receives the highest total evaluation will be invited to negotiate the contract.

6. Duration of the assignment and estimated time input

The period determined for development of the methodology is 7 months. It is planned that the consultant will start working in the beginning of February 2017 and will complete the assignment by the end of August 2017.

7. Reporting Requirements

The consultant will have to prepare and provide:

- Inception report describing the current situation and methodology in Sofiyska Voda JSC, as well as the steps which the Consultant intends to undertake for the development of the new methodology. The inception report should include at least two versions of the proposed new methodology which will be discussed with Sofiyska Voda JSC and the most suitable version will be chosen.
- First interim report describing the progress at the respective moment and including initial version of the methodology;
- Second interim report describing the progress at the respective moment and including subsequent version of the methodology;
- Final report which will contain the final version of the new methodology.

The deadlines, within which the above-mentioned reports should be prepared, are as follows:

- Inception report – by 20.03.2017;
- First interim report – by 08.05.2017;
- Second interim report – by 23.06.2017;
- Final report and Methodology for valuation of the physical conditions of the assets – by 07.08.2017.

8. Payments and acceptance of the work

Maximum budget of the procedure: EUR 45 000 (with VAT)

The contract payments will be made at the following four stages:

- Advance payment - 15% of the total amount upon signing the contract;
- First interim payment – 35% of the total amount upon submission of the First interim report and the initial version of the Methodology;
- Second interim payment - 35% of the total amount upon submission of the Second interim report and the subsequent version of the Methodology;
- Final payment - 15% of the total amount after submission and approval of the Final report and the Methodology for valuation of the physical conditions of the assets. The Methodology will be tested before its final acceptance.