

A DEVELOPMENT VISION

For the period 2020-2025 with the accent put on the strategic guidelines for developing the water supply sector in the Montenegrin Coastal Region until the year 2030

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30



The Project
that changed
Montenegro

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A FOREWORD

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DOO „Regionalni vodovod Crnogorsko primorje“
Budva, July 2020

A DEVELOPMENT VISION of “Regionalni vodovod Crnogorsko primorje” Ltd, for the period 2020-2030 with the accent put on the strategic guidelines for developing the water supply sector in the Montenegrin Coastal Region

is a result of the in-depth personal experience and a valuable team work which is common for the typical technical and technological systems such as regional water supply system that through its pipeline of diameters ranging from 500-1.100 mm extends 130 km in length, thus connecting the Bolje Sestre Spring in Podgorica and the Montenegrin Coastal Region. The system encompasses over 400 large and small-scale structures. The special attention shall be paid to the Bolje Sestre water intake which was after five year long researches conducted by the International Association of Hydrologists enlisted into the Map of 150 most important karst springs in the world, in the same time being the largest water intake built in the Mediterranean in the last three decades. Not only is the development vision of Regionalni vodovod dominantly dedicated to meeting the demanding and dynamic development requirements of the Montenegrin Coastal Region, but also to the sustainable functioning of the regional water supply system. The success of every entity relies on its own capabilities to manage the changes and challenges with the goal to transform the obstacles into the business opportunities.

The development vision of the Regional Water Supply System for the period 2020-2030 is focused on achieving that goal- the sustainable, stable and successful functioning of the regional



water supply system in a changing environment. In a jubilee year (10 years from beginning of the system functioning and 45 years of company foundation), despite the constraints imposed by the COVID pandemic, we started to realize a part of our development mission the total investment value of which is over 26 Mio. Euro with the support of the Instrument for Pre-Accession Assistance and EBRD.

The contribution of Regionalni vodovod in creation of the completely different environment which enabled Montenegrin Coastal Region to mark rapid development and attract the investments of the credible strategic investors, thus becoming a desirable and world known tourist destination, is highly tangible and measurable. We may, therefore, say that Regionalni vodovod deservedly earned the slogan **“The Project that changed Montenegro”**.

Motivated by the sincere professional reasons, I extend my thankfulness and appreciation to Ivan Spadijer, the technical manager and Milan Janovic, the advisor for public procurement for unselfish efforts and contribution to creation of this vision, as well as to other colleagues for their share into the exceptional business results achieved throughout the period 2013-2020.



1

A DEVELOPMENT VISION OF “REGIONALNI VODOVOD CRNOGORSKO PRIMORJE” LTD. COVERING THE PERIOD 2020-2030

DEVELOPMENT PROJECTS

After the regional water supply system was put into operation in July 2010 (hereinafter called RWS), the due attention with respect to the system functioning was paid to securing the continuous operation of RWS, thus taking care of the public interest which is reflected in responsible performance of this important public function of water supply of the Montenegrin Coastal Region. The water shortage problem that spanned over the decades, during the summer time in particular, represented a restriction factor that limited the quality of life of the local population and the development and quality of the tourist offer.

However, besides the challenges which deal with commissioning of the system, management and maintenance of this very demanding and complex technical and technological system, the management team of the company places a high priority on creating the development vision. Naturally, the accent is placed on connecting

the municipality of Herceg -Novi to RWS which would mark the finalization of the first phase of construction of RWS, whereas it has to be stated that the municipality of Herceg Novi used to oppose to be a part of this development project of the state importance due to the resistance of the local authorities until the 29th of September 2013.

Besides this very important project, the sustainable future of “Regionalni vodovod Crnogorsko primorje” Ltd. (hereinafter: „Regionalni vodovod“) directly relies on realization of the development projects and the development vision that shall be continuously improved in order to satisfy the public functions Regionalni vodovod performs, the successfulness of which is measured against the level of meeting the demands of the inhabitants and the business community in the Montenegrin Coastal Region, with respect to providing continuous and safe water supply.

HERE COMES A BRIEF SUMMARY OF THE DEVELOPMENT PROJECTS: →

► 1.1 Connection of the municipality of Herceg Novi to RWS

After signing the Cooperation Protocol between the authorized representatives of the Municipality of Herceg Novi and the management of Regionalni vodovod on 29th of September 2013, at the occasion of marking the Company's Day, for the first time, the municipality of Herceg- Novi had extended its dedication to the project on connecting the municipality of Herceg Novi to RWS. Towards achieving that goal, the activities on drawing up the project documentation, acquiring the construction permit and announcing the tender procedure for works on construction of the 3.2 km long pipeline (DN 500) with the accompanying optical cable that will enhance the connection of this part of the system to the central remote control system of RWS- SCADA, were initiated.

Activities on rehabilitation of a part of the system that shall be also used for water supply of Herceg Novi was taken under in 2016. The estimated value of the investment on construction of the infrastructure, which shall enable delivery of 200 l/s, out of which 130 l/s has been allocated for

the Herceg Novi Riviera, amounts to 1.83 million Euro (including VAT). The finalization of this project will result in various benefits. For example, 70 l/s of potable water will be distributed to the part of the peninsula Lustica that belongs to the municipality of Herceg Novi, which is the area planned to be used for various tourism ventures, the value of which exceeds tens of millions of euros. The fact that this part of peninsula suffered water shortages, prevented these developments to come to life. The implementation of this project fulfills the last infrastructure condition for the accelerated development of this part of our coast.

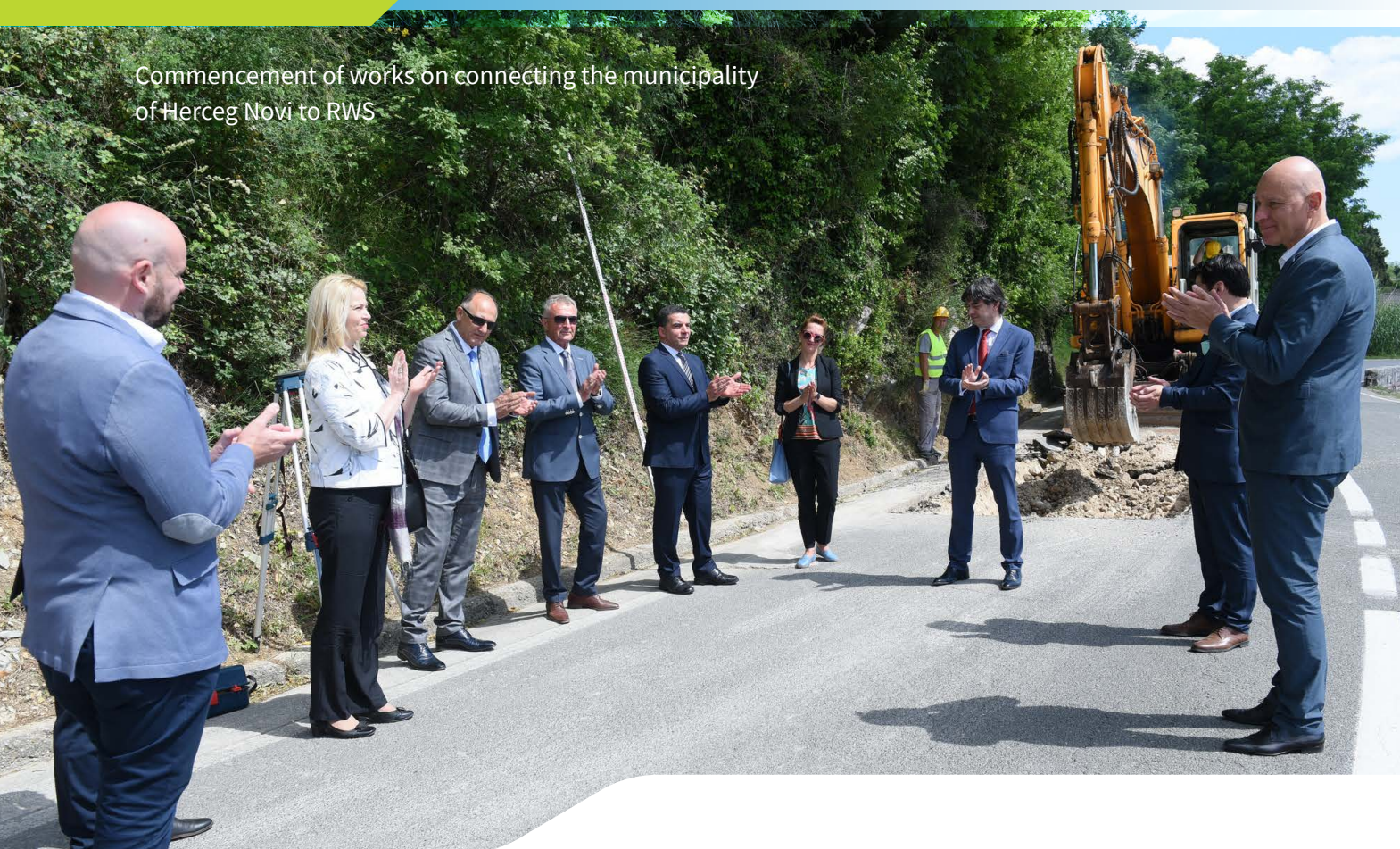
1.2 A beginning of activities on construction of the II phase of RWS ◀

During the first decade of operation and especially after the record delivery of water in 2015 when RWS distributed over 9 Mio. m³ of water to the local water utilities, it has to be stress out that the system utilization rate for the municipalities Kotor, Tivat and Herceg Novi, over the summer period, reached the level of 100 % of the available capacity for these three municipalities



Illustration of pipelines

Commencement of works on connecting the municipality of Herceg Novi to RWS



incessantly for over 80 days. The afore mentioned undisputable event from the year 2015 set as a priority initiating of the activities on construction of the another pipeline from Budva to Tivat, which shall increase the current capacity rate from now available 330 l/s to 750 l/s. The project has been designed and after receiving the acquired approval of the Government and the competent ministries, a very fruitful and important cooperation with the goal to implement the project on construction of the modern four-lane boulevard connecting the settlement of Jaz and airport of Tivat and a second pipeline of RWS has been established, as both projects are financed from the EBRD loan.

This development project of construction of the second pipeline was originally planned to be implemented in 2025 when it was expected that the water demand would impose as a priority launching of the second phase of construction of RWS. However, the accelerated development of the tourism ventures in this part of the Coastal Area has given rise to adoption of decisions that go in favor of the system capacity extension. The bid opening procedure for implementation of these two important infrastructure projects shall take place on July 20, 2020. This project enjoys support of the Government and will be implemented out of the loan of 40 Mio EUR provided by EBRD. The investment volume of a part of the project that refers to RWS pipeline amounts 8

Mio. EUR. The simultaneous construction of these two projects extending 16 km in length, which shall be implemented by two state-owned entities the Traffic Directorate and Regionalni vodovod, will result in the state budget savings in the range of 3 Mio EUR.

The project of Regionalni vodovod which refers to construction of the new pipeline from Budva to Tivat shall be implemented in two phases:

1. The construction of the section BC „Prijevor“ – Lastva Grbaljska, extending cca 2 km in length, the investment volume of which is 2 million euro
2. The construction of the pipeline Lastva Grbaljska – Tivat extending 14 km in length, the investment volume of which is 8 million euro

The approach that implies phase construction has been assumed due to the fact that the infrastructure on the section Lastva Grbaljska - Tivat, as afore mentioned, shall run in parallel with the construction of the boulevard which will, for sure, imply longer period of realization, whereas the section BC „Prijevor“ – Lastva Grbaljska may be completed in six months from the commencement date. Thus, the system flow rate for the municipalities Tivat, Kotor and Herceg Novi shall be increased by 30 l/s, which would facilitate additional revenue generation prior finalization of the project.

► 1.2.1 Construction of the pipeline – section BC „Prijevor“ – Lastva Grbaljska

Hydraulic analysis which was made within the scope of the Main Design for connecting the municipality of Herceg Novi to RWS, which was completed in September 2015, as already stated, has confirmed the necessity for construction of an additional pipeline for the municipalities Kotor, Tivat and Herceg Novi, earlier than it was originally planned. These activities will mark the beginning of the second phase of construction of RWS. The long-term water supply of the subject area requires connecting of the future pipeline section Lastva Grbaljska –Tivat, which will be built in parallel with the boulevard, to the Breaking Chamber „Prijevor“ located on the top of the hill Toplis, above the municipality of Budva. The Main Design for these works has been already prepared, whereas the tender announcement for the works may be planned and realized by the end of the year 2020.

► 1.2.2 Construction of the pipeline Lastva Grbaljska - Tivat

As already stressed out, thanks to the support of the Government of Montenegro and the European Bank for Reconstruction and Development, the Traffic Directorate and Regionalni vodovod announced the tender procedure for construction of the boulevard Jaz - Tivat and the second pipeline of RWS – section Lastva Grbaljska –Tivat. The assessed volume of the project is 40 Mio EUR. The project implies the displacement of the existing pipeline as the future boulevard overlaps the existing pipeline section.

► 1.2.3 The Reconstruction of the pump station “Budva”

The optimization study (The Conceptual design) for the second phase of exploitation of RWS which was made in 2015 has addressed, among other issues, the Pump station Budva. The preliminary conceptual design for operation of this



Pump station “Budva”

pump station for the second phase of exploitation foresaw the work arrangement model known as 3+0. The current technical design foresaw a working arrangement that implied a simultaneous operation of every single pump, without a spare one that might be put into operation in case of a failure. This represents a significant challenge with respect to securing a safe and continuous delivery of water to the municipalities Kotor, Tivat and Herceg Novi.

Every year Regionalni vodovod takes on regular and timely maintenance measures in order to secure proper operation of the pumps throughout the tourist season. After analyses made in the previous period, we have drawn a conclusion that the existing technical solution is not sustainable and that we have to examine the possibility of introduction of an additional pump aggregate, thus reaching a working model 3+1, which implies a possibility of putting into operation a spare pump in case of failure. The model that is currently applied dates back to the 90-ties of the last century, but put in the context of the of the current development needs of the Montenegrin Coastal area, this part of RWS needs to be additionally upgraded in order to eliminate risks of unsafe water supply of the municipalities Kotor, Tivat and Herceg Novi.

This activities would, as well, increase the functional capacity of the Pump station “Budva” from now available 600 l/s to 700-750 l/s, which, in accordance with the forecasts and the development vision of Regionalni vodovod, foresees the extension of the capacity of the pipeline section Budva – Tivat, that is used for water supply of the municipalities Kotor, Tivat and Herceg –Novi. This would enable higher degree of the system flexibility and in the same time the system would be made ready to satisfy the increasing demands for water in the Montenegrin Coastal Area.

► 1.2.4 Reconstruction of the Breaking Chamber „Prijevor“- Budva

From the year 2015 on, significantly higher water quantities are being delivered to the municipali-

ties Tivat, Kotor and Herceg Novi, which points out the need that the storage capacity of the system, shall be increased, in particular in light of the fact that the municipalities and local waterworks do not take any activities which would result in construction of the now missing storage capacities of the local utilities.

The increase of the storage capacity would create better conditions for providing the continuous water supply of the subject area in case of unpredictable circumstances, interruption of the power supply and in addition, it would meet the conditions for establishing an operation model that would enable the system to operate with the higher the degree of energy effectiveness in the winter.

Moreover, it would lead to more sustainable water supply of the Montenegrin Coastal Region due to the fact that this area lacks water storage capacity that matches the volume of several thousands of m³. This development project will seek to integrate the local water distribution networks in cooperation with the municipalities in the Montenegrin Coastal Region. Regionalni vodovod may act as a project implementation unit and may vastly contribute to preparation of the design documentation through accumulated experience acquired from cooperation with the international financial institutions.

The degree of priority of implementing this project for the whole water sector in the Montenegrin Coastal Region is extremely high given the fact that the storage capacity of the local water utilities in the Coastal Region is not sufficient for a safe and continuous water supply out the tourist season and not to mention the summer time when demands for water are extremely high.

As the quality of the tourist offer as of a unique tourist destination directly relies on this issue, it shall be solved in the satisfying manner with the required storage capacities secured.

► 1.3 Water Supply and Wastewater Infrastructure Construction and Management at the Local Level



Works on connecting the municipality of Herceg Novi to RWS

The settlements of Dobra Voda, Veliki Pijesak, Utjeha in Bar municipality, the settlement Kruce in municipality of Ulcinj are designated in the planning documentation as areas the primary purpose of which is tourism and housing. There are plenty of residential buildings and tourism facilities built in this area, whereas the spatial plans foresee that the zone extending 1000 m from the coast to the inland area shall be designated exclusively for developments in tourism. Having in mind the afore mentioned, one of the basic prerequisites for the further development of this area is construction of the communal infrastructure, in particular aimed for water supply, disposal and treatment of the wastewaters. Construction of the missing infrastructure in the stated settlements is deemed a project of the particular interest for the local population, tourists and potential investors. These statements include the settlement Kruce which belongs to the municipality of Ulcinj that together with the settlements Dobra Voda, Veliki Pijesak and Utjeha, on the territory of the municipality of Bar, form a unique and indivisible whole in terms of the spatial planning and with respect to the construction of the missing communal infrastructure.

In order to secure performance and rendering of the communal services and protection of the environment, on 28th of February 2020 the authorized representatives of the municipality of Bar and Regionalni vodovod signed a Memorandum on Cooperation the aim of which is to enhance the implementation of the project on construction of the communal infrastructure with the adequate wastewater treatment system for the stated settlements, whereas the Memorandum on cooperation with the municipality of Ulcinj was signed on 5th of March 2020.

Regionalni vodovod took the responsibility to enter into Agreement with the European Bank for Reconstruction and development the investment value of which is 12 Mio. EUR. For these purposes the Government intends to issue a letter confirming the sovereign guaranties, approved under the Law on the Budget for 2020, within the scope of the second tranche of the credit support in the amount of 24 Mio. EUR intended for implementation of the communal

infrastructure projects in the settlements Dobra Voda, Veliki Pijesak, Utjeha and Kruce.

It is important to stress out that solving of this infrastructure challenge shall be approached in the comprehensive manner by simultaneous construction of the water and sewerage network with the construction of the adequate wastewater treatment plant for the stated settlements. This project will set new standards related to the construction of infrastructure facilities, as this will be the first time that water and sewerage networks, including the waste water treatment plant for several thousands of residential facilities in a very vast area, will be built in the same time. The Assembly of the Municipality of Bar have already made the required decisions. In the following period, the same activities are expected to be taken by the municipality of Ulcinj after which all requirements will be fulfilled for the Government to sign the Agreement with Regionalni vodovod for implementation of the subject project. Drawing up of the conceptual design is in process which will be financed out of the grant proceeds of 350.000 euro which EBRD provided to Regionalni vodovod.



Illustration- electricity production via solar panels

◀ 1.4 Electricity Production

For the requirements of Regionalni vodovod, the European Bank for Reconstruction and Development has financed out of the grant proceeds the Feasibility Study for Construction of the Capacities aimed at Electricity Production from the Renewable Energy Sources within the scope of the existing infrastructure resources. In that sense, we single out the following:

- Electricity production using solar energy
- Hydro power electricity production

The company possesses structures that may be potentially used for installation of infrastructure for electricity production by using solar energy. These are roof structures of the total area of 9.376 m². Based on information related to the number of sunny days, the position and orientation of the structures, themselves, the preliminary results point out the certain sustainability level of the investment with respect to installation of the solar plants on the buildings of the Bolje Sestre plants, reservoir „Djurmani“, „Reljići“ and „Belveder“. The assessment show that it is possible to produce 730 kWp, whereas at the very location of „Bolje Sestre“, after construction of a structure that will protect the water source, the capacity might be increased for additional 220 kWp.

It has been established that there is a possibility of electricity production by installation of the turbine into the reservoir of the pump station „Reljići“. However, since the system utilization rate is significantly decreased during the winter, the sustainability of investment is vastly conditioned by the system utilization rate. The preliminary results show that the current system exploitation rate enables installation of the hydro plant of 220 kW.

In the following period these possibilities need to be used and electricity production from renewable sources initiated with the intention of providing financial support out of the grant proceeds of 2Mio. EUR which was previously discussed with the representatives of EBRD.

► 1.5 Water export via tanker ships

Having in mind that, besides the increased system utilization rate of 70 % during the last few years, the average annual system utilization rate is still under 30 %, it is obvious that the possibilities of use of the water intake Bolje Sestre for commercial purposes, and its positioning on international markets is rather sustainable. In that sense, these possibilities have been presented to the international companies both directly and through mediation of the Government of Montenegro, other state institutions and the Commercial Chamber of Montenegro.

In order to foster implementation of this project, Regionalni vodovod has made a conceptual

design, as well as, an Environmental Impact Assessment Study, thus creating the start-up conditions for potential investors to initiate the implementation of the project of the approximate value of 16 mio. EUR. Thanks to the activities taken over the last few years, Regionalni vodovod is getting nearer to implementation of this project. In case of interest shown by the potential business partners, due to the already taken activities, Regionalni vodovod is ready to take on the concrete steps on implementation of this important development project that surpasses the importance of the company itself and the financial benefits that might be achieved.



Illustration – Export of water via tanker ships

Illustration



► 1.6 Plant for water bottling, beer and iced tea production

The „Bolje Sestre“ spring is used for the regional water supply of the Montenegrin Coastal Region and is the only regional spring used for multi municipal water supply in Montenegro. Water of this submerged spring is of exceptional quality and meets all conditions for water bottling laid under the Regulation on Classification and Categorization of Water in Montenegro, including the conditions imposed by EU directives. The quality of water have been confirmed by the international laboratories: Institute Technologiezentrum Wasser from Karlsruhe, Germany and the Biology Institute “Siniša Stanković” Belgrade, Serbia.

Due to the fact that the capacity of the “Bolje Sestre” spring enables withdrawal of water which

might be used for water bottling, not imposing to any risk the public water supply of the Montenegrin Coastal Region, the activities on assessing the possibilities for construction of the water bottling plant, along with the possibility of a production diversification by inclusion of the equipment for beer and iced tea production, are taken on. The conditions for implementation of this project are realistic, thought the overall procedure requires that the parliament of Montenegro adopts certain decisions with respect to the spatial planning related to the Skadar Lake, in the event of which Regionalni vodovod would have opportunity to be given urban and technical conditions required for commencement of the water production plant.

2

A DEVELOPMENT VISION OF “REGIONALNI VODOVOD CRNOGORSKO PRIMORJE” LTD. COVERING THE PERIOD 2020-2030

CONTINUATION OF ACTIVITIES ON INCREASING THE SECURITY LEVEL OF RWS

Having in mind the importance of RWS for water supply of the Montenegrin Coastal Region, especially during the summer time, Regionalni Vodovod has paid special attention to the security aspect of the water delivery. In that sense, Regionalni vodovod established the Internal Protection Department in 2013, the operation of which gained the approval of the Ministry of the Interior – Police directorate. After the conducted tender procedure, at the beginning of 2015, RWS engaged the consultant who prepared the Protection Plan for the Regional Water Supply System, which was afterwards, having in mind the volume and complexity of documentation, accepted in parts and approved by the Ministry of the Interior in the period from April to December 2016. Afterwards in 2019,

in accordance with the law, the revision of the drawn-up Protection Plans was carried out.

Regionalni vodovod has implemented very important activities on establishing the system of the physical and technical protection of RWS with the aim to protect the population and to secure a safe delivery of the top quality water. With respect to the global trends related to the safety of the water systems, which is, as well, regulated by EU directives, as this infrastructure is deemed to be of a critical importance, Regionalni vodovod, supported by the Ministry of the Interior, shall continue its activities on further increasing the security level and security culture of its employees.

TOWARDS ACHIEVING THAT GOAL THE FOLLOWING ACTIVITIES SHALL BE IMPLEMENTED

► 2.1 Improving the physical and technical protection of RWS

This project shall be set as priority in order to meet requirements for establishing a unique video surveillance of each facility which belong to RWS. Development of IT Sector would significantly contribute to the security of RWS. Besides already taken activities, the additional furnishing of the facilities with video surveillance, alarm and fire-fighting systems, central monitoring unit will be required.

► 2.2 Roofing of the “Bolje Sestre” spring

The main structure within the scope of RWS is for sure the water intake Bolje Sestre. The water intake structure, itself, was built in a form of an arch dam equipped with the special flow regulation system that prevents water from the lake to enter the water intake area.

As stated above, Regionalni vodovod has conducted activities on drawing-up the Protection Plan for the Regional Water Supply System, which particularly addressed the issues related to the immediate sanitary protection zone and the protection measures related to the water intake area.

Having in mind the above mentioned, in order to prevent the occurrence of the certain risks related to the health of the population in the Montenegrin Coastal Region, in 2017 Regionalni vodovod, in cooperation with the Ministry of Sustainable Development and Tourism, planned to take on the activities on preparation and revision of the project documentation for roofing/covering the area of a very intake, and filed a timely request for financing the stated activity from the Capital Budget. In July 2017, the Ministry of Sustainable Development and Tourism launched an initiative that the stated project should be implemented, as the financing of the

project was foreseen to be provided from the capital budget for the year 2017. Regionalni vodovod prepared the Terms of Reference which was submitted to the Ministry of the Sustainable Development and Tourism with the request for issuing urban-technical conditions. However, due to the lack of the spatial planning documentation dealing with this particular area, the request was withdrawn upon suggestion of the Directorate for Construction, after which a new request for drawing up of the main design and construction of the roofing structure was filed as set forth by Article 123 of the Law on the Spatial Planning and Facility Construction.

Nevertheless, after the subject request was filed, the Agency for Public Works, in charge of recruiting the proceeds from the Budget, communicated its attitude that without urban-technical conditions, tender procedure could not be announced. Regionalni vodovod shall in cooperation with the Ministry of Sustainable Development and Tourism initiate finding of the

sustainable solution for this development and security challenge with the period of realization that would immediately follow the adoption of the Special- Purposes Spatial plan for the Skadar Lake by the Parliament of Montenegro which, was discussed above when speaking of the water bottling project.

2.3 Development of the telecommunication infrastructure ◀

The cooperation with the Radio-Diffusion Center of Montenegro with respect to the lease of telecommunication infrastructure, which in final will result in upgrading the infrastructure and management capacities and lead towards the replacement of the insecure GRP connection, which is currently used for managing the system-section Budva –Tivat with the more reliable radio signal.

In the same time, the significant activities are initiated with Crnogorskim elektroprenosni sistem (CGES) and CEDIS, both having optical infrastructure, whereas the final goal is to establish the planned connections which will improve the management and control of the complete RWS infrastructure.

Moreover, the fact that RWS possess 90 km long 48 fiber optical cable, represents an important development prospect and challenge. As the works on construction of the pipeline, which will connect the municipality of Herceg Novi to RVS, imply the installation of approx. 4,0 km long optical cable, the value of the telecommunication infrastructure of Regionalni vodovod would be significantly increased in 2020.

The development prospects of this part of infrastructure of the company shall be sought in the possibilities of joint investments with other state owned companies or potentially in the public private ventures in the sense of extension and transfer of services to telecommunication operator in charge of rendering the internet and the services of mobile communication.



Water production plant Bolje Sestre with the water intake



2.4 IT system management

Regionalni vodovod is in the process of introduction of the accounting software „SAP“. We, as well intend to improve the methodology and efficiency of overall documentation handling, archiving of documents being solely a segment of the documentation management system. The procurement of the new software shall provide an efficient data base which is required for everyday operation of the company, whereas the documents would be made available to every employee in the company. It is very important to secure an adequate back- up which would enable safety and availability of information even in situation of the worst server and system failures.

2.5 Follow-up of activities on introduction of business standards

The activities on introduction of HACCP started in 2016. After the successful implementation, the certification of HACCP system took place in 2017. In this way, the certified authority of Montenegro confirmed the quality of executing the adopted procedures.

In the next period, the activities on introduction of standards into the business operation of Regionalni vodovod with the particular attention to ISO 14000, by means of which the environmental management will be upgraded, being of exceptional importance for the company that uses natural resources within the zone of the National park Skadar Lake. The activities shall be conducted in accordance with the Protocol on Cooperation which Regionalni vodovod signed with the University of Montenegro and University of Donja Gorica in order to additionally intensify the cooperation with the university community, especially concerning the transfer of knowledge between the educational and scientific institutions and the commercial entities such Regionalni vodovod.

2.6 Cooperation with the local water utilities – benchmarking

Regional waterworks has been participating in benchmarking workshops within the Danube Water Programme from the year 2015, whereas from May 2017, it became a full member of IAWD – the International Association of the Water Service Companies in the Danube Catchment Area. In June 2018, Regional Waterworks became a full member of the European Association of the Water Service Companies with the headquarters in Bruxelles (APE). Regionalni vodovod is the first full member of this organization that comes out of the European Union. The comparative experiences of the regional water supply systems in the surrounding area may represent a useful platform for improving the relationship with the local public utilities in the Montenegrin Coastal Region. In addition, getting to know legal regulations of the states in the region may be of exceptional importance for harmonization and improvement of the existing legal solutions in Montenegro, especially with regards to active approach Regionalni vodovod assumes concerning this issue. As cooperation between the water utilities in the region is fully supported by EU, which the programs of trans-boundary cooperation financed from IPA funds fully reflect, the special attention will be paid to establishing

cooperation on various joint applications for withdrawal of the proceeds aimed for drawing up the project documentation and feasibility studies.

In the period from 2014 to 2018, Regionalni vodovod took an active role in the benchmarking program for water and sewerage companies within the first phase of the Danube Water Program which was organized by IAWD and the World Bank. The participation in this project encourages improvement of the performance indicators, identification of the fields which need to be improved, tracking performance over time so that it is very important to continue the initiated activities. Thanks to the activities of IAWD and its partners, the participants in the program will be given opportunity to use the financial support of the Austrian, German and Swiss Government in terms of implementation of the solutions that may improve the operation of the company (Pilot information softwares, etc.), The challenges Regional Waterworks was exposed to, during the enforced preservation of the account from 14th of August 2018 to 9th of May 2019, have slowed down the termination of cooperation on the implementation of the mentioned activities. As they are very important for improving the business performance and capacity of employees, it needs to be re-examined.

Illustrations



Illustration



► 2.7 Eco settlement Karuč - „Sincerely green“

Having in mind that the previous project documentation drawn up in 80-ties of the last century foresaw that the water supply of the Montenegrin Coastal Region should have been performed from the spring Karuč, Regionalni vodovod purchased a land of an area of 90.815 m² aimed to be used for construction of the pump stations and a water distribution plant.

However, the comparative analyses of the spring Karuč and Bolje Sestre, prepared in September 2006, has undeniable proved that the Bolje Sestre spring represents a more favorable solution for water supply of the Montenegrin Coastal Region. Thus, it became obvious that the land surrounding the Karuc spring shall not be used for the originally defined purposes, not only because of the better performance indicators of the Bolje Sestre spring, but also the water quality analyses from the Karuc spring have shown an occasional occurrence of bacteria due to the activities in the near-by settlement that got worse over the time, as no attention was paid to the impact of the waste water on the environment.

In the following period it will be necessary to take on the preparation of the preliminary design which shall be harmonized with the Special-Purpose Spatial Plan for the Skadar Lake and which would serve as a base for further activities on valorization of the subject location through creating the vision Karuč – “Sincerely Green” . Achieving this vision would enable this resource, owned and managed, by Regionalni vodovod to be put into function and adequately valorized. This project is of a vast social interest that exceeds the business interest of the Regional Waterworks.



Karuč spring

3

A DEVELOPMENT VISION OF “REGIONALNI VODOVOD CRNOGORSKO PRIMORJE” LTD. COVERING THE PERIOD 2020-2030

CHALLENGES IN FUNCTIONING OF “REGIONALNI VODOVOD CRNOGORSKO PRIMORJE”



As already stated, a lot of activities have been taken in order to reach the stability in operation of the company including fulfilment of conditions that give a sway to sustainable functioning of RWS for the Montenegrin Coastal Region. However, the management of the company have been continuously analyzing the potential operational challenges with

a particular attention paid to the ones that may affect the sustainability of operation. In that sense, we singled out the following challenges that may have significant impact on the operation of the company and which are continuously dealt with through implementation of a number of measures that may either mitigate or eliminate these impacts:

► 3.1 Yield variations of the “Bolje Sestre” spring

The previous decade was marked by a significant decrease in yield of all springs on the territory of Montenegro mostly caused by global climate changes that is by increase of average annual temperature. The same situation experience every country in the region, whereas all researches made so far have shown that we are dealing with the global problem. Regionalni vodovod has recognized this potential problem in its early phase and has taken frequent measuring of the Bolje Sestre spring capacity and compared them with the results achieved from the previous periods. These issues were continuously discussed at the sessions of the Managing Board and were considered as priority the urgency of which have launched a number of initiatives and letters sent to the competent institutions.

Based on the information related to measuring the spring yield starting back from the investigation works until the year 2020, we may draw a conclusion that the spring capacity constantly drops, whereas the particular attention is paid to the period from 2016-2020 in which the capacity dropped for cca 40 %. The stated facts were subject to analyses of the previous Managing Board of the Public Enterprise, as well as, of the new Board of Directors at its first sessions, while the competent institutions are being constantly furnished with the data, information and conclusions with respect to the stated issues. The results of measuring the spring yield over the last months were subject to priority analyses of both the management and the Board of Directors, so that it was decided that Hydro Meteorology Institute shall perform new measuring in order to reveal the cause of alarming spring capacity decrease that may expose to risk safe and continuous water supply of the Coastal Region.

If any, we have the abundance of rocks and sand in Montenegro, so that the careless and unconscionable illegal exploitation of the sand in the bed of the river Morača shall not be permitted, as it exposes to risk water supply of the muni-



Water production plant Bolje Sestre with the water intake

cipalities in the Montenegrin Coastal Region, thus undermining the most important branch of economy representing approximately 25 % of GDP. The current analyses of water from the Bolje Sestre spring and water from the river Morača, have shown that the river Morača has no direct impact to the spring. Nevertheless, as the decline in capacity of the spring occurs parallel to works on regulation of the river bed Morača and in the second sanitary protection zone and to illegal exploitation of the sand layers, about which more than 150 notifications were filed to the competent authorities by Regionalni vodovod, this represents a sufficient grounds for investigation, as to whether these activities affect either directly or indirectly the capacity of the spring and undoubtedly imposes the need that illegal commercial activities taking place in the river bed of Morača, such as exploitation of the sand, shall be ultimately forbidden. One of the conclusions of the Round Table (held in January

2019) named Protection of the Spring from the 21st Century Challenges, which was initiated by the University Donja Gorica, Water Directorate and Regionalni vodovod in cooperation with the Ministry of Sustainable Development and Tourism is, that the activities on suspension of illegal exploitation of sand and gravel from the river beds, that are taken by the Water Directorate in cooperation with the competent inspection authorities, require additional engagement and support of other competent institutions in order to efficiently restrain these illegal actions in particular in light of the moratorium of the works on exploitation of the river sediments which was adopted by the Ministry of Agriculture and Rural Development.

A specific circumstance that may have negative impact on protection of the spring is illegal exploitation of the river sediments in the second sanitary protection zone of the Bolje Sestre

spring. Though, the negative impacts of these activities have not been proved, it may happen that they affect the Bolje Sestre Spring as they are becoming more widespread and affect the environment and water resources, so that the protection of the Bolje Sestre spring needs to be strengthened, in particular due to the fact that this spring was enlisted into the UNESCO's MAP of 150 most important karst springs in the World.

The activities that Regionalni vodovod is taking in order to address this challenge are recognized and receive a tangible support from the international institutions. Trough IPA pre-accession program and donations provided by the European Bank for Reconstruction and Development over 2019, we have been approved grant funds of 2.1 million Euro, which were, among the rest, allocated for preparation of the Spring Management Plan, Analysis of Resistance to Changes Caused by Human Actions, alternative possibilities for water withdrawal, identifying the boundaries of the third sanitary protection zone of the Bolje Sestre spring.

The aforementioned point out that all competent institutions in Montenegro shall, based on the professional expertise, jointly act in order to enhance urgent protection measures of the Bolje Sestre Spring, through suspension of the illegal commercial activities on exploitation of the sand and gravel in the river bed Morača, especially of those gravitating towards the Bolje Sestre Spring. This challenge shall not be ignored. On contrary, not only will the consequences of these activities be felt by the business community involved in tourism in the Montenegrin Coastal Region and population of the six municipalities from Ulcinj to Herceg Novi, but also whole Montenegro. Regionalni vodovod has no institutional authorizations and mechanisms to stop these actions.

However, Regionalni vodovod is dedicated to the concept of the institutional partnership which would enhance solving of this problem in a sustainable manner with the goal to protect and preserve the BoljeSestre Spring.

► 3.2 High level of indebtedness

Until recently, besides big challenges Regionalni vodovod had to deal with, the primary business strategy of Regionalni vodovod was oriented towards prompt and timely repayment of the annual loan installments, as the Government of Montenegro provided its sovereign guarantees for these loans, which have to be fully preserved. In the previous period, out of the proceeds of Regionalni vodovod, the obligations towards the following international financial institutions have been paid: The European Bank for Reconstruction and Development, the World Bank, Abu Dhabi Development Fund and Erste Bank. The total long term loan obligations that were settled in the period from 2011 to 20th of May 2020 amount to 28, 2 Million Euro, out of which 24, 5 Million Euro was paid by the current management. Regionalni vodovod, thanks to the support of the Government of Montenegro, successfully refinanced the loan approved by the Abu Dhabi Development Fund. However, it had to enter into the anew loan arrangement in order to repay the obligation towards Strabag Ag, following the decision of the Appellate Court of Montenegro which recognized the decision of the Arbitration Tribunal of ICC that was not contracted and lacked jurisdiction. A significant improvement of the financial parameters lead towards finalization of the business year 2019 with the positive financial outcome of 97.000 euro, regardless the enforced preservation of the account that lasted 268 days, that is from 14th of August 2019 to 9th of May 2020, and 12 Million euros paid as set in the award of the Arbitration Tribunal.

The analyses conducted by the management of Regionalni vodovod point out the fact that due to irregular functioning of the economy caused by the pandemic COVID 19 and the global crises that will, for sure, affect the tourist season, the revenues generated from the business operation of Regionalni vodovod over the year 2020 will be decreased by 2 million euros which would affect the current liquidity of the company, especially having in mind the forthcoming loan obligations

of 1.94 Million EUR by the end of 2020. Therefore, it will be necessary to consider the initiative for obtaining the required loan proceeds aimed for maintaining the liquidity of the company in the period from 30.06.2020 to 30.06.2021, potentially from the Investment and Development Fund of Montenegro, European Bank for Reconstruction and Development, etc., whereas the finalization of the development project such as connection of the Municipality of Herceg Novi to RWS will secure new revenues to Regionalni vodovod, which would enable payment of the loans in the sustainable manner.

3.3 Drop of income generated from the investment fee (a fee to be paid for construction of the structures in the Montenegrin Coastal Region) ◀

The Law on Regional Water Supply of the Montenegrin Coastal Region foresaw that the special fee for construction and rehabilitation of the tourist developments being classified as five star facilities shall be set aside on 1st of January 2018, whereas for the four star facilities this fee shall be paid following the rate of 0.5 %. Having in mind the participation of this fee, paid by the five star and four star tourism developments, into the revenues of the company, it is expected that the revenues based on collection of this fee would drop about 30-50 %, which would significantly affect the total revenue structure of Regionalni vodovod. The Law on Spatial Planning and construction of facilities classifies the structures into the following categories: complex engineering facilities, other engineering facilities, support facilities and temporary facilities. The construction permits are issued only for the complex engineering facilities, whereas the construction of other facilities is conditioned solely by a submission of the construction application and documentation to the relevant inspection authority. Besides, it is set forth that: (1) the proof on the settlement of the special fee with respect to construction of the complex engineering structures shall be submitted in the procedure of acquiring the exploitation permit, (2) the submission of the proof is not foreseen in case of construction of the temporary and support structures, (3) it is foreseen that the proof of

payment of the special fee with respect to other facilities shall be submitted along with the application for construction. The preliminary experience of Regionalni vodovod with respect to the legal solution that implied the settlement of the special fee, when submitting the application for obtaining the exploitation permit was negative, as it proved that investors avoided to follow the procedure, so that we have now a number of facilities which are in use, though they did not submit application for acquiring the exploitation permit. This represents a significant loss of revenues for Regionalni vodovod and is an issue that needs to be urgently addressed in communication with the Ministry of Sustainable Development and the Inspection Directorate.

► 3.4 Dispute with „Strabag“ AG – an obstacle to the way of development

Regionalni vodovod has been in dispute with the Company “Strabag“ AG that dates back to 17th of May 2010, which was initiated after more than a justified termination of the contract on construction of the continental branch of RWS in December 2009 (which was previously approved by the Government). The Contract which was approved by the World Bank was terminated due to the flagrant violation of the contract provisions by the Contractor and the disregard of the set deadlines for finalization of the works. Strabag Ag initiated the arbitration procedure in front of the International Commercial Chamber in Paris that was not established in the Contract and thus lacked the jurisdiction which was unambiguously confirmed by the Commercial Court of Montenegro in its 4 decisions, setting aside the Strabag’s request for recognition and execution of the ICC award, as its jurisdiction was not established in the contract.

After the decisions of the Commercial Court were disputed by the Appellate Court and after it ordered payment of the 12 million EUR which was followed by an enforced preservation of the account of Regionalni vodovod that lasted 268 days, from 14th of August 2018 to 9th of May 2019, the implementation of development project of Regionalni vodovod such as construction of the plant for water bottling and iced tea production were suspended for a while. Regionalni

vodovod supported by the team of experts in field of arbitration procedures and the team of lawyers in June 2019 filed the second Constitutional Complaint contesting the decision of the Supreme Court, as in its first decision the Constitutional Court of Montenegro confirmed the lawfulness of the request of Regionalni vodovod concerning the revision of the decision of the Appellate Court panel.

As we strongly believe in the court system of Montenegro and application of the Montenegrin Law on Revision and of international conventions to which Regionalni vodovod relies on, being undoubtedly on the side of the defense of the sensitive state and business interests of Regionalni vodovod, we expect that the Constitutional Court of Montenegro will soon adopt the decision which will support the attitudes of Regionalni vodovod. The arbitration matters were not discussed and determined at all in the Contract between Regionalni vodovod and „Strabag“ AG. However, as the UNICITRAL rules were mentioned in the arbitration clause, it may be concluded that the signatories of the contract did not have in mind ICC in Paris. In order to define properly the arbitration institution, the existence of obvious and undisputed approval of both parties in dispute is required, which is not the case here. Pursuant to UN Convention on recognition and enforcement of the arbitration awards, Convention on EU arbitration and finally in accordance with the Montenegrin Law on Arbitration the decision recognizing the award of an arbitration tribunal that lacks jurisdiction since the arbitration institution is not defined in the contract, is not sustainable. The stated facts are obvious and are substantiated by a number of valid arguments that were submitted and revealed to the competent state authorities. Therefore, while believing in the legal system of Montenegro, we expect that the court institutions in Montenegro will pass the decisions which will go in favor of Regionalni vodovod after which the whole amount awarded by Arbitration Tribunal will be paid back to Regionalni vodovod, which would enhance the realization of the planned development projects, boost the financial stability of the company and open up new and sustainable working posts that will comply with the demands of the company.

4

A DEVELOPMENT VISION OF “REGIONALNI VODOVOD CRNOGORSKO PRIMORJE” LTD. COVERING THE PERIOD 2020-2030

SETTLEMENT OF RELATIONS BETWEEN „REGIONALNI VODOVOD CRNOGORSKO PRIMORJE“ AND OTHER COMMERCIAL ENTITIES WITH RESPECT TO USE OF THE INFRASTRUCTURE OF REGIONALNI VODOVOD

Regionalni vodovod has made available to the other entities (CEDIS, Monteput d.o.o, local water utilities) a part of its infrastructure, so that the company now intends to adequately define mutual relations between these entities and Regionalni vodovod. Through

solving this issues, Regionalni vodovod intends to achieve additional optimization of the works and to adequately define the rights and obligations of the entities using the infrastructure, which is owned by the company.

► 4.1 Water distribution infrastructure

In the end of the year 2016, the activities of the work team, which Regionalni vodovod formed with the representatives of DOO „Vodovod i kanalizacija“ Kotor (ViK Kotor), were intensified. After several of meetings, the work team came to conclusion that there is no dilemma with respect to the ownership over the steel pipeline DN 400, from the connection joint Kotor to the entrance into the tunnel „Vrmac“, and the submerged pipeline DN261/202 that runs along the bottom of the Verige strait, as Regionalni vodovod possesses all required documentation substantiating its ownership.

From 2015, Regionalni vodovod has initiated solving of the business relations with the municipality of Herceg Novi, i.e. with the local water utility, which within the scope of its system uses the complete infrastructure of RWS on the territory of this municipality from the 90-ties of the last century. The work team completed its assignment by having signed the Minutes on 7th of December 2017 in which it was stated that Regionalni vodovod proved its ownership over the subject infrastructure. Once the works on connection of the municipality of Herceg Novi to RWS have been finished, this issue will come to the surface again, as the whole infrastructure of Regionalni vodovod that was built on the territory of the municipality of Herceg Novi, has to become a part of the regional water supply system.

A meeting with the representatives of Ulcinj is organized as well in the past period. The topics that were initiated shall be paid due attention, in particular the one that refers to formalization of the exploitation of infrastructure that was consigned to the municipality of Ucinj. However, since the representatives of the municipality of Ulcinj did not continue the work on the agreed assignments, Regionalni vodovod shall initiate the dialogue with respect to this issue. In case that the agreement fails to be reached with respect to this issue, Regionalni vodovod will initiate the court procedure in order to protect the infrastructure of the company.



The issue related to the use of the storage tank „Jelenak“ of a volume of 500 m³ has not been discussed yet with the representatives of the Royal Capital Cetinje. The subject storage tank was built in 1998 and serves for water supply of the area of Drušići and Rijeka Crnojevića. With respect to the fact that this very storage tank owned by Regionalni vodovod, is used for the purposes of the local water utility unit of the Royal Capital Cetinje, this relations need to be formally defined. In the previous period the local water utility and the Royal Capital show no will to solve this problem, as well as the issue with respect to investment of 500.000 EUR in the fix assets of the municipality of Cetinje, out of the loan proceeds which were approved to Regionalni vodovod by the Abu Dhabi Development Fund, which along with the accompanying interests and the negative currency exchange rate amount to 740.000 euro. The next period, it will be necessary to find a solution to the stated issues in order to avoid formal procedures which would not be in interest of the parties involved.

► 4.2 Electricity Transmission Infrastructure

In the previous period Regionalni vodovod has established a very efficient cooperation with Elektroprivreda Crne Gore and CEDIS which resulted in signing the required contracts on connection to the electricity network and power supply of 21 facilities (pump stations, breaking chambers, cathode protection facilities and connection joints) which are managed and owned by Regionalni vodovod. While being approved the construction permit, all required approvals by EPCG were issued. The stated approval implied the obligation of establishing the power supply ducts to all facilities of Regionalni vodovod, which was fully implemented by Regionalni vodovod, whereas the works were financed from its own funding.

Thanks to the correct business cooperation which was established with CEDIS, we expect that the other open issues related to the infrastructure of these two legal entities will be solved. These issues are presented below:

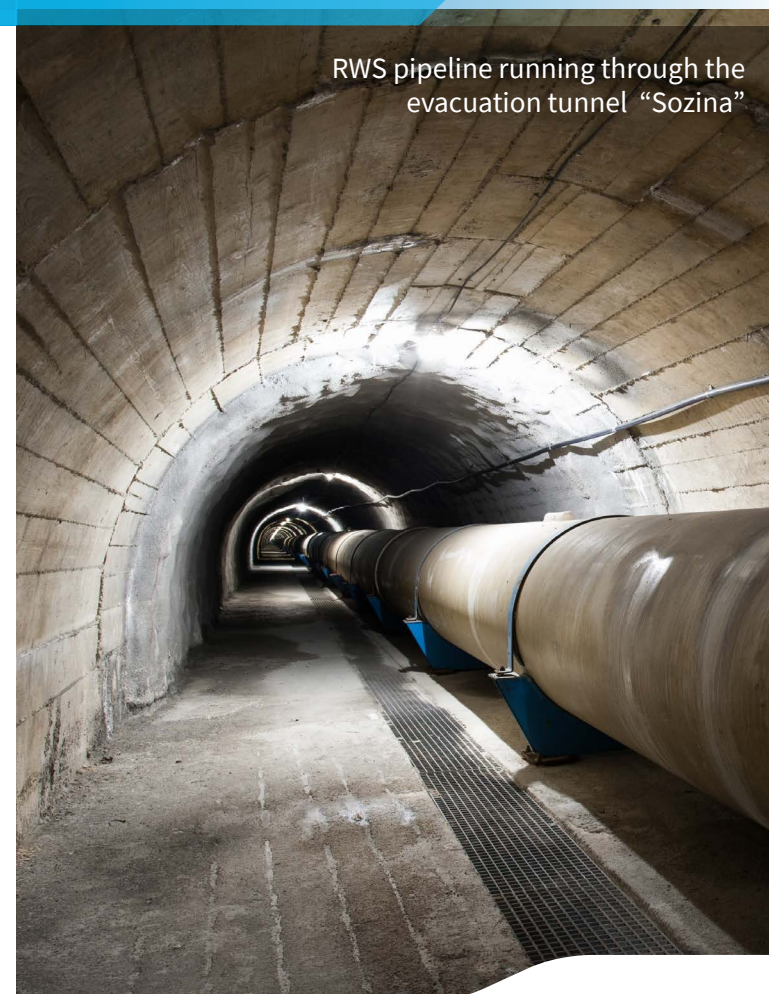
- Demarcation with respect to the ownership over the infrastructure;
- Establishing the contractual relationship with respect to infrastructure of Regionalni vodovod which is used by CEDIS. It is an attitude of Regionalni vodovod that the issues related to a part of infrastructure that is used by CEDIS shall be settled pursuant to the Law on Power Supply.
- Initiating the cooperation with respect to exploitation of the optic infrastructure of CEDIS, required for connection with the infrastructure of CGES, which would allow improved management and control of RWS.

4.3 Hydro-technical tunnel Sozina ◀

Regionalni vodovod is the owner of the hydro-technical tunnel „Sozina“ which „Monteput“ uses as an evacuation tunnel. Regionalni vodovod has initiated a communication with the aim to define the relations between these two entities by the contract with respect to exploitation of hydro technical tunnel „Sozina“.

For the purposes of settlement of these relations, we engaged the consultant Mr. Božo Mihailević who, based on the current condition and the documentation, proposed the model of settling the relationship and the amount of compensation which Regionalni vodovod shall be given for the current and future exploitation of tunnel by „Monteput“ Ltd.

It will be necessary to intensify the negotiations with the management of „Monteput“ Ltd in order to facilitate solving of this issue.



► 4.4 Receivables from the water utility and the Royal Capital Cetinje

In order to provide additional proceeds for realization of the project of urgent solving of the water supply issue of the Royal Capital Cetinje, the Government of Montenegro with its Conclusions No. 03-7120 dated 28th of July 2011, instructed the Ministry of Finance that in communication with the Abu Dhabi Development Fund consider the possibility and define the ways in which a part of the loan, which shall be used for the requirements of RWS infrastructure in the total amount of 500.000 EUR, should be reallocated for solving the water supply problem of the Royal Capital Cetinje. After the acquired approval of the Abu Dhabi Development Fund the stated amount was fully spent in accordance with the subject program of measures for solving the water supply project of the Royal Capital Cetinje.

However, besides the fact that this project was successfully and purposefully completed in 2012, the debtor-creditor relations were not defined during its implementation with respect to the loan approved by the Abu Dhabi Development Fund out of which this investment project was carried out. In fact, as an adequate legal arrangement, i.e. an implementation agreement defining the mutual rights and obligations with respect to financing does not exist, and which had to be concluded between JP „Regionalni vodovod Crnogorsko primorje“ and the Royal Capital of Cetinje, i.e. water utility of Cetinje, this part of the loan was entered into the business books of Regionalni vodovod.

The current situation with respect to this issue is not sustainable which was confirmed, besides the Ministry of Finance, by the independent international auditors and the authorized board of the State Auditors' Institution that within the scope of its Report provided its recommendation to the competent state bodies and the Royal Capital Cetinje (VIK Cetinje) that debtor –credi-

tor relations should have been clearly defined. In case that the solution is not reached in due time, Regionalni vodovod will be forced to seek the alternative solution to this project.

4.5 The challenge related to the sustainability of the pipeline section that runs along the Bečići beach ◀

A part of the system that runs from Rafailovići to the other part of the Bečići beach, pursuant to the Main Design, was built in the sand by laying down the GRP pipes which were used due to aggressive environment and in order to prevent the negative impact of the salt to the pipes. In order to protect the pipeline from the tide and potential moving of the soil caused by the unstable ground (sand), the protection of the pipeline was achieved by means of concrete coatings on the pipeline sections which are located near the surface. This situation is particularly pronounced in the region of Rafailovici, but also on the spots where the pipeline intersects the occasional water flows that start running in the winter. Despite this, over the last few years, minor but still certain movements of the pipeline were registered causing the breakage of couplings on three separate positions, thus bringing into question the sustainability of water delivery for the municipalities Budva, Kotor, Tivat and Herceg Novi. The last failure on this pipeline section happen in the summer of 2017, the event which could have exposed to the risk the entire summer season. However the remedy of the failure was promptly done, though the subject location proved itself to be the critical point of the RWS.

The fact that this instalment extends 2, 00 km in length requires a very responsible approach to solving this challenge and, within the certain range of possible solutions, an attempt was made in order to manage the risk and to prevent the occurrence of the new failures on this pipe-

line section. As the failures appear on the spots where connections were made by means of couplings, Regionalni vodovod had them replaced with the tight fix joints.

Moreover, in order to prevent possible failures, Regionalni vodovod performs every day check-ups of the work pressure on this section in order to decrease the risk of possible failures. In the following period the subject pipeline, that is its concrete coating, will be included into the auscultation monitoring program which have been regularly conducted from the year 2013, as set forth by the regulation in order to provide a kind of a preventive monitoring of a possible changes in position of this structure caused by moving and geo technical auscultations through the ground. Parallel with the stated activities, we will consider the possibilities which will offer a permanent solution to this problem and which would imply cooperation with Morsko Dobro and laying down a new pipeline that would run along the promenade.

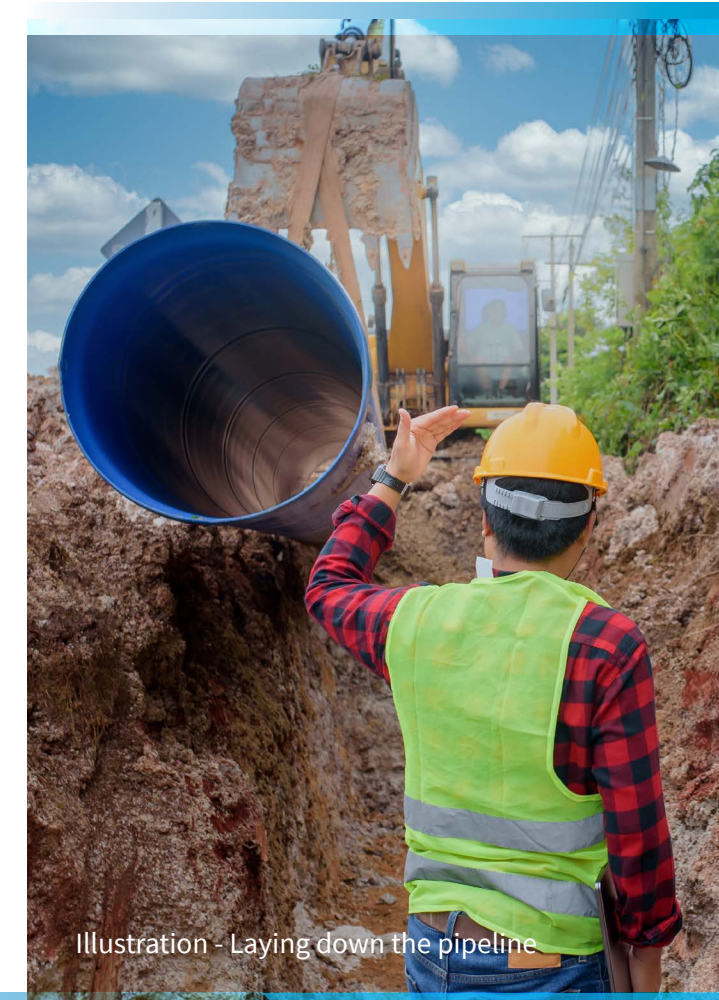
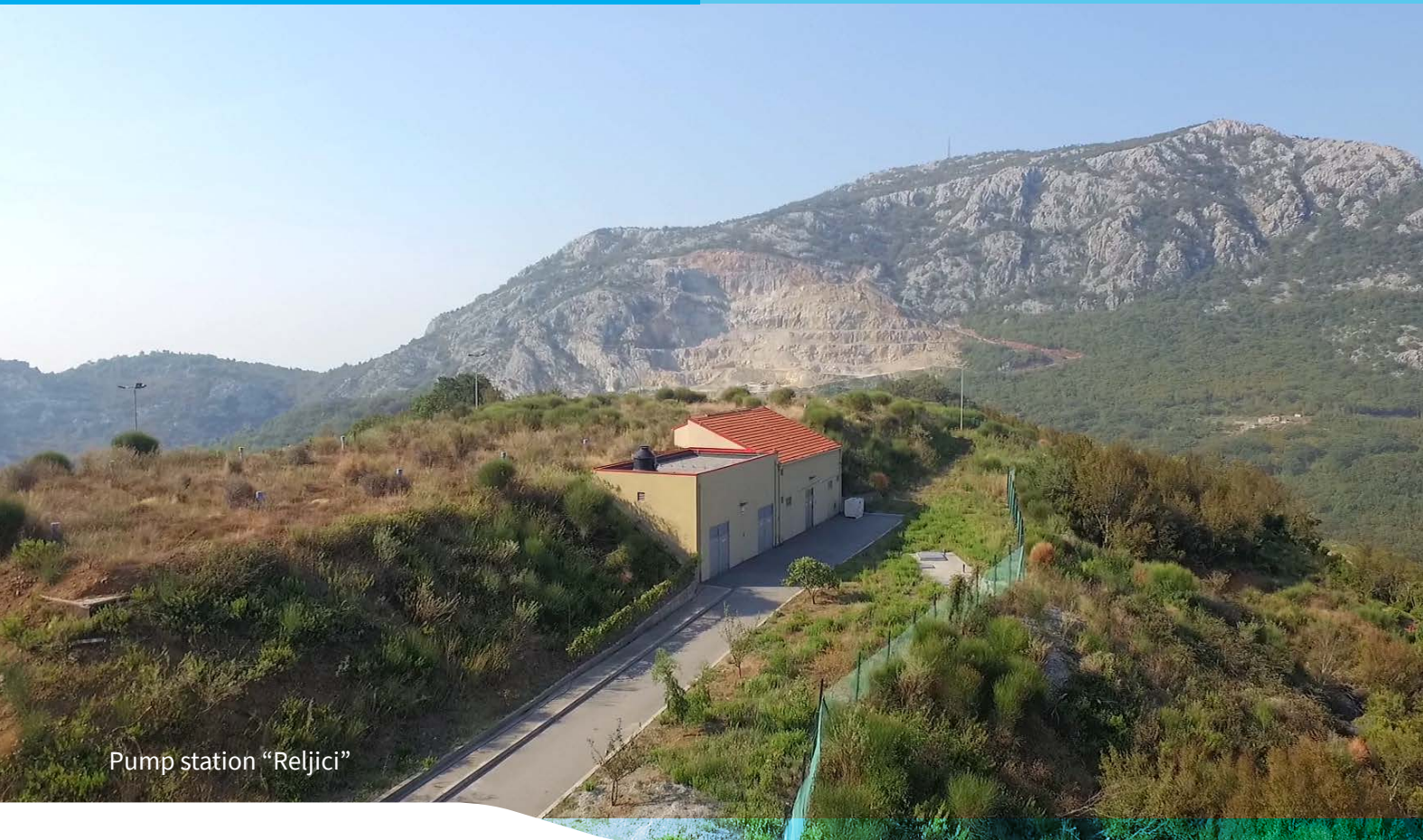


Illustration - Laying down the pipeline



Bečići beach across which the RWS pipeline runs



Pump station "Reljici"

► 4.6 Increase in capacity of the northern branch of RWS – section water storage tank „Đurmani“ - Budva

In 2017 Regionalni vodovod intensified the works on preparation of the activities which will launch the second phase of construction of RWS by drawing up the second pipeline for the northern branch of RWS –section BC „Prijevor“ – Tivat. The previous 10 years of functioning of RWS have shown that region of the municipalities Kotor, Tivat and Herceg Novi marks an accelerated increase in water demand.

These developments requires to be urgently solved in order to create the conditions for long-term and sustainable water supply of the municipalities Tivat, Kotor and Herceg Novi. Towards achieving that goal, within the scope of prepa-

ring the project documentation for construction of the new pipeline section Budva – Tivat, a new hydraulic analysis for this part of the system was made. The analysis pointed out an additional restrictive element that may affect the potential increase in capacity of this part of RWS. The potential intersection of the piezometric line and the line of the pipeline, may affect the occurrence of vacuum in the pipeline, which will not enable proper and successful functioning of this complex water supply system.

Therefore, it would be necessary to go through the technical options that will offer a solution to this problem and increase the capacity of RWS for the municipalities Tivat, Kotor and Herceg Novi, as the prevention action is required in case of an unplanned increase in water demand from the municipalities and investors such as Porto Montenegro, Luštica Bay, Porto Novi, etc.

► 4.7 Lack of required water enactments for the springs in the Montenegrin Coastal Region

The Montenegrin Coastal Region had to deal with the water shortage problem by 2010, which was in the same time a fact that vastly restricted the accelerated development of tourism. That was the reason why the Government of Montenegro made a historical decision in 2007 and invested 80 million EUR in completion of the part of the first phase of RWS in the Montenegrin Coastal Region for the municipalities Budva, Tivat, Kotor, Bar and Ulcinj. The completion of the first phase solved a problem of the water shortage that spanned over the years, that is the problem of water quantities. From that period on, the priority of all competent institutions and the water sector in whole was focused on the quality of potable water which is distributed to the consumers in the Montenegrin Coastal Region.

Apart from the water spring Bolje Sestre, there are six water utilities functioning in this region and 32 local springs are recruited for water supply of the Montenegrin Coastal Region. However, these springs do not have water enactments that are required by the law. Thus, water of a different quality is being mixed with water from RWS and as such is being distributed to the final consumers. The period of ten years from the beginning of operation of RWS is for sure a too long period that possible concerns of a part of a Montenegrin community towards this state project could have been justified and understood as a kind of resistance to changes that this project brings, especially in light of the fact that the benefits of this project have been vastly experienced by the whole country, not only by the coastal municipalities. Therefore, the next period of business operation of Regionalni vodovod, which shall have the support of the competent institutions shall be dedicated to solving of this issue, which means that the springs which are

now in function that do not possess water enactments, as a proof that the stated springs are being exploited for the purposes of water distribution to the final consumers, shall be put out of function. This challenge is directly linked to the fact that out of 21 connection joints of RWS which were built at the spots the municipalities, themselves, defined, only 11 are in function. By putting the connection joints into the function, the system capacity utilization rate will be significantly increased which will result in increase in revenues which would additionally enable stable functioning and repayment of not insignificant loan obligations towards the international financial institutions and what is more important, the consumers in the Montenegrin Coastal Region will be provided with the top quality water.



Illustration

5

A DEVELOPMENT VISION OF “REGIONALNI VODOVOD CRNOGORSKO PRIMORJE” LTD. COVERING THE PERIOD 2020-2030

2030

STRATEGIC DEVELOPMENT INDICATORS OF THE WATER SUPPLY SECTOR IN THE MONTENEGRIN COASTAL REGION BY 2030

The water supply sector of the Montenegrin Coastal Region, by being commissioned in 2010, have acquired the potable water quantities of a top quality it lacked, that guarantee the stability of water delivery to the final consumers throughout the whole year, thus solving one of the most important problems that restricted the quality of life of the local population in the Montenegrin Coastal Region and eliminating the obstacle for development of tourism as key branch of economy in this region. However, the period of putting RWS into function from July 2010, have exhibited a significant shortages in the water supply sector in the Montenegrin Coastal Region and showed that the required prerequisites for provision of the sustainable functioning of water sector have not been fulfilled yet.

The business functioning in the previous period were oriented towards implementation of the activities that secured sustainability of RWS. However, the same does not apply to activities of the local water utilities which are in charge for delivery of water to the final consumers. The fact is that in the Montenegrin Coastal Region there are still a number of settlements that do not have the water distribution networks and are

supplied with water from the tank vehicles, additionally substantiates the statement that there are lot of challenges which need to be addressed in order to reach the required quality of the services with respect to the water supply of the Montenegrin Coastal Region. In that sense, the following challenges with respect to water supply of the Montenegrin Coastal Region need to be tackled and the development projects implemented in order to upgrade the level of service.

The Condition in the water supply sector, in particular prior the construction of RWS, had proved to be the largest obstacle for development of the tourism as of a key branch of economy in the Montenegrin Coastal Region. Upon construction of the RWS, the situation is significantly improved. However, there is still a vast space for improvement in particular in the region of Bar and Ulcinj, as an important part of these municipalities lacks water distribution networks.

In that sense, throughout the current functioning of RWS, obstacles for optimal model of operation of water supply system are identified. Here comes a brief overview of challenges which need to be addressed in the next period:

✓ A reform of the Water Supply Sector in the Montenegrin Coastal Region through a globally recognized model of aggregation of the existing capacities

✓ The optimization of operation of the local water supply systems and RWS

✓ The construction of infrastructure in the settlements in the Montenegrin Coastal Region in which the problem of water supply is not solved

✓ Activation of the remaining 10 connection joints of RWS

✓ Decrease of losses in the water distribution network

✓ Consolidation of the investment and development of the water sector components (that currently do not belong to the municipalities) including the component of the water sector management (that currently belongs to the water service utilities)

✓ UEstablishing the unique methodology of the water tariff calculation (water regulatory authority)

✓ Respecting of all regulatory provisions and recommendations with respect to possession of the water enactments for the springs that are exploited in the Montenegrin Coastal Region, but also on the territory of Montenegro, including establishing and managing of the sanitary protection zones

✓ Optimization of the local springs in the Montenegrin Coastal Region with respect to their economic feasibility, the quality of water but also including the security aspects while highlighting the obligation of having the adequate water enactments

✓ Analyses of the effects of use of a part of the special investment fee by the coastal municipalities

✓ Planning and construction of the water storage capacities of the local water distribution systems which are required for the sustainable water supply of the Montenegrin Coastal Region

These are the strategic challenges that shall be perceived in that manner. It has been confirmed that the changes in a part of the system may be successfully and in the sustainable manner conducted, but if other parts of the system, in this case the water supply sector in the Montenegrin Coastal Region, continues to function in the current way, the measures proposed by this project may hardly produce any effect with respect to the successful functioning of the water sector. Therefore, the stated strategic guidelines represent a set of projects, decisions, instructions and measures that need to be harmonized and adopted by both the competent ministries and authorized institutions, i.e. the Government of Montenegro, and the local self- government units as of founders of the water utilities.

That is the reason why these measures shall be conducted over the period of 10 years which is deemed to be optimal and realistic for realization of the systemic challenges the functioning of the water sector relies on, whereas we should be all aware of the global climate changes that make these challenges more complex to solve. It is our obligation to pay due attention to water resources preservation for the future generation.

Therefore, the reply to afore stated challenges of sustainable functioning of RWS in the Montenegrin Coastal Region, it would be necessary to conduct a number of targeted development activities which would establish the mechanisms for the long term management of the water sector.

► 5.1 Water Supply Sector Aggregation and wastewater disposal in the Montenegrin Coastal Region

Consolidation of competences with respect to the local water supply system management in the Montenegrin Coastal Region would lead towards the significant optimization of operation with the simultaneous upgrade of the quality service level. Through the procedure of aggregation of the water supply and waste water sector in the Montenegrin Coastal Region, the following will be secured:

- The optimal number of employees with adequate qualifications, supported by the favorable social program
- Significant improvement of the financial parameters that in this moment represent an unsurmountable barrier for obtaining the highly required grant and loan proceeds for the forthcoming investments
- Important strengthening of the staff capacities and overall performances of the water utilities for financing the development projects, including the project on rehabilitation of the water distribution measures
- Significant upgrade of the water services and management of water services resources which in final would have a significant impact on the decrease in water production cost in this area
- Significant decrease in the cost of management of the consolidated water supply system as of a unique technical and technological whole
- Upgrade of water services quality by upgrading the quality of water to be distributed to the local population
- Significant savings with respect to maintenance costs through unification of equipment, increased a scope of procurement, etc
- The support of the World Bank and EBRD for implementation of these projects

RWS pipeline laid on the bottom of the Skadar Lake

► 5.2 The project of development of the water sector in the Montenegrin Coastal Region by 2030

With respect to all challenges to be faced by the water supply sector, and which would be even more widespread in the future, it is necessary to establish besides the current resource management strategy, a water supply sector development strategy.

On contrary, the conditions for sustainable development of the water sector will not fulfilled. In that direction, Regionalni vodovod has been implementing several fore steps for establishing the cooperation framework with the very important institutions that may provide their immeasurable contribution to the preparation of the development Program such as the Montenegrin Academy of Arts and Science, University of Donja Gorica and other institutions in Montenegro, but also in the wider region such as International Association of the Water Service Companies in the Danube Catchment Area, etc.

Hence, the preliminary activities on Preparation of the Plan for Development of the Regional Water Supply System for the Montenegrin Coastal Region for the period from 2020 to 2030 are

being taken. The Plan, among the other things, shall define, the development goals and operation of the company, business policy which shall be applied and will enhance establishing of the strategy for realization of the set development goals for the sustainable water supply of the Montenegrin Coastal Region.

5.3 Construction of the water distribution networks in the settlements of the Montenegrin Coastal Region which are not covered by the water distribution networks

Regionalni vodovod has received in the period from 2015 to 2020 several official requests for approval of the connection to RWS by both the commercial entities and the local self-government units from the areas of Ulciji, Bar, Budva and Kotor, The most prominent examples of lack of water and wastewater network in the Montenegrin Coastal Region represent the settlements in Bar with over 10.000 structures and the settlements in Ulcinj with over 5.000 structures built. The RWS pipeline with the connections joints for water distribution runs directly through these



Water intake "Bolje Sestre"

settlements. The current situation in the stated settlements is unsustainable both with respect to the health protection and from the aspect of creating the conditions for further development of community. However, the current developments provide an opportunity for implementation of the development activities in terms of the construction of the new water distribution networks, which implies providing the services to the new consumers that will contribute to the increase in revenues generated from the potable water delivery.

Parallel to initiated activities of Regionalni vodovod with the municipalities of Bar and Ulcinj within the scope of the project to be implemented with the European Bank for Reconstruction and Development, which was supported by the Government of Montenegro by means of providing the sovereign guarantees amounting 12 Mio. EUR, the forthcoming period shall be dedicated to construction of the communal infrastructure in the other areas of the Montenegrin Coastal Region where there is an obvious public interest for implementation of these investments, as they represent a chance for fostering the economic development of the whole country. The successful realization of the project of construction the water and sewerage network will significantly stimulate other municipalities to solve similar problems in cooperation with the Government and Regionalni vodovod. Especially interesting and almost identical case represents the mu-

nicipality of Herceg Novi, which due to the local political reasons rejected to be a part of this project of the state importance until September 2013, when Regionalni vodovod started the activities on connecting of this municipality to RWS. Once the municipality of Herceg Novi is connected to RWS, it will be immediately possible to deliver 70 l/s to a part of the Lustica peninsula which belongs to this municipality and where several prestigious tourist developments of the overall investment volume of tens of million euros are planned to be constructed. The shortage of water would be a development restriction factor of this part of our coast, which means that by the successful completion of the project on connecting the municipality of Herceg Novi to RWS, the Government of Montenegro, by means of Regionalni vodovod, will fulfill the most important infrastructure prerequisite for the beginning of realization of this strategic tourist developments.

Regionalni vodovod finds its unambiguous interests, besides the fulfillment of the public function it performs and solving of the problems of the local population and the tourist business community through the provision of the sufficient water quantities of the proved quality, in the fact that implementation of this project significantly increases the capacity utilization rate of RWS, which is at the average level of 30 %. We will remind you of a fact that the capacity utilization rate of RWS will be increased by 100-110%.

Illustration of the pump station



► 5.4 Reduction of losses in the local water distribution networks

The Technical losses in the water distribution system along with the illegal connections, represent the most important risk for operation of the water supply companies in the Montenegrin Coastal Region. In this moment, it is not possible to make out the losses which are the consequence of the technical failures caused by pipeline deterioration from those caused by illegal consumption which makes the work on eliminating these losses more difficult. In the previous decade more attention was paid to eliminating the technical losses than in the previous period, though more significant results have not been achieved so far with respect to reduction of the losses. The larger number of the water supply systems for more than ten years have been maintaining the losses on the same level, whereas certain municipalities register the upward trend in terms of losses. The average losses in the water supply

system in Montenegro are unacceptably high and amount 70% or even more! Rehabilitation of the technical losses shall be approached in the institutional and systematic manner. It is necessary to conduct the significant investments per measuring zones and upon taking the adequate measures, the losses shall be maintained on the minimal level by means of implementing the regular maintenance. On contrary, the random resolution of the problems following the principle of extinguishing the fire will continue to take place. This approach proved to be disastrous on the long-term basis.

While discussing this topic, it has to be stated that Regionalni vodovod is dedicated to solving of this problem and that the losses on RWS are maintained on the level of 4-6 %. It needs to be stressed out that the challenges with respect to the sewerage systems in the area of the Montenegrin Coastal Region are not dealt with in the institutional manner, as well.

► 5.5 Construction of the storage tank capacities of the local water supply system

The previous decades in the Montenegrin Coastal Area has been characterized by the accelerated expansion of the construction activities, the residential structures and tourism venues, which were not accompanied by the adequate development planning in the water supply sector. Local self-government units and the local water utilities, due to the bad financial situation, but also to the lack of the appropriate development vision of the water sector, so that we are dealing now with the large-scale settlements which are not covered by the water supply networks. The larger number of the investments in water distribution networks that are implemented without being accompanied by the construction of the water storage tanks that would enable safety of water supply both from the aspect of providing certain reserve amount of water, but also for

mitigation of the daily consumption variations, particularly during the summer season which is considered the most demanding challenge we are to face with.

In this moment, several tens of cubic meters of the storage space is missing, so that water supply is vastly susceptible to potential interruptions of power supply and other impacts that may cause the suspension of water delivery from the intake to the water distribution network. The encouraging initial steps have been taken through implementation of the activities on construction of the new reservoirs in the municipalities of Tivat and Bar, though it needs to be stressed out that the construction of the new water storage tanks have to be intensified in order to secure the sustainability of water supply of the Montenegrin Coastal Region. This issue was addressed above and it needs to be highlighted that this problem is the most expressive on the territory of the municipality of Bar.



Pump station "Budva"



Pump instalment heading towards municipality of Bar



Skadar lake - Pavlova strana

► 5.6 Let's protect the water resources of Montenegro, let's protect the Montenegrin water courses

“OUR WATERS – OUR TREASURE”

The global climate changes and increase in number of population on the Earth affects the negative trends with respect to the accessible and available water resources at the global level. The results of the global researches exhibit that the constantly growing water shortage problem will be experienced by the most developed industrial communities and the most underdeveloped countries, in particular. Therefore, Montenegro that has the abundance of the water sources needs to take an institutional and strategic approach in order to conceptualize the strategy of the priority protection of the water sources in order to preserve it for the future generations and for the sustainable development of the overall society. To

this day, Regionalni vodovod through launching the initiatives and conducting the direct actions, have drawn attention of the public and professional communities to these challenges. This approach shall be maintained in the future. Starting from the fact that in 2020 we are going to mark 45 years from conceptualizing the idea of the regional water supply of the Montenegrin Coastal Region and 10 years of functioning and delivery of water from the Bolje Sestre spring, it would be purposefully, in the light of the afore mentioned, to draw the attention to the project of protection of the springs and water courses in Montenegro. In that direction, Regionalni vodovod will in the ten-year period from 2020-2030 realize the project Our Waters- Our Treasure and shall rehabilitate 24 springs in the 24 municipalities in Montenegro. The aim of project is also to involve other entities, known for their socially responsible engagement, to take part in realization of this very important project for protection of water resources in Montenegro.

► 5.7 Initiative that the right to water shall be granted by the Constitution

The issue of water protection, as of a highly susceptible and limited resource from the growing global challenges is getting more complex and requires an integrated action of the broader social community, public, the commercial entities and other stakeholders in order to find sustainable and optimal solution for protection of the water body and preservation of the water quality.

The opening of the Chapter 27- Protection of the human environment and climate changes with the European Union, as one of the most complex and in terms of time, finances and technology one of the most demanding ones, represents an occasion for Montenegro to institutionally integrate the issues related to the protection of the environment into the every sector of economy and in the decision making process, as well as, to pay the attention to investments into the control of pollution, minimization of waste and ecological hazards and integration of the sustain-

able ecology practices into the key commercial activities.

In case of Montenegro, the first state that was proclaimed an ecological country by its Constitution, this approach opens up additional possibilities for considering the status of water, as of a one of the strategic state resources the preservation of which predominantly define the further directions of the total economy development of the state, the right to water to be protected by the Constitution. In this way the continuous protection and availability of this unreplaceable resource to the future generations will be secured.

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DOO „Regionalni vodovod Crnogorsko primorje“

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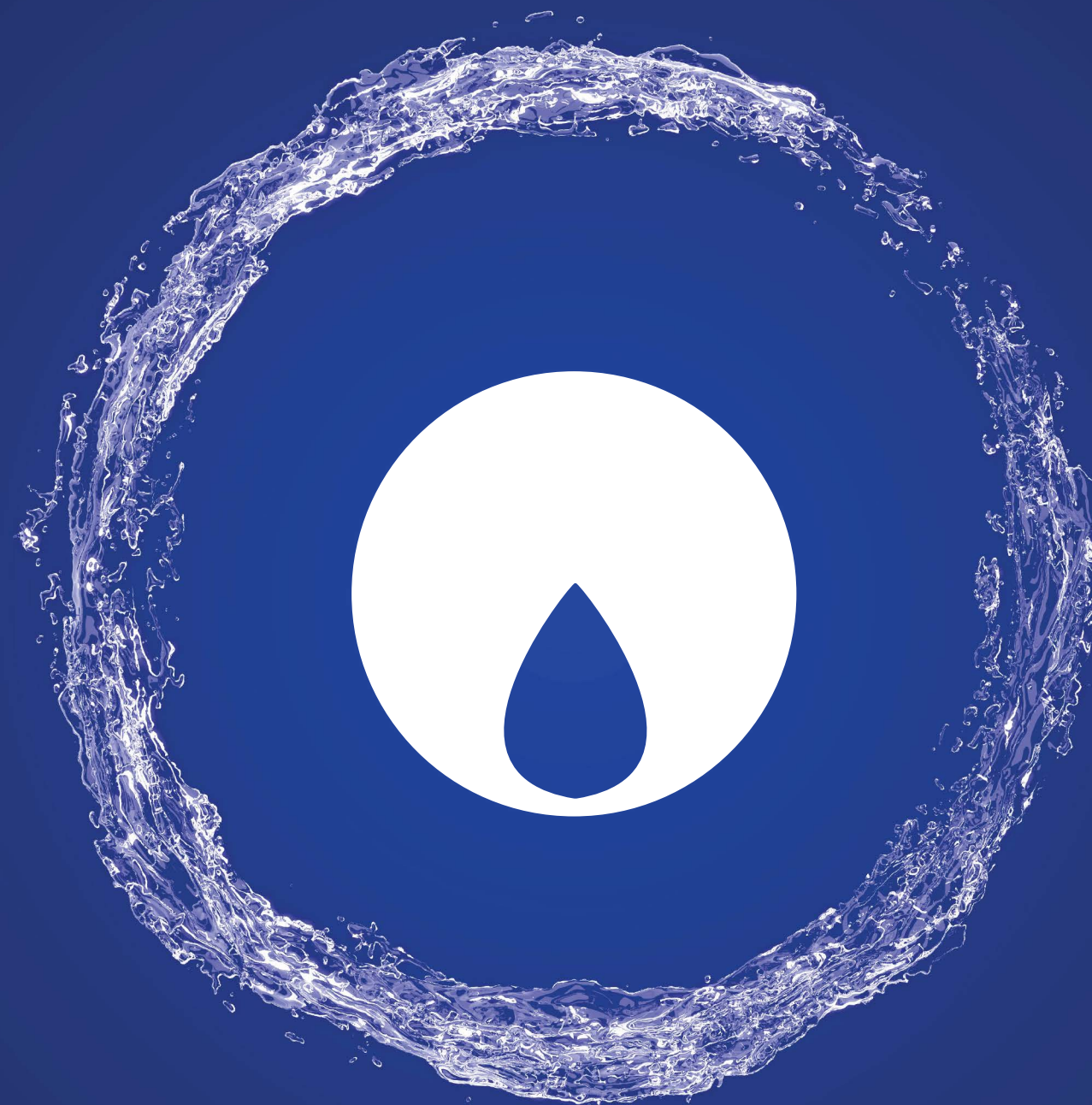
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