

Ministry of Mining and Energy of Republic of Serbia started a project of building small hydro power plants (SHPP) in 2013 and after two public invitations; it gave interested investors 293 locations envisioned by SHPP cadaster (around 1/3 of total number of locations from this cadaster). Two years later, the project is facing a serious crisis: although there was a great interest showed in mass response of investors to public invitation, no SHPP has been built yet.

Investors experience in documents development for construction of SHPP, which have been collected and published in various research and journalist projects, showed three main problem groups making project implementation difficult: 1) water regime 2) property-legal relations 3) availability of electro network.

#### Water regime

SHPP cadaster of Serbia was developed in 1987 by “Energoprojekt” and Institute “Jaroslav Cerni” for the needs of legal predecessors of EPS. This cadaster, however, has certain limitations: it hasn’t taken into account water regime management, water supply, canalization and sanitary protection of water, as well as protection of natural and cultural and historical values (which is partly a consequence of the way the cadaster was developed, since it’s large part was built on the basis of geographical maps, and not field research). Because of these limitations, changes of water courses hydrology and changes in spatial usage since the Cadaster was developed, in Serbia Spatial Plan of 2010-20 it was determined that the SHPP Cadaster represents a documentation backing, and that SHPP were built on the grounds of technical documentation developed by the rules of construction of spatial plans for special purpose areas and municipalities, and according to the water conditions and environmental protection conditions. The water regime has been a serious unknown and has represented a potential “bottleneck” in the realization, because it could be assumed that bringing water regulations (water conditions and water permit) would be much more demanding than in the case of precise data of the water regime.

The problem of the water regime in construction of SHPP is a manifestation of another, structural problem in water management. SHPP sites are located on small rivers, which run through a single municipality with its entire length. These rivers are, according to the Law on Waters, II category watercourses and managing them is up to the municipalities. It was expected that municipalities would be able to accept activities on the development of water conditions and the issuance of water permits. However, this project found that the municipalities do not implement the prescribed legal obligations in terms of water management in their jurisdiction and that they do not have administrative capacity to do so, and that they need serious support in this respect. This structural problem in particular has

proven to exist in the spring of 2014, on the occasion of torrential floods that hit many municipalities in Serbia: in addition to the flood of Kolubara, Morava Basin, all other flash floods have occurred in small rivers, streams of the second order. Then it turned out that the large cities (eg. Leskovac, Cacak and Kraljevo) have the same unresolved problems with second order streams as do the small municipalities (eg. Vladicin Han, Arilje and Raska). There are several possible ways to solve this problem, but the most logical one is that JP Srbijavode is much more engaged in the issue of water regime. It is one of three water management companies which, according to the Water Act is authorized for the most important tasks in water management, with all locations in the Cadastre of MHE being on the territory for which JP Srbijavode is competent. Srbijavode has the expertise and staff to assist municipalities with a larger number of locations to perform administrative tasks in the process of preparing documents for construction of SHPP more easily. The condition for that would be certain, at least temporary, for the duration of the project, deconcentration of activities of the enterprise.

JP Srbijavode now has three main offices: a central office and the office for the water area of the Sava-Danube, both in Belgrade, as well as an office for the Morava water area in Nis. Temporary deconcentration of activities to support the project of building SHPP might look like a system of JP Srbijavode offices at the headquarters of the districts in which the areas for SHPP are located. Deconcentration of activities in water management could be carried out by project-financing of international financial institutions - the WB, EIB, EBRD and the other, through the area of institution building. These offices, with one or two employees, could significantly facilitate the adoption of water laws and other tasks related to water management and to show investors that the Serbian Government and the Ministry of Energy and Mines are really serious about supporting the construction of new generating capacity from renewable energy sources (RES). This would strengthen the administrative capacity of municipalities in terms of services for preparation of documentation for the SHPP construction, which would multiply the effects. There is a significant fact that this office could assist the municipalities in the execution of their responsibilities in water management (management of II category watercourses, erosion and flood control, and other activities provided by the Water Act), for as soon as there is a real need.

Outlined project of strengthening the institutional capacity in water management should be very interesting and other state bodies and special organizations with competence in water management - Ministry of Agriculture, Water and Forestry, Directorate for Water and other water and wastewater utilities, JVP Vojvodina Waters and JVP Beogradvode, which would facilitate the decision on the implementation of the project description and allow one project

to solve more neuralgic issues.

#### Property relations

In Serbia, in the last 15 years serious problems related to planning and building came to the surface, which is directly reflected on the project for construction of SHPP. Procedures for buildings legalization, which began by adopting the new Laws on planning and construction in 2003 and 2009, showed that the unresolved property relations are a major obstacle for easier and faster legalization. If this is the main obstacle in the cities in which the owners and heirs of owners of land and buildings can be identified, it is logical that it can be an even bigger problem in sparsely populated or unpopulated areas, where there are locations for SHPP. Property relations in the construction of SHPP are more complex than in the construction of houses, because the rivers, as a rule, are parcel boundaries, and SHPP parcel are elongated and their establishment should be redemption of the parts of different owners' parcels (often more than five). In addition, the locations of SHPP require corridors for access roads, pipelines, power lines and the establishment of servitude for these corridors in the length of several kilometers and over a large number of parcels of other owners.

This is about the structural problem of the property market and the institutions necessary for it, which is expressed in four ways in the SHPP construction: a) the limited value of real estate registry data; b) Transactions of land required for SHPP construction; c) special rules concerning the rights of easement; and d) the lack of a basis for preparation of planning and technical documentation for SHPP construction.

a) Real Estate Cadaster is formed in the reform project in the period 2002-10 by unification of cadaster guided in municipalities (record of the land, location, area, the use, land and soil, the amount of cadastral income and the users or possessors of land), land registers managed in primary courts (records of real estate and property rights to them) and land deeds book. The primary purpose of real estate cadaster historically was establishing the basis for the collection of property tax, which is why the accuracy of the records was much more eagerly watched by state authorities, while the acquisition and demonstration of property rights, which are the basic functions of the cadaster today, are originally derived functions. The loss of the relative importance of property tax since 1945, which was replaced by the sales tax as the biggest source of revenue for the country (today the value added tax, as perfected kind of sales tax), and cadaster lost its significance. Since all the data in the real estate cadaster are entered only by the request of the holders of property rights, if the owners do not perform application state changes, the cadaster as a land record loses the function of acquiring and proving property rights, keeping only approximately

accurate information on the shape and quality of the land parcel. The reform of the real estate cadaster is certainly good, but the expectation that the reform of the cadaster and real estate market, as well as loans, would make property owners register the altered states in terms of shape and in particular their land property rights has proved to be unrealistic, leading to the fact that data from the Real Estate Cadaster of limited value.

b) Legal transactions of land required for the formation of parcels for the construction of SHPP is complex, because the land in question is generally not agricultural, but forest land, with a special regime of access and use, while the owners of this land are individuals and public companies or other holders of public powers. Obtaining the whole or parts of neighboring parcels of individuals is made difficult by the fact that property owners rarely enter changes in the holders of property rights into the cadastral, as is the custom, which has lasted for at least 50 years, and it is almost impossible to negotiate on one parcel with only one owner: firstly one should identify successors of the registered land owner, and then conduct negotiations with the co-owners of the parcel, which because of the system of inheritance could count more than 10 people, and the alienation of all or part of the parcel requires the consent of each co-owner, while many of them are permanently absent, and often inaccessible. In addition, the forest land in the rural areas has specific importance strongest of the cheapest sources of firewood, and although there is no great market value, the owners rarely alienate it and generally are not prone to it. Obtaining parts of neighboring parcels from public enterprises is equally complicated, but in a different way. And regarding the shape of the parcel and the holders of property, real estate registry is often inaccurate when it comes to public companies, which is made additionally complicated by the process of denationalization. On the other hand, the decision on the alienation of any property, in whole or in part, is made at the headquarters of the company, which are in Belgrade (Srbijavode, Srbijasume, Srbijagas, Serbian Railways, Roads of Serbia, Seismological Institute of Serbia, national parks, and other). No matter how small the land envisioned for alienation is, and that it is of no importance for these companies, a process of alienation is the same as for disposing of any other property and very slow, and considering that formed political bodies - Board of Directors make decisions about alienation, additional complications are also possible.

c) A special issue is the right of servitude, which is necessary for the access roads, pipelines and transmission lines for SHPP. It is understood that the construction of facilities in the uninhabited area requires construction of access roads, but in the construction of SHPP the issue is the construction of roads, pipelines and power lines often of great length, through sparsely populated or uninhabited areas and the large number of parcels. Since the right of

servitude is a burden that limits the right of ownership, it is natural that all land owners avoid its establishment on their property. On the other hand, easement outside urban areas is generally rare, and there are no criteria for determining reasonable rates or practices that would facilitate the negotiation. A particular problem is the establishment of easement on the land owned by the public companies - for this type of encumbrance there are the same rules as for the alienation of property, where it is difficult to explain why a company should accept this kind of encumbrance.

d) Lack of planning basis for the preparation of technical documentation for SHPP is a normal consequence of SHPP sites. SHPP sites are mostly in the areas that are not subjected to regulation plans, far from existing infrastructure facilities (public roads, medium-voltage network, etc.), and the terrain is unfavorable for the construction of the access infrastructure. At such sites there generally are no existing or envisioned access roads to the parcels, while the cadastral maps are out of date, which further complicates the design of construction plans and technical documentation.

The expectation that the municipality in which the site for the SHPP could solve these legal property issues is unrealistic for many reasons, from weak institutional and administrative capacities of municipalities, to the simple fact that for this issue (with the partial exception of the lack of planning documentation) there aren't any jurisdiction.

If the Government and the competent Ministry want to support the project for construction of SHPP, they must facilitate resolution of property and legal issues in an easier and faster way. It can be done by having the same rules for SHPP construction project as for construction of similar facilities by state entities or public enterprises - by reclamation of public or private property in the public interest. The mechanism may be by passing *lex specialis* or amendments to the Law on Reclamation, which would bind the duration of the possibilities of the expropriation process for the SHPP construction with the Law on Spatial Planning of Republic of Serbia and the Energy Development Strategy. Permission to start the procedure should be given to investors of SHPP construction, who would bear the costs of preparing the proposals for a decision on establishing the public interest. The basis for determining the public interest is the production of electricity, and energy activities: production of electricity is followed by a public authority, so that the performers of this activity may be its bearers. After all, the law itself may provide that the owners of SHPP can be carriers of the public interest and thus solve all outstanding issues. Solutions from the proposed legislative act should enable the establishment of public interest for the purchase of parts or the whole of neighboring parcels in order to form a SHPP erection site, as well as the public interest for the registration of servitude for the corridors for access roads,

pipelines, power lines, with logical requirements retention that the price of land reclamation and registration of servitude are determined by market conditions. The proposal for determining the public interest and a list of parts or the whole expropriation land and registration of the easement would be adopted by the municipality, while the government would give approval. One should also foresee the maximum time limits for municipality activities after SHPP construction investors submit an initiative for a decision on establishing the public interest and accompanying documentation.

Without facilitate the formation of a pitch for MHE and forming corridors for access roads, pipelines, power lines is unlikely that investors will be able to build new energy capacities. Described problems can not be solved normal mechanisms of legal transactions and the market, which is a biennial practice already confirmed, so the above outlined solution imposes as the simplest and most logical.

The availability of electric power network

The problem of accessibility of electricity grid is akin to the problems of ownership and legal issues. The registration of easements for transmission lines corridors is identical to the problem of registration of easements for roads and pipelines corridors. The difference is, however, a consequence of the intrinsic properties of electrical network: connecting electricity producers to the network is not a procedure that can be carried out by activities of one party to the possible monitoring of other parties, but requires concerted and partly simultaneous activity of both parties.

The national electricity grid in Serbia, as well as in the former Yugoslavia, was completed in '80s and since then the problem of its construction and stability has become an internal problem of executor of activities of transmission and distribution of electricity. Since the adoption of the Energy Law in 2005, national electric network as a whole, together with consumption gauges of end users, became the property of the activities performer, so Electro network of Serbia (EMS) (except for internal electrical networks, identified as such technically and by ownership, which functioned even before the Act). This changed the mechanism of financing the construction and further development of the national power grid, since this was no longer a public issue, at least not in the sense in which it had been until the end of its construction, but instead an issue of the company itself and of other executing energy activities. Hence it was scheduled for the owners of SHPP to independently finance the construction of facilities (high-, medium- and low-voltage transmission lines, depending on the SHPP capacity) that would lead electricity from the future SHPP to connection points of the national power grid.

The cost, depending on the location MHE and its capacity can be quite high and it raises the

question of whether it is right that all the costs are borne by only investors? This question makes sense regardless of the privileged price of electricity that investors get, because the actual production of electricity is socially significant.

However, the biggest practical problem is the point of connection to the national power grid. The most common case is that the nearest point of connection is marginal, end point of the national electricity grid, in which the transformers (medium) are old and worn with a small number of outlets. Therefore, the replacement of the transformer has become a source of major problems in connecting to the national electric network. The rule that appeared in practice is that the local power companies use the emergence of investors who build SHPP to shift on them the cost of replacing transformers in connection points or to ask for investments in the rehabilitation of the existing transformer in order to join the new SHPP. (According to the claims of investors, such requests were regular even if such investment was not necessary) This is a particularly nasty type of dispute, since because of the monopoly of local distribution companies there aren't many ways to resolve a dispute through negotiation, or to find a mediator.

This is not a structural problem, and it would be absurd to expect the government to make decisions on these issues, but it is equally absurd for the competent Ministry of Energy and Mining not to resolve this issue with by-laws that would establish certain principles and obligate EMS and local power companies to resolve the described situation in a way that would take into account the interests of investors, not only in terms of replacing the transformer, but if necessary, in terms of the construction of internal electrical network for connection to the national power grid.

In addition to the described problems of connecting to the national power grid, a set of problems of availability of electrical networks will get new factors when and if SHPP are built, in the course of their operation. It would therefore be logical for the interested parties, which are mainly EMS and EPS, to participate in the construction of SHPP by forming certain teams in the territory of distribution on which construction is planned, or at least a district in which there are sites for SHPP. These teams would keep track of issues of connecting to the national electrical grid, as well as other technical issues related to the functioning of SHPP such as maintaining the stability of the network. It is an activity that should be launched by the Ministry of Energy and Mining, as a sign of support to the project and potential investors and as a measure of the acceleration of the project implementation, precluding unnecessary disputes and reducing costs.

Source: study of hydro potential of Serbia and solving the problem of construction of small hydro power plants (Byrne, CINS, Cekor)