Performance assurance of the re-applying project documentation

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Abstract. Usage of the re-applying project documentation is cost effective measure. Saving of budgetary funds for purchases for development of new project documentation occurs by means of it. It also becomes possible to consider better decisions and prevent the repetition of mistakes. Nowadays, state authorities in construction management are forming separate institute for re-applying project documentation. The article shows the main tasks of such events and the issues to be solved for achievement of a high positive result.

1. Introduction

The concept of generic design documentation was modernized and new meanings were put into it according to the amendments which were itemized to the Town-planning Code of Russian Federation in 2016. Nowadays, Institute of the re-use of re-applying project documentation with new rules begins to function. In order to ensure these processes, creation of the Unified State Register of expert opinions on project documentation is assumed. The idea laid down in the law assumes that the repeated application of project documentation by construction activity participant in designing of the construction object will not require a secondary government expert review of those sections of it where no changes have been recorded. But this procedure will be applied only to the projects, information on expert opinion on which is contained in the register of expert opinions. At that, creation of the effective mechanism for re-application of project documentation requires solution of the many organizational and other tasks.

2. Materials and Methods

In the past, project documentation was developed for specific capital construction object. If the necessary changes were not made to the project documentation, it caused the impossibility of its re-application for construction of a new object. Register of standard projects included information on project documentation only for residential and administrative buildings, social and cultural and community facilities (cultural, educational, health care, sport facilities and buildings, etc.), which was recommended for mass re-applying at creation of objects of capital construction at the expense of means of the federal budget.

Under the new rules approved by the Government of Russian Federation in 2017, list looks beyond the project documentation, prepared only for the specified categories for the objects of capital construction. Moreover, now its application is mandatory for the executive authorities and government customers. Re-applying project documentation is considered economically efficient. It connected with the fact that this documentation has undergone a serious examination and, among other things, it shows
economic effects which will ensure construction object in the process of its operation. More attention is now paid to the savings of funds at the stage of exploitation.

So, it was decided that the list of economically effective re-applying project documentation, which includes in the Unified State Register of expert opinions on project documentation of objects of capital construction (EGRZ), will be continuously expanded for the development of the new institute. Respective provisions will take effect from May 4, 2017. Considering that implemented innovations have systematic character as a whole, changes that occurred in the regulatory documents have made a number of new definitions and terms. For the first time there were put such concepts as: "re-applying project documentation", "cost-effective re-applying project documentation", "modified project documentation", "Unified State Register of expert opinions on project documentation of objects of capital construction" (EGRZ).

New rules for selection of the re-applying project documentation were formed and finalized for the improvement of the quality of development and application of project documentation. As a result, project documentation will be admitted as cost-effective and permissible to re-application if there is a positive conclusion of the state examination and correspondence to the approved criteria. There are following among them: a) estimated cost of the project should not exceed the estimated (marginal) cost of construction (construction price normal’s); b) object of capital construction must also have a class of energy efficiency not lower than class "C". After receiving of the conclusion, documentation that satisfies the requirements must necessarily be entered in EGRZ and the next state customer of such an object will be able to re-apply it. According to the law (368-FL), exclusive right on this documentation must be transferred to the Russian Federation.

Register of such documentation must contain a number of mandatory data for possibility of usage of the re-applying project documentation for their own purposes. This is the basic information, power, sketch decisions for every project. Experts and practitioners expect that the usage of the projects from register will serve as one of the tools for improvement of the effectiveness of budget expenditures for capital construction in the public sector of the economy [1].

Considering the mass of the positive moments, which entails the development of the institute of re-applying project documentation, it should be noted that it is necessary to form the instruments which will ensure the functioning of the new mechanism. Essentially, outcome of new ideas depends on it. At that, there are no ready-made solutions yet. The main issue is the quick reception of the latest data on the projects where the volume of materials is quite big. Paper materials were basic format of the project documentation in the past. They passed state expertise, and the state examination bodies accumulated all the basic information.

Modern technologies and computations allow to keep and accumulate unprecedented data sets and are extremely necessary for solution of the modern problems. Notably, the development of the corresponding technologies served as the basis for the rethink of the approach to the work with project documentation which passes through the state bodies. Previously, a large array of materials in paper format just did not allow to apply some of the developments with any high degree of dispersal of participants and speed of access to information.

Now, information technologies and necessary infrastructure allow not to pay attention to the issues of the volume of data, the degree of remoteness of the parties which exchange the materials, the cost of transfer (transportation) of the project materials.

Fundamentally, issue of work with information is being solved as follows. Total degree of readiness to the examination in electronic form in the first half of 2017 was declared by 83 regional expert organizations which have the authority to review project documentation with funding from the federal budget. At that, due the requirements of the law, from 01.01.2017 all the regions must organize submission of project documentation in electronic form. On the basis of information provided by the regions [2], it follows that the work on the organization of the submission of project documentation in electronic form is organized in almost all regions. Thus, collection of the project documentation gives all the grounds for its placement in a single database with subsequent repeated application.
3. Results
Considering the appearance of the new requirements and technical possibilities for work with project documentation, where state funding is present, the feedback system also needs to be developed. The Ministry of Construction points out the necessity of the timely reporting on delegated authorities in the field of organization and performance of the state expertise of project documentation, and issued state expert opinions in terms of capital construction projects for which the project documentation was prepared. This information is required for the purposes of quality improvement of the control functions execution by the Ministry of Construction of Russian Federation and formation of the database on the of analogical projects prior to putting into effect and filling the relevant Unified State Register of expert opinions on project documentation of objects of capital construction (EGRZ). According to the information of the Directorate-General for State Environmental Review of the Russian Federation, Service for the collection of reports on the transferred powers in the field of implementation of state expertise of the project documentation is functioning on the website of the examination bodies from February 28, 2017. As of April 25, 2017, activity in the Reporting Service was recorded in 79 regional expert organizations [4]. 58 regional expertise’s reported fully, 20 organizations loaded an incomplete set of reports. 6 regional expert organizations did not informed about the transferred powers [5]. Thus, the organized work on the examination in electronic format allowed to solve two questions: first is to increase speed and efficiency of interaction of the expert organization with existing clients. Second is to ensure the continuous accumulation of all project documentation which passes through the state expertise, with which it will be possible to work with any degree of specification in any place, in any time and for any subject, who has the necessary permissions and rights. Array of data, which will be accumulated in the result of well-established work of the bodies of expertise will entail certain work on the technical support of the processes of transmission and collection of information. Outcome of new ideas creation of the data center will be necessary. Data Center is the new modern type of infrastructure, which is a specialized building for hosting server and network equipment and connection of the subscribers to the channels of the Internet network. Data center has the functions of processing, storing and disseminating of information, usually in the interests of corporate clients. Thus, it is focused on solution of the business problems through the assignment of the information services. Consolidation of computing resources and data storage media in the data processing center allows to reduce the total cost of ownership of the IT infrastructure at the expense of the possibility of effective use of technical means, for example, redistribution of loads and retrenchment of the administration costs [4]. Data centers are created where there is the proximity to the communication nodes, or there is a point of presence of one or more communication operators. Quality and bandwidth of channels do not affect the level of provided services. The main criterion for assessment of the quality of work of any data center is the availability of the server (uptime). Availability of reliable sources of electricity is also important. Based on the above, it can be seen that the technical support of the processing of project documentation is not a simple task. But it is expected that availability of specialized companies that have experience in creation of the data centers allow to solve all the technical issues. Nowadays, design and construction of data centers is a well-studied area. At that, filling of data centers with relevant, reliable information which is actual for the construction industry will be the main task which must be solved independently by the Ministry of Construction of the Russian Federation and state expertise bodies.

4. Discussion
Requirements for construction objects change constantly [6] Multiple application of project documentation is not possible without its review and adaptation to the modern conditions. New institute will not bring the expected result without consideration of this. From there, following important issues can be singled out:

1) re-application of project documentation requires renewal of knowledge’s on the costs of construction resources. Inflation and other factors do not allow to focus on the once established price level in the cost sheets;
2) re-application of project documentation requires review of applying estimated norms and rates. Modern technical achievements and other factors lead to change in the labor intensity of work, effectiveness of mechanization of construction, etc., that is directly affects on the results of the same, but executed in the different time, works;

3) identification and integration of different innovations which appeared from the moment of the inclusion of reviewed project documentation in the register and other factors.

As a consequence, projects stored in the data center must have an informational entry points with actual cost of the construction resources, which are available together with all the stored project documentation. Points of entry are also necessary for comparison of the applicable estimate norms and rates. Finally, it is necessary to consider the possibility of assessment of the impact of new innovative solutions. Algorithm of information processing and preparation of the project documentation to re-applying is shown on the figure 1.

![Algorithm of application of the re-applying project documentation.](image)

Figure 1. Algorithm of application of the re-applying project documentation.

In the author's opinion, it is the formation of conditions for application of the re-applying project documentation according to the regulations of the presented algorithm is a prerequisite for the achievement of the desired result

5. Conclusions
According to the presented algorithm, application of the project documentation in multiple mode requires monitoring of its condition with the help of strictly calibrated algorithms. The subject of verification is not only the cost of construction, but also how actual are different economic solutions. One of the most important issues in the application of project documentation in the future is consideration of the achievements in science and technologies and prevention of the copying of obsolete project solutions. In this regard, totality of problems on realization of the institute of the re-applying project documentation requires serious organizational arrangements and formation of effective tools from the state sectoral management bodies.

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