

Legal Aspects of Implementation of Megascience Projects in Russia

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Abstract—The article identifies key problems of the legal regulation of the implementation of megascience projects in Russia. The authors believe that only a balanced legal framework with coordinated norms of different branches of law will lay the foundation for successful construction and operation of unique large scientific facilities.

Keywords: megascience facility, unique scientific facility, international research infrastructure, legal regulation, PIK, NICA, CERN

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INTRODUCTION

The development of any society in the post-industrial era is closely linked to scientific and technological progress. The goal of Russia's scientific and technical development, as set out in the Scientific and Technological Development Strategy of the Russian Federation, is to ensure the independence and competitiveness of the country by creating an efficient system for building up and using the nation's intellectual potential [1]. International scientific and technological cooperation and international integration in the field of research and technological progress have become key priorities for the development of Russian science [1].

One of the ways to implement the state policy in the area of infrastructure is to support the construction and development of unique “megascience” facilities and large-scale research infrastructure [1]. Currently, there are six megascience projects in Russia in different stages of implementation: the PIK Scientific and Research Reactor Complex at the Konstantinov Petersburg nuclear physics institute (PNPI) of the National Research Centre “Kurchatov Institute” (NRC “Kurchatov Institute”) in Gatchina; the Nuclotron-Based Ion Collider Facility (NICA) at the Joint Institute for Nuclear Research in Dubna; the fourth generation Special-Purpose Synchrotron Radiation Source (SSRS-4) at the NRC “Kurchatov Institute”; the Exawatt Center for Extreme Light Studies (XCELS) at the Institute of Applied Physics of the Russian Academy of Sciences in Nizhny Novgorod; the Super Charm-Tau Factory STC at the Budker Institute of Nuclear Physics in Novosibirsk; and the IGNITOR fusion project at the NRC “Kurchatov Institute” in Moscow. Russia also collaborates on a

number of major European projects, such as ITER, CERN, FAIR, XFEL, and also the International Space Station.

Nevertheless, although the construction and operation of megascience facilities is extremely important, the Russian legal framework for such international scientific cooperation is still in its early stages of development. There is no unified set of rules for determining legal forms of international cooperation, the status of a project participants (scientists, scientific institutions and states) or forms of financing [2]. A megascience project is not only a unique research infrastructure that gives fundamental scientific and applied results; it is also a problem for any state in determining an adequate model of legal regulation. Russia is no exception.

THE CONCEPT OF MEGASCIENCE PROJECT. APPLICABLE LEGAL FORMS

The first issue to be noted is that Russian legislation does not define a megascience project. However, this term is widely used in normative legal and political acts (for example, in the Strategy for the scientific and technical development of the Russian Federation). Russian legislation defines a “unique scientific facility” [3] as “a complex of scientific equipment that has no analogues in the Russian Federation, functions as a whole and is designed by a scientific organization and/or educational organization in order to obtain scientific results that cannot be achieved using other equipment”. This definition of a “unique scientific facility” is not limited exclusively to megascience projects, and the criteria for defining a megascience project are unclear from the legal point of view. Foreign states use different criteria to define the term mega-

science project [4]. Usually it is a very expensive, long-term and technically unique facility for achieving groundbreaking results, based on international cooperation, but the details of the definitions differ.

We consider it important to set criteria for defining megascience projects, since clear identification criteria are a prerequisite for creating an effective legal mechanism for the construction and development of these unique large-scale scientific facilities. A megascience project is usually not a one-state project, but involves international cooperation. Thus, the best decision may be a definition that will be accepted around the world. Soft-law regulations for large international research infrastructures do exist. Therefore, the relevant documents of the Organisation for Economic Cooperation and Development may be useful for elaborating the definition of megascience in Russian legislation [5, 6].

The second key problem in the implementation of megascience projects in Russia is the lack of a unified approach to determining the applicable organizational and legal models. Analysis of the current legislation of the Russian Federation reveals three possible organizational and legal models for a megascience project in Russia: as a structural subdivision of the base scientific organization, the creation of a separate legal entity and the creation of an international intergovernmental organization [7]. All of these models have advantages and disadvantages and involve different legal constructs, including forms of financial support, administrative regulations, taxation issues, etc. Each megascience project is usually unique and the applicable legal form should be chosen based on the key characteristics of the specific project. However, there still needs to be a clear understanding of which form is preferable in a given situation and why.

STRUCTURING INVESTMENT IN MEGASCIENCE PROJECTS

Megascience projects are always “mega” expensive and require funding from different stakeholders. Russia’s participation in megascience projects inevitably leads to federal budget spending [8]. Different legal forms of megascience projects require different forms of budget allocations under Russian budget legislation: for example, the legal form of investment depends on whether project involves creation of Russian legal entity or international organization. Unfortunately, existing rules do not always allow determining the correct form.

Megascience projects mean more than just a scientific facility. They also need a range of infrastructure nearby: roads, utilities, different types of accommodation, education and healthcare facilities, etc. public-private partnership (PPP) can be regarded as one of the most flexible and promising tools for raising private investment, at least in this supplementary infra-

structure. There are different definitions of PPP, but in this article, we suggest to consider the concession agreement [9] and the public-private (municipal-private) partnership agreement [10] as models of PPP. Unlike other forms of private co-financing of public infrastructure, PPP usually provides the public partner with many more intervention tools and bargaining chips, with much greater control over the performance of the agreement, and with the possibility of transferring (keeping) the facility to the private partner (under a PPP agreement) or leaving the facility in state/municipal ownership (under a concession agreement). In addition, PPP makes it possible to structure the creation of the facility and its operation by the private partner more flexibly, effectively allocating responsibilities for operation of the infrastructure and its maintenance.

In Russia, the mandatory elements of the concession agreement are: construction/reconstruction of the facility (except for information technologies) by the private partner (concessionaire), full or partial financing of the construction and operation of the facility by the private partner, the public partner’s (concessionaire’s) ownership of the facility, granting the private partner the right to own and use the facility for its operation, and operation of the facility by the private partner during the term of the concession agreement.

Under PPP agreements, the private partner can just maintain (without operating) the facility, which in this case is transferred to the public partner for possession, use and operation. However, the private partner should hold ownership title (at least during the period stipulated in the agreement). As in the case of concessions, it is the private investor who should be at least partly responsible for financing the creation of the facility. This indicates that PPP is an alternative mechanism for attracting private investment in public infrastructure.

Unfortunately, there is a clear disbalance between Russia’s need for economic and innovative development and the quality of PPP legislation [11]. It is important to emphasize that PPP can be used only for specifically mentioned types of facilities, and the main facilities that make up a megascience facility are not covered by the Russian PPP legislation. Only supplementary infrastructure (yet except for accommodation) can be covered by PPP mechanisms if the state finds PPP models appropriate for certain projects. No doubts, the Russian PPP legislation will have to be amended in order to use PPP for core megascience infrastructure.

ADMINISTRATIVE REGULATION AND CUSTOMS ISSUES

The legal framework for implementing megascience projects in Russia has also a number of administrative regulation issues.

The first such administrative regulation issue is the model of state involvement in a megascience project. Since the state does not participate directly in the project, the current research typically describes the status of the state in the project, namely, the preferred institutional-legal form [4, 12]. In practice, the question may arise of who will be responsible for approving the constituent documents if a legal entity is created. The choice of legal form also exacerbates the problem of establishing the limits of liability – full or limited, of the state or established company.

The second administrative issue is the need to create a special administrative body with coordination power. We believe that such a body will cooperate with administrative bodies (the Ministry of Finance of the Russian Federation, the Federal Customs Service of the Russian Federation, the Federal Antimonopoly Service, the Ministry of Science and Higher Education of the Russian Federation), and therefore effectively and promptly make decisions on the creation, functioning, and maintenance of the facility.

The third administrative issue is the exclusiveness of administrative regulation, namely, whether or not there will be any exceptions. For example, what is the procedure for licensing and obtaining other special permits: general or special? How will the presence of foreign citizens (scientists) in Russia be regulated? (For example, foreign scientists who come to conduct their research using the installation.) Will the procedure be a general or a special?

International collaboration is needed to construct and operate a megascience facility. Thus, customs issues arise as goods are imported and exported as part of the working process. It is difficult to predict what materials and equipment will be requested by foreign scientists. However, it is already clear that goods will inevitably have to be moved across the customs border. In this regard, it should be borne in mind that Russia is a member of the Eurasian Economic Union (the EAEU), and the Union implements a single customs regulation in accordance with the EAEU Customs Code and the acts constituting the law of the Union [13]. This means that it will be necessary to prepare an international treaty within the Union. The treaty will become the basis for the development of Union's law governing the movement of goods. Regulation will correspond to the significant scientific value and uniqueness of scientific research in the framework of the megascience project.

LABOR LAW. ETHICAL ISSUES

Megascience projects also present a number of labor-law issues. These issues, as a rule, are related to the status of foreign scientists, both those who work at the megascience facility on a regular basis and those who visit the facility for conducting short-term research. The issues to be discussed concern the legal basis for conducting research and include questions such as whether highly-skilled workers are hired under the labor law rules, or the work involves secondment from another organization. The legal grounds for access to the installation, non-disclosure, the right to participate in management, etc., will be different depending on the answers to these questions.

Finally, it is worth mentioning the ethical and legal problems of conducting research in Russia. The operation of megascience facilities has the technological effect of possibly developing new technologies in medicine, pharmaceuticals, biology, etc. At the same time, Russian national legislation may set stricter rules for conducting genomic research and creating biomedical cell products than international legal norms and other jurisdictions. On the one hand, it is necessary to protect the interests of the Russian Federation, and on the other, there is the attractiveness and possibility of conducting the relevant scientific research in the Russian Federation. A related issue is the control over the ethical aspects of conducting this kind of research.

CONCLUSIONS

There are many important effects of creating and using modern research infrastructure in the form of megascience facilities. There is a scientific effect of generating new fundamental knowledge. The technological effect is the creation and development of technologies in various areas of the economy. A social effect comes from the creation of new jobs, competitive infrastructure and an environment that meets modern standards of scientific research. The development of transport, energy and technological infrastructure of the area concerned constitute an economic effect. And, finally, the consolidation and development of intellectual and infrastructural resources exerts a strategic influence, since Russian science and education retain their positions in the global knowledge and technology market.

In order to achieve these positive results from the implementation of megascience projects, a balanced legal framework must be established in Russia: a framework in which the rules of different branches of law are coordinated, including civil, budget, administrative, labor law and others. It is also necessary to take into account the rules of international treaties and peculiarities of the national legislation of Russia's partners in the megascience projects.

REFERENCES

1. *On the Scientific and Technological Development Strategy of the Russian Federation* (Executive Order of the President of the Russian Federation of December 1, 2016, No. 642) [in Russian]. Accessed December 1, 2019.
2. M. Moshkova and D. L. Lozovskij, *Courier of the Kutafin Moscow State Law University (MSAL)* 7, 41 (2019). <https://doi.org/10.17803/2311-5998.2019.59.7.034-041>
3. *On Science and State Scientific and Technical Policy* (Federal Law of August 23, 1996, No. 127-FZ) [in Russian]. Accessed December 1, 2019.
4. A. O. Chetverikov, *Legal Sci.* 1, 14 (2018).
5. *Establishing Large International Research Infrastructures: Issues and Options* (Global Science Forum of Organisation for Economic Co-operation and Development (OECD), 2010). <http://oecd.org>. Accessed December 1, 2019.
6. *International Distributed Research Infrastructures: Issues and Options*. (Global Science Forum of Organisation for Economic Co-operation and Development (OECD), 2014). <http://oecd.org>. Accessed December 1, 2019.
7. D. L. Lozovskij, *J. Phys.: Conf. Ser.* 1406, 012016 (2019).
8. *On the Approval of the State Program of the Russian Federation "Scientific and Technological Development of the Russian Federation"* (Russian Government Decree of March 29, 2019, No. 377) [in Russian]. Accessed December 1, 2019.
9. *On Concession Agreements* (Federal Law of July 21, 2005, No. 115-FZ) [in Russian]. Accessed December 1, 2019.
10. *On Public-Private Partnership and Municipal-Private Partnership in the Russian Federation and Amending Certain Legislative Acts of the Russian Federation* (Federal Law of July 13, 2015, No. 224-FZ). [in Russian] Accessed December 1, 2019.
11. V. V. Kilinkarov, *Vestn. S.-Peterb. Univ., Pravo* 10, 210 (2019). <https://doi.org/10.21638/spbu14.2019.202>
12. A. Chetverikov, *Lex Russica* 7, 141 (2019).
13. *Treaty of the Eurasian Economic Union* (May 29, 2014). Accessed December 1, 2019.