

Influence of "Excessive Standards" in Construction on Efficiency of the Residential Real Estate Development

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Abstract

The article demonstrates, that timely updating of the regulatory base in the investment and construction industry is an indispensable condition of its sustainable development, influencing terms, quality and cost efficiency of development projects and housing and utilities services. Authors break up the current construction standards on the following categories illustrated by examples: obligatory - requiring revised modern edition or no changes at all, excessive – advisory to be transferred from mandatory to recommended or cancel, and insufficient or absent – requiring to be strengthened or re-introduced at the legislative level. As a result, authors come to conclusions that process of revision of construction standards and regulations just started and results leave much more to be desired. Currently the transfer of many mandatory norms into recommendation is continued. Experts neglect a number of construction standards and regulations which need not to be eased up, but revised, changed, and sometimes strengthened both to raise the efficiency of development activity, and in favor of the end-consumer.

Key-words: Legislation, Construction Standards, Residential Real Estate, Development.

1. Introduction

The term of implementation and the quality of the development project play an important role in investment and construction activities, depending in its turn, among other things, on the technological processes in construction and pertaining regulatory documents.

In recent years, the regulating documentation in construction endures major changes. First of all this is due to the National project "Housing and Urban Environment" the key goal of which is to provide affordable housing for middle-income families, including creating opportunities for them to purchase (build) housing using a mortgage loan, increasing volume of residential construction,

improving comfort of the urban environment, creating a mechanism for direct participation of citizens in formation of a comfortable urban environment, ensuring steady reduction of inadequate accommodation stock [1].

Due to the improvement of the regulatory and technical base, 70 fundamentally new documents on standardization in the field of facility management, information modeling technologies, high-rise construction, urban planning and landscaping, industrial parks and industrial clusters, residential buildings with the use of wooden structures, and so on have been developed and implemented in recent years.

The Ministry of Construction, Housing and Utilities of the Russian Federation also introduced new practice of development and updating of regulatory and technical documents in the field of design and construction, in many respects – thanks to the corresponding order of the President.

For the first time the need to radically reduce of mandatory construction standards and regulations was noted by the Russian President V.V. Putin on May 15, 2020 at a meeting on the construction of the Ministry of Defense medical centers for treatment of COVID-19 patients [2]. And immediately, the Government's work in this direction was widely supported by the professional community of developers and other participants in housing construction, as well as experts, scientists and even interested active citizens.

However, according to developers of multi-apartment housing, some "excessive" standards will still remain and will negatively affect the quality of construction, quality of life, as well as prices — housing for the average buyer will become more expensive

The state as the regulator and the major participant of the residential construction sector fully agrees on this issue with institutional market participants and citizens. Recommendations and mandatory requirements on behalf of the President will continue to be revised in such a way as to become more comfortable for the construction sector – this is what the relevant departments, scientific organizations and the general professional community are currently engaged in.

2. Research

The Ministry of Construction, Housing and Utilities of the Russian Federation already developed the updated list of mandatory requirements for the safety of buildings, which propose to abolish excessive standards and their duplication. A draft Government resolution is developed on behalf of Deputy Prime Minister of the Russian Federation Marat Khusnullin and published on November 17, 2020 on the federal portal of draft regulatory legal acts [3]. It is assumed that the relevant resolution will enter into force on July 1, 2021. Thus, the list will be reduced by another 153 points.

At the same time, in our opinion, improving the efficiency of development of multi-apartment and individual housing shouldn't be limited to the regulation of "excessive" construction standards. There is a number of construction standards and regulations which need not to be eased up, but revised, changed, and sometimes tighten up (or new restrictions introduced) both to raise the efficiency of development activity, and in favor of the end-consumer.

Fundamentals of technical regulation in construction. Technical regulation and standardization are social mechanisms ensuring the safety of inhabitants of the planet and exists in all countries and integration associations.

Technical regulation includes the following:

- a) the establishment by the state of mandatory technical requirements for products;
- b) the standardization, i.e., ensuring uniformity and compatibility of products for their best use.

To ensure compliance with the requirements of the Federal Law "Technical Regulations on the safety of buildings and structures" [4] on a mandatory basis from 01.08.2020 the Russian Federation Government decree of 04.07.2020 N 985 "On Approval of the list of National standards and Codes of Rules (parts of such Standards and Codes of Rules), as a result of application of which on a mandatory basis, compliance with the requirements of the Federal Law "Technical Regulation on safety of buildings and structures" and on the annulment of certain acts of the Government of the Russian Federation" (hereinafter - List 985) [5], which replaced the Russian Federation Government decree of 26.12.2014 N 1521 "On Approval of the list of national standards and Codes of Rules (parts of such Standards and Codes of rules) as a result of application of which compliance with the requirements of the Federal law "The Technical Regulations on the safety of buildings and structures" (hereinafter - List 1521) came into force [6].

General comparative analysis of Resolutions of the Government of the Russian Federation of 26.12.2014 N 1521 and of 04.07.2020 N 985.

The above-mentioned Resolutions of the Government of the Russian Federation approve an equal number of documents, 78 pieces each. Thus, we can draw a conclusion that the general regulation in terms of the volume of documents has not changed.

On the one hand, this is good as it doesn't allow to impose additional administrative burden on business, given the period and consequences of the COVID-19 pandemic and the economic crisis, and on the other hand, in some positions the participants of construction community and state structures need more precise legal regulation in order to avoid lawsuits about certain decisions or disputes of economic entities.

So, for example, engineers had many questions about the quality, volume and legal regulation of engineering survey, however the new set of rules, for example, the SP 446.1325800.2019 "Engineering-geological surveys for construction. General rules of work" didn't enter the new list.

Also, the issue of information model using, which will be relevant in the nearest future, is not covered. For example, SP481.1325800.2020 "Building information modeling. Application rules in cost-effective reuse design documentation and when it is linked" is not included in this list.

For example, I didn't enter this SP481.1325800.2020 list "Information modeling in construction. Rules of application in the cost-effective project documentation of reuse and at its binding".

One of the issues that is resolved in the Order of Federal Agency for Technical Regulation and Metrology (Rosstandart) of 02.04.2020 N 687 "On approval of the list of documents in the field of standardization, as a result of the application of which on a voluntary basis compliance with the requirements of the Federal Law of December 30, 2009 N 384-FZ" Technical Regulations on the safety of buildings and structures " [7] is not resolved in the List 985. So, in particular, it includes a fairly large number of codes of rules given in revised edition without reference to the changes made, for example, SP15.13330.2012 "Construction Norms and Regulations (SNiP) of II-22-81 * "Masonry and reinforced masonry structures", SP24.13330.2011 "SNiP 2.02.03-85 "Pile foundations", etc.

Also, it is worth paying attention to the fact that List 985 contains a note regarding the mandatory nature of any given document (its paragraphs), similar to previously valid note from List 1521: "regulatory documents (parts thereof) which are referenced in national standards and codes of rules (parts thereof) included in this list, are applied on a mandatory basis if the regulatory documents (parts thereof) are contained in this list".

At the same time quite a lot of documents are given in the new version (more than three dozen Codes of Rules and National State Standards (GOST) are contained in the updated version). For example, Code of Rules (SP) 20.13330.2016 "SNiP 2.01.07-85 * "Loadings and influences", Code of Rules (SP) 30.13330.2016 "SNiP 2.04.01-85 * "Internal plumbing and sanitary of buildings", etc.

Previously included Codes of Rules have undergone certain changes in terms of the volume of items that have become mandatory.

It is impossible to say that the regulation has definitely become softer. For example, quite a lot of provisions are excluded from GOST 27751-2014 " Reliability of building structures and foundations. Basic provisions", Codes of Rules SP24.13330.2011 "SNiP 2.02.03-85" Pile foundations " in terms of calculations. Fixed forms of reports on the results of surveys in GOST 31937-2011 " Buildings and structures. Rules for inspection and monitoring of technical condition" are removed.

The rules concerning the regulation of the use of materials, the use of which is currently irrelevant, are excluded.

The provisions on the use of various materials were added to the number of mandatory requirements in SP15.13330.2012 "SNiP II-22-81* "Masonry and reinforced masonry structures".

The requirements earlier mandatory, but simultaneously being of recommendatory nature, are excluded. So, for example, from the mandatory requirements in SP118.13330.2012, the paragraph containing the recommendatory norm was excluded: "Ventilation chambers, shafts and engine rooms of elevators, pumping stations, engine rooms of refrigeration units, heat points and other rooms with equipment that is a source of noise and vibration, as a rule, should not be located adjacent, above and below the auditorium and rehearsal halls, stages, sound equipment, reading rooms, wards, doctors' offices, operating rooms, rooms with children staying in children's institutions, educational institutions, etc. premises, working rooms and offices with permanent residence of people, living rooms located in public buildings." The rules duplicating the similar ones from other documents are excluded, for example, from the same Code of Rules the norm that allows to set up rooms for preschool children groups in educational institutions of other types (apart from preschool) if they have rooms that meet the requirements of Sanitary Rules and Regulations (SanPiN) 2.4.1.3049. is excluded. At the same time, SanPiN 2.4.1.3049, as well as any similar documents, are regulatory legislative acts and are valid in any case, regardless of the lists, by virtue of Article 1 of the Federal Law of 30.03.1999 N 52-FZ " On Sanitary and Epidemiological Welfare of the population" [8].

The influence of technical regulation on the efficiency of development and housing and communal services.

The provisions of regulatory documents in construction, for the most part, are based on reference projects, and do not correspond to current realities. On the other hand, regulatory documents are the basis for ready-made solutions that one can appeal to and quickly design based on them. If the standards are removed you will have to form certain committees each time to calculate each project anew, from scratch, in order to coordinate it. This will substantially increase the examination time and its cost, leading to an increase in the terms of the investment project.

In our opinion, ideally, the standards in design and construction should turn into a continuously updated standard that can be developed through research and development work as part of business and premium class projects, since they can afford to study new technologies and materials at the expense of the cost estimates of projects.

The developed codes of rules and other types of regulatory documents have to be validated by building standards, i.e., from the point of view of the state experts to provide reliability of designs and other project solutions. For investors the standards should ensure the economic feasibility of projects, for consumers - to provide for the comfort of the final product, for executives and the facility management companies – increase the efficiency of working with facilities.

It is advisable that a group (groups) of designers should be constantly working on this taking into account the proposals of professional communities of developers and other participants in the housing market, including, of course, the residents themselves.

Perhaps, when using ready-made series (standard projects), it is advisable to exempt the project documentation from passing the examination, because the building fully complies with the already developed standards.

However, one of the main problems of the current regulatory documents in construction is that many paragraphs still contradict each other and are based on old practices of planning and development of areas, as well as object design.

3. Analysis of the feasibility of mitigating and maintaining mandatory building codes from the point of view of development.

Garbage chutes: pros and cons for residential real estate development.

Let us consider the SP54.13330.2016 "Multi-apartment residential buildings". Revised edition SNiP31-01-2003 [9]. According to paragraph 9.32, "the need for a garbage disposal system in residential buildings up to and including four floors is determined by the customer in coordination with local authorities and taking into account the waste disposal system adopted in the local settlement." In newly constructed and reconstructed multi-apartment buildings with a floor height of five floors and above, garbage chutes should be provided in accordance with the requirements of SanPiN 42-128-4690."

The garbage chute belongs to the common property of the owners of the premises in a multi-apartment building. This means that the managing company should provide services and carry out work on the maintenance and repair of the garbage chute.

In p. 14, sec. 2 Decree of the Government of the Russian Federation No. 290 of 03.04.2013 "On the minimum list of services and works necessary to ensure the proper maintenance of common

property in a multi-apartment building, and the procedure for their provision and performance" [10] provides a list of works performed by the managing company in order to ensure the proper condition of garbage chutes in multi-apartment buildings:

- check of the technical condition and functionality of the garbage chute pieces;
- immediate unclogging when blockage detected;
- cleaning, washing and disinfection of the access openings of garbage chutes, the garbage collection chamber and its equipment.

If damage to the garbage chute and malfunctioning are detected, the managing company should develop a plan for repair works, and then fix the problem.

During the St. Petersburg International Economic Forum – 2019, the head of the Moscow Department for Environmental Management and Protection said that by 2022 a garbage separation system will be implemented throughout the capital [11]. Taking into account the fact that separate garbage collection is gaining more and more popularity, the opinions of residents are divided. There are those who insist on having a garbage chute as a comfortable option, which they do not want to give up. And there are those who give priority to environmental awareness and waste separation [12].

Let us consider the arguments against the installation of garbage chutes in residential buildings. The first argument against it, one of the main deficiencies of the garbage chute is dirt. Often, the access openings with containers for garbage disposal are too small and some of the sewage falls out not into the garbage chute itself, but next to it. Unscrupulous residents do not hurry to clean up after themselves at the "latrine", preferring to leave it to municipal employees. Also, clogs occur quite often in the garbage chute, accumulating waste there. And the garbage collector itself, located on the ground floor, can hardly be called a clean place.

The second argument against the garbage chute is insanitary conditions. An exclusion zone appears on the floor, where dirt and unpleasant odors may accumulate. No matter how careful the residents are, something will still spill, not fit in a small access opening and fall out. Accordingly, buildings with garbage chutes more often welcome rats and cockroaches, and it is difficult to disinfest them. No wonder, that in the old Stalinist buildings the garbage chutes installed directly in the apartments were almost everywhere welded.

The third argument against it is that a container with garbage in the technical room on the 1st floor is a source of increased fire hazard. Waste is dumped in garbage bins installed in a special room on the ground floor of the building. And there are quite a few cases of pipeline combustion and fire spreading through the floors.

The fourth argument is that residents have to pay monthly for the garbage chute. The cost of garbage removal is included in the maintenance tariffs. This tariff in Moscow has increased since January 1, 2021 and in high-rise buildings with an elevator, but without a garbage chute, is 29.43 rubles per square meter of apartment living space. While residents of the similar buildings equipped with a garbage chute have to pay 31.89 rubles. It turns out that the maintenance of the garbage chute is more expensive by 2.46 rubles per square meter. For a two-bedroom apartment with an area of 70 sq. m monthly payment for the garbage chute will be 172.2 rubles, regardless of whether the tenant uses it or not.

The fifth argument - from the point of view of the developer of multi-apartment housing - the abandoning of garbage chutes in residential buildings allows you to optimize the floor plans and increases the useful area of the building. The vacant space can be used as a storage area for strollers or bicycles. Also, the absence of a garbage chute slightly reduces the cost of construction, and improves the economy of the project as a whole. According to experts, the demand is absolutely the same — both for houses with a garbage chute, and without it.

Then we will consider the positive arguments for the installation of garbage chutes in residential buildings. The main advantage of the garbage chute is comfort. That is why many residents are unlikely to want to abandon it, even if the garbage disposal system does not stand up to any criticism in terms of sanitary standards.

For many pensioners and persons with limited mobility a walk to garbage containers is often a backbreaking effort.

The garbage chute is a real salvation for them. In addition, modern technologies allow to cope with both odors and insanitary conditions. For example, during total building renovation, the trunks of garbage chutes are replaced with new ones having special brushes inside covered with a disinfectant solution.

However, taking into account the abovementioned negative arguments, in our opinion, the most optimal solution today is underground garbage containers. In Russia, they are just started being installed.

Entrance tambour: pros and cons for the development of residential real estate.

A tambour is a passage space between doors that serves to protect against the penetration of cold air, smoke and odors at the entrance to a building, stairwell or other premises. Its main function is to reduce heat loss. A small closed room in front of the entrance door, usually at least one and a half

meters deep, serves as a kind of air cushion. Thanks to the tambour, the frosty air does not break into the heated house.

At the same time, in a multi-apartment building, cold air does not immediately enter the apartment, but is directed to the heated stairwell, i.e., it is partially heated when it reaches the apartment. In addition, since there are no heating devices in the tambour anyway, it will not be much warmer than outside. And if you heat the tambour (which obviously contradicts Code of rules SP60.13330.2016 "Heating, ventilation and air conditioning.") [13], then with doors closed on both sides of the tambour, the air temperature in it will rise significantly. Then, when you open the door from the street, the warm air will come out and condense on the outside of the doorway, leading to its icing. If the door is without a door latch mechanism and has a poor fit, the process of condensation of moisture from the warm air flowing to the street will be further enhanced and the outer door will no longer close at all due to ice.

Experts conducted special tests to determine which method is more effective in protecting the room from cold temperatures: a tambour or a special thermal curtain. Although the tambour is still an effective protection tool, however, experiments have shown that for modern buildings, the equipment of the tambour is often more expensive than equipping the room with a thermal curtain. Moreover, the curtains are about 50% more effective if installed at the entrance doors.

As a case-law argument in favor of the expediency of replacing the tambour with a thermal curtain, one can cite Code of rules SP118.13330.2012 "Public buildings and structures" [14], where it is already legally suggested for commercial premises that all external building entrances for visitors to the vestibule and stairwells should provide for tambours at the entrance level with internal dimensions according to Code of rules SP59.13330 "Accessibility of buildings and structures for low-mobility groups of the population (LMGP)" [15] *or the installation of air-thermal curtains according to SP60.13330 [16].*

Thus, the rejection of the vestibule in the entrance groups of entryway of residential buildings will increase the useful area of the entrance group and increase the convenience for LMGP. Therefore, paragraph 9.19 of SP54.13330.2016 "Residential apartment buildings" should be changed from mandatory to recommended.

Installation of air conditioning systems preserving the integrity of the building facade: pros and cons for the development of residential real estate.

The facades of multi-storey buildings, firstly, belong to the common property, and secondly – they are elements of the architectural look of the street and the entire city, i.e., their change is in competence of city architects, thirdly - installation of the outdoor air conditioning unit some experts treat as a redevelopment of the residential premises. Respectively, theoretically speaking, a mandatory

permission needs to be obtained, and not only from local state authorities, but also from all owners of apartments of this multi-apartment building.

However, the installation of air conditioner in the current legislation is not yet included in the concept of "redevelopment of the apartment", i.e., from the point of view of the legislator it does not affect the real estate plan and the safety of the common property.

Obtaining a permit for the installation of an air conditioner is mandatory in the following cases:

- it is planned to install a cooling unit on the front facade of a multi-apartment building;
- the building is an object of historical or cultural heritage;
- installation will be carried out directly above the sidewalks;
- a window air conditioner will be installed.

In cases where it is intended to use a chiller or semi-industrial air conditioner, obtaining a permit is also mandatory.

You can correct the situation with uncontrolled façade changes by developing a design code - an illustrated guidance to the visual development of the space. Such a document is usually developed for a specific city, taking into account the features of architecture and history, the arrangement of streets and squares.

The second way to solve the problem is the possibility provided at the design stage to determine the places where the brackets are installed under the outdoor units or to place them in the places designated by the project for this purpose – special baskets that allow you to preserve the original look of the object without violating the design of the facades. To prevent an act of vandalism on the part of the tenant (installation in the wrong place), you must register this item in the contract with the management company. For example, the Central Park residential complex provides for the installation of air conditioners in recessed balcony (loggia), and this is specified in the contract, which no one violates.

In business class buildings, central air conditioning systems are most often used. The system itself implies the placement of blocks on the roof of the building or on technical balconies and loggias, while the facades do not require any measures for the placement of external air conditioning units. This method of air conditioning is not suitable for projects of the "standard" class, because not all residents are ready to pay for air conditioning, and in this case, the use of a central system becomes unfeasible. However, most users of standard housing still need to exercise the right to install air conditioners in apartments.

Therefore, we are talking about the need for technical and legal support of the right of all residents to install air conditioners without causing damage to the building facades and the housing maintenance in general.

The above stated allows us to conclude that it is advisable to introduce a mandatory regulation that provides for the design for each apartment of the installation brackets for outdoor units or pre-installed baskets for placing outdoor units in compliance with the integrity of the facade. With minimal costs at the design stage, such a solution will increase the liquidity of residential housing, its maintenance safety and transform the look of the city.

Placing stores on the ground floors of multi-apartment buildings: pros and cons for residential real estate development.

Let us consider Code of rules SP54.13330.2016 "Residential multi-apartment buildings" Updated version of SNIIP 31-01-2003 (with changes N 1, 2, 3) [17]. For a long time, it was believed that there should be no residential housing on the ground floors, so developers, almost without looking, allocated them for commercial premises for street retail.

The neighborhood with commercial real estate on the ground floor of multi-apartment buildings often brings residents a great deal of troubles: garbage bins right under the windows, an unpleasant smell, round-the-clock unloading of trucks in the yard, slamming doors, rattling carts and clicking heels on the sales floor. People living on the second and third floors are particularly affected – they are deprived of rest and sleep by loud working refrigerators and air conditioners. The main drawbacks are illegal redevelopments, which result in cracks on the walls, business signs that interfere with their flickering and noise from various sources. In a business-class residential complex, such problems do not arise.

The apartment located within walking distance from the metro station, but above the store is estimated at 20% less than the market value. Only one in ten customers is ready to view an apartment on the second floor. The second floor is considered not particularly attractive from the residence point of view, but all ten customers out of ten are interested in the objects on the third floor. The discount between the apartments on the ground and second floors sometimes reaches 20%, between the second and third floors can be 10-15%, and, respectively, between the ground and third floors - about 30%.

Since the demand for ground floors is a matter of differentiated consumer preferences and depends on many aspects, automatically giving them completely for one purpose - commercial premises or residential housing - is a mistake in most cases. Market leaders prefer to give them a mixed-use purpose: apartments, business and public areas. The main thing is to find the right proportion.

Based on this analysis, one can give findings that the absence of stores in the built-in premises on the ground floors of multi-apartment buildings positively affects the living conditions for residents and the effectiveness of the development project. In this regard, it is advisable to call for the statutory prohibition or for a separate approval procedure of such a city-planning decision as an exception.

4. Discussion

The above given examples are just discussion cases and indicate only that development of urban housing continuously accumulates changes, which historically transform into a new quality: the options and achievements of residential housing initially of a higher class (elite and business), find their cheaper design solution in standard housing, by analogy with the development of the automotive market. Over the past decade, these are premises for concierges in entrances, courtyards without cars (underground parking), improved glazing, pre-designed solutions for air conditioning and much more.

Some of the new design solutions that improve the quality of life, comfort and ecological compatibility of the urban environment, the economy of development and housing and communal services, receive statutorization, but not in full and with a serious delay.

Part of the new project decisions improving quality of life, comfort and environmental friendliness of the urban environment, economy of development and housing and public utilities receive standard fixing, but – not completely and with big delay.

At the same time, the design parameters contained in many current documents have long seemed excessive to specialists. Such problems are widely discussed in the professional environment and in the press. As an example, the "LSR Group" cited SP50.13330.2012 "Thermal protection of buildings". According to calculations by the current standards, not walls, but ventilation systems, roofs, windows, balconies and floors account for 85 percent loss of heat. Accordingly, the excessive tightening of the requirements for the envelope of enclosure of the building leads only to the unjustified use of too much expensive insulation. This, naturally, affects the price per square meter. The paradox is that the savings due to lower heating costs will pay off no earlier than in 35 years term, which significantly exceeds the service life of heat-insulating building materials used for facade insulation [18].

At the same time, there are many obvious shortcomings in the regulatory environment of development and the real estate market. For example, a number of developers cannot sell to customers special parking lots, in which the placement of cars is provided in a chain close to one another (i.e., you can only leave in turn). The legal conflict lies in the fact that the design and construction regulations provide for such places and even strictly recommend them in conditions of a shortage of parking space,

but the Federal Service for State Registration, Cadaster and Cartography does not consider them as independent real estate objects and it is impossible to introduce them into commercial circulation.

In our opinion, the new building regulations could also formalize a number of progressive solutions in various aspects (from the planning of territories - for example, the prohibition of entrances and loading of commercial premises from residential courtyards, to structural and engineering elements, for example - the introduction of loop joints of reinforcement by analogy with those used in the construction of nuclear power plants, the introduction of one-piece plumbing cabins, which reduces the construction time by 30%, and much more.

In addition to technical options, this also applies to the problem of the permissibility of using the resource method of estimated calculations for the introduction of modern materials and technologies at state tender objects, instead of the traditional base-index method since the USSR (in which the approved prices for new materials are simply absent), and other aspects of the system of economic calculations and funding of development activities and facility management (housing and communal services).

5. Conclusions

1. Timely updating of the regulatory framework in construction is a prerequisite for sustainable development and comprehensive efficiency of investment and construction activities. However, the current trend towards multiple casual adjustments to the regulatory framework imposes additional responsibility on participants of investment and construction projects and increases the time required for the preparation and approval of project and executive documentation.

2. The vast majority of developers and construction contractors suffer systemic damage from a set of outdated requirements for design and construction standards, the composition, content and coordination of project documentation, which until now largely rely on Soviet practice.

3. In the last decade, state participation in the planning of the development of standards has been restored, and the return of science to the technical regulation of construction has been ensured. Thanks to applied scientific research from 2016 to 2020, the regulatory framework included more than 120 new parameters, methods, and calculation provisions. In order to reduce the supervisory burden on business, from January 1, 2021, more than a thousand regulatory acts and norms in the field of control and supervisory activities that establish requirements will be replaced with new regulations. At the moment, an active revision of these rules and regulations is being carried out with the involvement of research, expert organizations and a wide range of interested citizens.

4. Nevertheless, there are a number of building codes and regulations that need to be reworked, changed, and sometimes tightened, both in the interests of the efficiency of development activities and in favor of the end-consumer. It is worth noting that these standards exist in many areas of the construction sector.

Thus, the topic of managerial and regulatory development of urban housing construction, including the elimination of excessive regulation and the introduction of new regulations and restrictions, is extremely extensive in terms of a range of aspects (technical, economic, environmental, social, ethical, etc.). A more detailed study of examples of the market and public practice impact on the development of urban residential housing at the regional level, followed by the implementation of useful proposals in the regulatory process, it is advisable to make a systematic and continuous at national scale with the leading scientific role of the SRI Moscow State University of Civil Engineering.

References

Sternik S.G. Improvement of the housing conditions of the population: challenges of achieving the national goal. *Studies on Russian Economic Development*, 2019, 30 (4), p. 434-441.

Opening of the Ministry of Defense medical Centers for the treatment of COVID-19 patients - May 15, 2020 - <http://kremlin.ru/events/president/news/63355>. - Date of access: 16.04.2021.

Draft Resolution of the Government of the Russian Federation " On amendments to the list of national standards and codes of rules (parts of such standards and codes of rules), as a result of which the mandatory application ensures compliance with the requirements of the Federal Law "Technical Regulations on the Safety of Buildings and Structures". - <https://regulation.gov.ru/projects/List/AdvancedSearch#departments=20&StartDate=17.11.2020&EndDate=17.11.2020>. - Accessed 16.04.2021.

Federal Law "Technical Regulations on the Safety of buildings and Structures". - <https://docs.cntd.ru/document/902192610>. - Accessed 16.04.2021.

Resolution of the Government of the Russian Federation of 04.07.2020 N 985 "On approval of the list of national standards and codes of rules (parts of such standards and codes of rules), as a result of the application of which, on a mandatory basis, compliance with the requirements of the Federal Law "Technical Regulations on the Safety of Buildings and Structures "and on the invalidation of certain acts of the Government of the Russian Federation". - <https://docs.cntd.ru/document/565270059/> - Accessed 16.04.2021.

Resolution of the Government of the Russian Federation of 26.12.2014 N 1521 " On approval of the list of national standards and codes of rules (parts of such standards and codes of rules), as a result of the application of which compliance with the requirements of the Federal Law "Technical Regulations on the Safety of Buildings and Structures" is mandatory
<https://docs.cntd.ru/document/420243891/> - Accessed 16.04.2021.

Order of Federal Agency for Technical Regulation and Metrology (Rosstandart) of 02.04.2020 N 687 " On approval of the list of documents in the field of standardization, as a result of the application of which on a voluntary basis compliance with the requirements of the Federal Law of December 30, 2009

N 384-FZ "Technical Regulations on the safety of buildings and structures" is ensured. - <https://docs.cntd.ru/document/564577621/> - Accessed 16.04.2021.

Federal Law No. 52-FZ of 30.03.1999 "On the sanitary and epidemiological welfare of the population". - [https://docs.cntd.ru/document/901729631.](https://docs.cntd.ru/document/901729631/) - Accessed 16.04.2021.

Code of rules SP54.13330.2016 "Residential multi-apartment buildings". Updated version of SNIIP 31-01-2003. - [https://docs.cntd.ru/document/456054198.](https://docs.cntd.ru/document/456054198/) - Accessed 16.04.2021.

Decree of the Government of the Russian Federation No. 290 of 03.04.2013 "On the minimum list of services and works necessary to ensure the proper maintenance of common property in a multi-apartment building, and the procedure for their provision and performance". - [https://docs.cntd.ru/document/499012340.](https://docs.cntd.ru/document/499012340/) - Accessed 16.04.2021.

Separate garbage collection in Moscow will start ahead of schedule from 2020. - [https://tass.ru/obschestvo/6564050.](https://tass.ru/obschestvo/6564050/) - Accessed 16.04.2021.

Safronova, N.B., Urubkov, A.R., Budakov, A.S., Myltsev, INFLUENCE OF SUPPLY AND DEMAND FACTORS AT THE DEVELOPMENT OF ENVIRONMENTALLY RESPONSIBLE HOUSING AND UTILITIES SECTOR IN THE RUSSIAN FEDERATION / N.B. Safronova//Serbian Journal of Management, 11 (2).-2016. - S.P. (?) 261 - 273.

Code of rules 60.13330.2016 "Heating, ventilation and air conditioning." [https://docs.cntd.ru/document/456054205.](https://docs.cntd.ru/document/456054205/) - Accessed 16.04.2021.

Code of rules 118.13330.2012 "Public buildings and structures". - [https://docs.cntd.ru/document/1200092705.](https://docs.cntd.ru/document/1200092705/) - Accessed 16.04.2021.

Code of rules 59.13330 " Accessibility of buildings and structures for low-mobility group of people (LMGP)" [https://docs.cntd.ru/document/456033921.](https://docs.cntd.ru/document/456033921/) - Accessed 16.04.2021.

Code of rules. Heating, ventilation and air conditioning. Updated version of SNIIP 41-01-2003 - [https://docs.cntd.ru/document/456054205.](https://docs.cntd.ru/document/456054205/) - Accessed 16.04.2021.

Code of rules 54.13330.2016 "Residential multi-apartment buildings" Updated version of SNIIP 31-01-2003 (with Amendments N 1, 2, 3). - [https://docs.cntd.ru/document/456054198.](https://docs.cntd.ru/document/456054198/) - Accessed 16.04.2021.

Ismanto, H., Widiastuti, A., Muharam, H., Pangestuti, I.R.D. The impact of risk and financial knowledge, business culture and financial practice on sme performance (2020) Quality - Access to Success, 21 (179), pp. 3-9.