

CTBUH Journal

International Journal on Tall Buildings and Urban Habitat

Tall buildings: design, construction and operation | 2011 Issue I

Marina Bays Sands, Singapore

Origin of the Skyscraper

World's Tallest Steel Shear Walled Building

Tall Timber Buildings

Dimensions of Density in Hong Kong

2010: A Tall Building Review

Talking Tall: Ups and Downs in Russia



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Case Study: Marina Bay Sands, Singapore



"While a skyscraper can be defined as a tower that primarily stands out for being tall, Marina Bay Sands is an example of a new and yet nameless type of tall building. The building has broke away from the conventional model of a mega-hotel and integrated resort and is doing so, defined both a new typology and a new icon for Singapore."

...link

"...link

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World's Tallest Steel Shear Walled Building



"The use of steel plate shear walls found a fortuitous parallel in the history and capabilities of the construction industry in Tianjin, a major port city, and leading center for steel production and ship building in China long accustomed to working with steel plates. This led to the promise of a structure based entirely on the use of thin steel plates."

...competition

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The Culture of Compactness: Dimensions of Density in Hong Kong



"Compact cities are, by their nature, relatively sustainable, and Hong Kong is eminently so on many counts. In addition, the emerging intervention of economic forces in the Pearl River Delta continues to superimpose a new collective identity on the region, and is therefore helping to re-fashion both the physical and economic aspects of the city itself."

...title

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"The modern skyscraper is generally considered to be an American invention. Both Chicago and New York claim they once hosted the world's first skyscraper..."

Gerard Peet, page 18

Talking Tall: Ups and Downs in Russia



Sergey Skuratov

Interviewee

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Sergey Skuratov

In addition to being Principal of his Moscow-based firm, Sergey Skuratov is a member of the Board of the Union of Moscow Architects. Since 2003, he has also been a professor at the International Academy of Architecture. Mr. Skuratov is considered one of the leading architects in Moscow and was recognized as Moscow's Architect of the Year in 2009.

Faced with the real possibility that his tallest project was to be shortened after it had already been constructed to full height, Moscow-based architect Sergey Skuratov found himself in a position of making a defense that height is a very substantial part of the architecture for one of the city's tallest residential towers.

An interview with Sergey Skuratov by Jan Klerks, CTBUH Journal Editor

In the Global News of the CTBUH Journal 2010 Issue III, we reported about a possible post-construction reduction of the 213-meter tall Dom na Mosfilmovskoy (House on Mosfilmovskaya) complex in Moscow. This was based on several sources which claimed that the building was to be shortened by 21 meters (69 feet), as the building did not comply with the originally approved building height of 192 meters (630 feet). While in Moscow, I decided to take the opportunity to visit Sergey Skuratov, the architect of the tower complex, to find out more about this story.

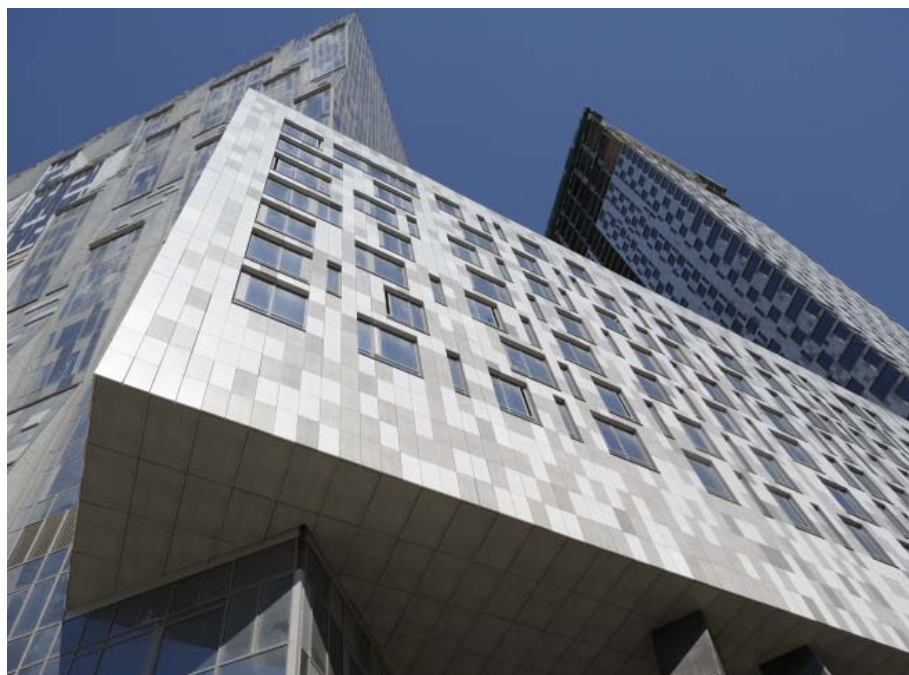
While speaking with him, I also wanted to learn his opinions on the architecture and tall building development generally in Russia. Prior to the interview, the CTBUH had participated in a tall building conference in the Siberian city of Yekaterinburg, where discussions revealed some interesting

culture-specific issues, such as architectural copyrights, a context of political corruption, the lack of specific tall building codes and the absence of a modern architectural culture. Mr. Skuratov turned out to be quite helpful in providing additional feedback on these issues.

...cattle

“We’re not slaves, not cattle – we shouldn’t sit still and be silent while our masters do whatever they want... When a house is on fire, you have to save your nearest and dearest – in this case, to save the great architecture of this city.”

Yuri Shevchuck, veteran Russian rock singer and critic of the Kremlin, opposing the development of Okhta Centre in St. Petersburg. From "Final go-ahead for Gazprom Tower," Building Design UK, October 15, 2010.



Dom na Mosfilmovskoy looking up

Klerks: Now what's the story behind the height issue of Dom na Mosfilmovskoy?

Skuratov: The original design was composed of two symmetric pairs of buildings with identical residential complexes, designed in the same architectural style, which were to be built in two stages. Each of the two pairs consisted of one tower and one slab-shaped building. Later on, the developer postponed the construction of the second complex due to land ownership issues. The first set of buildings is now nearing completion. During both the design and construction stages, certain changes were introduced. The tallest tower, which was previously designed with a twist, was redesigned with strong diagonals in the façade, spanning the full length of the tower. This was done to prevent resemblance with the Turning Torso Tower in Malmö. At the same time, this redesign enabled a possibility to give the most picturesque views from the windows, while also lowering the cost which would have resulted from the many unique façade panels of a twisted tower.

By changing the architecture, both the architect and the developer shaped the idea to increase the height of the tower by 50 meters (164 feet). It was a decision which prevented the tower from looking like an incomplete skyscraper. The idea was positively accepted by Moscow's chief architect, who is the chairman of the Moscow Architectural Committee, provided that UNESCO had no objections against the new design and height. Possible issues could have arisen because of the impact on the nearby Novodevichy Convent across the river, which is one of the best-known cloisters of Moscow and a proclaimed UNESCO World Heritage site. During the whole period of construction, I was convinced that all possible objections were eliminated and thus project documentation was processed, including the final details and sections.

In June of this year, Mayor of Moscow Yury Luzhkov suddenly ordered the tower to be shortened by 48 meters (157 feet). In a second note, we were ordered to lower the tower by 21 meters (69 feet). Reasons for this decision were not given. I could only guess what kind of an extraordinary thing occurred that would

cause city bureaucrats and the local construction authorities to make such a decision during the hard times of crisis years, but it almost seemed like one day our Mayor woke up and happened to find a skyscraper in his yard which needed to be chopped down, leaving behind an ugly stump. I was interviewed about this on television and demonstrated the effects of this idea in front of the camera by breaking off the top of the foam rubber tower on the scale model. The disaster was evident. Architecture and engineering systems of the building were utterly ruined.

One could only presume that the mayor wanted to once again utter his disdain for modern architecture, or maybe he wanted to give a signal to architectural society, which had awarded the complex several prestigious prizes. More likely, the mayor was about to punish the developer for a few dozen million dollars for reasons only known to the Mayor himself.

Klerks: So... will the tower be shortened?

Skuratov: There are no reasons whatsoever to ruin the newly built tower, especially since there is a shortage of living space generally in Moscow. There is no architectural reason for dismantling the top part of the skyscraper, which was erected in accordance with design documentation and which fits the modern standards of construction technologies. There is also no law or code which forbids or limits the construction of a high-rise building located outside the third transport ring of Moscow.

Dom na Mosfilmovskoy is a fully-fledged centerpiece in the panoramic view of Sparrow Hills. For Moscow in general, it is quite proportional to the 239-meter (784-foot) tall tower of the Moscow State University, as well as to skyscrapers in the nearby Moscow City area. The Moscow State University tower was commissioned 60 years ago and was known as the tallest building in Europe for 40 years. This is why both I and the owner of the complex are confident that 213 meters (699 feet) fits the conservative look of Moscow's cityscape. But maybe the most important reason why I think the tower will not be lowered is the recent sacking of the mayor by President Dmitry Medvedev.

Klerks: What town planning regulations are in place when it comes to designing tall buildings?

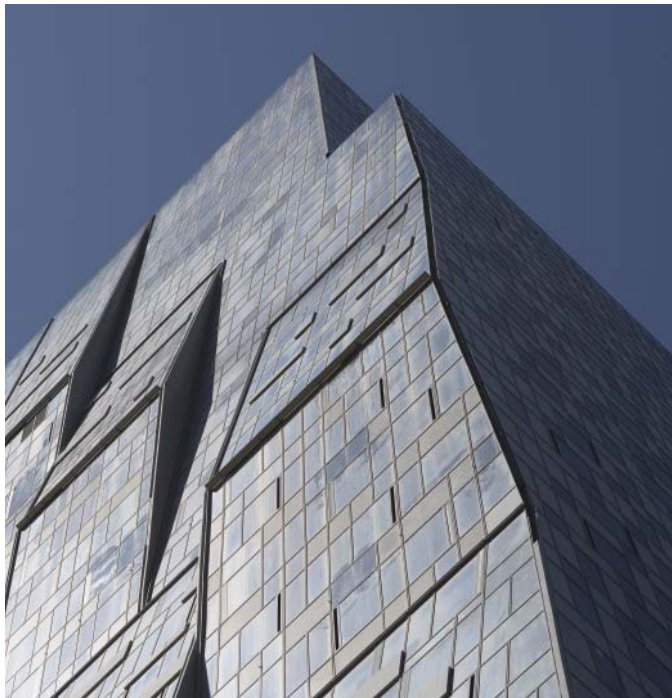
Skuratov: The first thing you do is to determine whether construction of a high-rise building on a chosen plot of land is possible at all. For this purpose, a high-rise zoning ↗



Dom na Mosfilmovskoy (House on Mosfilmovskaya)



Moscow City skyline



Dom na Mosfilmovskoy Tower

map was created which shows the heights of the current and future structures in Moscow. When completed, you enter into a consultation round with Moscow's chief architect. Also, a special Commission for Landscape and Visual Analysis was established, which must check all possible consequences in case a new tall building is

proposed. The specialists of this Commission carefully and slowly study the models of the future composition. In the end, they produce an official report on the completed research, which includes all necessary conclusions and recommendations. The reason why tall building proposals are scrutinized is because they are considered to be a very special element of the urban landscape, with characteristic features such as a high-density of people, parking lots, infrastructure and

energy supplies. In Moscow, the contemporary context considers buildings with a height of at least 100 meters (328 feet) to be a tall building.

What follows is the stage in which the site is checked for compliance with certain design codes. Generally, you can occupy half of the land with structures, regardless of height. 60% of the other half must be given to all kinds of

planted greenery. The remaining area is used as hard surface functions such as parking lots and other infrastructure.

Klerks: *Could you describe the organizational context in which tall building development takes shape?*

Skuratov: In the local context this process is driven by two entities – the Developer and the Architect. From time to time, they trade positions as the driving force of the project. Taking the right kind of leadership is very important for the success of the project. While in certain aspects both parties can be either active or passive, it is important that one of the two parties eventually takes the lead. Much depends on experience and the level of cultural sensitivity, and even intelligence. The Moscow Architecture Committee also intervenes in this process quite actively. The weaker the architect is, the more substantial the intervention can be. On the other hand, a very strong developer or project owner sometimes has the tendency to overwhelm the official authorities.

When it comes to the design process, there usually is no clear plan or direction for the architectural look of the building, and I strongly doubt something like that could exist at all. The design process is and should be open as it allows for creativity.

Klerks: *The tall building conference in Yekaterinburg taught us that there appears to be a lack of specific rules and regulations on tall building in Russia. What is your practical experience with this?*

Skuratov: When you try to do something which has never been practiced before, there is no other choice but to be a pioneer. You must create new standards yourself, and for high-rise construction here in Russia, creating new codes is pretty much the only way to go, as the existing codes were often not written with tall buildings in mind. An example of this are the fire safety regulations, as only six months ago the new Federal Law #123 was finally approved by the government and put into practice. The creation of new rules definitely slows down the development and construction of tall buildings, introducing new

limitations for us. Dom na Mosfilmovskoy is a good example of a project which had a strong developer, who was willing and capable to fight for new codes and unprecedented rules, and while at it, he won every time.

Klerks: How would you describe the architectural climate in Moscow?

Skuratov: Unfortunately, the construction of high-rise buildings in Russia has not yet become the testing ground for new technologies. It hasn't become the much-needed experimental place where new developments, construction methods and materials are systematically worked out. Currently it seems that there is no economic viability for more construction of skyscrapers in Russia.

The time in which Dom na Mosfilmovskoy was designed coincided with a special time in our history, in which skyscrapers were starting to make a significant presence in the Moscow cityscape. There was a lot of free cash floating around in the Russian economy, and the tower was developed at the peak of financial abundance. Oil profits were poured into the markets, and the results of this can be seen everywhere, especially so in the architecture and construction industry. This type of economic development and the way it presents itself is understandable and actually quite natural, but at any time, one must always rely on common sense, and risks must be carefully calculated.

Klerks: How do you see the future for tall buildings in Russia?

Skuratov: In the long run I think the outlook for skyscrapers in large cities of the Russian Federation is good. Personally I see modern skyscrapers as an alternative to the current urban developments. We have many residential districts with numerous five to eight level housing blocks, which can be demolished without ruining grown-up greenery nearby. If you would be able to move all tenants of 15 or maybe 20 of these housing blocks into one skyscraper, you could develop a strategy favoring more space to parks and gardens, enabling the decoration of urban areas with extensive landscapes. In this scenario, all sorts of transportation and

communication lines would be below ground level. For Moscow this is actually a very timely strategy, with the exception of the historic city center. Replacing ugly and obsolete structures with parks around skyscrapers will especially be effective for industrial zones in Moscow and other Russian cities.

Another development I am hopeful of is that tall buildings could become a testing ground for new developments of construction and the use of materials, which as such, contributes to more ecological sensibility. We have to change our local attitude towards energy savings and learn to use steel for the design of structures and use new polymeric materials without jeopardizing fire safety rules. I hope that inventive tall building design and construction will lead to finding an alternative for glass. We need to find something less heavy, but equally strong and translucent for developing new ideas of membranes or shells, covering rigid and sustainable structures. ■

Acknowledgement

Special thanks to Sergey Gorin for translations during the interview.



Sergey Skuratov

Dom na Mosfilmovskoy, Moscow



Completion Date: 2010
Height to Architectural Top: 213 meter (699 feet) and 131 meter (430 feet)
Stories: 53 and 34 floors
Area: 220,715 square meters (2,375,756 square feet)
Primary Use: Residential
Owner/Developer: DON-Stroy Group
Design Architect: Architectural Bureau of Sergey Skuratov
Structural Engineer: I. Shipetin Design Bureau
MEP Engineer: Alexej Kolubkov
Main Contractor: DON-Stroy Construction

Sergei Skuratov's favorite building from his practice: Danilovsky Fort, Moscow



The aspect of architecture which interests me most is the plastic art of façades. I have always been interested in the micro-design of façade walls, and I try to give them vivid features, emotions, feelings and life. I think when you walk by the building as a pedestrian, you want to feel the passion, the warm blood, and the play of nature in the buildings, and that's the architecture which I think is worth practicing. Any building is a structure which was given certain geometry, but I am also looking for natural forms and shapes. Two materials that attract me most of all are bricks and copper sheets. Danilovsky Fort was my manifesto. I used bricks there for demonstrating all kinds of plastic arts. Later I designed a concept of a residential complex in Kiev called Sovsiye Prudy, where bricks give way to copper as the building rises. By playing with size and shapes of windows simultaneously, I try to show how architecture interacts with nature and how the two façade materials react with each other.