RUSSIA, MYANMAR AND NUCLEAR TECHNOLOGIES*¹

By Anton Khlopkov and Dmitry Konukhov**

The development of nuclear technologies in Myanmar is increasingly attracting international attention.² That attention is tinged with worry: might the generals who rule the Southeast Asian country be trying to acquire nuclear weapons? And could cooperation between Russia and Myanmar in the nuclear area pave the way for a military nuclear program later on? This article does not aim to provide definitive answers, leaving it to the readers to form their own conclusions. Its purpose is to collate the available information about Myanmar’s nuclear efforts and the role played in them by Russia.

Reasons for Myanmar’s interest in nuclear technologies

To begin with, let us try to understand why Myanmar has developed interest in nuclear technologies in the first place. In our opinion, there are two main reasons for that. First, the Myanmar government wants to bolster its standing in the region. And second, it wants to find some use for the country's uranium ore, which is a by-product of the Myanmar gold mines and is also found elsewhere in quantities that the government hopes may be commercially viable.

Playing a greater role in ASEAN is one of Myanmar’s central foreign policy priorities. ASEAN countries account for the bulk of Myanmar’s foreign trade. Naypyidaw wants more influence in that regional grouping, and it sees a nuclear technology development as a mean of bolstering the country's science and research credentials - especially in view of the renewed interest in nuclear energy expressed by other countries in Southeast Asia.

The bulk of Myanmar’s uranium output is a byproduct of its gold mines. In the absence of any domestic demand for uranium, most of it is being exported to China, to the best of our knowledge. According to some reports, it is also could be used for trade-in-kind with North Korea.³ The country also has several uranium deposits. There are five, according to a 2001 report by the Myanmar energy ministry: Magwe and Taungdwingyi in Magway province, Kyaukpaduang and Paongpyin in Mandalay province, and Kyauksin in Rakhine province. Four of them contain low-grade uranium ore (less than 0.1 per cent uranium content); only one deposit, Magwe, has up to 0.5 per cent medium-grade. In 2001 Russian geologists took part in a joint uranium exploration program, but then Myanmar decided to suspend it.⁴

*********************************************************************
* - The article is based on the report prepared by the authors for the Nuclear Club journal.
** - Anton Khlopkov is Director of the Moscow-based Center for Energy and Security Studies (CENESS), and Editor-in-Chief of the Nuclear Club journal (e-mail: khlopkov@ceness-russia.org); Dmitry Konukhov is CENESS Research Associate (e-mail: konukhov@ceness-russia.org).

Updated: June 29, 2011
In the absence of detailed information about the Myanmar uranium deposits it is hard to make any projections about the prospects for uranium mining in the country. But the low-grade of the ore in the deposits found so far suggests that mining would probably be commercially unviable. Myanmar specialists are now conducting feasibility studies; some of these studies are part of their education programs and doctoral research at Russian universities.

One way or another, the country’s uranium mined as a by-product of gold production is exported. But at some point the government developed interest in putting that uranium to various uses, such as the production of isotopes for agricultural and medical purposes, in Myanmar itself. To that end in the late 1990s the government decided to set up national nuclear research center. In 1999 it asked the IAEA for help in preparations for building a research reactor. There have been several technical cooperation programs between Myanmar and the IAEA, worth 5.2m dollars over the period of 2000-2008. By 2009, Myanmar specialists had been involved in 67 various projects. According to the IAEA, eight joint ‘national’ projects with Myanmar were active as of May 2011.

All the available information suggests that the Myanmar nuclear research program is at the early stages. The IAEA reports that nuclear research papers are being published by at least four Myanmar universities: Dagon, Mandalay, Pathein and Yangon. The country’s oldest nuclear research facility is the Union of Myanmar Applied Research Institute in Yangon. The Myanmar government claims that the center’s nuclear energy department was set up in 1956, only two years after the launch of the world’s first nuclear power plant in the Soviet Union. The department’s research program includes theoretical studies of the uses of radioactive materials in agriculture and healthcare.

**Myanmar energy sector**

Myanmar’s per capita electricity consumption is at the bottom of the world ranking, on par with Bangladesh, Haiti, Congo, Senegal, Eritrea and Ethiopia. The country is rich in natural resources - but apart from exporting raw materials, its economy is not benefitting from them due to the almost total lack of infrastructure. The Myanmar primary energy production can sustain a much high per-capita electricity consumption than the current levels. The country produced 13 million tonnes of oil equivalent (TOE) in 2008, but consumed only 6.2 million. In other words, it exports about as much primary energy as it consumes.

The main source of electricity in Myanmar is hydroelectric power (54 per cent) and natural gas (42 per cent), as the country has rich gas fields.

The country’s electricity sector is facing a number of serious problems:

- The output of hydroelectric power plants, which produce more than half of the country’s electricity, falls during the dry season;
• Energy losses in the grid are a whopping almost 30 per cent of production\textsuperscript{17}. According to international standards, 4-5 per cent is good; 10 per cent is barely acceptable;

• Electricity consumption is very uneven across the country; Yangon, the largest city, takes up over 50 per cent. Blackouts are a regular occurrence. Sometimes the energy grid operator resorts to rotating electricity supply, flipping the switch first on one city block, then another, etc. In late 2009 the former capital, Yangon, was divided into five blocks, each being lit up for only a few hours every day.\textsuperscript{18}

Given the country’s recent interest in nuclear technologies, it is possible that over the longer time frame the government will try to develop a nuclear energy production. But up until now there have not been any official announcements about plans to build a nuclear power plant in Myanmar. The goals publicly announced by the government are limited to building a nuclear research center which will produce isotopes for agriculture and healthcare.

**Russia and Myanmar: areas of cooperation**

In 2000 Myanmar asked the Russian government for help in building the nuclear research center. In February 2001 the two governments began negotiations about the building and operation of a 10-15 MW (thermal) light water pool-type research reactor and an isotope laboratory. In June 2001 Russia’s Atomstroyexport corporation, chosen as the lead company for the project, signed a contract with Myanmar for designing the center. In July Russia and Myanmar initiated an agreement on cooperation in building a nuclear research center on Myanmar territory.

According to unconfirmed reports, Myanmar began preparing the site for the center near the city of Magwe\textsuperscript{19}, in the central part of the country, in January 2002.\textsuperscript{20} In February 2002 a nuclear energy department was set up at the Myanmar Ministry of Science and Technology. The department was put in charge of the nuclear research center project.

On May 15, 2002 the Russian Government issued Resolution No 312 “On the signing of an agreement between the Government of the Russian Federation and the Government of Myanmar on cooperation in the construction of a nuclear research center in Myanmar”, instructing the Russian Ministry of Atomic Energy (Minatom) to conduct negotiations with an authorized Myanmar agency and sign the aforementioned agreement once the negotiations are completed.\textsuperscript{21} The same resolution also approved the draft of the agreement. In June 2002 the Atomstroyexport corporation produced a cost estimate for the project.

For a number of reasons, however, the signing of the intergovernmental agreement negotiated by the two sides in the spring of 2002 was postponed. After IAEA experts visited Myanmar\textsuperscript{22} they expressed doubts as to whether the Myanmar specialists were sufficiently qualified to operate a research reactor. They also found serious deficiencies in the area of safety culture and infrastructure to support such a project.
As an alternative to producing radioactive isotopes in Myanmar, they advised the Myanmar government to buy these materials from the existing centers in Thailand or Malaysia. Russia and Myanmar had also failed to agree on the project’s financing. The Myanmar government wanted Russia to issue a loan for the project, to be repaid in kind by food and raw materials. Doubts arose as to whether the country could actually pay for the proposed center.

Be that as it may, why had Myanmar chosen Russia as its main partner for the nuclear research center project? Why not China, its closest neighbor and traditional trade partner?

It appears that Russia, which has a long experience in training of nuclear specialists, was seen in Myanmar as a counterbalance to China, in view of what the Myanmar regard as China's overactive presence in their country. With Russia’s help Myanmar wants to check the influence of its northwestern neighbor and one of its largest trade partners. Russia and Myanmar already have some experience of cooperation in areas such minerals prospecting, which began in the late 1960s - early 1970s. The Soviet trade mission in Myanmar (Burma) even had a representative of the Techsnabexport company, which oversaw Soviet exports and imports of rare-earth and refractory metals, radioactive and stable isotopes, etc.

Russia’s trade with Myanmar was a very modest 114m dollars in 2010, even though it grew by 54 per cent in 2009 and by 110 per cent in 2010. These figures are dwarfed by China’s 4.4bn dollars worth of trade with the country in 2010, and 12.3bn dollars of accumulated investment. Machinery and various transport equipment accounted for 80 per cent of Russia’s exports to Myanmar in 2010. In November 2004 Russia’s Tyazhpromexport (Heavy Industrial Exports) state corporation signed a contract with Myanmar for the construction of an ironworks with an annual output of 200,000 tonnes of metal. This joint project, which is still under way, has been the biggest so far; the Russian part of the contract is worth some 150m euros. Another infrastructure project now being discussed is the construction of subway systems in Yangon and Naypyidaw.

As part of a 2001 bilateral agreement on military and technical cooperation Russia supplies the MiG-29 and Su-27 fighters to the Myanmar Air Force, as well as heavy artillery systems to the Myanmar Army. There is also some amount of cooperation in the civil aviation industry.

Nuclear cooperation talks between Russia and Myanmar resumed in 2005; on May 15, 2007 the two countries signed an agreement on the construction of a nuclear research center in central Myanmar. The agreement was based on the draft prepared back in 2002, with some changes and amendments made in 2004 and 2007. The agreement was signed by Russia’s Sergey Kirienko, head of the Federal Agency for Nuclear Energy, and Myanmar’s U Taung, the minister of science and technology. The terms of the agreement included:
• The construction of a nuclear research center with a 10 MW (thermal) pool-type nuclear reactor using light water as a coolant and moderator;
• The nuclear fuel used by the reactor will have uranium enriched to less than 20 per cent;
• The center will have a neutron activation analysis lab, a medical isotopes production lab, a silicon neutron doping facility, etc;
• Russian specialists will install and launch the center's equipment. Russia will also supply the nuclear fuel and spare parts;
• Irradiated nuclear fuel will be returned to Russia;
• Myanmar pledges not to use the supplied nuclear or special non-nuclear materials for the production of nuclear explosive devices or any other military purposes; it also pledges to place these materials under the IAEA safeguards for the entire duration of their stay in Myanmar;
• Myanmar pledges not to use the equipment, materials and technologies supplied from Russia in nuclear facilities not placed under the IAEA safeguards;
• Russia will train 300-350 nuclear energy specialists for the Myanmar nuclear research center.35

The agreement put in place the legal framework for cooperation between Russia and Myanmar in two key areas: a) designing, building and launching the nuclear research center; and b) training Myanmar specialists for the nuclear research center.

The document also outlined the sequence of steps to be taken by the two sides to implement the agreement; in that sequence, the signing of the contract for the actual construction of the nuclear research center comes after the enactment by Myanmar of the IAEA Additional Protocol. The agreement itself entered into force on the day it was signed; it remains in force until the parties have fulfilled all their commitments.

**Will the Myanmar nuclear research center be built?**

The initial plan was to launch the center in five years’ time.36 The cost of the project was estimated by the general contractor, Atomstroyexport, as 200m to 400m euros,37 depending on the final specifications. The agreement stipulates that the payment must be made in hard currency. We believe that the price the general contractor has asked is too high. One point of reference is the 2010 contact for the construction of a similar nuclear research center, with a South Korean-designed 5 MW research reactor, at the University of Science and Technology in Jordan. The value of the contract was only 130m dollars.38

Consultations between Russia and Myanmar on the implementation of the agreement broke off in the fall of 2007 due to unrest in Myanmar known as the Saffron Revolution.40 As of June 1, 2011, they have not resumed. Neither has Myanmar signed the IAEA Additional Protocol. Also, Myanmar is refusing to accept the modified Small Quantities Protocol (SQP), which requires early notification of the IAEA about plans to build new nuclear facilities (based on modified Code 3.1).
present Myanmar falls under the small quantities protocol regulations due to the absence of any significant quantities of nuclear materials in the country.

At the moment the Myanmar nuclear research center project is not reflected in any way in Russian State Nuclear Energy Corporation Rosatom annual reports or Atomstroyexport's list of active or future projects. Speaking at the IAEA General Conference in September 2009, the Myanmar representative said that work on the construction of the reactor had not begun. In his statement at the 2010 conference he did not mention the project at all. US Department of State documents published by The Guardian newspaper mention that the only Russian involvement in Myanmar’s nuclear program is training specialists.

**Training of Myanmar specialists in Russia**

The training of specialists in Russia for the future Myanmar nuclear research center is part of the wider training cooperation program between the two countries. Starting from 2001, the Myanmar Ministry of Science and Technology has been sending about 500 Myanmar students every year to Russian universities on a commercial basis. Fifteen Russian universities have taken part in the program in 2001-2011.

The first Myanmar students were sent for training to Russia back in Soviet times. More than 200 engineers, doctors and oil industry specialists had been trained before political relations and trade between the two countries went downhill in the 1970s.

These days the training of Myanmar specialists for the country's future nuclear research center is done mostly at the National Research Nuclear University MEPhI, which was receiving about a hundred Myanmar students every year in 2001-2008. About half of those students took courses related to nuclear technologies. By 2011 Russia had achieved the nuclear specialists training target specified in the May 2007 bilateral agreement (i.e. up to 350 people). It is expected that by the summer of 2011 the last group of Myanmar students will have completed their Master’s programs at MEPhI.

Most of the Myanmar being sent to Russia for training were military officers (predominantly lieutenants or captains). The explanation for that is quite simple: in Myanmar, military officers usually have better basic training than civilians. Starting from 1997 the country was governed by the State Peace and Development Council, which consisted of the top generals. In February 2011 Myanmar held a parliamentary election; a new constitution entered into force. The first sitting of the newly elected parliament formed a civilian government led by the president. That government has taken over the ruling of the country; the State Peace and Development Council has been dissolved. But the generals continue to play a major role in the country. The new civilian government includes 26 ministers who used to be members of the military administration. The Myanmar military perform a whole range of civilian functions; among other things, they oversee the development of the country’s infrastructure.
The training of specialists abroad is part of Myanmar's efforts to nurture a cadre of elite technocrats; the specialties chosen for training are therefore mostly technical. The choice of Russia for training is based not only on the reputation of Russia in science. It is also part of Myanmar's attempts to find a counterbalance to China, which continues its economic expansion in the country. Nevertheless, Myanmar has also had a program of sending students for training to China, and some local specialists trained in China now teach at some Myanmar universities. It was reported that professors from China and North Korea taught in Myanmar – but there have been no reports of any nuclear-related courses being delivered by the Chinese or North Koreans.  

The specific courses to be delivered to Myanmar students in Russia are chosen by the Myanmar government within the limits set by Russian legislation. As a rule, a Myanmar Embassy official discusses directly with the university in question the number of students to be sent for training and the list of the courses they will take. The program is then vetted by the Russian Ministry of Education and Science. In the early years the vetting was also done by the Russian Nuclear Energy Ministry. The full cost of the training is paid by the Myanmar government. For the universities this is a welcome chance to make some money, especially since the numbers of the Russian students they are training are falling due to Russia’s demographic trough of the 1990s.

The Myanmar students normally spend six months studying Russian back home in Myanmar, and then another year on a special program for foreign students at the Russian universities. Only then do they begin a two-year Master’s course. Some of them drop out before completing their studies; some of those former students are now working with Russian tourists back in Myanmar, where their knowledge of the Russian language gives them a competitive edge. According to the Myanmar Ministry of Hotels and Tourism, the number of Russian tourists visiting Myanmar rose by 50 per cent in 2009. Some of the Myanmar specialists trained in Russia then leave for other countries, especially Singapore, where their skills are in high demand. Others have become teachers themselves, and are now training students back home in Myanmar. In September 2010 Russia received the first group of Myanmar students who had been taught the Russian language by Myanmar language experts trained in Russia rather than native Russian teachers. The Myanmar might soon start teaching other subjects, too. The specialists trained in Russia will be able to teach Myanmar students in Myanmar itself, which means that the numbers sent for training to Russia will fall. In fact, these numbers are already falling for some courses. Myanmar had previously used the same ‘knowledge-spreading’ mechanism with China.

As some Russian universities the Myanmar make up a large proportion of foreign students. In 2006 a third of all the foreigners studying at the Moscow Aviation Technology Institute were Myanmar. At the Moscow Institute of Steel and Alloys, the Myanmar were the largest group of foreign students in 2010-2011 academic year. Some 2,891 students from Myanmar were studying in Russia in 2008-2009, according to the Ministry of Education and Science - more than from any other Southeast Asian country save Vietnam. For comparison, only 695 Myanmar
students studied in the United States in 2009-2010.\textsuperscript{63, 64} Most of the Myanmar students studying in Russia are graduates of the leading Myanmar technology universities.

Whether the numbers of Myanmar students studying in Russia should be considered high or low depends on the point of reference. The Myanmar make up 2.4 per cent of all foreign students in Russia. That is a respectable figure, taking into account that the general level of cooperation between Russia and Southeast Asian countries is not that high. But on the other hand, there were 4,500 Iranian students and post-graduates studying in the United States in 2009-2010\textsuperscript{65}, almost double the figure for 2004-2005 (2,400 students)\textsuperscript{66} – even though the two countries do not even maintain diplomatic relations.

Doubts about peaceful nature of the Myanmar nuclear program

Due to the nature of its political setup, Myanmar has often been the subject of various information campaigns. In the past several months there has been a wave of speculation in the world media about Myanmar’s nuclear program and the country’s alleged aspiration to acquire nuclear weapons. In May 2010 the Democratic Voice of Burma, a pro-opposition media organization based in Oslo, announced the completion of a five-year investigation of Myanmar's nuclear activities. The organization unveiled what it described as "evidence" - based mostly on the testimony of a fugitive Myanmar army major, Sai Thein Win,\textsuperscript{67} who had studied at the Bauman Moscow State Technical University in Moscow and allegedly had access to secret Myanmar nuclear facilities.\textsuperscript{68} His story was covered in great detail in The Daily Telegraph.\textsuperscript{69}

Meanwhile, Jane’s Intelligence Review has published satellite photos of the suspected secret nuclear facilities. Based on these photos, as well as photos of various equipment received from Sai Thein Win, Myanmar was accused of working on several components of a military nuclear program, including the construction of a plutonium production reactor and a uranium enrichment program.

It has also been reported that shipping between North Korea and Myanmar is being carefully monitored; the two countries are suspected of complicity in the transfer of dual use materials and equipment which can be used to produce weapons of mass destruction and their delivery systems. In 2009 Myanmar and North Korea were implicated in smuggling of dual use machinery (measuring instruments and machine tools) which, according to the Japanese government, can be used in missile programs. The machinery was shipped by a Japanese commercial company to North Korea via Myanmar. The latter was probably used as a transit destination to conceal the identity of the end buyer.\textsuperscript{70} Information about possible cooperation between Myanmar and North Korea is also contained in the US Department of State documents published by Wikileaks.\textsuperscript{71}

Several media outlets and research publications have also suggested that there may be some cooperation in sensitive areas between Myanmar and Iran. It appears, however, that the likelihood of such cooperation is exaggerated. Muslims in Myanmar do not have the same rights as the rest of the population. They are not eligible for
administrative or government jobs, and they cannot serve in the army or the police force. Given that Iran sees itself as the leader of the Muslim world, partnership between the two countries seems unlikely. Myanmar itself, meanwhile, does not shun cooperation with the Muslim countries - but its main foreign policy priority is ASEAN.

The has also been a degree of skepticism about the fugitive Myanmar major’s statements, the standards of other evidence and the conclusions all that evidence is supposed to support. Experts of the Washington-based Institute for Science and International Security (ISIS) said in response to an official query by Senator Jim Webb that Sai Thein Win does not have training in nuclear physics or engineering, his information remains second-hand and requires confirmation; that the equipment described in the documents and shown on the photos has legitimate non-nuclear uses; and that the existence of a secret military nuclear program in Myanmar remains a matter of conjecture.

Robert Kelley, the former officer at the IAEA safeguards department who interviewed Sai Thein Win after his defection, does not question the former Myanmar major’s claims. But he concludes that despite that evidence, Myanmar-North Korea cooperation in the nuclear field remains a hypothesis not an established fact.

Myanmar does not have an obvious foreign policy reason to pursue a military nuclear program. The country has no serious territorial disputes with its neighbors, apart from relatively minor differences on border issues with China (over some ethnic groups living on both sides of the border between the two countries) – but these differences are not high on the agenda.

Conclusions

The Myanmar government has adopted a program of creating a nuclear research center and chosen Russia as its main partner for the project. Myanmar officials have never spoken of any plans to build a nuclear power plant in the country. According to the available information, the country’s leadership views the development of nuclear technologies as an instrument to stimulate the country’s science and technology and to bolster Myanmar’s international standing in Southeast Asia. The Myanmar government’s interest in nuclear technologies is also explained to some degree by the availability of uranium ore produced as a byproduct of gold mining, as well as several uranium deposits. The most important tasks facing Myanmar in this context are: a) training specialists; b) building a research reactor and a series of nuclear laboratories; and c) exploration of uranium deposits in the country.

The program to train Myanmar specialists in Russia for the future nuclear research center is nearing completion. The last group of Myanmar students is expected to complete their Master’s program at the National Research Nuclear University MEPhI in Moscow by mid-2011.
Judging from the available information, it is safe to assume that Russian specialists have not begun the construction of the nuclear research center in Myanmar. Negotiations to sign a contract to that effect have been frozen. There is no mention of the project in the reporting of Atomstroyexport, the Russian exporter of research reactors, or the Rosatom State Nuclear Energy Corporation.

It seems that the main reason for that is Myanmar's failure to sign the IAEA Additional Protocol. Under the 2007 Russian-Myanmar bilateral agreement the enactment of the Additional Protocol is supposed to precede the signing of the contract for the construction of the nuclear research center.

It is also reasonable to assume that Rosatom is now much less interested in the project than it was back in 2000, when talks on the construction of the nuclear research center in Myanmar began. Since then the Russian nuclear energy industry has secured several contracts for the construction of nuclear power reactors abroad (in Belarus, Bulgaria, China, India, Turkey, Ukraine and Vietnam). There is also an ambitious new program to build new nuclear power reactors in Russia itself. Given the industry’s limited production capacity, the Myanmar project is not high on its list of priorities.

In the longer time frame, cooperation with Myanmar can help Russia to bolster its presence in Southeast Asia, which is one of the most rapidly developing parts of the world. Of all the countries in the region, Russia now has close economic and political relations only with Vietnam. One of the most promising and rapidly developing areas of Russia-Myanmar cooperation is the training of Myanmar specialists in Russian universities.

Exports of education services are not only a profitable line of business, but also an important component of foreign policy. Russia needs to make a good use of Myanmar’s decision to choose Russian universities, and step up the efforts to develop closer relations between the two countries in this area. Russia could offer Myanmar specialists training in customs control on radioactive and fissile materials; Myanmar officials have previously said that their country lacks the equipment and expertise in this field. Russia has two such training centers up and running, and the branches of the Russian Customs Academy in Vladivostok and St Petersburg have already worked with foreign customs officers. The training programs offered by Rosatom, the Ministry or Education and Science and the Federal Customs Service to Myanmar could include nuclear security and safety courses. Such courses could be delivered independently or as part of the IAEA projects at the Institute of Global Nuclear Security set up at the Interdepartmental Special Training Center in Obninsk, Kaluga Region, which is part of the MEpHl National Research Nuclear University. That would strengthen cooperation between Russia and Myanmar in the training of technology specialists and fill the vacuum in nuclear cooperation while the project to build the nuclear research center remains frozen - especially since the last group of Myanmar students are about to finish their Master’s program at the MEpHl university.

But the Russian universities and the Export Control Commission under the Ministry of Education and Science need to be careful about the choice of courses they offer to
Myanmar. There needs to be a balance between economic benefits from training foreign students and Russia’s non-proliferation commitments, as well as the wider national security interests. That need was mentioned (without any specific mention of Myanmar) by Deputy Prime Minister Sergey Ivanov at the meetings of the inter-agency commission for export controls in August 2009.77

Notes

1. The authors would like to thank Alexey Kirichenko, Robert Shaw and other experts who wished to remain unnamed for their help in preparing this article and their feedback on the drafts. Nevertheless, the opinions and conclusions of the authors reflect only their own position.

2. The country’s military government changed its name to Myanmar in 1989, but the change has not been recognized by many Western media outlets and governments, including those of the United States and the United Kingdom.


5. \( \text{U}_3\text{O}_8 \) content in the ore of: Magwe: 0.001-0.560%; Taungdwingyi - 0.001-0.110%; Kyaukpadaung – 0.0015-0.055%, Paongpyin – 0.0061-0.0068%; Kyauksin – 0.0020-0.0052%.


Ibid. P. 148.


There are three seasons in Myanmar: hot and humid (June-October); relatively cool and dry (November-February), and very hot and transitional dry (March-May).


Although the bilateral agreement on cooperation in the construction of the nuclear research center in Myanmar states that Russia ‘will assist in choosing the site for the project’, according to the available information, the preliminary choice of the site for the research reactor was made by the Myanmar side.


The conclusion was made based on a visit by IAEA experts to Myanmar in the summer and fall of 2001. Myanmar was informed about the commission’s findings by the deputy director general of the IAEA representing China.

24 Fullbrook David. ASEAN and Myanmar’s Nuclear Reactor. *Opinion Asia.* 2007, 27 May
25 Leonov G.Y. Shishkin A.A. Tekhsnabexport: figures and persons. ‘Reforma’
publishing house, 2009. P. 34.
26 Myanmar-China Border Trade Fair Kaunched in Muse. *Xinhua.* 2011, April 29,
tationtemplate=2d7bc8d4687de796f0f7af753c8a7e&WCM_Page.ResetAll=TRUE&CACHE=NONE&CONTENTCACHE=NONE&CONNECTORCACHE=NONE (Retrieved on – 16 April 2011).
28 Tkachev Aleksandr. Next to no trade between Russia and Myanmar - Myanmar
29 Moscow metro builders to help build subways in India, Romania and Myanmar. RIA Novosti, November 3, 2010.
30 First deliveries were made in 2002. Deliveries continue on a 2009 contract for 20
MiG-29 fighters. Russia's main competitor for the contract was China, which offered
its fighter jets to Myanmar on more attractive terms. Despite the better Chinese price
offer, Myanmar awarded the contract to the Russian company.
31 Klyuchanskaya Svetlana. Military and technical cooperation between Russia and
32 Draft of the agreement between the Russian and Myanmar governments on the
construction of a nuclear research center in Myanmar of May 15, 2002.
33 Draft of the agreement between the Russian and Myanmar governments on the
construction of a nuclear research center in Myanmar with changes and amendments
34 Bilateral agreement on cooperation signed between Russia and Myanmar. Nuclear
(Retrieved on - 3 December 2010).
35 Bilateral agreement on cooperation signed between Russia and Myanmar. Press
36 Ibid.


A confrontation between the ruling military regime and the opposition led by Buddhist monks (the term ‘saffron’ itself comes from the colour of Buddhist monks’ robes), students and the Democratic Alliance of Burma. The protest was disowned by the pro-regime hierarchy and the ruling regime managed to retain power.


Myanmar students have at various times studied at the Geological Exploration Academy, the Moscow State Aviation Institute (MAI), the Moscow State Automobile and Road Technical University (MADI), Moscow State Mining University (MSMU), Moscow Institute of Electronic Technology (Technical University) (MIET) in Zelenograd, Moscow Lomonosov State University (MSU), Moscow State University of Civil Engineering (MSUCE), Moscow State Technological Institute STANKIN (MGTU Stankin), National Research Nuclear University MEPhI, Moscow Bauman State University of Technology (MSTU), Moscow Power Engineering Institute (MPEI), the National Technology Research University Moscow Institute of Steel and Alloys (MISiS), Tsiolovskiy Russian State University of Aviation Technology (MATI-RGTU), Mendeleev University of Chemical Technology of Russia (MUCTR), and Southwestern State University (YuZGU) in Kursk.


Successor of the State Council for Restoration of Law and Order, which came to power in 1988.


Now reorganized into Rosatom State Atomic Energy Corporation.


In most cases the Myanmar students receive education grants from American governmental and privately financed programs. The full cost of education in Russia is paid by the Myanmar government.


Some of the interviewed Russian experts are quite skeptical about Sai Thein Win’s testimony. The defector represents the Shan ethnic group, which makes up less than 10 per cent of the Myanmar population.


For example, Myanmar is gradually increasing trade with Indonesia (224m dollars in 2009) and Malaysia (373.9m dollars in 2009)


Universities which train foreign students must care about Russia's security, not their own profit. *RIA Novosti*. August 26, 2009.