

**THE BROOKINGS INSTITUTION**  
CENTER FOR NORTHEAST ASIAN POLICY STUDIES

**Denuclearizing North Korea:  
The Imminent Challenges of Economic  
and Energy Assistance**

Dr. Georgy Toloraya  
CNAPS Visiting Fellow, Russia

*The Brookings Institution  
Washington, DC  
October 12, 2007*

[TRANSCRIPT PRODUCED FROM A TAPE RECORDING]

ANDERSON COURT REPORTING  
706 Duke Street, Suite 100  
Alexandria, VA 22314  
(703) 519-7180

## PROCEEDINGS

DR. RICHARD BUSH: It is my great pleasure to convene this event, one of a series in which the new class of Visiting Fellows here at the Center make presentations on issues on which they are experts. Today's presentation is certainly no exception. Our presenter is Dr. Georgy Toloraya who comes to Brookings from the Russian Foreign Ministry and the Russian Academy of Sciences. In his diplomatic career he has focused on the Korean peninsula and he is going to talk today about a topic that you can see as well as I can, denuclearizing North Korea. It is a subject that is very much in the news since American diplomats and Chinese diplomats and North Korean diplomats and South Koreans and the Japanese are still working at a furious pace to carry out the task of denuclearizing North Korea.

It is a big job, and Dr. Toloraya is going to give his expert commentary on that and some challenges that lie beneath the surface and which he believes must be addressed if the goal of denuclearization is going to be met. So I give you Dr. Toloraya.

DR. TOLORAYA: Thank you, ladies and gentlemen for coming here today. First of all, I would like to extend my thanks to the Brookings Institution and CNAPS, Dr. Richard Bush who made this presentation possible, as well as our chairman, secretaries, and others who have helped me with preparing for the presentation and the PowerPoint.

I would like also to mention that this presentation is based on the research project which was carried out in Russia, in Moscow, at the Institute of Economy, with the generous sponsorship by the Korea Foundation on the energy security of North Korea. But this presentation is of course broader and starts with the topic which is hotly debated these days in Washington, in Beijing, in Moscow, in Tokyo, in Seoul, and obviously in Pyongyang, about the process, goals, and attainability of denuclearizing North Korea.

I would like to point out that in fact the process which we are seeing now is not new. It was envisaged in the 1994 Agreed Framework. The Agreed Framework also provided for dismantlement of nuclear programs and the setting forth of diplomatic relations and normalization of relations between the United States and North Korea, and the construction of two light-water reactors. So what is happening now is very welcome, but in fact that is quite predictable. It should have happened sooner or later, and it is a pity that it has happened later rather than sooner.

I would also like to stress that by talking about the second phase, we are not talking about concerns about disablement of nuclear programs in North Korea. What are the nuclear programs of North Korea? In fact, we are talking now about three objects, three nuclear facilities—the reactor, the fuel factory, and the reprocessing chemical laboratory which had to be the ones first disabled and then probably dismantled. So there are some more facilities which will be discussed later, including probably the weapons production facilities and maybe the uranium mines and uranium ore facilities. But I would like to point out that what is now agreed on is that North Korea has disabled its plutonium production facilities. Some cynics and technical experts who are cynics in their own right say that the North Koreans had to stop the operation of their 5 megawatt reactor purely for technical reasons, as it was too old and should be repaired before being able to operate again, so they had to do it anyway. The North Koreans will get 1 million tons of heavy fuel oil for that. The deliveries have already started and will be completed within the not-so-distant future. I would also remind you that in the 1990s under the Agreed Framework, the United States supplied 500,000 tons yearly to North Korea.

That means that when we come to the second phase—the probable liquidation, dismantlement, or taking out of the country the nuclear weapons and plutonium stock—there will be a separate and high price to pay. The North Koreans see their nuclear weapons, if they exist, as a source of national pride and the strongest deterrent which puts them in line with the most powerful world nations, and they celebrated the nuclear explosion's anniversary just a couple of days ago.

To make them give up this deterrent, in Pyongyang's calculation many very serious steps are needed: First of all, make 100-percent sure that the security guarantees they get are comprehensive and irreversible, and second, that they would receive economic assistance which was already promised in 1994 and which is a prerequisite for the final solution.

The security solution is a long-term issue. Actually, there are lots of talks going on now about having a three- or a four-party peace arrangement in the foreseeable future. I do not believe that it will happen soon, but anyway, a diplomatic solution can be reached very quickly and any kind of declaration or even treaty can be agreed upon pretty soon depending on the goodwill of the parties. And the North Koreans, by the way, made remarks yesterday that they do not like what President Bush is saying about their brutal regime, so I do not think this would be easy, but it is possible.

But there is a price tag. The North Koreans see their economic aid amounting probably to billions of dollars as what they should get in return for giving up their nuclear programs and nuclear weapons. The economic aid issue is

not that simple. You cannot just do it offhand, you have to have budgeting, planning, and you cannot agree on that within a month or two. So the purpose of my presentation is to look a little bit ahead and prepare ourselves—the United States and Russia, as well as other countries—for the imminent challenge of economic assistance to North Korea.

First of all, we should look at the concept of such assistance. The North Korean concept is very simple: Give us more fuel, fertilizer, equipment, tractors, lorries, food, medicine, raw materials for our textile and other light-industry productions, et cetera. This concept is based on the notion that they have an industry which is not working at the moment, that it should be galvanized and it should be modernized, and they would continue to build this closed-door economy which is self-sufficient and which is independent from the others. This is the basic concept they have been building their economy for 50 years and it still has not changed much. The testimony to that are Kim Jong-il's recent remarks that one should not talk about “openness” and “reform” with North Korea. That is what he said to President Roh Moo-hyun. They have a good reason to believe that if international assistance would be given on such a basis, that would keep the economy afloat for a long time. So such international assistance would actually only conserve the inefficient economy structure and the inefficient economic system of North Korea.

What can be done about that? I have had an idealistic idea for some years that any economic assistance should help to transform the economic system without endangering the political regime, without the endangerment of the political elites' prerogatives in North Korea. The economy in North Korea should and could be made compatible with the international division of labor and could be modernized. There are many ways to do that and I will not go into details because that is not the issue of my presentation. But we have the experience of China, we have the experience of Russia, we have the experience of Vietnam, we have the experience of South Korea, which all changed the structure of their economies pretty quickly, internationalized their economies, and entered into the global division of labor system. I cannot see why it cannot be done in North Korea. North Korea is a country with long-standing traditions of industrial development with a rather good technically trained workforce. After all, they are the same Koreans in the South who have achieved economic miracles from the 1960s and I cannot see why the North Koreans cannot do the same.

I think that the next step under the Six-Party process is to suggest to North Korea to sit together and work out some kind of a long-term economic plan and how we are going to modernize their economy. And while I insist that reforms and openness are not the right words, we should speak about modernization and maybe normalization of their economy. The Six-Party mechanism could be a sort of coordinator in this process, so even after the working groups on normalizing

bilateral relations with the U.S. and North Korea and Japan are long gone, I think the economic working group should evolve into a body which oversees the economic assistance programs and how they are implemented. They could also be joined by other countries which are interested in North Korea's economy like the European Union and Australia or Canada or whoever. It should work in coordination with the international financial organizations like the IMF, the World Bank, Asian Development Bank as well as others, and they should be very consistent. The economic aid, the economic assistance, and the investments should be funneled into the areas which help transform the North Korean economic structure and help the country to modernize.

Then we come to the question: Is it possible from the point of view of the economic system? Is the marketization of North Korea possible? It is well underway regardless of what the North Koreans say and write. It is going on and I think that we should promote these kinds of tendencies by encouraging economic experiments, such as the way to a market economy in China: creating isolated experimental farms while working on more or less market principles, arranging the facilities for export production, joint ventures, and free economic zones which already exist. We have remarkable and spectacular progress with that because of the recent Korean summit meeting when North and South Korea actually agreed that the whole triangle adjacent to the military demarcation line would become a sort of hunting ground for South Korean business. But these experiments should not be seen by the North Korean leadership as challenging the core of the economy, the core of their political system and gradually accepted and broadened around the country. Sooner or later these quantitative changes will lead to quality changes.

You might all recollect that when the North Koreans tried to embrace joint ventures in the wake of the collapse of the Soviet Union, and then after the cessation of economic help they tried to embrace foreign investment, and they adopted in the 1990s lots of laws concerning foreign investment, joint ventures, financial transactions, credits, and things like that. When they would see that this foreign investment is progressing they would have to adopt more and more laws on the national level and they would have to adopt and use the financial system which makes this economic transition possible. And I think that the economic transition in North Korea should not be carried on under the liberal market economy—they would probably have more or less a planning system—and I also recollect the Economic Planning Board in South Korea which carried on the 5-year plan in South Korea in the 1960s and which was the basis of economic growth of the country, and I think that that is what should happen in North Korea as well. However, this economic plan should be coordinated with the international aid package I have talked about before.

What is starting to be noticeable, and I know it is an important issue from my own Russian example, are the changes in property relations. In Russia it was chaotic and that is why it was inefficient and it was most of the criminals taking over the bulk of the state property. In North Korea I think they are quite prepared to gradually shift at first the operational rights of enterprises to the managers from the party system, from the military system, from the security system. And then I think it will slowly turn to more or less property rights—every state body, every local authority, the head of a company who trades or who produces some kind of export commodity and is trying to make money in any way possible—and I think that this paralysis could lead to the development of state conglomerates, semistates, something like South Korean chaebol.

This structural industrial policy should use the comparative advantages such as labor, mineral and natural resources, scientific potential of the country which is there—you cannot build the nuclear bomb and missiles just from nowhere—and location, and the expert orientation of the scientists would be the key and the source of profit and investment. Capital stock renovation will be a prerequisite. To make all these things work you need to have improvements in transportation and in energy safety, and I think it is a very important issue which should be addressed, and addressed immediately because it takes time to improve these systems.

North Korea is actually the most starved energy nation in the world, north of the tropics and with a harsh climate. Their per capita consumption in terms of oil equivalents is less than one ton per person per year. Unfortunately, North Korea is not able to self-sustain energy security. They have limited resources and they have coal which stands for about 70 percent of the energy production, oil, which is about 7 to 8 percent, and hydro energy, but all these sources are problematic. Coal resources are not running out, but they are harder and harder to extract and the technology is outdated. To get oil one needs to pay for it, and people do not have anything to pay with. They are getting aid, but they cannot go on like that forever. Hydro-power is pretty expensive and not so easy to use, although they have built many small-scale hydro plants in recent years.

Not only do they lack the mineral and financial resources for development, they also have very outdated and worn-out equipment, especially electric power distribution systems, and they are using energy in a pretty inefficient way, and that means that energy solutions can be achieved only with international assistance.

First of all, they need to have export growth to secure imports of energy and fuels, but to have export growth they need energy and fuels. So that is a case where you have two situations where you should start from something and international aid in this energy sector is a prerequisite for export growth. They

would also need results to get investment into local resources. They have coal resources of about 13 billion tons and hydro energy of about 80 gigawatt hours total, probably some oil deposits in the West Sea, which should be tackled. Another idea is using North Korean labor and their participation overseas projects for oil and gas development. For example, South Koreans are now undertaking a project in Kamchatka in Russia for oil development. Why not bring North Korean labor forces and why not share some of the production with North Korea? Modernization of facilities and new production and distribution technologies are crucial. That also needs investment. That also needs the foreign aid to cover these needs.

The North Koreans could not live without new-generation facilities and modernizing the existing ones like their old power plants which are pretty outdated—they were all built in the 1960s and 1970s with Soviet assistance and now they are absolutely worn out. Maybe some new hydropower plants and a small portion of nontraditionals like wind and tide energy and things like that.

There is also much talk about pipelines running from North Korean territory, like from Russia from Siberia from the Khabarovsk field to South Korea, through North Korea, and from Sakhalin to North Korea. I am very skeptical about that. I am very skeptical that the political decision in South Korea can be taken to the effect that North Koreans will have the possibility to cut the supply anytime they want. In Russia we have this experience with Ukraine and it is not very optimistic. So I do not think we will have those kinds of pipelines anytime soon. Electrical grid connections are more promising. There are some negotiations now of a Russian-North Korean grid connection, and this could be done.

But the crucial political and economic question is nuclear energy. It may be quite an unpopular issue and nobody is trying to think about it now, but if we recollect the September 19, 2005 agreement of the Six-Party Talks, the issue of a light water reactor was agreed upon to be discussed at an appropriate time. The North Koreans feel that this appropriate time might have come. There are conflicting reports whether they would insist or not on the nuclear option. I believe that sooner or later they will. There is a perfect economic rationale for them to try to have a nuclear power plant. They have considerable resources of uranium. Some intelligence estimates it to be about 15,000 tons in metal equivalent. And they pretty well understand that the nuclear power plant is the only way for them to have energy independence and energy supply sustainability. Actually, Kim Il-sung has made the point very clear and it is also a sacred thing to the North Koreans. I can tell you from the Russian experience that when Kim Il-sung came to Russia in the early 1980s and persisted that a nuclear power plant should be built in North Korea, the Russian leadership was very skeptical about that. First, there were concerns about proliferation and we said from the start that

you should sign the Nonproliferation Treaty. Second, there was the problem with financing. It was quite understandable that \$2 billion, which was the cost at the time, would be given to the North Koreans with no prospects of return. But finally the North Koreans were so insistent and so persistent in making Russians understand that this is a matter of life and death for them that we finally had to agree and we finally had to sign the agreement in 1985 to construct the nuclear power plant, and that was exactly the two light-water reactors which were to be constructed in Kumho. This area was prospected by Russian geologists and expert teams in the late 1980s at our own expense costing dozens of millions of dollars which were never repaid. By the way, this agreement is still valid. Nobody has abrogated it.

So the same site was taken over by KEDO and the KEDO experience is very interesting and I think it should not be discarded. KEDO fell prey to political and not economic—not technological—factors, and it showed the good possibility of international cooperation on a project like that, cooperation among the U.S., South Korea, and Japan. Nuclear might include at least the Six Parties with the Five Parties. So I would say we should not forget this lesson.

Are there any alternatives to the nuclear choice? North Koreans are very much afraid that all of them are susceptible to cuts in supply for political reasons, and if we speak about electricity imports from South Korea, Russia, or China, we need to reconstruct the grid and we need to make investments for that. Gas or oil-powered power plants also need supply lines, pipelines, and railroads. Local resource development can help, but it also comes with a price. So any alternative to the nuclear option would not be much cheaper as it is often supposed. And there exist lots of nuclear energy problems, most of them political, and I do not know whether it is possible to overcome those.

I am almost through, I just want to state some maybe utopian ideas on the implications of this energy assistance issue. I would not be surprised that the light-water reactor problem could become an obstacle to the final stages of denuclearization, and I presume that could happen very soon. Of course, the problem of nonproliferation, the problem of monitoring of possible a light-water reactor is a very delicate one. So I just want to draw your attention to some ideas which were discussed at least in Russia. And not only Russia, there was also a big study on Russia at the Nautilus Institute by Peter Hayes and his associates who studied the possibility of a white-water reactor in North Korea and came to the conclusion that South Korean type reactor in North Korea could actually be confronted by the issue of U.S. technologies transferring to North Korea. There are several types of reactors in the world: There is the Russian type, the American type, Canadian, and French. So if we choose the reactor for North Korea it could probably be the Russian type or the U.S. type. There was an exotic idea of building the light-water reactor on the Russian territory across the border with the



ownership of North Korea that eliminates all the problems of verification because it is on the territory of the country that is nuclear. There were also ideas of floating type reactors on the sea. We have this technology but it is not well-developed. There were ideas of proliferation-proof BREST type reactors. So these are the options that should be studied and I think that it is time for all of us to try to study these options so that we would not find ourselves in a situation that North Koreans would put this issue on the forefront and there would be no answer, no coordinated response to this challenge.

I will finish with that, and while I take your questions, just look at this satellite photo of Northeast Asia from space and you can see that North Korea here is just a dark spot at night with no lights on, a great contrast to China, South Korea, and Japan. The Russian forest is not populated, but anyway we do not have problems there, we just do not have the lack of energy in the Far East. So we are talking about a country which is definitely lacking in energy. Thank you.

DR. BUSH: Thank you very much, Georgy, for a very useful and shall I say illuminating presentation. Now we turn to questions and I will ask you to field the questions. If you have a question, raise your hand and wait for the mike, identify yourself so Georgy knows who you are, and then we will go from there.

QUESTION: Thank you, professor. My name is Mike Miyazawa. The whole project will need a whole lot of money and technology. The problem is, who is going to supply all the financing and technological assistance? I guess Japan is one of the leading candidates to be able to supply both the money and technology, but after the agreement was announced last week in Beijing, Japan this week decided to extend its unilateral sanctions against North Korea which include a total ban of imports from the DPRK, a total ban of port calls by North Korean ships, and a total ban of visits to Japan by the people of North Korea. And Japan continues, as everybody knows, to take part in the heavy-fuel deal. In the next phase when the light-water reactor issue comes up, I am afraid Japan will continue to refuse to take part in that discussion unless something drastic happens which could cause Japan to change its policy.

In your view, is there any way out of this stalemate between Japan and North Korea? The abduction issue is a serious problem, but at the same time, the United States has its own abduction issue. The CIA has been abducting terrorist suspects, the Europeans are very unhappy with this, and in any event, my speculation is that the United States really does not want to include this abduction issue into the Six-Party Talks, which, according to their view, should concentrate on the resolution of the nuclear issue. What is your suggestion to the government of Japan?

DR. TOLORAYA: I am not supposed to give any suggestions to any government, but I will tell you that when we talk about the issue of economic assistance, we are not talking about in terms of months or even a few years. We are talking about a dozen years or so, and positions and governments might change.

North Korea-Japanese relations have been in a traditional stalemate for many years, but I do hope that sooner or later the existing problems would be solved. I noted yesterday's Korean Central News Agency interview with a North Korean foreign ministry person who noted that Prime Minister Fukuda is more prepared for dialogue and the North Koreans would not be against it, that they would be prepared to continue the dialogue.

You understand that the issue of the abductees is mostly a political issue for Japan. It could be solved with the goodwill of both countries and how far North Koreans are prepared to go is an issue which comes into the framework of progress at the Six-Party Talks at the U.S.-North Korean bilaterals and I cannot see that is an issue totally without prospect of being solved. So we shall see, and in that case I do hope that Japan will be a part of the assistance package. I do not know whether it will be a part of the settlement for the colonial times. I do not use the word compensation, but the amount of settlement which the North Koreans estimate today is to be about \$10 billion, but there are ways to discuss it. So to be cautious about who pays is a good one. It is one of the cautions which is very difficult to answer.

We have the experience of the 1990s when South Korea, the U.S. and the E.U. paid—I think this time while of course South Korea would have to take the bulk of the investment in North Korea not only in energy but other areas as well, and I do not think this is unjust because South Korea is investing in the future of an integrated economy, and I am not saying unification, but the North Korean economy is more and more becoming a part of the South Korean economy, so it is an investment for the future. The economic package which was agreed upon during the summit meeting is estimated to be about \$11 billion and some South Korean experts to be as much as \$30 billion. The energy assistance is not a very big fraction of it, but I argue that energy assistance is very important and without an energy infrastructure and transportation no other investment can move on. So South Korea is obviously the second party. I do not know how would the U.S. avoid paying, and they already do for the heavy fuel supplies, as well as China. I cannot speak for the Russian government, but we are at least trying to pay for the heavy fuel oil and I am a proponent of the view that investment in North Korea should be done and we have the stabilization fund which can be used for foreign investment in my mind, and that is my personal opinion. We can bring in the European Union and countries like Australia, Canada, and maybe the ASEAN countries, but it needs lots of coordination, it is not an easy thing to do.

QUESTION: Thank you so much. I just wanted to know what are Russia's concerns about the recent incident in Syria, and whether there is a possibility the North Korean nuclear information was there?

DR. TOLORAYA: Syria?

QUESTION: Yes.

DR. TOLORAYA: I have absolutely no information on that. I understand that no explanation has been given to the Russian government either. So before we have some reaction, it is necessary to state the facts, which are absent. I personally am very doubtful that North Koreans would do a thing like that, risking the progress of their reconciliation with the United States by exporting nuclear technologies to Syria. I doubt it.

QUESTION: Ambassador Toloraya, it is great to see you again.

DR. TOLORAYA: Hi, Peter.

MR. BECK: Peter Beck from the U.S. Committee for Human Rights in North Korea. I wanted to press you a little bit about the light-water reactor project because I completely agree with you that this is going to be a big issue in the upcoming talks. I am wondering from North Korea's point of view, if the Bush administration continues to be inflexible about this and not willing to revisit it, do you see that as being a deal breaker and leading to a potential breakdown in the talks?

Second, the Bush administration has shown a lot more flexibility than I think most of us would have predicted even 12 months ago, so let's assume that they do reconsider this issue. Peter Hayes and others have questioned whether the project really is economically viable, that there are much more efficient ways of giving the North electricity such as building power plants. So I was wondering what you think of those arguments.

Finally, to press you on if we did go back down the light-water reactor road, a floating reactor does not seem very viable. North Korea would not seem to go for reactors being built in Russia. So then does it leave us back at the Kumho site?

DR. TOLORAYA: To what?

MR. BECK: Back at the Kumho site, back at the old KEDO project.

DR. TOLORAYA: A year ago I could not have predicted myself that the Bush administration would do such a turnaround, that things would progress in such a manner, so I just abstain from prognosticating what will happen in the next 12 months. But I am very much afraid that sooner or later there will be a sort of ceiling to this progress and this ceiling is the nuclear weapons issue and the light-water reactor issue. Will the Bush administration be able to solve these two issues or leave it to their successors? That is a question that we ask ourselves and I cannot predict.

What I know for sure is that in North Korea Kim Jong-il does not face any elections, so they could wait. They could wait to get the best deal. They waited for 15 years, and even if another several hundred thousand Koreans would die from hunger, that would not stop Kim Jong-il from trying to get the best deal.

As to the technicalities of a light-water reactor, I do not see why the KEDO cannot be revived. That was initially a good idea and if there were political support in the United States I think we could have moved much more than just do the concrete foundation of the reactor. As far as I know through my experience in talking with the Russian experts who have been dealing with the construction, as I said, we have invested lots of money into that and there are lots of people going there at the end of 1980s preparing for this construction. It is possible, it is not impossible.

Of course it will be a price issue than of the other nuclear options and we will have to reconstruct the grid to join together with South Korea and China, but it is not impossible to solve it. Whether the South Korean-type reactor, a Chinese-type reactor which is also not a nonexistent thing, the Russian-type reactor, that is a caution we should solve through many consultations. I can say for one thing that a Russian reactor will be about 2 times to 3 times cheaper than the U.S. or South Korean one. So this is a prospect we have to face, and we have to think about it now. I am not saying that it is inevitable, but this is one of the options.

QUESTION: Dave Fitzgerald and I am private consultant. I would like to just follow up on that, on whether you would see a possibility of Russia perhaps following what they have proposed to Iran in terms of reprocessing fuel, to offer that same kind of deal to North Korea at some appropriate point in the future.

DR. TOLORAYA: It is too far a prospect about reprocessing nuclear fuel and things like that, but I do not see that it is impossible. After all, Russia was the second country to build a nuclear bomb and the first country to build a commercial reactor. We have the technology and we have the possibilities and of course there would be many political consequences because our parliament is

much against bringing any foreign nuclear waste to Russia, but we have some experience on reprocessing as well, and it is not impossible.

QUESTION: You have very well articulated very many reasons for the denuclearization of North Korea and with the plethora of reasons, their needing enormous reforms and finances shows that North Korea not only is a have-not nation but is a have-nothing nation. Still it became a nuclear nation, nuclear power, to threaten the world's peace. How is it, briefly, if you could articulate? It is because of the power politics, world power politics, rivalries, or what are the other reasons?

DR. TOLORAYA: North Koreans made the nuclear choice a while ago and you should take into account psychology as well. Kim Il-sung in the 1950s knew about U.S. plans to use nuclear weapons against North Korea, and they were very suspicious of U.S. intentions as well after the war because I think that the last exercise of using a nuclear weapon in North Korea dates back to the 1970s. So it was a sort of *idée fixe* for the North Koreans to have their own nuclear deterrent and they invested lots of money in it. In North Korea, investment does not mean you have the budget and you allocate some money, they just need to do it, they sent people, they sent soldiers, they built the facility, they bought something from abroad they needed, they did not buy rice and the people died, but they got the equipment they needed for it. So it is a concentrated effort which brought the result and it is authority of totalitarian regimes that they could do what they really wished to do. The country remains poor and underdeveloped, but still I remind you that there is a rather considerable production of not only weapons of mass destruction but also of conventional weapons. The economy might be at a standstill, but the plants which produce anything from Kalashnikovs to armored personnel carriers, they are running and they are churning out production. That is the peculiarity of North Korea we should confront and that is where the properly channeled economic assistance should help.

QUESTION: Before I ask my question, my name is Kevin Kane and I am with Kissinger McLarty Associates. Did you recommend that economic development and aid be separated from any demand for political form incrementally and that should be blocked off? Because I did not really follow you when you made that comment.

DR. TOLORAYA: My conviction is that economic change should bring about political change, not vice versa, and the North Korean political regime is pretty inflexible and you cannot try just to modify it without breaking it. So what I believe in is that the new generation of leaders, as they appear on the scene, will be more rational and they will slowly change the modus operandi of the North Korean political systems, at least unless the people who remember the Korean

War and the atrocities of the war and the fear they had that they will be annihilated by the U.S. and South Korea, unless these people die out, I do not see that the regime might soften. But as more economic prosperity would be increasing in the process of economic modernization, it would bring about a new mood into the society, a new mood into the leadership, and I think that the North Koreans could be moving slowly from totalitarian to an authoritarian regime, and in 20 years from now they could be another country. The driving force is Korean nationalism, Korean nationalism which puts the interests of the nation before the class interests, before the interests of social justice or things like that, and I would not be surprised if this country in 15 years would be called not the Democratic People's Republic of Korea, but something like Kim-II-Sungia or something like that based on the national sentiment and based on the new principles which do not put much emphasis on communism or socialism, but puts emphasis on the national interests and the system which could unite the nation to achieve its goals.

So it could be moving from totalitarianism to an autocracy and even Kim Jong-il is much interested in the monarchies existing abroad and in Latin American military dictatorship experiences which is, by the way, was quite acceptable to the international community. I cannot see why North Korea in 20 years could be less acceptable to the international community than I would say Turkmenistan now or Saudi Arabia for that matter.

QUESTION: I am Yon Kim from GWU. Would you care to comment on the results of the recent summit meeting in Pyongyang with special reference to a few economic cooperation projects contained in the joint declaration?

DR. TOLORAYA: We had recently so many comments we went through with the participants of this meeting of people from Seoul and I am just really shy to make any concrete comments. But I would say broadly that we should not judge this meeting by some concrete outcome of whether it is possible to achieve or not, how the Roh Moo-hyun government would carry out the obligations with only 4 months in office. But I think that the crucial point in this meeting that was made clear to all the world is that the North Koreans agreed to coexist with a long period of time, not interfering into each other's affairs, not pushing for subversive actions or trying to undermine each other but they agreed to coexist and they agreed to coexist based on the national sentiment.

This by the way brings quite a new political reality into Northeast Asia. I have mentioned today that I did not expect this to happen too soon, but the peace process in Korea brings in new contradictions in Northeast Asia. China is very much unhappy now with both North and South Korea; Japan and the USA are also not very much happy with the possibility of removal from the terrorist-sponsor lists; and the U.S.-South Korean alliance is also threatened by this rapprochement between the North and South. So this process is very quickly

bring new contradictions, and I presume that if North and South Korea would be joining together or just coming closer together, that would also bring the fear of Korea in Japan. So we should speak not about the concrete of the meetings—who agreed to build what and at what expense and where the northern limitation line should be put—but in broader terms.

As to the economic things, I am not sure how much they were prepared because joint prosperity areas are very corrective options but they should carry a lot of studies. I could see more feasible things like a railroad connection and transportation—and by the way, Russia is also very much interested in that— and things like building of ship repairing plants, but I do not think 100 percent of what was agreed to will be implemented on the economic front. But I think it is better to have a good menu of what you can do and try to do it step by step than having nothing at all.

QUESTION: Some scholars of international relations advise us that it is always a good idea to pay attention to a regime's conception of itself when you are trying to figure out what they are doing, think about its identity. The identity becomes a lens through which the leaders examine their interests. In thinking about North Korea, one obvious self-conception or identity is the old one of *juche*, self-reliance, keeping initiative in our own hands, that sort of thing. I wonder how strong you think that particular identity still is, because it does explain an emphasis on nuclear power and light-water reactors as opposed to other approaches to energy security that make North Korea dependent on outsiders. It does call into question your vision for an economic strategy which I actually agree with and applaud, but the question mark about it is that by making North Korea a part of the international division of labor it does go against the *juche* ideal.

DR. TOLORAYA: I absolutely agree with you that we should not forget about *juche* ideas, and by the way, you all know that it is not a North Korean concept, it is an old Korean concept and it is very much integral to the country's mentality because being a shrimp among the whales, North Korea has also had this feeling of the need to be independent and to be self-centered and things like that.

It is not called like that now, but in the 1990s when we spoke about North Korea, you also have the unpredictable, unpredictable Kim Il-sung, unpredictable Kim Jong-il, an unpredictable regime, and things like that, and I will say that is absolutely predictable. That is the most predictable regime in the world. It is just different from what we know. It is like a computer with a different operational system. You do not understand how it works, but it is a machine. Sooner or later you understand that if you push that button, that happens, if you push this button, this happens, you may not like it, but it is the reality. So now finally the U.S. and

South Korea have managed to learn how to operate this computer and it is working fine.

You should take into account North Koreans' interest in their basic psychology of being self-sufficient, so these *juche* ideas pop up when nobody expects it, and that would happen again and again because the *raison d'etat*, the reason for the existence of the North Korean system is that we are independent, we are self-sufficient, we are a proud nation which does not envy anybody in the world. So they have proof that this was the right position because all the socialist countries collapsed but they are practically one single country which has kept its system, so it has worked well and what are doing is right. Now they say, yes, and we won the war with the Americans. If you look into the North Koreans, they are very persistent in their policies and always get what they want. They get now the peace treaty with the America they spoke about for 20 years, they will probably be getting the light-water reactor. I would love to be wrong, but that is the reality.

So what they say is okay, you can say whatever you like, but we know from our own experience that we are on the right path, we are doing the things that we are supposed to do and we are not going to learn any other ideas but the ones we have. Therefore we have to face that reality and we should not argue, we should not try to undermine this mentality. This is a given fact. This is a fact that we have to face and if we want some kind of behavior from this country, if we want this country's interest to find common ground with our interests, we should take this into account and push the buttons on the computer that brings us the result, not trying to say this computer works in the wrong way, let's change the operation system and let's put Bill Gates's system there.

QUESTION: Michelle Marchesano from the Partnership for Global Security. I am just wondering what kind of thoughts you have on how nuclear energy in North Korea would fit into the proposals to the IAEA of international fuel banks and supply chains, the centers in Russia or the U.S.'s GNEP.

DR. TOLORAYA: Say that again.

MS. MARCHESANO: How North Korea fits in with GNEP or the supply centers in Russia for reprocessing in fuel banks.

DR. TOLORAYA: It is too far off a prospect as well, but my conviction is that North Korea should finally play by the rules, it should rejoin the NPT and it should be verified not by the Americans, Russian, and Chinese experts, but by the IAEA, and this should be a prerequisite at least for the possible LWR construction. Since we have these very strict rules of the Nuclear Suppliers Group, we have the IAEA rules and regulations, I think that they should be



followed just like in any other case. This is important also for strengthening the nonproliferation regime.

QUESTION: I also agree with you that economic change should bring about political change in North Korea, but in terms of economic aid that we have done, one is obviously the food aid since the great famine in the early 1990s. I think I mentioned this to you earlier some time ago about how the food aid was actually substituting out North Korean import of food and so that aid is essentially funding North Korea to do other things. That is one concern. So the question is when you give this type of aid, how do you make sure that it gets to the right part or right kind of economic development rather than used for other types of uses like in the development of nuclear weapons?

Secondly, are these special economic zones like Kaesong. I do not think they have proven themselves yet. I think they have a long way before they prove themselves. How do we target economic aid that would really be used for development of its infrastructure and economics rather than for other reasons?

DR. TOLORAYA: Thank you. That is exactly what I have spoken about, that the aid should be given on a rational basis, not just based on what North Koreans ask us to do or some emergency aid. Give a man a fish and he will not be hungry for a day, but teach him to catch a fish and he will not be hungry for a lifetime, so that is what we are supposed to do with North Korea.

In the 1990s, food aid was an emergency and of course they might need to resort to that from time to time, but you should not give fertilizer or food or clothes or something like that and say that is all, we have given all we could and it is enough and we are satisfied with what we are doing. I have repeatedly stressed that it is necessary to have a plan, to have an economic program coordinated with the North Koreans of what kind of factories are to be constructed, where the supplies would come from, where the production would go. There are lots of experiences with that, and by the way answering Dr. Bush's question about the compatibility of these kinds of aid with *juche*, I say it is already going on and the North Koreans now say that it is not inconsistent with *juche*, we should be the masters of our own destinies, masters of the economy, but it does not preclude us from having a mutually beneficial deals with foreigners, and they have produced lots of processed goods now. Kaesong is of course still not economically efficient because it is just a start, and that is an experiment, it should not necessarily be successful. As time passes by, the North Koreans will learn to work. I do not see any reasons for them not to be as good workers as the South Koreans or the Chinese for that matter. So I would again stress that economic aid should be aimed at the structural changes in North Korea.

QUESTION: Peter Schoettle from Brookings. Could you please clarify the exact position of the North Koreans regarding the NPT and the IAEA? In other words, are they suspended or did they fully withdraw? And a second related question is, what's the role of the IAEA right now in the Six-Party Talks? Are they a candidate for doing some verifications, et cetera?

DR. TOLORAYA: The IAEA's role is zero. As for the NPT, the North Koreans have withdrawn from the NPT according to the legal procedure which is written in the treaty. They have declared that they have to withdraw because of threats to supreme national interests which is a clause of the NPT, and after 3 months legally they could not be considered members of NPT. They did it legally in according with the provisions that are in place. The IAEA, being an instrument for the NPT treaty, they do not have any legal right now to inspect North Korea, but there nothing is said about rejoining the NPT. If they make transparent all their former activities, if they will let the inspections in, and if they would declare everything they have, there is nothing that makes it impossible to rejoin the NPT. But the issue is the North Koreans now presume that we are a nuclear power, we have a power which have nuclear weapons, and in this capacity imply that we can join the NPT, why not, like the U.S., China, Russia, France, Great Britain, but of course nobody is going to accept it. So this issue of nuclear weapons and the status of the North Korea issue should be shorted out and it will take time.

QUESTION: Let me just ask a question of economic viability of LWR again because I was not clear about your answer to the previous question. When we have the LWR in place, we still need a huge amount of investment to have the power grid. How can we justify the economic viability of the LWR compared to electricity or a gas pipeline, those kinds of options?

DR. TOLORAYA: Going into technicalities, I would say that we need the power grid anyway. The North Koreans agree that it is so outdated and unreliable that some estimates said that during transmission distribution about 50 percent of all the energy is lost, and even if we build thermal power plants still without the proper grid, it will not solve all the problems, and you see that as well. The countryside practically has no electricity and many of the plants do not have any electricity so how are they going to operate them? So the grid will have to be built anyway.

Speaking about the price of it, I do not know. I know about the project of connecting the Russian Far East to the Chanchin area with a high-voltage line which on the first stage will make it possible to export energy to North Korea, and on the second stage it could be prolonged to South Korea with the purpose of exporting energy to South Korea because electrical energy in the Far East is much cheaper than in South Korea and we have a surplus of it in the Far East.

The first stage of this project is about \$200 million as far as I know. I would presume that rebuilding the grid or at least modernizing it would cost a billion dollars, I do not know, but it should be done anyway regardless of whether will be built a nuclear power plant, a thermal power plant, or a hydro power plant for this matter.

So it is inevitable, and still no one knows about the economic viability of a light-water reactor project, how much will it cost, how much the energy produced there would cost, how it would go in economic terms, how it would affect the energy-intensive production in North Korea, would it be competitive or not. These are the things that should be calculated. These are the things that I am saying should be studied. South Korea has about 20 I think now nuclear plants and they are working fine and this is economically feasible and it is not impossible.

At least I have not seen any figures apart from just very unsubstantiated ones about the commercial feasibility and comparison with a light-water reactor and a thermal power plant. Mind you that a thermal power plant might be cheaper and quicker to construct, but oil and gas are getting no cheaper. So if you take a 10-year span, what would be effective commercially? The North Koreans, as I have said, have their uranium deposits. If we even do not let them enrich it or product it, it could be done elsewhere, but at least they have the deep deposits which have been scarce in today's world. Russia had to import it from Australia, for example.

DR. BUSH: Thank you, Georgy, for a really stimulating presentation, and thank you all for coming.

\* \* \* \* \*