

The DPRK's Violation of its NPT Safeguards Agreement with the IAEA

*Excerpt from "History of the International Atomic Energy Agency"
by David Fischer (1997, published by the IAEA)*

On 12 December 1985, the DPRK acceded to the NPT. It has been widely reported that the USSR made such accession a condition for the supply of the Soviet power reactors that the DPRK was anxious to obtain as a first step in a nuclear power programme. (The Soviet power reactors did not materialize.)

Article III.4 of the NPT stipulates that a non-nuclear-weapon State acceding to the Treaty must bring into force a comprehensive safeguards agreement with the IAEA not later than 18 months after its accession. Despite mounting criticism, especially at the 1990 conference on the review of the NPT, but also at meetings of the IAEA, the DPRK took no action to fulfill this requirement – on the contrary it attempted to set a number of political conditions before it would conclude the agreement. Finally, on 10 April 1992, nearly five years overdue, the DPRK brought its safeguards agreement into force.

The agreement required the DPRK to send the IAEA an "Initial Report" on all nuclear material to be subject to safeguards in the country. The DPRK submitted its report on 4 May 1992. It contained some surprises. Until then the IAEA had only been officially aware of the existence of a single Soviet supplied research reactor (5 MW(th)) and a critical assembly which the DPRK had placed under IAEA safeguards in July 1977. Besides this small plant, the Initial Report listed a 5 MW(e) graphite moderated Magnox type reactor, a fuel fabrication plant, a "radiochemical laboratory" (in reality, a reprocessing plant) and two much larger Magnox reactors of 50 MW(e) and 200 MW(e) under construction. The three Magnox reactors had been or were being built by the DPRK itself. They were essentially similar to the reactors that the United Kingdom had used in the 1950s to produce the plutonium for its first warheads and to generate its first nuclear electricity. The 50 MW(e) reactor was due for completion in 1995. It would have been able to produce as much as 40-50 kilograms of plutonium a year, enough for five to ten nuclear warheads.

The DPRK authorities also showed the IAEA a small amount of plutonium (less than 100 grams) which, they said, had been extracted from damaged fuel rods discharged from the 5 MW(e) reactor. They maintained that this plutonium was all that they had separated, and that they had conducted only a single reprocessing operation, or "campaign", in 1990. The IAEA's analyses showed, however, that there had been several reprocessing campaigns. This implied that the DPRK had separated more plutonium than it had stated in its Initial Report. Whether the undeclared plutonium amounted to grams or kilograms could only be ascertained after further and more probing investigations. Analysis of the waste that the DPRK had provided to the IAEA showed a mismatch between it and the plutonium the DPRK had presented.

At the same time the USA provided the IAEA with satellite images showing two structures that had not been listed in the DPRK's Initial Report. Both were the type of facility in which nuclear waste is customarily stored. It was clear that the DPRK authorities had attempted to disguise the function of the two facilities by planting trees and using other camouflage.

If the IAEA was able to measure and analyse any nuclear waste that might be in these facilities, the analysis could shed more light on the question of how much plutonium the DPRK had actually separated. Accordingly, the IAEA asked to visit the two facilities; the DPRK refused on the grounds that the buildings were military installations. Director General Blix then formally demanded a "special inspection", a demand that was promptly rejected. On 25 February 1993, the Board formally endorsed Blix's request and set a term of three months for the DPRK to comply. On 12 March 1993, the DPRK responded, giving notice that it intended to withdraw from the NPT. On 1 April 1993, the Board found that the DPRK was in breach of its safeguards agreement and reported the breach to the Security Council which, on 11 May, by a vote of 13 in favour, none against and two abstentions (China and Pakistan) decided "to invite" the DPRK to fulfill its obligations under its safeguards agreement.

On 11 June 1993, one day before its notice of withdrawal from the NPT was due to take effect, the USA persuaded the DPRK to suspend the "effectuation" of its withdrawal and to accept normal IAEA inspection of the seven sites it had declared in the Initial Report. But during the remainder of 1993 and the first half of 1994 the DPRK continued to frustrate and harass IAEA inspections. In 1994, the IAEA proposed that when the irradiated fuel from the 5MW(e) reactor was discharged it should be done in a way that would permit the IAEA to verify the history of the reactor core and thereby help solve the question whether the DPRK had separated more plutonium than it had declared. In May 1994, the DPRK rejected the IAEA's proposal and hastily discharged the fuel in such an unstructured way as to make any historical analysis of the core virtually impossible.

On 10 June 1994, the IAEA Board of Governors decided to suspend all IAEA technical assistance to the DPRK. The latter responded on 13 June by giving notice of its withdrawal from the Agency. On 16 June 1994, the USA proposed that the Security Council should impose a series of increasingly onerous sanctions on the DPRK. The DPRK repeated an earlier warning that sanctions would mean war. The USA declared that it would not be deterred by threats. Tension mounted.

At this stage - on 17 June 1994 - former President Jimmy Carter stepped in and went to Pyongyang to discuss the crisis with Kim Il Sung himself. Carter came back with conciliatory messages. If the USA was prepared to meet the DPRK on certain points (e.g. diplomatic recognition, an assurance that the USA would not attack the DPRK and access to US nuclear power technology), the DPRK would be prepared to refrain from refueling the operating reactor and to refrain from reprocessing the spent fuel, perhaps stop the construction of the larger reactors, and allow the IAEA to keep its inspectors in the DPRK. Hardly had the USA responded to this overture by resuming high level discussions with the Government of the DPRK when the latter announced that Kim Il Sung was dead.

On 5 August 1994, "high level talks" reopened in Geneva and on 18 October the two delegations announced that they had been able to concur in a so-called "Agreed Framework", which they signed three days later. On 4 November 1994, the Security Council asked the IAEA to carry out the tasks assigned to it in the "Agreed Framework" and on 11 November 1994, the IAEA Board authorized the Director General to do so.

Under the "Agreed Framework":

- The DPRK would freeze its existing nuclear programme and accept international verification of all existing plants;
- The IAEA would verify compliance with the freeze and would continue to inspect "unfrozen" activities;
- The DPRK would eventually dismantle all the "frozen" plants;
- The two governments would seek methods of storing the fuel from the 5 MW(e) reactor and disposing of it in a way that "does not involve reprocessing" in the DPRK;
- The USA would put together an international consortium to arrange financing (\$4 billion) for and the supply of two 1000 MW(e) light water reactors;¹⁵⁰
- Dismantling of the DPRK's plants would be completed "when the LWR project is completed" (target date: 2003);
- The USA would arrange for the supply of heavy oil to "offset the energy foregone due to the freeze" of the DPRK's graphite moderated reactors;
- Both nations would ease trade restrictions and move toward establishing diplomatic relations;
- The USA would provide formal assurances to the DPRK "against the threat of use of nuclear weapons by the USA";
- The DPRK would "consistently take steps" to implement the North-South Korean agreement on denuclearizing the peninsula;
- The DPRK would remain party to the NPT and "would allow implementation of its safeguards agreement under the Treaty";
- When a significant portion of the light water reactor project was completed, but "before delivery of key nuclear components", the DPRK "will come into full compliance with its safeguards agreement... including taking all steps that may be deemed necessary by the IAEA, following consultations with the Agency with regard to verifying the accuracy and completeness of [the DPRK's] Initial Report on all nuclear material in [the DPRK]."

It should also be noted there was no mention in the "Agreed Framework" of the DPRK rejoining the IAEA.

The framework stipulated that a US-led consortium would finance the light water reactors. It was later reported that more than \$2 billion of the estimated \$4 billion cost of the reactors would be borne by the Republic of Korea, which would also provide the plants. Most of the remaining costs would be borne by Japan and the USA; other Western States would contribute minor shares.

It will be noted that full implementation of the "Agreed Framework" would require at least ten years. Inspection of the two suspect waste storage facilities and full DPRK compliance with its safeguards agreement would not take place until a significant portion of the light water reactor project had been completed. This was interpreted as meaning that, in practice, at least five to seven years would elapse before the IAEA could have access to the waste stores, as well as to any other location or information needed for verifying the completeness and correctness of the DPRK's initial declaration.

In most of the world the "Agreed Framework" was greeted with a sigh of relief. The danger of a second Korean war had been averted. The Republic of Korea and the DPRK would establish technical co-operation at all levels, opening up the reclusive North to engineers and technicians from abroad. Supporters of the Framework maintained that it was not based in any way on trust; that it would be most strictly verified and that if the DPRK were to deviate in any way from its terms all commitments for the supply of nuclear technology and fuel oil and the establishment of diplomatic relations would immediately lapse. The light water reactors would also make the DPRK dependent on supplies of foreign (low enriched) nuclear fuel for a large part of its electricity production.

There was, however, some sharp criticism in the USA. Critics alleged that the DPRK had negotiated by far the better deal, including 2000 MW(e) of modern nuclear power reactors, a substantial quantity of fuel oil and progress towards diplomatic recognition in return for stopping to do something that it should not have done in the first place and scrapping some obsolete nuclear plant, and that it would encourage other States to follow the DPRK's example. But no one seemed able to come forward with a credible alternative and, in the end, most of the critics seemed reluctantly to accept it.

The IAEA itself was clearly not happy that there would be a delay of at least five years before it could be assured of full implementation of the DPRK's safeguards agreement and, in particular, before it could inspect the two suspect sites and fully verify the DPRK's Initial Report. The main cause of the lengthy and frustrating dispute had been the IAEA's first attempt to exercise its right to carry out a "special inspection" at an undeclared location and the DPRK's prompt rejection of the IAEA's request. The IAEA's rights of inspection had hardly been strengthened by the "Agreed Framework". And what was the IAEA likely to find when it is finally allowed to inspect the two facilities?

But if the "Agreed Framework" had, in fact, persuaded the DPRK to abandon a nuclear weapon programme, and if the concessions made had averted a proliferation chain reaction in North East Asia, the price seemed worth those concessions.

The IAEA had come in for much criticism for its failure to detect Saddam Hussein's secret nuclear weapon programme. It had since re-examined its safeguards system and by mid-1997 introduced a series of major changes. In the DPRK, several of the IAEA's new approaches had been successfully put to the test:

Using sophisticated analytical techniques, the IAEA had detected a mismatch between the plutonium that the DPRK presented to it as products or in waste. This led the IAEA to conclude that the DPRK had understated the amount of plutonium it had separated.

The IAEA's Board of Governors had formally reaffirmed the IAEA's right, in the context of comprehensive safeguards agreements, to carry out special inspections at undeclared locations. The DPRK's rejection of such inspections deepened suspicions of its programme (but so far the DPRK had successfully resisted any special inspection of an undeclared site - or such a special inspection at any site).

- The IAEA had been provided with satellite images of sufficiently high quality to convince its Board of the probable declared nuclear waste stores. This also established a useful precedent for IAEA access to national intelligence.
- The Board had shown that it was able to take prompt and decisive action, confirming within four days the Director General's demand for a special inspection and thrice finding that the DPRK had been in breach of its safeguards agreement and reporting the breach to the Security Council.
- For the first time (except in the abnormal circumstances of Iraq) the Board had made use of the IAEA's direct line to the Security Council to draw the Council's attention to a deliberate and significant violation of a safeguards agreement.¹⁵²

At the end of 1995, however, the IAEA was still not able to verify the completeness of the DPRK's Initial Report, and the DPRK was still in formal breach of its safeguards agreement, as the General Conference noted in September 1995. Moreover, the "special inspection" procedure had been shown to be very confrontational.

These are serious issues. Perhaps even more serious was the demonstration that, so far at least, the Security Council has been reluctant to fulfill the commitment implicit in its 31 January 1992 declaration that its members considered the proliferation of all weapons of mass destruction to constitute a threat to international peace and security, and that its members "will take appropriate measures in the case of any violations notified to them by the Agency." While it might be difficult to maintain that the DPRK had "proliferated", there was no doubt that it had violated its safeguards agreement and Article III of the NPT. If the DPRK had been able to continue its previous course with relative impunity, it would have called into question and not only the effectiveness of IAEA safeguards in deterring proliferation, but also the enforcement authority of the Council itself. More broadly, there could have been doubts about the ability of the International community effectively to require or enforce compliance with any multilateral arms control treaty such as the Chemical Weapons Convention -- as well as with the NPT.

For US policy the choice was to accept that the DPRK would continue both its reactor construction programme and the separation of more plutonium at the reprocessing plant, or pay the price needed to put a stop to and eventually reverse these programmes. In effect, the USA decided that it could live with the uncertainty about how much plutonium the DPRK had separated -- how much more than the amount it had declared -- but that it could not accept the continued separation of plutonium, even if it were made legal by being fully declared and placed under safeguards. Thus, in effect, the USA paid the price for the cessation of the plutonium separation programme. But as long as the reprocessing plant remained in place, the DPRK retained some residual leverage.