Examining allegations that Pakistan diverted Chinese-origin goods to the DPRK
Proliferation Case Study Series

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About Project Alpha

Alpha was established in 2011 at King’s College London’s Centre for Science and Security Studies (CSSS) with government funding to improve the implementation of trade controls. Alpha conducts research to understand both illicit trade and the effectiveness of supply-side controls in countering such trade. This research forms the basis of Alpha’s outreach and capacity building activities.

About the Case Study Series

This series was developed to highlight individual cases of illicit trade so that broader policy lessons can be identified and enacted. The series draws upon a variety of open source information, including media reporting, trade data and social media information.

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Summary

During June 2016, at the same time that the Nuclear Suppliers Group (NSG) was considering applications for membership from both India and Pakistan, allegations surfaced in the Indian press about alleged nuclear-related transfers from Pakistan to the Democratic People’s Republic of Korea (DPRK or North Korea). These transfers reportedly involve the diversion of Chinese-origin items with nuclear utility to the DPRK’s nuclear programme.

If true, these allegations would be a serious violation of UN Security Council resolutions regarding the DPRK, which have been progressively tightened as a result of Pyongyang’s development and testing of nuclear weapons and ballistic missiles. The allegations likely informed views in many capitals about the credibility of Pakistan’s membership application to the NSG, which has long been viewed with scepticism in many countries as a result of the actions of the notorious Pakistani proliferator, Abdul Qadeer Khan.

These allegations were apparently based upon intelligence information which has not become public. While broadly credible, they cannot be proven or disproven using available open source information. Nonetheless, Project Alpha has been able to verify aspects of the allegations. Further investigation might allow the allegations to be substantiated. In the meanwhile, this case study sets out what aspects of the allegations have been verified or disproven to date.
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Introduction

A series of allegations made in June has re-awakened the issue of Pakistani nuclear cooperation with North Korea. These allegations, published by an Indian news agency, state that Pakistani authorities have continued to supply nuclear-related material to North Korea, in violation of sanctions.¹

Pakistan and the DPRK have a history of collaboration in the nuclear and missile domains, including sales from Islamabad to Pyongyang of missile and uranium enrichment technology through the notorious Abdul Qadeer Khan (AQ Khan) proliferation network. Since the dismantling of that network in the early 2000s, Pakistan has sworn to prevent future proliferation on the scale of Khan’s network. And, like its strategic rival India, Pakistan also has a stated aim of entering the Nuclear Suppliers Group, an export control regime that requires states to avoid supplying proliferation-sensitive nuclear technology to states outside the Nuclear Non-Proliferation Treaty.

The question of whether Pakistan has recently supplied the DPRK with nuclear-related technology came at an important moment when the Nuclear Suppliers Group (NSG) was considering applications for membership from both India and Pakistan. Some NSG members advocated the use of a ‘criteria-based approach’ for admission of those states which were not party to the NPT (including India and Pakistan) whereas others, including the Indian establishment, argued for a ‘merit based’ approach. Allegations of impropriety between Pakistan and North Korea undoubtedly shaped reception to these arguments in NSG member capitals, particularly given Pakistan’s track-record of involvement in proliferation. However, the government of Pakistan has denied the new allegations which are apparently based upon intelligence information which has not been released (and is thus not directly verifiable). As such, the allegations leave open questions about Pakistan’s commitment to non-proliferation issues.

In this context, Project Alpha sought to substantiate or otherwise the allegations utilising open source information. A variety of data sources were utilised when undertaking this examination. While certain aspects of the allegations have been verified, it was not possible to reach a conclusion about whether the transfers to DPRK occurred. The purpose of this case study is to set out what steps were taken and what information was validated such that follow-on study might be undertaken, should further information become available that could allow a conclusion to be drawn about the validity of the allegations.

A short history of Pakistan-DPRK illicit trade

The exact extent of strategic cooperation between Pakistan and North Korea is unclear, but there are various events and reports leading to the conclusion that for years – especially in the fields of nuclear and missile technology – there has been, and maybe still is, an exchange between the two countries.

In the 1980s, both states enjoyed the same buyer for their conventional weapons: Iran, which was then at war with Iraq. North Korea’s Scud-B and C missiles were important gains for Iran. It can be

assumed that Islamabad and Pyongyang first began discussing strategic cooperation during this
time. Pakistan was interested in missile technology, and had also begun producing highly-enriched
uranium. North Korea however had serious economic problems and was effectively impoverished.
For both countries cooperation made sense: both had something the other did not possess. And
especially for North Korea, which was and is much more isolated from the outside world than
Pakistan, the necessity to obtain expertise and foreign know how stems from one of the ideological
tenants of the Juche idea: “Scientists and technicians should work to overcome by their own efforts
the problems which require an urgent solution for the development of the national economy of our
country, and to introduce the scientific and technical successes of developed countries in
accordance with its specific reality.” For North Korea’s ruling Kim clan, making alliances of
convenience is a necessity born of the need for survival.

**Nuclear cooperation**

In 1991 a report by German intelligence reportedly claimed that North Korea might have obtained
‘uranium melting know-how’ from Pakistan which had itself been stolen from the European
uranium enrichment consortium, Urenco. The report also stated “that an array of nuclear-related
dual-use furnace equipment, manufactured by Leybold AG, was illegally exported [to Pakistan] by
yet-unknown parties.” This was one of the first indicators of the AQ Khan network, which supplied
sensitive nuclear know-how and technology to North Korea, Iran, Libya, and other countries.

During the following years, various clues and investigations gave hints to ongoing efforts of North
Korea to develop uranium enrichment technology using material provided by AQ Khan. In 2009
the IAEA’s inspectors in Pyongyang were expelled by the regime. But in 2010, nuclear expert
Siegfried Hecker, then on his fourth trip to the hermit country, was invited to a hereto unrevealed
uranium enrichment facility in Yongbyon. Hecker was “taken to a new facility that contained a
modern, small industrial-scale uranium enrichment facility with 2,000 centrifuges that was recently
completed and said to be producing low enriched uranium (LEU) destined for fuel for the new
reactor.” The centrifuges, Hecker assessed, were of a type known as P-2: a Pakistani model
derived from Urenco technology. He asked later in his report: “How did North Korea acquire
centrifuge technology at such a level of sophistication and when?”

The answer was Pakistan. According to statements of the highest-ranking North Korean defector
to date, now-deceased Hwang Jang Yop, and also by AQ Khan, North Korea signed in 1996 a
top-secret agreement with the Pakistan government to import its uranium technology.

The role of Khan is still today highly debated, as is the extent of his role in providing North Korea
with nuclear technology. Khan studied and worked in nuclear research centres in Germany and the
Netherlands, where he had access to sensitive know how and materials relating to uranium
enrichment. Always seeing himself as a Pakistani patriot and a Muslim – especially after 1974, when

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Science), vol. 4, no. 1.
3 Mark Hibbs, ‘Agencies Trace Some Iraqi URENCO Know-How To Pakistan Re-Export,’ *Nucleonics Week*, 28
4 Siegfried S. Hecker, ‘A Return Trip to North Korea’s Yongbyon Nuclear Complex,’ 22 November 2010, p.2,
http://nautilus.org/napsnet/napsnet-special-reports/a-return-trip-to-north-koreas-yongbyon-nuclear-
5 Ibid., p. 7.
6 E.g.: ‘Hwang Jang-yop Holds Press Conference To Explain Why He Defected from North Korea,’ Federation of
India tested its first nuclear bomb – Khan describes his pride about his work and the research progress in Pakistan:

"While in West Germany and working in a top notch Nuclear Research Centre in Karlsruhe, I came to know of our success in this most important field. It was, at the first instance, difficult to believe that we have obtained mastery in this most elusive and valuable technology in such a short time. My German colleagues were full of praise for our success and accomplishment. The breakthrough by our scientists and engineers at Kahuta came as a real heart warmer to all the Pakistani scholars working abroad and it was for the first time that we could walk tall and straight. We were proud to be Pakistanis."

Khan’s frank portrayal of his experiences in Germany is significant for its demonstration of the naïveté and ignorance surrounding nuclear technology, when the danger of proliferation was obviously not at the fore of people’s thinking, even in laboratories working on sensitive nuclear research.

In 2004 Khan confessed on TV to the illegal passing of nuclear secrets to North Korea, amongst others. During the Pakistani state’s investigations into Khan, alarming allegations surfaced. Khan himself claimed in his confession that he had only delivered “old and discarded centrifuges and other uranium-enrichment equipment to North Korea”. North Korea, according to Khan, had “placed orders for P-1 centrifuge components from 1997 to 1999…Khan and his associates provided direct technical assistance to that country from 1998 to 2000. According to an official in Pakistan, “nuclear leaks started in the late 1980s. There was a lack of strict command and control over Pakistan’s nuclear programme for 20 years.” According to US accounts, the US intelligence community “knew about multiple trips by AQ Khan to North Korea, beginning in the mid-1990s, but still today it is not clear if Khan did this for discussions about missiles, nuclear technology, or both.

In his 2006 memoirs Pervez Musharraf, the former president of Pakistan, stated: “Doctor AQ Khan transferred nearly two dozen P-1 and P-2 centrifuges to North Korea. He also provided North Korea with a flow meter, some special oils for centrifuges, and coaching on centrifuge technology, including visits to top-secret centrifuge plants.” Musharraf also stated that while in office he had “received a report suggesting that some North Korean nuclear experts, under the guise of missile engineers, had arrived at KRL [Khan Research Laboratories] and were being given secret briefings on centrifuges, including some visits to the plant.” Another source cited in the New York Times has said that “North Korean technicians worked at Dr Khan’s lab in 1998…the collaboration was on missiles, and [the source] never suspected Dr Khan of nuclear proliferation.” This is unlikely, as is

9 Ibid.
12 Ibid., pp. 286-287.
Khan’s statement in an interview via email in 2011 that he never dealt with nuclear weapons. Khan still is not permitted to reveal all about who has benefited from his activities. His confessions were made reluctantly after being cajoled by the Pakistani government, and Khan feels that the Pakistani military has stabbed him in the back.\(^\text{14}\)

In addition to supplying centrifuge technology to Pakistan, North Korea also supplied Pakistan with nuclear material, in the form of uranium hexafluoride (\(\text{UF}_6\)), the gaseous form of uranium used in centrifuge enrichment. As an IAEA investigation discovered, Pakistan on-sold this material to Libya – possibly without knowledge of Pyongyang. In a report of the IAEA on Libya’s now-dismantled nuclear programme, this special relation is described. The report states:

“In December 2003, the Socialist People’s Libyan Arab Jamahiriya informed the Agency that it had imported from the same clandestine supply network that had also assisted it with centrifuge enrichment technology and information on weapon design and development, two small cylinders containing \(\text{UF}_6\) in September 2000, and one large cylinder containing \(\text{UF}_6\) in February 2001...[a]lthough the Agency cannot confirm the origin of the \(\text{UF}_6\) in the cylinders, it is very likely that the natural \(\text{UF}_6\) in the large cylinder originated in the DPRK”\(^\text{15}\)

While cooperation between Pakistan and the DPRK on the nuclear fuel cycle and missiles is accepted as fact, some Indian analysts have made intriguing but unverifiable claims that Pakistan has collaborated with North Korea on nuclear weapon development and testing. In 2002, for example, an Indian analyst wrote that his Pakistan sources claimed that one of the nuclear devices that Pakistan tested during 1998 “was of North Korean origin and that North Korean nuclear scientists were present during the testing.”\(^\text{16}\) In 2016, an analyst from Delhi’s Centre for Policy Research went further, stating:

“the fourth North Korean test explosion of a Pakistan crafted fusion-boosted fission (FBF) device on January 3, 2016...Several aspects were of note: the similarities between the instrumentation bunkers at Punggye and Pakistan’s Ras Koh nuclear testing complex; the presence of South Asian-looking men in Pyongyang ...; the Chinese vetting of design, and its transportation along with the fuel...by road across the mountainous border from the adjoining Jiangsu province to the test site in northwestern North Korea to minimise the chances of detection.”\(^\text{17}\)

These particular claims seem exaggerated, and while the notion that a North Korean-origin nuclear device has been tested in Pakistan cannot be ruled out, it is highly unlikely.

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Missile cooperation

Pakistan and the DPRK also have a long history of cooperation in the missile field. In 1993 Benazir Bhutto, former prime minister of Pakistan, flew to Pyongyang. To date, there is speculation about this trip, in both its substance and result. Frantz and Collins write that one of Pakistan’s most sought-after strategic weapons was the North Korean No-Dong missile [see image below]:

"Bhutto found that Kim was willing to sell the missile plans. Bhutto’s plane left the country carrying several computer disks containing the blueprints for the latest version of the missile, which she later delivered to Khan".  

The No-Dong missile is based on one of the most notorious designs in modern weaponry: the famous Scud, developed by the Soviet Union during the Cold War. The Soviet Union exported Scuds to Egypt, from where they were exported to North Korea around the year 1988 and redesigned by Pyongyang. One result was the No-dong 1 (also named Ro-dong 1 or Scud-D) – left in the picture. This missile type has since appeared elsewhere after being exported again by North Korea – in Iran, as the Shahab-3 (center), and in Pakistan, as the Ghauri or Hatf-V system (right).

Figure 1. No-Dong 1 (left), Shahab-3 (centre) and Ghauri (right) missiles.  

It is unclear just how much – if at all – this missile-related relationship has persisted beyond the AQ Khan era. There is little authoritative evidence on the public record hinting at any ongoing missile connections between Pakistan and the DPRK – although cooperation in this field cannot be ruled out, given the DPRK’s ongoing and aggressive marketing of missile technology abroad.

The new allegations

On 22 June 2016, an Indian news agency, Asia News International (ANI), published a report claiming that Pakistan ‘is continuing to supply’ North Korea with nuclear-related materials. 19 The

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The report was purportedly based on information provided by ‘highly placed U.S. sources...involved with the tracking of nuclear commerce.’ In the report, ANI made several allegations relating to purported supplies of nuclear-related dual-use goods from Pakistan and North Korea, specifically that:

- Entities of the Pakistan Energy Commission (PAEC) have supplied two specialised nickel-alloy metals, Inconel and Monel, to North Korea.
- The China Atomic Energy Authority (CAEA) has recently received a complaint that Pakistani authorities had diverted goods supplied by a Chinese company, Beijing Suntech Technology Company Limited, to North Korea.
- Pakistan has diverted vacuum induction melting (VIM) furnaces to North Korea. Beijing Suntech Technology Company Limited manufactures these furnaces.
- Two North Korean diplomats, Kim Yong Choi and Jang Yong Son, visited Pakistan eight times between 2012 and 2015 and met with Pakistani officers involved in the nuclear programme. These diplomats are associated with the Korea Mining Development Trading Corporation (KOMID), a UN Security Council-designated North Korean weapons trading firm.

A subsequent report published by an Indian news outlet, *India Today*, has claimed that ‘nuclear missile materials’ have been transported by Pakistan to North Korea via sea using cargo ships. No further information was provided on the nature or timing of these shipments.

**The technology**

The technology that Pakistan is accused of supplying the DPRK with is dual-use in nature with a wide number of potential application in the nuclear fuel cycle, nuclear weapon production and other strategic applications, as well as having utility in civil industries.

Monel and Inconel are both nickel-based alloys. They have excellent corrosion-resistant properties, and are used in various industrial processes where corrosive environments are encountered – including in uranium enrichment and chemical weapons production. Despite this utility, they are not controlled by the Nuclear Suppliers Group, Missile Technology Control Regime or Australia Group.

Vacuum induction melting (VIM) furnaces generate by electromagnetic induction a secondary current that then heats a metal. Conduction under vacuum conditions allows the capture of dust and fumes, as well as allowing reactive materials such as plutonium to be cast in an inert environment. They are used in various industrial contexts, including in aircraft and automotive part production. In nuclear weapon programmes, they can be used to cast uranium or plutonium metal into hemispheres or other components of the fissile pit at the heart of the weapon’s physics package. Certain VIM furnaces are controlled by the Nuclear Suppliers Group due to their utility in nuclear weapons manufacturing.

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Verification using trade data and other open source information

Elements of the allegations made by the Indian press regarding the Chinese company Beijing Suntech Technology Co Ltd can be verified using open source information. While Beijing Suntech’s website (http://www.beijingsuntech.com) is no longer active, a cached version can be accessed via Google. This website shows that Beijing Suntech is indeed involved (or at least claims to be) involved in the supply of vacuum melting and casting furnaces (see below).

Figure 2. Beijing Suntech website showing vacuum melting and casting furnace

It is unclear whether Beijing Suntech is actually able to supply these furnaces, but they are unlikely to manufacture them, contrary to the Indian allegations. Beijing Suntech is more likely a trading company that supplies furnaces made by other Chinese manufacturers. Indeed, an image of a vacuum furnace on the Beijing Suntech website also appears on that of a Chinese furnace manufacturer, Shenyang North True Vacuum Technology Co. Ltd.
Project Alpha has obtained Pakistani shipping records which can be used to help further corroborate the Indian allegations. These shipping records make clear that Beijing Suntech has
indeed supplied dual-use goods to Pakistani customers, including entities involved in Pakistan’s nuclear weapons programme.

The documents obtained by Project Alpha state that Beijing Suntech has made multiple shipments of goods to a Pakistani company, Galaxy Corporation PVT LTD, which we assess to be a probable front for the Pakistani Atomic Energy Commission (PAEC) or another entity within Pakistan’s nuclear programme.\(^\text{21}\) It is PAEC that the Indian allegations accuse of being responsible for shipping equipment to the DPRK.

Beijing Suntech’s recorded shipments to Galaxy Corporation between January and April 2016 have included dual-use goods with potential utility in the nuclear fuel cycle and WMD-related applications. The documents do not, however, detail any shipments of vacuum furnaces, Inconel or Monel, nor does it show any shipments of goods from Beijing Suntech or Galaxy Corporation to the DPRK as per the allegations. Still, the shipping information does verify that Beijing Suntech has supplied dual-use equipment to Pakistan, and probably to Pakistan’s nuclear programme. Whether any of this equipment has then been diverted to the DPRK is unknown.

A link chart showing the known and alleged connections between Beijing Suntech, Galaxy Corporation, and the DPRK is shown below.

\(^{21}\) Galaxy Corporation’s imports from other companies include several sensitive proliferation-related goods of nuclear relevance, including thyatrons, used as triggering devices in nuclear weapons, and radiation monitors.
Figure 5. Beijing Suntech Corporation, Galaxy Corporation, Pakistan and the DPRK
Verification using ship-tracking information

According to one of the accusations made in June by the Indian press, 'nuclear missile materials are being transported by Pakistan to North Korea by sea, using cargo ships.' Another report states that:

'America’s Central Intelligence Agency (CIA) had recently tipped off friendly countries, including India, about...illicit nuclear trade between Pakistan and North Korea and asked them to heighten surveillance of cargo ships carrying white goods emanating from Pakistan. On its part, the CIA is also tracking such movements in the region... Merchant cargo and empty ships originating from Pakistan and sailing to other South East Asian countries are also being kept under surveillance to track nuclear trade, the sources said.'

It should be noted that a few days before these reports, talks between India and the US about maritime safety were held, including discussions on monitoring 'white [i.e. non-military] shipping' in the region. These talks may have been the forum in which alleged illicit shipments between Pakistan and the DPRK were discussed.

Ship-tracking information and other shipping databases give some insights into sea cargo flows between Pakistan and the DPRK. An enquiry using SeaRates, a shipping database, shows that the last regular sea cargo route between Pakistan and North Korea was in 2010:

Figure 6. Source: http://www.searates.com, 17 July 2016.

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But even today, despite existing sanctions, it is apparently possible for at least one shipping company to offer shipments from Pakistan to North Korea and to ask for the appropriate modalities:

Figure 7. Source: http://www.searates.com, 11 July 2016.

Logistical details are included:

Figure 7. Source: http://www.searates.com, 11 July 2016.
These apparent offers for shipping from Pakistan to the DPRK may only be a function of this website’s search engine, but it is possible to place requests for shipping, so that other interested shippers or carriers may contact the requester. And data on this website seems to indicate that cargo shipments have been made to the North Korean port of Nampo as recently as June from Ukraine and Russia, suggesting that sea transport to the DPRK is possible:

Figure 8. Source: http://www.searates.com (17 July 2016).

Keeping the relevant ports near China under surveillance it becomes clear how difficult it is to find shipments going to or coming from North Korea. Many North Korean smaller vessels ship to Dalian, which is a busy Chinese port. Among them are even fisher boats, which can function as sanction busters and which are used in the smuggling business as well. Beside the technical problems to track a vessel\(^\text{25}\), North Korean vessels are re-named or they ship under a foreign flag.

The following screenshots shows a recent moment at Dalian:

<table>
<thead>
<tr>
<th>Ships in Port now</th>
<th>Departures</th>
<th>Arrivals</th>
<th>Expected Arrivals</th>
</tr>
</thead>
<tbody>
<tr>
<td>117</td>
<td>60</td>
<td>62</td>
<td>114</td>
</tr>
</tbody>
</table>

**Figure 9.** Source: http://www.marinetraffic.com, 20 July 2016.

Based on this data there seem to be only one North Korean vessel: The departing *Ryu Gyong*, also known as the *Rong Yuan*:

**Figure 10.** Source: http://www.marinetraffic.com, 20 July 2016.

The *Ryu Gyong* belongs to the Sinhung Shipping Company, based in Pyongyang. Ships from this company have probably been previously involved in shipments of illicit cargo. In 2009, the Sinhung-owned *Hyang Ro* was found stationary in Indian waters when it was supposed to be sailing to Karachi, Pakistan. Coast Guard and naval personnel boarded the ship but found it was carrying no cargo. Suspicions remain that this ship was involved in an illicit transfer of one sort. In a later case, the UN Security Council’s Somalia-Eritrea Monitoring Group found that the *Hyang Ro Bong* discharged a cargo originating in Pakistan in the Somali port of Mogadishu, before proceeding to the port of Kismaayo, which was at that time controlled by the insurgent group Al-Shabaab. The Monitoring Group stated: “while the Monitoring Group does not have specific evidence that the movements of this vessel were linked to a violation of the sanctions regime, it considers them to be of a suspicious nature and to merit further monitoring.” These shipments may have involved transfers of arms or other illicit cargo.

**The involvement of KOMID**

The June media reports state that two officials from a DPRK entity, the Korea Mining Development Trading Corporation (KOMID), visited Pakistan eight times between 2012 and 2015 and met with Pakistani officers involved in the nuclear programme. Kim Yong Chol and Jang Yong

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27 Sometimes named as Hyongro, complete name is Hyong Ro Bong.
Son had both been “posted in the North Korean Embassy in Tehran visited Pakistan eight times between 2012 and 2015.”

This is not the first time these visits have been reported. In their June report, the UN Security Council’s DPRK Panel of Experts outlined travel details for seven North Koreans who were named by the US Department of Treasury as KOMID representatives or officials. These officials:

“They transited through, entered or exited the following States between 2012 and September 2015: China, Egypt, Iran (Islamic Republic of), Malaysia, Singapore, Sudan, Uganda, United Arab Emirates and Zimbabwe [...] Those in the Islamic Republic of Iran and Namibia were confirmed as accredited diplomats by the United Arab Emirates, Pakistan and Namibia.”

The Panel of Experts confirms that KOMID representatives Kim Yong Chol and Jang Yong Son have travelled to Pakistan – however, the Panel states that they actually visited 28 times, rather than eight times, as the Indian press has stated. In contrast, Pakistan believes that this figure is exaggerated.

While KOMID representatives almost certainly have visited Pakistan on multiple occasions, there is no evidence on the public record to corroborate the Indian media allegation that these representatives have met with Pakistani nuclear officials. There are multiple reasons why KOMID representatives might have travelled to Pakistan, including for discussions on conventional arms sales, luxury good procurement, or cash couriering – nuclear engagement is an intriguing possibility, but not one that can be proven.

China’s role

Another question that arises from the June allegations is Beijing’s role in purported transactions in nuclear weapon-related technology. In the case of these allegations, whilst the DPRK and Pakistan are the main protagonists, it is obvious that China is also a key player.

In this context, many past reports have been alarmist. In 2013, an Indian news article reported that Indian intelligence had detected through satellite imagery a Chinese transport of nuclear missiles and fissile material along the Karakoram Highway, which connects China with Pakistan through

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the western fringes of the Himalayas. This report was probably an exaggeration or even politically-motivated fiction: the idea of a missile convoy transiting this precarious road stretches credibility. But other analysts have underlined the murkiness of the Chinese-Pakistan relationship and the potential for illicit transfers through this region, where “it would be possible for officials of either country, with the co-operation of the other, to ensure that vehicles carrying officially sanctioned cargo transit without inspection.” As Jane’s Intelligence Review has noted: “[s]ince the 1990s, the Karakoram highway is believed to have been a passageway for Chinese missiles and related components to Pakistan. Since 2001, it is also thought that North Korea has used this route to transport missiles to Pakistan.”

Even if the notion that Chinese state vehicles have transported actual nuclear weapons (as opposed to missile-related technology or equipment) along the Karakoram Highway seems far-fetched, that is not to say that Chinese entities have a clean slate with respect to illicit exports to Pakistan of sensitive nuclear-related materials. In 2011, for example, a Chinese citizen was accused in a US court of exporting and re-exporting specially designed materials to a Pakistani nuclear power plant. And there is certainly more analysis to be done relating to the role of Chinese companies – both state-owned and private – in supplying nuclear-related technology and expertise to Pakistan.

With respect to the current allegations, China is keeping a low profile. No additional information or official statements appear on Chinese websites and only on a few Taiwanese websites one can find a hint to this case. Interestingly, authorities in Beijing seem to be attempting to suppress online discussion and reports about the alleged China-Pakistan-DPRK case. An online search for the case using the Chinese search engine Baidu, which is subject to censorship under China’s ‘Great Firewall,’ yields no results (see figures below). This seems an unmistakable sign of the fact that Beijing sees these allegations as unfavourable ones.

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37 Jane’s CBRN Assessments, 18 December 2015, p. 7.
The Nuclear Suppliers Group: an elephant in the room

There is an underlying strategic issue that has most likely driven the release from one or more states of this information about the alleged Pakistan-DPRK transfers onto the public record. One cannot ignore that the leaks about an alleged supply of Chinese sensitive technology to North Korea by Pakistan came up at a key moment in international export control diplomacy: the reports arrived on the eve of the June plenary meeting of the Nuclear Suppliers Group (NSG), and appear designed to embarrass Pakistan – and more important, Pakistan’s strategic benefactor, China. At the June NSG plenary, Pakistan and also India applied for membership in the Nuclear Suppliers Group (NSG), and the applications of both were rejected. China supported Pakistan, while India was – more or less – supported by the U.S.

This leak about an alleged re-export of Chinese materials from Pakistan to North Korea (which would be in clear violation of UN sanctions) was intended not only embarrass Pakistan, but was probably intended to weaken the Chinese position and their reputation as well. China, after all, had publicly agreed to do more enforcement of sanctions against North Korea.

It is understood that members of the NSG were made aware of the allegations prior to the regime’s June plenary meeting. As such, the allegations did likely contribute to general skepticism amongst many NSG member states about Pakistan’s application.
Conclusion

Given the extensive sanctions against North Korea over its proliferation-related activities, and ongoing intensive scrutiny of the country’s activities by various intelligence services, there is little doubt that the North Korean government will continue to look for ways to circumvent sanctions. North Korea will rely more and more for proliferation-related transfers on entities which are steps removed from publicly-known governmental structures.

In the current case, the combination of relatively opaque nuclear bureaucracies and various commercial entities in South-East China make it a particular challenge to prove or disprove the allegations made in the Indian press. But given the opacity of North Korean operations, and the difficulty in tracking trade to the DPRK, it is a particular challenge to find relevant links.

Regardless of the intent behind them, the June allegations have not substantially disturbed the strategic balance in the South Asian region, despite causing minor loss of face for those states who are seeking to gain access to lucrative and prestigious nuclear markets. Looking forward on the potential North Korea–Pakistan proliferation-related nexus, steady surveillance and analysis of trade data, shipping movement and specific military requirements will be necessary.