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Nuclear Suppliers Group (NSG) and India: Prospects and Challenges

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Preface

The publication of this series of working papers is a reflection of the endeavour of the University's commitment towards promoting research excellence among the faculty members of the University. Through this series, the University seeks to broaden the horizon of liberal thought, expression and ideas among the faculty members working in this University which is based on a liberal approach towards taking up fruitful discussions across fields and disciplines of socio-cultural relevance. Moreover, it also encompasses the conventional academic disciplines.

With the philosophy of encouraging free flow of ideas in view, the University has adopted an approach to do away with the process of peer review of the working papers. However, to provide an overall guidance, the University has made presentation of the working paper at an Academic Presentation mandatory, before its publication. We believe that this series of working papers would enable the faculty members to publish their advanced research works by bringing them into the public domain which would help them receive further constructive criticisms, feedback and suggestions from the readers across different space. Such working papers would also help the aspiring research scholars of the Universities in the region and beyond.

The broad areas of discussion in this year's working papers stems from the academic disciplines of Philosophy, Political Science, Education, English, Management and Technological Sciences. The working paper entitled *Nuclear Suppliers Group (NSG) and India: Prospects and Challenges*, authored by Dr. Abhijit Bhuyan seeks to explore and examine the background, rationale, resistance and support vis-à-vis India's bid for NSG membership in the light of the overall prospects and challenges revolving around India's endeavour to join the elite club. Based on analysis, the author has argued that India already fulfils the "principle of criterion" which could be interpreted as adherence to the core principle of nuclear non-proliferation. Countries like China, who are opposed to India's bid to NSG membership should focus on India's impeccable and stellar record on the issue of nuclear non-proliferation and consider India's credentials in this regard on the basis of the "principle of merit."

January 01, 2018.

Arupjyoti Choudhury, Chairperson.
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Nuclear Suppliers Group (NSG) and India: Prospects and Challenges

Abstract

Emerging trends in the global geo-strategic arena indicate a definite tilt towards acknowledging India's role as a responsible state actor in the nuclear field, especially in the wake of the growing concern on the part of the international community to prevent the proliferation of nuclear weapons while emphasizing the importance of harnessing nuclear energy for peaceful civilian purposes. It is therefore important that we examine India's position in the nuclear arena juxtaposed against the felt need to end India's relative isolation in the field of nuclear commerce revolving around the issue of usage of nuclear technology for civilian purposes. In this context, the single most important factor which would lend India an unprecedented political and diplomatic leverage in the field of harnessing nuclear energy at a global level is her being actually able to obtain membership of the Nuclear Suppliers Group (NSG). The NSG is one of the four multilateral export control regimes set up with the twin objectives of (a) Preventing nuclear proliferation and, (b) Controlling the export of materials, equipment and technology which can be used to manufacture nuclear weapons. In this paper, an attempt has been made to explore and examine the background, rationale, resistance and support vis-à-vis India's bid for NSG membership in the light of the overall prospects and challenges revolving around India's endeavour to join the elite club.

Key words: Nuclear energy, Non-Proliferation, NSG guidelines, Indo-US Civilian Nuclear Agreement, Seoul Plenary Meeting

1.0 Introduction

In the contemporary world, a primary concern of the international community is that of preventing the proliferation of nuclear weapons even as there is a growing consensus on harnessing nuclear energy for peaceful civilian purposes. Significantly, the conduct of individual nations as responsible players in the nuclear field holds the key to thwarting the misuse of nuclear energy.

As a corollary, emerging trends in the global geo-strategic arena indicate a definite tilt towards acknowledging India's role as a responsible state actor in the nuclear field. It is therefore important that we examine India's position juxtaposed against the felt need to end India's relative nuclear isolation in the field of nuclear commerce revolving

around the usage of nuclear technology for civilian purposes. In this context, the single most important factor which would lend India an unprecedented political and diplomatic leverage in the field of harnessing nuclear energy at a global level is her being actually able to obtain membership of the Nuclear Suppliers Group (NSG). The NSG arguably is the most significant of the four multilateral export control regimes of the world (the other three being the Wassenaar Arrangement, the Australia Group and the Missile Technology Control Regime¹). Let us therefore examine some basic aspects regarding the NSG vis-à-vis the issue of India's bid for membership of the elite group.

2.0 What actually is the NSG?

The NSG is a group of nuclear supplier countries with the twin objectives of (a) preventing nuclear proliferation and, (b) Controlling the export of materials, equipment and technology which can be used to manufacture nuclear weapons. Some of the key highlights of the NSG Guidelines are mentioned below:

- The NSG aims to meet its objectives through the implementation of two sets of guidelines for “nuclear transfers” (such as nuclear reactors and equipment thereof, reprocessing and enrichment equipment including heavy water production, etc) on the one hand and “transfers of nuclear-related dual-use equipment, materials, software, and related technology” (such as industrial equipment, uranium isotope separation equipment and components, etc.)” on the other hand (“NSG guidelines,” n.d.).
- The “dual-use equipment, materials, software, and related technology” are essentially meant for being applied for civilian purposes but have the potential of being diverted for developing weapons thereby contributing to a “nuclear explosive activity,” an “unsafeguarded nuclear fuel-cycle activity” or “acts of nuclear terrorism” (“NSG guidelines,” n.d.).
- The NSG Guidelines are designed to ensure that transfers of nuclear material, equipment or technology would not be diverted to building nuclear weapons and formal government assurances in this regard are required from the recipient nation. The guidelines also emphasise the need for physical protection, safeguards, special controls on sensitive exports, etc. and strengthen retransfer provisions. In brief, the aim of the NSG guidelines is to ensure that nuclear trade for peaceful purposes does not contribute to the proliferation of nuclear weapons or other nuclear explosive devices while at the same time ensuring that international trade

¹ India has recently become a member of the Missile Technology Control Regime

and cooperation in the nuclear field is not hindered unjustly in the process. The NSG Guidelines therefore are aimed at facilitating peaceful nuclear cooperation consistent with international nuclear non-proliferation norms.

- Besides the two sets of guidelines mentioned above, the NSG also adopted the “Non-Proliferation Principle,” in 1994. As per this principle, a supplier is obliged to authorize a transfer only when satisfied that the transfer would not contribute to the proliferation of nuclear weapons (“NSG guidelines,” n.d.). In other words, these guidelines coupled with the non-proliferation principle constitute the very crux of the NSG framework.
- It may be mentioned here that the NSG communicated its guidelines to the International Atomic Energy Agency (IAEA) in 1978. The IAEA is a nuclear watchdog group of the United Nations. Significantly, in Howlett’s study, in the mid 1960s, the IAEA was able to implement a comprehensive monitoring system (or safeguards) aimed at ensuring that nuclear materials and technology were not diverted for military use (as cited in Baylis et al., 2011).
- At present the NSG is composed of 48 participating countries.

Figure 1: World map indicating the nations which are members of the NSG

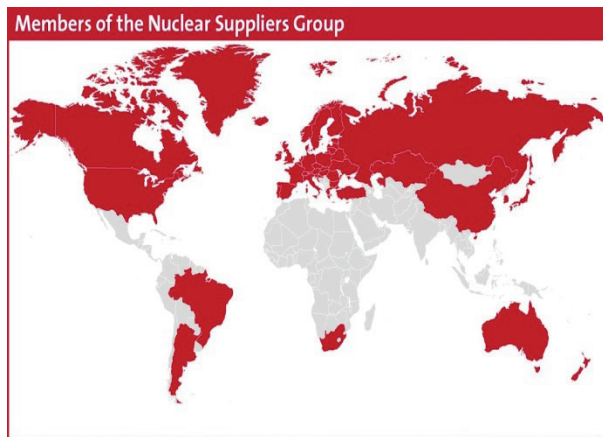


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3.0 Genesis of the NSG

Tracing the genesis of the formation of the NSG, one could find that the chief factor propelling the birth of the NSG was the concern on the part of the nuclear haves regarding the vulnerability of transforming civilian nuclear technology into manufacturing nuclear weapons devices. A brief overview of the genesis of NSG is presented below:

- The trigger point of formation of the NSG was the first Indian nuclear test, Pokhran-I, conducted in May 1974 and code named- “Smiling Buddha”. The plutonium used in the nuclear test was created in the CIRUS (Canadian-Indian Reactor, US) reactor supplied by Canada while using heavy water supplied by the United States. The test exposed the vulnerability of non-weapons specific nuclear technology to be able to be transformed into weapons development (“Nuclear Suppliers Group,” n.d.).
- At the same time, India’s opposition to the Nuclear Non-Proliferation Treaty (which stipulates that only those states which conducted nuclear tests prior to 1967 can legally possess nuclear weapons) also factored heavily as a matter of concern to those nations which had already signed the Non-Proliferation Treaty and were keen on limiting the export of nuclear equipment, materials or technology. Accordingly the Nuclear Suppliers Group came into existence and it first met in November 1975 in London.

4.0 India’s bid for NSG Membership: Support and Resistance

India has been pushing for membership of the NSG since 2008. Significantly, in 1992 the NSG adopted a requirement banning nuclear cooperation with any state that had not accepted IAEA comprehensive safeguards. However, in 2008, the NSG exempted India from this requirement and allowed her to engage in nuclear trade with NSG members. India got its exemption on the basis of certain nonproliferation commitments to which it agreed under the India-US Civilian Nuclear Agreement (these commitments are mentioned separately in the subsequent section of this paper).

- U.S. President Barack Obama declared USA’s support for India’s participation in the Nuclear Suppliers Group during a state visit to India in November 2010. Significantly, the US President also extended support to India’s membership in the other three multi-lateral export control regimes, namely, the Wassenaar Arrangement, the Australia Group and the Missile Technology Control Regime, in a phased manner.
- French President Nicholas Sarkozy also announced France’s support for India’s inclusion in Nuclear Suppliers Group during a state visit to India in December 2010.
- The United Kingdom has been a supporter of India’s inclusion in the Nuclear Suppliers Group for a long time.
- Russian president Vladimir Putin has also extended unconditional support to India’s entry into NSG.

- Switzerland initially backed India's inclusion in the NSG on 8 June 2016 during PM Modi's visit to Geneva but later changed its stand and joined the group of countries opposing India's bid for NSG ("Switzerland takes U-turn," 2016).
- Japan has announced support for India's bid for membership of the NSG.
- In June 2016, Mexico expressed support for India's inclusion in the NSG. In the same month, Canada too stated that NSG will be strengthened with India's presence.
- It may be mentioned here that US, UK, Russia and France have most recently, reiterated their support for India's bid for membership of the NSG.
- However a group of NSG member nations including China, New Zealand, Ireland, Turkey, South Africa and Austria are opposed to India joining the NSG. Among these countries the most vocal resistance has come from China which has argued that for India to be a member of the NSG, it must first sign the Nuclear Non Proliferation Treaty as a prerequisite.
- According to the Chinese Foreign Ministry spokesman Hong Lei, "With regard to what to do on the issue of non-NPT signatories joining (the NSG), China consistently supports having ample discussion on this to seek consensus and agreement and come to a unanimous decision. The NPT is the political and legal basis for the entire international non-proliferation system. ("China says more talks needed," 2016).
- It is worth mentioning here that membership of NSG is by way of consensus and therefore for any country to become a member of NSG, the approval of each member state is required to that end.

5.0 How does India qualify to be a Member of the NSG?

India formally presented its application to join the NSG on 12 May, 2016. The application was subsequently taken up for consideration on 9-10 June, 2016 in Vienna. It is only in the fitness of things to examine some of the valid grounds which justify India's bid for membership of the NSG. These are discussed below:

- India has established its credentials as a responsible nuclear state. Following the Pokhran-II nuclear tests in May 1998, India declared a voluntary moratorium on further underground nuclear tests. India's nuclear weapons programme is only aimed at minimum deterrence and based on a policy of No First Use meaning India will not use nuclear weapons unless first attacked by an adversary using nuclear weapons. India's nuclear doctrine is therefore non-offensive and non-proliferative.
- India has already agreed to certain non-proliferation commitments under the

US-India Civil Nuclear Agreement introduced first on March 2, 2006 in a joint statement by the Prime Minister of India Dr. Manmohan Singh and US President George W. Bush in New Delhi. However it was only three years thereafter that the agreement formally materialised in 2008. The US-India Civil Nuclear Agreement was concluded between the United States of America and India under Section 123 of the United States Atomic Energy Act of 1954 requiring an agreement for cooperation as a prerequisite for nuclear deals between the United States and any other nation. Thereafter the enabling legislation known as the Hyde Act was passed by the US Congress to facilitate cooperation between India and the US (Agrawal, 2015). The key highlights of the Indo-US Civilian Nuclear Agreement are as follows:

- (a) Separating its civilian and military nuclear facilities in a phased manner (Kumar, 2005).
 - (b) Placing civil nuclear facilities under IAEA safeguards
 - (c) India has already placed 14 of its 22 nuclear reactors under International Atomic Energy Agency (IAEA) safeguards (Hosur, 2016).
 - (d) Signing and adhering to the IAEA's Additional Protocol which grants the IAEA complementary legal authority to verify a State's safeguards obligations.
 - (e) Continuing its unilateral moratorium on nuclear weapons testing;
 - (f) Working with the US for the conclusion of the Fissile Material Cut-off Treaty (FMCT);
 - (g) Refraining from the transfer of enrichment and reprocessing technology to states that do not have them and supporting international efforts to limit their spread; (Re-processing involves separation of plutonium from nuclear fuel after it has been used in a reactor and plutonium can be used to make nuclear weapons and is as such considered a proliferation risk) (Agrawal, 2015).
 - (h) Introducing comprehensive export control legislation to secure nuclear material; and Adhering to the Missile Technology Control Regime (MTCR) and NSG guidelines.
- An Agreement between the Government of India and the IAEA for the *Application of Safeguards to Civilian Nuclear Facilities* was signed in Vienna, Austria on, 2 February 2009 by IAEA Director General Mohamed El Baradei and Saurabh Kumar, India's Ambassador to the IAEA. The safeguards agreement was approved by the

IAEA Board of Governors in August 2008. (India safeguards agreement signed, 2009, February 2). Following this agreement, IAEA inspections began in a phased manner on the 35 civilian nuclear installations which India had identified in its Separation Plan (between civilian and military nuclear facilities) (Agrawal, 2015).

- India, with its commitment to international peace and stability, has a clean track record on the issues of transfer of nuclear supplies (technology and materials) unlike some other nuclear states like Pakistan, China and North Korea which are, in more ways than one, interested in propping up a dangerous nuclear arms race. India's conduct in the nuclear field is in full conformity to the NSG guidelines relating to nuclear transfers and transfers of nuclear-related dual-use equipment, materials, software, and related technology.
- India has acquired high level expertise in the matter of harnessing nuclear technology for civilian purposes, be it in the fields of industry, power, agriculture or health care. In this context, international exchanges and partnerships with India as a global partner can go a long way in contributing to global peace and stability.
- At the domestic level, the Parliament of India has passed the Civil Liability for Nuclear Damage Act, 2010. The Act aims to provide prompt compensation to the victims of a nuclear incident. With the passage of this Act, India became a member of the Vienna Convention on Liability in the Civil Nuclear Arena.
- The existing nuclear power plants in the world, including those of India, rely on nuclear fission- a chain reaction where uranium atoms are split to release extraordinary amounts of energy and high levels of radioactive waste. In contrast, the world is focussing its attention on trying to develop a new type of nuclear reaction, namely, nuclear fusion to develop nuclear power without generating radioactive waste. Fusion is the process which powers the sun and stars. In fusion hydrogen atoms fuse together to form helium and matter is converted into energy. Nuclear fusion has been touted as the energy of the future and has been described as "green nuclear" based on the concept of sustainable development. Scientists are trying to achieve nuclear fusion through two means- building fusion reactors called tokamak reactors and laser fusion ("Nuclear Fusion Power," n.d.).
- In this context, the International Thermonuclear Experimental Reactor (ITER), slated to be the world's largest tokamak reactor is being developed in the French city of Cadarache. India is one of the seven partner countries in this project, the other constituent members being the United States of America, the European

Union, Japan, the People's Republic of China, the Republic of Korea and the Russian Federation. The Cadarache project is scheduled to be commissioned by 2024. ITER-India, a division of the Gandhinagar based Institute of Plasma Research is planning to set up a tokamak reactor in Gujarat to boost India's energy production. Accordingly, India is already an important partner in the global initiative to produce electricity through nuclear fusion which is cheaper and safer. Besides, India has one of the world's largest reserves of thorium- an element that is used in nuclear fusion. Accordingly, there is now global acknowledgement of India's superior expertise and commitment in the realm of harnessing nuclear energy for peaceful purposes.

6.0 How would India benefit from NSG Membership?

Essentially, membership of NSG will be a significant milestone in terms of breaking India's nuclear isolation and empowering her with a new energy source since the Indo-US Civilian Nuclear Agreement of October 2008 (which was cleared by the Nuclear Suppliers Group) (Hosur, 2010). The reasons as to why India should become a member of NSG are rooted in some consequent benefits accruing to the nation following such membership. Some of these are listed below:

- If India becomes a member, she will have a larger international market for both export and import of nuclear related materials as NSG is a platform for laying the norms of nuclear trade. It will allow India to obtain uranium from other countries with greater ease for civilian purposes. It may be mentioned here that India's uranium reserves are very scarce and import of uranium is essential in order to sustain India's nuclear plants in the long run (Hosur, 2010). Membership of NSG will also mean that India would be able to sell thorium in which it is abundant.
- The nuclear based programmes of India are being currently run on indigenous technology. Should India manage to become a member of NSG, she can have better access to state of the art foreign technologies. At present there are many technologies which are denied to non-NSG countries including India.
- India is committed to reducing dependence on fossil fuels. She is committed to ensuring that 40% of its energy is sourced from renewable and clean (non-fossil) sources by 2030. In this context, Nuclear energy as a sustainable source of energy can be a very viable option as an attractive non-fossil alternative even as it can play a very important role in helping India fulfil the goal that it has set for itself. As per a special report entitled "Energy 2050" (2010) published by *Springer* on behalf of

the Royal Swedish Academy of Sciences, nuclear energy is “excellent for providing reliable base load electricity, has a high capacity and requires very little material for construction and fuel for operation. The effects on the environment during the entire life cycle are also limited” (Grandin et al., 2010).

- Accordingly, there is a pressing need to scale up India’s nuclear production by building more nuclear reactors in order to meet the energy deficit that the country is presently faced with. “Over the longer term, nuclear plants could help, and make it more likely that the country would meet international emissions targets” (Mills, 2006).
- With an increase in the number of reactors, the per unit price of electricity produced from the nuclear reactors is also expected to come down thereby neutralizing the initial costs of producing nuclear energy (Hosur, 2010).
- Free access to nuclear supplies (nuclear materials and technology) via the NSG route is essential for enabling India to use nuclear energy in the spheres of industry, power, agriculture and health care on a broader scale. Thus, India which enjoys high-level expertise in usage of nuclear energy for peaceful purposes can trade in nuclear supplies (materials and technology) which would be highly beneficial to India both economically and strategically.
- Domestic firms such as Walchandnagar Industries Limited (WIL) (which is into manufacturing critical components of Nuclear Reactor and Nuclear Power projects among others) and L & T Group (which has developed technology and equipment in the Nuclear Power Plant sector of India) have had to face international sanctions from time to time. With the entry of India into NSG, these firms will stand to gain as it will become easier for them to enter into trade agreements with their counterparts abroad.
- Membership of the NSG will automatically lead to two crucial civil nuclear deals to come into effect, namely, the Indo- Japan Civil Nuclear pact and the Indo- Australia Civil Nuclear pact. Besides, membership of NSG will help India enter into multilateral pacts relating to nuclear commerce rather than on a bilateral country to country basis.
- Membership of NSG will help India have a greater say in global nuclear matters. She can thereby ensure that the norms of nuclear technology transfer are strictly observed preventing a possible nuclear arms race from breaking out, more particularly in India’s immediate neighbourhood.

- Becoming a member of NSG will help boost India's image as a strong contender for UN Security Council membership.

7.0 Seoul Plenary Meeting of the NSG and Beyond

- The plenary meeting of the NSG was held in Seoul, South Korea on June 23, 2016. The meeting however ended inconclusively on the issue of India's membership. India may have lost in its current bid to become a member of the NSG, but it would be naïve to describe this initial setback as an embarrassment for India on the diplomatic front as indicated by certain quarters.
- As expressed by the Ministry of External Affairs spokesperson, Shri Vikas Swarup "Today, the Indian diplomacy doesn't have fear of failure. If we don't get desired results it only means that we redouble our efforts" ("India hopes now on special plenary," 2017). It is learnt that as many as thirty member states spoke in favour of India joining the NSG.
- However, a handful of countries led by China raised procedural issues including the fact that India was not a signatory to the NPT which China considers as the cornerstone behind the creation of NSG in 1974 in response to India's first nuclear test. China is of the view that there must a consensus on the criteria to be followed for letting NPT non-signatories into the NSG.
- In the Vienna meeting of NSG Consultative Committee held on November 11, 2016, China however called for a two-step solution for admission of non-NPT countries into the NSG- To explore and reach a consensus on a non-discriminatory formula applicable to all the non-NPT states in the first stage, and then to proceed to consider issues relating to membership of specific countries in the second stage.

8.0 Conclusion

Be that as it may, the fact of the matter is that the NSG is fundamentally aware of India's relentless commitment to the provisions and objectives of the NPT as evident from the exemption that the latter made to India in 2008 relating to nuclear trade with non-NSG countries. As a matter of fact, in the aftermath of the Indo-US nuclear Agreement of 2008, India has already tightened domestic legislation preventing the export of dual use items, separated military and civilian nuclear power plants.

In conformity to the prescribed standards of openness and transparency, civilian nuclear power plants in India have already been placed under International Atomic Energy

Safeguards as mentioned above thereby ensuring that fuel, material and technologies bought from NSG member states are not diverted towards India's military programme.

Thus, India already fulfils the "principle of criterion" which could be interpreted as adherence to the core principle of nuclear non-proliferation. Instead countries like China should focus on India's impeccable and stellar record on the issue of nuclear non-proliferation and consider India's credentials in this regard on the basis of the "principle of merit."

Further, the attempt to link membership of NSG with the NPT is not based on a legal rationale as is evident from the fact that France which happens to be a non-signatory of the NPT like India has been included in the NSG as a member. To quote once again the Ministry of External Affairs spokesperson, Shri Vikas Swarup, "I think there is some confusion here. Even the NPT allows civil nuclear cooperation with non-NPT countries. If there is a connection, it is between the NSG and IAEA safeguards and with export controls" (Swarup, 2016).

At the end of the day, what really matters is a nation's conduct in the nuclear field in terms of its proliferation record and conformity to international safeguards as prescribed by NSG Guidelines. India as a democracy remains steadfastly committed to the principle of peaceful co-existence - a cornerstone of India's broad foreign policy objectives. In fact, at a more theoretical level, it would be in the fitness of things to factor in the "International Society" approach centering on the issue of statecraft and responsibility at this stage. As per this approach, three distinctive levels of responsibility vis-à-vis foreign policy choices of nation states could be identified: (a) concern of the states for the well-being of their own citizens (b) showing respect for the legitimate interests and rights of other states and for international law; and (c) respect for human rights (Jackson, & Sorenson, 2010). The conduct of India in the international field clearly indicates that she has consistently adhered to and remains fully committed to fulfilling all three dimensions of the International Society approach even as the broad contours of India's foreign policy paradigm is deeply entrenched in the principles of peaceful coexistence with and mutual respect for other nations. As a corollary, the stated doctrine of India's nuclear policy is that of "no-first use." Hence, being a responsible nuclear power, India's entry into the NSG will only strengthen the elite club in its efforts to meet its key objective of facilitating peaceful use of nuclear energy for common good while thwarting attempts at nuclear proliferation globally.

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