Backing the U.S. - India Nuclear Deal and Nonproliferation:

What's Required

Testimony By

Henry Sokolski
Executive Director
The Nonproliferation Policy Education Center
1718 M Street. NW, Suite 244, Washington, DC 20036
Phone 202-466-4406; e-mail: npec@npec-web.org, website: www.npec-web.org

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Mr. Chairman, members of the committee, I want to thank you for asking me to testify on the nonproliferation impact of the U.S.- India nuclear and space cooperation deals announced July 18, 2005. Unlike the many other mutually favorable deals announced July 18, 2005, these two, if not properly clarified by Congress, are fraught with danger. Improperly implementing them in their current form could not only encourage India to make intercontinental-range ballistic missiles and more nuclear weapons, it could devastate any firm reading of the current nuclear rules, whether they be the Nuclear Nonproliferation Treaty (NPT), the Nuclear Suppliers Group (NSG) or America's own Proliferation Security Initiative (PSI).

My general recommendation to you today is that Congress should authorize implementing these agreements only after India commits to the limits other responsible, advanced nuclear states have. This should be done in a country-neutral fashion by amending the Atomic Energy Act of 1954 to allow U.S. nuclear cooperation with advanced, responsible nuclear states that are not members of the Nuclear Nonproliferation Treaty (NPT) if, and only if, they meet five minimal conditions.

First, they must forswear producing fissile materials for military purposes and, if they have a nuclear arsenal, forswear increasing the net number of nuclear weapons in their arsenal. Such states would also have to pledge eventually to dismantle their nuclear arsenals as have all other NPT weapons states.

Second, they must identify all reactors supplying electricity, all research reactors claimed to be for peaceful purposes, all spent fuel these reactors have produced, and all fuel making plants supplying these reactors as being civilian and, therefore, subject to routine, compulsory international inspections.

Third, they must uphold all previous bilateral nuclear nonproliferation obligations they might have had with the US and other countries.

Forth they must publicly adopt the principles of the Proliferation Security Initiative.

Fifth, they must be free of any US nuclear or nuclear-capable missile sanctions for at least two years and have cleared up any outstanding sanctionable actions before US cooperation is formalized.

To be sure, insisting on these requirements will displease those in a hurry to seal the nuclear and space deals with India. Yet, insisting on such conditions in no way moves the goalposts or raises the bar on the U.S.-India joint statement announced July 18, 2005. At the time, both the U.S. insisted that it does not regard India as a nuclear weapons state under the NPT. As such, it should have been understood that IAEA inspections of India's civilian nuclear facilities might well be tighter than the unique, voluntary spot inspections, that NPT weapons states' facilities are given.

Also, at the time, both U.S. and Indian officials agreed that India would assume all those restraints that "advanced, responsible nuclear states" had assumed. Among the most

important of these is forswearing the expansion of one's nuclear arsenal by renouncing the further production of fissile material for military purposes and capping the net number of nuclear weapons one has. Under these conditions, one could possess nuclear weapons, modernize them, or (as the U.S., Russia, UK and France, have done) dismantle them, but that would be it.

It should be noted that demanding that these conditions is more than merely desirable. They must be met if, as the deal's backers have claimed repeatedly, the nuclear and space deals are to *enhance* the cause of global nonproliferation and U.S. security. Certainly, the credibility and success of US and allied efforts to curb proliferation in Iraq, Iran, and North Korea has depended heavily on a firm reading of the nuclear rules. The NPT bargain of giving up nuclear weapons to secure international civilian nuclear cooperation also was critical to securing Libya's agreement to give up its nuclear activities, and to South Africa's and the Ukraine's surrender of their nuclear arms. Finally, the U.S. has an interest in making India behave as the U.K. and Japan do, not merely as China or Iran. Indeed, only by insisting on better behavior here will the U.S., India, and other responsible nuclear nations have the moral authority required to pressure Iran to limit its unnecessary and dangerous nuclear fuel making and China to stop its expansion of its nuclear weapons arsenal.

Unfortunately, India has yet to express interest in meeting these conditions. Nor has the Bush administration pushed very hard to secure them. This all might be acceptable to Congress. If so, Congress need only endorse the loose nuclear inspections arrangements India and the Executive Branch are currently negotiating and approve legislation to relax U.S. Atomic Energy Act and missile technology controls in the sole case of India. But Congress should understand that if it does this, it will put the US in the dubious position of:

1. helping India expand its nuclear weapons arsenal by freeing up a nuclear fuel making capacity that otherwise would be needed to supply civilian reactors, such as those at Tarapur, with lightly enriched uranium (see viewgraph 1).

2. lending technical support to India's intercontinental ballistic missile (ICBM) project, The Surya, an incredibly massive, inherently vulnerable, first-strike missile derived directly from its civilian satellite launch system (the Polar Space Launch Vehicle). India already has a medium-range missile, the Agni, which it is upgrading to reach all of China and can be made road and rail-mobile. Indian officials, meanwhile, claim India's ICBM is intended to deter *Europe and the U.S.* (see attached viewgraphs 2 and 3 and NPEC's newly released study, "India's ICBM: On a Glide Path to Trouble?" by Dr. Richard Speier).

3. undermining U.S. and international efforts to restrict nuclear and missile technology exports to states such as North Korea and Iran by giving such help to a state that has not yet signed the NPT, capped its nuclear weapons program, rectified proliferation transactions that are sanctionable under U.S. law, endorsed the Proliferation

Security Initiative's principles, or placed all of its nuclear activities under compulsory IAEA nuclear inspections as all responsible, advanced nuclear states have.

For most people, avoiding these pitfalls would be worth considerable effort. Yet, more than a few of the deals' backers cynically believe that encouraging these developments is necessary to enhance U.S. security against a hostile China or Iran. This, however, reflects an unwarranted, defeatism that is unworthy of the U.S. More important, it is strategically misguided on at least three critical counts:

1. India's Foreign Secretary and Prime Ministers insist India's July 18th understandings with the U.S. are not "directed against any third country." In fact, India struck a strategic agreement with Iran in January 2003 known as the New Delhi Declaration, not only to help develop Iranian oil and gas fields, but to assure continued cooperation with Iran against the Taliban in Afghanistan, many of whom threaten the peace in Kashmir. Indian officials also are insistent that India's vote on Iranian IAEA noncompliance was cast primarily to help prevent referral to the UN and did not mean that India thought Iran was actually in noncompliance. As for China, the current Indian government sees economic cooperation with Beijing as a key to India's future development.

2. The last thing in anyone's security interest is to help India compete against China with nuclear arms. China has five to ten times the number of deployed nuclear weapons as India and hundreds more advanced long-range ballistic missiles. Although it no longer makes fissile materials for weapons, it has stockpiled thousands of additional weapons' worth of highly enriched uranium and separated plutonium. It has shied from converting all of this material into bombs for fear of sparking an arms rivalry with Japan, who could go nuclear by bolting the NPT and militarizing its own massive, growing stockpile of separated civilian plutonium. To be sure, the current Indian government is not interested in dramatically ramping up Indian nuclear weapons production. Its main opponents, the BJP, however, clearly are. If they were to return to power and no cap had been placed on India's nuclear weapons efforts, more Indian weapons would likely be built, which, in turn, could provoke China - prompting a nuclear arms rivalry, not only between it and India (and, consequently, revving up even more nuclear competition between India and Pakistan), but with Japan and the U.S.

3. Every rupee India invests in developing nuclear weapons, ICBMs, and missile defense is one less that will otherwise be available to enhance security cooperation with the U.S. in the imperative areas of anti-terrorism, intelligence sharing, and maritime cooperation in and near the Indian Ocean. India's entire annual military budget of about $20 billion (which supports a military of over 1.3 million active duty soldiers) is roughly what the U.S. spends on its nuclear arsenal and missile defenses alone. Encouraging India to spend in these areas could easily hollow out its conventional military and undermine the very areas most promising for U.S. - Indian cooperation.

This then brings us to the weakest and least credible arguments for pushing nuclear and space cooperation on an urgent basis; that is that India must have substantial U.S.

cooperation in these fields immediately to sustain its economic growth. In fact, for the near-term just the reverse is the case: Investing in the expansion of nuclear power in India for the next decade is the very least leveraged way to address India's growing need for more and cleaner energy. Instead, one should focus first on increasing efficiencies in India's consumption, distribution, and generation of energy (including but not limited to its electrical sector). This would entail transitioning to cleaner uses of coal and restructuring India's coal industry to meet demand; introducing market mechanisms and curbing massive energy theft and subsidies; and expanding the use of renewable energy, e.g., biomass, small hydro, wind, etc., (both connected and unconnected to the grid). So long as the Indian nuclear sector continues to be preoccupied with extremely complicated thorium-fuel cycle systems and breeder reactors and relies on dysfunctional state secrecy and monopoly-style management, investing in this energy sector will be self-defeating. Instead, the U.S. and others should encourage India's nuclear sector to acquire a more reasonable set of goals and open itself up to foreign ownership and management. This will take time (for more details, see attached viewgraphs, 4 through 7).

As for space cooperation in the space launch area, by far the safest, most cost-effective form of cooperation would be to make affordable U.S. launch capabilities more accessible to India. Certainly, the recent announcement that the U.S. intends to include Indian astronauts in upcoming U.S. space shuttle missions is the proper path to take. Transferring satellite integration and space launch technology to India, on the other hand, is a sure-fire way to repeat the frightening development that Loral and Hughes produced in the l990s with China when their satellite launch integration assistance literally boosted China's ICBM modernization efforts.

For this and all the other reasons noted above, Congress should exercise due diligence in sorting out the specifics of U.S. - Indian nuclear and space cooperation. Your committee is to be commended for taking the initiative in requesting that any enabling legislation to implement U.S. - India space and nuclear cooperation be referred to the appropriate committees rather than on any legislative spending vehicle. Congress and the appropriate committees also should make their own views known on what legislative conditions they believe the proper implementation of nuclear and space cooperation with India and similar non-NPT states require. Under no circumstances, should Congress allow itself to be rushed.

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Viewgraph 1

Light Water Reactor Fuel Sales to India: Potential to Free Up New Delhi's Capacity to Make Bombs

- India has 3 enrichment plants, primarily dedicated to naval fuel/bomb production
- India says it can fuel Tarapur 1 and 2 but prefers not to
- US sales of "safeguarded" fuel for these reactors would free up either
  - ~ 24,000 swu of Indian enrichment/year, i.e., enough to make 12 HEU bombs annually, OR
  - ~75 crude bombs worth of plutonium that otherwise would be needed to fuel these reactors with Indian MOX

Viewgraph 2

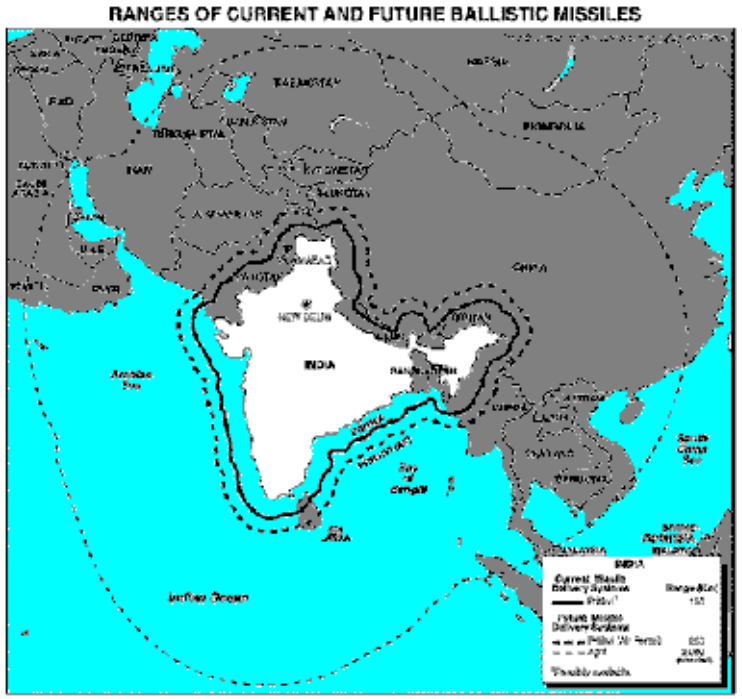
US Satellite Launch Assistance: Help for India's ICBM Program?

India's PSLV (Polar Space Launch Vehicle, pictured, to the left), will serve as the basis for India's ICBM, the Surya.

	PSLV	Surya (India's ICBM)
Stages	2 solid, 1 liquid stage	identical
Weight	290 tons	275 tons (nearly 3 times the size of America's largest ICBM)
Payload	multiple satellites	multiple warheads

Viewgraph 3

Why Does India's Need an ICBM: What's the Target?



•India already has the Agni II medium range road-mobile missile (picture above) with a 2,000 km range (mapped above) that can reach most of China, all of Pakistan, and is now being upgraded to cover all of China.

•The Surya, India's ICBM, in contrast, is a fixed launch, first-strike missile that is only useful, if, as Indian officials have claimed, India wants to hit the US or Europe.

Viewgraph 4

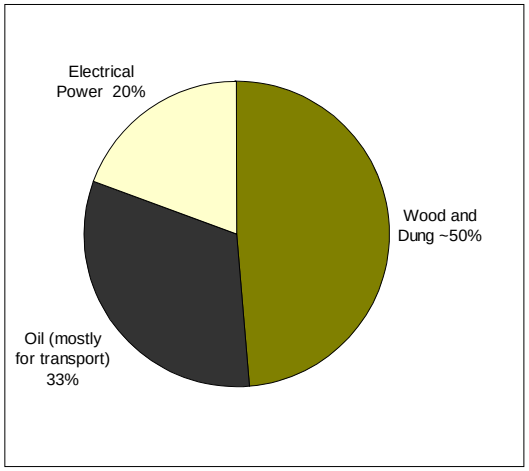
Nuclear Power: Least Leveraged to Address India's Immediate Energy Needs

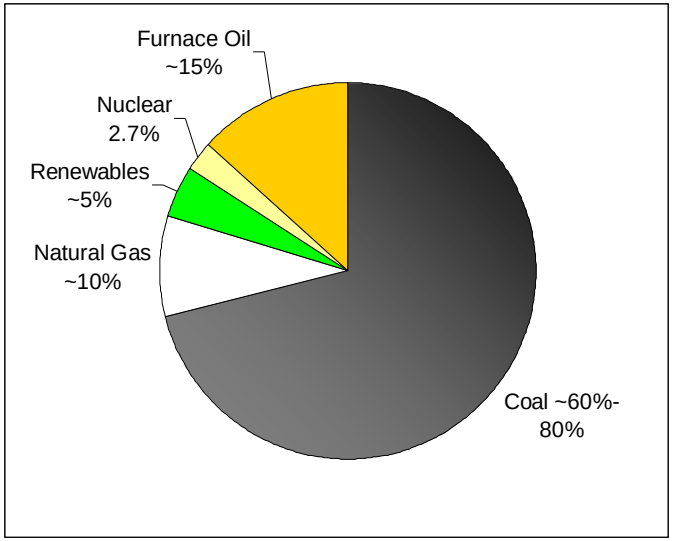
Roughly ½ of India's energy consumption comes from burning cow dung and wood, 1/3rd from oil burning (mostly for transport), and 1/5th from electricity (see opposite top graph)

Of India's currently installed electrical capacity, only 2.7 percent is nuclear, i.e., which produces roughly as much electricity as do renewables -- e.g., wind power, biomass, small hydro, etc. (see opposite bottom graph)

The rest of India's electricity is produced by burning coal (60-80%), natural gas (~10%) and furnace oil (~15%)

India has the world's 3rd largest coal reserves but this sector is dominated by state ownership and management that is having difficulty mining and transporting quickly enough to meet demand





Most Immediate, Cost-effective Ways to Meet India's Energy Needs Are Nonnuclear

- In the electrical sector increase
  - efficiencies in generation (e.g., use of alternative systems, e.g., gas fired generators, to meet peak load demand) and in distribution
  - Curb widespread theft from the grid
  - End state offers of free/subsidized power to large farms and businesses
  - Restructure the state-run Indian coal industry to meet demand
- Indian energy experts project that over the next decade, modest energy efficiency measures alone could afford **over 10 times** more electricity than nuclear power currently does (**i.e., 30,000 MWe**)
- Develop new private sources of natural gas

Easiest, Most Leveraged Ways to Clean Up India's Increasing Energy Use Also Are Nonnuclear

- To reduce pollutants and greenhouse gases generally
  - clean up dung-polluted lakes (pictured opposite) by substituting for dung and wood burning with decentralized, non-grid-delivered micro renewable power sources
  - establish efficiency standards
  - encourage increased energy efficiencies

- In the electrical sector
  - Increase supply and use of private sector natural gas
  - implement Indian plans for renewables (12,000 MWe or four times current installed nuclear capacity) over the next decade
  - introduce clean coal technologies

Nuclear Power: Last Stop for Freeing Up India's Energy Sector

- Over the next decade, Indian planners anticipate adding 83 Gwe at a cost of $143 billion that will require dramatic increases in foreign direct investment in, privatization of, and market discipline of India's energy sector. That said:
  - All sectors of India's energy industry are open to direct foreign investment **except** nuclear
  - All sectors of India's energy industry are open to local or private ownership **except** nuclear
  - Private investment has begun to be made in all sectors of India's energy industry **except** nuclear