

## **PhD Dissertation Defense**

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**Title:** A technological history of the debate over THE US-INDIA NUCLEAR COOPERATION AGREEMENT in India (2005-2007)

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### **ABSTRACT**

On July 18, 2005, US President George W. Bush reversed three decades of non-proliferation policies and offered to allow Non-proliferation Treaty (NPT) holdout India to buy nuclear reactors, uranium and dual use technologies on the international market. In return, Prime Minister Manmohan Singh undertook to separate India's civilian nuclear facilities from its military ones and to place the civilian ones under International Atomic Energy Agency (IAEA) safeguards. The US-India nuclear deal was heralded as the centerpiece of a transformed US-India relationship and the key initiative that would pave the way for a long-term strategic partnership with profound implications for the Asian and global balance of power.

The rather unexpected announcement of a grand nuclear bargain with significant implications for India's hitherto isolated nuclear program and its overall foreign policy posture led to a comprehensive three-year debate in India. The actors included India's political, scientific, strategic and media communities. Independent researchers, anti-nuclear activists and civil society also played an important albeit underreported role.

Given the techno-politico-strategic implications of the nuclear deal, the debate in India focused on a variety of issues including the contours of the separation plan to partition India's nuclear infrastructure, the civilian or military status of the fast-breeder reactors in the plan, the impact of the nuclear deal and the US-India rapprochement for the Iran-Pakistan-India (IPI) pipeline and Iran-India relations, the implications of the initiative for India's energy security and the constraints imposed by US domestic legislation on India's ability to obtain nuclear fuel, reprocess foreign fuel and test nuclear weapons.

A wider discussion also ensued on the impact of the nuclear deal and the US-India strategic partnership for India's foreign policy. The intensity of the opposition to the nuclear deal from both the political Right and the Left nearly toppled the government of Prime Minister Singh and threatened to end his political career.

The dissertation is a qualitative study that aims to understand the multifaceted debate over the nuclear deal in India. I rely on newspaper articles, foundational references, leaked American diplomatic cables, government documents and critiques by independent researchers and anti-nuclear activists. The theoretical framework consists of concepts from Science and Technology Studies (STS) and Political Science.

Chapter 1 provides a brief history of US-India relations since India's independence in 1947 and consolidates the various 'birth stories' attempting to explain the origins of the nuclear deal. Chapter 2 reconstructs the 8 month long debate in India (July 2005 to March 2006) over the contours of its nuclear separation plan and the safeguarded civilian or unsafeguarded military status of the fast breeder reactors. The theoretical framework consists of Bijker's concept of *relevant social groups*, the modified concept of *relevant social individuals*, insights from work by Cowan, political analysis by Lakoff and the notion of *boundary objects* by Star and Griesemer. Chapter 3 also concentrates on the same period as Chapter 2 and chronicles the intersection of the debate over the Iran-Pakistan-India (IPI) pipeline and the nuclear deal using the modified concepts of *relevant social individuals* and a *technopolitical frame*. The idea of a technopolitical frame is obtained by combining Bijker's notion of a *technological frame* with literature from political science, international relations and media studies. Chapter 4 analyzes the important role played by Indian nuclear scientists in the debate over the nuclear deal from March 2006-August 2007. I deploy Bruheze's loosely formulated concept of *relevant actors*, Hecht's idea of a *technopolitical regime*, the notion of *experimenter's regress* by Collins and Pinch and the abstraction of *hyperconstruction* by Gusterson. Finally, Chapter 5 summarizes the key insights gained from the aforementioned chapters and contrasts the claims made in 2005 by the nuclear deal's proponents with the current state of US-India relations as of July 2014.