# Rockets 1AC

Plan: The United States federal government should provide resources to NASA necessary for the development of space-based nuclear power.

Contention One: Houston, We Have a Problem

NASA’s 2012 budget has constrained it from long-term exploration and R&D.  
Grueber & Studt 2011 (Martin Grueber, Research Leader, Battelle and Tim Studt, Editor-in-Chief, Advantage Business Media; R&D Magazine: “2012 Global R&D Funding Forecast: FY 2012 U.S. Federal R&D Funding: Continued Constraints”; December 16, 2011; <http://www.rdmag.com/Featured-Articles/2011/12/2012-Global-RD-Funding-Forecast-FY-2012-US-Federal-RD-Funding-Continued-Constraints/>)

The total NASA budget… at least five years.

NASA can’t go it alone – this lack of funding hampers R&D necessary to maintain US space control  
Walker et al 2 Chair of the Commission on the Future of the United States Aerospace Industry Commissioners (Robert, Final Report of the Commission on the Future of the United States Aerospace Industry Commissioners, November, <http://www.trade.gov/td/aerospace/aerospacecommission/AeroCommissionFinalReport.pdf>)

Commercial Research and Development … with indeterminate returns.

Fortunately, the technology for nuclear propulsion has existed for decades – the only roadblock has been a lack of federal funding due to public fears of nuclear power  
Barbree 9/28/2011 (Jay Barbree NBC News Correspondent, ‘It's time to reconsider the nuclear option for spaceflight’, \_\_http://www.msnbc.msn.com/id/44691888/ns/technology\_and\_science-space/\_\_)

"Nuclear propulsion should … triumph over anxiety.

Contention Two: Infinity And Beyond

Initially note extinction is inevitable absent space colonization

Sandberg, Matheny, and Ćirković, 2008 (Anders, Ph.D, computational neuroscience. Jason, Ph.D in Health Economics. Milan, Senior Research Associate at the Astronomical Observatory of Belgrade and Assistant Professor of the Department of Physics at the University of Novi Sad in Serbia and Montenegro. September 9. Bulletin of the Atomic Scientists. “How can we reduce the risk of human extinction?” http://www.thebulletin.org/web-edition/features/how-can-we-reduce-the-risk-of-human-extinction)

The facts are sobering… the survival of the species."

Nuclear power is critical to deep-space exploration and colonization of Mars  
Clark 2k Staff Writer at Space.com, May 21, “Will Nuclear Power Put Humans on Mars,” http://www.space.com/scienceastronomy/solarsystem/nuclearmars\_000521.html

The next evolutionary … and planets beyond."

Solar power is insufficient – nuclear power is key  
Lemos 7 independent technology and science journalist (Robert, 9/20, “Space Industry Wants Nuke Power, but Public Fear Persists,” http://www.wired.com/print/science/space/news/2007/09/space\_nukes)

Nuclear propulsion encompasses … than other technologies.”

Attempts to colonize the Moon are insufficient, we must reach Mars in order to access untapped resources and create a sustainable civilization  
Zubrin 96 former Chairman of the National Space Society, and President of the Mars Society, Robert, *Ad Astra*, “The Case for Colonizing Mars,” July/August, http://nss.org/settlement/mars/zubrin-colonize.html

Among extraterrestrial bodies … grow crops for export.

Plutonium shortages are crippling any efforts to advance nuclear propulsion – federal action is necessary to reverse this

Berger 8 Brian. Space News Science Writer. March 6. “Plutonium shortage may thwart future NASA missions to outer planets.” http://www.space.com/news/080306-nasa-plutonium-shortage-fin.html

NASA is facing the … undesirable position of vulnerability.

Contention Three: The World Is Not Enough

First, despite technological superiority, US space dominance is at risk   
IFPA 7 Institute for Foreign Policy Analysis “Missile Defense, the Space Relationship, & the Twenty-First Century,” <http://www.ifpa.org/pdf/IWGreport.pdf>

Although the United States …twenty-first-century space power.

No offense – the US is already militarizing space  
Asia Times 7 Jack Smith, “The Militarization of Outer Space”, 3-10-07, http://www.atimes.com/atimes/Front\_Page/IC10Aa03.html

The White House is … freedom from attack."

Turns aren’t unique – it’s only a question of who controls space first. Nuclear propulsion is key to preserving US dominance.  
Garabaldi 5 Gabriele, Masters in International Affairs at the University of Pisa, May 9, *Global Politician*, “Chinese Threat to American Leadership in Space,” http://www.globalpolitician.com/2699-china-america

The EU and Japan …it is morally important

Declining leadership in space directly facilitates the emergence of hostile global rivals  
Snead 7 Aerospace engineer and consultant focusing on Near-future space infrastructure development (Mike, “How America Can and Why America Must Now Become a True Spacefaring Nation,” Spacefaring America Blog, 6/3, http://spacefaringamerica.net/2007/06/03/6--why-the-next-president-should-start-america-on-the-path-to-becoming-a-true-spacefaring-nation.aspx)

Great power status … administration should exercise.

Nations will be more accepting of US dominance than any alternative  
Dolman 5 Professor of Comparative Military Studies at the US Air Force’s School of Advanced Air and Space Studies, Everett C., “U.S. Military Transformation and Weapons in Space,” 9-14-05, http://www.e-parl.net/pages/space\_hearing\_images/ConfPaper%20Dolman%20US%20Military%20Transform%20&%20Space.pdf)

This rationality does ... decide to step aside.

Effective US space dominance prevents space warfare  
Dolman 5 Professor of Comparative Military Studies at the US Air Force’s School of Advanced Air and Space Studies, Everett C., “U.S. Military Transformation and Weapons in Space,” 9-14-05, http://www.e-parl.net/pages/space\_hearing\_images/ConfPaper%20Dolman%20US%20Military%20Transform%20&%20Space.pdf)

Indeed, it is concern … of economic expansion.

Space warfare leads to extinction  
Krepon and Heller 4 Co-Founder of the Henry L. Stimson Center and Heller, Research Assistant at Stimson Center’s Space Security Project (Michael and Michael, May/June, “A Model Code of Conduct for Space Assurance” Disarmament Diplomact No 77, <http://www.acronym.org.uk/dd/dd77/77mkmh.htm>)

The flight testing … weapons and space assurance.

International cooperation fails – only the US adheres to treaties  
Kueter 7 president of the George C. Marshall Institute, Jeff, New Atlantis: A Journal of Science and Technology, “China's Space Ambitions -- And Ours,” Spring, http://www.thenewatlantis.com/publications/chinas-space-ambitions-and-ours

Setting aside such … futile diplomatic efforts.