# \*\*WDCA Space Case Neg\*\*

[\*\*WDCA Space Case Neg\*\* 1](#_Toc461289167)

[File Overview 2](#_Toc461289168)

[Inherency 3](#_Toc461289169)

[1NC – Inherency 4](#_Toc461289170)

[Ext. #1 – Current Cooperation Solves 5](#_Toc461289171)

[Relations Advantage Answers 6](#_Toc461289172)

[1NC – Relations Advantage 7](#_Toc461289173)

[Ext. #1 – China Can’t Challenge 10](#_Toc461289175)

[Ext. #2-3: No War 12](#_Toc461289176)

[Leadership Advantage Answers 13](#_Toc461289177)

[1NC – Space Leadership Advantage 14](#_Toc461289178)

[Ext. #1 – US Space Leadership High 16](#_Toc461289180)

[Ext. #2-3 – No Space Debris Impact 17](#_Toc461289181)

[Ext. #4 – Launches Turn 18](#_Toc461289182)

[Solvency Answers 19](#_Toc461289183)

[1NC – Solvency 20](#_Toc461289184)

[Ext. #3: Space Cooperation Fails 22](#_Toc461289186)

### File Overview

This file provides the negative responses to the Space Affirmative.

In response to Inherency, the negative argues that there is cooperation between the US and China over space now, and that it does not violate the Wolf Amendment.

In response to the Relations Advantage, the negative argues that China does not have the capacity to challenge US military dominance in space currently, but that the plan would allow China to steal our best technology and use it against us. Additionally, the likelihood of a war between the US and China in space is very low because of economic interdependence, hotlines, and other conflict-reducing measures.

In response to the Space Leadership Advantage, the negative claims that US space leadership is already high, that space debris is not currently a significant threat and that other measures can help reduce it, but that the plan actually increases space debris by initiating a bunch of new programs in space that will inevitably increase the amount of debris in orbit.

In response to Solvency, the negative argues that cooperating with China in space has no positive effects on the US-China relationship overall, and that dialogue will inevitably fail and stall.

## Inherency

### 1NC – Inherency

#### 1. Current commercial cooperation solves the case

David, 15 - Leonard David has been reporting on the space industry for more than five decades. He is former director of research for the National Commission on Space (“US-China Space Freeze May Thaw with Historic New Experiment” Space.com, 8/21, http://www.space.com/30337-chinese-experiment-international-space-station.html

A Chinese experiment is being readied for launch toward the International Space Station (ISS) in what could be the forerunner of a larger space-cooperation agenda between the United States and China. NanoRacks, a Houston-based company that helps commercial companies make use of the space station, has signed a historic agreement with the Beijing Institute of Technology to fly Chinese DNA research to the orbiting outpost next year. No commercial Chinese payload has ever flown to the orbiting lab before. Space-policy experts said they viewed the agreement as a significant step in shaping possible future joint work by the two spacefaring nations. [Latest News About China's Space Program] Cooperation prohibited Over the past few years, the law has prohibited NASA and the White House Office of Science and Technology Policy (OSTP) from cooperating with China on space activities. That prohibition was originally signed into NASA-funding appropriations bills by Republican Congressman Frank Wolf (Virginia), who chaired the House Appropriations Commerce-Justice-Science subcommittee before retiring last year. The final law that Wolf put in place — P.L. 113-235, the Consolidated and Further Continuing Appropriations Act, 2015, which is in effect today — states that no funds may be spent by NASA or OSTP to "develop, design, plan, promulgate, implement or execute a bilateral policy, program, order or contract of any kind to participate, collaborate or coordinate bilaterally in any way with China or any Chinese-owned company unless such activities are specifically authorized by law after the date of enactment of this act." However, the new NanoRacks deal is a commercial arrangement, and experts consider it legal. Obeying the rules Jeffrey Manber, NanoRacks' managing director, told Space.comthat he's delighted to be working with China on getting the nation's experiment on board the ISS. "We're excited to have a world-class organization that is contributing to our collective knowledge about what happens long term with the immune system during space travel," Manber said, adding that a recent visit to the Beijing Institute of Technology's School of Life Science left him extremely impressed. "They are not a lab that dabbles in space. … This is a life sciences research group focused on what we can learn from microgravity," Manber said. [

### Ext. #1 – Current Cooperation Solves

#### State Department cooperation is inevitable

David, 15 - Leonard David has been reporting on the space industry for more than five decades. He is former director of research for the National Commission on Space (“US-China Space Freeze May Thaw with Historic New Experiment” Space.com, 8/21, http://www.space.com/30337-chinese-experiment-international-space-station.html

Last June, the United States and China decided to establish regular bilateral, government-to-government consultations on civil space cooperation. That agreement came out of the seventh round of the U.S.-China Strategic and Economic Dialogue, held June 22-24 in Washington, D.C, with Secretary of State John Kerry taking active part in the discussions. The two sides held in-depth talks on major bilateral, regional and global issues. More than 70 important outcomes resulted from the dialogue, including a number of space items. Aside from putting in place a "Civil Space Cooperation Dialogue," the two sides also decided to have exchanges on other space matters, including satellite-collision avoidance, weather monitoring and climate research. The agreement signed by Kerry reflects State Department activities with China, which are not prohibited by law.

#### Obama will step up space dialogue with China now

Johnson-Freese, 15 - Johnson-Freese is a Professor of National Security Affairs at the U.S. Naval War College (Joan, “Found in Space: Cooperation”, China US Focus, 10/9, http://www.chinausfocus.com/foreign-policy/u-s-china-space-cooperation-a-welcome-dialogue-begins/

Plans for this recent U.S. China Dialogue on Civil Space was first announced last June, consequent to the seventh round of the U.S.-China Strategic and Economic Dialogue. As online space-policy analyst Marcia Smith stated regarding the Sept 28 meeting, “details are scant.”[1] Mainstream media coverage has been virtually non-existent. Most likely, flying under the radar has been okay with the U.S. State Department, which chaired the Beijing meeting along with the Chinese National Space Administration (CNSA). Otherwise, critics would have undoubtedly trotted out their litany of reasons—ranging from human rights and freedom of religion to concerns, some valid and some overblown, about technology transfer—why the United States should scrap one of its most valuable policy tools, diplomacy, and not communicate with the Chinese regarding space. That’s the kind of convoluted reasoning that resulted in a legislative ban since 2011 on bilateral cooperation cum communication between NASA and the Office of Science and Technology Policy (OSTP) with China. Careful to stay within Congressional guidelines, that legislation left it to the State Department to chair the recent Beijing meeting. The increasing U.S. propensity, especially in conjunction with political campaigning, to equate diplomacy with appeasement and negotiation with weakness has not served the U.S. well in other parts of the world, and won’t with China either. The Obama Administration has apparently decided that with nothing to lose politically, it intends to make strategic and sometimes bold foreign policy moves before leaving office, in spite of obstructionist roadblocks: normalizing relations with Cuba, negotiating a nuclear treaty with Iran, and talking with the Chinese about space among them. It is ironic that “talking” has become a bold policy move.

## Relations Advantage Answers

### 1NC – Relations Advantage

#### 1. China lacks the capability to challenge US military dominance

Brooks and Wohlforth, PhDs, 16

(Stephen G, Associate Professor of Government @Dartmouth, William C, Daniel Webster Prof of Government @Dartmouth, May/June, <https://www.foreignaffairs.com/articles/united-states/2016-04-13/once-and-future-superpower?cid=nlc-fatoday-20160520&sp_mid=51424540&sp_rid=c2NvdHR5cDQzMUBnbWFpbC5jb20S1&spMailingID=51424540&spUserID=MTg3NTEzOTE5Njk2S0&spJobID=922513469&spReportId=OTIyNTEzNDY5S0>)

After two and a half decades, is the United States’ run as the world’s sole superpower coming to an end? Many say yes, seeing a rising China ready to catch up to or even surpass the United States in the near future. By many measures, after all, China’s economy is on track to become the world’s biggest, and even if its growth slows, it will still outpace that of the United States for many years. Its coffers overflowing, Beijing has used its new wealth to attract friends, deter enemies, modernize its military, and aggressively assert sovereignty claims in its periphery. For many, therefore, the question is not whether China will become a superpower but just how soon. But this is wishful, or fearful, thinking. Economic growth no longer translates as directly into military power as it did in the past, which means that it is now harder than ever for rising powers to rise and established ones to fall. And China—the only country with the raw potential to become a true global peer of the United States—also faces a more daunting challenge than previous rising states because of how far it lags behind technologically. Even though the United States’ economic dominance has eroded from its peak, the country’s military superiority is not going anywhere, nor is the globe-spanning alliance structure that constitutes the core of the existing liberal international order (unless Washington unwisely decides to throw it away). Rather than expecting a power transition in international politics, everyone should start getting used to a world in which the United States remains the sole superpower for decades to come.

### 1NC – Relations Advantage

#### 2. Substantial economic disincentives prevent war in space

Wordsworth 15 - I'm a UK journalist, and write for Gizmodo, Kotaku and Vice. (Rich, “Why We'll Never Fight a Real-Life Star Wars Space Conflict”, December 18, 2015, Gizmodo, http://www.gizmodo.co.uk/2015/12/why-well-never-fight-a-real-life-star-wars-space-conflict//dmeth)

Well, never say never. You might not make to the end of this paragraph before the sky lights up and the world goes dark. But there are some good reasons to be optimistic that won’t happen. One reassuring factor is that the more other countries develop their militaries, the more dependent on networks they become as well. China is developing its own drone programme, and so is Russia, which will both presumably be dependent on satellites to operate. And the more their (and our) economies and business interests develop, the more everyone will rely on satellites to further their economic ambitions. In the event that countries were to start knocking out each other’s satellites on a large scale, the consequences across the board – for everyone – would be disastrous. It would also be expensive in the short term. Getting things into orbit – peaceful or otherwise – still isn’t cheap, which is why only a handful of countries regularly do so. And if you want to blow up a network of many satellites today (as you would have to in a first strike, to ensure other satellites couldn’t pick up the slack), launching small satellites or missiles into orbit is the only practical way to do that – arming satellites with their own weaponry just isn’t financially or technologically feasible on a grand scale. We are, happily, a long way from a Death Star. “I don’t think [a large first strike] would be financially too costly [if you’re] thinking about kinetic energy weapons and the air-based or ground-based lasers,” says Jasani. “It’s viable. But if you say, ‘I’m going to put an [ASAT] weapon [permanently] in orbit’, we are then getting into very expensive and very complicated technology. So my guess is that in the foreseeable future, what we are going to focus on are the kinetic energy weapons and possibly lasers that could blind satellites or affect, for example, the solar panels. That kind of technology will be delivered in the foreseeable future, rather than having lasers in orbit [like] the Star Wars kind of thing.” But there’s another, possibly even more persuasive reason that a kinetic war in space may not happen: it’s just so much easier – and less damaging – to mess with satellites without getting close to them. “Jamming from the ground is not difficult,” says Quintana. “If you look at the Middle East, pick a country where there’s a crisis and the chances are that the military in that country has tried to jam a commercial satellite to try and avoid satellite TV channels broadcasting anti-government messages.” “My guess is that by the time we are ready for space warfare, I think you may not be banking on your hit-to-kill ASATs, but more on [non-destructive] high-energy laser-based systems,” Jasani agrees. “[Space debris] affects all sides, not just the attacked side. The attacking side will have its own satellites in orbit, which might be affected by the debris [of its own attack].” And if you really need to remove an enemy’s satellite coverage, you can always try to flatten or hack the control stations on the ground, leaving the satellites talking with no-one to listen. “I don’t think physically blowing things up from the ground is something that people are looking at again,” says Quintana. “Countries and governments try to find means other than physical conflict to achieve their strategic ends. So as space becomes more commercial and more civilian and as more scientific satellites go up, then you’ll find that states will not seek to directly attack each other, but will seek other means. “It may just be that they will try to cyber-attack the satellites and take them over, which has been done in the past. It’s much easier to physically or cyber-attack the ground control station than it is to attack the satellite itself - so why would you not look to do that as a first port of call and achieve the same ends?” Ultimately, then, what might keep us safe from a war in space isn't the horror of explosives in orbit, but a question of cost and convenience.

#### 1NC – Relations Advantage

#### 3. The risk of miscalculation is low due to a new hotline

Lan 16- Chen, writer on the Chinese space program (“Chinese Space Quarterly Report” Go Taikounauts, January, <http://www.go-taikonauts.com/images/newsletters_PDF/GoTaikonauts18.pdf>) JB

Though Sino-U.S. cooperation on human spaceflight is still uncertain, a positive move between the two countries has been made, that is the establishment of a space hotline. Western media reported in November that the hotline has been setup between Washington and Beijing to allow easy sharing of technical information about their space operations, hopefully avoiding any misunderstandings or accidents.

### Ext. #1 – China Can’t Challenge

#### Military modernization fears are exaggerated

Christensen, 15 – William P. Boswell Professor of World Politics of Peace and War and Director of the China and the World Program at Princeton (Thomas, The China Challenge: Shaping the Choices of a Rising Power, p. 58

In military matters, China's defense modernization does pose real problems for the United States, but the scope of that newfound military power is often exaggerated by scholars and public officials. Too often these observers approach military net assessments as if they are tallying a sports score, with each country getting a certain number of points for each counted asset. But even though the United States still does well in such a competition with China, numbers are not everything. A more sophisticated analysis would take into account the quality of systems, the quality of personnel, and the wartime experience of the two militaries. Such a study reveals that China is unlikely to have the military wherewithal to become a global peer competitor of the United States for decades to come. Chinese strategic writings, even those not meant for foreign consumption, seem to recognize China's shortcomings. They often refer to the need to develop strategies that overcome China's relative military weakness in comparison to a potential great power foe. While they discuss closing the gap in overall military power, there is almost no sense that such a goal will be achieved anytime soon. It seems then that Americans often give the Chinese higher grades and aspirations than Chinese military officers themselves are willing to accept.

#### China can’t reach parity with the United States despite current military spending

Rudd, Former Aussie PM, 2015

(Kevin, PhD Focus in Chinese/China History, U.S.-China 21 The Future of U.S.-China Relations Under Xi Jinping Toward a new Framework of Constructive Realism for a Common Purpose <http://belfercenter.ksg.harvard.edu/files/Summary%20Report%20US-China%2021.pdf> April)

Notwithstanding this gradual shift in the global distribution of economic power, over the course of the same decade the United States will nonetheless remain the dominant regional and global military power, and by a massive margin. While China’s increasing defense spending will continue to close the gap, there is no serious prospect of it reaching military parity with the U.S. before mid-century, if at all. China, like the rest of the world, will remain justifiably mindful of America’s overwhelming military power. This is a core assumption in Chinese strategic thinking. (1)

#### Tech gap too large for China Rise

Brooks and Wohlforth, PhDs, 16

(Stephen G, Associate Professor of Government @Dartmouth, William C, Daniel Webster Prof of Government @Dartmouth, May/June, <https://www.foreignaffairs.com/articles/united-states/2016-04-13/once-and-future-superpower?cid=nlc-fatoday-20160520&sp_mid=51424540&sp_rid=c2NvdHR5cDQzMUBnbWFpbC5jb20S1&spMailingID=51424540&spUserID=MTg3NTEzOTE5Njk2S0&spJobID=922513469&spReportId=OTIyNTEzNDY5S0>)

In forecasts of China’s future power position, much has been made of the country’s pressing domestic challenges: its slowing economy, polluted environment, widespread corruption, perilous financial markets, nonexistent social safety net, rapidly aging population, and restive middle class. But as harmful as these problems are, China’s true Achilles’ heel on the world stage is something else: its low level of technological expertise compared with the United States’. Relative to past rising powers, China has a much wider technological gap to close with the leading power. China may export container after container of high-tech goods, but in a world of globalized production, that doesn’t reveal much. Half of all Chinese exports consist of what economists call “processing trade,” meaning that parts are imported into China for assembly and then exported afterward. And the vast majority of these Chinese exports are directed not by Chinese firms but by corporations from more developed countries. When looking at measures of technological prowess that better reflect the national origin of the expertise, China’s true position becomes clear. World Bank data on payments for the use of intellectual property, for example, indicate that the United States is far and away the leading source of innovative technologies, boasting $128 billion in receipts in 2013—more than four times as much as the country in second place, Japan. China, by contrast, imports technologies on a massive scale yet received less than $1 billion in receipts in 2013 for the use of its intellectual property. Another good indicator of the technological gap is the number of so-called triadic patents, those registered in the United States, Europe, and Japan. In 2012, nearly 14,000 such patents originated in the United States, compared with just under 2,000 in China. The distribution of highly influential articles in science and engineering—those in the top one percent of citations, as measured by the National Science Foundation—tells the same story, with the United States accounting for almost half of these articles, more than eight times China’s share. So does the breakdown of Nobel Prizes in Physics, Chemistry, and Physiology or Medicine. Since 1990, 114 have gone to U.S.-based researchers. China-based researchers have received two.

### Ext. #2-3: No War

#### Economic interdependence prevents war

Christensen, 15 – William P. Boswell Professor of World Politics of Peace and War and Director of the China and the World Program at Princeton (Thomas, The China Challenge: Shaping the Choices of a Rising Power, p. 39-40)

Fortunately, in the case of China's ongoing rise, there are several reasons to doubt these two arguments. The kinds of temptations that led to great power wars during previous power transitions are much less prominent in Asia today than they were in the Western Hemisphere and Asia in the past. Substantial changes in global economics and politics have made the current international system more robust than previous systems. Broader economic trends have made territorial conquest of colonies less tempting, and changes in both economics and weaponry have decreased the need for invasion and conquest of either peer competitors or their smaller allies. Furthermore, the institutions set up by the United States and its allies after World War II were beneficial not just to themselves but to all states willing to open up their economies to a rule-based global order. No country has benefited from that global order more than China, particularly since it joined the World Trade Organization (WTO) in 2001. Since domestic stability is paramount for the CCP and the maintenance of that stability depends in large part on economic growth, I can see few reasons why China would intentionally seek conflict with its trade and investment partners or undercut the institutional framework that has enabled its historic economic development.

#### Nuclear weapons prevent escalation

Christensen, 15 – William P. Boswell Professor of World Politics of Peace and War and Director of the China and the World Program at Princeton (Thomas, The China Challenge: Shaping the Choices of a Rising Power, p. 50)

The Role of Nuclear Weapons In addition to the lack of true multipolarity, there is another difference between twenty-first-century Asia and the world before World War II: nuclear weapons. Unlike the United States, Germany, and Japan in the nineteenth and twentieth centuries, China is rising as a nuclear power into a world in which several other great powers have nuclear arsenals (including a few of China's immediate neighbors and the United States itself)- The existence of these weapons does not preclude war, but it makes conquest much more difficult to imagine and thereby removes entirely one traditional incentive for great power war: an effort to invade, subdue, and occupy the territory of a great power or its ally. Even if China, the United States, Russia, and India somehow decided to abandon all of their nuclear weapons in the twenty- first century, a scenario in which these states tried to conquer each other entirely through blitzkrieg attacks or long attritional wars would still seem fantastic. With nuclear weapons, the scenarios seem simply ridiculous. When the fear of domination and occupation by other great powers goes away, so do some of the ancillary reasons to become aggressive. China will almost certainly continue to fear the United States and other great powers, but it has little incentive to launch full-scale invasions of South Korea and Japan in an attempt to surround or occupy those U.S. allies in the way that Germany did to France and Belgium in the early stages of both world wars. Similarly, it is hard to imagine contemporary Japanese concerns about great power competition and dependence on mineral resources overseas leading Japan to launch colonial wars of occupation against Asian neighbors as it did in the 1930s. More likely scenarios include limited coercive struggles in Asia over disputed territories, shipping lanes, basing rights, and so on, and these could always escalate. But American and Chinese nuclear weapons should provide a major incentive for prudence and caution on all sides.

## Leadership Advantage Answers

### 1NC – Space Leadership Advantage

#### 1. US space leadership is high now

Weeden, 15 - Brian Weeden is technical adviser for the Secure World Foundation (“American Leadership in Space 2.0” 10/5, Space News, <http://spacenews.com/op-ed-american-leadership-in-space-2-0/>

A lot of rhetoric has been thrown around over the last several years about how the United States is “falling behind” in space and ceding its leadership role. This rather pessimistic assessment is largely based on the status of U.S. government space programs. NASA’s current human space exploration program is perceived as a shadow of its glory days of the 1960s, and U.S. national security space capabilities no longer have the same relative advantage over near-peers as in the late 1990s and early 2000s after the fall of the Soviet Union. However, taking a broader perspective of space activities leads to a much different conclusion: The United States is doing more in space than ever before, and in ways that no other country can match. The main driver for this new leadership is the commercial space sector, not the U.S. government. Instead of attempting to recapture “Space 1.0” leadership by focusing purely on stronger U.S. government space programs, another possible strategy is to develop a “Space 2.0” approach and focus on encouraging, shaping and leveraging the commercial space sector to help propel it into the future. This new leadership approach is possible because we are currently in the beginnings of a revolution in commercial space activities. The revolution is based on a potent combination of Moore’s Law, spin-in technologies from the information technology (IT) sector, and cloud computing that has enabled small-satellite technology to change the price/performance ratio, fueled by a significant infusion of private venture capital. These drivers have spurred the creation of dozens of new American space companies and a rekindling of competitive spirit in many legacy companies. The end result has been an infusion of fresh ideas, new approaches, increased innovation and new excitement in the space world. Although it’s uncertain which commercial space companies will emerge from the competition and actually make it to space, we know for certain that humanity as a whole will benefit. The commercial revolution in space is radically reducing the costs of accessing data and services from satellites while simultaneously increasing the amount, frequency and quality of information gathered. At the same time, improved analytics are being developed to turn the raw data into useful information and increasing accessibility to a wider number of users. That in turn leads to more “eyeballs” examining and investigating data, which leads to more new insights and applications that no one else thought of. The end result is going to be vastly more knowledge about the world we live in and socioeconomic benefits we cannot even dream of today.

#### 2. Space debris is not a significant threat—their authors exaggerate.

Paradise 10 — Lee A. Paradise, writer for Gale’s *Science in Dispute*—a series of science textbooks, 2010 (“Does the accumulation of "space debris" in Earth's orbit pose a significant threat to humans, in space and on the ground?,” *Science Clarified*, Volume 1, Available Online at http://www.scienceclarified.com/dispute/Vol-1/Does-the-accumulation-of-space-debris-in-Earth-s-orbit-pose-a-significant-threat-to-humans-in-space-and-on-the-ground.html, Accessed 10-24-2011)

Most of us remember the children's story about Chicken Little who ran around shouting, "The sky is falling! The sky is falling." In truth, Chicken Little had mistaken a simple acorn to be a sign of impending catastrophe. Much like this fictional character, doomsayers would argue that the sky is actually falling and that space debris threatens to destroy life as we know it both on Earth and in space. However, experts disagree and evidence indicates that the accumulation of space debris is not as significant a hazard as some people would have us believe. At first, the very concept of space debris appears to be a tremendous risk, especially for those traveling in space. The speed of orbital debris, the term sometimes used by NASA for space debris, can be approximately 6.2 mi/second (10 km/second). At that velocity, you could drive across the United States, coast-to-coast, in about seven and a half minutes. Even something as small as a fleck of paint moving at that rate of speed could cause damage to something in its path. Then couple that knowledge with photographs that show clusters of space debris floating around Earth and it isn't hard to understand why some people might believe that a significant threat exists. However, this risk has been overstated and sometimes even exaggerated. History has shown that even with the copious amount of space debris circling Earth, it has had very little effect on space exploration, and even less on the planet below. The reasons behind this are many, but include the vastness of Earth and space, protective measures, and early detection systems. Together these factors have reduced the possible risk dramatically.

### 1NC – Space Leadership Advantage

#### 3. Current monitoring systems solve debris collision.

Paradise 10 — Lee A. Paradise, writer for Science Clarified encyclopedia, 2015 ("Does the accumulation of "space debris" in Earth's orbit pose a significant threat to humans, in space and on the ground?," *Science Clarified,* July 23rd, Accessible Online at [www.scienceclarified.com/dispute/Vol-1/Does-the-accumulation-of-space-debris-in-Earth-s-orbit-pose-a-significant-threat-to-humans-in-space-and-on-the-ground.html](http://www.scienceclarified.com/dispute/Vol-1/Does-the-accumulation-of-space-debris-in-Earth-s-orbit-pose-a-significant-threat-to-humans-in-space-and-on-the-ground.html), Accessed On 11-13-2015)

In fact, monitoring systems such as the Space Surveillance Network (SSN) maintain constant track of space debris and Near Earth Orbits. Thanks to ground-based radar and computer extrapolation, this provides an early warning system to determine if even the possibility of a collision with space debris is imminent. With this information, the Space Shuttle can easily maneuver out of the way. The Space Science Branch at the Johnson Space Center predicts the chance of such a collision occurring to be about 1 in 100,000, which is certainly not a significant enough risk to cause panic. Soon the ISS will also have the capability to maneuver in this way as well.

#### 4. Turn – the plan increases space debris by generating more launches

Australian Space Academy 2007 [“Briefing on Space Law,” Space Law Pages, http://www.spaceacademy.net.au/spacelaw/spacelaw.htm]

Since the start of the space age the problem of unwanted material or debris in space has been growing. **Each space launch** usually leaves considerably more than the desired satellite in orbit. Expended rocket boosters, attachment bolts, shields, solid rocket motor slag, and innumerable other items are placed into Earth orbit. Some of these decay (lose altitude) and burn up in the atmosphere - some are large enough to escape complete destruction by ablation and then may pose a potential hazard to life and property on the Earth's surface. In space, materials degrade and detach from satellites; stored energy in the form of unspent fuel and battery vapours may cause explosive rupture and fragmentation of space objects. Collisions between space objects at hypervelocity not only causes damage, but also creates thousands of other space objects (ie fragments of the original objects) which themselves then pose collision hazards to active spacecraft.

#### 5. Current confidence building measures solve the impact

Rose 15. (Frank, Assistant Secretary, Bureau of Arms Control, Verification and Compliance. “Using Diplomacy to Advance the Long-term Sustainability and Security of the Outer Space Environment,” State Department. 4/16/2015. http://www.state.gov/t/avc/rls/2015/240761.htm)//CB

The United States and China have already implemented some bilateral transparency and confidence building measures (or TCBMs) to prevent the generation of additional debris in space. As part of the 2014 U.S.-China Strategic and Economic Dialogue, led by Secretary of State John Kerry, we reached agreement on the establishment of e-mail contact between China and the United States for the transmission of space object conjunction warnings. Not only does this communication help prevent collision between objects in space, it will help to develop trust and understanding between the United States and China. Over the past few years the United States has also supported a number of multilateral initiatives that should reduce the chances of mishaps, misperceptions and potential miscalculations. Multilateral TCBMs are means by which governments can address challenges and share information with the aim of creating mutual understanding and reducing tensions. Through TCBMs we can increase familiarity and trust and encourage openness among space actors. One of the key efforts that we have been pursuing is working with the European Union to advance a non-legally binding International Code of Conduct for Outer Space Activities. The Code would establish guidelines to reduce the risks of debris-generating events and to strengthen the long-term sustainability and security of the space environment. Among the draft Code’s most important provisions is a commitment for the subscribing States to refrain from any action -- unless such action is justified by exceptions spelled out in the draft Code -- that brings about, directly or indirectly, damage or destruction of space objects. We view the draft Code as a potential first step in establishing TCBMs for space. The State Department is also leading U.S. efforts in the framework of the United Nations Committee on the Peaceful Uses of Outer Space (UNCOPUOS) to move forward in the development of a draft set of guidelines for sustainable space operations to include ways to prevent the generation of space debris. Another important recent effort was the United Nations Group of Governmental Experts (GGE) study of outer space transparency and confidence-building measures. That UN group, for which I served as the U.S. expert, published a consensus report in July 2013 endorsing voluntary, non-legally binding TCBMs to strengthen sustainability and security in space. The United States subsequently co-sponsored a resolution with Russia and China referring the GGE report’s recommendations for consideration by the relevant entities and organizations of the United Nations system. These diplomatic efforts contribute to reducing misperceptions and miscalculations and help lower the chance of conflict extending into space.

### Ext. #1 – US Space Leadership High

#### The US is still on course to be a leader in space

Klotz 13 (Frank, Senior Fellow for Strategic Studies and Arms Control, 8/5/13, "Will the United States still lead in space exploration?" Council on Foreign Relations) [www.cfr.org/space/united-states-still-lead-space-exploration/p31192](http://www.cfr.org/space/united-states-still-lead-space-exploration/p31192)

The United States has always been a leader in space exploration. It has landed astronauts on the Moon, launched robotic systems to explore the surface of Mars and the other planets of the solar system, and forged a successful partnership with other countries to assemble, operate, and conduct leading-edge scientific research on the International Space Station (ISS). The United States currently faces a number of challenges in maintaining its capability to explore space. Since NASA retired the Space Shuttle in 2011, the United States cannot launch humans into space from U.S. soil on an American rocket. NASA plans for commercial companies to develop the capability to ferry astronauts to and from the ISS. However, this service will not be available until at least 2017. In the meantime, the United States relies on Russia to transport its astronauts into low-earth orbit. Looking further ahead, NASA is developing the Orion spacecraft and the Space Launch System to send astronauts deeper into space. While the ultimate objective is to travel to Mars, there is currently debate over whether Americans should first return to the Moon or fly to other deep space destinations, such as an asteroid, to develop the necessary technology and skills for such a long-endurance mission. Space exploration is an expensive undertaking. It requires substantial investment in intellectual capital and highly advanced hardware. However, more nations are developing the capability to explore space. The Russians and the European Union have been active in the field for decades, and the United States already cooperates with them on several fronts. In June, a three-person Chinese crew completed a 15-day mission in orbit. While the United States is on course to remain a leader in human space flight and robotic space exploration, there will be many more opportunities to work collaboratively with other nations in the future.

### Ext. #2-3 – No Space Debris Impact

#### No impact – empirically proven

Paradise 10 — Lee A. Paradise, writer for Gale’s *Science in Dispute*—a series of science textbooks, 2010 (“Does the accumulation of "space debris" in Earth's orbit pose a significant threat to humans, in space and on the ground?,” *Science Clarified*, Volume 1, Available Online at http://www.scienceclarified.com/dispute/Vol-1/Does-the-accumulation-of-space-debris-in-Earth-s-orbit-pose-a-significant-threat-to-humans-in-space-and-on-the-ground.html, Accessed 10-24-2011)

Considering the small size of objects like satellites or the shuttle placed against an environment as vast as space, the risk of severe collisions is minimal. Even when an object in space is hit by space debris, the damage is typically negligible even considering the high rate of speed at which the debris travels. Thanks to precautions such as debris shielding, the damage caused by space debris has been kept to a minimum. Before it was brought back to Earth via remote control, the MIR space station received numerous impacts from space debris. None of this minor damage presented any significant problems to the operation of the station or its various missions. The International Space Station (ISS) is designed to withstand direct hits from space debris as large as 0.4 in (1 cm) in size.

Most scientists believe that the number of satellites actually destroyed or severely damaged by space debris is extremely low. The Russian Kosmos 1275 is possibly one of these rare instances. The chance of the Hubble Space Telescope suffering the same fate as the Russian satellite is approximately 1% according to Phillis Engelbert and Diane L. Dupuis, authors of The Handy Space Answer Book . Considering the number of satellites and other man-made objects launched into space in the last 40 years, the serious risk posed to satellites is astronomically low.

#### The risk of collision is one in one-hundred thousand.

Paradise 10 — Lee A. Paradise, writer for Gale’s *Science in Dispute*—a series of science textbooks, 2010 (“Does the accumulation of "space debris" in Earth's orbit pose a significant threat to humans, in space and on the ground?,” *Science Clarified*, Volume 1, Available Online at http://www.scienceclarified.com/dispute/Vol-1/Does-the-accumulation-of-space-debris-in-Earth-s-orbit-pose-a-significant-threat-to-humans-in-space-and-on-the-ground.html, Accessed 10-24-2011)

In fact, monitoring systems such as the Space Surveillance Network (SSN) maintain constant track of space debris and Near Earth Orbits. Thanks to ground-based radar and computer extrapolation, this provides an early warning system to determine if even the possibility of a collision with space debris is imminent. With this information, the Space Shuttle can easily maneuver out of the way. The Space Science Branch at the Johnson Space Center predicts the chance of such a collision occurring to be about 1 in 100,000, which is certainly not a significant enough risk to cause panic. Soon the ISS will also have the capability to maneuver in this way as well.

### Ext. #4 – Launches Turn

#### The plan causes more space debris

Scott 10 (Scott, avionics editor and senior engineering editor, “Experts Consider What's Up There

Panel Addresses Space Situational Awareness and Space Debris,” <http://newsletters.spacefoundation.org/spacewatch/articles/id/479>, May 2010, AD)

Perhaps the most worrisome aspect of the increasing utilization - and globalization - of space is a simple question: "what's up there?" The Critical Issues - Space Situational Awareness & Space Debris panel at the 26th National Space Symposium examined two different, but related, issues: the challenge of keeping abreast of what is taking place in near-Earth space, and the proliferation of space debris. Presented in association with the AMOS Conference, a Project of the Maui Economic Development Board, Inc. (MEDB), the panel featured a special introduction by Sandy Ryan, AMOS Conference Director, MEDB, and was moderated by space author William B. Scott. Panelists included: Lt. Gen. Brian A. Arnold, USAF (Retired), vice president for space strategy, Raytheon Space and Airborne Systems Roger L. Hall, ST, deputy director, Tactical Technology Office, Defense Advanced Research Projects Agency (DARPA) Houston T. Hawkins, senior fellow, Los Alamos National Laboratory, and chief scientist, Principal Associate Directorate for Global Security Maj. Gen. Susan J. Helms, USAF, director of Plans and Policy, U.S. Strategic Command Nicholas L. Johnson, chief scientist for orbital debris, NASA Joseph Sheehan, president, Analytical Graphics, Inc. (AGI) Arnold laid out the issues, saying, "Awareness of our space environment has never been more important," but that most of the space tracking radars are located in the northern hemisphere, "making continuous coverage impossible." He also noted that every time we send something to orbit, we contribute to the debris. "We need to preserve the environment for the future of space by looking at methods to mitigate space debris - environmental cleaning of space," he said.

## Solvency Answers

### 1NC – Solvency

#### 1. Prior cooperation proves the plan has no positive effect on China

Sterner, 15 - Eric Sterner is a fellow at the George C. Marshall Institute. He held senior staff positions for the U.S. House Science and Armed Services committees and served in DoD and as NASA’s associate deputy administrator for policy and planning (“China, Talk and Cooperation in Space” Space News, 8/6,

<http://spacenews.com/op-ed-china-talk-and-cooperation-in-space/>

The U.S. and Chinese governments already discuss satellite collision avoidance and conduct joint research into greenhouse gas monitoring, severe weather monitoring, space weather and climate science. This cooperation seems to produce little fruit. It certainly has not affected Chinese behavior vis-à-vis its relationship with the United States. Indeed, last fall, hackers in China attacked a U.S. partner to these cooperative relationships, the National Oceanic and Atmospheric Administration, leading the agency briefly to stop making satellite weather data available to the public. If this is what it means to cooperate with China in space, the United States is better off without it.

#### 2. Increasing diplomacy fails

Billings 15 – editor of Scientific American, featured in The New York Times, The Washington Post, Scientific American, Popular Mechanics and many other publications. From 2006 to 2011, he was an editor at Seed Magazine, where he covered science and technology topics including astrophysics, space exploration, paleontology and robotics. He graduated in 2003 from the University of Minnesota with a degree in journalism. (Lee, “War in Space May Be Closer Than Ever”, Scientific American, August 10, 2015, <http://www.scientificamerican.com/article/war-in-space-may-be-closer-than-ever//dmeth>)

In response to these possible threats, the Obama administration has budgeted at least $5 billion to be spent over the next five years to enhance both the defensive and offensive capabilities of the U.S. military space program. The U.S. is also attempting to tackle the problem through diplomacy, although with minimal success; in late July at the United Nations, long-awaited discussions stalled on a European Union-drafted code of conduct for spacefaring nations due to opposition from Russia, China and several other countries including Brazil, India, South Africa and Iran. The failure has placed diplomatic solutions for the growing threat in limbo, likely leading to years of further debate within the UN’s General Assembly.

#### 3. Space cooperation won’t moderate Chinese behavior

Sterner, 15 - Eric Sterner is a fellow at the George C. Marshall Institute. He held senior staff positions for the U.S. House Science and Armed Services committees and served in DoD and as NASA’s associate deputy administrator for policy and planning (“China, Talk and Cooperation in Space” Space News, 8/6,

<http://spacenews.com/op-ed-china-talk-and-cooperation-in-space/>

Unfortunately, a country’s space behavior appears to have little affect on its terrestrial actions. Russia’s multidecadal human spaceflight partnership with the United States did not prevent it from invading and destabilizing Ukraine when it moved toward a closer relationship with the European Union, many of whose members are Russian partners in the International Space Station. Space cooperation has not, and will not, prevent the continued worsening of the security environment in Europe, which flows from Russian behavior on Earth, not in space. Space cooperation with China is similarly unlikely to moderate its behavior. Tensions in Asia derive from China’s insistence on pressing unlawful territorial claims in the Pacific, most recently by transforming disputed coral reefs into would-be military bases. Ironically, civilian space technology has proved critical in documenting these aggressive moves. To further demonstrate the civil space cooperation does not promote cooperation on Earth, we need look no further than recent history. The NASA administrator’s visit to China in the fall of 2014 nearly coincided with China’s hacking of NOAA, with whom Beijing has a “partnership” in studying climate change.

### 1NC – Solvency

#### 4. The perception of US space militarization prevents effective dialogue

Hitchens and Johnson-Freese, 16 - Theresa Hitchens is a senior research scholar at the University of Maryland’s Center for International and Security Studies at Maryland (CISSM). Joan Johnson-Freese is a Professor of National Security Affairs at the U.S. Naval War College (“Toward a New National Security Space Strategy Time for a Strategic Rebalancing” Atlantic Council Strategy Paper No. 5, http://www.atlanticcouncil.org/images/publications/AC\_StrategyPapers\_No5\_Space\_WEB1.pdf

Further, the United States does not own space. Other countries share many of the same space goals as the United States, including—perhaps most importantly—access to space. But these other countries, particularly China and increasingly Russia, perceive the United States as actively developing capabilities to potentially deny them access to space. This perception is shaped by US policy, rhetoric, program development, and spending. In particular, the US Air Force concept of “space control” continues to worry many in the international space community, especially Russia and China. “Space control,” one of four Air Force space missions defined in joint military doctrine, was defined in 2002: Space control operations provide freedom of action in space for friendly forces while, when directed, denying it to an adversary, and include the broad aspect of protection of U.S. and allied space systems and the negation of enemy space systems. Space control operations encompass all elements of space defense mission and include offensive and defensive operations by friendly forces to gain and maintain space superiority and situational awareness if events impact space operations.15 If it is perceived that the United States intends to be able to deny adversaries access to space, it should not be unexpected that these potential adversaries will develop capabilities to thwart that intent. Similarly, in 2004, the Air Force defined “space dominance” in a manner strikingly similar to the Defense Department’s definition of air superiority, in the first-ever doctrine paper on counterspace operations (that is, US operations to deal with adversary space capabilities in a conflict): “The degree of dominance in space of one force over another that permits the conduct of operations by the former and its related land, sea, air, space, and special operations forces at a given time and place without prohibitive interference by the opposing force.”16 The difficulty with transference of this concept is that an air battle takes place in a relatively small area, over a relatively short period of time, with a relatively high degree of ability for commanders to know what is going on and who is responsible for what actions; in space, none of that may be true. That creates opportunities for mishaps, misperceptions, and miscalculations. During the Bush administration, the space-control and dominance rhetoric emanating from the US military created external perceptions of aggressive US intentions in space. These perceptions were initially soothed by the Obama administration’s policies, rhetoric, and focus on multilateral diplomacy. Recent rhetoric, however, is once again changing the US profile. For example, in statements as recently as 2014, Assistant Secretary of State for Arms Control, Verification, and Compliance Frank Rose stated that the United States was amenable to space arms-control agreements if they are “equitable, effectively verifiable, and enhance the security of all nations [emphasis added].”17 By contrast, in his November 2015 remarks, Rose stated that the United States would consider arms-control measures if they are “equitable, effectively verifiable, and enhance the national security of the United States and its allies [emphasis added].”18 This distinction was reminiscent of the “us” and “them” view of the world after 9/11, and of language in the Bush administration space policy that focused almost exclusively on US rights in space. Since this phrase is an often-heard talking point of US space policy, it is unlikely the recently selected wording was simply a misstep. Given the danger of space warfare and its escalation potential, Bruce MacDonald pointed out how the hegemonic space strategy of the Bush administration was misaligned, in a 2008 report for the Council on Foreign Relations. First, the 2002 US space doctrine included language about the imperative of being able to deny the use of space assets by US adversaries—language that has caused considerable angst among countries increasingly using space in many of the same ways as the United States. The United States has ranged from hinting to overtly stating its desire to “control” space. Second, since the 2006 National Space Policy, space has been considered a US “vital interest” that must be protected. MacDonald highlighted the incongruous nature of those two points: Identifying one’s own space capabilities as a vital national interest while reserving the right to attack others in space (which would likely provoke retaliatory attacks against our “vital” space assets), appears internally inconsistent, even contradictory…Attacking other’s satellites would invite retaliation, putting at risk a “vital national interest” where the United States has much more to lose than the attacker.19 Rational decision-making is goal directed, with internally consistent choices. Therefore, if the United States wants to maintain access to its vital interests, avoiding an attack becomes just as important as defending against and defeating an attack. Yet, since the 2013 Chinese launch, the United States is once again considering systems to attack adversary counterspace capabilities, as well as offensive actions against adversary satellites—including potential first-strike, preemptive options—which could lead to a similar misalignment of goals with means.

### Ext. #3: Space Cooperation Fails

#### Divergent national interests disprove the spillover benefits of space cooperation

Sterner, 15 - Eric Sterner is a fellow at the George C. Marshall Institute. He held senior staff positions for the U.S. House Science and Armed Services committees and served in DoD and as NASA’s associate deputy administrator for policy and planning (“China, Talk and Cooperation in Space” Space News, 8/6,

<http://spacenews.com/op-ed-china-talk-and-cooperation-in-space/>

Military confrontation flows from the interaction of hard power in pursuit of competing national interests. Space cooperation falls into the realm of soft power. It has value in strengthening relationships among like-minded states with similar interests. China’s aggressiveness toward its neighbors, its human rights record and its cyberattacks on the United States strongly demonstrate that it and the United States are not of like minds. This is not the result of insufficient space cooperation, but of divergent national interests. The United States is a status quo power; China is not.

#### Cooperation in space doesn’t translate to better relations on Earth.

Seedhouse, 10 - Aerospace research scientist and Astronaut Training Consultant [ Dr. Erik Seedhouse, “The New Space Race, China Vs. the United States,” p. 212 accessed June 23, 2011, BJM]

One suggestion made by analysts such as Taylor Dinkerman, a spaceflight observer writing for the space policy site Space Review, has been for the Americans to engage the Chinese in a space project to generate at least a minimal level of political trust. By pursuing this course of action, analysts hope that by cooperating in space, the political relationship between Washington and Beijing can be changed for the better. Unfortunately, despite what people may think about the supposed benefits that occurred as a result of the US-Russia partnership, “handshakes in space” do not compel world leaders to make peace, no matter how many speeches astronauts and cosmonauts make, extolling the virtues of cooperation. The reason cooperation in space will never help to overthrow old tensions between Washington and Beijing, no matter how many astronauts and taikonauts hug each other in LEO, is that diplomatic progress always comes first.

#### Cooperation with China fails – lack of mutual trust, technological disparity, China’s culture of secrecy and little incentives for information exchange.

Seedhouse, 10 - Aerospace research scientist and Astronaut Training Consultant [ Dr. Erik Seedhouse, “The New Space Race, China Vs. the United States,” p. 212 accessed June 23, 2011, BJM]

Transparency permits international counterparts to increase their confidence about whether an activity is taking place and also provides warning of suspicious behavior - a particularly important consideration for any nation deliberating on doing business with Beijing. But transparency isn’t just about sharing perceptions about risks and threats. It requires several important steps, including exchanges between laboratories, information concerning space budgets, operations, research and development programs, and agency-I0-agency contacts. Ultimately, transparency requires each counterpart to declare all activities. Such an agreement enables each nation to engage in reciprocal and observable actions that in turn signal a commitment to enforcing predictable rules of behavior. Transparency is a feature notably absent from China’s secrecy-bound space program - a situation exacerbated by the control by the People’s Liberation Army (PLA) of virtually all Chinese space development. Such control is clearly a counterproductive factor in any potential agreement with international counterparts. However, even if the PLA wasn’t involved, neither Washington nor Beijing believes it confronts a common problem in space that demands mutual collaboration. Furthermore, even if Washington and Beijing investigated the possibility of cooperation and engaged in measures to build transparency into their respective space programs, such an attempt would be futile given the disparity in the technological capabilities between the two countries. Other transparency barriers to collaboration include the obsessive culture of secrecy surrounding the Chinese space program and the reticence of Beijing to reveal just how technologically mature their space hardware is. This reluctance towards efforts in transparency and the insular nature of China’s security apparatus have resulted in US efforts to encourage greater bilateral exchanges failing miserably. Furthermore, as long as the US maintains its tremendous technological lead and overwhelming reliance on satellites for military operations and commerce, and as long as China continues to seek parity, the incentives for information exchange will remain slim to non-existent.