Index

[Index 1](#_Toc297491135)

[\*\*\*1NC Leadership 2](#_Toc297491136)

[\*\*\*1NC Aerospace Industry 5](#_Toc297491137)

[\*\*\*1NC Solvency 7](#_Toc297491138)

[\*\*\*1NC Missile Defense 9](#_Toc297491139)

[EXT: Mars/asteroids better 10](#_Toc297491140)

[EXT: Obama’s plan good – Mars, etc. 12](#_Toc297491141)

[EXT: Obama Plan Good – Leadership 13](#_Toc297491142)

[EXT: Cold War mindset bad 15](#_Toc297491143)

[EXT: Constellation bad 16](#_Toc297491144)

[EXT: Obama’s plan = job creation 19](#_Toc297491145)

[EXT: Privatization in squo 20](#_Toc297491146)

[AT: Constellation Key To Privatization 24](#_Toc297491147)

[EXT: NMD fails 25](#_Toc297491148)

[Indict of Armstrong, Lovell, Cernan 26](#_Toc297491149)

\*\*\*1NC Leadership

Obama’s flexible space policy is superior to Constellation – support from across the board

Kaufman 10 (Mark, Marc Kaufman writes about NASA and space issues for the Washington Post, where he has been a reporter on the national staff for ten years. He has also worked as a foreign correspondent at the Post, reporting from Afghanistan after the 9/11 attacks, and as New Delhi bureau chief for the Philadelphia Inquirer. His articles have appeared in the Washington Post, Philadelphia Inquirer Sunday, and New York magazines, as well as Smithsonian and Condé Nast Traveler, “Obama plan to end much of Constellation program angers Republican senators,” Washington Post, 4/23/10, http://www.washingtonpost.com/wp-dyn/content/article/2010/04/22/AR2010042205372.html)

"I guarantee that before we put any vehicle into space, there will be one safety standard for taking astronauts from this planet to anywhere else," Bolden said. A group of space experts, former astronauts and space advocates voiced support for Obama's plan Thursday in a teleconference organized by the Planetary Society, the world's largest private space organization. The speakers, who included three-time Hubble repair astronaut John Grunsfeld, Bill Nye "The Science Guy" and George Washington University space policy expert John Logsdon, said the Obama plan is significantly superior to the Constellation program. Louis Freidman, executive director and co-founder of the Planetary Society, said that Obama's willingness to propose new pathways and destinations is a sign of American leadership. "This plan would take Americans out to near-Earth asteroids, to deep space and to Mars -- destinations that other nations are not even contemplating," he said. "These would be capabilities Constellation didn't have.”

Constellation was “broken” – it pulled funds away from other objectives and didn’t even have the infrastructure to get astronauts to the moon

Bolden 11 (Charles, NASA administrator, “NASA's Charles Bolden: Americans Will 'Go To Deep Space’,” ABC News, 5/17/11, <http://abcnews.go.com/Blotter/nasas-charles-bolden-americans-deep-space/story?id=13620479>)

ABC NEWS: I'm sure you've heard the criticism from some corners that the Constellation program that was developed under the last administration had support from both parties of Congress -- that it wasn't broken, so why are we deviating from it? How do you answer those questions? BOLDEN: I would counter initially that to say that ‘Constellation wasn't broken’ is not accurate. Constellation, if you look at where we were, it was a deep space exploration program that failed to get funding from the administration and Congress for many years, and my predecessor, Mike Griffin, found himself having to take money from NASA's science and aeronautics budgets, having to de-scope what Constellation was supposed to do. If you talk to anybody who is knowledgeable on where Constellation was at the time that President Obama made the decision to terminate the program, it was a poor lunar exploration enterprise at best, because we didn't have landers. We didn't have any way to provide the infrastructure once you got to the surface of the Moon, and in fact, when I say we didn't have landers, we didn't have a way to get astronauts from lunar orbit to the surface. So that is not being critical of the people in the Constellation program. That is saying that the assets that were provided to us through the previous administration and the Congress were insufficient to carry out the vision, if you will.

Obama’s strategy improves our general space capabilities

Zoe Strassfield. Intern at NASA. 21 June 2011. “Chronicling My NASA Internship.” [http://www.huffingtonpost.com/zoe-p-strassfield/new-blogger-chronicles-na\_b\_880928.html].

1) Don't go anywhere -- go everywhere: Instead of building spacecraft for only one purpose (like going to the moon), NASA will build vehicles that can be used equally well in many different environments and scenarios. (In orbit around the Earth, on the moon, on Mars, on an asteroid, etc.) The Orion capsule developed for Constellation will be modified for use with these vehicles. This means that if scientists suddenly discover something about a place that makes it more interesting (like, say, an asteroid made out of unusual materials), NASA can use a vehicle they already have to send astronauts to check it out, instead of having to take the time to create an entirely new spaceship for that purpose. 2) Study group: Now that the International Space Station is complete, NASA can focus on conducting research there that will help prepare for voyages further out into the solar system. They'll study how to keep people healthy during long space trips and how different materials and engines work under actual space conditions. (Because when you set out for Mars, you want to have the best gear possible, so you'd better have tested it beforehand.) 3) I get by with a little help from my friends: NASA will get more funding, but they'll also make more partnerships with other countries and private companies interested in building spaceships, to share the cost. Since it will take time to find the best design for the new deep-space vehicles, test them, and build them, in the meantime, astronauts will ride to the station in vehicles provided by the Russian space program and by commercial companies. ("Just call on me, brother, when you need a hand, we all need somebody to lean on...")

Obama’s asteroid plan could save humanity

Tariq Malik. Space.com Managing Editor. "NASA's New Asteroid Mission could save the Planet." [http://www.space.com/8240-nasa-asteroid-mission-save-planet.html]. 16 April 2010.

President Barack Obama set a lofty next goal this week for Americans in space: Visiting an asteroid by 2025. But reaching a space rock in a mere 15 years is a daunting mission, and one that might also carry the ultimate safety of the planet on its shoulders. "It is probably the hardest thing we can do because the asteroid is not coming on a schedule," NASA chief Charles Bolden told reporters late Thursday after Obama announced his space vision. And when a specific asteroid is eventually selected, the window to launch a spaceship toward it will be much less forgiving than the windows for NASA space shuttles bound for the International Space Station, Bolden said. "The space station gives us five minutes," he explained. "I'm not sure what an asteroid gives us, but then it doesn't come again for a lifetime." And there's another compelling reason for touching an asteroid: Saving the planet. In a panel discussion that followed President Obama's Thursday space vision speech, astrophysicist John Grunsfeld - a former NASA astronaut who flew on five shuttle missions - suggested sending humans to purposely move an asteroid, to nudge the space rock to change its trajectory. Such a feat, he said, would show that humanity could deflect a space rock if one threatened to crash into the planet. "By going to a near-Earth object, an asteroid, and perhaps even modifying its trajectory slightly, we would demonstrate a hallmark in human history," said Grunsfeld, who flew on three shuttle missions to fix the Hubble Space Telescope. "The first time humans showed that we can make better decisions than the dinosaurs made 65 million years ago." Take the moon, Grunsfeld said. Tycho crater, a huge impact crater on the moon visible from Earth, was created when an asteroid crashed into it 95 million years ago, he said. "The dinosaurs saw that," Grunsfeld told reporters. "Thirty million years later they're snuffed out when the same thing happens to the Earth." [Asteroids Up Close.] If humanity doesn't develop a capability to meet space rocks head-on, and win, than it is almost a certainty that an asteroid will eventually threaten life on Earth, he added. TV's Bill Nye the Science Guy, vice president of the Planetary Society, said the president's asteroid plan carries a risk, since it sends astronauts so far from home. But it is a risk worth taking. "You're saving all of humankind," Nye said. "That's worthy, isn't it?"

**The Apollo approach is outdated and threatens US leadership – a new space strategy is necessary**

Logsdon 10 (Dr. John M. Logsdon, Professor Emeritus of Political Science and International Affairs at The George Washington University's Elliott School of International Affairs, where he taught for 38 years; founder and director of GW's Space Policy Institute in 1987; member of numerous advisory boards and commissions, including the Columbia Accident Investigation Board and the NASA Advisory Council, “The End of the Apollo Era – Finally?”, 6/30/10, http://www.spacenews.com/commentaries/100630-blog-end-apollo-era-finally.html)

There is a coherent explanation of what is being proposed, but NASA has given it little emphasis and it seems not to have registered with those trying to understand the new strategy. That strategy involves a restart — a five-year period of building the technological foundation for the future. That restart would be followed by another five to seven years of developing new systems based on that foundation, then a series of human missions to various destinations beyond Earth orbit. There is no commitment to a specific destination on a specific schedule; that avoids the narrowing effect that was a characteristic of Apollo. To me this is a quite sensible and easily understandable strategy, if the United States wants to be in the vanguard of 21st century space exploration. But it does not follow the Apollo model of setting a date to arrive at a specific destination that gave the United States unquestioned space leadership. It will be a challenge to maintain focus and technological discipline in implementing a strategy without a “date by” goal, but a capabilities-based approach can pave the way to U.S. leadership in reaching all the interesting destinations between the Earth and Mars. To me, the greatest threat to U.S. space leadership would come from our political system insisting on staying with the Apollo-era approach to the future, not from adopting this new strategy. One element of the new strategy that is serving as a lightning rod for opponents is the proposal that the private sector take on a larger role in providing transportation services for people travelling to low Earth orbit. This fundamentally is a side issue to the main thrust of the strategy — developing capabilities for going beyond Earth orbit. The report of the Columbia Accident Investigation Board is being cited in the current debate as if it were scripture, particularly in support of the contention that only NASA can operate systems for carrying people to orbit with adequate provision for their safety. In fact, much of the board’s report was a strong indictment of NASA’s safety culture, not an endorsement of NASA’s uniqueness or its performance with respect to ensuring crew safety aboard the shuttle. While it will be a long time, if ever, before launching people into orbit can be “routine,” and while NASA must play an important role in overseeing the safety of government-funded spaceflights, the notion that only NASA can assure adequate safety seems to me to be a product of the obsolete thinking identified by Professor Brewer. It is really too bad that the announcement, and since then the defense, of a fundamental paradigm shift in the way the United States carries out human space exploration, and human spaceflight overall, have been so poorly articulated. The White House and NASA dug a rather deep hole in mismanaging the rollout of the new strategy, and the president really did not improve matters much by announcing a quickly conceived resuscitation of Orion, blowing off the Moon as a valuable destination, and setting an ambiguous target for a heavy-lift vehicle. NASA seems unable to provide clear or convincing answers to the congressional critics of the new strategy, and those of us who support it are having difficulty in getting our views heard. Going back to the drawing board and starting over on a modified strategy as the next budget is announced does not seem to me to be an option. Forcing NASA to continue to move grudgingly forward on Constellation while it is planning its replacement is untenable. There is a pressing need for a sensible outcome. The time is now for ending the era of Apollo. When it began, John Kennedy was clear in purpose and consistent in explaining his reasons for going to the Moon. Now we need JFK-like leadership to be equally clear in purpose and equally convincing in arguing for moving to a new era in U.S. human spaceflight.

Orion wasn’t cancelled, sufficiently funding NASA

AFP 10 (“Obama lays out new US space policy,” 6/28/10, http://www.space-travel.com/reports/Obama\_lays\_out\_new\_US\_space\_policy\_999.html)

The United States will also seek partners in space to improve environmental data, disaster mitigation and surveillance of space for debris monitoring. The new policy also states continued US commitment to use space systems to support national security to enhance Washington's capacity to identify threats and defeat any attempt by enemies to attack US or allied space systems. NASA administrator Charles Bolden said the new policy embraced NASA's historical role of researching and developing launch systems but challenged the agency to embrace new roles. He also described the new policy as including a "job-creating" transportation system for manned low-Earth orbit. Some critics of Obama's plans to rule out the over-budget Constellation Moon launch system have cited the impact on employment of the decision in space industry in Florida and Texas. In a nod to those critics, Obama had previously announced that he would retain and scale down a portion of the Constellation project, the Orion capsule. The White House says it will boost NASA's budget by six billion dollars over five years and will create 2,500 jobs in Florida by 2012.

\*\*\*1NC Aerospace Industry

**Cancelling Constellation means job creation, not job loss – Obama cares too much about our workforce**

Department of Commerce 10 (United States Department of Commerce, “Space Coast Task Force Delivers Economic Strategies Report to President Obama,” 8/17/10, http://www.commerce.gov/news/press-releases/2010/08/17/space-coast-task-force-delivers-economic-strategies-report-president-)

“For decades, the dedicated members of the Space Coast workforce have used their wide-ranging talents to safely create, launch, and maintain some of the world’s most complex aerospace and technical systems,” said NASA Administrator Charles Bolden. “As we transition to a new era in our national space policy, President Obama has made it a top priority to foster innovation and create job opportunities for those who helped make America the leader in international space exploration. The investments we're making with these Task Force recommendations are investments in our nation's most important asset – our skilled workforce.” In addition to funding set aside in President Obama's 2011 budget for the Space Coast, another $60 million was set aside for other areas across the country that will be impacted by changes to the nation's space policy, including $45 million for economic development through EDA and another $15 million for job training activities through the Department of Labor. Earlier this year, President Obama announced a new, ambitious space initiative that includes a budget increase of $6 billion over five years to support a bold new path of innovation and discovery that will create thousands of jobs at Kennedy Space Center, on the Space Coast, and nationwide. And in May, he established the Task Force on Space Industry Workforce and Economic Development to lead the initiative to coordinate and implement a plan to grow the region’s economy and prepare its workers for the opportunities of tomorrow as the shuttle program comes to a close. The $40 million, multi-agency initiative builds on and complements ongoing local and federal economic and workforce development efforts.

Obama’s new flexible space policy creates 2500 jobs

AFP 10 (“Obama lays out new US space policy,” 6/28/10, http://www.space-travel.com/reports/Obama\_lays\_out\_new\_US\_space\_policy\_999.html)

The United States will also seek partners in space to improve environmental data, disaster mitigation and surveillance of space for debris monitoring. The new policy also states continued US commitment to use space systems to support national security to enhance Washington's capacity to identify threats and defeat any attempt by enemies to attack US or allied space systems. NASA administrator Charles Bolden said the new policy embraced NASA's historical role of researching and developing launch systems but challenged the agency to embrace new roles. He also described the new policy as including a "job-creating" transportation system for manned low-Earth orbit. Some critics of Obama's plans to rule out the over-budget Constellation Moon launch system have cited the impact on employment of the decision in space industry in Florida and Texas. In a nod to those critics, Obama had previously announced that he would retain and scale down a portion of the Constellation project, the Orion capsule. The White House says it will boost NASA's budget by six billion dollars over five years and will create 2,500 jobs in Florida by 2012.

**Obama’s flexible space policy prioritizes job creation, scientific discovery, and national inspiration**

Mace 11 (Frank Mace is an online columnist with the United States section of the Harvard Political Review. A Texan, Frank graduated from St. John’s School in Houston before coming to Harvard, where he lives in Mather House and studies Government. His main academic interests include American history and politics as well as international relations, and he closely follows Texas politics. Frank enjoys anything on the coast—motor boating, fishing, waterskiing, and sailing and recently rowed on the Harvard Freshman Lightweight Crew team; “In Defense of the Obama Space Exploration Plan,” Harvard Political Review, 4/7/11, <http://hpronline.org/united-states/in-defense-of-the-obama-space-exploration-plan/>)

Last April, President Obama unveiled a comprehensive overhaul of NASA’s future and cancelled much of the Bush-era Constellation plan to return to the moon. Obama’s plan looked to add $6 billion to the NASA budget over the next five years, renew the focus on scientific discovery, lengthen the lifespan of the International Space Station, and most importantly, dramatically increase the role of private contractors in NASA missions. Obama rightly prioritized jobs, science, and national inspiration with his new direction for NASA.This plan drew immediate criticism from, among others, Apollo 11 Commander Neil Armstrong, Apollo 13 Commander James Lovell, and Apollo 17 Commander Eugene Cernan, who jointly wrote in a letter to President Obama: “It appears that we will have wasted our current $10-plus billion investment in Constellation and, equally importantly, we will have lost the many years required to recreate the equivalent of what we will have discarded. For The United States, the leading space faring nation for nearly half a century, to be without carriage to low Earth orbit and with no human exploration capability to go beyond Earth orbit for an indeterminate time into the future, destines our nation to become one second or even third rate stature.” The three commanders, however, overvalue pure nationalism at the expense of the NASA roles in job creation, science, and national inspiration**. In today’s economic climate, our first consideration should be jobs. The Obama Plan would add 2,500 more jobs to the American economy than the Bush-era plan**. Additionally, **the increased private sector involvement in the space program could generate upwards of 10,000 jobs**. Conservative critics of Obama’s plan should take note of this increased reliance on the private sector for innovation—after all, a belief in the efficiency of the private sector is a central Republican tenet. Secondly, Obama’s attention to scientific discoveries with tangible benefits is apt. He endorses exploration of the solar system by robots and a new telescope to succeed Hubble and calls for fresh climate and environmental studies. An extended commitment to the International Space Station further displays Obama’s respect for the scientific discoveries being made onboard. His vision of the role for space exploration is based on science, not nationalism. Finally, Obama’s plan deftly prioritizes national inspiration over simple nationalism. He argues “exploration will once more inspire wonder in a new generation—sparking passions and launching careers . . . because, ultimately, if we fail to press forward in the pursuit of discovery, we are ceding our future and we are ceding that essential element of the American character.” And this plan is not lacking in inspiration capability. It calls for innovation to build a rocket at least two years earlier than under the Constellation program. This point alone negates the three astronauts’ criticism that many years will be “required to recreate the equivalent of what we will have discarded.” Crewed missions into deep space by 2025. Crewed missions to asteroids. Crewed missions into Mars orbit by the 2030s. A landing on mars to follow. This plan will truly continue NASA’s history of inspiring the people, especially the youth, of the United States.

Economic decline doesn’t cause war.

Ferguson 2006. Niall, prof. of history, Foreign Affairs, “The Next War of the World,” Lexis Nexis.

Nor can economic crises explain the bloodshed. What may be the most familiar causal chain in modern historiography links the Great Depression to the rise of fascism and the outbreak of World War II. But that simple story leaves too much out. Nazi Germany started the war in Europe only after its economy had recovered. Not all the countries affected by the Great Depression were taken over by fascist regimes, nor did all such regimes start wars of aggression. In fact, no general relationship between economics and conflict is discernible for the century as a whole. Some wars came after periods of growth, others were the causes rather than the consequences of economic catastrophe, and some severe economic crises were not followed by wars.

\*\*\*1NC Solvency

Current space program expands US space capabilities

Kenneth Chang; science reporter for The New York Times, covering chemistry, geology, solid state physics, nanotechnology, Pluto, plague and other scientific miscellany. He should have received his Ph.D. in physics from the University of Illinois but instead left after seven years to attend the science writing program at University of California at Santa Cruz. He worked at The Los Angeles Times, the Greenwich Time in Connecticut, The Newark Star-Ledger and ABCNEWS.com prior to joining the Times in 2000; April 16, 2010; New York Times

Pointing to Mars and asteroids as destinations, President Obama on Thursday forcefully countered criticisms that he was trying to end the nation's human spaceflight program. This was the first time that the president had lent his personal political capital in an increasingly testy fight over the future of the National Aeronautics and Space Administration. ''The bottom line is, nobody is more committed to manned spaceflight, to human exploration of space than I am,'' he said in a speech to about 200 attendees of a White House-sponsored space conference here. But he was unwavering in insisting that NASA must change in sending people into space. ''We've got to do it in a smart way,'' Mr. Obama said, ''and we can't just keep on doing the same old things we've been doing and thinking that's going to get us where we want to go.'' Instead of earlier vague assurances by Charles F. Bolden Jr., the NASA administrator, and other administration officials that NASA would eventually venture beyond Earth orbit, Mr. Obama gave dates and destinations for astronauts. But the goals would be achieved long after he leaves office: a visit to an asteroid after 2025, reaching Mars by the mid-2030s. ''Step by step, we will push the boundaries not only of where we can go but what we can do,'' Mr. Obama said. ''In short, 50 years after the creation of NASA, our goal is no longer just a destination to reach. Our goal is the capacity for people to work and learn, operate and live safely beyond the Earth for extended periods of time.'

**Obama’s plan lets the private sector explore the moon, leaving resources free for NASA to go to Mars**

St. Petersburg Times in Florida; has won eight Pulitzer Prizes since 1964, and in 2009, won two in a single year for the first time in the paper's history; April 18, 2010; St. Petersburg Times

The sharper vision for NASA that President Barack Obama provided last week is good for the space program, private industry and the state of Florida. In a visit to the Kennedy Space Center, the president set a clear destination and timetable for exploring deep space. He offered new incentives to retain highly skilled aerospace jobs. He also clarified his strategy to have the private sector play a larger role in space. The administration will have to back up its vision with real money.

Obama's visit was largely an effort at damage control after the fuzzy vision he laid out in February for NASA. In that sense, what the president did not do - retreat in the face of political pressure after canceling the troubled Constellation program - was as important last week as holding hands at Cape Canaveral. There is little value in returning to the moon. It would sap precious resources away from where the nation needs to spend its money and expertise - flying to Mars. Obama gave NASA a deadline of 2015 to design a deep-space rocket and said a manned flight should orbit Mars by the 2030s.

The private sector will solve in the squo – many companies have already started building

Paul Taylor 11 is The Globe and Mail’s health editor. He is the recipient of the Connaught Medal for Excellence in Health Research Journalism, which is award by Canadians for Health Research, a national, non-profit organization. Mr. Taylor has won two awards sponsored by the Canadian Science Writers’ Association and received an honorable mention from the Roland F. Michener Award for Public Service in Journalism. He is also a co-winner of an award from The Centre for Investigative Journalism. Although much of his work is devoted to health coverage, he also reports about space exploration. Mr. Taylor, who joined The Globe in 1979, is a graduate of the University of Toronto and Ryerson Polytechnical Institute, now renamed Ryerson University; April 9, 2011; Globe and Mail

The private sector can also take advantage of research that has already been carried out by NASA. Over the past five decades, the agency has done lots of work on various spacecraft designs. And some of those plans, which once sat on NASA's shelves, have been dusted off and incorporated into the new spacecraft proposals put forward by private industry. Mr. Mango sees the parallels between the current situation and how the U.S. government nurtured the infant airline industry almost a century ago. Once companies are ferrying astronauts back and forth to the space station, they will be in a position to sell their services to others - and business could expand exponentially. But it will still take more than government handouts and borrowed technology to open up the skies. It will require real innovation to bring down the costs of reaching orbit. One company in particular - Space Exploration Technologies Corp., commonly known as SpaceX - is determined to revolutionize the business of space flight. SpaceX was founded by Elon Musk, a South African-born Internet entrepreneur. By his mid-30s, he had already made $1.5-billion by selling PayPal to eBay. Seeking new challenges, he turned his attention to rocket science. Mr. Musk wants to create cheap, reusable rockets that will open up the heavens. (He is also the money behind Tesla, the pioneering electric sports car company.) "The goal of SpaceX is to make the safest, most reliable and economical vehicle for transportation to low-Earth orbit," said Ken Bowersox, a former astronaut who now works for Mr. Musk. It currently costs $5,000 to $10,000 to put one pound of payload into orbit. SpaceX has set a goal of launching a pound for just $1,000. Even if only a few companies are initially successful in setting up ferry services to space, that could be enough to allow a vast expansion of human activities in Earth orbit. Bigelow Aerospace, for instance, has ambitious plans to create a series of privately owned space stations based on inflatable habitat technology. Made of a flexible bulletproof material, the modules can be compressed into the nose cone of a rocket and then expanded to full size in orbit. NASA had originally conceived the idea of using inflatable structures as human habitats for long trips to Mars. But, in recent years, Bigelow has perfected the technology. Once inflated, "they are extraordinarily rigid and solid," said Michael Gold, the company's director of business growth. "If you saw the prototypes, you would never know that these weren't metallic structures." The Las Vegas-based company, founded by Robert Bigelow, who made his fortune in real estate and the Budget Suites of America hotel chain, has already put two small-scale prototypes, Genesis 1 and 2, into Earth orbit. They were launched on decommissioned Russian nuclear missiles. Now that the basic concept has been tested in space, the company says the only thing holding it back is the transportation system for its potential customers. But when that system is in place, Bigelow could rapidly create a series of space stations that far exceed the capacity of the $100-billion international station, which has been under construction since 1998 by five space agencies representing 15 countries.

\*\*\*1NC Missile Defense

Missile defense fails – it only succeeds if the tests are rigged

Wayman 10

Rick Wayman, Director of Programs, Nuclear Age Peace Foundation, 12/14/10, “Missile Defense Test Canceled Due to Clouds,” Waging Peace Today, http://wagingpeacetoday.blogspot.com/2010/12/missile-defense-test-canceled-due-to.html

There was a test of a Ground-Based Interceptor, part of the US missile defense system, scheduled for this morning up the road at Vandenberg Air Force Base. Near the end of the four hour launch window, Vandenberg announced that the test would be delayed until tomorrow because of bad weather. The test can't happen because of fog? Memo to "rogue" states: if you want to launch missiles at the US, do it when it's cloudy on the California Coast. This test, estimated to cost $120 million, is the latest in a long series of failed and questionable tests of the US missile defense system. While many tests have resulted in outright un-spinnable failure, others have seen "success" through rigging the incoming missile with a homing device. Regardless of the result of any individual test, the missile defense program is a failure for the United States and a massive waste of resources.

Space-based missile defense leads to accidental nuclear war with Russia

Thomas Graham, Jr., former special representative of the president for arms control, nonproliferation, and disarmament. He participated in every major arms control and nonproliferation negotiation in which the United States took part from 1970 to 1997, 12/05, “Space Weapons and the Risk of Accidental Nuclear War,” http://www.armscontrol.org/act/2005\_12/Dec-spaceweapons#bio

The United States and Russia maintain thousands of nuclear warheads on long-range ballistic missiles on 15-minute alert. Once launched, they cannot be recalled, and they will strike their targets in roughly 30 minutes. Fifteen years after the end of the Cold War, the chance of an accidental nuclear exchange has far from decreased. Yet, the United States may be contemplating further exacerbating this threat by deploying missile interceptors in space. Both the United States and Russia rely on space-based systems to provide early warning of a nuclear attack. If deployed, however, U.S. space-based missile defense interceptors could eliminate the Russian early warning satellites quickly and without warning. So, just the existence of U.S. space weapons could make Russia’s strategic trigger fingers itchy. The potential protection space-based defenses might offer the United States is swamped therefore by their potential cost: a failure of or false signal from a component of the Russian early warning system could lead to a disastrous reaction and accidental nuclear war. There is no conceivable missile defense, space-based or not, that would offer protection in the event that the Russian nuclear arsenal was launched at the United States.

NMD causes global proliferation

Camille Grand, Institut français des Relations internationales (IFRI), Paris. Lecturer, Institut d’études politiques de Paris, and Ecole spéciale militaire, and Adviser for arms control and non-proliferation at the French Ministry of Defense, 01 "NMD and arms control: a European view." http://www.mi.infn.it/~landnet/NMD/grand.pdf

Analysts opposing NMD and European leaders have written numerous pieces, and made numerous statements demonstrating a genuine concern that, if mishandled, NMD could or would jeopardize 30 years of arms control efforts. French President Jacques Chirac stated that NMD is “of a nature to retrigger a proliferation of weapons, notably nuclear missiles.”3 German Chancellor Gerhard Schroeder expressed a similar view when he said, “Neither economically, nor politically, can we afford a new round of the arms race.”4 According to these views, the worst-case arms control scenario is that NMD deployment by the US will be followed by Russia’s withdrawal from major arms treaties and verification regimes (the INF Treaty, the tactical nuclear regime of 1991, START), as well as its development of greater offensive and defensive capabilities. China would also block further arms control efforts and increase the expansion of its nuclear forces, followed by India and Pakistan. Additionally, Russia and China could loosen their already weak export controls and deliberately accelerate missile and WMD technology proliferation. “States of concern” could engage in a missile buildup to try to challenge the emerging NMD and local TMD programs. This would lead to a renewed interest and potential arms race among the major powers in more modern offensive capabilities and counteroptions including space-based weapons. Many would therefore share the view expressed at the 2000 NPT review conference by Swedish Foreign Minister Anna Lindh that NMD “could run counter to efforts to halt the proliferation of weapons of mass destruction.”

EXT: Mars/asteroids better

We’ve already been to the moon – Mars is the next frontier

Stephen Strauss; a science writer with over 30 years of experience in the Canadian media. In addition to writing regular columns for the Globe & Mail, Stephen is also an accomplished author and speaker with numerous awards and fellowships. He is currently a freelance writer based in Toronto, Canada; August 1, 1987; The Globe and Mail

It is only such a race to Mars that will galvanize U.S. public opinion and re-energize NASA, its advocates say. "If the Russians decide to go to the moon and we decide to go to Mars, the world will say we have won. If we decide to go to the moon and the Russians decide to go to Mars, the world will say they have won. So it seems any way you look at it we should go to Mars," said Louis Friedman, executive director of the Planetary Society, which advocates space exploration. Mars exploration can be justified without an appeal to reason, he said. "If the President announces a lunar base, the first thing the newspaper reporters are going to ask is what is it for. If man goes to Mars, we don't ask that question. We are exploring other worlds."

We should focus on exploring Mars, not the moon

Clare Peddie; A degree in health sciences from the University of Adelaide and graduate diploma in science journalism, combined with seven years experience as a science communicator in research organisations such as the CSIRO, Ian Wark Research Institute and Queensland Institute of Medical Research, have provided Clare with valuable knowledge, experience and personal networks; July 21, 2009; The Advertiser (Australia)

FORMER Apollo astronaut Buzz Aldrin has urged NASA to set its sights on a bigger target in the future - Mars.

Aldrin made the comments on the eve of today's 40th anniversary of his landing on the moon on the Apollo 11 mission. He said the space agency was right to stop sending men to the moon back in 1972. Aldrin said Mars is ``much more suitable to earthlings, much more habitable''. “It's possibly the source of life,'' he said. He also recalled taking his first steps on the moon, a place that was ``so desolate, so totally lifeless. It probably hadn't changed much in 100,000 years''. Aldrin was reunited with fellow Apollo 11 astronauts Neil Armstrong and Michael Collins in front of a packed crowd at the Smithsonian Institution's National Air and Space Museum yesterday. Collins, who circled the moon alone while Armstrong and Aldrin walked on it, said the moon was not as interesting as Mars would be. “Sometimes I think I flew to the wrong place,'' he said. “Mars was always my favourite as a kid and it still is today.“I'd like to see Mars become the focus, just as John F. Kennedy focused on the moon.''

NASA should focus on game-changing destinations like Mars and asteroids and leave the moon to the private sector

New York Times; October 2, 2010

Mr. Obama shocked Congress and the space industry when he announced plans to abandon the Bush administration's goal of landing astronauts on the Moon by 2020 and terminate development of the rockets and crew capsules needed to get there. Instead, he proposed to rely on commercial companies to carry astronauts and cargo to the International Space Station orbit and called on NASA to develop ''game-changing'' technologies to make travel to more distant destinations -- asteroids and eventually Mars -- cheaper and faster. That made good sense to us as a way to focus NASA on truly venturesome projects while leaving more mundane chores to private companies. The bill, which the president is expected to sign and NASA claims to be grateful for, cancels most of the expensive Constellation program that was developing rockets and capsules to establish a base on the Moon. But it orders NASA to develop and fly a new heavy-lift rocket by the end of 2016. The only way to make that deadline (and follow detailed instructions in a Senate report) is by using technologies from existing programs, hardly ''game-changing.''

Asteroid exploration could be a jumping point for travel to Mars

Tariq Malik. Space.com Managing Editor. "NASA's New Asteroid Mission could save the Planet." [http://www.space.com/8240-nasa-asteroid-mission-save-planet.html]. 16 April 2010.

Astronauts have been to the moon and it's time to do something new, Obama said. He pledged to revive the Orion spacecraft, initially cancelled along the rest of NASA's Constellation program building new rockets and spacecraft. Now it will be used as a space station escape ship and, later, play a role in deep space missions, Obama said. A mission to an asteroid would likely take months. Astronauts would rendezvous with a space rock, not land on it because if its weak gravity, but NASA would not send humans to asteroid to just look at it, Grunsfeld said. "If you go up to this, you're going to want to crawl around on it and find out what makes it tick," Grunsfeld said. Tethers or pitons would be required to keep asteroid explorers from floating away, he added. Astronauts on an asteroid mission would be flying outside the Earth's protective magnetosphere, which shields the planet from harsh space and solar radiation. Even the Apollo astronauts who landed and walked on the moon didn?t face such a risk. "It's every bit as exciting in a different way, we're going to deep space. You turn around and take a picture of the Earth, and it's going to be a dot. You're not even going to see the atmosphere," Nye said. "Going to an asteroid, man, it's tough and risky and dangerous, how cool is that?" Space radiation and long-term isolation would be among the biggest challenges for deep space missions, said MIT professor Edward Crawley, who participated in the panel discussion with Grunsfeld and served on White House committee that reviewed NASA's human spaceflight program. Crawley recommended a tiered approach to training missions, with a series of ever-longer expeditions preparing astronauts to the long treks to asteroids and, eventually, Mars.

EXT: Obama’s plan good – Mars, etc.

Obama is focusing on Mars in the status quo

Techweb; TechWeb connects business and technology professionals with resources that help them make smarter decisions through trusted industry voices and experts that combine UBM TechWeb professionals, analysts and subject matter experts with the best of user and technology provider contributors; April 15, 2010; Techweb

But Obama insisted his plan would put the U.S. in the forefront of space exploration in the long term. He also claimed his program would create 2,500 new jobs along the so-called Space Coast over the next two years and 10,000 new jobs nationwide "over the next few years." Obama also pledged $40 million for a study into how best to compensate for Florida jobs lost due to the shuttle's cancellation. The president, whose speech was broadcast live on cable news networks, said he wanted the study "on my desk by August 15th." Echoing John F. Kennedy's historic challenge to the nation to put a man on the moon by the end of the 1960's, President Obama called on NASA scientists and engineers to launch a manned mission to Mars within three decades. "By the mid-2030's, I believe we can send humans to orbit Mars and return them safely to Earth," said Obama. "A landing on Mars will follow," he added.

Industry members as well as former astronauts are on board with Obama’s plan – it allows NASA to focus on more ambitious objectives

Moscowitz 10 (Clara, has a bachelor's degree in astronomy and physics from Wesleyan University, and a graduate certificate in science writing from the University of California, Santa Cruz. She writes for both SPACE.com and LiveScience, “No Moon Trips: Obama's Space Vision a 'Paradigm Shift',” 1/28/10, <http://www.space.com/7835-moon-trips-obama-space-vision-paradigm-shift.html>)

The new reliance on the commercial spaceflight industry to take over the duty of ferrying humans back and forth from the space station is particularly significant, experts say. On Wednesday, a senior White House official told two Florida newspapers (Florida Today and the Orlando Sentinel) that the administration would ask for an additional $6 billion over the next five years to help private companies develop this capability. So far, no commercial company has ever independently launched humans into orbit in its own spacecraft. "The $6 billion shows that they are very serious about making it a successful and safe program," said Brett Alexander, president of the Commercial Spaceflight Federation, a private industry group. "I think what they're putting in place is bold and exciting. Bringing commercial and private [companies] into it will reinvigorate human spaceflight." Alexander said he's confident that industry can rise to the challenge and meet this new task, and others agree. "I think the commercial outfits ought to be given a chance to succeed," said Leroy Chiao, former NASA astronaut and member of a blue-ribbon panel President Obama put together last year to review NASA's plans. "The technology to get into low-Earth orbit has been around for almost 50 years – it's nothing particularly new." In fact, the Obama administration's plan is seen by some as following closely one of the possible paths put forward by the panel, which was headed by Norman Augustine, a retired Lockheed Martin chief executive. The committee found that NASA was severely underfunded to accomplish its vision of replacing its space shuttle fleet with new Orion vehicles and Ares rockets. It also suggested that relying on commercially built spacecraft would allow NASA to focus on more ambitious human spaceflight missions, like expeditions to a nearby asteroid or the moons of Mars.

EXT: Obama Plan Good – Leadership

Obama’s new plan is the true implementation of Kennedy’s legacy

Wingo 2011, Dennis, 22-year veteran of the computer, academic, and space communities, Engineering Physics degree with honors at U of Alabama – Huntsville, Founder & Pres of SkyCorp Inc., “An Open Letter to Neil Armstrong, Gene Cernan, and James Lovell,” SpaceRef, June 8, http://www.spaceref.com/news/viewnews.html?id=1538

In a normal business, when it becomes clear that funding is not going to be there for a project, you either cancel the project or figure out how to change the scope, design, or direction of the project to match available funds. NASA did not do that. Instead they continued to charge forward until the Obama Administration made the decision for them. Rather than accept that mistakes in architecture implementation led to the financial debacle, ESAS/Constellation supporters have waged a war through the proxy of friendly senators to the point that the latest incarnations of the ESAS Ares V vehicle have been derisively called the "Senate Launch System" (SLS). The senators who support the development of the SLS took the additional step of providing an underfunded and unrealistic deadline for the fielding of this system. This senatorial directive also ignores the fact that not enough money has been provided for other elements of the system that would be required should you actually want to fly the vehicle with payloads. The current NASA Administrator, Charles Bolden, has had the intestinal fortitude to stand before Congress and tell them that the SLS is not going to fly with the amount of money and time provided. Bolden and the team in ESMD and Space Operations Mission Directorate (SOMD) have been attempting to come up with solutions that do not require a 100+ ton class launch vehicle. But every time they gain ground, the SLS vehicle returns to haunt and derail their efforts. The tragic thing is that not a single supporter of the SLS can articulate why this class of heavy launch vehicle is required. Messers Armstrong, Cernan, and Lovell proclaim that the congressionally-mandated launch vehicle and spacecraft will allow exploration beyond Low Earth Orbit (LEO), but without the associated landers and surface systems, costing even more money, the launch vehicle and spacecraft are on a mission to no where. The reason that there is no money for landers and associated surface system is due to the cost of the rocket and spacecraft! In the years since the demise of the Apollo program there has never been a clearly-defined need for a launch vehicle beyond the 70 ton class vehicle in order to return to the Moon. The stark fact is that the 100+ ton class vehicle has only one destination, Mars and even then NASA's own Design Reference Missions (DRM) indicated the need for six or more heavy lift launches, with a mission and architecture that would be no more than a renewed flags and footprints effort - this time on the sands of Mars. Building a Sustainable Future in Space We of the younger generation of space advocates, architecture designers and systems engineers look at the Apollo program in a different light than these Apollo veterans. They see it as a heroic flight into the unknown that brought the nation together in a time of turmoil and it is their hope that a flight to Mars would have the same effect today. To us, the biggest value of Apollo are the rocks that came back that have given us the insight into the basic resource potential of the Moon and how those resources could be developed to enable an off-planet civilization and the economic development of the solar system for the benefit of the people of the Earth. A heroic dash to Mars is the antithesis of the sustainable economic development of the solar system inasmuch as it diverts resources to yet another politically unsustainable stunt while leaving no usable infrastructure beyond LEO. It is not that the Obama Administration wants to shut down the Kennedy legacy. Indeed I would argue that ending the ESAS/Constellation, de-scoping the heavy lift vehicle, and enabling the entry of private enterprise into space exploration will bring forth the ultimate expression of that legacy. From a portion of the quoted Kennedy text in the Apollo veterans missive:

The Apollo approach is no longer relevant: NASA needs to move on to new frontiers

Logsdon 10 (Dr. John M. Logsdon, Professor Emeritus of Political Science and International Affairs at The George Washington University's Elliott School of International Affairs, where he taught for 38 years; founder and director of GW's Space Policy Institute in 1987; member of numerous advisory boards and commissions, including the Columbia Accident Investigation Board and the NASA Advisory Council, “The End of the Apollo Era – Finally?”, 6/30/10, http://www.spacenews.com/commentaries/100630-blog-end-apollo-era-finally.html)

I interpret the new space strategy set out by the White House Feb. 1 to be at its foundation a proposal to move from the 20th century, Apollo-era approach to human spaceflight to a new approach consistent with 21st century national and international realities and future exploration and other strategic space objectives. It is not surprising that those with positive memories of Apollo and with vested interests in continuing the space status quo have been so strong in their opposition to the new approach; they are defending a space effort that to date has served them well. These critics have been met with a — literally — incoherent defense of the new strategy by its advocates inside and outside of the government. U.S. President Barack Obama confused the situation even further in his April 15 speech at the Kennedy Space Center. The result has been a polarized debate unprecedented in my more than four decades of close observation of space policymaking. I am an optimist by nature, and so I hope that we will see emerging over this summer an approach that accepts the main tenets of the new strategy and allows NASA to start implementing them. But that outcome is far from assured, and the alternative is distressing to contemplate. Apollo was aimed at beating the Russians to the Moon; it was not propelled by a long-term vision of space exploration. To meet Kennedy’s “before this decade is out” goal, NASA chose a set of hardware systems and an architecture optimized for getting to the Moon as soon as possible; these choices had unfortunate consequences. The Apollo spacecraft and the magnificent Saturn 5 launcher proved not to be relevant to any post-Apollo mission that could gain political support in the early 1970s, and were quickly discarded. But in developing, testing and operating the Apollo-Saturn system, NASA developed a large facility infrastructure, an extremely competent and dedicated work force, and a widespread space industrial base; those remain. One way of understanding the 40 years since Apollo is by viewing the space shuttle and the international space station as attempts to preserve and take advantage of that infrastructure, work force and industrial base. Pursuing an “Apollo on steroids” approach to the Constellation program was an understandable sequel to those programs, once again trying to employ the heritage left by Apollo. But this, like the hardware developed for Apollo and then abandoned, is ultimately a dead-end approach. Yale University organizational sociologist Gary Brewer more than 20 years ago observed that NASA during the Apollo program came close to being “a perfect place” — the best organization that human beings could create to accomplish a particular goal. But, suggested Brewer, “perfect places do not last for long.” NASA was “no longer a perfect place.” The organization needed “new ways of thinking, new people, and new means.” He added “The innocent clarity of purpose, the relatively easy and economically painless public consent, and the technical confidence [of Apollo] ... are gone and will probably never occur again. Trying to recreate those by-gone moments by sloganeering, frightening, or appealing to mankind’s mystical needs for exploration and conquest seems somehow futile considering all that has happened since Jack Kennedy set the nation on course to the Moon.” Introducing “new ways of thinking, new people, and new means” into the NASA approach to human spaceflight has not happened in the two decades since Brewer made his observations. That was the conclusion of the Columbia Accident Investigation Board in 2003, and despite the positive steps taken since then to operate the shuttle as safely as possible, much of the Apollo-era human spaceflight culture remains intact. Trying to change that culture and thereby close out the half century of Apollo-style human spaceflight seems to me the essence of the new space strategy. There is no way of achieving that objective without wrenching dislocations; change is indeed hard. Gaining acceptance of that change will require more White House and congressional leadership and honesty about the consequences of the new strategy than has been evident to date.

EXT: Cold War mindset bad

We need to move past the Cold War mindset and explore space beyond the moon

Paul Toohey. Reporter for The Sunday Telegraph. 22 May 2011. “Beyond the Final Frontier.” http://www.dailytelegraph.com.au/the-next-frontier/story-fn6b3v4f-1226060237720

The iconic space shuttle is near the end of its life, but exploration beyond our planet is entering an exciting new phase. PAUL TOOHEY reports. IT'S been 42 years since Apollo 11 made a 384,000km journey to the moon, where Neil Armstrong and Buzz Aldrin took short strolls, planted an American flag and then returned safely to Earth. Since then we've had astronauts hanging out at the International Space Station, just 400km from the Earth's surface. In context, that's about the distance from Adelaide to Whyalla. None of the great medical cures promised has emerged from the labs of the ISS. In fact, the major achievement of the ISS has been the miracle of its own construction. The space shuttle Endeavour is currently on a 16-day mission to the ISS, delivering an Alpha Magnetic Spectrometer, which will track cosmic rays in the hope of revealing an invisible universe. It will be followed by the shuttle Atlantis nest month, which, like a weary old truck, will deliver spare parts and supplies to the ISS. And then the space shuttle program, after 135 launches, closes forever.

Why then, is the American scientific community as excited about space exploration as it has been in decades? President Barak Obama has asked NASA and other agencies to pursue a much more profound space vision than it has to date. He wants them to scout Mars, probe the sun's atmosphere, build a better telescope than Hubble, visit asteroids and find new methods of propulsion to get humans into deep-space. While discretionary spending on most US Government programs has been frozen, Obama last year made for NASA a rare exception and gave them an increase. The space station as well looks set to take a key future role, but it's been a long slog for America to decide what it wants from space. If space exploration is about political will and capturing the public imagination, both were lost in two savage events: the first in 1986, when the space shuttle Challenger exploded 73 seconds into its flight, and then the final nail in the coffin, in 2003, when the Columbia disintegrated upon re-entry to the Earth's atmosphere. In 2004, George W. Bush announced the gradual wind-down of the space shuttle program but promised a manned return to the moon, by 2020, with the Constellation program. Obama has written-off a return to the moon as a waste of time. FOR John F. Kennedy, who in 1961 ordered his scientists to land on the moon before decade's end, it was a matter of pride. The Soviets had beaten the Americans into space and a moon-landing was as much about making an impression as advancing science. Fifty years on, Obama has a less enthusiastic view of the moon. ''Now, I understand that some believe that we should attempt a return to the surface of the moon first, as previously planned,'' Obama told the US space community. ''But I just have to say pretty bluntly here: we've been there before.'' Three revered astronauts, Apollo 11's Armstrong, and James Lovell and Eugene Cernan, who commanded Apollos 13 and 17 respectively, said Obama cancellation of Constellation was ''devastating'' and would relegate the US to a third-rate space nation. With China threatening to visit the moon, the old astronauts appeared stuck in a Cold War mindset. They wanted to race China for the sake of it. And with the shuttle program in imminent demise, they complained that the US had no vehicles to get into space. But Obama has persuaded the majority of the space community to a farther-reaching view, including Buzz Aldrin, who had 42 years earlier shared a ride to the moon with Armstrong. ''By the mid-2030s, I believe we can send humans to orbit Mars and return them safely to Earth,'' Obama told the Florida space community.''And a landing on Mars will follow. And I expect to be around to see it.'' Aldrin, 79, said that ''the steps we will be taking following the President's direction will best position NASA and other space agencies to send humans to Mars and other exciting destinations as quickly as possible''. For Aldrin, space exploration was no longer just about America, and certainly no longer about the moon.

EXT: Constellation bad

FIX TAG - Constellation was over budget and dragged out for far too long

John Matson. Reporter for Scientific American. 1 February 2010. “Phased Out: Obama's NASA Budget Would Cancel Constellation Moon Program, Privatize Manned Launches.” [http://www.scientificamerican.com/article.cfm?id=nasa-budget-constellation-cancel].

Since 2005 the U.S. has spent roughly $9 billion developing the Constellation program's Ares rockets and Orion crew capsule, which were originally supposed to return astronauts to the moon by 2020. Constellation took shape in the wake of the 2003 Columbia disaster as a safer, longer-range successor to the space shuttle, which is slated for retirement this year. But Constellation's costs have ballooned and its timeline has slipped; an independent panel convened by the Obama administration and chaired by former aerospace executive Norman Augustine estimated last year that the Ares rocket system would not be ready for manned missions before 2017, with a lunar return sometime in the mid-2020s, even under the most favorable circumstances. By scrapping the troubled program—along with its focus on a moon landing—and leaning on the private sector, the agency thinks it will actually accelerate efforts to loft astronauts beyond low Earth orbit, the farthest reach of the shuttle. NASA Deputy Administrator Lori Garver declined to specify a preliminary target for exploration in a teleconference Monday afternoon but mentioned near-Earth asteroids as a potential stepping-stone on the path to ultimately exploring Mars and its moons. She also pointed out that, although the agency will relax its focus on the moon, lunar exploration remains on the table. "We're certainly not canceling our ambitions to explore space," Garver said. "We're canceling Constellation." Garver tried to put the new approach in context, calling Constellation's stated goal of a moon landing in 2020 "wishful thinking." By stepping back from that unrealistic timeline, she said, the U.S. would be free to undertake more ambitious exploration. "We had lost the moon," Garver said, "and what this program does is give us back the solar system." Sources revealed the contents of the budget request to various newspapers last week, spurring a wave of condemnation from Michael Griffin, a former NASA administrator and tireless Constellation champion, and from members of Congress who represent states with major NASA centers focused on the human spaceflight program—Texas, Florida, Alabama. Those lawmakers will have their say when the houses of Congress hammer out their own budgets in the coming weeks. In Monday's teleconference, NASA Administrator Charles Bolden expressed support for the budget request, saying that he was "excited" to present the president's proposal, which would add $6 billion to NASA's total outlay over the next five years. Bolden said that he and Obama agreed that Constellation was in an untenable position. "The truth is, we were not on a sustainable path to get back to the moon's surface," Bolden said. He applauded the decision to delegate the development of launch capabilities to commercial providers while, he said, "NASA firmly focuses its gaze on the cosmic horizons beyond Earth."

Lack of funding was not the problem – Constellation was built around flawed architecture

Simberg 2011, Rand, recovering aerospace engineer and a consultant in space commercialization, space tourism and Internet security and he is the chairman of the Competitive Space Task Force, adjunct scholar at the Competitive Enterprise Institute, “Space heroes stuck in the past,” Washington Examiner, May 26, http://washingtonexaminer.com/people/rand-simberg#ixzz1PTFAoZBs

The second paragraph lacks ingenuity. The notion that Constellation was underfunded is a myth to which program defenders continue to cling, but it's simply untrue, as I note at my blog today. The exploration budget went up every year except for one, and beyond that, former NASA administrator Mike Griffin raided other budgets to feed the insatiable maw of the Ares rocket program. Constellation's problem was not underfunding -- its problem was that Griffin selected a flawed architecture that couldn't be delivered within the planned budgets, which is why it not only was continually overrunning, but losing more than a year per year in schedule.

Constellation was doomed from the beginning by its faulty framework

Wingo 2011, Dennis, 22-year veteran of the computer, academic, and space communities, Engineering Physics degree with honors at U of Alabama – Huntsville, Founder & Pres of SkyCorp Inc., “An Open Letter to Neil Armstrong, Gene Cernan, and James Lovell,” SpaceRef, June 8, http://www.spaceref.com/news/viewnews.html?id=1538

Those of us who have been around NASA and who follow such things knew immediately on publication that the ESAS variant of Constellation was going to be big trouble. First of all, when the study was published, the cost volume was excluded. The excuse from NASA for not releasing this portion of the study was that it included proprietary information. It rapidly became apparent that the numbers that NASA was giving Congress for its budget to build two brand new launch vehicles, plus the Crew Exploration Vehicle (CEV), and the LSAM lunar lander were far below what the actual cost would be - the cost NASA did not want to share with anyone. As early as 2006 the Government Accountability Office (GAO) stated in congressional testimony about the CEV and ESAS/Constellation: "Despite early surpluses, the long-term budget profile for the vision includes multibillion dollar shortfalls each year from fiscal 2014 through FY 2020. The cumulative shortfall will reach $18 billion by 2025, Li said." Source: Aviation Week and Space Technology. The original report is referenced here. This situation was further complicated by the effort of Mike Griffin's NASA to make up for these shortfalls by shifting money from other programs (Shuttle, Aeronautics, Education, and Science). This prompted a push back by the new Democratic majority in Congress in 2007 that cut the ESAS/Constellation by approximately $500 million and restored some of the cuts in other areas. (Source: Space.com). Rather than rethink the program in the face of declining funding, NASA charged on as if the money would be there. In 2008 these concerns were amplified by the GAO in a follow-on report about problems with the CEV (now known as "Orion") and the Ares 1 vehicle... The report by the Government Accountability Office, the investigative arm of Congress, ticks off a list of difficult issues, especially with the Ares I rocket, which it said is prone to violent shaking on liftoff and might not have enough power to reach orbit with a capsule full of astronauts. In fact, according to GAO, the whole project is dogged by such "considerable unknowns" that it is doubtful whether NASA's request for an additional $2 billion during the next two years will be enough to overcome design flaws and speed its development for a first liftoff before 2015. In 2009 the GAO yet again weighed in on the subject: "In our October 2007 report, we noted that NASA's approach to funding was risky and that the approved budget profile at that time was insufficient to meet Constellation's estimated needs. The Constellation program's integrated risk management system also identified this strategy as high risk and warned that funding shortfalls could occur in fiscal years 2009 through 2012, resulting in planned work not being completed to support schedules and milestones. According to project officials, these shortfalls limited NASA's ability to mitigate technical risks early in development and precluded the orderly ramp-up of workforce and developmental activities."

The Constellation endorsed publicly by the federal government was not the same as the actual program.

Wingo 2011, Dennis, 22-year veteran of the computer, academic, and space communities, Engineering Physics degree with honors at U of Alabama – Huntsville, Founder & Pres of SkyCorp Inc., “An Open Letter to Neil Armstrong, Gene Cernan, and James Lovell,” SpaceRef, June 8, <http://www.spaceref.com/news/viewnews.html?id=1538>

First of all, the Constellation program that was cancelled is not the one created by the Bush administration in 2004 and endorsed by Congress. The following is from the "Constellation Systems Interim Strategy" by NASA's Exploration Mission Systems Directorate (ESMD), under Admiral Craig Steidle and NASA administrator Sean O'Keefe - their implementation plan for the Vision for Space Exploration (VSE):

Constellation Systems: Creating System-of-Systems Capabilities for Sustained Exploration on the Moon and Beyond

Based on studies conducted by our Requirements Division, and driven by their results, the Directorate's Constellation Systems Office will develop, demonstrate, and deploy successive generations of capabilities that will enable the United States to achieve the vision of sustained human and robotic exploration on the Moon and beyond. Technology and advanced systems development and demonstration activities will be undertaken to establish critical capabilities that will be essential for all phases of lunar exploration. The capabilities to be developed will form a system-of-systems that include:

\* Robotic Precursor Systems: The first steps in our journey of exploration will be taken by robotic systems--orbiting, landing, and operating on the Moon as precursors to later human explorers. We are working closely with, and providing requirements to the Science Directorate, which is responsible for managing a series of robotic lunar missions that will pave the way for human exploration. \* Crew Transportation: The initial focus for the Constellation Systems Program will be to develop a Crew Exploration Vehicle (CEV) that will carry future astronauts from Earth to space, and from point-to-point in space. Initial high-level milestones include a CEV demonstration flight in 2008, a CEV flight without crew in 2011, and a CEV flight with crew in 2014. Along with building the CEV, we will select the appropriate human-rated launch vehicle. \* Cargo Transportation: The cargo we transport may include fuel and supplies, as well as transportation modules and supporting infrastructure that will be used in space or on the lunar surface. In cooperation with the Space Operations Directorate, trade studies are underway to evaluate launch vehicles and optimize the number of launches required to implement a given mission. Multiple components may be launched from Earth, assembled in Earth orbit or other locations, and then transported for use in lunar orbit or on the Moon. \* Surface Systems: The capabilities we deploy on the lunar surface will support diverse mission phases, including lunar landing, surface operations, and ascent from the lunar surface. The variety of systemof- systems needed are still being defined, but could include systems for surface mobility, robotic assistants, extravehicular activity, habitation, scientific platforms such as telescopes, and surface-based power generation. \* In-Space Systems: We may also enhance, in cooperation with various other Directorates, NASA's space-based infrastructure. This may include additional communication networks, service platforms for maintenance and supply, and zero gravity extravehicular capabilities like evolved space suits. \* Ground Systems: In cooperation with other Directorates, we will rely upon or enhance NASA's existing ground-based systems to support mission operations, preflight integration and logistics, and mission simulation and testing. \* Humans as a Critical System: We will create new capabilities by focusing on the human interface so that humans can live and work in space productively without suffering long-term health consequences. Figure 1: Constellation Systems Implementation Overview The Level 0 Requirements were provided as well: Appendix 1: Agencywide Requirements NASA has developed overarching "Level-0" requirements for human and robotic exploration, derived from the Vision for Space Exploration. The Level-0 requirements are: 1.0 NASA shall implement a safe, sustained, and affordable human and robotic exploration program to extend a human presence across the Solar System and beyond. 1.1 NASA shall develop the innovative technologies, knowledge, capabilities, and infrastructures to support human and robotic exploration. 1.2 NASA shall conduct a series of robotic missions to the Moon to prepare for and support future human exploration activities. 1.3 NASA shall conduct human lunar expeditions to further science, and to develop and test new exploration approaches, technologies, and systems, including the use of lunar and other space resources to support sustained human space exploration to Mars and other destinations. 1.4 NASA shall conduct robotic exploration of Mars to search for evidence of life, to understand the history of the Solar System, and to prepare for future human exploration. 1.5 NASA shall conduct human expeditions to Mars to extend the search for life and expand the frontiers of human exploration, after successfully demonstrating human exploration missions to the Moon. 1.6 NASA shall conduct robotic exploration across the Solar System for scientific purposes and to support human exploration. 1.7 NASA shall conduct advanced telescope searches for Earth-like planets and habitable environments around other stars. 2.0 NASA shall acquire an exploration transportation system to support the delivery of crew and cargo from the surface of the Earth to exploration destinations and the safe return of the crew to Earth. 3.0 NASA shall complete the assembly of the International Space Station, including the U.S. components that support U.S. space exploration goals and components provided by foreign partners (planned by the end of the decade). 3.1 NASA shall focus the use of the Space Shuttle to complete assembly of the International Space Station. 3.2 NASA shall focus U.S. International Space Station research and technology on supporting space exploration goals. 3.3 NASA shall separate transportation of crew and cargo to the International Space Station to the maximum extent practical. 4.0 NASA shall pursue opportunities for international participation to support U.S. space exploration goals. 5.0 NASA shall pursue commercial opportunities for providing transportation and other services supporting the International Space Station and exploration missions beyond low Earth orbit. 6.0 NASA shall identify and implement opportunities within missions for the specific purpose of inspiring the Nation." Figure 2: Constellation Level Zero Requirements

It becomes clear as you read the early VSE/Constellation documents and the inclusive, collaborative environment of industry, academic, and NASA participation in workshops and the Concept Exploration and Refinement (CE&R) contracts, that the VSE's initial concept ot Constellation has very little to do with the version of Constellation that was cancelled.

If you read the presentations from the CE&R contracts, not one of the contractors (Orbital Sciences, SAIC, Boeing, Lockheed Martin, Andrews Space, Raytheon, and T-Space) advocated a launch vehicle beyond 70 tons of payload to Low Earth Orbit (LEO). Indeed, from the Lockheed CE&R Open Forum CA-1 Mid Term Briefing, came this conclusion: "70 mT-class ELV family is most affordable, long-term solution for exploration."

At no point did any of the contractors advocate a huge heavy lift launch vehicle of the type that became the centerpiece of the Mike Griffin era Constellation program. Interestingly, the CE&R reports were completely ignored after O'Keefe and Steidle left NASA. A new architecture - still called "Constellation" - but derived from the 60 day Exploration Systems Architecture Study (ESAS) is what was approved by former Administrator Griffin. It was Griffin's totally different version of something called "Constellation" that was cancelled.

EXT: Obama’s plan = job creation

No job loss from cancelling Constellation – Obama’s new initiatives are targeted at supporting the workforce

Klamper 10 (Ann, staff writer at SpaceNews.com, “Obama Asks Congress to Shift $100M from NASA for Job Initiatives,” 6/18/10, http://www.spacenews.com/civil/100618-obama-asks-congress-shift-100m-from-nasa-for-job-initiatives.html)

In April, Obama pledged $40 million to NASA’s largely Florida-based space shuttle workforce transition to new jobs. He appointed a task force led by NASA Administrator Charles Bolden and Commerce Secretary Gary Locke to decide how best to spend the money. Bolden told Congress in April that the $40 million would come from $1.9 billion NASA was requesting in 2011 to cover costs associated with terminating the agency’s Constellation program, a 5-year-old effort to replace the space shuttle with new rockets and spacecraft optimized for lunar missions. Under Obama’s newly revised spending proposal, $100 million of the $4.26 billion requested for NASA’s Exploration Systems Mission Directorate next year would go to the Commerce and Labor departments. Specifically, some $30 million would be moved to the Commerce Department for “economic development assistance programs” aimed at helping the area around NASA’s Kennedy Space Center in Florida, while another $45 million would be used for “other areas affected by job losses” expected to result from the proposed cancellation of the Constellation program. The Labor Department, meanwhile, would get $10 million for Florida-based workforce initiatives and $15 million to promote job growth in other parts of the country expected to suffer post-shuttle economic hardship. NASA spokesman Michael Cabbage said in a June 18 statement the space agency “is pleased the president has targeted additional support from his fiscal year 2011 budget request to help the communities and workers around the U.S. most deeply involved in our space program meet the challenges of tomorrow. “Our workforce is incredibly talented and dedicated, and we are committed to equipping them with the tools they need to contribute to new developments in our nation's space program and related industries. This $100 million investment in our people is essential to spurring regional economic growth and job creation.”

Obama’s plan will create jobs in the aerospace industry

Richard Sisk; 40 years of local, national, and international reporting and editing at the New York Daily News and United Press International. During a decade of reporting for UPI, Sisk worked in the New York, London and Beirut bureaus. At The News, he worked the city and transportation beats in New York before transferring to Washington in 1990 under the late Lars-Erik Nelson. His amazing and challenging assignments have ranged from Congress and the military to Vietnam, Iraq, the Mideast, Eritrea, Bosnia, Kosovo, Northern Ireland, Panama, and Haiti. Sisk, most recently deputy chief of The New York Daily News Washington Bureau, has covered five presidential campaigns. He served in Vietnam as a 2nd Lieutenant with the 2nd Battalion, Fourth Marines, in 1967-68; April 15, 2010; New York Daily News Washington Bureau, http://articles.nydailynews.com/2010-04-15/news/27061699\_1\_space-program-manned-space-space-exploration)

"There will be additional jobs" in the plan Obama will pitch to the worried NASA workforce at the Kennedy Space Center in Cape Canaveral, said White House press secretary Robert Gibbs. The U.S. will be left without an active manned space program when the space shuttles go into mothballs after September. But Gibbs said Obama's vision will eventually lead to "more jobs for the area" and "a more sustainable space program."

EXT: Privatization in squo

Obama’s proposed plan will cultivate private sector investment in space.

John Matson. Reporter for Scientific American. 1 February 2010. “Phased Out: Obama's NASA Budget Would Cancel Constellation Moon Program, Privatize Manned Launches.” [http://www.scientificamerican.com/article.cfm?id=nasa-budget-constellation-cancel].

President Obama delivered his budget request for fiscal year 2011 to Congress on Monday, proposing sweeping changes to NASA's spaceflight program while increasing the agency's overall budget. As had been rumored for days, Obama's blueprint for NASA would cancel the Constellation program, the family of rockets and hardware now in development to replace the aging space shuttle, and would call instead on commercial vendors to fly astronauts to orbit. Since 2005 the U.S. has spent roughly $9 billion developing the Constellation program's Ares rockets and Orion crew capsule, which were originally supposed to return astronauts to the moon by 2020. Constellation took shape in the wake of the 2003 Columbia disaster as a safer, longer-range successor to the space shuttle, which is slated for retirement this year. But Constellation's costs have ballooned and its timeline has slipped; an independent panel convened by the Obama administration and chaired by former aerospace executive Norman Augustine estimated last year that the Ares rocket system would not be ready for manned missions before 2017, with a lunar return sometime in the mid-2020s, even under the most favorable circumstances. By scrapping the troubled program—along with its focus on a moon landing—and leaning on the private sector, the agency thinks it will actually accelerate efforts to loft astronauts beyond low Earth orbit, the farthest reach of the shuttle. NASA Deputy Administrator Lori Garver declined to specify a preliminary target for exploration in a teleconference Monday afternoon but mentioned near-Earth asteroids as a potential stepping-stone on the path to ultimately exploring Mars and its moons. She also pointed out that, although the agency will relax its focus on the moon, lunar exploration remains on the table. "We're certainly not canceling our ambitions to explore space," Garver said. "We're canceling Constellation." Garver tried to put the new approach in context, calling Constellation's stated goal of a moon landing in 2020 "wishful thinking." By stepping back from that unrealistic timeline, she said, the U.S. would be free to undertake more ambitious exploration. "We had lost the moon," Garver said, "and what this program does is give us back the solar system." Sources revealed the contents of the budget request to various newspapers last week, spurring a wave of condemnation from Michael Griffin, a former NASA administrator and tireless Constellation champion, and from members of Congress who represent states with major NASA centers focused on the human spaceflight program—Texas, Florida, Alabama. Those lawmakers will have their say when the houses of Congress hammer out their own budgets in the coming weeks. In Monday's teleconference, NASA Administrator Charles Bolden expressed support for the budget request, saying that he was "excited" to present the president's proposal, which would add $6 billion to NASA's total outlay over the next five years. Bolden said that he and Obama agreed that Constellation was in an untenable position. "The truth is, we were not on a sustainable path to get back to the moon's surface," Bolden said. He applauded the decision to delegate the development of launch capabilities to commercial providers while, he said, "NASA firmly focuses its gaze on the cosmic horizons beyond Earth." In addition to spurring the development of commercial rockets, Obama's budget is designed to extend the life of the International Space Station, still under construction, to at least 2020. It would also fund a replacement for the Orbiting Carbon Observatory, the CO2-tracking satellite that failed to reach orbit in a February launch. Sally Ride, the first U.S. woman in space and a member of the Augustine commission, which cast Constellation's future in a fairly unflattering light, called Obama's budget request "a significant vote of confidence for NASA." The proposal, Ride said, "puts NASA on a sustainable path toward the future." Bolden, also a former astronaut, vowed that tapping private spaceflight companies for manned launches would not diminish NASA's commitment to safety. He seemed to become choked up as he spoke of losing friends in both the Challenger and Columbia accidents, the latter of which occurred exactly seven years to the day before Monday's budget announcement. "No one cares more about safety than I," Bolden said. "I give you my word that these vehicles will be safe."

Constellation is not key to space leadership – private companies will fill in

Wingo 2011, Dennis, 22-year veteran of the computer, academic, and space communities, Engineering Physics degree with honors at U of Alabama – Huntsville, Founder & Pres of SkyCorp Inc., “An Open Letter to Neil Armstrong, Gene Cernan, and James Lovell,” SpaceRef, June 8, http://www.spaceref.com/news/viewnews.html?id=1538

I stood before many of you as a young student over 20 years ago questioning why we had not made any progress in making space the key to our future on the Earth. Today, after being a part of the unfolding of the failures to make progress since then, the answer is clear. We have not made progress because we have failed to embrace the awful truth that Kennedy saw through a glass darkly, which is that economic development of space is the key to our future on the Earth. In 1969, the United States was at the height of its economic and political power and we turned away from space; today we are broke and the challenges that face our nation are daunting in the extreme. Without a powerful economic incentive, space is simply not worth the expenditure. It is within our financial and technical power to do this as a nation, but not through the brute force method of an "Apollo on steroids" architecture (as cited by Mike Griffin) and certainly not with further flags and footprints. The day that Werner von Braun, sitting at his desk in Huntsville, caved to the inevitability of the Lunar Orbit Rendezvous method of getting to the Moon. he warned his Huntsville staff that his greatest fear was that Apollo would lead to a "Kilroy Was Here" mentality that would allow our political leaders to kill the program after the first success was had. The ESAS/Constellation architecture of an "Apollo on steroids" program, even if somehow successful, is molded in the same vein, and with our economic difficulties today, would be similarly shut down after the initial goal reached. There are architectures out there - many of them - that will enable the economic development of the solar system and the harvesting of the resources that are out there, wealth that will transform our world for the better, for the good of all humankind, in keeping with the Kennedy vision and legacy. NASA is making moves in that direction today with a focus on the use of commercial space solutions for cargo and human spaceflight, contracts for fuel depots, and other innovative systems. However, the rump ESAS/Constellation program in the form of the SLS vehicle is not one of them. Indeed, as we are seeing what the James Webb Telescope threatens to do to the science budget, the SLS sucks the needed oxygen of technology development and innovation needed to make Kennedy's vision come to pass. To be worthy inheritors of the Kennedy space legacy we must be willing to depart from its 1960s form and adopt an approach that works now - half a century later - one that is as relevant to our times as Apollo was to its own time.

Private companies are eager and able to explore space cost-effectively

Paul Taylor 11 is The Globe and Mail’s health editor. He is the recipient of the Connaught Medal for Excellence in Health Research Journalism, which is award by Canadians for Health Research, a national, non-profit organization. Mr. Taylor has won two awards sponsored by the Canadian Science Writers’ Association and received an honorable mention from the Roland F. Michener Award for Public Service in Journalism. He is also a co-winner of an award from The Centre for Investigative Journalism. Although much of his work is devoted to health coverage, he also reports about space exploration. Mr. Taylor, who joined The Globe in 1979, is a graduate of the University of Toronto and Ryerson Polytechnical Institute, now renamed Ryerson University; April 9, 2011; Globe and Mail

Now, U.S. President Barack Obama wants to transform human space flight in a similar fashion by letting private companies take American astronauts into orbit. And privatization of space could turn out to be the best way to open up the cosmos to a broader cross-section of humanity. The opportunity for change will come this summer when the last of the aging fleet of space shuttles is retired from service. At that time, the United States will no longer have the means to get its astronauts to the International Space Station. As a temporary measure, it will rent seats aboard Russia's Soyuz rockets at a recently negotiated price of $63-million (U.S.) per ticket. But the United States is in no rush to build new spacecraft of its own to free itself from Russian dependency. Instead, it is hoping that private industry will do that job. Under Mr. Obama'sdirection, the National Aeronautics and Space Administration has introduced financial incentives to entice companies to transport American astronauts into space, and both established and maverick aerospace companies are eager to get a piece of the action. There are already proposals for a half-dozen different designs, ranging from Boeing's CST-100 seven-person space capsule to Sierra Nevada Corp.'s Dream Chaser, which looks like a mini-shuttle. The initiative, known as the commercial crew development program, or CCDev, may achieve what NASA could never do - bring down the sky-high cost of space flight. And in so doing, it could finally make the heavens available to a lot more people - not just professional astronauts and a handful of hyper-rich space tourists. "Our whole concept for this commercial crew program is that competition is good and the more competition you have, the better off you will be," said Edward Mango, director of NASA's space transportation planning office at the Kennedy Space Center in Florida. Space travel has been a government-run enterprise since Soviet cosmonaut Yuri Gagarin became the first man in space 50 years ago this month. Only Russia, China and, at least for the next few months, the United States can put a human being into Earth orbit. It's not simply faith in free-enterprise economics that is driving the Obama administration's space policy. It's also a matter of necessity. U.S. taxpayers and lawmakers are unwilling to finance NASA to the same extent that made it possible for America to land the first men on the moon in 1969. As Mr. Mango explains it, if NASA spends its limited funds building a new rocket system just to get a few hundred miles above the Earth, "there won't be enough resources to do the exploration part." In many respects, Mr. Obama's plan is an extension of an existing program to fund the private development of unmanned supply vessels to the space station once the shuttles retire. Some of the same companies with cargo contracts also want to carry passengers. It's important to keep in mind that every single U.S. manned spaceship - from Mercury to the shuttles - has been essentially designed and built by private industry under contract for NASA. What is changing is the ownership. Rather than NASA having its own fleet, it will rent seats on commercial spacecraft. But for that to happen, the companies will have to make a profit on transporting people to space, rather than on building the vehicles. So Washington is essentially padding the bottom line of the companies by helping to pay the up-front development costs of the new rocket systems.

Independent companies will work with NASA

Stephen Foley; Associate Business Editor of The Independent, based in New York. In a decade at the paper, he has covered personal finance, the UK stock market and the pharmaceuticals industry, and been the Business section's share tipster. And since arriving with three suitcases in Manhattan in January 2006, he has witnessed and reported on a great economic boom turning spectacularly to bust. In March 2009, he was named Business and Finance Journalist of the Year at the British Press Awards; October 2, 2010; The Independent

Companies both large and small are gearing up to bid for Nasa contracts. Last month, Boeing said it would build capsules much like the Apollo capsules, and send them up to the ISS carrying not just astronauts from Nasa but tourists, too. The company said that, in order for outsourcing from Nasa to be viable, there would also have to be a parallel space tourism industry. Boeing has teamed up with Space Adventures, a marketing outfit that has already arranged for seven rich individuals to visit the ISS on Russia's Soyuz spacecraft. A string of entrepreneurial outfits - most vociferously Space Exploration Technologies, created by Elon Musk, co-founder of PayPal - are also doing work they hope to continue in conjunction with Nasa. Projects include launching payloads into space, conducting scientific experiments in zero gravity, and ultimately putting paying passengers into space. Charles Bolden, administrator of Nasa, welcomed the passage of the Bill. "[It will] put the US space programme on a more sustainable trajectory and inspire a new generation of Americans to pursue careers in science, technology, engineering, and mathematics," Mr Boden said. "This important change in direction will not only help us chart a new path in space, but can help us retool for the industries of the future that will be vital for long term growth."

Private companies have the ability to create a robust commercial space enterprise

Emelie Rutherford. Congressional Reporter for Defense Daily. “NASA, Firms See Robust Market For Nascent Commercial Space Industry.” Vol. 250, No. 21. 29 April 2011.

Those benefits include ensuring U.S. astronauts are transported to the International Space Station on American-made spacecraft, allowing NASA to concentrate its limited financial resources on developing systems for exploring beyond LEO, and benefitting "the U.S. private industry by strengthening our industrial base, enhancing our capabilities in a new high-tech industry, and...(opening) up new markets for customers other than the U.S. government," he said. At the media event at Kennedy Space Center in Florida, McAlister cited an "ultimate goal" of having "commercial spaceflight (in) low-Earth orbit (that) is a robust, vibrant, profit-making commercial enterprise with many providers and a wide-range of private and public users." NASA announced April 18 it awarded four Space Act Agreements worth a combined $269.3 million to companies as part of the second round of its Commercial Crew Development (CCDev) effort, or CCDev2. The firms are charged with advancing concepts for commercial crew space transportation systems, as well as maturing the design and development of launch vehicles and spacecraft for carrying up to seven people. The space agency's CCDev2 effort is intended to help U.S. commercial companies develop transportation systems as NASA grapples with tight budgets and the retirement of its space shuttle this year. The four firms are using some of their own money to build their systems, which they can sell to customers beyond NASA. Rob Meyerson, the program manager for the crew transportation system Kent, Wash.-based Blue Origin is developing, said he "absolutely" sees a market for more than one or two commercial companies building crew-transportation vehicles. For "customers in the future, safety is the absolute, (and) after that it's going to be price, and customers will be picking based on price," said Meyerson, whose company received a $22 million CCDev2 contract, "And I believe there's a market for multiple suppliers launching people into orbit as long as the price is competitive." Mark Sirangelo, program manager at Sierra Nevada in Louisville, Colo., which snagged an $80 million CCDev2 contract, said his company is "putting a lot of money behind" its Dream Chaser shuttle. "One of the reasons we do is that NASA is just but one customer, and taking people to space is but one activity from our vehicle," Sirangelo said. "We're designing a vehicle that is multiple purpose, because we think there are other things we can do in space....And we're very confident that those other markets, in addition to the NASA markets, will be able to support this program for many years." The largest of the four CCDev2 contracts was awarded to Boeing [BA], which snagged a $92.3 million deal to continue work on its Crew Space Transportation (CST)-100 spacecraft.

AT: Constellation Key To Privatization

Constellation was not endorsed by private sectors.

Wingo 2011, Dennis, 22-year veteran of the computer, academic, and space communities, Engineering Physics degree with honors at U of Alabama – Huntsville, Founder & Pres of SkyCorp Inc., “An Open Letter to Neil Armstrong, Gene Cernan, and James Lovell,” SpaceRef, June 8, http://www.spaceref.com/news/viewnews.html?id=1538

It becomes clear as you read the early VSE/Constellation documents and the inclusive, collaborative environment of industry, academic, and NASA participation in workshops and the Concept Exploration and Refinement (CE&R) contracts, that the VSE's initial concept of Constellation has very little to do with the version of Constellation that was cancelled. If you read the presentations from the CE&R contracts, not one of the contractors (Orbital Sciences, SAIC, Boeing, Lockheed Martin, Andrews Space, Raytheon, and T-Space) advocated a launch vehicle beyond 70 tons of payload to Low Earth Orbit (LEO). Indeed, from the Lockheed CE&R Open Forum CA-1 Mid Term Briefing, came this conclusion: "70 mT-class ELV family is most affordable, long-term solution for exploration." At no point did any of the contractors advocate a huge heavy lift launch vehicle of the type that became the centerpiece of the Mike Griffin era Constellation program. Interestingly, the CE&R reports were completely ignored after O'Keefe and Steidle left NASA. A new architecture - still called "Constellation" - but derived from the 60 day Exploration Systems Architecture Study (ESAS) is what was approved by former Administrator Griffin. It was Griffin's totally different version of something called "Constellation" that was cancelled.

EXT: NMD fails

We’ve already spent $100 billion on missile defense and it’s less than 50% effective

UPI 10 (“U.S. missile misses target, again,” 12/16/10, United Press International, http://www.upi.com/Top\_News/US/2010/12/16/US-missile-misses-target-again/UPI-15191292514112/)

For the second time this year, a test of the United States' only long-range missile defense system has resulted in failure, officials said. Segments of Wednesday's test were successful, but a "kill vehicle" launched from California didn't hit the target missile launched from Kwajalein Atoll in the Republic of the Marshall Islands, CNN reported. Eight of 15 tests of the $100 billion missile shield program have ended in failure, the report said. "Program officials will conduct an extensive investigation to determine the cause of the failure to intercept the target," the Pentagon's Missile Defense Agency said. "The next flight test will be determined after identification of the cause of the failure." An advocate for the missile defense system called the failure a "tremendous setback." Riki Ellison, chairman and founder of the Missile Defense Advocacy Alliance, a non-partisan organization that supports deployment of missile defense systems, questioned the military's confidence in the ground-based system in Alaska and California.

Indict of Armstrong, Lovell, Cernan

Armstrong, Lovell, and Cernan are wrong – collaboration in space will ensure US space leadership and overall leadership

Mace 11 (Frank Mace is an online columnist with the United States section of the Harvard Political Review. A Texan, Frank graduated from St. John’s School in Houston before coming to Harvard, where he lives in Mather House and studies Government. His main academic interests include American history and politics as well as international relations, and he closely follows Texas politics. Frank enjoys anything on the coast—motor boating, fishing, waterskiing, and sailing and recently rowed on the Harvard Freshman Lightweight Crew team; “In Defense of the Obama Space Exploration Plan,” Harvard Political Review, 4/7/11, <http://hpronline.org/united-states/in-defense-of-the-obama-space-exploration-plan/>)

Armstrong, Lovell, and Cernan assert that the Obama plan will sacrifice American leadership in space. Worthy recipients of the status of national hero, these astronauts nonetheless hail from the space race era. Obama, however, points out that “what was once a global competition has long since become a global collaboration.” I agree with the president that the ambitious nature of his plan will do nothing but “ensure that our leadership in space is even stronger in this new century than it was in the last” as well as “strengthen America’s leadership here on earth.” Obama’s space exploration plan will create jobs, advance science, and inspire a nation, and it will do so not by sacrificing American dominance in space, but by extending that dominance into new areas of research and exploration. Last April, President Obama unveiled a comprehensive overhaul of NASA’s future and cancelled much of the Bush-era Constellation plan to return to the moon. Obama’s plan looked to add $6 billion to the NASA budget over the next five years, renew the focus on scientific discovery, lengthen the lifespan of the International Space Station, and most importantly, dramatically increase the role of private contractors in NASA missions. Obama rightly prioritized jobs, science, and national inspiration with his new direction for NASA.This plan drew immediate criticism from, among others, Apollo 11 Commander Neil Armstrong, Apollo 13 Commander James Lovell, and Apollo 17 Commander Eugene Cernan, who jointly wrote in a letter to President Obama: “It appears that we will have wasted our current $10-plus billion investment in Constellation and, equally importantly, we will have lost the many years required to recreate the equivalent of what we will have discarded. For The United States, the leading space faring nation for nearly half a century, to be without carriage to low Earth orbit and with no human exploration capability to go beyond Earth orbit for an indeterminate time into the future, destines our nation to become one second or even third rate stature.” The three commanders, however, overvalue pure nationalism at the expense of the NASA roles in job creation, science, and national inspiration**.**

**They’re stuck in a Cold War mindset – NASA’s needs to play a role in job creation, science, and national inspiration in order to fuel nationalism**

Mace 11 (Frank Mace is an online columnist with the United States section of the Harvard Political Review. A Texan, Frank graduated from St. John’s School in Houston before coming to Harvard, where he lives in Mather House and studies Government. His main academic interests include American history and politics as well as international relations, and he closely follows Texas politics. Frank enjoys anything on the coast—motor boating, fishing, waterskiing, and sailing and recently rowed on the Harvard Freshman Lightweight Crew team; “In Defense of the Obama Space Exploration Plan,” Harvard Political Review, 4/7/11, <http://hpronline.org/united-states/in-defense-of-the-obama-space-exploration-plan/>)

Last April, President Obama unveiled a comprehensive overhaul of NASA’s future and cancelled much of the Bush-era Constellation plan to return to the moon. Obama’s plan looked to add $6 billion to the NASA budget over the next five years, renew the focus on scientific discovery, lengthen the lifespan of the International Space Station, and most importantly, dramatically increase the role of private contractors in NASA missions. Obama rightly prioritized jobs, science, and national inspiration with his new direction for NASA.This plan drew immediate criticism from, among others, Apollo 11 Commander Neil Armstrong, Apollo 13 Commander James Lovell, and Apollo 17 Commander Eugene Cernan, who jointly wrote in a letter to President Obama: “It appears that we will have wasted our current $10-plus billion investment in Constellation and, equally importantly, we will have lost the many years required to recreate the equivalent of what we will have discarded. For The United States, the leading space faring nation for nearly half a century, to be without carriage to low Earth orbit and with no human exploration capability to go beyond Earth orbit for an indeterminate time into the future, destines our nation to become one second or even third rate stature.” The three commanders, however, overvalue pure nationalism at the expense of the NASA roles in job creation, science, and national inspiration**.**