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## ABOUT COSMIC LOG

Quantum fluctuations in space, science, exploration and other cosmic fields... served up regularly by MSNBC.com science editor Alan Boyle since 2002.



Alan Boyle covers the physical sciences, anthropology, technological innovation and space science and exploration for MSNBC.com. He is a winner of the [AAAS Science Journalism Award](#), the [NASW Science-in-Society Award](#) and other honors; a contributor to "[A Field Guide for Science Writers](#)"; and a member of the board of the [Council for the Advancement of Science Writing](#).

Check out Boyle's [biography](#) or send a message to Cosmic Log via [cosmiclog@msnbc.com](mailto:cosmiclog@msnbc.com).

## Rocket reactions

**Posted: Saturday, October 24, 2009 1:30 AM by Alan Boyle**



Artwork shows NASA's Ares I rocket lifting an Orion crew vehicle toward orbit. NASA

For every action there is an equal and opposite reaction: That law applies to rocket science, and apparently to an independent review panel's report on NASA's rocket options as well.

The reactions to this week's full [155-page report](#) on the future of NASA's human spaceflight were swift, and set forth opposite conclusions: On one hand, some members of Congress [cast the report as an endorsement](#) of NASA's current return-to-the-moon plan (running counter to the [more widespread interpretation](#)). Other members, meanwhile, [blasted the report](#) essentially because it *wasn't* an endorsement.

Although the focus of the report was to lay out the big picture for America's space effort, the political debate will more likely focus on one aspect of that picture: what to do about NASA's Ares I rocket. A prototype for that rocket is [due for its first test launch](#) on Tuesday, but the report is already sparking

suggestions that the launch and any other work on the Ares I might be wasted effort.

Those are fighting words for the folks who have worked so hard over the past few years to get Ares this far - including the program's supporters in Congress. Between now and [next February](#), the White House will have to decide whether to stay the course with Ares, potentially adding billions of dollars to the program's budget, or go another way.

The alternatives include adding enhancements to existing heavy-lift commercial launchers such as the Delta 4 and Atlas 5 (including sensors and an escape system for a spacecraft's crew), or relying on yet-to-be-tested launchers such as Space X's Falcon 9 and Orbital's Taurus 2, or going back to square one and redesigning a shuttle-derived launcher, or a combination of those options.

Stay the course, or change course? NBC News' Cape Canaveral correspondent, Jay Barbree, [states the case](#) for sticking with Ares. NBC News space analyst Jim Oberg, in contrast, [likes the idea of low-cost commercial space taxis](#) for trips to low Earth orbit.

Although the next move is up to the White House, it's clear that Congress intends to weigh in - and it would be a mistake not to take that into account. Alan Ladwig, NASA's deputy associate administrator for public liaison, recalls that a previous panel headed by aerospace executive Norman Augustine laid out a [vision for NASA exploration](#) back in 1990 - but that the vision went nowhere because Congress wasn't on board.

"I think if they do that again, it's dead on arrival," Ladwig said this week at the International Symposium for Personal and Commercial Spaceflight.

Take a look at these perspectives on the latest Augustine panel report, and weigh in with your own view as a comment below:

- [Orlando Sentinel: Greason says it's time for truth in space policy](#)
- [Florida Today: Ares rocket so close and yet so far | Next in space](#)
- [Houston Chronicle: After bleak report, NASA's future in Obama's hands](#)
- [Popular Mechanics: Five surprises from the full Augustine report](#)

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## Comments

I have to think that after all the years and money placed into the 'space' programs, little of use to us here on earth has been accomplished. It seems NASA and friends have been a huge 'make work project' with little to show for it. If the same amount of time, money and energy from the scientists involved had been directed in to project to help 'living on earth' in a manner we would all be in a better situation.

Energy effecient homes, better food supplies, better medicines, better education. We are still struggling with basic necessities of life even in parts of the US, much less some of our neighbors. I vote to scrap the wasteful spending on the high daydreams and get to work on reality.

**Ines Ainge, Hot Springs, AR** (Sent Saturday, October 24, 2009 2:54 AM)

This continued discussion of choosing between 1 or another launch vehicle is entirely due to a massive underfunding of NASA. Not only should ALL launch vehicles be used and/or constructed, but even more launch vehicles should be created for various other needed uses. Space is perhaps the most important direction for humanity to expend resources towards, the returns will be "Astronomical", perhaps even our only chance for survival.

[Jim Stevenson](#) (Sent Saturday, October 24, 2009 3:29 AM)

Up a shuttle. Mars or Bust.

[Fred Dungan Riverside, CA](#) (Sent Saturday, October 24, 2009 3:40 AM)

ANY MANNED space flight program is a WASTED of scarce money! The ONLY goal for ANY space flight program should be the expansion and enhancement of knowledge and that can be done most effective and cheaply by UNMANNED space flight probes and satellites. We DO NOT NEED a manned space craft of any kind. The Apollo program was geo-political in nature and MANNED spacecraft programs are essentially ONLY to satisfy our own human egos. "Star Trek" type adventures are not now nor likely to be available in the 23rd much less the 24th centuries and its more than throwing more funding towards space flight research and development that will prohibit them.

**Dr. Meagan Johns, PhD** (Sent Saturday, October 24, 2009 3:42 AM)

If we could go back four years in time, and kill the Ares I program circa 2005, I'd be all in favor. But when there's a test version of the new rocket about to launch (albeit a 4-stage version vs 5 stages in the final one), and with the Falcon 9 as-yet unproven, I think it would be better to suck it up, and continue development of Ares I, so that we're assured of a man-rated LEO launcher by 2015. If the Falcon 9 ends up able to also do the job - great! Nasa will have some choice about what launcher to use to ferry astronaut to LEO/ISS. If the Falcon schedule slips a lot, or fails, at least we have the capability.

As for the Ares V - if there is another alternative, it would be great to see it, but as far as I know, only the Soviet "Energia" (which hasn't flown in two decades) is in the same league. Actually, buying the entire "Zenit" production line from the Russians, and building our own Energia-variant might actually be cheaper and faster, if politically impossible.

I think our entire space program is underfunded, and that Nasa should continue trying to outsource routine LEO and ISS service missions, while focusing on both unmanned probes, and a manned mission to Mars. If we can spend \$650 billion/year on the military, it would be great if we could devote say, \$25 billion/year to space exploration.

[Kirk Davis, Bangkok, Thailand](#) (Sent Saturday, October 24, 2009 6:00 AM)

This is the USA right. Its about being a leader on the world stage and doing what is right. Im all for human space flight and the benifits for all speak clearly. Lets not waiver now. The program was put in place with greatness in mind. Aries 1 provides safty first and the cost will come because its so simple compared to alt designs. Aries will be un matched national asset. They are the best choice clearly.

[phil mangio villano](#) (Sent Saturday, October 24, 2009 6:20 AM)

I'm just a Space enthusiast since I was little kid and happen to now live near KSC...and NO I DO NOT work for NASA or any Contractor.

No question, Ares is the way to go despite what the Augustine Report says.

First, and as noted, the Ares 1-X is ON THE PAD for a test launch, hopefully, on Tuesday or Wednesday as opposed to Space X's Falcon 9 and Orbital's Taurus 2 which are yet to see the light of day let alone a launch pad.

Second, Delta 4 & Atlas V ARE NOT MAN RATED and in order to do so, it will take 3-5 years.

Third, if Commercial entities want to be the main driver for Low Earth Orbit to ISS then let them do it on THEIR dime...not the taxpayers.

The issue here is FUNDING an additional \$3 Billion per year to NASA in order for it to continue with what it has been tasked to do by, you guessed it, Congress and Bush...yet shamefully NEITHER ever came up with the money.

We must extend the Shuttle AND Space Station lifespans so that we can close the gap between generations of Spacecraft.

So now the President has a choice. But remember this Mr. President...NASA is OUR Space Program...that of the American people...and if you or your administration does not step up to the plate then it will be conceding our position in Space to the Chinese in the next 5 to 7 years nor do we want to be paying the Russians to hitch a ride on 50 year old Rockets.

Question is, do the American people want that? I'd say "HELL NO!"

Oh and btw, NASA' Budget is LESS THAN 1% of the ENTIRE US annual budget.

I say we build a few less fighter jets or a few less ships or a few less bombs or just about anything to get them what they need to do their job.

In my opinion, NASA budget should be DOUBLED. THEN we can dual track Ares 1 and Ares 5 development and construction.

Ares is the FIRST in the skin rocket system this country has developed in over 30 years.

No matter what happens I am VERY proud of ALL the people at NASA for this fantastic effort.

They ARE indeed Rockets Scientists and have The Right Stuff!

[Patrick Pearce, Titusville, FL](#) (Sent Saturday, October 24, 2009 8:13 AM)

I am of that school of thought which argues that the resources committed to fantasies of Buck Rogers hurtling through the vast night with babes in arm are precisely that – fantasies – and that they drive too much of the technological and scientific effort.

\$100 billion on a wobbly manned platform in low earth orbit of exceedingly dubious utility which scrambles to justify itself on trivial bases and inspires very nearly no one?

Please.

Resources ought be committed to scientifically and technically grounded projects, and the public relations types drum up support for matters of substantive exploration rather than relying on the now dated notion that 'man in space' will inspire monetary support.

It doesn't.

There are some 'far-out' notions that likely deserve, in fact, further commitment of resources so as to determine if they might in fact prove feasible at some point:

Geo-stationary solar collection, for example, is exceedingly visionary, yet might make sense. Let's invest the funds, at a rational pace, and find out. Certainly it would tend to drive advances in materials technology if it doesn't pan out.

Similarly, the seemingly madly futuristic 'space elevator' warrants further exploration. It, too, might prove a fantasy, but it, too, might be workable with sufficient advances in materials science, etc, and those researches would likely prove of value even if the 'goal' of a space elevator were to prove impractical.

But the present approach of Reinventing & Revisiting The Glory Days of the 60s?

Please.

The decision, incidentally, to scrap the Saturn and attendant capsule development is typical of the US space programs catastrophic decision making, and the present paths seem little, if any, better.

**John Doe's Friend, Dave** (Sent Saturday, October 24, 2009 8:14 AM)

Some might find it interesting that the two launch system choices being debated break down to: on one hand, NASA designing and building their own next-generation launch system including a cheap heavy lift vehicle using technology from a company based in Utah (a small republican state) and on the other hand, NASA acting as a money funnel to send all its budget to buy dated kerosene burners from Boeing's facilities in California (a big Democratic state). Also, some might find it interesting that scuttlebutt says most of the astronaut corps has stated their intent to resign rather than ride on an Atlas or Delta "flying bomb". Above all, it is worth remembering that the budget "shortfall" in the Constellation project stems from the Commission being \*told\* by the White House to use the 2010 NASA budget (which is significantly lower than the 2009 budget). Given's Obama stated intent (reported at MSNBC and other places in Dec 2006 and elsewhere during the campaign) to divert half of NASA's budget to social programs, it is clear the Commission delivered exactly the report they were expected to deliver. Which is why Congress is riled up and getting involved: Constellation is not being funded by any special set-aside but rather straight out of NASA's institutional funds so any further raiding of the Agency budget will perforce result in a further downsizing of the Agency and likely closure of Agency Centers. I suppose it is too much to expect the mainstream media to report on the ongoing buyouts and layoffs at NASA centers just as they never reported the 25% downsizing under the Clinton administration when NASA's funds were used to keep russian scientists employed while NASA programs were chopped left and right. At this point it is pretty much a done deal that America's next space policy will be guided not so much by a rational technical vision but by political calculation and "whose ox gets gored". Sadly, it seems Heinlein was right after all.

**FJT (Cleveland, Ohio)** (Sent Saturday, October 24, 2009 8:58 AM)

It's time to turn LEO over to the private sector. If not now, then when? If we continue to allow government run space agencies to set limits on what we can do in space we'll never get anywhere.

I do agree that we should keep the ISS running until at least 2020 and we should develop heavy lift capability so Astronauts can at least orbit the moon, asteroids, Phobos, Deimos Mars, etc.

Additionally, don't discount what Elon Musk, Peter Diamandis, Burt Rutan and many other modern day space pioneers are achieving. They're the one's that will open up space, not NASA or any other foreign space agency.

Finally, isn't next weeks completely unnecessary and outrageously expensive test launch of Ares 1-X a metaphor of what's going on in the US right now?

**Eric Haynes** (Sent Saturday, October 24, 2009 9:10 AM)

Why even ask "why"? The great political system will have its way, like it or not. We spent billions of dollars over the last many years on some very capable systems, only to discard them and redirect our resources on the next "great dream". I think its about time to look at the big picture, and the future of space travel, its benefits to man kind, and develop a set path to achive these goals.

**Jeff E, aka (just a dumb farmer)** (Sent Saturday, October 24, 2009 9:10 AM)

What the heck happened to Cosmic Log? OK So MSN is cute but if I wanted THEIR home page I'da gone for it. Suddenly my Bookmark takes me where I didn't say!! \*sigh\* It's Global Warming, I bet.

**Guran Walker, BNE, AUSL** (Sent Saturday, October 24, 2009 9:12 AM)

Interesting article Alan! As the old saying goes, in for a penny in for a pound, it's better to keep going with Ares than switch after investing so much. I sure hope the test launch goes well Tuesday for the Ares 1-X. The moon is our best destination at this time and we need to learn how to get there and stay there before moving on to Mars. I just don't think we're quite ready to go direct to Mars or one of it's moons. Let's tax the rich and greedy to pay for more investment in Ares.

**Eric, Salinas, CA** (Sent Saturday, October 24, 2009 9:16 AM)

If we want to expand our role in the exploration of space, NASA should be focused on its heavy-lift program and leave the LEO needs to commercial industry and other countries with active transpot capabilities. It is a foolish waste to continue funding a LEO option that will not likely even be ready for use by the time its primary goal--to service the ISS--will retire.

Why waste limited resources on this program which has a finite goal both temporal and physical? What ever happened to "ad astra"? What about focusing on "going where no one has gone before"? Isn't that what exploration is really about? How does emphasis on a LEO program expand humanity's horizons?

Let's get a heavy lift program off the ground--literally. Let's build a base on the moon from which to plan a second base on Mars and the ability to explore other worlds. There is knowledge and resources beyond LEO that will be well worth the effort.

**Andre Goelkin, Roseland, NJ** (Sent Saturday, October 24, 2009 9:25 AM)

There will never be a space program. Too many or too much politics.

**Ralph Garner** (Sent Saturday, October 24, 2009 9:42 AM)

We should attempt all three options. Costofwar.com, citing various budget reports and federal agencies, estimates the Iraq war has cost \$693.5 billion of our tax dollars... The Ares program stands at close to \$3 billion... Now, which do you think stands to benefit mankind the most (and for that matter, the US)? Even if NASA were to get \$60 billion (which by the way is enough capital to complete Ares, design and build a new shuttle AND retrofit Delta and Atlas rockets for human passengers), it would still be but %10 the cost of the war in Iraq! Alas, as always, the dollar wins out... so long as there is more \$\$\$ to be made in warfare and its' spoils, our priorities will not change, and the vast majority of us shall remain as we always have: driven by greed, fed by paranoia and content to wear the blinders we make for ourselves.

**Avery, Orlando, FL** (Sent Saturday, October 24, 2009 10:08 AM)

Sure, money for AIG and to build schools in Afghanistan, but not for a moonbase or mars trip. America is not just in decline, but rather free-fall.

**Tiberius** (Sent Saturday, October 24, 2009 10:16 AM)

If there was money in the budget we wouldn't be here talking about this. Most of the design criticisms are sour grapes that have been allowed to fester because of the vacuum in political leadership. And now that vacuum will institute major design changes. It's the nightmare of every engineer.

NASA is a trail blazer to points unknown, whatever those destinations might be, and that involves an amount of technological invention, and the risks and rewards associated with it. Unfortunately, NASA doesn't get to choose its destinations; it responds to marching orders given, which it has done with professionalism, in my opinion. There is controversy in most engineering designs, but micromanagement from above is a recipe for disaster. I wouldn't retrofit existing satellite delivery systems, for that reason alone.

Moreover, if commercial ventures participate, and they should (with separate support from the government, if that'll fly), then by all means... But the blazed trail should be a toll road, at least until commercial ventures no longer need the infrastructure of NASA and its international partners. This would help defer the cost of present and future exploration. So let SpaceX deliver tourists to the space station, or for that matter, to a base on the moon. But they should pay room and board, etc..., costs they would naturally pass on to their customers. If SpaceX, etc... want to deliver supplies to the space station, or any other place NASA decides to explore, then that's a useful service to the exploration effort, and they should be paid for it.

**rpe, Phoenix AZ** (Sent Saturday, October 24, 2009 10:40 AM)

Is it powered by Windows 7?

**Amado Castaneda** (Sent Saturday, October 24, 2009 10:50 AM)

Is ares I-x a multistage rocket

**josj** (Sent Saturday, October 24, 2009 10:50 AM)

NASA is a complete waste of hard earned money. The US should focus on Earthly problems - climate change, famine, peace etc. rather than wasting money on treadmills for space tourists. If little boys want to play rocketman, let them do it on their own dime.

**Jodo** (Sent Saturday, October 24, 2009 11:00 AM)

the NASA programs are a BIG BLACK HOLE throwing money in there for WHAT.How many people can escape EARTH???and live in the cosmos.Folks stop dreaming and spend half that money trying first to solve the actual problems,and save the other half to clean up our carbonfootprint .

**louis laureyssens Deland FL.** (Sent Saturday, October 24, 2009 11:02 AM)

I did a quick bit of speed-reading, with the result that I am a bit more troubled by the patently goofy Augustine report than I was at first, which is quite a lot ...

When I have a bit more time, I will read the entire "Seeking a Human Spaceflight Program Worthy of a Great Nation" treatise, but considering that starting in the 1950s when my father worked on the early NASA space missions and continuing until sometime in the 1980s when both of us worked on Space Shuttle missions, where I was a "primary contact" for STS1, which basically mapped to my work at the time requiring me to be within approximately 5 meters of the Space Shuttle crew every so often in the weeks immediately before flight, I am not so thrilled by anything that borrows its title from the motion picture "Desperately Seeking Susan" ...

But most importantly, I am not happy at all to read that the Augustine report apparently suggests following the lunacy started by The Boeing Company when it decided to abandon the proven practice of designing and building airplanes in America with nearly all the work being done by American citizens, albeit with an occasional bit of help from highly qualified foreign contractors and suppliers under virtually ruthless control and guidance from Boeing engineers ...

The problem with globalizing the design and construction of anything more complex than an Oscar-Mayer Wiener is found in the adage that, "too many cooks spoil the soup", which certainly has proven to be the case so far with the Boeing 787 "Dreamliner" ...

The thing that all the folks who focus primarily on feeling good about themselves and sharing thoughts with the group, as well as chasing butterflies and rainbows, fail to understand is that the key to being successful in aerospace is not screwing-up, and the best way to avoid screwing-up is to be able to watch what everyone around you is doing and to have everyone watch what you are doing, because constant vigilance works marvelously, and even though it might appear to be a bit strange, your best ally in aerospace is the person who routinely with great accuracy notices every mistake you make and lets you know about it in time for you to correct it, which is a lot like having a really good editor when one is a writer ...

When major parts of an airplane are built on the other side of the planet by people who speak foreign languages, strange stuff happens, especially when their culture is significantly different from our culture, because a lot of very important information tends to be lost in translations and so forth and so on, where for example it might be culturally undesirable for a blue wire to be next to an orange wire, so rather than commit a local cultural faux pas, someone arbitrarily decides to put a green wire next to the orange wire and to put the blue wire where the green wire once was, without any consideration of the fact that the blue wire is next to the orange wire to avoid creating a "trace circuit" like the ones that caused the catastrophic and tragic launchpad fire of Apollo 1 ...

When I read in the news that the Augustine Committee was contemplating chasing and perhaps landing on asteroids as being a brighter idea than establishing permanent manned lunar bases, I thought it would be difficult to read anything more patently goofy but, apparently, trying to reenact the plot of the movie "Armageddon" was just the appetizer ...

None of this stuff is overwhelmingly complex . . .

It starts with a stellar vision, like the one President John F. Kennedy had in the early 1960s for the Lunar Missions, and then sensible engineers, rocketeers, and scientists get it done . . .

It starts with a stellar vision, like the one President Richard M. Nixon had in the early 1970s for the Space Shuttle, and then sensible engineers, rocketeers, and scientists get it done . . .

Centuries from now, people will continue to know who Queen Isabella and King Ferdinand were; who President John F. Kennedy was; and who President Richard M. Nixon was; and there is a reason for this . . .

They had stellar visions for exploring and traveling the universe, and they had the wherewithal to make it happen, which as the centuries fade into fog is all that is remembered, since it is all that mattered in the grand scheme of everything . . .

It certainly is possible that President George W. Bush will be remembered in the same way, since he had a stellar vision, as well--even though the schedule was lazy at best . . .

We need to send people to the moon, and we need to solve all the problems associated with permanent manned lunar bases, because the reality is that building the machines required to travel roundtrip to Mars is not the big problem . . .

The big problem is discovering how to make it possible for people to travel millions of miles in outer space for approximately one-year each way to Mars, as well as to do landings and so forth on the Martian surface . . .

The value-add is that providing practical solutions for all the human anatomical, medical, nutritional, physiological, psychological, and sociological problems for extended space travel will map to significant--if not amazing--benefits and rewards for everyone here on Earth in the same way that solving similar but not nearly so difficult problems for the first Lunar Missions and current Space Shuttle missions already have provided, with the most obvious being personal computers, materials, medicines, and high-technology emergency response vehicles, equipment, drug delivery systems, and crews . . .

When you roll-back the clock to the early 1960s, the reality when one had a medical emergency and called an ambulance was that a station wagon or panel truck with a big red rotating light arrived sooner or later; the attendants loaded you onto a gurney, perhaps doing a tiny bit of first aid; and then they drove you to the hospital . . .

There was no electronic monitoring equipment; no onboard medicines and advanced drug delivery systems; no real-time data feeds to the emergency room doctors; no emergency medical technicians; and so forth and so on . . .

Yet, if you happened to live in a "space town", all of that stuff started appearing very early, since one of the realities is that when astronauts are in outer space and have medical problems, they need to be able to handle everything where they are, which among other things maps to being able to carry everything onboard the spaceships, and one of the ways rocketeers test all that stuff is to build advanced emergency response equipment and to use it locally as a proof of concept type of thing . . .

Life-flight medical helicopters came from the Vietnam War, and all the high-technology emergency response stuff came from the Lunar Missions . . .

Lunar bases are vitally important, as is the ability to use Lagrange points, since doing roundtrips to Mars is best done by starting in outer space rather than on Earth, which maps to using heavy lifters to go to the moon; to do the hauling necessary to establish permanent lunar bases; and to do the hauling necessary to carry the various parts of the Mars spaceships into outer space where they will be assembled and loaded with fuel, equipment, supplies, and people . . .

In some respects, technology has advanced considerably since the 1960s, but NASA apparently lost or misplaced the engineering specifications for the heavy lifter lunar rockets, and one can only guess how much younger aerospace engineers and rocketeers actually know about building heavy lifters today, but so what . . .

They can learn how to do it quickly, which should be easier, because it has been proven to work!

Common sense tends strongly to suggest that if the biggest heavy lifters today are operating at maximum capacity to be able to ferry people, equipment, and supplies to the International Space Station, then how likely is it that they will be able to carry two years of fuel, equipment, landers, supplies, and people on roundtrips to Mars?

Unless you build the Mars spaceships in outer space, perhaps with some of the assembly work being done on the moon and some or all of the fuel coming from facilities on the moon, then it has to be a really big heavy lifter to go directly from the Earth to Mars and then to return from Mars to the Earth, since it also needs to carry landers, equipment, supplies, rescue vehicles, and so forth and so on . . .

Chasing asteroids might be an interesting puzzle to solve, but that type of stuff most likely is politically motivated as a tricky way to end or to postpone peopled space exploration, because it is not so easily defensible . . .

In other words, if the hidden agenda actually is to make something go away, then it is easier to dismiss something which makes little if any intuitive sense than it is to dismiss something which makes excellent intuitive sense . . .

Nevertheless, the way this stuff typically works is that it happens logically--often in spite of vigorous attempts to the contrary--and I am not so overly troubled by the Augustine Committee's treatise, other than it being bad advice to give the President, who in my opinion deserves the best possible advice . . .

It continues to be sufficiently early in President Obama's first term to be gracious with respect to making judgments, because he certainly appears to be a bright fellow, and the fact of the matter is that nothing beats having a stellar vision in the exploration and travel arena when it comes to ensuring a distinguished legacy that endures over the long run, especially considering that, other than a world war, nothing beats a big space program for creating lots of jobs in every sector of the economy, which can include designing and building a high-speed rail system for moving spaceship components, materials, and rocketeers across the country . . .

If I was advising the President, my advice is think on a stellar scale and to commit several trillion dollars to doing a virtual festival of logical space exploration and infrastructure toward the goal of having permanent lunar bases by 2020 and permanent Martian bases by 2030, which is fabulous . . .

All you need are a stellar vision and a really big knob, which is fabulous . . .

[http://www.surfwhammys.com/music/21\\_Really-Big-Knob-10-11-2009-MP3-VBR.mp3](http://www.surfwhammys.com/music/21_Really-Big-Knob-10-11-2009-MP3-VBR.mp3)

Fabulous!

**JD, Seattle, WA** (Sent Saturday, October 24, 2009 11:03 AM)

Nasa's biggest problem has been the constant long term strategy being changed everytime a new administration comes in. After the Columbia disaster, the last administration i think got it right. Although the Shuttle is probably the most sophisticated machine we have ever built, the philosophy behind it has always been flawed. Engineers were probably influenced mostly by the movie 2001 a space Odyssey and the X-15 project thinking that a gliding return and some sort of reusability was necessary when in reality the aerodynamic surfaces( wings, tail, ailerons)and landing gear are only used in the last 8 minutes of flight and the complexity of keeping the shuttle in the right alignment for reentry definitely has a huge safety risk that is reduced greatly by using a capsule with a natural reentry shape that is more stable. All of this excess weight to achieve a gliding return is a waste of payload. At \$10,000/lb, payload should be maximized not minimized. The Apollo program is a proven philosophy and if upgraded with todays technology should provide a robust and safe entry into space. Using the Aries 1 and the Aries V to get our human spaceflight program back on track is the most pragmatic use of our space dollars. Lastly the philosophy of thinking that the Aries program will be used to go to Mars is also flawed. It will be used to ferry cargo from earth to orbit and to the moon but will ultimately be used to ferry components of a mars transportation system that will use nuclear power for its propulsion which will be derived from our experience with submarines over the past 60 years. The reliability of these systems and the ability to achieve 1 g acceleration and deceleration greatly enhances the crews well being and decreases time in flight as well as reducing the expense of going there. I guess you could say that "2001" did get that philosophy right in the movie that we would nuclear propulsion to go out further in the solar system.

**john wagner, darien, il.** (Sent Saturday, October 24, 2009 11:18 AM)

Quit spendingmony in space and get the economy back. We need jobs and a future.

**Dick Smith, Denver, Co.** (Sent Saturday, October 24, 2009 11:20 AM)

GHW Bush was right in that it is humanity's destiny to explore, but was wrong about it being America's destiny to lead. It was our opportunity, and we passed it up. The next humans on the moon will be speaking Chinese, and it will do for China what our first missions did for us. We have passed the torch of leadership.

**Dennis, Richmond VA** (Sent Saturday, October 24, 2009 11:38 AM)

Designing a shuttle-based launcher is hardly "going back to square one." A great deal of work has already been done on this concept over the years, in the 80s as "Shuttle-C," and more recently as a possible alternative to the Ares V called SD-LV.

**S J Paxton** (Sent Saturday, October 24, 2009 11:45 AM)

Now we are down to this: waiting on Obama to fund NASA so we might continue our space projects. If Obama had put into NASA money that has been wasted, NASA could go out into space, retrieve a couple of earth-like planets, dock them along side earth, clean them up and plant corn on them for our use. Progress is expensive.

**BlackCougar, Houston, Texas** (Sent Saturday, October 24, 2009 11:56 AM)

Nasa's biggest problem has been the constant long term strategy being changed everytime a new administration comes in. After the Columbia disaster, the last administration i think got it right. Although the Shuttle is probably the most sophisticated machine we have ever built, the philosophy behind it has always been flawed. Engineers were probably influenced mostly by the movie 2001 a space Odyssey and the X-15 project thinking that a gliding return and some sort of reusability was necessary when in reality the aerodynamic surfaces( wings, tail, ailerons)and landing gear are only used in the last 8 minutes of flight and the complexity of keeping the shuttle in the right alignment for reentry definitely has a huge safety risk that is reduced greatly by using a capsule with a natural reentry shape that is more stable. All of this excess weight to achieve a gliding return is a waste of payload. At \$10,000/lb, payload should be maximized not minimized. The Apollo program is a proven philosophy and if upgraded with todays technology should provide a robust and safe entry into space. Using the Aries 1 and the Aries V to get our human spaceflight program back on track is the most pragmatic use of our space dollars. Lastly the philosophy of thinking that the Aries program will be used to go to Mars is also flawed. It will be used to ferry cargo from earth to orbit and to the moon but will ultimately be used to ferry components of a mars transportation system that will use nuclear power for its propulsion which will be derived from our experience with submarines over the past 60 years. The reliability of these systems and the ability to achieve 1 g acceleration and deceleration greatly enhances the crews well being and decreases time in flight as well as reducing the expense of going there. I guess you could say that "2001" did get that philosophy right in the movie that we would nuclear propulsion to go out further in the solar system.

**john wagner, darien, il.** (Sent Saturday, October 24, 2009 11:58 AM)

So let me get this right, Augustine was in charge of the "battlestar galactica" plan of the early 90's where they proposed a mars vehicle so bloated and useless that the idea was discarded offhand? I had no idea he was involved with that debacle. For shame.

**Morgan, Denver, CO** (Sent Saturday, October 24, 2009 12:04 PM)

The space program must be the first thing to go in this budget crisis. Put everything in a safe configuration and walk away, just like we did with nuclear power plants that were mothballed after Three Mile Island Unit II went South,

**Fat George, Idaho Falls, ID** (Sent Saturday, October 24, 2009 12:10 PM)

Before super computers it took less than a decade to get to the moon. Now with super computers and 50 years of experience in space flight we can't even get off the ground. Pathetic!

**Dave K Seattle** (Sent Saturday, October 24, 2009 12:30 PM)

My son is a Senior Engineer with NASA for well over 10 years now and he works at the Marshall Space Flight Center in Huntsville, Alabama. This is the place that has done a huge amount of planning for the Aries program. Indeed MSFC is one of the premiere locations for NASA.

The Augustine representatives paid a visit to Marhsall several weeks ago with regards to the Aries program...however, they spent a hour eating lunch and 5 minutes discussing the program. Their minds were already made up before they boarded a plane for the trip...I wonder why they wasted the jet fuel..surely not for the fried chicken lunch and certainly not to talk to our Engineers and Rocket Scientist for 5 minutes.

When we abandoned the Apollo program and laid off all of the brilliant young men that had donated their careers, education and gusto ( or a portion of it) to this country all we gave them was a pink slip for the unemployment lines. I pray we are not wasting our best minds and our youth again because these are brilliant people ---sooner or later they will tell this country to fly their own kites ...and I assure you---not one of our astronauts would ride that vehicle.

**Donnie R.** (Sent Saturday, October 24, 2009 12:37 PM)

It doesn't take a rocket scientist....oh wait, it does. Why should Obama or Congress have any say when they don't even understand common sense, let alone the science behind NASA?

**Auntie Em, SLC, UT** (Sent Saturday, October 24, 2009 12:46 PM)

40 Years ago, NASA had a moon rocket and a program that had landed men on the moon. It got to the moon in less than 10 years with less than we have today. Since then, NASA has gone nowhere but in circles - low earth orbit. There is talk about going to the moon again, but this time it will take twice as long & cost 4 times as much in spite of all our technological advances. This is progress?

NASA spent more money developing the space shuttle than the entire cost of the moon program. The cost to launch 25 shuttles could have paid for hundreds of launches of the Saturn 1b, a rocket that had a similar payload. NASA has lost the ability to build it or the Saturn V, so NASA wants to spend billions more developing another rocket that won't be as good as either.

Meanwhile, we have to beg the Russians for a ride on their rockets, because we don't have anything to take the place of our shuttle, and won't have for some time.

NASA should stop trying to reinvent the wheel. Bring back Gemini and Apollo, finish the x-20. It will cost less, take less time, and get better results.

**Doug, Fairfax, VA** (Sent Saturday, October 24, 2009 12:54 PM)

This isn't a real rocket! It's a two bit prop. A standard shuttle SRB with dead weight added to the top...and it only cost NASA \$500+ million to make it.

Hopefully it'll disintegrate in mid flight and put an end to this turkey of a project once and for all. Let's get on with Direct!

**Brian S.** (Sent Saturday, October 24, 2009 12:59 PM)

It makes perfect sense that you did not post my comment. It is because it does not support your agenda.

[ALAN ADDS: Sorry, Phil ... You'll notice that your comment has indeed been approved, and I definitely approve comments regardless of what my perceived agenda might be. (I'm not sure what my agenda is on the Ares debate, other than that we have to do something that is safe, affordable and capable. And that we have to do something.) It does sometimes take me a while, however, to approve comments, particularly when I'm traveling and when it's the weekend - both of which are the case here. The sorts of comments that I don't approve are ones that are spam, that are wildly off topic, that are essentially empty (e.g., no text), that use profanity (although sometimes I will use the \*\*\* to preserve a comment) or that in my judgment cross the line when it comes to criticizing others (as opposed to criticizing their opinions).]

**Phil mangio** (Sent Saturday, October 24, 2009 2:05 PM)

Huh!

The government is still making bad decisions regarding space. We should do it and then complain afterwards.

**Gregg C Levine, Astoria NY** (Sent Saturday, October 24, 2009 2:17 PM)

The United States needs a strong new leader (like President John F. Kennedy) who will formulate a single outer space achievement with a precise unchangeable due date. A new space race to the moon or Mars would be helpful because competition stimulates action.

Much of the manned space missions between 1973 and 2009 have been a waste of resources. Constructing the International Space Station was not necessary for scientists to learn that exposure to microgravity causes bone and muscle deterioration.

A manned space vehicle traveling to any destination farther than the moon must have artificial gravity to keep the crew healthy.

Some of NASA's resources should have been allocated to designing and testing vehicles capable of sustaining artificial gravity throughout journeys to other worlds.

After wasting more than 30 years, our leaders now desire human exploration of this solar system but NASA lacks a vehicle.

**Kyle Shurge, Los Angeles, California** (Sent Saturday, October 24, 2009 2:21 PM)

To everyone who wants to quit the human spaceflight program: It WILL happen, it WILL continue. Human spaceflight has paid for itself 10 times over, and is one of the single best investments EVER made for mankind. More has been done for the better homes, better fuel efficiency, better medicine, better agriculture, better communications, better computing, better science, and better education by Human spaceflight than ANY other program, period.

If you TRULY wish to help the poor, get rid of your pets. Americans spend 3 TIMES the amount spent on human spaceflight on pet food, pet medicine, pet toys, etc. So every time any of you advocate getting rid of human or even unmanned spaceflight, I'd better hear you advocating eliminating all pets as well.

**Doug Fingles, Warner Robins, Georgia** (Sent Saturday, October 24, 2009 3:19 PM)

I would like to see a policy driven by innovation that saves people money. What is the point of going to the moon? How is it going to make our lives better. NASA can be utilized so much better if we stick to using space for research. I can't stand seeing all these projects that cost billions of dollars getting junked. This is just another unsustainable program that will end up getting junked because people are starving to death....

**John, Garner NC** (Sent Saturday, October 24, 2009 3:22 PM)

Didn't read all of the comments but for every dollar put into NASA, 10 dollars is eventually created and put into our economy. So to me that sounds like a good thing. Do not think a lot of people realize the advancements in medical technology as a result of the space program. Advancements that are savings life even as I write this comment. Not everything NASA has to do deals with space. We are seeing benefits here on Earth. Maybe not green benefits like everybody wants these days. But there are benefits.

**Bob, Columbus, OH** (Sent Saturday, October 24, 2009 3:24 PM)

hey! water on the moon! we need water here on earth

what about a long pipe

**landon kelsey,houston,texas** (Sent Saturday, October 24, 2009 3:44 PM)

"ANY MANNED space flight program is a WASTED of scarce money! The ONLY goal for ANY space flight program should be the expansion and enhancement of knowledge and that can be done most effective and cheaply by UNMANNED space flight probes and satellites. We DO NOT NEED a manned space craft of any kind. "

No it isn't Dr. Meagan Johns, PhD. The purpose is to incorporate it into our economic sphere of influence, like was done with the Americas centuries ago. You and the Science Uber Alles crowd are so enamored with the dogs tail you ignore the rest of the dog.

Also, if you are going to throw around your title, it would be nice to mention your field of expertise and state why it is relevant to this discussion.

**Mike Puckett** (Sent Saturday, October 24, 2009 3:46 PM)

NASA has been underfunded for its mandates since the Nixon era. And there has always--ALWAYS!-- been a "budget crisis" in the U.S. Congress that was the excuse for the underfunding. There's always been some banking crisis, S&L crisis, energy crisis, etc., that got the funding, billions more than NASA, year after year. 99% of the energy and resources in the solar system are not on Earth; politicians must be very afraid of the prosperity space resources could bring, which would block their economic fear-fueling each election cycle.

**Stewart L., Gainesville, Florida** (Sent Saturday, October 24, 2009 5:37 PM)

nada de eso sirve para la humanidad asi que no gasten el dimero de mis impueto en nada de eso programas

[juan cordero](#) (Sent Saturday, October 24, 2009 5:45 PM)

I recall an important directive from the TV series Star Trek that said "Above all do no harm..." or something like that. We, as humans, have cluttered up this earth fairly substantially and it seems that some of us can't wait to spread our human clutter beyond our home planet. It reminds me of some renters who, when they become weary of the mess they create in their non-owned home, simply leave to start a new mess somewhere else. Let's get it right here on our home planet first. Learn how to live harmoniously with what we have been given, so that humankind has a predictably secure future. Then we can begin planning how to export the human experience to other places, without leaving mindless clutter along the way. You may be asking "What is he talking about?" One example is the orbital debris left behind by previous space exploration. The time is coming when the mass of space junk still floating around (in orbit) will make the journey from earth a hazardous venture. All in the name of good science and exploration, it might be added. Lets spend our hard-earned cash and tax money on those projects which have direct benefit to those who need it most, not on some pie-in-the-sky science project which MIGHT result in some incremental benefit to a few special folks.

**John H.** (Sent Saturday, October 24, 2009 5:55 PM)

we need jobs

**juan new york city** (Sent Saturday, October 24, 2009 5:55 PM)

When they finally do get back on the moon, what will the first words be? "That was one rediculously long wait for more men, one giant leap for Mars?"

**Thomas Ashby** (Sent Saturday, October 24, 2009 6:19 PM)

I need loony liberals from the space program to come and whisper the wild rants of Kant in my ear, while they promise me a loony paradise while thier loony tax collectors pick my pockets dry and then throw me onto a garbage heap of wasted humanity that has been sucked dry by their tax collectors. Kind of sad...

Tom Roberts, Los Angeles CA (Sent Saturday, October 24, 2009 6:41 PM)

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**Your name, city and state** (John Doe, Seattle, Wash.):

**Your e-mail address** (jdoe@msnbc.com):

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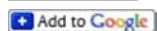
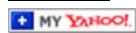
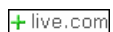
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