

**NASA JOHNSON SPACE CENTER ORAL HISTORY PROJECT
COMMERCIAL CREW & CARGO PROGRAM OFFICE
ORAL HISTORY TRANSCRIPT**

MICHAEL D. GRIFFIN
INTERVIEWED BY REBECCA WRIGHT
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WRIGHT: Today is January 12th, 2013. This oral history interview is with Dr. Mike Griffin in Houston, Texas, for the NASA Commercial Crew & Cargo Program Office History Project. Interviewer is Rebecca Wright, with Rebecca Hackler. We thank you again for coming in on a Saturday morning.

You served as the NASA Administrator from April 2005 to January 2009. Upon arriving, you listed a number of priorities that were consistent with the President's [George W. Bush] 2004 Vision for Space Exploration initiative, including "encouraging the pursuit of appropriate partnerships with the emerging commercial space sector." Could you explain how you were able to move that initiative forward, and why you felt strongly about doing that?

GRIFFIN: As I said in speeches at the time—I think some of those are even recoverable today in the collected book of speeches that we did while I was there—and still say today, one of the problems or unintended consequences of space development being led as a national priority, initially of course in competition with the Soviet Union, but still even into the era of the [International] Space Station, was its huge roots in geopolitics.

As a consequence of that—I have characterized it as space was all government, all the time. That's of course a little bit of an exaggeration, but I think, like most such generalizations, it does make a useful point. Leaving aside certain things like communications satellites and the

commercial launches to support them—and those commercial launches were really just on derivatives of government vehicles—the space programs of really all nations, and certainly ours, were driven by government imperatives.

Government is a useful tool for accomplishing many things that are important to society, but that don't look good on a balance sheet. Companies engage in things that look good on a balance sheet. The history of aeronautical development and aviation development led me to believe that space development going forward would benefit from having more of the vitality and innovation, especially with regard to reducing cost of operations, that we associate with commercial enterprises.

Commercial enterprises historically—if they can succeed at all, they're cheaper than government enterprises, more dynamic. With the exceptions of crash programs and wartime efforts, where government can in those cases be very efficient, government is not usually the tool that people think of as being the most efficient to accomplish a given purpose.

I'm using too many words to say what I could say briefly, that I thought space development would benefit from more commercial activity than we had seen. The question was how to get that started. In my view, a good way to get that started would be to make available to successful commercial developers the government market, and even to provide them a little bit of seed money.

I'll emphasize at this point not a lot of seed money. If you have a lot of government money into the enterprise, then it becomes a government enterprise. And that was what I wanted to avoid. But I had come to NASA from some prior experience as president of In-Q-Tel, which in short form could be characterized as the CIA's [Central Intelligence Agency] venture capital

fund. I was running what was essentially a technical venture capital fund whose purpose was to make products and services available to the intelligence community.

These products and services were being developed by the entrepreneurial commercial startup industry. Think Silicon Valley [California] or Silicon Gulch or the Boston 128 corridor [Massachusetts], those kinds of places. They were heavily commercial. But some of the things that they were doing had application to government intelligence community goals.

This was not my idea; I was hired to run it, I didn't think it up. But what we found was that with a little bit of government money in the enterprise we could achieve some capabilities that would serve government purposes, and at the same time provide to other investors in the enterprise the cachet of being involved in something that also had the CIA as a customer.

I came away from that experience with the belief that a little bit of government seed money, on the order of 5 percent or 10 percent, could accomplish some good in the commercial world. Government could be using the In-Q-Tel model—that I'll say again was developed not by me but by others. Using the In-Q-Tel model, one could achieve valid public purposes with a little bit of public money, while not corrupting the market.

I think that latter phrase is important. It's extremely important that if you're going to utilize the virtues of the marketplace you can't corrupt it with government funding. That means that it has to be kept a very small percentage of the whole. That was a guiding principle at In-Q-Tel. I brought that experience, along with many other experiences, when I showed up as Administrator. By this time I was 55 going on 56. I was definitely toward the latter end of my career, not the beginning of it. I brought to that job a lot of different experiences, and this was one of them.

I felt that while NASA has a market—the delivery first of cargo and then, in my mind, later people to space—I believed that the industry had reached the technical capability to do these things. Not all at once, but in the fullness of time. I believed that a little bit of government money to help kick start the enterprise could serve to attract investors and could serve to help formulate enterprises that, without some indication of a government market and government involvement, would not otherwise come into being. That was what I thought.

So I was trying to take my In-Q-Tel experience and apply it, transfer it from the CIA over to NASA. Of course I recognized that there are huge scale differences in the money required for intelligence community products, which we could get for a few million dollars, versus products for either robotic or human spaceflight that would be hundreds of millions or billions of dollars. I recognized that there were scale differences.

In-Q-Tel had an annual portfolio of maybe \$40 million or \$50 million. I felt that I was going to have to set aside a sum like \$500 million, and I did. People often ask me, “Where did the \$500 million come from?” Truthfully, I just made it up. I just multiplied what we had in In-Q-Tel by ten. I felt that that amount of money would be sufficient to get the attention of at least a few potential commercial space systems providers, but given the cost of space systems, especially if it was divided up among two or three providers, would not be so much that it would corrupt the marketplace in that arena. A couple of hundred million dollars is very significant to smaller enterprises, but it’s not a lot of money in the space arena.

If you want to ask where the \$500 million that kick started the COTS [Commercial Orbital Transportation Services] program came from, I made it up. I put it in my first budget, the preparation for the 2006 budget year that we were doing in 2005. As the incoming Administrator, I was given an opportunity by the Bush administration, which was in its second

term, to modify the budget inputs that had been already put together. I did so, and one of the ways in which I modified it was to put the COTS program in.

The way we structured it, according to what I had in mind, was through Space Act Agreements which themselves would be competed for. We had many companies competing, and we selected those two initially that we thought were the winners. They were Space Act Agreements, but they were competitively won. The idea was that we would make available milestone payments to companies who were working on their own private goals to develop space transportation systems. If they met milestones of interest to us—and we published what those milestones were—then they would get payments.

I would say for me, in my design—and I say it this way to emphasize the point that others can have other goals—but in my plan there were two crucial features. The first feature is the total amount of money available would be a small percentage of what was likely to be required to complete the system. So most of the money would have to come from private capital sources.

The companies would have to raise the money in the traditional manner in which companies raise money, by going to combinations of private equity firms, investment banks, angel investors, venture capital firms, whatever they wanted to do. We were not going to get involved in that. But most of the money would have to come from private sources. Our money would be seed money, but most would have to come from outside. That was the first feature that I thought was crucial.

The second feature that I thought was crucial is they would only capture our money if they achieved milestones of interest to us. We would not be involved in reviewing the designs or the development practices of the companies involved. They would have to bring the products to

market in their own way, in their own time, by their own means, according to their own standards.

We NASA, we the government, would only buy those things if we found them suitable. Our money would never be in ahead of the product development. They would first have to develop whatever they were developing, then they would have to demonstrate it, and then they would get the payment. Those two features I thought were the key factors to have it be commercial, to not have the involvement of government investment corrupting the normal free-enterprise market process.

In my own mind I envisioned it as being somewhat like the arrangement when you build an expensive custom home. The contractor builds homes for a living, I'm not creating the contractor's company. He has to have a company before I will consider allowing him to build a home for me. He builds homes for other people for other purposes, and presumably goes out into the market and tries to sell those homes. He may build custom homes and he may build standardized homes, but he's an established homebuilder. I don't create his company; I don't fund the startup capital required for him to create his company.

He builds his homes, and if I like them, I can buy a design that he offers. Or I can take his design and modify it slightly in exchange for money. But basically he already knows how to build homes, I don't have to instruct him. When we make a deal for him to build my home or a home that I might wish to buy, he gets a small upfront payment to get started, earnest money it might be called, and he gets milestone payments when he completes the foundation and gets the framework up, when he gets the roof on, when he gets the walls in.

At different stages of completion he gets money from me if he's building my home, but he doesn't get all the money until he has furnished all the product. That was the style in which I

was arranging it. The homebuilding transaction is still a commercial transaction, but he's got to build something that I like before I have to buy it, and he doesn't get money until he's demonstrated progress. So I was trying to analogize that. Government procurement doesn't often work by such rules, but through Space Act Agreements we found a way to do that. That was the style of program I was trying to create.

Then of course the commitment was that in the long run, when these companies had learned how to build their rockets and spacecraft, they could have the Space Station cargo market. If you recall, back at that time we were planning to return to the Moon. We would have a huge cargo logistics market to the Moon. For every kilogram that lands on the surface of the Moon you need ten kilograms delivered to low Earth orbit. That's just a fact of rocketry.

To support a base on the Moon, which we saw coming in the future, there would be a huge huge huge cargo market for these companies. If they were brought into being and cut their teeth on the Space Station, then there would be the lunar cargo market. That was also a part of my plan.

WRIGHT: Speaking of your speeches, in a 2006 speech you mentioned that commercial services would be the default strategy to deliver to the Station. That was your main plan to begin with. Can you share with us what the reaction was with your NASA management team, as well as the entrepreneurs that you were visiting with during those first weeks that you announced this?

GRIFFIN: This went on for months, so it was way more than weeks. But I think the reaction was generally favorable. I didn't really have any resistance with this plan. There might have been some people who didn't think it could work, but of course I wasn't sure it could work either. On

any plan the jury is out until the plan comes to fruition. All you can do is think up what you think might be a good plan, and then bet some money on it and see if you can make it come true. That I can recall, people responded very favorably to it in the NASA management side. They responded favorably to it in the White House and on the [Capitol] Hill.

I think everybody knew that the industry had reached a maturation point where the technical and managerial skills to develop commercial spaceflight capabilities were out there, and that what was lacking was any form of market. No matter how you cut it, the initial market was going to have to be government. Then once you got over those barriers to entry, maybe other purely commercial markets could develop. No one knew what those were, and I don't know what those are today. But you would never have an opportunity to find out if you couldn't get over the initial barriers to entry, and government could help with that.

But in my mind government helping with that had to be done in the right way. You couldn't corrupt market forces, which anyone who has studied economics knows about. You couldn't corrupt market forces and then expect the market to work for you. In my mind the key principles in not corrupting market forces were, again, the government investment had to be very small relative to the private investment involved, and money would not be paid before work was accomplished.

WRIGHT: The progress to put this in place moved very quickly. Can you share what your involvement was with that? Were you making sure that that moved and got in place, and got that program in order?

GRIFFIN: I had smart people working at the Agency. I assigned this to Scott [J.] Horowitz, “Doc” Horowitz is his nickname. I’m sure you know he was the AA [Associate Administrator for the Exploration Systems Mission Directorate] during this period. Doc ran the whole thing through, really without any problems. He would confer with me on what my intentions were, but Doc is an awful smart guy, and all I really had to do was to explain my intentions and they carried it off.

We initially selected [Rocketplane] Kistler and SpaceX [Space Exploration Technologies Corp.] as the two winning Space Act Agreement contractors. Kistler of course within a year or two failed to meet really any of its milestones, and so we did what we said we were going to do in that case. We cut the cord, and we recompeted and selected Orbital [Sciences Corporation], so now the two contractors under the COTS program are SpaceX and Orbital. Orbital came on board later, so they’re somewhat behind SpaceX, but both are making good progress toward their goals.

Even in retrospect, years later now, I can only say I have no problems, nothing but a certain pride of accomplishment in viewing what progress SpaceX and Orbital have made to developing systems essentially on their own. SpaceX has now made two demonstration flights to the Station carrying cargo. They’ve had a number of failures and a number of near misses, but you would expect that in a development program. They’re way late, and you expect that in a development program.

Everything that has gone on is pretty much as I would honestly say expected and hoped. Orbital, again, they were a later selection, so they’re running a bit behind. They’re also late, and they’ve had technical problems. But you expect that. I have many, many years of program

development activities behind me, and if one were to come in on budget and on time, I would be shocked.

WRIGHT: You mentioned too when we sat down that some things had changed from how you originally planned. Can you share with us how the program has been changed differently from how you had hoped that it would progress?

GRIFFIN: Of course I left office at the end of the Bush administration. A new [presidential] administration took over and a new team took over at NASA. The plan to use commercial capabilities certainly departed from what I saw as the correct path. I'm trying to phrase it carefully. I obviously don't agree with what they're doing and have said so in print and in public, so I guess I can use this forum to explain why.

I think the whys are implicit in my earlier statements of what I thought was important, that government investment had to be small, and that if you're a commercial contractor you don't get any money until you have furnished the product or the service. There's no fun money. The conditions under which the so-called commercial crew programs are being carried out today are quite different from what I envisioned.

Substantial amounts of money, hundreds of millions of dollars, are being provided to the private companies. If SpaceX continues on along its current path, it will have received approximately \$1.2 billion in government money from the collective programs. I'm rounding, but with this recent \$400-plus million award under CCiCap [Commercial Crew integrated Capability], that brings the total SpaceX funding to something around \$1.2 billion, maybe a little more.

That's—I will only say in my view—excessive, especially since in testimony last year the SpaceX founder, Elon Musk, indicated that the private funding involved was not more than \$200 million. \$100 million of his own money that he had brought in from a prior enterprise, and then he alluded to the fact—I'm trying to recall the testimony on an ad hoc basis, but the point is that there's less than \$200 million of private capital in SpaceX and \$1.2 billion of government capital.

Of course that is completely the mirror image of what I thought proper. My views are not the law of the land, but in constructing the program, as I've said several times, I had certain guiding principles in mind. One of them was that almost all the money involved would be private. Now we have a situation where almost all the money involved is public. I don't know what the ratio is of public to private money in Orbital, but it is likely to be similar. I don't know what it is at [The] Boeing [Company], but Boeing has continually said that they will not put substantial company money into the development. They're on record on that point, so I would assume that most of the money in CST-100 [crew capsule] is government money.

To me then, if that's the case it's not a commercial venture. It's really just an alternative means of government procurement. Using public funds, but without the oversight we customarily expect when public funds are used. Then of course they're getting the money in advance, not after delivery. When I look at what's being called the Commercial Crew Program I fail to understand in what sense it's commercial.

WRIGHT: Do you believe that the Space Act Agreements have allowed a little more flexibility? Could you share with us what you feel the risks are using Space Act Agreements, and also the benefits?

GRIFFIN: If you're using Space Act Agreements to acquire something on behalf of the government—and again I'll return to the principle that if you don't pay until the product is delivered and you like the product, then I think that's okay. But Space Act Agreements do not allow the government to set requirements, set design standards, provide oversight, offer direction.

Space Act Agreements are not the vehicle to use, in my opinion, if the government is providing front money but allowing the companies to do whatever they want to do, and then the government has to accept the results and pay. I think that's the wrong vehicle. An awful lot depends on the chronological order of getting product and paying money. That's a key principle. If you go down the street to a car dealer to buy a car, you don't have to pay for the car until the car shows up. That's a commercial transaction.

Again, my primary concern with what's being labeled as Commercial Crew Program is that it's not commercial. We're using government funds in an alternative procurement mechanism, that in my view lacks the chain of accountability and responsibility that we normally expect when public moneys are disbursed to private contractors.

WRIGHT: Without that traditional procurement, they also didn't allow a lot of oversight, as you mentioned earlier, about the requirements being set for those products.

GRIFFIN: That's right, Space Act Agreements do not allow that kind of oversight.

WRIGHT: Were you concerned at all with the safety factors, as far as if the cargo was taken to the ISS [International Space Station]?

GRIFFIN: With regard to cargo to the ISS, no I was not concerned, because we had then and have now for the Space Station visiting vehicle requirements. Any vehicle designed to approach and dock with the Station has to meet those visiting vehicle requirements. They were developed through the international partnership, and they apply to everybody.

In the COTS program for the demonstrations of capability, one of the inherent requirements to be allowed to berth with the Station would be that any cargo vehicle developed had to meet those visiting vehicle requirements. That, in my mind, was a nice interface and a nice way to take care of the safety issues. Certainly the companies could argue with, and did argue with, any particular requirement in the visiting vehicles requirements list. And when those arguments were heard, sometimes changes were made. That's okay, that's the normal course of events. But there was a standard that everybody had to meet.

I'm oversimplifying, and I'll do it to make a point. You can buy any toaster you want, but if you plug it into the wall power to be utilized, it has to be able to work on 110 volts AC [alternating current] in the United States. If you are buying a toaster for Europe it's got to work on 240 volts. If you will, that is analogous to a visiting vehicle requirement for the Space Station in highly simplified form. The toaster that they brought had to be able to plug into the service at the Station in a known way. It's obviously much much more complex than just matching the power requirement to plug an appliance into the wall socket, but the spirit is similar.

WRIGHT: You mentioned cargo, but how did you feel about the crew?

GRIFFIN: The crew was not something we were funding early on. In our plan, there was a contractual provision which we called COTS D—meaning the D step after A, B, and C—where we could activate a crew provision at our option if we wanted to later. In our view, activating a crew provision would come only after substantial, even enormous progress had been made on cargo. You have to learn to crawl before you can walk. We set the COTS agreements up initially to allow for money to be invested in crew development. But in our plan we certainly weren't going to invest in crew development until cargo capability had been amply demonstrated.

WRIGHT: What type of cooperation or coordination did NASA have to enter into working with the FAA [Federal Aviation Administration]?

GRIFFIN: NASA didn't have to enter into any coordination with the FAA on this because the companies, being commercial companies, were launching under the provisions of the 1986 Commercial Space Launch Act, and they had to get their own licenses.

Again, I was trying to create an environment in which an arm's length transaction for commercial services could take place once they developed the capability. I wanted it to be like buying space on a United Air [Lines, Inc.] cargo flight, with the additional provision that we were providing the initial market for the cargo, and providing a small amount of investment into the companies to help them attract other private capital.

I hope that I've done a good job in trying to convey what the intent and the structure was and the rationale behind that. You started out by saying that I was the architect of the COTS program. I was, and so I was trying to explain what I was trying to do with it, and why.

WRIGHT: We appreciate that. Rebecca, do you have anything you want to ask?

HACKLER: I did jot down a couple questions. You mentioned using the model from your experience at In-Q-Tel, and I was wondering if you were also aware, when you started your term as Administrator, of other efforts. For example, a group under [former NASA Administrator Daniel S.] Goldin had studied some commercial efforts [Decadal Planning Team], and there was the Alternate Access to [Space] Station effort that was started at [NASA] Marshall [Space Flight Center, Huntsville, Alabama] in the early 2000s. Were you aware of any of those other NASA efforts to start some commercialization of space transportation services?

GRIFFIN: Of course I was, but in my view they didn't match what the requirements of the marketplace were. They were really just focused on privatizing existing government efforts, essentially taking government capabilities and turning them over to the market to operate in many cases. That can work, but that does not take full advantage of the capabilities of the marketplace. Again I'll repeat, I was trying to help stimulate developments which, when complete, could be taken advantage of by the government with an arm's length commercial transaction. I was not trying to privatize existing government capabilities, I have not seen an experience in which that works well.

I'm a conservative. I'm a supporter of the free market and deeply value what the free market can do, but it has its limitations. I also deeply value what government enterprises can do, and they have their limitations. The two don't mix well, in my opinion. The two don't mix well, and it's best to understand where a government enterprise is most useful and where a private enterprise is most useful, and then let them interact through—again—what in the marketplace are called arm's length transactions.

HACKLER: You talked about your relationship with Scott "Doc" Horowitz. He was the Selection Authority for the first selection with Rocketplane Kistler and SpaceX when they were awarded Space Act Agreements. Was he the primary person responsible for that selection? Did you also have some influence, or was it run by you for approval?

GRIFFIN: Doc was the selecting official. He, to my recollection, just told me who he was selecting. The Administrator is almost never the source selection official for any acquisition activity at NASA. The Secretary of Defense is not the source selection official for a defense program. I did not expect to be the source selection official for the COTS winners or for anything else we were doing.

Nonetheless, the head of the Agency is ultimately responsible for the decisions made by everyone under them. For larger procurements, it's customary for the selecting official to say something like, "Unless you object, I'm going to pick these two, or this one." The head of the Agency always has the option to say for whatever reason, "I don't believe that's a good procurement decision and I think we ought to take another look at it." You always have that option. You are, in the end, the head of the Agency.

I never did that. I never had a source selection result presented to me that I disagreed with. I always thought that the source selecting officials had done a good job. When they would tell me what their answer was, I'd say okay, and that was the way it was in this case. I didn't have any input that I can recall on who were the winners.

Now that you've asked, I was a bit surprised that some of the existing primes, meaning the larger companies like Boeing, Lockheed [Martin], Northrop [Grumman Corp.], did not see the handwriting on the wall that there would be in the future some commercial space enterprises. Although they were prime contractors, they were not investing on a commercial basis. They were the larger companies that had all the muscle mass if you will. They were all the trained athletes on the field, and they really did not choose to invest in significant ways that would render their proposals competitive, and so they didn't get selected.

That was their decision, that was not NASA's decision. If you don't make a good offer, you're not going to get selected. But I was a little surprised that they did not choose to, because a large existing firm could always decide at any point to invest, and just undercut even the best entrepreneurial firm. The entrepreneurial firms can exist only if the larger established contractors create a niche for them.

By deliberately not choosing to invest, and not choosing to underbid and make the government a good offer, the large primes took themselves out of the COTS competition. I was a little surprised by that, but just from a business strategy point of view. If I'd been running Boeing or Lockheed or Northrop, I would not have done that. I would not have allowed a fledgling competitor to invade my space.

HACKLER: That's a really interesting point, because one of the things the COTS team talked to us about is how they worked with a venture capitalist, and one of the books that they read was *The Innovator's Dilemma* [by Clayton M. Christensen] that talks about how smaller companies can invade larger markets.

GRIFFIN: Right, and a primary way that happens is when larger existing markets just choose to ignore the threat of newer, smaller, more nimble companies. I think that's part of what happened here.

HACKLER: We heard from some people in the COTS office that one of their goals was to provide smaller startup companies a chance to compete in government procurements. Was that part of your original plan as well?

GRIFFIN: Sure, but a chance to compete is not a guarantee of a win. I was expressing surprise. The way we postured the COTS competition, anyone could play. Smaller companies, bigger companies. I was merely making an observation that if you're a bigger company with all of these resources, then this is yours to lose. You could walk in with a bid for \$10 and invest all the rest of it yourself, and you could walk away with a win. If you're a bigger company with that level of resources, it's your choice as to whether you're going to win or not.

If you're an entrepreneurial firm, you've got a lot harder hill to climb. You've got to go out and raise the money. You've got to demonstrate a business plan that makes sense, that you can raise the money. You've got to convince the government team that you can assemble a technical team to do all that. If you're a larger company, you've already got that in the bag. It's

your choice as to whether you're going to invest in a way to make your proposal attractive or not. The entrepreneurial companies didn't have a choice, they had a requirement.

HACKLER: The last question I had was similar to the selection. Did you have any role in the final termination of the Space Act Agreement with RpK [Rocketplane Kistler]? Or was that another case where you were more or less informed?

GRIFFIN: No, they just told me what they were doing. If you hire good people and you delegate jobs to them, then unless they come and say, "I need help," it's best not to micromanage how they do their job. Doc repeatedly informed me that RocketplaneKistler wasn't making milestones and that if they kept going in that fashion, he was going to have to terminate them. My response was "Okay, then terminate them and take the money. We'll use it to do another competition and we'll select another company."

HACKLER: Thank you very much. That was all for my side of things.

WRIGHT: We don't want to take up all your morning. Do you have any more thoughts that you want to offer at this point, or any other recollections of that time period?

GRIFFIN: No, I'm just trying to respond to your questions. If you've got more, I'll answer them.

WRIGHT: I think part of what we wanted to definitely get in your words was your thoughts of when you started this effort.

GRIFFIN: I walked into the Agency with this as one of my goals. As you said, I wrote them down. I presented them in my confirmation hearing on the 12th of April [2005]. I announced what my goals were in my confirmation hearing. I would have been foolish to announce goals that I had not previously cleared with the Bush administration. That would be silly.

I worked for the President; I would not be allowed to have goals of which the President didn't approve, so I had vetted these statements first with the executive office of the President, meaning OSTP [Office of Science and Technology Policy] and OMB [Office of Management and Budget] and the National Security Council. I had pre-vetted the half-dozen goals that I had with the administration. They were fine with them, and so I announced them at my confirmation hearing. When I got to the Agency, I set to work on those goals. Not just COTS, all the others as well.

WRIGHT: It was almost as if this was under the radar at the time.

GRIFFIN: It was under the radar at the time because if you'll recall—I don't like to put it this way, but I need to say it in a way that would grab your attention. The last time we had launched the Space Shuttle we had killed seven people [STS-107 *Columbia* accident]. As an Agency we had made technical mistakes and management mistakes. We hadn't come close to recovering from those. We launched again three months after I took office, and narrowly missed another issue when we lost a big piece of foam. I grounded the fleet, and it was a year after that before we launched again. By then we really understood it.

At the time that I came on board we were fighting to save a Space Station that didn't have good resupply, and we were fighting to get the Shuttle back flying again safely, with an understanding of what it took to fly safely. I would say yes, the COTS program was under the radar. It wasn't even the focus of my attention. My attention was on Shuttle and Station and Constellation [Ares rocket and Orion Crew Exploration Vehicle] and getting the government space program going again.

WRIGHT: That's why I think there's such interest in the fact that it made it through. With everything else that was going on, it managed to keep moving forward.

GRIFFIN: Of course the budget permission has to come from the Bush administration, and then Congress has to approve. The old saying in Washington [DC] is the president proposes and the Congress disposes. I needed White House approval, and I needed Congressional approval. But I tried to explain the plan logically, and I wasn't asking for a lot of money for it. I don't believe that I ever spoke with anyone in a position of authority over me who disapproved. My recollection is that everybody I talked to said, "Great idea."

WRIGHT: We'll see how it's all going to come out.

GRIFFIN: Yes. Again, I have to emphasize what is being done today is not what I would have done. I believe that what is being done today is, from a policy point of view, heading in the wrong direction. But time will tell. I'm adding that as a comment. You've asked me to come in here and explain how and why I started it and what the initial plan was, and I've tried to do that.

I do have to emphasize that the plan they're on today is not the plan I put in place. And that's ok; they're responsible for their own plan. It's just that's not my plan.

WRIGHT: Thank you, we're glad you clarified that. We really appreciate you stopping in this morning and sharing that.

GRIFFIN: You're welcome.

[End of interview]