

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

GEORGE D. FRENCH
INTERVIEWED BY REBECCA HACKLER
GREEN BAY, WISCONSIN – 1 MAY 2013

[This oral history with George D. French was conducted via telephone from Houston, Texas to Green Bay, Wisconsin.]

HACKLER: Today is May 1, 2013. This telephone interview for the NASA Commercial Crew & Cargo Program Office History Project is being conducted with George French, who is in Green Bay, Wisconsin. The interviewer is Rebecca Hackler, assisted by Rebecca Wright, who are in Houston, Texas at the Johnson Space Center History Office.

First of all, thank you very much for agreeing to talk with us for this project. We'd like to begin just by asking you to briefly share a little about your background and how you became involved with what was at the time Rocketplane Limited [Inc.], as we understand.

FRENCH: The history is pretty deep. My name is George French. I'm in Green Bay, Wisconsin. I have a liberal arts background, so abstract thinking comes somewhat easily to me. I was a businessman, and I had done very well. I had always had an interest in space. I had identified, organized, and helped set up the Sheboygan Spaceport in Wisconsin, which is located on Lake Michigan. Off the coast of Lake Michigan is a military restricted area, and so we would fire our suborbital rockets and they'd go up to 34 or 35 miles into that military range. That was kind of fun.

Because I had the interest, I invested in aerospace companies. Did fairly well, much better than the market, and invested some money in a startup called Pioneer Rocketplane. Pioneer was a suborbital [spaceplane company] in the commercial market. I then forced them to buy me out of that corporation because they didn't have very good management. They were refusing to do things that were a normal course of business, and you just cannot be successful at that, so I forced them to buy me out. Sure enough, a couple of years later, they went into the financial abyss, and I picked up a controlling interest of it at a good price.

At that time, there were two prizes on the commercial space market. One was the [Ansari] X Prize, which was to carry a defined weight to 60 kilometers, and then do it again in a two-week period. That was a \$10 million prize. The state of Oklahoma had the O Prize, which was a \$25 million prize over five years, and that was to build the best business plan and be the anchor tenant of the Oklahoma Spaceport. Burt [Elbert L.] Rutan was the builder of the successful X Prize vehicle [SpaceShipOne], and we won the O Prize. They spent \$30 million and they won \$10 million. We spent maybe half a million, and we won \$12.5 million in present value. Ours was that kind of business plan.

There were a lot of requirements attached to the money we won. We went about making sure that we were going to meet all those obligations, and we did. However, it also became clear that we didn't have enough money. We knew we didn't, but we thought if we could get it going we would attract some investors.

In the middle of that process I was contacted by NASA who said that they were looking at a commercial program to go to [International] Space Station. We studied it, and we told them that we would come down there and talk to them when they had their industry day. It was a pre-

bid day when everybody could come down and talk to other bidders and NASA officials at NASA. Everybody did show up. There were about 50 teams and individuals that showed up.

We attempted to talk to some big boys, because we could probably do a second stage. That was not too far away from what we were doing, but we could not find a first stage partner or a total launch system to work with, and we didn't get very far with the commercial companies that were there, because they considered us competition or were just too expensive. If you're going to use a traditional launch provider, you should probably lead the project instead of them being the lead. We told NASA we thought they had a great idea, that they were on the right path, they should be doing commercial space, and thanked them and walked away.

I walked into the Holiday Inn [hotel] bar and met Petter Kleppan. Petter Kleppan was a financial guy from California, and we had a drink together and he said, "George, you should buy Kistler. You're the right guy at the right place at the right time to buy Kistler." And I said, "Kistler?" I had actually been one of the early investors in Kistler.

HACKLER: Really?

FRENCH: Yes. I think I was one of the first in the first public round. Kistler, when it went through the '90s, had a very nice little internal market of shareholders, and they bought and sold stock back and forth. I sold some of my stock to pay for my principal, and then I had a nice number of shares that I was sitting on. But then Kistler went bankrupt, and what stock I had lost value.

After the COTS meeting, I was able to think about my discussion with Kleppan. At that time, a New York [City, New York] hedge fund, Bay Harbour [Management], was the owner of

Kistler. They had just recently brought it out of bankruptcy and put it on the shelf. They had no interest in bidding COTS. I knew a good deal about Kistler. Kistler was a reusable launch vehicle and had a second stage that could dock with Space Station.

It was designed by George [E.] Mueller, who designed the [Space] Shuttle. He was the NASA architect and had done a superb job. After he retired, he designed Kistler with an engineering team made up of mostly former NASA people. Kistler raised about \$600 million over the course of time and started manufacturing. They had passed CDR [Critical Design Review] and were into the manufacturing process. It was partially built. The hedge fund looks at money very closely, and they are willing to take a loss if it saves them money in the long run. They were not willing to go forward with it.

The deadline to bid COTS was coming up, and there were only about six weeks left. I started to amass a team in our Oklahoma office and put a business plan together, and hired a company that would help us draft a NASA proposal. I had done small NASA proposals but not a big one, and this was a big one.

I entered into negotiations with Bay Harbour to buy Kistler. I finally closed the purchase agreement for Kistler after I had fully filled out my employment team and our proposal. I think we closed Kistler about 10 days before the proposal was due. If I hadn't closed that in three more days we would have withdrawn and it would have cost me a fortune. I was surprised we were the only buyer for Kistler. Bay Harbour would not want to walk away from the amount of money I was giving them. I had to give them a reasonable amount of money from an investor point of view because we were going to have to absorb another million dollars for the proposal. Bay Harbour kept some stock and we went forward together. We were going to have to continue

on in the process of selection, which means I would have to carry a payroll through the bid process.

We did follow through, and we won one of the two contracts. However, all of the teams in the downselect round were bigger than we were. We had the best architecture and the best design. We had the best product. We were already partially in manufacture, and there was nobody who was as far along as Kistler was.

I never did understand why one of the big boys didn't buy Kistler themselves and win this contract. I did several risk assessments, and the thought that I'd missed something was with me all the time. "Why isn't someone who really knows this industry doing this?" We won the proposal. We had a certain amount of money because I basically bet the ranch on this, and we went forward. Does that answer your question?

HACKLER: Yes, that's really great to have all that detail. Can you talk a little bit more about the process of the competition and what sort of evaluations NASA undertook with the company to determine the winner of the COTS competition?

FRENCH: I think they did it the right way. They made it commercial. It was an intense and demanding competition. NASA had put a COTS team together, full of young savvy engineers, and they gave them latitude. It was a brilliant team. It was run by [Alan J.] Lindenmoyer. He was a real sharp guy and an excellent manager. He put the team together, and they did this proposal in an exceptionally fair manner. Not all the proposals coming out of NASA are judged in that manner. They scrubbed everybody significantly, and they had 22 bid teams applying for the award.

I thought we had the best engineering. Kistler had the veteran engineering team and we had the young engineers and business team. We were already in the manufacturing stage, so we had a certain advantage. Our disadvantage was we were not a financially mature aerospace company. A lot of people teamed with big companies, but some didn't. One of these companies was Elon Musk [Space Exploration Technologies Corp. (SpaceX)], who had just sold PayPal [Inc., online money transfer service] and he was flush with several hundred million dollars.

I think we won it because the peer review engineering team decided that we were without question the best proposal in terms of being able to do *something fast*, and we thought after full funding (at a certain point) we were two years away from Space Station. That was in the middle of '07, and we were looking at starting service in early '10. However, we had two financial milestones. The first was a \$40 million financial milestone, and that one we knocked down. We were able to raise \$40 million. Then we knocked down a number of technical milestones. We hit all our technical milestones. We received payments as we knocked down those milestones from NASA.

Our second financial milestone was to raise \$120 million on Wall Street [New York City, New York financial district]. We went to Wall Street in late 2006 through early 2007. Wall Street liked our proposal, there was a great amount of interest in it. Our proposal itself contained letters of interest from five large investment banks wanting to be our banker. We selected Jeffries Quarterdeck [LLC] and went forward. We also found a lead bank. It was a Canadian bank that was willing to raise more than we needed for the \$120 million milestone [MacDonald, Dettwiler, and Associates]. Our investment bank told us they could raise it all in one round.

The way Wall Street works is that you try to raise all the money at once because no one wants to get in halfway and then find out that they can't finish money on the program. The bank

wanted to raise all \$500 million at once to finish our total raise. It was a good time for the capital markets, and everyone was sure we could raise all \$500 million. We didn't have to do it, and in retrospect, we shouldn't have done it, but the banks convinced us that we needed to do that. We talked to NASA about it, and they said fine. We raised \$300 million, and we had \$150 million on the table.

In late July of '07, when subprime [mortgage crisis] was announced, within 24 hours, every bank and hedge fund and venture capital firm in New York realized—a significant number of them were investing in subprimes—it was going to be a trillion dollar disaster. Never in my risk assessments did I put on my plate that the hedge funds (and all the banks in the world) that were demanding a 15 percent return from us were investing in packaged home mortgage loans to the tune of billions of dollars.

Every financial institution in New York and around the world stopped. I mean, every market collapsed within six months, because it was about a \$30 or \$40 trillion dollar disaster. We went from talking to seven hedge funds on Tuesday to talking to nobody on Thursday. Within two weeks, we lost our \$300 million, and after that, NASA cancelled us because we failed to meet our financial milestone.

HACKLER: Can you share with us how NASA and the COTS team were involved in trying to raise that financial capital?

FRENCH: None of the other companies had financial milestones. No one else could have raised this amount of money. No one has since. We were the first to attempt to raise \$500 million. Nobody had ever raised this kind of money for this kind of an event except Kistler. Normally

the aerospace companies bid on NASA projects, and they got paid by NASA. That's how the whole aerospace industry moves forward, on NASA's back. Our path was to go out to the commercial market. Kistler had done this privately once before and was successful. They just got caught in an international financial disaster and banking speculation.

Kistler had been caught in the collapse of the satellite market in the 2000s, around 2002 to 2004 I think. It was always intended to be a commercial flight vehicle not depending on NASA. George Mueller understood, and there were engineers in the mid-2000s that understood there was going to be a problem when the Shuttle retired. NASA went out to find out who could demonstrate docking with Space Station, and Kistler won a \$235 million contract at the time to do that. That was around 2004.

NASA was then sued by Elon Musk at SpaceX, who said it was a sole source, and not an open contract, and therefore not legal. The venture capital firm Bay Harbour had not brought Kistler out of bankruptcy at that point. The decision was made by NASA that they had to withdraw that award, which was peer reviewed. They withdrew it. That happened around 2004. Had this not happened Kistler would be servicing Space Station monthly today. COTS was then created and the project was rebid. The rebid took about a year and a half, and the venture capital firm just got tired of the overhead with no potential income. That's when I had stepped in.

I think that COTS did everything pretty much right. The COTS process was a Space Act Agreement. They had rules that they could not give you a Space Station contract until you docked with Space Station [demonstration mission]. After we collapsed and the market collapsed, no one else raised any kind of money to speak of. At this point NASA changed the rules and issued billion dollar contracts to both Space X and Orbital Sciences [Corp.]. Had we

had these contracts in early 2007 we would have raised \$500 million two months sooner and would have been servicing station in 2010.

On Wall Street, the keys that we didn't have—and we probably could have closed quicker on the money—was we did not have a contract from NASA. Wall Street was afraid of NASA commitment and two year budgets. Congress and NASA could change their minds even if we built it and docked successfully. If they changed the funding sources, you wouldn't get a contract. We were not as concerned with that because we felt confident that we were going to be the first ones there. We were going to be on schedule, so we weren't as worried. Wall Street was, but we weren't. No one else was successful at raising any significant amount of money except Musk, who had pledged a certain amount of his own personal money, but even he could not raise \$500 million.

HACKLER: Can I ask, after the termination, did Rocketplane Kistler attempt to contest that in any way?

FRENCH: Yes, we did. As we were going to Wall Street, we were continuing with our business plan, which meant knocking down milestones. We had not given up. We did not know at the time the economic impact would continue another five years. We continued to work on our milestones; we spent all of our funds on those milestones. We had about a \$20 million [milestone] that was 30 days away, and so we asked NASA—we were still on schedule and we'd spent this—can we finish off the 30-day contract, get paid, and then we'll put Kistler on the shelf. They were not willing to do that, so we were forced to contest it.

HACKLER: Can you talk about how that proceeded?

FRENCH: The Space Act Agreement does not allow us very much latitude. We attempted to negotiate with NASA to have some kind of a severance so that we could put everything to bed properly, have it ready for a warm restart when needed. We felt that somewhere down the line, NASA would want to bring us out, and we would be a good insurance policy, sitting on the shelf, for people who would raise payload, launch, and return prices. Now that we are gone, both Orbital and SpaceX's prices are way above ours.

I think that when we were on contract, we were doing up- and downmass for \$67 million, and I think SpaceX is over \$100 million now for up- and another \$50 million downmass payments. Downmass is actually getting a significant amount per pound than upmass right now. Kistler was the least expensive option. \$76 million for up and down mass. Orbital, the successor to us, is getting about \$220 million per flight. So without us as a credible threat sitting on the shelf, the prices for up and down have doubled.

HACKLER: We don't want to take up too much of your time this afternoon. The last question that I have for today is what happened to the company and all the technology that had been so well developed?

FRENCH: Space Act Agreements do not have a normal FAR [Federal Acquisition Regulations] credibility and exit strategies for getting your bills paid for to a degree. We had a weak position probably going in. We just felt that someone would see the value of putting us on the shelf.

NASA then evicted us from [NASA] Michoud [Assembly Facility, New Orleans, Louisiana], and we spent what little money we had left attempting to salvage all the parts of it and take them to a warehouse in Louisiana. We could not move everything because some pieces of the manufactured tanks couldn't be moved in any other way than shipping, and that cost was prohibitive at the time. We moved everything else out of NASA. We hired crews from Wisconsin, and we took everything that we could and put it in warehouses. Even though we had reduced our carrying cost by 90 percent, it was still too expensive long term with no revenue. NASA has since allowed us to keep the tanks at Michoud. We still intend to restart there and use them.

HACKLER: Do you know if those pieces are still in storage?

FRENCH: Yes, prototype flight hardware first and second stage fuel tanks, rings and domes. We had to sell off some pieces. We had to scrap some of it when we moved because we couldn't put that much in storage. We now have everything in Green Bay, with the exception of two warehouses in California, and have 14 patents, the intellectual property, flight hardware, the tanks, the rings, and some other things. We had to let go of most of the manufacturing tooling. Over the last five years, it's been a constant downsizing and reduction of expenses and bankruptcy.

We then worked our way through it to bring Kistler out of bankruptcy. We purchased the patents and the intellectual property and the assets at auction. So we have salvaged it, not in a perfect form, but all the core value is still intact. We've already developed a new business plan. We are in the process of putting our contracting team back together, *finding business*, and then

moving forward again. In five years, we've only lost two. SpaceX and Orbital Sciences are now ahead of us, but we are still in play. Prices are still high for NASA so there is still an opportunity.

HACKLER: Before we close today's session, I wanted to see if Rebecca Wright had any follow-up questions she'd like to ask.

WRIGHT: Just a quick one, Mr. French. Because you've been in business for so long, what are your thoughts about the COTS program as a whole, and how the methodology can work—or does it work—for the future of aerospace?

FRENCH: COTS was one of NASA's best programs, *ever*. The concept, the management, and the execution were all excellent. My only wish is that they could have been given more control, they deserved that. Again, the big difference, and everybody talked about this with COTS—*there were no guaranteed contracts*. You had to dock first. The big change we drove was a change in that procedure. Now NASA is giving contracts and funding years in advance for them. That was the big deal closer, that we didn't have on Wall Street, that Orbital and SpaceX have now. They were issued billion-dollar contracts. If we had a contract, we would have raised our money quicker and the rest would be history.

I thought then, and I think now, that COTS had the right team. It had the right concept, with the exception of the contracts, and they corrected that later. It was too late for us. We were down by then, but everything done by the COTS team and the COTS process has accelerated space.

WRIGHT: Thank you. We certainly wish you the best of luck in all your new endeavors.

HACKLER: Thank you very much for sharing your perspective with us.

FRENCH: You're welcome.

[End of interview]