

**Telephone Conversation with**

**Joanne Morgan**

**By**

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Dr. Butler: As I told you earlier we're working on the payload ground operations contract which was the third of the three consolidation contracts. And I wanted to talk to you a little bit about it and we'll site this as a phone conversation.

Ms. Morgan: OK.

Dr. Butler: Now you were chairman of the source evaluation board for it

Ms. Morgan: Yes I was. Hm, hm.

Dr. Butler: To what extent were the procedures for handling this contract based upon the procedures that had been developed for the Base Operations Contract [BOC] and the Shuttle Processing Contract [SPC]?

Ms. Morgan: Well the general form of the source evaluation board was quite similar to the BOC the base ops contract. It was envisioned as a consolidation—not as big, the Base Operations Contract was consolidating 17 the work of 17 different companies into a single procurement to be given to one company and I mean which could be a conglomerate or group of companies but it turned out one company won. But it was envisioned from a procurement perspective and from a very similar procurement. It was somewhat different from the consolidation of the Shuttle Processing Contract because of the design and manufacturing element was envisioned somewhat differently and that's because the shuttle processing contract, the hardware, the shuttle hardware itself resided at Kennedy and got turned around and processed at KSC. For the Payload contract the flight hardware was brought from other Centers like Goddard and Jet Propulsion Lab and even other countries like some of the Space Lab equipment. Not all of it is going to be included in terms of turnaround and process because some of the flight hardware would go back to the owner, some of it would go into space and you would never see it again,

like the Hubble Telescope, and so the context was a little bit different. It was a real easy focus in the Shuttle processing contract because you have the orbiters and the ground support equipment for those so all of that could be bunched together. The payload ground operations contract had a lot of subtleties it had to have the flexibility to ... the payload customer might need and sometimes they would even change their minds in the process of the campaign getting ready for a flight. Instead of taking the hardware home they might want to leave it in Florida with the Payload contractor and vice versa. So the contract had to be handled with a lot more subtleties and a lot more flexibility built in to that particular contract. The other thing that was a big impact was the fact that the period that the draft was going to go out for industry review. In fact the date before the contract was to go out the Challenger disaster occurred. And that just, you know, it put everything on hold for several weeks and my guidance that I got from the Kennedy space center as the source evaluation board chair was "you need to be in a position as soon as we know what needs to be adapted and changed in the contract to push on through to try and get approval to award a contract because we don't know what's ahead of us or what we'll have to fly and when. But we have to be ready now, not only for what comes up in the schedule but all of the backlog of the people that are having to wait while the shuttle goes through the accident investigation. And so that dramatically impacted my schedule and I however we had we did a lot of work to build even more flexibility into that contract and presented it to the new administrator who came in, Dr. Fletcher. And it was his first big contract to review after the challenger disaster so it, first on his return into NASA, so that put a few wrinkles in terms of people in the procurement and the legal community, you know, wanting every 'i' dotted and every 't' crossed and every issue

addressed and that was a big challenge to the source board and to the board chairman to work through all of that mess in those months between the accident in January and the August time frame when we first took the procurement to Washington recommending that we go ahead and award a contract by the end of the year. And luckily we did it right and it got approved and the contract was awarded and the contractor came on board the first of January.

Dr. Butler: John Conway, who took over as head of Cargo Operations in 1985 indicated that when he came on to that position that they were having a lot of problems, that the customers were not particularly happy with the way that cargo was being handled.

Ms. Morgan: Oh, the customers were irate with Lockheed and the whole shuttle community. The entire community was not perceived as being friendly to the customers and the shuttle processing contractor was so focused on meeting schedules and getting the flight hardware ready for launch that the niceties and everything got lost along the way. So there was a lot of input from customers in terms of what they would like to see in terms of support for them. And it was quite varied. I mean a big customer like Hubble Telescope would have, I mean they required buildings to be built and massive employee education program to ensure that everybody understood how to keep the Hubble clean while it was in Florida. And then you had the Space laboratories with all these experiments in them and then you had the communications satellites and everybody had these different sets of requirements. So that was a huge challenge and the shuttle processing contractor was set up more so that you could stamp it out and this wasn't a program that you could stamp it out and have it be the same every time. In fact it was

never going to be the same. I still see that as a huge challenge in how its impacting today is the desire to have it be the same mission every time in order to reduce the risk and keep it more simple and allow the training for the astronauts to be robust in terms of all the possibilities. It definitely is still a huge issue within the agency of making sure that you have that standardized reliability out of the shuttle processes. So, yeah, I totally agree with what John said. There were a number of issues. And in fact they had attempted to do the Cargo contract first before they did the BOC and the Shuttle Processing Contract and it failed as a concept because they attempted it as an intercenter agency like contract and the particular group that was working it could never get an agreement on the requirements for the contract. And that has to be nailed down and bought in by your customers as well as by industry as well as approved by your NASA procurement authority. And so that whole procurement got set aside and just abandoned and so they said lets try something similar and they started with the BOC. I know because I was on that source board too as a voting member. I know they picked it because it was involving everything from roads to commodes and you know it was all the basics of running a base and that was a definable set of requirements. And didn't have some of the issues that you didn't have to address with a standardized shuttle processing contract and then with a customized payload ground operations contract that would meet any and every customers needs. So I don't know if I've answered that.

Dr. Butler: Well I guess I would like to answer a little more specifically to what extent did the Source Evaluation Board address customer driven issues in their evaluation of the contract proposals?

Ms. Morgan: Well it was a significant part of the process in looking for how flexibility was built in. At that time the two big bidders were Boeing and McDonnell Douglas. And in this case McDonnell Douglas definitely presented a proposal that indicated a lot more awareness, and of course by this time McDonnell Douglas had been a builder of payloads, and they built the Mercury capsule and they had been very involved with the Europeans in the building of the space laboratories and they had extensive experience. And Boeing was new to the spacecraft side of things and they had not the depth of experience and it did show in their proposals that McDonnell Douglas, who won the contract, had a greater awareness of customers needs and the variety of those needs. In particular, one of the things that I recall is that McDonnell Douglas proposal even offered a training program to make sure that their engineers and technicians understood how to deal with these varying requirements and that flexibility would be built into the payload teams that would come in from outside the center.

In fact that was put to the test in the return to flight period and you know because we didn't launch for two and a half years and so for that first year and a half of the contract they had to do some of that adapting. It was very evident when we had a series of both satellites that the military had scheduled to be launched, as well as NASA communications satellites as well as planetary missions all of, all three types require an interim upper stage to give you an upper boost.

Dr. Butler: And of course those had to be revised because you were going to use the Centaur and that had just been cancelled.

Ms. Morgan: Disappeared right. And so one of the real big tests of this new contract when we, the air force had the contract to build the new interim upper stage.

And they only had contracted for three a year and we faced a year where we needed seven, seven interim upper stages for all of the schedule ahead of us. And that was because they had to be integrated with the TDRS satellite, with DOD satellites and with planetary satellites. So, like Ulysses, a planetary spacecraft and so McDonnell Douglas actually, when it became evident to all of us and the program manager, the shuttle program manager at that time was Leonard Nicholson in Houston, and he and I talked about this and he said if we can't get the upper stages we do know that the Department of Defense will take priority so that the three that are on contract will go to them and we won't be able to launch any of the satellites that we have and your people will be doing nothing down there because they won't be assembling these payloads and preparing and testing them for launch. And so we sat down with the contractors, with McDonnell Douglas who had won that contract and we said ok, here's the deal. And they said we'll send our people to help assemble and test IUSs then. If we could do that. So they made that offer and they did that without government intervention. They sought our approval to go to Boeing and work with Boeing and send their technicians over and they did this and their technicians were sort of like temporarily assigned to Boeing and the quality people that went with them. They worked to the Boeing paper system, their procedures, and they got the IUSs ready that we needed. And then they moved back over to the, they did that over at Cape Canaveral in the Boeing facilities and then they moved back (end of tape).

They felt like in the long run the intent of this contract with its flexibility really was proven out in the return to flight period. For about five years we had a backlog of stuff that had been stacked up for two and a half years after this challenger accident and

we were able to just get right in there and have the contractor go work all the different aspects that needed to be worked and show that that flexibility number one that it was needed then and number two that it was essential that the contract had addressed that. And so as a source board chairman, even though I had moved on to be director of payload projects and I wasn't, you know, managing the processing line of business, I was real pleased that all of that worked out in that first year and a half the contractor had really grasped the need and demonstrated that they could provide the services that were needed.

Dr. Butler: Are there any other issues that you can think of that we really ought to address in terms of the payload ground operations contract.

Ms. Morgan: Well I think there are a couple of other things. Of course it was the longest running contract that we ever had. I believe the record shows that it went for fifteen years with extensions. You might just validate that with Mr. Hattaway, the associate director down there. I think he was the procurement officer that told me that one time. I certainly observed near the end of the contract, the process of going to and from the space station had really focused the shuttle processing contractor USA on a lot less work on the payload bay and flexibility for customers and that did create some issues with working with the payload grounds ops contractor, not in terms of people or anything, but just that there were so many, such a narrow set of missions, because going to and from the space station is not like launching a different set of satellites every mission. The schedule is reduced of course. Instead of flying seven to twelve missions a year they were flying four or five at most. And so at the end of the life of the contract, you know the people that fifteen years earlier would have said why don't we just let the processing contractor do this, legitimately could have revisited that argument. And that

now after the Columbia accident with the decision the agency has made not to do any other missions like repair Hubble and things like that and that the shuttle's only going to be used for going to and from space station then the concept of a payload ground ops contract is quite a different story and a different set of needs. It's not the flexibility; it's not some of the things that were designed into it. It served the center well but now maybe something totally different is what's needed.

Dr. Butler: Very good

Ms. Morgan: It's just an observation that I'm making standing back looking at it.

Hm. Hm. Well that's an observation we might want to utilize in our final chapter.

Ms. Morgan: Hm hm. It wouldn't have worked ten years ago, fifteen years ago when we had that huge backlog and that huge demand. It would have been, I think the Shuttle processing contractor would have failed because it would have diluted their focus on processing and meeting schedule. And they needed to be focused on meeting very tightly focused and it would have had them spread way out so thin, I think that they would have, you know, maybe probably failed and maybe failed with more than one disaster of a variety of kinds. It could have impacted safety and a lot of things. At the time that it was done it really did the agency and space exploration a lot of good because of the intensity of that time period. I mean you can look at the launch schedule for that time period; it's the most intense period of manned space flight since Mercury, Gemini and the early part of Apollo.

Dr. Butler: Ok, now this would be the five years following return to flight?

Ms. Morgan: Yeah

Dr. Butler: Ok

Ms. Morgan: Yeah that's pretty, you know like five to seven years and then when we got into station, you know, the slow down with station, the number of variety of issues that occurred there. You can look at that period, the planetary, the entire TDRS constellation got put in place, the planetary missions were launched, the space laboratories, Spacelab j for Japan, the two for Germany and one for the brain. A whole mission focused on human and understanding the brain, I mean a whole Spacelab mission. That was an awesome mission in terms of new data being created from all of these. Of course the launch of the Hubble and the great observatories too. I just think it was an incredibly productive time for science and I'm not sure a lot of people recognize that. You know that return had all that backlog and it had to get worked off and it did get worked off.

Dr. Butler: Very good. Well you certainly have added a lot to my understanding. I think I can now go back and rework that section and make more sense of it than I did my first time through.