

INTERVIEW OF  
JOSEPH NELSON  
AUGUST 2, 2003  
KENNEDY SPACE CENTER  
BY  
DR. ORVILLE BUTLER

(PLEASE NOTE THAT THIS INTERVIEW WAS VERY DIFFICULT TO UNDERSTAND – THERE WAS A LOT OF LOUD BACKGROUND NOISE, LIKE IT TOOK PLACE OUTSIDE AND CARS WERE GOING BY EVERY 30 SECONDS – BUT MORE SPECIFICALLY, I THINK THERE MAY HAVE BEEN SOME TYPE OF MEDICAL MACHINE RUNNING IN THE ROOM, NEAR THE MICROPHONE. A LOT WAS LOST DURING THE TYPING PROCESS BECAUSE THE NOISE OVERPOWERED MR. NELSON'S RESPONSES. MY APOLOGIES FOR NOT BEING ABLE TO TRANSCRIBE MORE ACCURATELY.)

**August 2, 2003**

DR. ORVILLE BUTLER: I'm Dr. Orville Butler and we're in Titusville at the home of Joe Nelson, and we're going to be talking to him today about his experiences working at the Kennedy Space Center.

(Thereupon a conversation took place with someone other than Mr. Nelson, and that person was too far away from the microphone to transcribe the conversation – the conversation had something to do with fishing)

DR. ORVILLE BUTLER: I guess what I'd like you to begin with, is telling us a little bit about your background and where you grew up, your education and how it was you came to work at Kennedy.

MR. JOE NELSON: Okay, I'm from South Carolina and I went straight from high school to Georgia Tech for three (3) years, and then I went in the service for three (3) years and I didn't finish at Georgia Tech. I came back to South Carolina and I went to the University of South Carolina to get my degree in electrical engineering. That took me about two (2) years. Then I got involved with the Corp. of Engineers and Savannah, Georgia. (Inaudible sentence). From there, I went with TVA

in Knoxville, Tennessee and I.... (inaudible) I worked there two (2) months. The year that I worked in (inaudible) the Naval Air Station in Jacksonville.

After I left TWA, or TVA, I went to work for a private engineering firm in Augusta, Georgia by the name of (inaudible) and Zimmerman, was the firm. We were to secure facilities for the, I guess it was called engineers for the government. Anyway, from there, I went back down to Jacksonville with the Navy Department. Most of my work to NASA was design of facilities. (Telephone rings)

In Jacksonville, Florida I worked for the Department of the Navy and that's when I got involved with NASA.

DR. ORVILLE BUTLER: Okay.

MR. JOE NELSON: Then I got in design, facilities design, out there.

DR. ORVILLE BUTLER: And this is about the time their building the Merritt Island facility?

MR. JOE NELSON: Yes, it is. Right before, when they started building the Merritt Island facility.

DR. ORVILLE BUTLER: About what year was that?

MR. JOE NELSON: That was '54. No, no, it was '63. I was over at Pensacola and they had the Navy Air training command over there and we maintained the facility at various locations and we maintained those in (inaudible). I went from Pensacola to here and went to work for launch operations, which was the

(inaudible) and we actually worked the (inaudible). I went into design engineering and I worked in the Headquarters building and we... (inaudible).

DR. ORVILLE BUTLER:     ONC?

MR. JOE NELSON:            ONC building. Then we worked at headquarters and the ONC building and then we moved to out in the boonies, north of the facility, and we found a pile of construction from the VAB and we were there (inaudible). We had a contractor and (inaudible).

DR. ORVILLE BUTLER:     This time you were working directly for NASA, you were at different quarters?

MR. JOE NELSON:            Yeah. I was out there 40 years. So we were there when they activated the VAB (inaudible), elevators, cranes.

DR. ORVILLE BUTLER:     Did you do any work with Colonel Sheller, Colonel Don Sheller (phonetic)?

MR. JOE NELSON:            Name's familiar but, no, I don't think I did.

DR. ORVILLE BUTLER:     He was the big wig in charge of site activation.

MR. JOE NELSON:            Oh, okay. It's been a long time and the name Sheller doesn't (inaudible) at all.

DR. ORVILLE BUTLER:     Who was your supervisor at this time? Who was the person you reported to?

MR. JOE NELSON:            I reported to, when we were in the ticket pond, which was the outfit we called the house. (inaudible) I was in there. My supervisor was Bill Crand (phonetic). He, I don't know, for about three (3) for four (4)

years. But anyway we activated that and I worked with the (inaudible) board when they were activating that.

DR. ORVILLE BUTLER: Do you remember any of the problems they had with the crawler transporter?

MR. JOE NELSON: I remember, well, it's slow. You could only go about three (3) miles an hour. When it was empty you could go a little bit faster. It's a mile from the VAB to the pad. Normally it was a days work getting that thing out to the pad and we had, (inaudible), but from the pad we had (inaudible) and they (inaudible) and we got back to the VAB, (inaudible). But we had, and I say we, individually, but we had the, what did they call it, the (inaudible) on the pad, (inaudible) trench and we had problems with that. (inaudible). And we....

DR. ORVILLE BUTLER: Is that something they discovered during test firings or is that something discovered out on the launch?

MR. JOE NELSON: That would be a test firing. (inaudible) On the crawler we had not too much (inaudible), and over the years (inaudible). I don't know what you call it, the bushing. It rolled on it. It's the whole (inaudible). That was another thing my group did, they tried to be (inaudible). And I don't really know (inaudible).

DR. ORVILLE BUTLER: So how many years did you work out, you were initially construction, engineer and health supervisor, and helped provide support the for the VAB and for Pad A. What did you do after those sites were activated?

MR. JOE NELSON: We (inaudible).

DR. ORVILLE BUTLER: So you remember the first launch off of Pad A?

MR. JOE NELSON: Not per se, but I was there. I'm trying to think of any specific incident that.

DR. ORVILLE BUTLER: At the first launch in August of '67, which should have been Apollo 4, Pad A, it originally had been scheduled to go in February, January or February of '67 and had been delayed for a number of reasons, including the Apollo 1 fire. Do you remember anything about the Apollo 1 fire?

MR. JOE NELSON: No, I don't. That was in (inaudible).

DR. ORVILLE BUTLER: And you were out on 39A, or 39.

MR. JOE NELSON: Well, we worked 34 (inaudible), but I guess I wasn't that closely associated when they had the fire.

DR. ORVILLE BUTLER: How frequently did they have to do modifications on the Pad?

MR. JOE NELSON: Continuously. For one thing (inaudible). You know that things changed after that. That was a (inaudible). And they put the tiles in backwards and (inaudible) (inaudible). All they didn't get the flow they thought they would get, they had to turn it around.

DR. ORVILLE BUTLER: What was the most exciting thing that happened in terms of your work on the Launch pad?

MR. JOE NELSON: Well, the astronauts were pretty exciting. We would (inaudible) at the LCC ..

DR. ORVILLE BUTLER: Launch Control Center.

MR. JOE NELSON: Yeah, it was a (inaudible). The people that were not directly tied in with the countdown, sequence, that was down in the LCC, but it was on the first floor.

DR. ORVILLE BUTLER: Okay.

MR. JOE NELSON: And the (inaudible).

DR. ORVILLE BUTLER: So during launch, what would you be doing?

MR. JOE NELSON: I would be on the console, sequence (inaudible) and then if something happened, (inaudible). But during one(1) launch they let a building collapse down in Cocoa Beach and the – there was a building under construction, it wasn't a government building and they didn't have any way to (inaudible), sad, but let go, so we just ended up (inaudible), brought a crane down there for them to use to get those (inaudible).

DR. ORVILLE BUTLER: During your time at NASA, did you spend your entire time as an engineer at the launch pad or did you?

MR. JOE NELSON: Not at the pad. I was in the VAB area and that was all part of the (inaudible). We had (inaudible). (All inaudible)

DR. ORVILLE BUTLER: And at that time they also had offices in the VAB?

MR. JOE NELSON: Yeah.

DR. ORVILLE BUTLER: Can you estimate how many people working in the VAB on an average day?

MR. JOE NELSON: Well, no, I can't estimate it. Depending on what was in the VAB, flight equipment was in there and what they were doing to it. Now of course, a lot of it was before they built the, before the shuttle program. The shuttle program, they built, I forgot what they called the building, where they serviced it.

DR. ORVILLE BUTLER: The Orbiter Processing Facility. The OPF.

MR. JOE NELSON: Yes. And we had the (inaudible).

DR. ORVILLE BUTLER: Now that must have been quite a change from the Apollo period to the Shuttle period, and in the interim a lot of people got laid off. Do you remember anything about what the mood was during the period between Apollo, the end of Apollo in the early 70's and when the Shuttle finally comes on, in '81?

MR. JOE NELSON: Not really. Guess we were pert-near be doing whatever has to be done.

DR. ORVILLE BUTLER: What sort of facilities changes, apart from the OPF, do you remember being carried out to get ready for Shuttle?

MR. JOE NELSON: I guess the pads, that's the only thing I can think of. I know they (inaudible). Again the Apollo, they had our pads which was a big (inaudible), and I think basically, (inaudible). Mobile launch unit facility. I mean the vehicle on the mobile launches (inaudible) was close to the pad. In between the pad. And there again that was a (inaudible). (inaudible). Tried to keep flammables away

form the (inaudible). They were doing that platform (inaudible), and it's hard to get (inaudible) (inaudible). (Something about elevators.)

DR. ORVILLE BUTLER: So, do you remember when Shuttle arrived?

Before Columbia arriving, I think they had Enterprise here.

MR. JOE NELSON: Not really.

DR. ORVILLE BUTLER: You were involved primarily in facilities.

MR. JOE NELSON: Right, right.

DR. ORVILLE BUTLER: And once you had to shift from Apollo to Shuttle, how did the operations of the facilities change, or did they change?

MR. JOE NELSON: I don't recall any big change.

DR. ORVILLE BUTLER: Okay. During the time when they were preparing for Shuttle between 19, about 1975 and 1981, what work were you involved in during that time?

MR. JOE NELSON: I don't know. But we had the operation facility (inaudible). He worked there but. (inaudible).

DR. ORVILLE BUTLER: What did you finally retire from?

MR. JOE NELSON: '87.

DR. ORVILLE BUTLER: Which would have been shortly after Challenger?

MR. JOE NELSON: And then the Shuttle come apart.

DR. ORVILLE BUTLER: Tell me about that.

MR. JOE NELSON: Well, it almost to the stage when the solid rocket boosters (inaudible) that more than two (2) thing fell off, we (inaudible) they had some kind of problem. (inaudible) But you know, I guess overall (inaudible) and we've been very fortunate that (inaudible).

DR. ORVILLE BUTLER: There's a lot of people that argue the difference with the Space program, say from the airline industry, is (question interrupted by someone entering the room). The Airline industry, we assume there's gonna be a certain amount of crashes and that ultimately level of loss of life is acceptable, but in the Space program it seemed like no loss of life is acceptable, and we seem to have a higher standard of safety there.

Now one of the things that would be involved in site construction or site modification would be inspectors, do you remember the change in the roll of inspectors?

MR. JOE NELSON: Not really.

DR. ORVILLE BUTLER: Okay.

MR. JOE NELSON: I didn't really get involved with inspectors.

DR. ORVILLE BUTLER: So in your work, were you somebody who would provide support to the contractors or were you supervising the pad rats when you were doing things, out at the pad, or what was the roll of your job?

MR. JOE NELSON: I was.

DR. ORVILLE BUTLER: Give me what you do in a (inaudible).

MR. JOE NELSON: Primary function was to supervise the contractors. (inaudible) EG&G and we did. Kept track of all the modifications and then (inaudible) and made sure they were doing their (inaudible). (inaudible) We had some that (inaudible) and that was in '63, they were there. (inaudible) (inaudible)

DR. ORVILLE BUTLER: So what was your relationship between NASA people and the contractors?

MR. JOE NELSON: In my opinion, I never asked too much about (inaudible) (inaudible). I was the branch chief.

DR. ORVILLE BUTLER: What was the name of your branch?

MR. JOE NELSON: I was support (inaudible), but I don't remember and it varied throughout the years. I had as many as 15 people and as little as five (5).

DR. ORVILLE BUTLER: What would cause the fluctuations?

MR. JOE NELSON: (inaudible)

DR. ORVILLE BUTLER: So there was a lot of activity at the pad. When they were doing a lot of launches or things like that, you'd have a lower number?

MR. JOE NELSON: (inaudible)

DR. ORVILLE BUTLER: Do you remember that the Kennedy Space Center had a number of very illustrious Directors during your time there, it would have been Debus. There would have been Shearer (phonetic), Smith. Do you remember anything about any of those? Any of those Directors?

MR. JOE NELSON: Not really.

DR. ORVILLE BUTLER: So you didn't have to deal with other  
(inaudible)?

MR. JOE NELSON: Director with the (inaudible).

DR. ORVILLE BUTLER: During construction, there was fellow named  
Rocco Petrone, do you remember anything about him?

MR. JOE NELSON: Yeah. (inaudible) I remember of him, I don't  
remember much about him, because I didn't associate that much with (inaudible). I  
think he was (inaudible).

DR. ORVILLE BUTLER: Do you remember anything much of the future  
at the Center that had originally come from the German B2 Program.

MR. JOE NELSON: I remember Rocco, Rocco was a part of that.  
We had Kurt Debus, we had Gruney, we had Theodore Paco (phonetic).

DR. ORVILLE BUTLER: Was there any sense at the Center, when it  
was the Germans and then it was the Americans?

MR. JOE NELSON: I don't recall it.

DR. ORVILLE BUTLER: You don't recall it.

MR. JOE NELSON: I don't think it was that way.

DR. ORVILLE BUTLER: What about social life out at the Center? How  
did you interact with the people that you worked with? Was there some place that you  
went in, and your friends were mostly in your community, or did you have social life  
beyond your work at the Center with your associates of the Center?

MR. JOE NELSON: We had a favorite (inaudible), so we used to have a gathering somewhere and get together at social hour. (inaudible)

DR. ORVILLE BUTLER: What do you remember about these gatherings? Were they gatherings just to be social or were they gatherings to celebrate a particular accomplishment?

MR. JOE NELSON: No, they were just to be social.

DR. ORVILLE BUTLER: What did you guys do when you had a major success? For instance, you were there when they landed on the Moon. What do you remember about that?

MR. JOE NELSON: I was amazed. I remember watching Cronkite on TV. I remembered it was amazing that they accomplished such a thing. (inaudible) A big party, you know.

DR. ORVILLE BUTLER: So, you were a bit surprised when they landed on the Moon? You were confident that they were gonna make it then?

MR. JOE NELSON: Yeah.

DR. ORVILLE BUTLER: And you still had the sense of amazement?

MR. JOE NELSON: Yes, I did. I don't know what landing on the Moon accomplished, but we (inaudible) once we did it.

DR. ORVILLE BUTLER: You landed on the Moon with 11, 12, 14, 15, 16 and 17, so you landed on the Moon five (5) or six (6) times.

MR. JOE NELSON: Yeah, but we never did anything about it. I mean, no ability up there, (inaudible) .

DR. ORVILLE BUTLER: Once you landed on the Moon and, and let me back up here. During that period when you arrived in '63 till landing on the Moon in '69, much of our space program was viewed as a race with the Russians to get to the Moon first. To what extent did you get a sense that you were involved in a race with the Russians in your daily work?

MR. JOE NELSON: None. They did a set schedule that they were supposed to meet and we tried to meet it.

DR. ORVILLE BUTLER: And what happened if you didn't? Or were you successful most of the time?

MR. JOE NELSON: I guess we were successful (inaudible).

DR. ORVILLE BUTLER: If you were to think back on your years at the Kennedy, tell me your most, your favorite moment, the moment you'd most like to forget, and things like that? What was your favorite moment in your memories?

MR. JOE NELSON: I enjoyed them all. I think it was good being chosen to go there, but when I was in the service I got (inaudible), the radar, the radar was brand new and so this guy followed along with it (inaudible).

DR. ORVILLE BUTLER: So you got a sense that you were out of crane edge? Must have been quite fulfilling?

MR. JOE NELSON: Yep. (inaudible) I never saw it again after that. I saw some other – my main piece of equipment was low altitude (inaudible). Some of the other things (inaudible) STR, it was a search radar and (inaudible) which rotates (inaudible) when I got out of the school I went down to the (inaudible) Mississippi, they

do Navy things and (inaudible) and it was primarily what they teach. (inaudible) Seems like they had (inaudible).

DR. ORVILLE BUTLER: What was some of the unique things you found as a part of your work that you don't think you would have found anywhere else?

MR. JOE NELSON: (inaudible) ..... at the launch pad and there's a lot of stuff there that you could never find anywhere else, you know like (inaudible).

DR. ORVILLE BUTLER: Of course, the vehicle that sits on them are one of a kind too.

MR. JOE NELSON: Yeah. Well, I'll tell you, I don't understand to his day why the Government mobile launch (inaudible), (inaudible) and boy that is (inaudible) and they got plants and (inaudible), and yet the contest staging and assembling might be (inaudible). Being able to pull it up and (inaudible). I don't know it was something like seven (7) inches they had to get within, get them on the (inaudible) at the pad. (inaudible)

DR. ORVILLE BUTLER: ....(inaudible) millions of pounds of crawler and launch?

MR. JOE NELSON: The crawler was (inaudible). We tried to move that stuff but it was (inaudible).

DR. ORVILLE BUTLER: In your recollections, do you want to tell us about favorite memories?

MR. JOE NELSON: I get every launch with a good memory. You know I never thought that a live launch would (inaudible). (inaudible).

DR. ORVILLE BUTLER: Did you spend a lot on overtime?

MR. JOE NELSON: No. Usually comp time. They give you comp time.

DR. ORVILLE BUTLER: If you had to do it over again, would you do it again?

MR. JOE NELSON: Sure would.

DR. ORVILLE BUTLER: Any special time?

MR. JOE NELSON: It was enjoyable work. It wasn't the same thing every time. But you know those things may be equivalent all the time, but (inaudible) You had to get (inaudible).

DR. ORVILLE BUTLER: What's the biggest breakdown that you had to repair at (inaudible)?

MR. JOE NELSON: I guess the pads on the (inaudible).

DR. ORVILLE BUTLER: What was the problem and how did you repair it, or how was it repaired?

MR. JOE NELSON: Back then, I don't know how they do it now, but then we had to get the (inaudible) a tool in that (inaudible) to work. You talked to NASA people and you talked to contractors?

DR. ORVILLE BUTLER: I think primarily NASA people, but we certainly have some contractors on our list. Do you have names of people do you think it would be worth talking to?

MR. JOE NELSON: There's one I know that still around, is  
(inaudible) and he did mobile launchers.

DR. ORVILLE BUTLER: And what's his name?

MR. JOE NELSON: I can't. Some of those contractor people I  
might have been closer too. (inaudible)

DR. ORVILLE BUTLER: I thank you for taking the time to talk with us  
today about your experiences.

MR. JOE NELSON: (inaudible)

DR. ORVILLE BUTLER: Well, every little bit helps.

Thereupon the interview ended.