SHUTTLE CARRIER AIRCRAFT ORAL HISTORY PROJECT
EDITED ORAL HISTORY TRANSCRIPT

THOMAS R. FRIERS
INTERVIEWED BY JENNIFER ROSS-NAZZAL
KENNEDY SPACE CENTER, FLORIDA – APRIL 13, 2012

ROSS-NAZZAL: Today is April 13, 2012. This interview with Thomas Friers is being conducted for the Shuttle Carrier Aircraft Oral History Project at Kennedy Space Center. The interviewer is Jennifer Ross-Nazzal, assisted by Rebecca Wright.

Thanks again for taking some time out of your day. We really appreciate it.

FRIERS: You're very welcome. Pleased to do it.

ROSS-NAZZAL: Why don't you give us a brief overview of your career before coming out here.

FRIERS: Sure. Well, I did 29 years in the Air Force and retired in 2001, but while I was in the Air Force, I just happened to be fortunate enough to have a lot of involvement with the Shuttle Program. It started in 1980 as we were preparing for STS-1. I happened to be a rescue helicopter pilot, which was a big part of the package, so I trained the folks out at Edwards Air Force Base, [California] the Air Force contingent who would support the landing if we had a problem, and flew some exercises. I actually happened to be here to view STS-2's liftoff. I was the aide to the Commanding General of Air Force Air Rescue Forces. So throughout my career I've been Air Force Rescue Specialty. So in staff jobs at the Pentagon and at Air Combat Command, I was funding and approving training for the guys doing the mission here, so I always kept my hand in it somewhat.

I then arrived here at Patrick Air Force Base in 1995, and I commanded what was called the First Rescue Group at Patrick, and we were very involved in Shuttle support. I had that job for two years and then I was offered a job which was called the Commander of DDMS, which stood for the Department of Defense Manned Space Flight Support Office. It was a joint task force that was responsible for all the military support to the Shuttle Program. For example, on launch we had an armada offshore, Navy ships, Coast Guard ships, Navy, Marine, and Air Force aircraft. Over at the TAL [Transoceanic Abort Landing] sites in Europe, we also had military folks supporting.

Then my guys also would train and certify the DoD bases, which were the bases that we would always land at with the Shuttle carrier aircraft. Unless there were some sort of an emergency or weather contingency, you always wanted to go to military bases. You have fuel. You have security. It's just much better than going to a civilian airfield.

My involvement with the SCA [Shuttle Carrier Aircraft] was really in supervising the people who were responsible for the Air Force portion of it. As a matter of fact, Kathy [Katherine A.] Winters, who will be forecasting for this mission, was an Air Force captain, I believe, at the time, and she forecasted weather for the SCA flights back then.

I happened to go on one of the ferry flights. We were picking up, I don't even recall which orbiter, I think it might have been *Endeavour*, but I'm not certain, at Palmdale, [California] and flying it back to the Space Center. It would have been in the fall of, my guess is, '99, either '99 or 2000. And as was usually the case, you were always playing cat and mouse with the weather. You had very short windows. I flew on the Pathfinder aircraft, and I know we stopped in Texas, we then stopped at Fort Campbell, Kentucky, and we actually got stuck in Fort

Campbell, Kentucky, because there was a hurricane threatening down here so we didn't want to bring the orbiter in. But it was an experience. That's the only direct involvement I had.

I continued in that job with the Air Force as the Commander of DDMS until I retired effective the first of the year of 2001. As part of that job, I was actually part of the mission management team, the management team that sits in the firing room at launch. So, it was 10 to 15 or so launches, I was in the firing room as their military rescue expert if something were to go wrong on launch. My folks were deployed to all the TAL sites, and you had a large groups of folks involved.

When I retired, I was asked, "Hey, would you like a job with NASA?"

And at the time, I said, "You know, I think I'm going to go sail in the Caribbean and play golf for a couple of years," so I did.

Then they asked me again a couple years later, and I said, "Yeah, I think I could do that."

So I've only been with NASA since, as a matter of fact, it's within a day or two, I think it might be tomorrow is eight years. I think it was about 14 April of 2004. I came into NASA in the Shuttle Launch and Landing Office, and I was one of the Ground Ops [Operations] Managers. I ran one of the TAL sites. We had the three TAL sites: Morón Air Base in southern Spain; Zaragoza Air Base in northern Spain, which I generally ran; and then we stood up a new site, Istres, France, to take the place of Morocco because the political situation was such then. I did that for about five years.

You would be over there for the launch and then you would come back here, and I was checked out as a landing convoy commander, so I would be in charge of the convoy that met the orbiter when it landed, which was a neat job. I loved it. But then I was asked, "Would you be interested in taking over the Chief of Flight Operations?"

I said, "Can I fly?"

They said, "You must fly."

I said, "Then, yeah, I'd be interested." So I've been in this job now for three years.

ROSS-NAZZAL: Cool jobs.

FRIERS: Yeah, it is. I'm a pretty fortunate guy.

ROSS-NAZZAL: Well, nice place to be during a Shuttle launch.

FRIERS: Now, on the launches in this job, I was always on Search 1, which would escort the crew out to the pad. We had a sharpshooter team on board. We were doing security. I would escort each crew out to the pad, and then I'd be airborne in a security posture at liftoff, so it was a nice vantage point.

ROSS-NAZZAL: So you get to ride in the Astrovan?

FRIERS: No, I was flying, flying overhead.

ROSS-NAZZAL: Oh, you were flying overhead.

Well, I did have some questions about those SCA flights that you were helping with. How many Air Force bases were on the list for SCA potential landings, do you recall?

FRIERS: I don't. I would be really shooting from the hip. I do know that there are a couple in Texas. I do know that Whiteman Air Force Base, Missouri, which we've used. I do know that Fort Campbell, Kentucky. [There are 20 military bases trained and available to support ferry flights.] They were obviously bases with a long runway and strategically located between White Sands [Test Facility, New Mexico], Dryden [Flight Research Center, California], and here, and they were all used from time to time. I think Little Rock Air Force Base [Arkansas] was one. I think Corpus Christi, Texas.

Then I would send a team out from my staff. I think we did those guys every two years, and we would train the base and just give a briefing on the orbiter and the characteristics of when you come in with the Shuttle carrier airplane. We would often run a little sim, a simulated emergency on landing when we trained the emergency landing bases, which we had stacked up the East Coast of the U.S., and even around the world we had a lot of emergency landing bases, and, of course, a military base is preferred. It's generally got a large runway, it's easy to control and the security of it. So we would run a simulation at those once a year.

ROSS-NAZZAL: Would you tell us about those emergency scenarios? Who was involved and what were the activities?

FRIERS: What you would do is we would go in and my team would give a training session, a sound and slide type of briefing, to the base's contingency management staff: disaster preparedness, fire, civil engineering, medical, and generally the base commander or support group commander, one of those types, would be in. You'd have a packed room. We would walk through an informational briefing about the characteristics of the orbiter, the characteristics of

the Shuttle on landing, what they should expect when this arrives, what sorts of requirements. Here's a look at the requirements list. The reason you have to do that frequently is because in the military, generally, at least a few years ago, every couple of years people are rotating out, so you had to keep training the new people.

Then at the end, we would run a simulation, and often you use a school bus or some large vehicle, and that is simulated as the landing orbiter, and it would drive down the runway, and then you would call, "Oh, there's a hypergol leak," because, remember, the primary reason for ferrying was bringing the orbiter back from a landing on the West Coast. So you would still often have some commodities onboard, and every time we'd land, the technicians would get out and take samples and check. Are we good? Is anything leaking? It was a fairly significant post-flight operation every time you landed with a vehicle that had just come back from space onboard.

We would discuss the scenario of this airplane just landed here, maybe the SCA blew a tire and it went off the runway—boom—and they have to walk through what kind of equipment do we need? What do we do? We've got to set up cordons. We've got to get the press involved. That might be one of the minor ones, to an actual crash. Now you've got these hazardous commodities in the air. What are the winds? Do you have to notify people via television and radio downtown? Most of these bases are on the outskirts of a town. So you would walk through those sorts of things that people would be thinking about, talking about and doing it.

ROSS-NAZZAL: About how long would these emergency scenarios last?

FRIERS: You'd probably spend a couple hours doing it. You would start with what we refer to in NASA as a pretest briefing. In the military it's just the briefing before the exercise, and then you would go into the exercise mode and then let people work some issues to resolution, or at least let them tel l you where they're going with it, and make them squirm a little and maybe you throw increasing complications at them while they're doing the exercise, but by a couple of hours of them jumping through hoops and trying to figure out, then you're probably about ready to call ENDEX, the end of the exercise. Or obviously if weather or an operational issue or something came into play, you would end it, but a couple of hours.

Then you would stand down for an hour or two and then have a large hot-wash, debrief, post test, whatever you want to call it, and then develop lessons learned. Then we would end up saying, "Okay, this base is certified to continue on the list."

ROSS-NAZZAL: What were NASA's requirements for the military bases that they would land at with the SCA?

FRIERS: I can't remember exactly. I know they wanted them strategically located. Basically we're talking from Dryden, White Sands, east, and, of course, you had very limited legs. When you start looking at it, most every military base in that section with a large runway—many Army posts won't have a large runway—but most Air Force or Navy bases became players. These ferry flights, what limited exposure I had in even tracking them from back in my office when my guys were involved, they rarely go as you think they will in the beginning. You're being chased by weather or you're chasing the back of a cold front across the country, because when we had an operational orbiter, you didn't fly through turbulence. You didn't fly through visible

moisture. You didn't want to land somewhere where it was going to be below freezing at night. There were all kinds of concerns, and it was a challenge to bring these things back.

But I don't remember the exact criteria. You obviously had to have a runway long enough. I suspect it was a 10,000-foot runway, but I'm merely—and of all the bases I know of they had that. But probably around a 10,000-foot runway, because the SCA with orbiter was much heavier than what we're flying out on Tuesday, because it had the engines in and often it still had some stowage in the back, some cargo or payload or something. They were quite a bit heavier.

ROSS-NAZZAL: Would you tell us about the agreement between NASA and DoD? Was this something that was just a gentlemen's agreement, or did NASA end up paying DoD for use of these facilities?

FRIERS: That's an interesting question. There was a determination made that the DoD could provide assistance to NASA on a noninterference basis with its wartime missions and in a manner that would not compete with commercial enterprises that could do the same sort of thing. So the DoD has provided assistance to NASA for over 50 years. The organization that I commanded, DDMS, a few years ago here, two or three, we celebrated the 50th anniversary. As a matter of fact, it was started out as Department of Defense Mercury Support Office, so it started with the very first flights. There's been a very close relationship, a very good working relationship with the DoD.

Some of the support was reimbursed. Some of it wasn't. We were often very good at finding, for example, on a launch, I would be very fortunate and get a Navy destroyer that

wanted some training time off the coast here with its helo [helicopter] embarked and everything else, so we would steam a Navy destroyer and full crew for a few days around launch time. You can't pay for that, the cost of it would be prohibitive. The helicopters and aircraft from Patrick, a fairly large armada that supported launch and landing, NASA did not reimburse for that. However, for the TAL sites over in Europe, we flew C-130s and rescue teams to each of the TAL sites, and NASA did reimburse for the C-130 flying hours. So it just varied.

I do know that the arrangements with the bases for the Shuttle carrier was that the Air Force would submit, or whatever military it was—it was often an Air Force base, sometimes Navy—but the military base would submit a bill for delta, the things they had to go out and contract for or additional costs. They did not bill NASA for their people. Now, conversely, if you had a batch of civilians or contractors who were working overtime and you had to pay for that, they would document all that, and the reimbursement was funneled through my office at Patrick, the DDMS Office. NASA funded them, and they went out and funded these individual units.

NASA did pay all of the per diem, the travel costs. There were probably two to three hundred people, DoD folks, who moved on every Shuttle launch at least, on the landing a little bit less, and for fewer on Pathfinder. If we were using a military airplane for Pathfinder, which we often did, C-141, the crew, the maintenance people, we would certainly fund all the per diem. But I don't believe—I'm almost certain we did not pay the flying hours on the C-141.

Like I said, it varied, what we reimbursed for, what we didn't. If a base had the vehicle land there, we would reimburse for anything they had to go get. There was a long list of cranes and Hi-Rangers and rental cars. There was just a large list that they had to go out and get real quick. So NASA reimbursed through that DoD office at Patrick.

ROSS-NAZZAL: You mentioned the Pathfinder, that it was often a military vehicle, which I find interesting. What was the arrangement there, and where was the plane normally borrowed from?

FRIERS: Well, it all depended. We would ask the Military Airlift Command or Transportation Command, as it's now called, for a C-141. We would what's called frag it. You'd go out asking for a 141, and it depends on what base they tasked. They're moving aircraft around the world all the time, so you might have a reserve crew on the way back from Europe. It could come from any base. but much of time, I believe most of the time through the early years, it was an Air Force C-141.

The good thing about it is you can carry a lot of passengers and you can carry a lot of the support equipment, the small support equipment that the team needs to service the vehicle when the SCA and orbiter land. The particular ferry flight I went on, we actually used the NASA Vomit Comet, the C-135, as the ferry aircraft, but generally it was military aircraft.

ROSS-NAZZAL: So then the military would have their pilots then flying the vehicle?

FRIERS: Oh, yes, sure. The Pathfinder, its purpose is two- or threefold. Number one, you're generally about 20 to 30 minutes out in front of the carrier aircraft. You're checking weather, and if you have weather up ahead, you're looking for the best route through it, and you're in communications with the carrier aircraft behind you. So you're out there about 20 to 30 minutes ahead checking turbulence, weather, any of those sorts of things, such that you're on the ground

and the ground support team is out standing by when the Shuttle carrier lands, and then they can go out and meet it.

You would always pull off the runway at these bases, and then the crew would have to go out and make sure we're not leaking anything, because you'd just been up to altitude again and you could have triggered a leak in one of the thrusters or something. Once the vehicle was deemed safe, we would then taxi it into a parking place. It seemed like most bases you went, it became kind of an-open house-type deal. It was a big deal to those bases.

ROSS-NAZZAL: I was curious about that. Were bases almost competing to have the Shuttle come to their sites?

FRIERS: Well, I'll give you the honest answer. They were, but the downside was as often as not it dropped in on you with only a couple hours' notice. In other words, you've planned all this out and you've given the heads-up and now the weather didn't cooperate. "Okay, Whiteman, we're coming in two hours." The fun meter was in the low yellow range on those, and you've got to sympathize with a base that's told, "This thing's dropping in on you with 75 people and all this stuff in a couple hours." That happened more than you would like.

But, yes, when you went out to train them, they were eager, they were excited, and if this group of folks, if it had been two or three years since they'd had one, most likely this group of folks, except for civilians, had not seen one, and they're just itching to get a Shuttle to land there.

ROSS-NAZZAL: When the Shuttle is about to be ferried, or when it was about to be ferried, did you have to put everyone on alert, that, "Hey, there's a possibility that we might come to your location"?

FRIERS: What we did was we took a look at the long-range weather forecast, which was about like throwing darts, a good week or more out, and we started progging what would be good bases. Now, down at our office at Patrick, we continually tracked availability. As we were about a month out, we would go to the bases and see, "Do any of you forecast any reasons you would not be available during this window?" So we'd give them a heads-up we were looking to ferry during this window. You might have a base whose runway is down for repair. You might have a base who's undergoing an operational readiness evaluation or who has deployed a bunch of folks to a war zone and they don't have the people to support. So they would come in with a preparedness check. Then as we got closer, we'd start looking at the weather.

Frankly, my recollection was we really tried to spread this out and spread the wealth as well as the hurt, because it is neat. It's always neat to see them leaving, but it's a lot of work while they're on your ramp. We would try, "Where did we go last? What's the weather looking like?" We went into it with notional stop points, but, like I said, man, that was a moving target.

So much was weather-dependent, and especially in the winter, trying to bring an orbiter across the country, you're having to wait for passage of fronts, and then if you know another front's coming down on you, you can't be on the ground if it goes to freezing, so you may have to go somewhere else and stay ahead of this front. It was just a challenge. It was really interesting.

ROSS-NAZZAL: Was there one base that was used more frequently than another?

FRIERS: There may well have been, but I just can't tell you. I could ask some folks. I know Whiteman was very popular in Knob Noster, Missouri. I was stationed there for four or five years. It has a long runway and it's middle of the country near St. Louis, actually closer to Kansas City. Whiteman was fairly popular.

There were some bases, and I just can't think of the name. Maybe Dyess [Air Force Base, Abilene, Texas] in West Texas. West Texas was a fairly common stop point because that's kind of where you got with fuel on your first stop was West Texas. But I'm sure somebody's got data somewhere telling you where they stopped on every one.

ROSS-NAZZAL: You mentioned that it's a lot of work to get ready for an SCA to come. Can you tell us about some of the things that had to be completed before you could accept an SCA?

FRIERS: Well, my assessment of it is if I were the wing commander or the commander of a base, and they gave me the heads-up that—there was what we would call an OPLAN [operations plan] that our office put out, so the base would have that, and we would have left them the most current copy at our last training session. You would then gather your team, your support people, and start going down the checklist of things they needed. We need three Hi-Rangers of this height, we need nitrogen carts, we need X amount of fuel, generally. So you just start going down that checklist to make sure you either have it or know that it's commercially available. Sometimes you would even have to let a contract to hold a piece of equipment, and there would

be a small charge, but otherwise they couldn't guarantee they'd have it. So you're just walking down the list. Are your nav [navigation] aids good? Is your runway clear?

You might even cancel leaves for a couple of key people. If I were the commander of the base and I knew this was coming in, I would not want my head of civil engineering gone or my support group commander gone, who's kind of the base mayor, does all the services and things. So that's my best answer for what I would think they're doing. You're just going down the list to see whether you can fulfill all the written requirements.

You would also start priming the local media, because you, the base commander or the wing commander, whoever, you're wanting to use it to pay back some green chips that folks in the local community have given to you. You might even host a reception or a cocktail party for the folks, and you can pay back locals. It's a big deal for the local mayor or key business leaders to be able to come out and see the orbiter on the back of the SCA.

ROSS-NAZZAL: I can imagine it is. What lessons learned did you apply after your ferry flight? Was there anything that you thought, "We need to go back and change part of this process"?

FRIERS: You know, I don't recall, other than one of my guys overslept and I wasn't real happy. I don't recall anything from that particular flight. I must admit I had never thought of the impact of a tropical disturbance offshore here keeping us locked down up in Kentucky, but, yeah, of course. You've got to look ahead two to three days. Okay. You'll land there. Then you've got to pull into the mate-demate device. Then it's a day and a half or two to get it offloaded. So you've got to be, okay, is KSC in the window of possibility for the storm? Yeah, it is. I never

would have thought of that until we went through it, that you may be stuck somewhere. I think we sat there about three or four days. The base finally decided to host an open house.

But, no, I don't recall anything that was done wrong. I did see a person—how do I put this? I saw a NASA person in a position of authority really treating some of the contractors very poorly, and so I thought it was my duty to tell his bosses. It's not the way I'd want one of my people working for me to be acting. Yes, I saw something I didn't like.

ROSS-NAZZAL: How did you spend your time during those few days that you were camped out at the fort?

FRIERS: In the end, I ended up leaving the day before they did fly, because they weren't sure. Like I said, we had a lot of people visiting and we really stayed out on the ramp answering questions for, I think it was two days of people coming through. Then my fun meter had about pegged out. I needed to get home, so I flew back here, and they followed me the very next day. But you're living out of a hotel and going out to the base doing the best you can. There was no real work that had to be done. We stayed around and gave tours and answered questions.

ROSS-NAZZAL: Was DDMS involved in the Flight Readiness Review Process?

FRIERS: Oh, yes, sure. For the ferry flights?

ROSS-NAZZAL: For the ferry flights.

FRIERS: Oh, yes, sure.

ROSS-NAZZAL: Would you tell us about that?

FRIERS: Well, it was like any flight. You get all the key managers and players together in a room, and a big part of it is weather. I think weather went probably first, and then my folks, DDMS, the guy who was the lead for DoD would then pitch the readiness of all the potential bases, all of the legal stop points. We would talk about any shortfalls any of them had. A base may be acceptable, but, by the way, there's something going on in the city nearby, rental cars will be at a premium, or they're limited to this amount of JP [Jet Propellant] fuel. There might be some LIMFAC [limiting factor]. But they would brief that.

Then the crew was in there. We would start getting into the real nuts and bolts of, "Okay, what routing are we going to take?" We knew what routing we hoped to be able to take, but now you started comparing it to the real winds aloft, the forecast for the next two days. You've got to be looking a couple days ahead or you're going to get trapped somewhere, especially in the winter again. You've got to be looking days ahead or you'll get a vehicle frozen, and that was a big no-no.

We come to an agreement on the routing. There is an overall ferry manager. I believe Don [Donald L.] McCormack is doing it on this one. I've known Don for years. As a matter of fact, I'm going out to dinner with him Saturday night. So the decisions are made there, and then you decide to press, and you check out of the hotels, you go to the aircraft. The Pathfinder goes first and then the gaggle starts.

ROSS-NAZZAL: Were any other members of your team on the Pathfinder for the flights?

FRIERS: Yes. Now, the one I went on, I was just a management looky-loo. I just wanted to see what my guys were doing and how did it go, but they were doing the work. So usually there would be one or two major lieutenant colonel types from my office who were the DoD point of contact, the liaison, and they would be the people dealing directly with the military when you landed if there were issues, and they were the folks who had planned it all out and communicated with the bases. There were at least two folks from my office. Now, obviously, the airplane might have been fairly full of military folks if it was a military aircraft, but that would be their air crew and their ground personnel. But my office would kind of manage the military aspect.

ROSS-NAZZAL: Rebecca, do you have any questions for Tom?

WRIGHT: I do, but they're related to what you do but not to the SCA. I was curious when you said you were providing security for when the astronauts went out to the pad. What aircraft were you in?

FRIERS: We fly the Huey II helicopter. For a launch we would have three helicopters involved. There would be Search 1, Search 2, and Search 3. Search 1 would fly a security sweep of the Center just prior to launch at, I think it was, about three and a half hours prior to T-zero, because as I recall, the crew steps and goes to the vehicle at about 3:00, 3:15. I would fly a security sweep of the Center, then go over and pick up the crew convoy with a sharpshooter team

onboard, just going ahead and checking the sides of the road and everything. You know, let's face it. Much of it is symbolic, and yet in this day and age we are concerned about it.

So the night before, one of our aircraft had done a sweep where you lock down the Center and you close the beach areas and other places. We would have done a sweep of the Center to make sure nobody was out in those areas. As you know, probably, the Center is about 220 square miles, 144,000 acres, most of it inaccessible by water or by boat or vehicle. That's why it's critical to have a helicopter looking around. So in conjunction with ground teams, we would have swept the area.

From 72 hours out prior to liftoff, once they went into S0007, the countdown check list, I had a helicopter and crew on strip alert virtually right next to the pad with machineguns ready to launch at any moment and intercept if someone decided they wanted to do something. Obviously, there were other components on launch day, high-flying aircraft, and it was a regular kabuki dance out there.

I would fly Search 1. We'd escort the crew out, and then again, just prior to launch, we would do another sweep both on Center and looking just offshore. We had military aircraft farther offshore from Patrick, guys I used to command. Then at launch, I'd be orbiting somewhere around Center, basically toward the end we were checking, watching the river for nothing to come zipping north on the river.

Search 2, the second aircraft, was configured for medevac [medical evacuation], and he was on the ground on alert over at the OHF, the Occupational Health Facility, for the medevac, not for the Shuttle crew, for the medevac of a worker, a visitor, because we had DoD aircraft that were better equipped that would most likely have taken the crew if there were a problem. Yet if we had a contingency on the pad, we would have come into the fray and worked.

Then Search 3 was that bird right near to the base of the pad on alert until 15 minutes prior to T-zero, and then he took off and orbited over here somewhere. Now, for the last three missions, after launch we had to assist the county sheriff in getting vehicles out. It was total gridlock. It was unbelievable. So were flying aircraft with sheriff's deputies onboard helping to move sheriff's cars and work roadblocks and wrecks and those sorts of things. It was kind of interesting.

WRIGHT: Did you do something similar when a landing took place?

FRIERS: A landing was less intense, but, yes, we had two helicopters on landing. We would do a security sweep of the approach routes both ways. Generally, we would have picked our preferred runways several hours before, but you can wait until they've burned and even after the burn, which is about an hour from touchdown. But we would do the sweep and then be on standby in case they landed off runway or ran off the runway, in which case Search 1 would have become the command and control aircraft for all the rescue of assets.

WRIGHT: That's interesting contingencies. This one is totally off, but I was listening to you talk about the work that you did at Patrick, and although you were not there or here when [Space Shuttle] *Columbia* [STS-107] fell, so many of the Patrick personnel were down in East Texas and Louisiana and in Barksdale [Air Force Base, Louisiana].

FRIERS: Right.

WRIGHT: Were you part of the training that helps prepare them to do those emergency type of procedures?

FRIERS: Sure. Yes, we did that all the time. That was a big part of the job there, was continuing to train other bases and our own folks, because they would travel to the TAL sites.

I happened to be on the golf course at the time with some folks from that old office. I think it was about a year after I had retired. One of them, we were playing golf, and he got a call and he said, "Something's weird. The orbiter's overdue."

I said, "The orbiter doesn't get overdue. It's broken up somewhere." Yes, that was unbelievable.

WRIGHT: I was thinking about Barksdale played such a big part in that, that recovery.

FRIERS: Yes, it sure did. It sure did. Now, folks from my office at Patrick went down there to become the liaison with the Barksdale folks.

WRIGHT: I was just curious about that. It's like wrapping up another piece of that. So, thank you.

ROSS-NAZZAL: Did you have any involvement with the ferries now that you're in this position?

FRIERS: Other than supporting it any way we can here on the airfield, the air traffic controllers, the airfield, it all works for me, so it's certainly my job to give them all the support they need and

to try and control the mobs that want to get out here, because we still have an active airfield. I won't be at the Flight Readiness Review because I'm flying support for the takeoff, I think I told you. I'm going to be carrying NASA TV, and we will be flying next to them as they take off and getting video of the takeoff, and then I've got to dart over to the area of the VAB [Vehicle Assembly Building] and we'll get a shot of them flying by the VAB. Then they'll go south, do their loop around Patrick, and I'll be over by the visitor complex to get video of them coming by the visitor complex. So, supporting any way I can.

WRIGHT: Is that unusual or is that an added feature for this one?

FRIERS: That is unusual, yes. It is part of the documenting, and I'm sure we'll do the same sort of thing or more for the final final one, although we've got to be honest, it's quite rare to fly an orbiter out of here to begin with. I have never seen it before. There have only been a few of those. But I have been around when we've brought them back, and there was no special support for that.

ROSS-NAZZAL: Was that requested by Smithsonian [Institution] or NASA?

FRIERS: I'm flying NASA TV, so it was NASA PA [Public Affairs], and the same with the last couple Shuttle launches. We had more. The Goodyear blimp wanted to be in here, and I said, "That's fine as long as you've got a lens that'll go 50 miles, because you're not going to be within 50 miles." But there were far more requests for video and those sorts of things.

ROSS-NAZZAL: So you're the final voice of authority?

FRIERS: Oh, I don't know. I am the person who approves any of the flights of the NASA aircraft here. Now, if I said no and Bob [Robert D.] Cabana said, "I want it done," I would do it. But if I said no, I wouldn't just whimsically say no. So, yes, I am at least a voice.

We have also enacted restricted air space starting at seven o'clock tomorrow morning. As matter of fact, Ron [Ronald E. Feile] came in and asked about that. That air space used to be restricted 24/7 after 9/11 [September 11, 2001, terrorist attacks] up until about three or four weeks after the final orbiter landing, and that restricted air space goes—I can show you on the chart up there after. The part that's permanently restricted goes about 500 yards east of our runway, so we're no longer in that. We used to be all the way over to the river.

I worked with the FAA [Federal Aviation Administration] to get that air space restricted again for this Saturday, Sunday, Monday until the orbiter's gone, because I'm afraid we're going to have Snuffy Smith and Snuffy Jones in their little puddle-hoppers. It'll be hard to control out there, and we don't need aircraft coming that close when we've got hazardous operations going on out here.

So then Ron said, "What about government aircraft?"

Well, I don't see a need for them to fly by looky-looing either. It's noisy, it's vibration, it's disrupting, and, worst case, it could be dangerous. So we're going to keep them out of here, and it does help us on the initial climb-out, at least until we get down by the port. That air space is all restricted and nobody can come in there without our approval. So it helps the Shuttle carrier guys for a big part of their flight here to not have to worry about little looky-loo airplanes.

WRIGHT: Is that an intense process to get the FAA to restrict?

FRIERS: "Intense" is probably strong, but it's a process. We have a very good relationship with them, and if I tried to do this for every little abnormal function here, it wouldn't work, but they were very, very cooperative, because it does impact flights, and we have given them back—technically, it goes from the surface to infinity. We've given them back above 5,000 feet, because airliners coming in from Europe, that's their coast-in arrival. About five to ten miles north of us here, they need to be letting down to come into Orlando, [Florida] and if we didn't allow that, it's a lot of fuel. It's delays. So there could be some impact, but we're working with them on timing and giving them back some of the higher altitudes.

ROSS-NAZZAL: That air space will reopen how soon after the SCA departs?

FRIERS: I think right now I show ten o'clock on Tuesday morning after the vehicle has departed, but we would extend if we delay. Really, it's come to a point where we have folks flying tourists now down the runway, which is okay. It gives my tower controllers what I call body count. They need so many operations for currency, and we're happy people are able to come in here at a safe distance and fly down the runway. You hear people on the radio all the time, "That's the thrill of my lifetime to have seen this."

But we have companies who are bringing tourists in now, so I have developed an email list of all the local flight schools, fixed-base operators in about a 50-mile radius, and I gave them a heads-up about two weeks ago that, "Hey, just for your planning," and they said, "Hey, thank you very much," because they would have been booking folks. But it's become a very popular

thing for the civilian pilots to be able to fly in, fly down the runway, and that's about as far east as they can go, down the runway and then a right turn out. But it's a thrill, and from a couple hundred feet you see the pads, you see the VAB, and it's a pretty big deal.

WRIGHT: Do they have to clear it with your tower?

FRIERS: Sure. Yes.

ROSS-NAZZAL: Anything else that we haven't talked about, about the SCA and DoD or your position here, that you think we might cover?

FRIERS: No, not that I could think of. I've been a lucky guy. In high school I used to launch model rockets, and now I've been able to play, really be involved in the Shuttle Program from beginning to end. And to still be flying, my god, I'm a pretty lucky guy. It's been a real thrill, and, of course, you miss it, but life has to move on. The Shuttle Program was an extremely expensive and manpower-intensive operation. I saw it from several angles, and in today's economy we just can't do it, as much as it hurts to pay the Russians millions of dollars. But, anyway, it's been a thrill.

ROSS-NAZZAL: Thanks for your time this morning. We appreciate it.

FRIERS: You're very welcome.

[End of interview]