

**NASA JOHNSON SPACE CENTER ORAL HISTORY PROJECT  
ORAL HISTORY TRANSCRIPT**

JEFFERSON DAVIS HOWELL, JR.  
INTERVIEWED BY JENNIFER ROSS-NAZZAL  
BEE CAVE, TEXAS – 9 JULY 2015

ROSS-NAZZAL: Today is July 9<sup>th</sup>, 2015. This interview with Lieutenant General Jefferson Davis Howell is being conducted in Bee Cave, Texas. The interviewer is Jennifer Ross-Nazzal, assisted by Rebecca Wright. Thanks again for inviting us to your home. We really appreciate it.

HOWELL: Delighted you're here.

ROSS-NAZZAL: I wanted to start by asking how you got to work for SAIC in 1999. You'd been in the Marine Corps for so long.

HOWELL: Yes. That happened because I was trying to get back to Texas. I had retired from the Marines after 37 years active duty. We were actually in Hawaii when I retired. I was commander of Marine Forces, Pacific. That's where we left the Marines. If I would have had a lucrative job in Hawaii I might have stayed there, but also we had a house that we had bought 20 years before that we'd been renting. So we went and moved back into it and fixed it up to sell it.

During that time, I'm working on my golf handicap, and after two or three weeks of that Janel walks in and says, "Beak." That's what everybody calls me, Beak, that's my call sign. "I married you for life, but not for lunch. Get a job." So I started looking for a job, and I wanted to come back to Texas. It's funny, as a retired three-star general, there are a lot of opportunities in the Beltway and Washington, DC; people want you because of your connections and then some

other industry people [and] other places [too]. But I wanted to come back to Texas. I'm a Texas native, went to the University of Texas [Austin] a couple times, and this is where I wanted to come home.

I started networking, doing all that, very frustrated, just like anybody else. Funny how it seems like you know a million people but nothing happens. After about four months General Jack [John R.] Dailey, who at that time was the [Associate Deputy] NASA Administrator, I checked in with him from time [to time]. He was a mentor in the Marines with me, he's like an older brother. He said, "Hey, you still want to go back to Texas?" "Yes, sir, I do." He said, "Okay, there's a guy named George [W.S.] Abbey at the Johnson Space Center and even though he is the Center Director at the Johnson Space Center, he's the most powerful man in NASA. I've talked to him. Go talk to him, he'll get you a job."

So I flew down to Houston, and I made an appointment to see him and was met by a guy named Rich [Richard] Dinkel. I don't know if you remember Rich Dinkel. He was the Deputy at SR&QA [Safety, Reliability, and Quality Assurance] at that time under John [H.] Casper. He was one of George's guys. George had his team, and Rich was one of those guys, and since he was a Marine and we had flown together in the Marine Corps, even though never in the same unit in the same bases, he escorted me in to see George and tried to give me the dope on what was going on there. It was very interesting.

Went up to the [ninth] floor in this huge office, very dark, and meet George. Maybe his Deputy was in there, I don't remember for sure but I know [that] Rich and George and me [were there]. We sat down at his conference table. I found out very quickly you got to listen carefully when George talks, because he talks with a very low, almost a mumble voice, brilliant man, but

he was an interesting fellow. After we had the niceties, “Hey, Jack Dailey says you’re a good man, so I say you’re a good man. Come work for me. I’ll get you a job; you can work for me.”

At that time you could not double-dip, which meant if you went to work for the government after retiring from the military, you had to forsake your military pay. I said, “Mr. Abbey, I appreciate that, but after 37 years in the Marine Corps, you don’t make any money; you just get plaques. So I would like to make some money. No offense to you, but I’d like to get a job outside of the government so I can get some wealth.” He said, “Oh, that’s a good point, Mary [Lopez], get in here.” His secretary Mary came running in. He said, “Get hold of [Russell] Turner and Jay [F.] Honeycutt and [Sam] Boyd and tell them that this guy wants a job and give him a job.” He said, “Mary will take care of you; go talk to those guys.” Turner had United Space Alliance, Honeycutt had Lockheed Martin, and Boyd was running the SR&QA contract for SAIC.

So first guy she fixed me up with—I think Russ Turner was his name. They were in an offsite with his management down in Galveston [Texas], so I drove over to Galveston, met him in a hotel lobby with Howard DeCastro, who was another former Marine, who was one of his deputies, and we chatted. This is when I’m starting to learn about George Abbey. He said, “If Mr. Abbey wants me to give you a job, you got a job. I’ll get you a job.” But he said, “Frankly, at your pay grade and your experience level, I don’t really have anything for you. I’ll find a place for you, but it’s going to be uncomfortable. It’s going to be different.” I said, “Mr. Turner, I appreciate that, but I’d like to be wanted.” I drove on.

At that time Honeycutt was out of town. I think he was in Washington or someplace. I went and saw Mr. Boyd, drove back up to Johnson Space Center. I think it was Building 5

where the SR&QA contract was. Sam Boyd was running the SAIC contract. They supported almost all the efforts for SR&QA.

I walk in the room and Sam is a wonderful fellow, but he's another interesting character, nervous Nellie kind of guy. He looked at me and said, "I understand Mr. Abbey sent you over here to see about working for us." I said, "Yes." He said, "I looked at your bio. You're a lieutenant general in the Marines." I said, "Yes." He almost came across the desk; he almost gave me a kiss. He said, "I've been trying for a year to get somebody to come take my place running this contract, because SAIC wants to move me up to be a district director, but Mr. Abbey keeps rejecting all the guys I send over. He wants you to come work? You got it, but you got to go talk to my boss first."

Neil [B.] Hutchinson was his boss for SAIC. He was in La Jolla, California. He said, "I already got your plane reservations. We'll fly you out there tomorrow. You go see Mr. Hutchinson." I fly out to San Diego thinking, "I've never really been formally interviewed for a job before. What's going to happen?" I found out the whole time I'm with Neil he's just trying to tell me how great it is. He's selling SAIC to me; I'm not selling me to him. He gave me an offer, I took it, and so I went to work for SAIC. That's how that happened.

Seems like that was in late November, early December of '98. I went to work for them right after the New Year, I think the week after New Year's in 1999. I was Sam's deputy for almost a month till he knew I had my feet on the ground, and then he gave me the whole contract. He went on to be my district director over several contracts.

At that time we had a little over 300 engineers in SAIC doing all the safety, reliability, and quality assurance work for both Shuttle and Station as well as bioastronautics. We were all over the Center. I had that contract for the next three years, and we expanded dramatically,

because that's when we started assembling the Station. All the activities really picked up. I needed more and more people, had a lot of QA people reading code for all the computer stuff that was going up to the Station. By the time I left that contract three years later, we had almost 500 engineers. It was just a matter of circumstance, because we were assembling the Station, Shuttle activities were really picking up. I became a big hero at SAIC because I grew that contract by a significant amount of dough, and it's really just because I just happened to be there at the right time. That was my introduction to the Johnson Space Center and getting to know my way around.

Looking back after becoming Center Director, because we were so integrated with both the Space Shuttle and International Space Station Programs, I really got to know those programs very well. However, when I became the Center Director, I had no idea how huge the number of activities and complexity of the Johnson Space Center was. It was just quite remarkable what I stepped into when I became the Center Director, but it was wonderful. Marines are sort of snobby; Marines look down their nose at everybody else. Just having to leave the Marines and be a civilian was just a terrible insult. I was going to have to be a civilian again. But when I got to the Johnson Space Center, I said, "These people are special," because they really are. The men and women who work there are so good at what they do, and they're so dedicated to what they do. Those three years with that contract I learned so much and really grew to appreciate the people there.

Then also as a contractor got to see a lot of flaws and got to see things through the contractor's eyes. All my life [I] had been in leadership positions in the Marine Corps—I was very disappointed in the lack of positive leadership at the Johnson Space Center. I'm getting ahead of myself, but that's what happened. That's how it happened.

ROSS-NAZZAL: Tell us how you were approached to become Center Director. You talked about all these Marine connections that you had. Did you have a connection with [NASA Administrator] Sean O'Keefe before?

HOWELL: Yes, I did. I like to tell people in my life story that I'm the real-life personification of Forrest Gump, because all my life, even going back to my childhood, other people have grabbed me and said, "Do this." I'd say, "Okay." It's been wonderful. People have introduced me and helped me do wonderful things. I really never had a life plan. I'm one of the most fortunate people that's ever walked on this Earth because I've gotten to do such wonderful things. Got to fly jets for over 20 years and cheat death and be a US Marine, have a wonderful family, and go places. It's just been wonderful.

Here I am at the Johnson Space Center. I'm probably going to give some opinions here that build, but you're going to hear this. This is just the way I saw things. I told you how wonderful the people were at the Johnson Space Center. They are, and they were, and their dedication and their professionalism was extraordinary. At the same time there was a dichotomy. You got these wonderfully smart, gifted, dedicated people; at the same time there was always a cloud over the Johnson Space Center. Something's amiss, something's wrong. There were ill feelings; there was almost a fear. A lot of it centered around the leadership of George Abbey. George Abbey was a brilliant man. George Abbey did incredible things for the Johnson Space Center, brought them tons of money and resources and helped them be the best and the greatest Center in NASA. I'll make that claim any day. It really was, and I think it still is.

At the same time, his leadership technique was what you call the FOGs (Friends of George) and then the others. If you weren't a Friend of George, you were in trouble. George Abbey, there were people that were just scared to death of him. They were on their toes. My boss at SR&QA, John Casper, astronaut, wonderful fellow, not the most charismatic guy you'll ever meet, but just a wonderful man, he was just totally intimidated by George Abbey. George Abbey just kept him on pins and needles. He was like a lot of other guys.

People suffered under George. If you got on the wrong side of George Abbey, you were put in purgatory, and if you were an astronaut or anyone else, you were in trouble. I observed this. It made for, you're in the in-crowd or not in the in-crowd. There was bullying going on between NASA civil servants and particularly from NASA civil servants, the way they treated contractors was just awful. It was awful. I was quite shocked. Being a guy I was a retired Marine, I told some people, "What can they do to me? Make me a captain and send me to Vietnam? I've already done that." There's not much that George Abbey could do to me. I did not allow that.

I was invited to be a Friend of George. They had Wednesday night meetings at an Italian place here on NASA Road 1, Villa Capri. I was told, "Mr. Abbey wants you to come." I said, "Sorry, I've got to go home." We always kept a very polite and very nice relationship, but I stayed out of that. I just stayed out of that. He never mistreated me. When it came down to fee scores, we were on a contract that was cost-plus-fee. When I'd report at six months, we'd do our fee score review and get nothing but rave reviews, outstanding work. But you're going to get a 75% fee score. I'd say, "Wait a minute, we were outstanding." I was basically [told], "That's all you're going to get because that's all Mr. Abbey will let us give you." That really bothered me.

We weren't the only ones. I know that was going on throughout the Center, that kind of stuff. I remember a guy named Leonard [S. Nicholson] was the head of engineering. Great guy, but he'd been in that position for seven or eight years, and he just pushed people around and screamed at them and chased them out. I'd go to engineering briefings, sit in the back, and watch him just belittle some young engineer trying to do the best they can, and for no reason at all except because he could. That kind of C-R-A-P really bothers me. I don't like that. I observed that going on.

I'm in my second year and lo and behold, they have the big financial crisis where \$500 million has gone somewhere between ISS [International Space Station] and Shuttle. It was double-accounted. There's big congressional hearings, Dan [Daniel S.] Goldin, who was a jerk, was in trouble, the NASA Administrator. To save his skin, he laid it all on Abbey. He fired him, locked him out of his office, and they wouldn't let him back in the building to even get his briefcase. He had to leave and not come back. Abbey was gone, and this was in my second year there.

They brought in a temp, a wonderful fellow from Stennis [Space Center, Mississippi], Roy [S.] Estess, wonderful guy. Roy came in, and he basically—I'm sure you've heard this. He rode herd, and he would not even sit at Abbey's desk in that building.

ROSS-NAZZAL: I hadn't heard that.

HOWELL: He sat at his conference table. Never turned on Abbey's computer. Roy was a good guy, but he would not make any decision that changed anything one way or the other. He just rode herd. The herd was going this way. Hopefully it's going the right direction, because he's



just going to ride it. That was going on for that next year. It got too hot for Goldin in my third year, and he left then. Sean O'Keefe comes in. Now here's where you asked the question I'm finally going to answer.

ROSS-NAZZAL: This is great background.

HOWELL: Sean O'Keefe was Secretary of the Navy back in the early '90s, when I was a two-star wing commanding general in [Marine Corps Air Station] Cherry Point, North Carolina. He came in after—I don't know if you remember James [H.] Webb, who's now former senator and might run for President. Webb had been Secretary of the Navy under Daddy Bush [George H.W. Bush] and got upset because he couldn't buy all the ships he wanted to buy, and he left. President Bush brought in Sean O'Keefe. He was only 35 years old. Made him Secretary of the Navy. His father had been a Navy career man. O'Keefe came in and just by coincidence he came down to Cherry Point and spent a day with us. He was giving some talks at a local college, a women's school I think, and so he came and visited us at 2<sup>nd</sup> Marine Aircraft Wing, Cherry Point, North Carolina.

He spent almost a day with us. I took him around, and I just fell in love with him. He was just young, vivacious. I liked it because I'd take him into a hangar where there were a bunch of Marines working on airplanes, and he'd get up under the airplanes where it's greasy and shake their hands and talk to them. I liked his act. That one day he spent with us, I said, "Hey, I like this guy." Next thing I know I'm at NASA, and we had never had any connection except that one day that we spent together and never talked to him again until all of a sudden the

President picks him to be the next NASA Administrator. He was in, I think, the Office of Management and Budget there in the White House.

So he comes in. I hear the word is that he's grabbing Charlie [Charles F.] Bolden to be his Deputy. That didn't work out, but [at the time we thought] that was going to happen. Charlie and I were very good friends. I love Charlie Bolden. So I'm thinking now that's going to be a great team. You got O'Keefe, you got Bolden. They're going to rock and roll. Through some mutual friends—I think it might have been General Dailey. By this time Dailey had moved over and was now the head of Smithsonian [National] Air and Space Museum [Washington, DC] where he still is.

I think I told him, "Hey, tell Mr. O'Keefe that Howell is down in Houston working on a contract, but if he needs me on his team, I'll come. I'd be interested." About a month later I got a call from a fellow who worked for O'Keefe, said, "Hey, could I come talk to you?" We met off site and chatted about "Well, what would you like to do?" I said, "Hey, I'll do windows. Here's my bio. Whatever you want. I like to lead. I like to be in a leadership position. I love doing that stuff. But whatever he would want me to do, I'd just like to be on his team."

About a month later I got a call, "Mr. O'Keefe would like to have dinner with you." We met on the other side of Houston secretly. I think Bill [William F.] Readdy and a couple other guys were there, and we chatted about the Navy and about his time as Secretary of the Navy and the guys we knew. Finally, just in the last moment, he said, "Are you still interested in working for me?" I said, "Yes, sir." He said, "Well, how would you like to be the Center Director of Johnson Space Center?" I said, "Well, I'd love it but probably ought to talk to my wife about that before I would accept that." He said, "Well, you're on a short list. You're not the only guy who I'm thinking about. Work it out with your wife, let me know."

Seems like it was about November or December, maybe early December of 2001. He goes away. I go home and did not hear a thing for the rest of December, all of January. I'm thinking well, so be it. Rumors are flying all over JSC. "Who's going to be the next Center Director?" They'd say everybody under the Moon. Lo and behold, Valentine's Day in 2002, 7:30 in the morning, I'm glad I was at work early, because I get a call from Mr. O'Keefe. "Hey, Beak, Sean O'Keefe, you still want to be the Center Director?" I said, "Sure." He said, "Okay, you got it. I want you to go to work tomorrow."

You were asking about the vetting process and all that. "Well, I owe it to SAIC—we need a turnover." Said, "Okay, when can I get you?" I said, "How about 1 April?" Because I was married on 1 April. That's a significant day in my life, April Fools' Day, and my son was born on the 1<sup>st</sup> of April. He said, "Okay, okay. Get ready and go for it."

He made the announcement the next day, and he got in a lot of trouble because they did not go through the SES [Senior Executive Service]. He got in all kinds of trouble with the Office of Personnel, and he had to retract his offer. They had to put me in a competition and they hired me on as a Temporary Acting Center Director for the next couple [of months]. I actually came on 1 April, but it was until they could get through all the things you have to do in the government to hire an SES. Finally, a couple months later, I become officially the Center Director. That's how that happened.

There were a lot of shocked people who were just wondering. Most people didn't know me, and then even the people who knew me were probably saying, "How the heck did this happen?" It became an incredible adventure. The next three and a half years were just absolutely wonderful, bad and good, but just an incredible experience for me. I'm so fortunate that I had that experience. That's how that came about.

ROSS-NAZZAL: What did your wife think when you came home and told her? Were you talking about the pros and cons? Coming up with a list.

HOWELL: Yes, well, the big con was I was taking a heck of a pay cut. I'd become a hero at SAIC. They were paying me big bucks with that contract, and to become a government employee—by this time though you could double-dip. They changed that law in the last two or three years, so I could still get my Marine retirement and get full pay. That was a blessing. But I took a big pay [cut], had to give back a big bundle of stock options. SAIC was a very good company, and they were making big bucks. She always, to this day, reminds me of the pay cut we took for me to do that. But she said, "Howell, you're going to do what you want to do, so we'll get through it; we'll be okay." That's the way it's always been.

ROSS-NAZZAL: You gave a history of what you had witnessed at the Space Center and things that you didn't particularly find enjoyable as a Program Manager. What were some of your goals when you accepted the position? What did you want to change?

HOWELL: I wanted to, of course, take the goals of my boss Mr. O'Keefe, and we're going to effect those goals. As a Marine, I learned I take care of the boss. Otherwise I shouldn't be there. The NASA goals are the goals we're going to achieve. At the same time, personally, I really wanted to see if I couldn't turn around the attitudes in the workforce to get a better working environment. Because you have all these dedicated people doing wonderful things, but at the same time bad feelings are not necessary. You can get so much more done when people are

working together than working against each other. I was trying. I really wanted to develop programs and attitudes and put the right people in the right jobs to get a better team, just more effective teamwork and esprit among all the employees.

Being a contractor there, it was very obvious to me, after those three years, that the contractors do all the work at Johnson Space Center, and yet they got no acknowledgment for that. The 3,000 civil servants get all the glory and the other 10,000 employees get it all done. They were just as dedicated. That SAIC contract had a big number. They were like every other contractor who had worked there for 20 years, trading badges every time a new contractor got the contract. They had to give up their insurance, give up their retirement, swap around, and they did that because they loved what they were doing. They were so dedicated to doing that mission. To me, that was wonderful. They should get some satisfaction for that. They should get acknowledgment, and it should be more of a team spirit between the two. That was really something I wanted to achieve.

In the first year drinking out of a fire hose, learning all the things that were going on there that I really did not know about. It was just remarkable stuff. Oh my goodness, the robotics. You get into Space and Life Sciences, and all the research they were doing on bioastronautics and trying to keep people alive in space and viable, and all the efforts we were going to do that. Then dealing with the astronauts and working with the astronauts, those wonderful people, every one of them. There are some of them [that] have failed, but as a rule, they are incredible men and women who are just a joy to be around and to work with, being with them and working with them.

That was what was interesting. There was a cloud because of Goldin leaving and Abbey being fired. There was still that defensive nature of the permanent personnel there, particularly

in Building 1 up on the top floor, because they had been a part of all that, and they felt like the world was against them. That was really an attitude; it's us against the world. "Woe is me, oh, it's so bad."

I inherited really a negative, "We are just the unliked by everyone, and everybody's after us. Nobody loves me, everybody hates me. I'm going to go home and eat worms." That seemed to be the attitude of most of the leadership. After my first couple weeks bringing my direct reports in and they giving me briefings on what they do, it only took me about three or four days. I remember getting Randy [Brock R.] Stone in there who was my Deputy.

I said, "Randy, we can't lose. This place is just loaded with talent, and people doing great things. Why is everybody so upset? We got winners here. If I could have had people like this in the Marine Corps Lord only knows what I could have done. We are just going to kick ass, man. This is going to be great!" [It] became my quest to hopefully get that attitude [changed]. Let people realize how great they were, there's nothing wrong with saying you're great if you are. That was just another aspect of what I hoped to build, that kind of attitude, there. Take pride and be joyful in your work because it's wonderful stuff. That was what I was trying to get done.

One thing I did start very early on, that I'd done on the contract. I started a leadership training program on our contract, trying to help my managers become better leaders and teach them. I just found out they were wonderful engineers but lousy leaders, because no one had ever taught them. The Marine Corps just emphasizes that from private on up. "You are going to be a leader. We're going to teach you how to lead right." I tried to bring that into my contract, and it actually spilled over. John Casper in our second year there, he approached me and said, "Hey, I hear you got a leadership training program for your employees." I said, "Yes, sir." He said, "I'd

like to get that for our people.” I actually started doing that for the civil servants under our contract too.

I tried to bring that into NASA with HR [Human Resources] and we got a Leadership Training Program going pretty early. That first year I was in a learning mode more than taking any action kind of mode, because it just so much cooking, so much going on.

ROSS-NAZZAL: Was that Leadership Program part of your Beak’s Rules of Leadership?

HOWELL: Beak’s Rules is—

ROSS-NAZZAL: We’ve heard about that from a few folks.

HOWELL: You want to hear about this? I’m going to waste your time. I’ll tell you a story.

ROSS-NAZZAL: Oh, you’re not going to waste our time. This is great.

HOWELL: About midway through my career I’d been a squadron commander. They sent me to Top Level School to Air War College [Maxwell Air Force Base, Alabama]. Ended up at Headquarters Marine Corps [Arlington, Virginia]. They finally trapped me and I got a tour at Headquarters Marine Corps, Aviation Department. Part of my job as a lieutenant colonel, I’ve got a little office with a team of officers. We were in charge of all the Marine aviation programs, buying of aircraft, bombs and supplies. That was our job, to run that for our general there at the

Headquarters and make sure the Marine Corps was getting supported with all the stuff they needed.

Another offshoot of my job in that office was that I was required to go up to the Navy War College in Newport, Rhode Island, and brief them on the Marine Corps aviation programs, the Marine students. The Navy War College had the top Marine officers who were going to be leaders of the future, so they wanted to make sure they were briefed on these types of things. My job was to go up there and give them a briefing about the Marine aviation programs. Of course as a good Marine, I checked in with the senior Marine, who was a colonel, and very nice man. He said, "Okay, I'll set this up to go talk to these guys. Stand by in my office."

He had one of these wonderful offices that was just stuff all over the walls, pictures, photographs, plaques, just great stuff; he had a great office. I said, "You mind if I look at your stuff?" "Oh no, go for it." He goes off. I found out in one corner of the office, he had a little framed thing just like something like this with a frame. [Demonstrates] Had "10 pretty good rules" on top of it. It had these rules. Said, "Don't fight with a bear in his own cave. Sun don't shine on the same dog all the time. Don't wrestle with a pig. You get dirty and he enjoys it." All those. I thought those were great. When he came I said, "Do you mind if I copy this?" "Oh no, go for it." I copied them all down. From there on out, I had those rules on my desk. When something would happen I'd say, "Well, hey, that's rule number five. Things are never as good or as bad as first reported." I carried that on into our contract, all the way through my Marine career. Here I am at SAIC still spouting out these rules from time to time.

When I get the job as the Center Director, SAIC had a big farewell for me. Of course I was going to be their boss now, so they wanted to treat me real nice. They gave me this wonderful farewell party. As part of it they gave me a plaque. It said Beak's Rules. I said,



“Where did you get that?” They said, “Well, you say that stuff all the time.” I swear I did not realize that I was. They had written this stuff down as I expounded in meetings, and those are what became Beak’s Rules.

It’s funny, I’ve taken those rules, and when I teach leadership I have a story to go with every rule that shows why that rule in my mind is important from my own experience. That’s really what Beak’s Rules are. My SAIC employees gave that to me. Funny how that works.

ROSS-NAZZAL: Kind of unusual that you came in to be Center Director, and you were a contractor. All the other former directors at JSC had been civil servants, most of them flight control. Carolyn [L.] Huntoon had been from Life Sciences. How were you welcomed by the rest of the civil servants into this position?

HOWELL: They were all very polite and friendly. I’m sure they all had an eyebrow up, what’s going on with this clown, where did he come from. I’ve always been fat, dumb, and happy. I never let things like that really bother me one way or the other. It was water off my back. People were nice enough to me and after a while started, I think, reacting well to my leadership. Most of them came on board and came my way after a while. Initially not so much.

I know it wasn’t just me but Sean O’Keefe, when he came in with OneNASA and all these new programs and this integrated financial system that made a huge impact on all of NASA. There were a lot of people throughout NASA who were saying, “Hey, we’re just going to wait this guy out. He’ll come and he’ll go.” I’m sure people felt that way about me. There was that going on.

There was another thing, the dark side, the thing that bothered me, to this day bothers me, there were still the old associations from the Abbey days. There were secret societies at the Johnson Space Center and in NASA. You had certain people in certain roles as the head of this, head of that, but they really weren't the ones in charge. There were other people in the network who had a direct link to whomever, usually George. He had a string attached to everything. That's how he got things done, and some people were there as token heads. It was just terrible. That kind of stuff was hard to break through and get rid of.

I found out in meetings with certain direct reports, confidential meetings, "This is just between you and me. This is an important thing; you need to know this, but it's just between you and me," then I'd get a call the next day from Headquarters, "What the hell is going on? I hear this, hear that." Some of our people could not rid themselves of that secret society. To me that's a cancer in any organization, not just to me, for any organization. I always want to be up-front. Let's take the team we have here, and we're going to do great things with our team. We don't need that kind of stuff. If you can't cut it, I'm going to get somebody else, but we're going to be honest about it.

That went on, all the way up to *Columbia* [STS-107]. *Columbia* happened in my eleventh month, and it was interesting. That was almost a year, not quite a year. There were some realities that were finally soaking through to me that I'm going to have to make some changes with some key personnel. They're wonderful people, but they just are not on my team. They just can't break themselves away from the old ways.

*Columbia*, that catastrophe stopped all that for a while. Then after it had happened, it gave me an opportunity to make some changes that got swept under the rubric of everything else changing. It had to happen because there were still those associations going on. To this day I

hate to think good people got stained because they were part of that and they couldn't get out of the system. They couldn't get out of the system. It's sad.

Mr. Abbey still had a great influence. He moved across the street, but he was well connected. He knew everything that was going on at that Center for the next several years. I knew that. So be it, heck, I had my own fish to fry. I couldn't be concerned.

Some wonderful things that happened. I'll never forget my first day, April 1<sup>st</sup>, went in early just to see what time people come in. I'm in there about 6:30, and people are coming in. Right at 7:30, John [W.] Young walks in with a cup of coffee, guy walked on the Moon. He said, "Hey, mind if I come have a cup of coffee?" I said, "Not at all, John, come on in." He and I had a cup of coffee every morning for the next two or three years. That was just one of these wonderful things. Here I was sitting there chatting with John Young.

Of course he was a serious man. John is just as serious as a stroke. He's all business. He's a wonderful guy. Got a wry sense of humor, but he had an agenda. He wanted to make that Shuttle safer, and he harped on me. He harped on Ron [D.] Dittmore. He was continuously beating the table, trying to get things done to make Shuttle a safer machine. It was going to be very expensive, a lot of the stuff. He was very frustrated. That was so special, having John Young come in my office and drink a cup of coffee with me every morning. That was cool.

ROSS-NAZZAL: That's a great memory.

HOWELL: Not many people can say that. That was cool. Did I answer your question? I can't remember what the question was.

ROSS-NAZZAL: You did. You're doing great. I wanted to ask you about STS-110. That was the first mission in which you were Center Director. Did you have any involvement or pretty much everything had been signed off by then?

HOWELL: Just a little. You find out in the rhythm of Shuttle launches—those things are worked on for at least 18 months, the preparation before a launch. Toward the end certain things happen that begins about a month prior, when you go through a certain ritual of events. As I recall that was about the second week of April when that went up. I just got there on the 1<sup>st</sup> of April, so I did go to the launch. I went to every Shuttle launch. I was at the Launch Control Center, had a chair with a computer. I was actually up on the top row. What was really neat about the JSC Center Director's position was we were right by the window looking out on the Shuttle. You could see the Shuttle on the pad. We were the closest ones to it. I'd be there.

You had all the TV. Launch director, we were on the same level with him. He's in the middle of the room about five or six guys over from me. I'm over on the left. As he's facing the room, I was on his left around the bend there but up on the top. When we go through countdown right at about four seconds, five, I should remember exactly. I think it was four seconds. They would light the liquid engines. It's on TV, but I could swivel in my chair, and there it was right out the window. Then those solids would go and boom, off it goes. The vibration, the pressure would hit you about four seconds later, hit the building, it just rattled the building, it was so cool, just boom, that was thrilling, that was wonderful. I got to do that for all the launches as Center Director.

The minute it got about 200 feet off the ground, Houston took over the control. I had to go racing out to the airport. We just used the Shuttle landing site. We'd have a Grumman

Gulfstream there. I'd get on that thing, and we'd race back to Houston because it was now under Mission Control, Houston. I would always be at Mission Control for landings there in Houston.

They had a place—I'm sure you've been there, where you can sit and look down on Mission Control. Over to the right there's an enclosed cupola there, which is the Center Director's place up there. I would be up there with a bunch of heavies for all the landings. That's where I would be positioned to observe and see what was going on. I think it was just to keep me off the floor, to keep me out of the ways, but I'd be up there. Ron Dittimore and John Young and the head of engineering and my Deputy and other people would be up there for all that. That was just a ritual we'd go through, always be there for the recovery and landing. That was so wonderful. That's where I was when *Columbia* happened.

The next launches, I became involved as the Center Director. I guess I should, at this moment, say that there was a dramatic change made when Mr. Abbey left and then Mr. Goldin left. When O'Keefe came in, he made some very dramatic decisions. I think it was more to do with the monetary scandal that had gone on. When Mr. Abbey was the Center Director, he was in charge of Shuttle Program. He was in charge of the ISS Program. They were under him. Then he went directly to NASA Headquarters [Washington, DC], to the Administrator. That all changed under O'Keefe. They created an Office of Manned Spaceflight and the Shuttle and ISS Programs were under that Office in Washington, DC. That was a huge change. As a Center Director, I was still on that line of command, but I really was not a final decision maker in that. However, I had a vote. I was always in the final flight review we would have two weeks before every launch there. That's huge. I don't know if you've ever been to one of those things.

Everyone that has anything to do with the launch meets in Kennedy [Space Center, Florida] in this huge room, and they brief the entire mission from the very beginning to the very

end, every aspect of it, the weather, alternative landing sites. Everything is briefed, and why it's okay to go. There are about at least 200 or 300 people in the room. At the main table you have the heavies, the head of ISS, the head of the Shuttle Program. You'll have the head of spaceflight there, you'll have the Center Directors of JSC, Marshall [Space Flight Center, Huntsville, Alabama], Kennedy, Stennis, all the manned spaceflight Center Directors are there. Everything that comes up, you can raise your hand and say, "Stop, I don't buy it." You had veto power at that table. It's huge.

I was there for that, and a member of those things. It was tedious, incredibly professional, and some heavy stuff. To this day I'll always feel badly that when they briefed that foam coming off of that Shuttle that happened two missions before 107, that we allowed that to go on without fixing that. I was one of the guys that said, "Okay, go on," and I still have a terrible lump in my gut from being one of the guys that made that decision, instead of saying, "Stop, there's something wrong here." Not knowing that two missions later it would cause a catastrophe. I was at the final flight reviews. Then I'd fly back.

I think one of your questions that you put on here, what was the difference between being the Center Director and other things, it was really very nice. As a contractor, I'm going to go back, is this okay?

ROSS-NAZZAL: It's great, no, I'm not kicking your foot.

HOWELL: When I first came there and was running that contract, final flight reviews were attended—among the 200 or 300 people in the room there would be representatives from different JSC departments, the head of engineering, the big guns that were part of the Shuttle

Program, the ISS Program, SR&QA. John Casper always went to those things and had a chair and had a couple of his minions sitting with him. That room was packed, it was reserved seating. You had to have a pass to a chair to get in there, that's how huge this thing was. I wasn't part of that.

I went to every launch. I just felt obligated to go to the launches. Like every other pedestrian I would go to Houston airport, [George] Bush [Intercontinental], and fly to Orlando [Florida], rent a car, drive down, find a hotel to rent, and then I would get a pass to sit out on Banana [River] or wherever that was where you could watch the launches. That's the way I went to see the launches. I'd been going to these launches, trying to do my job.

November 10<sup>th</sup>. You know why November 10<sup>th</sup> is so important today? Don't ever forget this.

ROSS-NAZZAL: November 11<sup>th</sup> I know, but not November 10<sup>th</sup>.

HOWELL: November 10<sup>th</sup> is the birthday of the Marine Corps, 1775. Marine Corps was founded on November 10<sup>th</sup> at Tun Tavern in Boston, Massachusetts. Every year the Marines celebrate the Marine Corps birthday around the world. We have this huge celebration. If you've never been to a Marine birthday ball you should go. It's quite an event. They follow a ritual that they've done for the last 100 years.

Houston has a reserve unit there. Houston is a big town. They put on a huge ball where you'll have 1,500 people at this Marine birthday ball. I got invited, since I'd been a big shot, I was a three-star general. I got invited by the local heavies there in Houston to be their guest of honor at the Marine Corps birthday ball. The guest of honor always comes up, and you're part of

the ceremony cutting the birthday cake. You give a speech. It's a big deal, and you're in your dress uniform.

I was invited to be the guest of honor that first year in Houston. Unbeknownst to me, Jake [Clyde L.] Vermilyea and Howard DeCastro, both former Marines who worked for United Space Alliance, they were FOGs; they were Friends of George. They invited their boss, Mr. Turner, and George Abbey to go to the ball, so George Abbey is at this ball.

I came up, and you've probably gotten to know me by now. I'm a rah-rah guy. When I give a speech on a Marine Corps birthday, I let it go. I get everybody on their feet, pounding their chest, saying how wonderful we are as Marines. Marines love to hear how wonderful they are. When you tell them that, they just eat it up. I had the crowd on their feet, cheering.

After that's over I go back to my chair with my wife, and next thing I know, George Abbey is at my table. I stand up of course to shake hands. He said, "I just wanted you to know that that was a great speech; I really enjoyed your speech." I said, "Well, thank you, Mr. Abbey, I'm glad you're here." He said, "Are you going to be at the FRR [Flight Readiness Review] next week?" I said, "No, sir." He said, "Why not?" I said, "Well, I haven't been invited." He said, "Well, you are now, and I want you at every one of them. Tell John Casper I want you at the FRR." So I started going to the FRR. That was on a weekend—that next Monday I go to Casper, I said, "By the way, Mr. Abbey wants me to come to the FRR and told me that you're going to fix that up." He looked like he was going to have a baby. I started going to the FRRs as part of the SR&QA crowd, because Abbey wanted me to. It's funny how that worked out.

That became something I understood, before I became the Center Director. I came to find out what an FRR was and how important it was and the gravity of the thing. That's something a lot of people don't know about. When you talk about the culture, we came under



fire by the CAIB [*Columbia* Accident Investigation Board]. People are so darn serious about trying to do everything we could to ensure the safety of those astronauts. It was unbelievable. We made mistakes. Lord help us, so many people were trying so hard to be just as safe and as low risk as possible.

I was very impressed by that, just going and listening and hearing while all that was going on. If you had an alternate landing field in Spain, if they were going to have bad weather, they would cancel the whole thing, say, “You can’t go.” There were so many pieces of the puzzle that had to fit for a launch to be successful and go. It was remarkable, really remarkable.

ROSS-NAZZAL: People think it’s easy, almost. We talked a little bit about O’Keefe, and you mentioned that he had some new priorities for NASA, one of which was a speech that he gave out in New York, which was basically a new vision for NASA, a new mission. Do you want me to give the framework and the vision here?

HOWELL: Sure.

ROSS-NAZZAL: Okay. “To improve live here, to extend life there, to find life beyond,” and the mission was “to understand and protect our home planet, to explore the universe and search for life, to inspire the next generation of explorers as only NASA can.” Can you talk about that vision and what impact that had on JSC?

HOWELL: Sure. I was one of the guys that helped put that together. Sean O’Keefe really believed in meeting with his Center Directors and his top leaders at NASA Headquarters on

offsites. We did that a lot. He had an offsite very early on where he said, “Here is the old [one],” I can’t remember the old mission statement of NASA. He said, “We need a new mission statement. What do you think it ought to be?”

We spent two days and two nights pounding that out and came up with that vision. I was proud of that. I thought that was a wonderful vision. There were all kinds of ideas. Typically when you’ve got a roomful of engineers, they want to engineer it to death. They keep adding words and words and words. Had a mission statement full of words. There were several of us that said, “Hey, it’s got to be elegant in its simplicity. Let other people come up with their own conclusions of what this means, but it needs to be a powerful simple statement.” That’s what we came up with, so I was very proud of that. I thought it told the whole story of what NASA was about. You notice that the human spaceflight people made sure there were words in there that ensured that need to get people out there in space. Because there’s always this tug-of-war between just technology versus people going into space, and to this day you have that argument, why do you need people out there when you can do it with robots. That was going on even at that time.

One reason JSC was so paranoid is because all the other Centers hated JSC, because JSC got most of the stuff. JSC was doing the sexy stuff. We had the astronauts, so we got all the attention, all the glory, and the other people were doing great things but getting very little attention or credit. JSC was getting the lion’s share of the budget. For the last 20 years the budget had been flatlined. It was around \$15 billion a year is literally what NASA got. You know what the JSC budget was? Five point five billion dollars a year for JSC.

ROSS-NAZZAL: That’s a third of the budget.

HOWELL: That's huge. I became Center Director, and they showed that to me. I almost fell out of my chair. My goodness. That was almost the entire budget of the US Marine Corps at that time. It was just incredible. Of course most of that money, the lion's share of that, went to the Shuttle and the Station. There's still a lot of money that you could sweep up for other stuff. When my people would come to me and complain, "we need more money," I'd laugh at them. I said, "Man, you don't understand how lucky we are. We can get it done." Money was never a big issue with me because we were rolling in it, we really were.

It was a zero-sum game, because since the budget is flat, any time we got an extra buck somebody else lost one. It's a zero-sum game. If Marshall got a little bit more money, that meant we got less money. There was this competition among the Centers. When I came here, the Centers didn't get along very well, and they didn't like each other very much frankly. There were ill feelings. George Abbey created a lot of enemies, and a lot of them were up at Headquarters [who] thought that he got too much. When Abbey went away a lot of people said, "This is time for JSC to get their comeuppance." There were a lot of people trying to lean on JSC and take things away from JSC. I laughed about it and I said, "Hey, we'll get through this okay." But some of my people were very upset about that; they're going to get us now. Said, "Well, maybe we need to be gotten, but we're going to be okay."

That was always another one of these underlying—as good as things were, there was always these ill feelings that permeated things. I don't know why that was. It was part of the culture.

ROSS-NAZZAL: It's interesting how politics was influencing all that.

HOWELL: Oh gee, oh yes.

ROSS-NAZZAL: How were you charting that new course for JSC based on that new vision and framework?

HOWELL: There were concerns. I think you put in one of your questions on the sheet that he was thinking that technology was going to be a key issue. There was that concern, because he said that.

ROSS-NAZZAL: Yes, I wondered about that.

HOWELL: But it did not take long for Sean O'Keefe to come under the spell of manned spaceflight. Manned spaceflight is sexy, and Sean O'Keefe was a guy who that appealed to. He became a great supporter of human spaceflight and of the astronauts and all the things we did. He loved to be a part of that. He was at the launches, and he was at the recoveries and the celebrations we would always have when they came back. Sean was a huge supporter of manned spaceflight. Those words came out of his mouth, but he gave us total support; we were in good shape.

Also Bill Readdy, who became the head of the Human Spaceflight Department—that's probably not the right name. He was my boss up there. He and Sean were very close. Bill Readdy, he was a Navy man. I think that's another reason why Sean really trusted him. They

became very tight, so I think Bill really influenced Sean toward supporting human spaceflight. That was to our advantage in that regard.

ROSS-NAZZAL: You mentioned that you worked on that framework and vision—were you involved in the discussion to create that educator mission specialist role that he announced?

HOWELL: I guess there were those discussions, but that was something that that was more initiated at Headquarters with Sean and his inner circle. That just came down as a directive, this is what I want to do, and basically we said, “It’s a great idea; it’s time for that.” There were skeptics at JSC, the engineers, the technicians, a lot of the astronauts. They had had some issues when Barbara [R.] Morgan and—I’m trying to think. The wonderful gal that got killed on *Challenger* [STS-51L].

ROSS-NAZZAL: [S.] Christa McAuliffe.

HOWELL: Yes. They weren’t the only ones, but they had several instances of the earlier educator astronauts who did not perform very well when going through training, been very weak at things. There was a certain amount of, I guess, doubt that they would come through and do well. But other than that the only influence I had—we only recruited one astronaut class while I was the Center Director, and we had three educators on that. That was part of it. Basically we were given guidance from the Administrator on what he wanted, and so we had a committee.

I think HR, the Astronaut Program, and there was a special office there. There was a little guy, he’s retired now, great guy, Duane [L. Ross]. That was his job. Duane took care of

the astronauts and recruiting astronauts and putting that program together. He was wonderful at what he did. He was just great, and he was a good guy. They put out the call. These are broad numbers, but they stick in mind. We had about 5,400 applicants for that class. They reviewed all their records and came up with 100 finalists. All those finalists came to JSC and spent a week. They came in groups of 20 or 30 and they would spend a week there, vetted. They almost had to talk to every astronaut who was there, they were graded, and they were interviewed. They went through a very strenuous physical examination and that cut a lot of them. The physicals were always a big issue.

When all was said and done, I was handed, "Here are our nominees." We had 11, and I concurred. I always trusted them that they knew better than me what they really wanted, what they needed, and I found no objection. There are politics. We wanted to ensure that we had an Air Force, a Navy, a Marine, and a soldier, because the DoD [Department of Defense] had been such an incredible supporter of NASA and our programs. They were highly capable too. For the Shuttle you do need a pilot to fly it. As long as we had the Shuttle Program we needed to have some people coming through who could fly the darn thing. You had to have those qualities.

More and more of the specialists were not aviators. That's how that class came through. I think they were a wonderful group and did very well. Does that answer your question?

ROSS-NAZZAL: Absolutely. Did you have any role in supporting Barbara Morgan's position? She was going to be the first educator mission specialist.

HOWELL: Yes. Barbara, she was doing her job. Of course she'd been around forever, it seemed like. She was given a priority for good reason, for her seniority, her perseverance, and she went

through a very strenuous training. I'd say that she was not the most gifted astronaut. She didn't pick things up as quickly as others in so many ways, but she got it done. She came through the training and did her job and qualified herself to go into space. I trusted the Astronaut Program and the trainers; whatever they said, I said, "Hey, that's your job." I guess I rubber-stamped them, but I really believed they knew what they were doing better than me, because I couldn't be there to oversee all that all the time.

ROSS-NAZZAL: There's so many people working at JSC, as you pointed out. Lots of contractors.

HOWELL: It was a lot of trust, and that's one thing as a Marine I learned. If you have the right people and they're capable, then you can trust them to get the job done, let them do their job. There's a lot of different ways to skin a cat. You don't have to teach people how to do that. I carried that into Johnson Space Center. Probably bothered some people that I was not the detail guy that some other people had been, but that's just my way of doing things.

ROSS-NAZZAL: You weren't a micromanager either, it doesn't sound like.

HOWELL: Yes, that's never been my thing.

ROSS-NAZZAL: It's funny that you said that because I went to a presentation by Chris [Christopher C.] Kraft when I was an intern. I remember him saying something similar, like there's always different routes to take for things, and you don't always have to have the same path for every decision. Must be the sign of a leader.

HOWELL: As a leader you can really stymie initiative if you keep telling everybody how to suck eggs. You just don't need to do that.

ROSS-NAZZAL: You had mentioned earlier that O'Keefe had brought in some changes. He had moved Shuttle and Station up to Headquarters out of JSC. You had more of a—I don't know—partnership with those two offices. Would you talk about that and how things changed?

HOWELL: I'm almost embarrassed because frankly, in the three years I was there, we never did quite figure out exactly how we fitted, to tell the truth. There was a lot of confusion. I think it came out after *Columbia* that the association, who's in charge of what, who works for who, who makes final decisions, that was still being worked out and nebulous. We did not do a very good job of sorting that all out after they made that change. I probably had more influence than I should have, because the Center Director had had so much in the past and people just basically accorded that to me and gave me that power, even though officially I was not really in the decision chain, even though I seemed like I was a part of the decisions. It's murky.

This OneNASA thing, he was trying to make things more efficient. There was a lot of redundancy among Centers doing the same thing. He was trying to get that sorted out. So that became a big war between the Centers on who's going to do what. We were going through all kinds of briefings with our people in Washington of what we think we should do and here's what they think we should do and who does this and who does that. That was still going on when I left. It was really a big tug-of-war between the Centers on who was going to do what. Just like—what is the thing that we burn tile there?



ROSS-NAZZAL: The arc jet, yes, that was a big controversy.

HOWELL: They wanted to take ours away because there was a newer one out in California [Ames Research Center, Moffett Field, California]. Yet when we needed to get something done, we could do it in 24 hours; it would take two or three weeks [in California], so the costs were prohibitive in time and money. People wouldn't take that into account. Those were the kind of things going on.

I think one of your questions was my association with [Center Directors] Roy [D.] Bridges and [Arthur G.] Stephenson. Really we were very civil with one another and got along well. Bridges and I were very compatible. He was a nice fellow, sort of a woe is me kind of guy. Roy always felt like they're leaning on me, I don't know what it was. But he was a good man. Stephenson was really pro Marshall to a fault. He was always wheeling and dealing and trying to get more stuff at Marshall at the cost of everybody else. In that regard, even though we were friendly enough, I couldn't trust him, I had to watch him, because Art Stephenson was always trying to get stuff from JSC and bring it to Marshall. He connived and worked at that all the time.

ROSS-NAZZAL: Can you give us a couple of examples?

HOWELL: He was supposed to be the engine guy. They were supposed to do the rocket engine stuff. He developed a Mission Control Center at Marshall. He wanted to bring Mission Control to Marshall. He had all kinds of these initiatives; he thought Marshall should do this and do that.

Those are the kind of things he had cooking. He kept trying to convince the NASA Administrator that Marshall can do this a lot better than JSC.

Sometimes it was laughable because there were times, particularly after *Columbia*, when we had to really [work together]. The Return to Flight was a huge endeavor. We had to spread out the task. There was so much frustration trying to get Marshall to get off the dime and get something done. I shouldn't say that, but Johnson Space Center was a go get 'em kind of organization. Johnson Space Center, everyone there, civil servants and contractors, it was come on and stay on till we get the job done. If there's something to get done we're going to come on and we're going to pound it flat, we're not going home till we get it done.

You did not find that at other Centers. It was more of the 8:00 to 4:00 manana. Johnson did not work that way. Johnson, their culture was, if there's an issue we're going to take care of it. I was proud of that, because the Marines do that. That's a Marine kind of attitude. I fit right in with that, and I didn't instill that, that was there at the Johnson Space Center. That was the attitude there. So it was almost laughable what you could get done at the Johnson Space Center in the time you could get things done compared to other Centers. We just got things done. It was a source of great pride. That was an issue that caused tension between Centers.

ROSS-NAZZAL: How do you counter that when someone comes up with this idea, "Hey, we're going to build a Mission Control out at Marshall even though JSC has been doing it for 40 years?"

HOWELL: Well, just try to get it out in the open, make a comparison of here's what we have, here's what they want to do. Present the facts and reasonable men usually—the facts take care of business. That was basically what you tried to do.

ROSS-NAZZAL: There was another initiative that I read about that I thought was interesting. There were a whole bunch of initiatives, and changes going on. That was Freedom to Manage that was introduced by President [George W.] Bush. Can you talk about that and how that started to change JSC?

HOWELL: I can tell you in one sentence. It was another big government program that just washed over us, just like the waves over the beach. You build a castle on the beach and the waves come in and sweep it away. It just came and went with the tide. It was just another government initiative that we paid lip service to, and we just kept doing our jobs. It had very little or no effect that I'm aware of on anything we did. I think we probably had to set up an office or two to analyze things according to the regulations that came down, but it was just another little check on the sheet that you had to check as you went through things. It had little significance.

ROSS-NAZZAL: The anniversary of September 11<sup>th</sup> was fairly close after you became Center Director. Were you guys still talking about security issues at that point and how to keep the Center safe?

HOWELL: That was huge. It was ongoing. The government came out with a lot of money to help build security at different federal sites. JSC, given Mission Control and the Moon rocks, we were flooded with [funds]. We had a lot of initiatives that the Center came up with before I became Center Director, but it took several years to implement those. We were building fences, building these pop-up things on the roads, inner security around there with new security posts that people had to go through. That hadn't been there before. All that was ongoing. As I became Center Director that was all being implemented and built. The whole time I was there, we were still doing that. So 9/11 did have a huge effect.

The only influence I might have had with security was with I guess my military background. I noticed that when you came in different gates at the Johnson Space Center you got a different reception. It was just not standardized. Some friendly, some unfriendly, some professional, some not professional, some basically using their power to bully you because they could, that kind of attitude. I just made a point as Center Director, I got all of my security people together in a meeting, and I basically told them, "How many people do you think go to see NASA Headquarters in Washington, DC? Nobody, it's an ugly building. There's nothing there to see. When people come to the Johnson Space Center they think they're coming to NASA. Their impression of NASA is what they get at the Johnson Space Center. Oh, by the way, who are the first people they're going to see? It's you. You hold the standard of NASA, people are going to say NASA is sharp, professional, courteous, helpful or they're something other than that. So I would like for you to think about that and think about what you can do to help people have a good impression of NASA, because you are NASA in the eyes of anyone who comes here."

It helped build. I think we did a great job getting them turned around into really a professional corps of security personnel. I was proud of that. That was just a little thing but it was something that I think paid off. That was just from my own military background. You get a source of pride in people, and they'll do wonderful things.

ROSS-NAZZAL: I wanted to ask you about the theft of the Moon rocks. That was a pretty big deal at the time when you were Center Director. How did you find out about that?

HOWELL: That was a black eye. It was one of these things that you wake up in the morning, find out. "What? How did this happen?" Nobody could figure it out. We brought in the FBI [Federal Bureau of Investigation]. They took over the investigation. We found out that it was an inside job. These young people who had been there before came up with this scheme that they were going to steal these things.

It just happened to be this big huge safe down in a laboratory that had those rocks in it. The major repository is in the building that's up on stilts in case there's a hurricane so they won't get washed away. This was in a laboratory where they had specimens that they would do research on. It was just a small thing, but it a huge event. How they got in there and pulled that thing out of its foundation and drug it out to a truck and got it off the place, you can make a movie, I'm sure they did make a movie of it.

ROSS-NAZZAL: I think there was a book recently.

HOWELL: I think they did a TV movie too. It was very embarrassing. Thank goodness they found them and got them and got the rocks back. It was just a small episode. As a Marine officer commanding Marines, I had seen some crazy stuff, so I just put that in that [category]. When you're working with people, people do the strangest things. That was one of those things. I was the guy who was responsible for the security of those things, so we had to review how we were doing that. Frankly, people I think were very reasonable in their security but when you got an inside job going on, it's very difficult to stop something when you got people working side by side with you who want to do something dishonest like that.

Looking back, it was funny. It wasn't funny at the time, but it was one of those things.

ROSS-NAZZAL: I'm sure the scientist who lost all the research was probably not too thrilled about that.

HOWELL: Not at all. I'll say this too, on a serious note. It brought out the incredible love and pride that most of the employees there have of what they do, and to bring dishonor on a workforce like they did. Trust was a huge item in people who are dealing with life-and-death things, people going into space. That really bothered people that they would actually have people who'd been employed there who would steal and bring dishonor upon that place because they took so much pride in who they are and what they do. That was sad. It was a black mark that brought sadness to the whole workforce in that regard.

ROSS-NAZZAL: He was an intern, right? He was actually working in that facility.

HOWELL: Yes, he was co-op, or they had another name for that. It escapes me right now. He'd been there quite a while, and he cast a spell over this young girl, his sweetheart, and conned her into helping out, and a couple other young people. They were just so silly, so stupid. Ruined their lives. Crazy, so like Forrest Gump, that's all I have to say about that.

ROSS-NAZZAL: There was a World Space Congress in Houston in 2002. Would you talk about that and JSC's involvement?

HOWELL: That really did not involve us much at all. That was a big deal in Houston at the Convention Center. I did go and visit. We had a display. We brought in all kinds of Shuttle stuff. They had a floor there with all kinds of things on display, and so we had one there. It was actively visited by the attendees. We had a couple people who talked on panels. I vaguely remember, I might have been on a panel. It was just like a 30-minute deal, and I don't think I got asked two questions. The symposium was more of an international symposium that was put on by an international body. So there was very little connection to us, frankly.

We had a segment of our Center that were involved in helping them and attending it and going to it. JSC and really NASA had very little to do with it, it was more of an international convention. Now that is my impression as I look back on that. That's my recollection. Someone else might know better or have more to say about that.

ROSS-NAZZAL: I was looking through some of the *Roundups*. One of the highlights was the fact that O'Keefe had said, "By February of 2004, we're going to finish ISS." What sort of pressure did that put on JSC and your role as Center Director?

HOWELL: Huge. The *Columbia* Accident Investigation Board laid on us that they think that was one of the primary reasons why *Columbia* happened, because of that incredible pressure. To me, it was exciting. It was good to have a challenge. When you have that kind of an emphasis on getting this done in this timeframe, people come together, they work hard. People were going hard and heavy. It gives you the potential for cutting corners and making mistakes that otherwise you might take time and say, "Wait a minute." I don't think we can ever really say that's really what happened, but there are those who do say that. All I know is that we were encouraged even on our screen savers. They put a special program where you had a countdown clock to the next launch on everybody's screen saver so you knew exactly how many hours and minutes till the next Shuttle was going up.

The whole attitude in that place was, "Hey, we're going for the launch; we're going for the launch." I can recall we had a hurricane come into the Gulf, and Johnson Space Center is not hurricane proof. You have to shut that place down and get people out of there. There's no haven at JSC for a type 5 hurricane. This thing was coming in the week before there was going to be a launch. I kept getting calls from Readdy and from Mr. O'Keefe saying, "What are you going to do?" I said, "It looks like we're going to shut down." He kept reminding me, "If you shut down we're going to have to delay the launch." "Yes, sir." He said, "Make sure you're right."

One of the dilemmas you have is that you got to make a decision about three days before that thing is going to hit in order to get people out of there so your employees can get their families out of town and get them on their way. When the time came, I said, "We've got to shut down." The hurricane hit a place in a Gulf where it could go here, here, there, or come right at us. We were still in the fiftieth percentile that it might come our way, so I shut down, and it went



elsewhere. I really caught a lot of heat about that. In some ways I was a little peeved that I was put in that kind of position, that I had to be that concerned about it, but that was part of that launch pressure we were under.

I don't know if you ever talked to Dave [David A.] King, who's a great guy. This was before he was at Marshall. He was still at Kennedy. I'll never forget Dave King. When all this was going on and everybody saying, "Hey man, make sure you're right before you shut that place," Dave King called me from Kennedy. We had met, and he wasn't really a Center Director, he was a big dog on the Launch Program there in Launch Control. He was one of the head engineers for the launch site. We had met and chatted and just liked each other. He just called me personally and said, "Beak, I just want to tell you. Don't let anybody talk you into doing something you know is wrong. You do what you think is right. I'll back you up from here. Just realize that."

That was very helpful. Dave King is an honorable man and that helped me make the decision I made. I made the wrong one, but at least my conscious is clear I guess I can say. I really got a lot of heat from Readdy and O'Keefe about that. That pressure was huge.

My personality is such that I thrive under pressure, so I enjoyed it. I liked that environment. In some ways maybe I was the wrong guy for that position in that regard, because probably you need to have somebody more careful than me. I'm a go get 'em kind of guy. I just thought it was great having the intensity. That appealed to me. That's my nature. Looking back, it caused us to make some decisions that otherwise we might not have made, because we really wanted to get that sucker up into space.

ROSS-NAZZAL: Can you give a few examples?

HOWELL: The foam that came off. I'm trying to remember. Not the flight before 107, but two flights before 107. We always had foam coming off the external tank, popcorning they called it. It always did damage to the belly of the Shuttle because of where it was. The foam would popcorn off and hit it. That stuff is so fragile that it's almost like blowing glass on those tiles. It would do damage. It became a nuisance, even though it was always a risk. There was always a risk that it could be so bad that it could bare the skin on that thing, and then when it's coming back through the plasma it could burn a hole in it, then you got a problem. That had never occurred. We had scorching from time to time but never a burn-through, thank goodness.

It became a nuisance that we dealt with, and we knew we had to fix every time it went up. All of a sudden, on this mission, a big piece comes off. The foam that's on the external tank is blown on by machines except where the cables come out and run down; the umbilicals that feed into the Shuttle, it's done by hand. That had been a place it had been hand-blown, and this big piece, about the same size of the piece that got *Columbia*, came off. It did not hit the Shuttle. It hit the side of one of the SRBs [Solid Rocket Boosters] and actually put a dent in an SRB. That was written out as an anomaly. Had never seen that before.

So we needed to watch for that. Michoud [Assembly Facility] in New Orleans [Louisiana] is where they fix the tanks, and of course they did great study on that, looked at their techniques, and worked to make sure. They had artisans that do that. Those men and women are very good at what they do. They reviewed that and they were very positive that they knew what they were doing, that that would not happen again.

That came up in the next Shuttle, and they said, "We haven't figured out what exactly happened, but we don't think it's going to happen again." That's not a good answer. The next

one went up with no incident, except for popcorning. Didn't have a big piece. Then here comes 107. At the FRR, they hammer out everything that might affect that mission, and that issue came up. Two missions ago we had that big chunk of foam come off, and we never pinned down why that happened and will it ever happen again, because we don't know why. They just wrote it off. It's an anomaly. We're just going to live with it, because it didn't happen again on the next mission, so we're going to be okay.

I'll never forget in my own belly sitting at the table. Here I'm not a rocket guy, I'm a Johnny-come-lately. I'm an old fighter pilot who flew jets all my life and saw things, saw people kill themselves in airplanes, saw the chain of events that lead to a mishap where somebody gets killed. I'll just never forget when they briefed that thing and looking around the table. I'm sitting with Ron Dittmore and Tommy [Thomas W.] Holloway and Bill Readdy and all these guys who really understand this. These are astronauts too. They've been up. I'm listening to that. There's a funny feeling in my stomach. "Should we go on without figuring out why that happened?"

Then I looked around. Everybody said, "Okay," so I said, "Okay." I'll never forget that as long as I live. I feel terrible about it, because maybe if I would have had the guts to raise my hand and say, "Wait a minute, should we really go on before we figure this out?" maybe we could have saved some lives. That's something that I got to meet my maker about someday. That was just part of that let's get it up in space thing, and maybe that affected everybody around that table in that regard.

In an earlier time, when we didn't have that pressure, somebody might have said, "Wait a minute, we don't do this; we don't launch unless we know." But everybody seemed willing to

say, “Well, it’s just an anomaly, and we’re going to be okay.” Nobody really had the answer. That was awful. That bothers me to this day. That’s part of that.

ROSS-NAZZAL: I can imagine. You have talked a bit about the flight readiness reviews as a contractor and then a bit as Center Director. I wonder if you could talk about the days leading up to that, really preparing for a mission, about 18 months out. What are all the things that have to go right and that you oversee as Center Director?

HOWELL: Since I am not a NASA guy, I really don’t know everything that goes on. I was briefed on a lot of stuff. I went and observed a lot of training, and I’d go out to the tank and watch people practicing for EVAs [Extravehicular Activities] down in the tank. That’s huge, that’s incredible. Any time they’re going to do an EVA, and particularly for the ISS missions, there’s always one or two or three EVAs, because they were putting that thing together like a big Tinkertoy up in space. You had to have people out doing that. They had to get in that tank and do it in the tank successfully before they ever went into space trying to do it. That was very labor-intensive and very high stress, physical and mental stress, watching astronauts suit up in those suits and then going down under water in those suits. All that is going on.

They’re going out in the desert and working and exploring, they’re doing teamwork. That was another aspect that people don’t understand. It’s a huge enterprise and undertaking, preparing for a mission. Keep in mind that you got four, five, or six of these things going on simultaneously, and they’re all working around each other and on each other and beside each other. Somebody’s orchestrating all that. Mission Control usually has a director in charge of every mission, and that guy is the conductor of the orchestra. They’re working with the

astronauts and all the other programs putting those in [place]. They have to do all that scheduling and all the support work that's involved with support personnel. They have to get everything accomplished before [launch], so it's a huge thing, a lot of work.

The astronauts are at it—once they get on a mission—they're at it almost continuously. They're doing all their emergency drills on the mockups there in Building 9, and they're going to the Cape [Canaveral, Florida] and working, seeing the payloads and overseeing the Shuttle that they're going to go in.

It's very impressive how they get all that done. It's very expensive. United Space Alliance (USA) basically took over that entire program, and they were running the Shuttle Program, but it was in close collusion with JSC and Mission Control, working that out together. I'd say majority of the personnel supporting it were USA. That's all worked together, and it's a huge teamwork effort.

I'd be briefed on all that. I really was not in the details and was not a close supervisor of that. One thing that I did do that was very special is the week before—they would go into quarantine. They would go into quarantine seemed like a month or maybe month and a half prior. We had a little house there they all lived in in quarantine. Matter of fact, we built a new one while I was there, very nice. The old one had been there before. They would go into quarantine. The week before they went down to the Cape, which it seemed they would go down to the Cape two weeks prior or a week and a half prior. The week before they left, they would always invite the Center Director for lunch at the quarantine place.

With every crew, I'd get to go sit down with them. The people who prepare their meals both for space and in quarantine, they would prepare us a meal, and we would sit there together. It was just a friendly occasion, which was to me very special, to be able to sit down and break

bread with these wonderful people before they go on their mission. They'd be very excited and in high spirits. That was always very nice.

Then the FRR was always two weeks prior, and I'd go fly down to that and go to the FRR and then come back. Then you'd go down for the launch. Usually go down the day before the launch was supposed to go. Almost 50% of the time it'd get delayed. You'd find yourself staying down there for two or three days, finally get the launch off. I would always be down there and played a lot of golf with guys. It was a vacation of sorts, because you're not at work but still getting work done.

You really felt special being a part of that, and it's something I never knew about before I became a part of it, so it was very exciting, a wonderful adventure, being around such wonderful people who were doing that. Got to be very close friends with the program managers, Ron Dittmore and his guys, and the people who worked all those issues, and go to all those meetings.

You learn a lot about people when you have a launch delay, and people going through that pressure. How are we going to get it fixed? When are we going to go again? What are the windows that we have to work through? There were always issues at the Cape. The Air Force, their launch sites were right by ours, right by Kennedy, there at Cape Canaveral. Sometimes they would have secret launches that they had to get up, so that would interfere with what we were doing. You'd have to work around that.

There was always finagling, what's the weather in Europe, it was crazy, it was really crazy stuff. It was a lot of tension, stress. Very positive. It's exciting, just exciting as heck. I enjoyed being the little part of that that I was.

ROSS-NAZZAL: We're getting close to 4:00, but I had a couple general questions. Then I was going to ask Rebecca if she had any for you.

HOWELL: Sure.

ROSS-NAZZAL: As Center Director, I know that you have to wear a lot of hats. You've talked a lot about politics and how politics shaped your position. I wondered if you had much contact or time that you spent with say [Houston Mayor] Bill White, or with our governor at the time.

HOWELL: That's an interesting question. The politics outside of NASA—you know, there are politics in NASA—but it was a surprise to me. I shouldn't have been surprised but I was. The major factors politically that we dealt with were really our US congressmen and our US senators. They had incredible interest in what we were doing, and I had to make regular trips to Washington, DC and pay calls, particularly hammer on Mr. [Thomas D.] DeLay and on Ms. [Kathryn A. Bailey] Hutchison. They were very interested, and they expected me to come see them on a regular basis and tell them what was going on and see what they could do to support me.

It's funny. My first meeting with Tom DeLay is after I became the Center Director. I had my entourage with me. NASA Headquarters takes you over to the Hill. You go check in with NASA Headquarters. They have the congressional liaison who sets these meetings up. Of course you got your JSC congressional liaison guy. So you got three or four people who go over there with you, make sure you don't get in trouble, and they get you to the right office.

So I go in there with this entourage. Mr. DeLay has his staff and entourage. You meet and have very polite conversation. “Why are you here? Who are you? Oh, it’s great, congratulations on being new Center Director,” yadda yadda yadda. That’s well. When all is said and done, he says, “May I have a word with you at the end?” I said, “Sure.”

Everybody leaves, they close the door, and he just flies off the handle fussing about Sean O’Keefe. Sean O’Keefe had said something to him that really pissed him off. He took it out on me; he just gave me the riot act about my Administrator, and how he’d better square away or else “you’re not going to get any support from this guy.” I assured him that I think there was a misunderstanding and that I would see what I could do about it.

That was an interesting meeting there. Then I went back of course and told O’Keefe, and basically O’Keefe said, “Tell him to pound sand.” O’Keefe was a very confident guy, almost arrogant in a lot of ways. I love him to this day, but he had his own personal peculiarities.

I go to see Hutchison. It’s the same deal. It was interesting. She just adopted these two little children, and they were crawling around in her office. That was neat. We had a nice polite thing. Then she has her children removed and everybody’s leaving. She said, “Oh, general, would you stick around? I got to talk to you.” “Of course.” It was a different story. When everybody left, here’s Kay Bailey Hutchison—she’s a true lady and a very gracious person. She came right in my face, she said, “If those sons of bitches at Marshall or Kennedy try to take one nickel of yours out of Texas, you let me know and I’ll stop them in a heartbeat. Don’t let those bastards have one cent of money that’s coming to you,” so I learned some lessons that there was a huge protection of their Center.

That was my introduction to the politics of that thing. Locally Houston took great pride in Johnson Space Center being in the Houston city limits. I think they put the city limits out



there just so they could say that. However, we had very little connection. I met Mayor White and the other mayor before him, a big tall man, I can't remember his name, who was there for a while. There was a Houston business association. I'm trying to think what. The Greater Houston.

WRIGHT: The Bay Area Economic Foundation or—

ROSS-NAZZAL: Chamber of Commerce?

HOWELL: There is a Bay Area, but there's the Houston [association], and it's really very prominent. I was invited to come talk to them almost every year. They were very supportive in that regard. They let me know their appreciation of us. There was a special program that was funded by that organization, it was a technical training program for young men and women to gain skills in business and entrepreneurship. We actually had a representative from JSC, one of our civil servant employees, over there as a liaison almost continuously. They were there when I got there and we kept them. There was that association. That's probably still going on. I don't know. We did have that connection with Houston. Other than that, personally, didn't really have much connection with Houston itself.

State government, the governor came down on a couple of occasions when we were introducing some big program just to be there and be counted, "Hey, we support this." Very gracious and very supportive. Also there's always a NASA Week up at the state capitol, and I would go up. The governor always wanted me to pay a call on him and say hello and chat, and

be very supportive. Local, of course you have both senators and congressmen from the Houston area that it's a big deal for them to have us up there and they'd have a big reception.

We had employees who worked those issues with them continuously. I had very little to do with it myself personally. I'd be there as a figurehead from time to time but that was about it.

ROSS-NAZZAL: I was curious about that. It seemed like early on there were a lot of ties between Center leadership and outside folks.

HOWELL: The tie is there. There's great pride. I'll tell you. The Houston Astros loved Johnson Space Center, of course their name. They would always have every year a big NASA Day. Drayton McLane, who was the owner back then, he would have me up there with an entourage. He loved to have an astronaut. We'd bring a big group of astronauts—I've got my Houston Astros shirt with my name on it. Throw out the first pitch, and sitting behind the plate watching the game. That was really nice. The Astros still have, I think, a great connection with Johnson Space Center and the astronauts. That's a love affair.

The Houston Rodeo has their annual event. They're just wonderful, very gracious, bring up a whole couple busloads of NASA employees from JSC, host us at a reception, get you in the carriages and ride around in the grand promenade before the rodeo, and then put you up in a VIP [Very Important Person] thing to watch the rodeo, and then there's always entertainment at the end of the thing. The rodeo is a huge supporter of NASA, and that's a great association there. There's several people in that area down in Clear Lake that are associated with the Houston Rodeo who are both NASA and rodeo kind of people and they're supportive, so that's a very healthy, I think, viable association. At least I found it that way.

ROSS-NAZZAL: You just answered one of my questions. I was thinking about the chili cook-off. That's another JSC tradition.

HOWELL: All those things were ongoing when I got there, and they're really big with the employees. There's a certain segment of employees that just love that. That's their baby. Some people do it every year. The different contractors have their chili, their champions. Of course, they wanted me to be one of the judges, eat all that awful stuff, and rip your gut out. That was always a big deal, and people loved it, so I would go every year.

Of course SAIC, when I was a contractor we would have our booth and our chili. Joyce [B.] Abbey, Abbey's daughter, was always running that thing for us. That's a great tradition.

They had the trail drive comes through there, and we would always host them to spend a night out there at the Gilruth Center as they would come through before the rodeo. I think it's a wonderful tradition. I think having the longhorns there is a great tradition. I guess they still have them there.

ROSS-NAZZAL: They're still there, yes.

HOWELL: For the [FFA, Future Farmers of America] and the local schools. I think that was a win-win.

Two things that happened while I was there, and I think it's still going on, I gave a talk to a Houston Businessmen's Club, and at the end a fellow approached me, said, "I run the Houston Zoo, and I wonder if I can get your help." "What can I do for you?" Said, "We have koala

bears, and they have to eat eucalyptus leaves. We get them from,” he told a couple countries, but he said, “sometimes they have droughts, and it becomes very difficult. I’m wondering if we couldn’t experiment and grow some eucalyptus plants at the Johnson Space Center to help feed our bears.” I said, “Sure.” We had that huge area out there. Almost twice the size of our occupied space is open area out there. We put a grove of those trees out there, and I think they’ve been using them ever since.

Then I was approached later on by that same fellow about a year later saying that one of the rare species is a prairie chicken. He said, “They are endangered and it’s because really if they’re ever bothered while they’re mating they’ll vacate their nest and the babies die. So we need a quiet place.” He wondered if they couldn’t set up an experimental place on JSC. So we did that too. I don’t know if that’s still there or not.

ROSS-NAZZAL: It’s still there. I’ve seen it.

HOWELL: That was one of our initiatives that we did. It just happened because I gave a speech, and he was at the speech and approached me about it. Those are just neat deals that we did for the local community, and it endeared us to them. That was cool.

ROSS-NAZZAL: That’s great. I’m going to ask Rebecca if she has anything.

WRIGHT: I think I’ll think of some for tomorrow. I enjoyed what I’ve learned today.

ROSS-NAZZAL: This was fascinating. I really enjoyed it, I’m looking forward to tomorrow.

HOWELL: It's been worth your while, I hope.

ROSS-NAZZAL: Of course, absolutely. We'll look forward to coming back tomorrow morning.

HOWELL: Okay, good.

[End of interview]