

NASA HEADQUARTERS ADMINISTRATORS ORAL HISTORY PROJECT ORAL HISTORY TRANSCRIPT

JULIAN M. EARLS
INTERVIEWED BY REBECCA WRIGHT
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WRIGHT: Today is February 23rd, 2006. We are at the NASA Glenn Research Center at Lewis Field in Cleveland, Ohio, to continue an oral history session with Dr. Julian M. Earls for the Administrators Oral History Project sponsored by the NASA Headquarters History Office [Washington, D.C.]. Interviewer is Rebecca Wright. The first part of this interview was conducted on February 22nd, 2006.

Thank you once again, Dr. Earls, for participating in this project and for giving yet more time for this interview. Yesterday we spent time learning about the roles and responsibilities during your first thirty-five years at the [NASA] Lewis [Research Center]/Glenn Research Center, and today we'd like to start with your appointment as Deputy Director in July of 2002.

Tell us about this promotion and your reaction to being named to this position.

EARLS: Well, I really was humbled by that selection, but it took a little bit longer than most people would have suspected because the announcement was made about a year before I actually was made the Deputy Director. And when I talk about Fred [Frederick D.] Gregory being instrumental in that, somehow my selection was lingering in Headquarters and some reason the paper wasn't being processed. Fred Gregory came onboard and Sean O'Keefe came onboard as the [NASA Administrator]. [Fred] called to offer me a different position at NASA Headquarters, at which point I said, "Well, I'm not really interested in moving, but by the way, what happened to the decision that I would be the Deputy Director at Glenn Research Center?"

Interestingly enough, Fred Gregory had chaired the panel to make that selection. Within two days, I received a telephone call from Fred that Sean had said, “Move the paperwork,” and that’s how I became the Deputy Director at Glenn Research Center.

But Don [Donald J.] Campbell was the Center Director at that time. Don had become a little bit frustrated as well because Don had been without a permanent Deputy, someone had been acting in that role, and he really wanted to get the position filled on a permanent basis. So it turned out that with Fred Gregory coming onboard, and his influence, I give him all the credit for making that happen for me at that point.

WRIGHT: So the job at NASA Headquarters didn’t tempt you at all?

EARLS: No. In fact, it was interesting because they offered me the position to be Assistant Administrator for Diversity and Equal Opportunity Programs. My response to that was, “I do appreciate that you have the confidence in me to do that, but I have a technical background. I believe that every time you take someone with a technical background and put them in an area where a nontechnical background is appropriate, you do a disservice.” And by that, I mean the following: We try to [encourage] people of color and females to go into technical disciplines and want to show them how they can make progress in technical disciplines. When you remove someone, a person of color, a female, from a position like that, then you have removed what could be a potential role model or an example. In addition, by putting them in an area that does not require a technical background, you deprive someone who is extremely accomplished but is not a scientist or engineer of an opportunity. So I told them that’s a double blow and I really didn’t think that that would be the appropriate thing to do. They acknowledged that it was a

perspective that was new to them, and hearing it from that perspective, they understood without question that I was not willing to come to Headquarters for that position.

Then I end up being appointed the Chair of the Diversity and Equal Opportunity Committee for the Agency, which was made up of Center Directors and Associate Administrators, so in a way I was still helping with that but not in that particular position.

WRIGHT: Would you like to talk about that now, or do you want to come back and talk later about the Chair being part of that panel?

EARLS: No, that's all right. That's perfectly all right. The Agency years ago established an Equal Opportunity Panel, and I had served on that panel as the Deputy Director. As a matter of fact, Jim [James L.] Jennings probably served the longest time of anyone on the panel because of when it was first formed many years ago, they wanted a nonsupervisor but a minority to be on the panel, and Jim Jennings was appointed in that role. Jim subsequently became Deputy Director at [NASA] Kennedy [Space Center, Florida], so he served on the panel in that role, and then he became Chair of the panel.

Well, [due] to his moving to Headquarters shortly after that, he was no longer Deputy Director. I was serving on the panel as the Deputy Director, and they tapped me to move up to be the Chair. I thought that would be for a very brief term. We had a new Assistant Administrator come onboard in Equal Opportunity Program, and she decided that rather than having the Deputies serve on the panel, that it should be the Center Directors, because that would send a message of the importance of diversity and equal opportunity around the Agency.

So I breathed a sigh of relief, saying, “Now, I will get relief, because it will have to be the Center Directors on the panel.” Lo and behold, I became the Center Director of Glenn, and therefore was asked to continue to serve as the Chair of the panel.

But it was really a panel that worked well, because what we did was review progress within the Agency, tried to determine policy implementations that would be of value to everyone within the Agency, look at where there were barriers to fair and equal treatment, and also look at the composition of the Agency both at the worker level and at senior levels to see if the diversity was there. Also [our goal was to] broaden diversity from the Agency perspective, not to just be race and gender, but looking at backgrounds of people, educational background, clerical, engineer, technician, all aspects of diversity and having people understand that diversity is not equal opportunity and equal opportunity is not diversity but, in fact, they are compatible.

WRIGHT: What is the state of NASA, in your opinion, at this point?

EARLS: I think we’ve made considerable progress. There’s a long way to go, and it seems that we go, in ebbs and flows. At some points, you will look around and you will see within the senior levels of the Agency almost no diversity. Today you look at it and I think everyone would be pleased. You have a female who serves as the Deputy Administrator of the Agency. You look at the Centers and the Center Directors, you have diversity there. The Center Deputies, you have diversity. You have a female Director of [NASA] Langley Research Center [Hampton, Virginia]. So I think that it is where we—put it this way: we’re making progress, we have a long way to go, but the intent is there and people are not being promoted because they are [people] of color, [or] because they are female. Everyone that has been chosen for those

positions has paid his or her dues and are extremely competent. And I think that that's the message that we send, not just because they are female, not just because they are [people] of color, but because they are competent and they've earned the right, they've produced.

WRIGHT: Let's go back for a moment and talk about your role here as Deputy Director before you got to be Center Director. When I was preparing some information for this session, I read how you had been commended by providing resolutions to conflicts that might have been escalated to problematic issues, some things that might have been going on while you were Deputy Director, and many thought that you had done some great things in solving some problems before they escalated.

Do you recall any of these instances, and could you share with us how you resolve conflict resolution issues?

EARLS: Well, probably, just from the way I operated as the Deputy Director for Operations, there would be issues that would surface in terms of promotions, and some individuals, for instance, we have what's called a dual-career ladder process. And many individuals thought that that process was not a fair and open process because it was being handled through a committee making the decisions and making the recommendations to the Center Directors. Line management did not have the role that many believed line management should have in that decision-making process.

Dual-career ladder process is one in which you've reached the journey level as an engineer or researcher, but because of your personal impact on that position, you could be promoted to the next level, which normally would be a level that one would have to be a

supervisor to occupy. But one had to have demonstrable evidence that you have made that impact, peer reviews, publications, consultants, people seeking you out and asking for your advice and consultation. The difficulty associated with that is if you have a committee making the decision and the supervisor not being an integral part of that, then it is somewhat flawed.

So in that particular instance what I did was ask our Chief Scientist to convene nonsupervisors as well as well those directors of, and see what they believe the right solution would be. I believed that they were going to come back and say, "Let's make the line managers responsible but do it with a committee made up of those line managers and the directors of." And that's exactly what they came back with, and we streamlined that process. And for the last several times, employees have been very comfortable with that.

The other thing is make sure that we give employees feedback. If one wants to get a promotion on a dual-career ladder and is not successful, then the feedback process should be one that tells an individual where he or she fell short. [We should tell them] how he or she could prepare themselves to be a more viable candidate the next time. [There are] no guarantees, but those kinds of things [improve the system]. So that was one issue that was especially critical to our researchers here.

The other aspect was those people who weren't in research were looking for an avenue where they might be able to get promotions in a similar kind of process. So I, again, took a look at that because there was conflict between people who were in project management and not in the research organization. But taking a close look at that, I was able to find out that the dual-career ladder process was one that would apply based upon the task the individual was performing, not their location in an organization. So when we cleared that up, we were able to get people outside of the research organization themselves to get promotions under dual-career

ladder process. That word spread like wildfire when some people started getting promotions under that. So I probably got a lot more credit than was due me for resolving things like that, because here, again, I would just ask the people who knew the systems to try to work for an improvement.

WRIGHT: You just talked to us a few minutes ago about one of the Agency-wide commitments that you worked on, but you've had at least one more that I know of when Sean O'Keefe established the Freedom to Manage Taskforce to improve accountability and performance from the NASA workforce, and you served as the point of contact from Glenn on that taskforce.

What were some of your duties and responsibilities for this position?

EARLS: Removing barriers. Oftentimes people claim that we can't do things because of rules and regulations, but often if you say, "Show me the rule and show me the regulation," people start scrambling and we find out that a lot of things are self-inflicted. And that Freedom to Manage effort was really designed at removing those kinds of barriers, and we were very successful as an Agency under that leadership that came out of Headquarters. Under Freedom to Manage, Courtney [A.] Stadd and Sean O'Keefe [were] looking at where are unreasonable barriers that we have established and inflicted upon ourselves. And some of those went as far as the fund cycle where one had to get approval to transfer funds from one Center to another, and that was such a cumbersome process. Often Centers would have to advance funding to do a project or a task for a different Center or for Headquarters because of the delay in getting those funds transferred. So as a result of Freedom to Manage, we looked and were able to find within the system ways that we could, in fact, do that.

Information management. If you were on the ninth floor in Headquarters, sometimes you couldn't send an e-mail to people on the fifth floor because there were all these different systems for e-mail communications and so forth. Through the Freedom to Manage process, we started to take a look at what were those barriers and started to streamline that. You had a badge for one Center. You couldn't necessarily get access easily to another Center. Getting one Agency, the One NASA effort came out and as a result of that we were able to streamline that process. So those were the kinds of things that we did under the Freedom to Manage and the One NASA Process as well.

WRIGHT: Freedom to Manage, One NASA, TQM [Total Quality Management], there's been a number of different programs that have been implemented Agency-wide. What have been your experiences with these types of programs? What do you feel are the strengths and weaknesses of these programs coming from the Headquarters?

EARLS: Well, One NASA turned out to be quite different, because many of those other efforts, TQM and so forth, were almost top-down. The management decided this is something we should implement. But the One NASA concept, the Freedom to Manage, came from the employees. They were attending the MEP [Management Education] Program at [NASA] Wallops [Flight Facility, Wallops Island, Virginia], and that group decided that they needed to come up with some concept that would stop these barriers between one Center and another, and that grew into this One NASA effort.

So it was quite different in that it was employee initiated, employee generated, and it really turned out that since employees endorsed it that way, I believe that it is long lasting. Even

today, those things that we started then, again, the One NASA, having the badge, the e-mails. One used to have an e-mail system where you sent the e-mail based upon the Center where the employee was employed. But something as simple as saying, "Julian.M.Earls@nasa.gov" made a lot of sense. That was a result, and that's staying with us.

When we went around, one of the things that happened was we had the One NASA kickoffs, and we would have a Center Director who was not from the host Center come. We would have an Associate Administrator from Headquarters, not from that [Center's] organization, go to the Centers and make presentations. We had some Associate Administrators who had not visited a Center that was not within their organization since they had held those positions. It was enlightening and rewarding to have them come to a Center they had not visited before, do a meeting with all the employees, get questions, answer the questions, and they learned more about that.

And we could see the benefit of that when we'd hold meetings in Headquarters, the Senior Management Council. When a subject would come up, now other Administrators and other Center Directors were familiar with the capabilities and competencies at other Centers, and it really did help. That goes on and continues today.

WRIGHT: In February 2003, the nation and the Space Agency lost the crew of [Space Shuttle] *Columbia* [STS-107] and when the Orbiter disintegrated as it began its reentry. You told us that you had been part of an internal team created by Administrator O'Keefe. Explain to us the purpose of the team that you worked with and the results of the efforts as you refer to as the [Alphonse V.] Diaz Report.

EARLS: Let me just talk for a moment about the day that happened. It was a Saturday morning, and I remember it just like it was yesterday. And when I got the word, I immediately came to Glenn, made the phone calls to make sure that we were available here, because that was a science mission, not a mission to [the International Space Station], and many of those experiments were experiments from Glenn Research Center. So our employees had been interacting with the astronauts. They had visited us. One of the astronauts had spent time with me at the high schools in this area trying to inspire students to take technical disciplines and so forth. So it was a loss to the Agency but hit us especially hard because of our working relationship with those astronauts. They really were part of the Glenn family as well as part of the NASA family.

So the *Columbia* accident investigation board issues a report. The report deals with omissions, errors, barriers, things that could have been done to prevent a *Columbia* accident and could prevent it from occurring again. But many people's perception was that applies to the Mission Centers, the [NASA] Johnson [Space Center, Houston, Texas], the Kennedy, the [NASA] Marshall [Space Flight Center, Huntsville, Alabama]. Sean believed that that report had implications that were applicable throughout the Agency, so he asked Al Diaz to put together a team that would, in fact, look at that *Columbia* accident report and extract lessons from that that applied through the Agency.

So Sean appointed Al Diaz. He asked me to serve on the committee. He asked [Dr.] Ghassem Asrar to serve on the team, Jim [James W.] Kennedy to serve on the team, other Center Directors, Ed [Edward J.] Weiler and we put together a report that extracted lessons and messages from that accident that would apply across the board. As a result of that, we had one week set aside within the Agency where everyone looked internally at their operations and

looked at that report to decide where there were lessons that they could apply and things that they needed to do throughout the Agency.

Communications, always a problem, almost a cliché, but finding out in organizations where people were reluctant to speak out, how we could, in fact, remove those kinds of barriers. Looking at such issues as whether or not people had appropriate resources, both people and financial resources. Looking at an opportunity for people to provide input, and that input would be taken into account when we were making decisions. So there are any number of lessons that came out of that that apply across the board.

As a matter of fact, not just at other NASA Centers, but at organizations outside NASA. You would find that having people comfortable that they can speak out and that they can be heard, and then making sure that you have the right people who are working on programs and projects and not just going to the same people because they are part of the old buddy system. Any number of lessons that apply to NASA [can] apply to McDonald's and could apply to any organization that's trying to do the right thing for the right reasons.

WRIGHT: Share with us some of the roles that the Glenn Research Center spent in the investigation. I understand there were some results of the workforce here that helped prepare for the next missions.

EARLS: Oh, absolutely. One of the things was looking at the damage that was done to that leading edge. We have a ballistics laboratory here that did ballistic testing to, in fact, demonstrate that the foam under those conditions could cause that kind of damage. We had people looking at repair processes and developing materials that would be able to withstand the

damage that might occur during a launch, looking at repair materials, looking at something called GRABER [Glenn Refractory Adhesive for Bonding and Exterior Repair] that we develop here that is a sort of a glue, if you will, that could be used to repair those objects. Wind tunnel testing, looking at wings, configurations, and all those kinds of things. We had people that rolled up their sleeves. We even had one of our attorneys, our chief counsel, served as the legal counsel for the accident investigation committee. We had our people here from our public relations office who went down to help with that whole process as they were trying to conduct the search and find the materials and the remnants from the damage and so forth.

So if there was any way possible that we could support them, we actually did that here, I take a great deal of pride in what the Glenn people did. And here, again, under that umbrella of One NASA. You talk about One NASA and whether or not it's real and whether or not it will last, that was probably the best example of what One NASA really means, and under that umbrella, the entire Agency pulled together to see what we could do and lessons learned, to make sure as much as we can that we prevent that from happening again.

WRIGHT: Later in the year, you were appointed as Director of the Glenn Research Center, and we want to spend some time talking about your experiences as being the leader of the Center, but I think we'll take a break for just a moment and we'll come right back and start on that aspect of your life.

EARLS: All right. That's fine.

[pause]

WRIGHT: You spent just a short time as Deputy Director, because it was in 2003 that you were named as Director of Glenn Research Center. Tell us how that happened and what were the goals and expectations you set for yourself and then how did that compare to those that were expected from the workforce and from what Headquarters had told you as well.

EARLS: I had worked with Don Campbell. I think Don Campbell was Center Director for almost ten years, and Don was a mentor, a friend, as well as a boss. And I had decided that when Don left, I was going to retire. When Don retired, I would retire, because I never thought that I would be asked to succeed him as the Center Director.

So when I was asked if I would serve as the Center Director, it was more of a surprise to me, I think, than probably others who were guessing that I would get that position. So when I received the telephone call and asked, I said, "Well, if you really think that I could be successful in helping the employees at the Center, then I would be more than willing to do that."

So at the time I became Center Director, we had come through a period where a survey had been conducted through the Office of Personnel Management, and among the NASA Centers in terms of best places to work. I think [NASA] Goddard [Space Flight Center, Greenbelt, Maryland] was in the top five, Goddard, Johnson, Marshall. I've forgotten the other Centers, but Glenn was dead last in terms of the employees' view of Glenn as a good place to work. I felt that my first challenge would be to try to find out what the issues were and the concerns of the employees and try to turn that around. And discovering that employees believed that they were not getting information in a timely manner or accurate information from senior level here at the Center. They were fearful that we were losing work to other Centers and were anxious about

whether or not we were going to remain open as a Center. We were looking at the President's charge to us in terms of this exploration vision, what role Glenn might have in that. [There was] just a general overall feeling that coming through those gates every day was not an invigorating experience for the employees.

We had Behavioral Sciences Technology [BST] coming in to take a look at us as a Center. They had been brought onboard to help the Centers turn things around, and since we were dead last, we were picked as one of the Centers that would get support from BST. I believe Johnson, one of the divisions at Johnson, was the other organization, one directorate, and then [NASA] Stennis [Space Center, Mississippi].

So I came onboard with what I felt was a real challenge to improve morale here at the Center. How I was going to do that, I didn't have a clue at the time. But one of the things I believed I had to do was to open up the Center to the outside world as well, because another thing, I was getting a little tired of hearing people say, "NASA Glenn Research Center is the best-kept secret in Cleveland, Ohio." So I decided that we needed to do things in terms of reaching out to the community and needed to try to penetrate what the issues and problems were here at the Center.

One of them was communications. Employees believed that they could find out more information from NASA Watch [website] than they could from the senior levels at the Center. They also believed that they could get more information by calling employees at other Centers about what was happening within the Agency than they could from the senior management here at Glenn Research Center. So that disturbed me quite greatly, and one of the things I decided I needed to do was to make sure that whatever decisions we made as a leadership team, that we would share those as quickly as possible with employees.

So one of the things we started to do was to take the notes from our leadership team meetings and just publish those. So we would put those on the website and employees could access that and get the notes from whatever transpired in those meetings. The Administrators' teleconference [was held] on Monday mornings. I would take notes from those teleconferences and publish those notes so that employees could have that information available. We also started to do things like brown bag lunches, can we talk [sessions, and] started sessions where the Center Deputy Director and I would invite, randomly, ten to fifteen employees to have lunch with us on a monthly basis. And it was a cross-section of employees, a no-risk environment, and [we] just asked employees to tell us what was on their minds. So those kinds of things seemed to open up, and then I would try to do all-hands meetings with as much information as was relevant and substantive at the time, [but] not just for the sake of having an all-hands meeting.

And those things, I think, tended to work and to cause the employees to feel a bit more confident that they could, in fact, get information and get it in a timely manner. And I would always let them know what I could tell them, and if they asked things that we couldn't discuss, then I would simply tell them that we couldn't and then let them know why. And then the other members of the leadership team started to do the same thing, meeting with the organizations, talking to people, sharing information, and also putting together some teams that would develop methods in terms of how we could capture work and asking those organizations to pay attention to what those teams were saying.

We decided that we would hold an open house and open the Center up to the public and just pick one weekend where we would do that, thinking that we would get several thousand people to come through. We ended up with over thirty-five thousand people coming here to visit Glenn on those days. Then we had one day where we opened it up to the business community,

and we had over four hundred participants coming through so they could find out what we do, how they could utilize the Glenn technology in their businesses, how they could get contracts and form collaborations with us as a Center.

So those were the things that we tried, and, fortunately, they seemed to work because we moved from dead last to about the middle of the pack when the re-survey was done.

WRIGHT: Tell me, when you're talking about your leadership group, what did you tell those members of your actual leadership group that you expected of them now that you were Center Director, for them to do to improve morale and to improve the quality of work here?

EARLS: One of the things that helped was, with the BST folks coming onboard, they served as coaches. So for the leadership team, they would interview direct reports to members of the leadership team, they would interview peers, and they would also interview the next level of supervision. So for me, they interviewed members of the leadership team that were here that reported to me. They interviewed other Center Directors and Associate Administrators, as well as interviewing Fred Gregory and Sean O'Keefe.

So what BST did was the executive coaching process, and that was the first time I'd been exposed to that. As a result of these interviews, they sat and spent time with each one of the members of the leadership team. [They] spent a couple hours with me, just asking the questions about your style and your perspective and so forth. Then they produced a bound book that would, in fact, as I say, point out your flaws, point out where there were areas [for] improvement and point out things that you were doing appropriately.

So Headquarters was funding that for a certain number of members of the leadership team, but I decided to augment that funding so that we could reach every member of the leadership team here. I shared my report openly with all of them, and my report pointed out things that I could do to improve communications, things that I was doing where there was considerable room for improvement. My style was to empower people and essentially not look over their shoulders and micromanage. But it turns out that I was doing that across the board, and you really shouldn't do that with everyone. Some people need that interaction because they interpret the lack of involvement as you're not really being interested or not really caring. So you have to individualize your interactions with the people.

I learned to do that in conducting meetings where there were things that I needed to do in terms of making sure that I got input from everyone. I would take those little notes with me, and I would always say to these people in the meetings, "Well, look, my coach told me that here I am doing something wrong again, so let me straighten this out," and so forth. They took that information, and many of them shared that with their direct reports, too.

So my expectations were, one, that you be honest and open with employees; two, that you be accessible; three, get out of the Administration Building, because there was this mystique about that building and people sort of believed that we came in here and closed these doors and lost touch with what was happening. So openness, walking around, getting out of the office, talking to people, seeking their input and making sure that you listened to the input and have them understand that the decision would not always be made based upon what they desire but giving them opportunities for input. Those were some of the things that we did.

And then we had observers to come in to our meetings. Again, this was part of the BST support system and advice, too. So we would have people come to meetings, watch how the

leader conducted the meeting, and give feedback to the leader after the meeting in terms of things that were done well and where there was room for improvement. So those were the kinds of things that we did.

WRIGHT: You've told us about that you had no-risk lunches, you would bring in random employees. Did you learn anything different? You'd worked here so many years and you'd met so many different people and been in so many different positions, of course things change. Did you learn something new from these folks?

EARLS: [I learned] from every one of those sessions. What pleased me was there really was no fear. People would open up. One of the things that they brought to our attention was that management probably did not pay appropriate attention to poor performers. The disservice [is apparent] that you can do to those people who are pulling their own weight when there are people who don't pull their own weight and you don't properly counsel them, provide support, or discipline them if they are not performing after you've pulled every plug out in terms of trying to help them. So that came across clearly and was somewhat of an eye-opener because one of the things that you have to really watch carefully is that if you award and promote people who are not deserving, then you lose your credibility and cause the people who are deserving to say, "Why should I care? Why should I work that hard?"

The other thing that we picked up was that communications, again, is key. We would often believe that because we said something in the leadership council meeting and left those meetings expecting direct [reports] to get to the next level, that often the employees didn't get the information. And in some organizations, we thought they were holding regular staff

meetings, and we discovered that in some organizations it may be several months before they pulled everybody together in a staff meeting. So then we had information that would lead us to establish a policy whereby we had to make sure that people had the opportunity to sit in meeting with their colleagues, in the staff meetings, if you will, and get information that we were sharing.

The other thing was something as simple as the cafeteria. I don't think we met with a single group that didn't have some kind of concerns about the cafeteria, the food service there, and the lack of options. So one of the things I decided to do was to simply say, "We will change the structure." We did not have a contract for cafeteria operation, they were operating with exchange employees. I decided that what we needed to do was to go out with a request for proposal and get organizations to bid on the contract.

So in my infinite wisdom in an all-hands meeting, I pronounced, "We're going to go out with a request for proposal and contract out the services of the cafeteria," only to have the lawyers and the Human Resources people come to me and say, "You can't just do that, that the people operating the cafeteria are exchange employees that are represented by unions and so forth, and we have to negotiate that process." So I put together a team that involved the people from the exchange council themselves and brought in them to make the recommendations and see what we could do. Finally we have a contract operation in the cafeteria. The jury's still out though on whether or not it has improved services.

WRIGHT: What about the businesses that came through on the technology transfer day that you opened up the gates and let them come in and see? What kind of results and feedback did you get back from the area businesses about Glenn?

EARLS: We got extremely good feedback from that, and, as a matter of fact, as a result of that, we stepped up our efforts to make sure that our procurement office kept people aware of what opportunities were going to exist at the Center. [We] also gave the businesses contact people, in our research organizations in particular, for the kind of research that we were doing that might be transferable to them in terms of business problems with which they were confronted. We had in our wind tunnels, in our fluid flow organizations, air flow, there were applications that turned out to help resolve a problem that a vacuum cleaner company was having.

So we talked about spin-offs from what we were doing and also talked about spin-in, if you will. Spin-out as well as spin-in [is crucial], because some things that were going on out there in the business community, in that world, that we might be able to utilize inside NASA. We made sure that they were aware of our collaborations with the Ohio Aerospace Institute, an organization made up of businesses and universities that sits right outside our back gate, and collaborations that could be formed with them and how they could get input from those organizations as well in terms of opportunities that would exist. [We] expanded our relationships with the communities' Chambers of Commerce.

I don't think there was a single Chamber of Commerce in Northeast Ohio that I did not get an opportunity to make a presentation for those groups during the course of my serving as a Center Director. That would be small groups, that would be large groups, but getting out there, letting them know who we are, what we were doing, what our capabilities are, the economic impact of Glenn. And by economic impact, we were talking about the dollars that flowed into Glenn, how many contracts that were provided, the impact in terms of the salaries of the employees here, and how we were leveraging the dollars that came into Glenn through the contract workforce to create jobs and improve the economy.

WRIGHT: During your directorship, President George [W.] Bush did announce the Vision for Space Exploration, which set NASA's course to return humans to the Moon and pave a way to Mars and beyond. Tell us about that announcement and how you felt it was going to impact your Center and what you were going to do to try to help bring some more work here to Glenn regarding that.

EARLS: Firstly, to be seated in that auditorium, seated in that room, with the President of the United States speaking directly to you, your colleagues, is a once-in-a-lifetime experience for many, many people. So when he came and outlined for us this challenge, there was a sense of euphoria among those in the room, and I think it spilled over into the Agency, that we were important enough as an agency for the President to personally come to us and tell us this was his expectation.

I was very optimistic, because the caliber of people we have at Glenn, even though historically we had done research and were known as a Research Center, I was convinced that those competency skills and abilities would be transferable to doing things as we went to accomplish the President's exploration vision. So when I got back here meeting with our employees, meeting with our leadership team, to start to put together some of the things that we might be able to do, I asked them to think outside the box. [I asked them to] start with a blank sheet of paper, try to anticipate what the needs would be in terms of propulsion systems, in terms of launch vehicles and so forth. Whatever we thought that we might be able to do, [including] part of the capsule, the service module, if you will, the things that we knew based upon on our

experience working on large projects from the past might be helpful to us to start working on that.

I also decided what we needed to do was to have an objective look at our capabilities, so we pulled together a team of former NASA Glenn employees and managers and asked them to take a look at how capable we might be and how prepared we would be to take on a major program or project for space exploration. One of our former Center Directors Larry [Lawrence J.] Ross served on that. It was chaired by a former Division Chief here, Dr. Lonnie Reid who has a contract with us, AP Solution, computational fluid dynamics. [We] pulled together former branch chiefs who were here who had worked on the launch vehicles organization and asked them to take a look. And they came back with a report that was fair and objective, pointed out that at Glenn we were better prepared to do space projects now than we were when we were first given Atlas Centaur, when we were given the power for [International] Space Station. Because in those days, we didn't have people who had project management and launch vehicle and space flight hardware experience. Now we do. So in fairness, they pointed out that we have those people who would know how to do that, but at some levels in our senior management, we did not have people who had large project management experience among our senior management core. So that gave us goals and objectives that we could set to make sure that we were fully prepared.

And to this day, I believe that those things have made an impact, because when I had the opportunity to present to the Agency leadership council, I used sections of that report to talk about our capabilities and the numbers of people that we have here who are capable of doing things. After all, when you talk about *Columbia*, those experiments there were micro-gravity experiments, and there is no one in the world that had better experience or success rate with projects and experiments in space than NASA Glenn Research Center. We built the rack that

will go on Space Station for conducting experiments of combustion rack, fluids integration rack, those things we took from soup to nuts.

We had here the power system for Station. That was developed right here at Glenn Research Center. And we had a communications technology satellite [program] that started here. [We] took it from beginning to end [and] received an [Academy of Television Arts and Sciences] Emmy [Award], as a matter of fact. [We are] the only NASA Center to receive an Emmy from the broadcast community, because of what we've done here. [That program was] the basis for the satellite system that we use now with cable TV and so forth. So we had the experience, it was just a matter of letting the people know about that.

WRIGHT: Do you feel like that was a big part of your job as Director is to, as you mentioned earlier, get the word out about Glenn? It seemed that you'd mentioned about locally in Cleveland to let people know, but did you also have a desire to let the Agency know what was here at Glenn?

EARLS: Absolutely. That was part of the One NASA effort again, because we were given tremendous assistance in getting that word out by these One NASA kick-off sessions. And as I was fortunate enough to be asked to go to every NASA Center for presentations. In those opportunities to interact with the management at every other NASA Center, [I got the] chance to talk a little bit more about our capabilities and our people here. Also we had employees that were on details to NASA Headquarters. We made sure that we sent our best and brightest on these detailed assignments so that they would be ambassadors for Glenn Research Center. Other Centers historically had done that to a greater degree than we had done at Lewis and at Glenn.

So we stepped up our effort to make sure that we had our people providing support for Headquarters and also dealing with and supporting other NASA Centers. We were able to take people from our safety and resource and management [office] and have them support people at Johnson Space Center in some of the safety assurance efforts that were going on there.

So we spread our tentacles, if you will, and encouraged all employees to be ambassadors and spread the word about our capabilities here at Glenn. And it really helped us with the kinds of things we did for the Return to Flight effort, with the GRABER materials, with the ballistic testing, those kinds of things served us well.

WRIGHT: Do you feel part of the task was to have to combat against some of the perceptions that Glenn was always an aerospace Center or that it had been, I think, at one time, as many of the former NACA [National Advisory Committee for Aeronautics] Centers had been called hobby shops, that there is certain projects? Were you also having to fight or combat that perception, trying to have people take a new look at Glenn?

EARLS: Yes, we had to deal with that not only externally but internally, because there was a certain element of truth in that. It was so easy for us as researchers to get so involved in our programs and projects and not see the big picture. [It was easy to] want to continue to do the things that we had been doing for years and years, which may have been appropriate when they were started, but were no longer appropriate and had [no] applicability to the things that were important to the Agency. So making sure that we internally turned the searchlight inward and looked at what are we doing and how is it of service to the Agency and what should we stop doing. And that's pretty tough to bite that bullet and say to someone who's been working on

something for years and has built his or her career around that, that that's no longer relevant and that's no longer important. So we had to do that.

Then we had to make sure that the Agency and the other Centers were aware that we were doing things that were applicable to them. Having our people visit the other Centers, interact with the employees there, the scientists, the engineers, about the kinds of things that we were doing, and making sure that when we could collaborate [was important and] we did that. Working with the [NASA] Jet Propulsion Laboratory [Pasadena, California, JPL], we established, under Don Campbell, and signed an agreement with JPL for collaboration with doing projects with them and programs with them. We were looking at space nuclear propulsion. Well, we have tremendous history in that here at Glenn Research Center. So when we were talking about Project Prometheus [we were] making sure that our people interacted appropriately with people at JPL and Headquarters to see if we could have a significant role to play in that arena.

So it was an accusation that many people reacted negatively to, but one of the things I believe is that not everything people say about you is true and not everything people say about you is untrue.

WRIGHT: Sometimes NASA has opted to bring someone in from the outside to head a Center, and in this case they chose someone that had a long tenure here and with a technical background. Tell us what you think personally that you feel helped you to be a successful Center Director. Why was it a good choice for NASA to bring you up from the inside to deal with some of these issues, other than have someone from the outside come in and objectively look at the issues that were surrounding the Center at the time?

EARLS: It was interesting because I was an exception in the appointment of Center Directors, because there was this interest in mobility and the belief that one should work at different Centers and different organizations. It was almost a requirement before you could move up to the next level. Since I spent my entire career here at Glenn, it really was a surprise to me to be asked to serve as the Center Director. Again, I believe it was because of Fred Gregory and Sean O'Keefe looking at what the needs were here at Glenn Research Center.

I think there was considerable concern in the local community, in the state of Ohio, from the governor's office, that Glenn was not really getting its due as far as Headquarters was concerned and was not getting the fair share of work assignments and a real concern that we had sort of been isolated from the rest of the world. I believe that what Sean and Fred Gregory decided at the time was that they needed someone to be the Center Director that could open up the doors and establish a greater degree of credibility with the Ohio delegation, with the local politicians, with the state politicians and so forth, as well as someone that could have employees not worried about how long is it going to take this person to learn what we do here to sort of sell our capabilities.

So I think that it was a combination of those things that said even though we like to have Center Directors who have experiences at other Centers, that there were some unique issues confronting Glenn. Perhaps I could bring that experience, that knowledge of the local community [and] state, [to] service. I tried to provide [support] to the rest of the Agency. [Sean and Fred concluded] that it might be worth taking the risk of appointing someone who had grown up here at the Center.

WRIGHT: Did you have a list for Administrator O'Keefe and Fred Gregory that you needed from them in order to be able to take this job and do it well? Were there some expectations that you had of them to help support your efforts?

EARLS: Not in the least. I did not negotiate. I did not say I would take the position only if, but I was confident that I would be able to get the support that I needed. As a matter of fact, when it came to picking the Deputy Director of the Center, many people believed that the Headquarters organization was appointing Deputy Directors. But I wanted Rich [Richard] Christiansen to be my Deputy at the Center, and I asked for Rich Christiansen and I got Rich Christiansen to come here to be the Center Deputy Director. And everything that I wanted to do in terms of upper-level management appointments and restructuring, I got support out of Headquarters.

But I was cautious enough to ask and let them know and then tell them why, and they, as most people, if you give people the rationale for why you want to do things, I think most often you will be able to get a positive reaction and get support for what you want to do.

WRIGHT: You retired from the Agency in December of 2005, so you had a very short tenure as Director. What prompted your decision to retire when you did?

EARLS: I had decided to retire before I became Center Director, and I really thought that forty years of service was more than enough. And I probably wouldn't have retired if I did not believe that there were good people in place that cared about the Center. When the announcement was made that Dr. Woodrow Whitlow [Jr.] was going to become the Center Director, then I knew that I could leave and not even be missed at Glenn Research Center. Woodrow had experience at

Langley Research Center. He had come to Glenn to be the Director of Research and Technology. He left and was the Deputy Director at Kennedy Space Center. He knew the Center, extremely smart, bachelors, masters, Ph.D. from MIT [Massachusetts Institute of Technology, Cambridge, Massachusetts]. Now he had experience at one of the Mission Centers.

And when I knew that he was going to be appointed the Center Director, then I knew that I could go with a clear conscience and be at peace that the employees would be well represented, that we had someone that would be respected by the Agency as well as someone that would be respected by the outside community.

WRIGHT: To those who remain at Glenn and to those who will follow you, what do you tell them about Glenn, and why do you think that they should continue to work here?

EARLS: I believe that there are no people anywhere in the world smarter or more dedicated than the employees at Glenn Research Center. The overwhelming majority, 95-plus percent, come through those gates every day wanting to do the best job possible. If you look at the track record in terms of accomplishments and successes, you will not find a Center that exceeds Glenn in terms of success rates. Launch vehicle projects, you could point to that. The ACTS [Advanced Communications Technology [Satellite], the space power system, the experiments that we did in the microgravity world, the whole world of aeronautics. Look at the kinds of developments that have been brought out of Glenn Research Center, and as I pointed out earlier, the fact that our people have written textbooks in the world of aeronautics. If you look at computational fluid dynamics, look at modeling, all of the things that you really think are important to a technical agency and to a technical world, you can point to Glenn and see Glenn's fingerprints on most of

those. So that's why I tell people, "Glenn is the best place to be, as far as I'm concerned, in the Agency."

WRIGHT: You've had a long career. What do you believe, looking back on that, to be your most significant accomplishment?

EARLS: Probably starting as a GS-7 [General Schedule] Engineer Scientist, because I started with the title of Nuclear Engineer and not as Physicist. To be able to go to there and end up as the Center Director, which was beyond my wildest dreams when I walked down those hallways on my first day at NASA, never thought that I would ever be the Center Director. I think getting to that level was probably a major accomplishment and a surprise to me, but a humbling thing to be chosen to be the spokesperson for the quality of employees at Glenn.

WRIGHT: You've spent a lot of time sharing information with high school and college level students. If you were sitting and talking with them today and one of them asked you, "I want to do that, I want to start out, but I want to end up as the leader of the Center or a CEO [Chief Executive Officer]," what would you tell them? How would you give them a path for success?

EARLS: The advice I give is whatever job you're assigned, do that job to the best of your ability. So often people so concentrate on the job that they want to get that they neglect the job that they currently have. I did not ever set a goal to be the Center Director. My goal was to be productive at whatever position I had, and as a result of that performance, people observed that and I was selected for the next level job based upon how well I performed on the job I had.

Now, this is probably not the way management schools tell people. You should have a five-year plan, this is where I want to go, and so forth and so on, and there probably is validity to that as long as you don't neglect the preparation that's required. When I went off to graduate school, [taking] courses in public health, [I] had no clue that that would lead to my being head of an environmental health group here at the Center. But that preparation happened to have me postured so that when the opportunity presented itself, I could take advantage of that.

So my best advice, pay attention to the position you currently occupy, give 100 percent to that. I've never asked for a promotion in my entire career. My philosophy was if I deserve a promotion, then the people for whom I work should observe that, should recognize that, and they should submit me for that. If I have to go in and ask for a promotion, then either I'm not performing or I need to go work for somebody else that will recognize that.

WRIGHT: What do you consider to be the most challenging aspect of your NASA career? We've all endured some hard times and experienced some changes in our lives that maybe didn't go exactly the way that we talked about. What do you consider to be some of the most challenging aspects that you had to endure?

EARLS: Well, one of the most challenging ones was when I applied for a position and a group of employees decided that if I got to that level, the next level, that somehow they did not want to see that happen. So a group of employees at Glenn Research Center, when I applied to move to the position above the Division Chief Health, Safety and Security Division, went to the media. They complained that I was dictatorial, that I was unfair, that I promoted people of color who were unqualified, and that I had, in fact, unfairly awarded contracts to minority firms. I was

exposed on TV for one solid week with an investigative reporter interviewing employees who had their faces darked out and obscured, and their voices electronically distorted, painting a picture of Julian Earls as the worst thing to come along since Attila the Hun or since [Adolf] Hitler.

As a result of that, I did not get the promotion that I'd applied for, and the organization I had was abolished. They took the branches in my division, spread those out, and gave me a little, what they perceived to be, do-nothing job just heading up the Medical Services Group here at the Center. Fortunately, I didn't have to fight that battle because there were people who rose up in indignation, employees at the Center, people outside the Center. They got petitions signed, sent the petitions to members of the [Ohio] delegation, petition to the President of the United States, and started a movement at this Center that changed the face of the Agency.

They put together a report that must have been four inches thick that talked about the way people of color had been mistreated at this Center, who had not had opportunities for promotion. As a result of that, the Center Director was reassigned, the people who had been orchestrators of that movement against me ended up being removed from jobs and so forth. The know-nothing job that they gave me, as I tell people, take the job you have and do that to the best of your ability.

Someone must have concluded that this would be the end of Julian Earls' career by giving him that know-nothing job. Well, I took that position, gave 100-percent effort there, ended up bringing on a contractor to support that effort, and that contractor ended up getting the George [M.] Low [Quality and Excellence] Award. The organization, the health program that I put in place, ended up being recognized by OPM [United States Office of Personnel Management] as the best program in the Agency, and from that position I was moved up to the

next position and became Assistant Deputy Director for Business Resource and Development and that led to the success that I've met.

So [that] would have destroyed, I think, many people. And in fact, I was just talking with an employee at NASA who called me since I've left about the problem with which he was confronted, and it was very serious because the employee left a voice message for me where he said he was going to take his life. And I called and talked to that employee, shared my experiences from there, and, fortunately, the employee's wife had also left a message on the phone for me.

The employee did not work directly for me, but somehow as a result of his observing me as a Center Director felt that he could confide in me that way. And I met and talked with him and explained that there are several things you must do. First of all, be secure within yourself that you've done all the things that you were required to do. Secondly, understand that there are people who are important to you, family who care about you, colleagues who care about you, they will be supportive of you. Understand also that there are people who are not supportive of you, people who want to see you fail, and in all probability there's little that you can do to change the minds of the people who are against you, [or the] people who are for you. Take solace in the fact that you have done everything that is right. You can look yourself in the mirror, hold your head straight, high, shoulders straight, sleep at night, and believe that things will take care of themselves. It may take a little while to do that, but if you have the faith, and I really am a strong believer that God has his hands on the lives of people, and the only way I got through that was because of the support I have from the people within this Center, outside this Center. And what would have destroyed many other people, somehow I came through that and ended up as a Center Director.

But you talk about a challenge, to sit and watch yourself on TV being painted as horrendous, and to have your spouse and your children exposed to that kind of thing in investigative reporting was just something that would have destroyed a lot of people. But I never lost a moment's sleep on it because of the people who were contacting me, taking umbrage.

As a matter of fact, if that had not happened to me, I don't believe we would have seen the success for the people of color at the Center, and for females at the Center. Because the result of our looking through what was going on then, there had never been a black employee outside of Headquarters ever promoted to the Senior Executive Service within this Agency. Dr. Lonnie Reid here at Glenn became the first African-American Senior Executive outside of Headquarters. There had never been a single employee at this Center, black, Hispanic, Asian, who had ever received an Agency-wide award. So now you look around and we have employees, people of color, females, getting Agency awards for exceptional service, the whole thing.

I didn't mean to go on long with this, but that was something that I think needs to be said because if we're going to talk about the history of any organization, we have to make sure that we pay attention to those kinds of policies and procedures that, in fact, tend to destroy people. And if you don't correct those things and make sure that there are avenues of redress, then we lose a lot of capability and potential, because everybody brings something to the table.

WRIGHT: Did you ever learn the reasons why these people did their attack on you, what motivated them to single you out?

EARLS: Well, what the Center did was [bring in] a sociologist, psychologist named Dr. Kenneth [B.] Clark. Now, Dr. Kenneth Clark was the psychologist who developed and testified before the U.S. Supreme Court in the cases of desegregation in the schools. The Center decided to bring Kenneth Clark onboard.

He interviewed every single employee in my organization. He produced a report to the Center management at the time, and for the first time in history, the Center management did not require a written report from a contractor. He sat with me and he told me that his message to the Center management at the time was that I was a person of color who had risen to a position of power and influence and used that position of power and influence to lift up my people. That that caused such a violent reaction among others that they decided that they had to stop me from reaching the next level because of their concern about what I would be able to do at the next level.

He also pointed out, though, that when you look at the decisions that I had made, that they were not just people of color, that there were people across the board that were supportive of me, and that the employees that were signing the petition [of support] were black employees, white employees, outside, they were ministerial associations, and so forth. But he concluded it was just the fear of people that since I had taken a division and made it look like a little United Nations that if I became a director of that [directorate] there was a fear that I would do the same thing at the next level, and people figured that they had to stop it. That's why they went forward with that conspiracy and that attack upon me.

WRIGHT: What timeframe was this?

EARLS: That was in 1988.

WRIGHT: What motivates you? All the things that you've done, all those causes that you have taken up, all of the things that you personally believe in that you take such proactive stances on, what motivates you to continue this path?

EARLS: When I grew up, my father used to take my brothers and sisters and me to North Carolina where my grandfather was a sharecropper, and I watched my grandfather working on land that he would never own, and I watched him almost dehumanized by those landowners. My dad only went through the fourth grade. He worked on the railroads in Virginia and he would be a chauffeur to take the crews out at night, any hours of the night, to those different locations, and periodically he would take me to his job with him. And I watched white males calling my daddy "boy" all the way through his working career.

I watched my mother as she would be a domestic, and she would have white women who would call her "Ida" and she would have to call them "Ms." or "Mrs." and so forth. And what I concluded is that if I ever got any power and influence, I would make sure that nobody got treated that way, black, white, or polka dot. I just decided that I wanted to make sure that everybody got treated fairly and got respected, and that sort of has just been a guiding principle for me. [I] understand that old saying that my folks used to have that "God did not give anybody everything, but He gave everybody something." That's my favorite quotation, because I believe that everybody brings something to the table and you need to make sure that you support people and you nurture that.

So I wouldn't know how to be any other way, as a matter of fact. I just believe that I've been blessed. It's not the wealth that you accumulate; it's the wealth that you share that makes you the person you are.

WRIGHT: Well, that would be a good way to end the session, but we're just going to end the segment with this and come back and get a few more things from you. So let's just take a break.

EARLS: Okay. Fine.

[pause]

WRIGHT: As we think back on your career, are there some other experiences or aspects that we might not have covered? Especially was there a time that you made a decision or you were in the midst of something that you'd wished that maybe you had done it differently or you could go back and do it a different way?

EARLS: As I think back, I might have decided to stay in school and earn my doctoral degree before starting to work. Now, there are pros and cons to that, because what I was anxious to do was to start making money as quickly as possible. See, my bride of over forty-three years and I got married at the end of our sophomore year at Norfolk State University [Norfolk, Virginia]. So by the time we graduated, we had our firstborn son. So I was looking to get gainful employment.

Delaying coming to work for NASA while I went to graduate school in Rochester [University of Rochester School of Medicine and Dentistry, Rochester, New York] was not that

difficult because the stipend was considerably more than I had been making. But I decided at that time that, well, let me go out and really start increasing my income because I really wanted to start to settle down with my wife and our son at the time. She would have been supportive of my continuing on for doctoral studies.

The other aspect is after I finished my doctoral degree at Michigan [University of Michigan, Ann Arbor, Michigan] and came back I was given the opportunity to attend medical school. Now, just the other night, she was saying to me as we were watching some program on TV with physicians, and she said, "Did you ever really think about being a physician?" And I was sharing with her how we had decided after I'd come back from graduate school that maybe going to medical school was an option. I'd decided against [that]. I'm glad I [made] that decision, but I might have stayed at school. But that's probably the only thing in the career that I probably would have done differently.

WRIGHT: You certainly had a full career and even parallel lives with your civic and community and educational contributions, and I'll bet you'll be the first one to say that you couldn't have done it without family support, talking about your wife and your family. And it brought to mind that when you were talking about the not-too-pleasant time in 1988 that you went through about how much that affected them as well.

EARLS: It really did because my son is Julian Earls, Jr. There were people who would make these harassing telephone calls and I would get them at home and they would hang up on me or make some comment, negative comment and so forth. Well, I didn't realize that he was getting those calls as well, because he was in medical school here but he was living in an apartment.

And he would get those calls. And when all of this thing blew up on the TV, that's when he started telling me about these harassing telephone calls that he had received, but he had just dismissed those and the hang-ups and so forth. But they were there for me, and that was one reason I never lost a moment's sleep about this, because my family was there. My family has already been supportive, and as long as they had the faith in me and they knew me, and then, here, again, having colleagues here and people outside, community support. One person who was the first one to sign a petition is now the vice president of the electric power company here in the city. He and I are in another organization, and every time I see him I remember that his was the first signature on the document, [as well as] employees at Glenn who signed those documents and signed those petitions and kept those going.

But my family has always been there for me. I really could not have succeeded within NASA if I didn't have an understanding wife.

WRIGHT: She sounds like quite a person to be with. Would you like to spend a few minutes talking about your most important partner? How did she support you on some of the decisions that you were making? Was she your confidante? Did you talk to her at home about things that were happening at work?

EARLS: Well, absolutely, and if she had said no, I never would have gone to graduate school because she didn't travel to Michigan with me. She stayed here, and by that time we had two sons. [She] was a schoolteacher, taking care of our two sons, while I would commute home as many weekends as was possible. But she was totally understanding and totally supportive, and

when I came home on weekends, often I was studying and doing projects at home. But she never ever did anything but support me, and our guys were absolutely understanding.

But she spent over thirty years as a teacher in the Cleveland School System, and sometimes I felt like I worked for the Cleveland School System because I would be at home, drawing little rabbits. She was an elementary schoolteacher, cutting out figures and all these kinds of things. Plus she was the one that forced me to go to all these schools and give lectures because her girlfriends would ask, "Isn't your husband a scientist at NASA? Can he come talk to my school?" And she would say yes, and that was the end of the discussion.

WRIGHT: She sounds like an agent.

EARLS: Yes. Except I didn't get paid.

WRIGHT: We'll have to ask her if she felt that you lived up to her expectations. I'm sure that she'll agree with that.

When she was here and raising those children and you were off with educational efforts and other career plans, she must have had quite a support group herself. How did you all function together as an extended family in Cleveland?

EARLS: Well, I was on the phone every day, there's no question about that, and home most weekends. But here, again, we did have a group of friends that were just like family, and to this day we still maintain those friendships. And their children refer to me as Uncle and to her as the Aunt, and our children refer to them as uncles and aunts and so forth. So it was really like a

family right here in Cleveland. In fact, we could not have survived with my going away like that if we didn't have good friends and support like that. If something were to be needed to be done at home, then she could just pick up the phone and call any of them and they were there.

WRIGHT: Well, I believe we're going to take another quick break and when we come back we're going to talk, maybe receive some instruction from you about management styles and leadership qualities that we could utilize as lessons learned.

EARLS: All right.

[pause]

WRIGHT: Yesterday you briefly shared with us some of the qualities that you admired in your colleagues and former directors. What qualities do you seek in the employees that you recruit or that you hired?

EARLS: The first thing is you must be technically competent in your field of endeavor, because the first thing that people need is some faith and credibility in your knowledge based in whatever area you're hired. So that's one thing I look for. Secondly, have you demonstrated your ability to work as a member of a team? Because unlike in the old days when one person could be the know-all, be-all for any particular area, that's not the case anymore today. So you have to be able to demonstrate that you have ability to work as a member of a team. And also, if you've

demonstrated some leadership abilities and ability to, what I call, inspire people to work with you.

And I'm a great believer that you need to have a sense of humor, because if you can't laugh and have fun at what you do, then I think you really need to find something else to do.

WRIGHT: Speaking of sense of humor, I understand that there was a movement, underground movement, to put together a video for you of *My Favorite Julian Earls Joke*.

EARLS: Oh, is that right? [laughs]

WRIGHT: People thought that would be a great idea, that they could give you the jokes that they heard from you back as retirement presents. Do you have a stash of your favorite jokes that you like to share with folks?

EARLS: Well, what happens is I try to always tell a story that has a moral that applies to the presentation. I don't believe as a speaker you can just tell a joke for the sake of telling a joke. The punch line must always relate to the message that you're trying to deliver. If you walk away from a place and all people remember are the jokes, then I think you've probably failed as a presenter. But I was a class clown and I've been a natural clown all my life, and people send me jokes, they say, "Here's a story that I think you would be interested in."

When I taught at Tri-C [Cuyahoga Community College, Cleveland, Ohio], I used to stop in the middle of the class and we would do a math puzzle, and there would always be something funny associated with that. And students would stop and look in our room because they would

hear laughter. They never would have guessed that it was a math class. But I believe that you take the fear away from math and science if you sort of make it fun.

So, yeah, I try to keep track of all these jokes and stories that people send me and try to use them, and I'll do some research depending upon what the topic is that I'm addressing at the moment and try to find a story that relates to it.

WRIGHT: Did you find one that you used more than others?

EARLS: Yes, there's one I use, and my wife tends to not like that one that much because I talk about inspiration being external and motivation being internal. And I tell people that they wouldn't ever believe that I weighed as much as I used to weigh. My wife would tell me that if I don't lose weight, I'm not going to live long enough to see our sons grow into adulthood. Nothing made a difference, but one day I was standing in the grocery store in the checkout line wearing my pager. And there was a little boy behind me about five or six years old with his mother, and my pager started to beep rather loudly. And the little boy grabbed his mama and said, "Look out, Mama, the fat man is backing up." [laughs]

And the moral that I use to that is that that told me that I needed to change, that I needed to start an exercise program, and that people said change is difficult. But change is not difficult. The easiest thing in the world to do is to change. But sustaining change is the challenge. And when I started my exercise program, it was easy to get up the next morning and start trying to walk, but to be persistent and do that and do that for years, that's what really makes the difference and that's where the payoff is. But that's one that I use a lot.

In fact, I was at a conference where it was Hewlett-Packard, one of their management conferences, and I told that story. And when I sat down, the person was headed up to the stage after me and he was a little heavy, and as he was walking up his colleagues started going, “Beep, beep, beep.” [laughs]

WRIGHT: Speaking of conferences and speaking engagements, you’ve had an opportunity to speak to so many places. Are there a couple that tend to really ring out in your memory as memorable ones that you’d like to share with us, maybe some that you felt you were selected and it was an honor to be there, or maybe as a result of your speaking you heard of something that made a difference.

EARLS: Well, probably where I get the most satisfaction is the Jennings Foundation Lecturer [Program]. There is within Ohio a foundation, Martha Holden Jennings [Foundation]. They select master teachers and give them an award at the end of the school year. But for them to earn that, one Saturday morning a month these teachers from around the state come together for a lecture, and I am one of those lecturers. You only get selected to return based upon the ratings that the teachers do. So they fill out these forms and they talk about the quality of your presentation, the delivery, the relevance, and the substance and so forth. And if they rate you poorly, you don’t get an invitation to come back. I’ve been on that lecture circuit for the past eleven years.

And what I really do is relate the importance of education, a lot about the experience of my wife as an educator and my teaching experiences, and just try to get people involved in education as teachers to understand that, from my perspective, theirs is the most noble of

professions. And they respond so favorably and I get letters from them, and then I'll get invitations to come open up the school systems around the state, and then it spills over to around the nation. So it's rewarding to be able to talk to teachers like that.

Within the Agency, too, I've been asked to speak to so many events at the Centers. That's an honor and humbling. I never said no, because that gave exposure to Glenn as a Center, and I was hoping that what I could do was give people a snapshot of Glenn Research Center and let them know that I was just a representative of a group of employees who really wanted to be of service and to help. And the story I told about speaking at the JPL Procurement Conference, and an individual there nominating me for this torchbearer, as a matter of fact, I'm going out next month again to JPL. This will be the fourth time that I will have spoken at their Procurement Conference. So getting repeat invitations is an honor, but it works you hard because you can't use the same stories anymore.

WRIGHT: And that's a sign of a good leader is one who wants to show different aspects and provide different information. But tell me your opinion. What are the components of being a good leader, and how do you develop someone to become a good leader?

EARLS: I really believe that you have to be ethical. You have to have integrity. People have to believe in you before they will follow you. Also, you have to conduct yourself in such a manner that you don't have to tell people to do things, that people will anticipate there's something that needs to be done, and even without your asking, they will, in fact do that. Because it is so easy for people to not realize that you call yourself a leader, but people will decide, "I will come to

work and I will work from nine until five, and I will do no more. I will do just what is required of me and won't go beyond."

So if you really are a leader and people have respect for you and believe that you have integrity and that you're honest and open and you mean well, people will go that extra mile. Sometimes you don't even know the things that they are doing to help you, but they will do that. And I've really been blessed in that regard, because I've been surrounded by people that sometimes I would find out a long time afterwards, things that they had done that needed to be done that provided support that I didn't even know about, and they didn't even tell me about those things.

WRIGHT: You've had experiences with so many people within the Agency, outside the Agency, and different supervisors and bosses and mentors. Share with us what you believe to be some of the elements of strong leadership and in a management style, and then also what you have learned from the managers from their styles that were not of a benefit. Because, as you know, we learn from the strengths as well as we do the weaknesses.

EARLS: Probably, my boss Ed Richley was the one from whom I learned most about being a true manager because Ed Richley became my boss when I applied for the position that he had applied for. He received the promotion and I didn't. And I was a Division Chief, and he called me into the office shortly after being promoted and he said, "I know you applied for this position. I know you are qualified and you could do this job. I don't know whether or not you will be comfortable working for me, but I want you to stay in this organization. But if you want to find

another place in this organization, then I will reluctantly help you do that, because I want you to stay where you are.”

Now, for him to come onboard and say that to me, knowing that I was the competition, just told me that I was dealing with a person that was very special. And I simply said to him, “Well, Ed, I did not apply for the job because I was unhappy with the job I have. The job I have gives me satisfaction coming here every day, and I don’t want to move, and what I’m going to do is work so that I can make you look so good that they are going to pick you for another job and then when this vacancy opens up the next time, I will get it.” And it turned out that he and I had the most beautiful of working relationships.

The other thing that Ed did was Ed asked me to do things that were outside my experience base, and I was not sure that I wanted to do some of the things that he asked me to do. For example, when he came to me, and at that time, I was not dealing with computer information system. But he was the one who came to me and said, “Our management information system here is essentially archaic, and I need someone to pull together a plan and develop a process and implement it for getting us in this century up to date in terms of management information.”

And I said, “But Ed, that’s not my background.”

His response to me was, “It’s not your background, but you have the capability for doing that. Now, you don’t have to say yes, but I believe you can do that.”

And because of the respect I had for him, I said, “Well, all right, I will do that,” and it was a growth experience for me. I put together a team of people who had the knowledge base, a cross-section of people. I had to do a lot of research and do homework, but I grew as a result of doing that. So here I had a manager who recognized in me an ability that I did not recognize

myself, and a capability, and encouraged me to do that. So those are two examples of things that I really learned and tried to emulate those as I was dealing with people.

WRIGHT: You mentioned technology. How have the changes in technology over the years caused changes in management style and structures?

EARLS: Oh, they really have tremendously, because I remember the old days when there were mimeograph machines. I remember how [excited we were] once we found that there were IBM [International Business Machines] Selectrics [typewriters] where you could make corrections without having to use white-out and these kinds of things. I would do a lot of the typing of reports and so forth myself, making and producing viewgraph for presentations and so forth. [It was progress] getting into the electronic age, [Microsoft] Power Point. [Now] you're able to do all these kind of things, those things have made a tremendous difference for us.

The changes in research in the machine shops, you didn't have computer-assisted facilities. You didn't have CAD/CAM [Computer Aided Design/Computer Aided Manufacturing] and those kinds of things. I remember having to go through blueprints. When I started here and I wanted to design a device to do calibration of neutron radiation detection instruments, and I had to sit with the technician and draw up the drawing, and then I'd have to go out in the shop, make a model, bring it back, and test it and so forth. We must have gone through four or five iterations before we finally got what we wanted.

Well, now with computational dynamics, you can do that modeling even though you still have to make the samples and the test article, but you probably only have to do a couple rather than doing six or seven. So the technology has really made all kinds of advances. And needless

to say, the communication system, e-mailing and so forth, the fact that now no matter where I am I could pull up my [Palm] Treo, check on my e-mail messages. There was a time when you went on travel all you had to be concerned about was the messages on your desk when you got back. But now you've got e-mail, you've got voicemail. I mean you just can't hide from people anymore.

But those are advances that have really made a differences because I could even, on driving to work, get on my cell phone and get any number of things done. [I could] check my voicemail messages and get things done while I'm traveling, driving down to Columbus [Ohio] and things like that. So those things have made a tremendous difference in how we function as people across the board. But looking at computers, the advances in materials, the strength of materials, looking at the fact that you now get people who come onboard even as undergrads [undergraduates] who are where we probably were out of graduate school years ago, all based upon advances in technology.

WRIGHT: What are the components, in your opinion, that make a successful organization?

EARLS: First, the people. You really do have to have quality people. I've discovered that whether you're in the university or whether you're in NASA or whether you're in a church, all those organizations are made up [of] people, and the people have to come every day with the right attitude.

In addition, you really do have to have resources. You just can't expect people to make a silk purse out of a sow's ear, as my folks used to say. You do have to provide reasonable resources for people to get the job done, because there's nothing more frustrating that wanting to

do something and not having the tools to, in fact, make that happen. Now, that doesn't mean everybody has what they want, but as a minimum you have to be sure that they have the things that they need to get the job done.

So you also have to be able to provide opportunities for people to grow, whether that's graduate training, undergraduate education, [or other] courses. But you can do many things to help people grow without having a lot of money to do things. Travel. If people travel to conferences, that's a growth opportunity. I recall there were travel crunches at one point in my career, and someone decreed that the only person that could attend a technical conference was the person who was making the presentation. And I just chuckled and said, "How can you become world-class if you never leave Cleveland?" Conferences are fine for presenters, but much of the value of the conferences comes from being able to attend, from interacting with colleagues who are doing similar kinds of things from around the world.

So making sure that you provide those kinds of opportunities available to people, [e.g.] providing seminars. You may not have to travel with a large group of people, but bringing someone in to make a presentation, those are the kinds of things that make organizations well. Paying attention to growth opportunities, development opportunities for people, and providing appropriate resources.

And then creating an environment in which people feel that they can grow. You cannot have an environment where you operate on a basis of fear and intimidation. You have to have an open environment and create that, and the leader really does that. I maintain that morale in an organization is confidence in the person at the top. If the people don't have any respect for the person at the top, then the morale in an organization is low. If they do have respect for the person at the top, you stand a greater chance of there being good morale in an organization.

WRIGHT: Was there any time in your life, even prior to your career at NASA, that something happened that gave you an indication that you would be a leader, that you would be at the top of a Center or at the top of a company, that you would rise to the top and go as far as you wanted to go?

EARLS: You know, as I look back, I've just been fortunate, and I guess I should have picked up some signal, because in almost every organization that I've been in, I ended up as the president of the organization. I thought about that when we were having some conversations prior to my retirement.

When I was in college, I was in the honor society Beta Kappa Chi. I ended up being the president of the Beta Kappa Chi. I was in another one, Alpha Kappa Mu, a general honor society. Beta Kappa Chi was a scientific honor society. Then I was in the fraternity, and ended up at one point in college, I was the president of four different organizations. But it didn't dawn on me that that was anything special.

When I was in the ROTC [Reserve Officers Training Corps] unit, I ended up as the commander of the ROTC unit in undergraduate school. So I'm walking around campus, and everybody has to salute me because I'm the highest-ranking cadet on campus. But it was nothing that special, because I just felt I was doing what I was asked to do.

And coming to NASA, ending up as a Section Head, every one of those positions, again, I never really thought about what it meant to occupy those positions. I just ended up saying, "I'm here and I'm fortunate that I've been chosen for this, and let me make sure that I don't let the people down who've chosen me for these positions."

But the answer to your question is, “No, I never did think that I would be in any of those leadership roles and never set out as that’s what I’m working for.”

WRIGHT: Even though you chose to retire, there were others still wanting you to lead organizations. You were offered the position to be the president of Alabama A&M [Agricultural and Mechanical University, Normal, Alabama] but chose not to accept that. Could you tell us why?

EARLS: Yes. I applied for the position not thinking that I stood a snowball’s chance of getting it. Charles [H.] Scales worked here at Glenn. He was my Center Operations Director who was an alumnus of Alabama A&M, [and] Jim Jennings [is] an alumnus of Alabama A&M. So when the position became vacant, they said, “Look, we would like to submit your name as a candidate,” and they did. Then I was asked to submit paperwork, background information.

Well, I’ve worked with HBCUs [historically black colleges and universities] all my entire career, and I concluded that, number one, if you were not a person who had grown up in those institutions who did have experiences as a professor and so forth, then you would not be chosen for the job. But I knew I was going to retire and felt that the experience of going through the interview process and so forth would serve me well, depending upon what I really decided I wanted to do.

So I was invited to come down to the search committee for an interview. [I] went down, just answered the questions honestly and so forth. And lo and behold, I get an invitation to come back down for the final interview with the board. My wife and I went down. I interviewed with

the board, which turned out to be a public interview, media there, community people, in this large room, and I'm being interviewed, and I just answered the questions accurately there.

Left there, had to interview with the students, had to interview with the faculty, and then a public interview. And at the end of the day, I went back to the hotel because there was this break between the end of the interviews. I'm meeting with the board, select board members for dinner. And I walked back into the room, and Zenobia [Earls] looked at me and she said, "You look depressed."

I said, "I really am. I feel like I've been kicked in the stomach."

She said, "Well, what do you mean?"

I said, "These people are going to offer me that job." [laughs] I said, "I never thought I would have to make the decision."

So sure enough, we went to dinner. The next morning, all over the media, Julian Earls has been selected as the president of Alabama A&M. They made the announcement. They had not made me an offer. I didn't know what the criteria were going to be for me, in terms of the contract document and so forth. Next morning, I'm coming out of the airport; the front page of the newspaper has my picture. People in the airport are saying, "Oh, you're the next president. You're the new president of Alabama A&M."

I get home, people tell me they've gone on the network, the home page for Alabama [A&M, and] they have me listed as the president. But they haven't made me an offer. So I knew they were going to make an offer.

So I sat and talked with my family, thought about relocation, thought about the challenges associated with it, and so forth, and then decided that that was not something I really wanted to do. Had I been fifty-two instead of sixty-two, I probably would have taken the offer.

But I talked with my family again. I talked to our sons. They said, “Dad, you spent over forty years working, taking care of Mom, taking care of us, taking care of employees, always being concerned about others and their welfare. Don’t you think it’s time that you just thought about yourself for a change? And you know that if you go down there to be president of that college, you are going to be working 24/7 [24 hours-a-day/7 days-a-week], that there’s absolutely no way that you are going to ever relax. You’re going to be adopting all those students down there. And you ought to just say you’ve spent one meaningful career 24/7, why don’t you think about doing something different?”

And I thought about it and talked, and that’s when I decided that no matter what they offered me, then I would decline. That also was the catalyst for my saying, once I received a telephone call from the Administrator, [and] he congratulated me, I told him that congratulations [were] premature because I had not been made an offer.

He said, “I know, but these things happen that are outside of your control.”

And it was that time that I said, “Well, let me do this. Since you made the phone call, I need to tell you that whether or not I accept this position, I’m going to retire from NASA at the end of December.” So that was the first opportunity I had to let him know, and he was extremely supportive and extremely grateful. [He] informed me at that time and asked about Woodrow Whitlow as the replacement Center Director. I had glowing recommendations for that.

So again, [I] was made the offer, they made the announcement, I thought about it, and the toughest thing for me to do was to say no, because I really did not want to let the people down that had had that choice. That was a tough decision, but I knew in the long run it was the best thing to do.

WRIGHT: Apparently you wanted to keep involved in some method of education, because you accepted a position at Cleveland State University [Cleveland, Ohio] in their Executives in Residence Program. Share with us what you'll be doing with that and how you plan to use your NASA experience to be involved with that as well.

EARLS: Well, the fortunate part of that is [Dr.] Michael Schwartz, the President of Cleveland State University, and I have known each other for years. We worked together. We were on the board of Central State University [Wilberforce, Ohio] together. And when he approached me with that, I told him that I really wasn't ready to work another 24/7.

But the Executive in Residence gives me the options of working up to thirty hours, thirty-two hours a week, whatever I decide I want to do. He and I talked, and I sat with the Dean of the College of Business, and there are several things that I've decided that I want to do in working with them. Firstly, Cleveland State is an urban institution, and there're some things that I want to do with them in terms of their business school. There's an organization, a Christian Business League, made up of business owners, entrepreneurs, and they approached me about somehow helping them make some connections with a college of business so that they can expand what they're doing and get some support. So that's one of the things that I'm going to do in working with them.

The other thing is do seminars. I don't want to teach a course full-time, but I talked with the Dean of the Business School about perhaps developing a lecture series in business ethics. I'm a firm believer that if you're going to be successful in business and really provide what you need in terms of services to the clientele of this nation, there are too many organizations that operate focused on the bottom line and do not operate ethically. [I was] thinking about Enron

[Corporation] and the dire straits people are in who placed faith in the management of an organization, a company like that, and find themselves standing out in the cold. So maybe in the business schools, we need to develop a little more attention to the ethical training associated with that. So I've decided that that's one of the things that I am going to do and involve with that.

The other thing is I gave a lecture to a group that's developing entrepreneurialship courses in high school for high school seniors in collaboration with the businesses. Well, when I gave that lecture, the Dean of the Business School at Cleveland State was in the room, and he approached me after that and asked [when] I would come onboard would I be the focal point for Cleveland State University with that entrepreneurial education program. So that's another thing I think I can do with them.

And then they have an organization there. They offer a master's degree in public health. Well, as a result of my being at the University of Michigan in the School of Public Health, I talked with the person that directs that program there and talked to them about how I may be support to them.

So when I got home, my wife said, "This is supposed to be part time?" because there [were] about three pages of things that we had discussed that I would do. But I will be able to work as much or as little as I want, and that's the kind of thing I'm looking for. I will be able to do some public speaking and even some outside consulting, but I'll be able to pick and choose as much as I want to do.

WRIGHT: One area that we haven't talked about, but I certainly want to touch on it briefly before the time is over, is your publications. You have nearly thirty articles of technical and educational

journals, and writing these articles takes time. And yet, your jobs were so filled that you found time to do it. Why did you feel like it was important to continue sharing this information?

EARLS: Well, the technical publications are a natural part of you doing your work. If you want credibility within the technical community, then you should, in fact, do that. Some of the other articles grew from presentations that I would make. Any number of those articles resulted from my interacting at a conference, and someone at the conference would say, "You know, I appreciated that presentation. Where can I find it? Or where can I find similar things to that?" And I would do that.

Then, some of them were for magazines for college students. I would write something associated with that. And a few others were the motivational-type articles that I would write, based upon experiences with encouraging students who thought they were too old to return to college or getting outside of their comfort zone. So I would try to write articles that would be motivational in that regard.

And some of them were some of the lectures that I gave with the Jennings Foundation. When I would give those lectures to the teachers, so many of them would say, "I'd like to have a copy of that." So what we started to do is to tape those lectures, transcribe them, and actually publish them so that the teachers could have those as well.

So it runs the gamut from the technical articles to articles for students to educational journals and so forth.

WRIGHT: Are you also an avid reader? Do you have time to read, and have there been books that have influenced your style of management and motivational speaking?

EARLS: Yes, well, I used to read just technical publications, and my wife would say, “You know, you’re in a technical field and then you’re reading technical books.” I started to sort of broaden my background, my experience in reading. Most recently, I’ve been going back to read a history of Norfolk State College, and I read the history of the Alabama A&M University before I went down for that.

There’s an interesting book by Charles Barkley, *I May Be Wrong, But I Doubt It*. I found that to be absolutely hilarious, and it gave me a different perspective on Barkley, because he’s outspoken but he really does make some valid points in that regard.

And my wife is an avid reader. She has every kind of book in the world, so she wants me now to read the *DaVinci Code* [by author Dan Brown], and I’d look at that and say, “Well, when am I going to find time to sit and read that?”

But yes, I do like to read and I like to read across the board, biographies in particular. There’s a friend of mine, Dr. Lonnie Reid, he and I do our runs together and run marathons together, and his brother is Tom Sewell. So he will provide me the latest book written by his brother, and I will read that as well.

WRIGHT: Well, our time is starting to come to a close today, but before we do that, I wanted to ask you if there were some others areas that we might not have touched on that you would like to bring out today? There might have been some experiences or anything else that you wanted to add before I ask one final question.

EARLS: The only thing that I probably think about is my running, because often people ask me about that, and why would you run a marathon, and I used to say that anyone who ran a marathon has to be crazy. And I conclude you don't have to be crazy, but it helps a little bit if you are.

But I believe that if you can stay physically fit that it really does help you mentally. There are so many parallels between running and other aspects of life. Runners have a saying that is, "The will to win means absolutely nothing if you do not have the will to prepare." So running a marathon is not the true test, as much as it is doing the training runs every day leading up to the marathon.

And here again, working at NASA, I was in a carpool with Lonnie Reid and John Moss, and they had run marathons and I had never run one. They told me that I should try running a marathon. I said, "No, no, I don't think I could do that." And at that time I was running maybe twenty-five miles a week, and they convinced me that if I could step up that mileage they would train with me, that I would run the first marathon. And sure enough, I trained with them and was able to run my first marathon, and I was thirty-eight years old when I ran the first marathon.

But when you're running those races, you find parallels. You have to have stamina. You have to have the ability stay with it, when you think you can't take another step, you have to take another step, and that spills right over into life. That spills over into the job. When you feel like you're discouraged and you can't go on, those running experiences help you to sort of suck it up and go ahead and deal with it.

When I had a job to do, some assignment, and I had something that was probably the most unpleasant assignment or one that was going to be the most time-consuming, I would do that first so that I could get it out of the way, and that's sort of the things I learned from running.

When you've got that challenge, you've got that race you're going to run, you go ahead, prepare, get that run out of the way, and when you step across that finish line, that exhilaration you feel is something that you wish everybody could experience.

So probably just that aspect of the parallels between that. And you may not live longer, but I think you live better when you take care of yourself like that.

WRIGHT: Well, I'd like to finish today by sharing with you that I've read a number of articles and pieces of information about you in preparation and read where you've been identified as a scholar, a physicist, an academician, author, orator, athlete, humanitarian, family man, community activist. But how would you describe yourself?

EARLS: Blessed. Just an ordinary person who has been blessed to be surrounded by people who care, a person who's been given support when I needed it and support when I didn't think I needed it. And if anybody were to say anything about me, I would like to have them say that I tried to help everyone in any way that I could, that I tried to give of myself in anyway that I can to whomever I could whenever I could. And that, I think, that would be the highest form of compliment.

WRIGHT: Well, we thank you so much for giving up so much time for us so that we could take your information and share it with others. So we wish you best in your retirement and hope you do take some time for yourself, but understand that it's a great thing for you to be able to give to others, so thanks again.

EARLS: And thank you, because I'll tell you what, you certainly know how to make a person feel comfortable and talk nonstop. So thank you.

WRIGHT: Thank you. You're enjoyable.

[End of interview]