

An Oral History

with

Terence Bordelon

SSC History Project

Interviewer: Martin Oramous

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Biography

Terence Bordelon is the SSC Telecommunications Manager at Stennis Space Center. He was born August 14, 1946 in Bunkie, Louisiana. He graduated from the University of New Orleans in 1970 with a Bachelor's degree in Physics. He completed graduate courses from the American University in Washington, D.C. from 1970-1973.

He came to the John C. Stennis Space Center in 1982 as a Computer Specialist for the SSC NAVOCEANO Information Systems Department. He served as an Electronic Engineer from 1985 -1988 for NASA. He became the Telecommunications Manager in 1988.

Terence is the recipient of numerous awards and honors including the Special Service Award and the OSF for Achieving, Efficient and Standard IT Environment Award.

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This is an interview by the Stennis Space Center History Office. The purpose of this interview is to document the story of key personnel during/after Hurricane Katrina at SSC. The interview is with Terry Bordelon and is taking place on November 29, 2005. The interviewer is Martin Oramous. Also present are Rebecca Strecker and Shelia Reed.

MARTIN ORAMOUS: Tell your story how you came to Stennis during the storm and the events leading up to it. When did you realize that you needed to get out here because this could be a bad one?

TERRY BORDELON: Actually prior to the storm, we have a number of procedures we go through here to prepare for storms. There are different levels of preparedness. As we go through this, one of the things we do is check all the Emergency Operation Center's communications. I'm starting a little further back because some of things that happened were preferenced by what we had done before.

MARTIN ORAMOUS: Well, that's great. That's kind of what we want is the process that went through your mind and the realization. It's almost like having to prepare for it before you actually do it. I mean that is what I look at this as. If I was going to try and tell somebody my story, if you start from the beginning, it's like when did your thought processes first start going in the direction of Oh, this looks bad and I've got to get there. Again, you've got those previous experiences here. So, however you want to start it.

TERRY BORDELON: So as the storm was approaching the Gulf and getting in the Gulf we started exercising our preparedness plan here. One of the things that we did was check the Emergency Operations Center. All the communications make sure it all works. Everything is in place. The technicians understand what is going on and they get in and check everything out. One of the things that I was worried about is we have a 400 foot communications tower that's graded about 105 mph. It is fully loaded with antennas and I was very concerned about the heavy winds coming out of Katrina. So, facilities helped me. We put extra dirt on all the guide wires. That's all we could do.

MARTIN ORAMOUS: When did you do that? Was that a Wednesday or Thursday before the storm? This took a lot of people by surprise. It came in and just turned and was barreling toward us.

TERRY BORDELON: This was probably maybe a Thursday before the storm. Like everybody else we were looking at it as it was going to turn. It's not going to come hit us directly like it did. So anyhow, the weekend I went home. We had a ride-out crew here from a Contractor. There were three people which we typically do. I was home watching the news and kind of preparing on Saturday. Still thinking it was going to turn, it was going to slow down. Sunday, it was still heading our direction. It was a powerful storm. I sent the children and family packing. Most of them went different areas of the country, Massachusetts and Shreveport. My wife stayed home because she has parents in Slidell that need help to get out and they couldn't leave. So we watched the television at noon and it was still coming at us. So they took off. She took off to help her parents about that time. Around noon, Stennis opened for employees to come in. They were preparing the hit for Stennis. I stayed home picking up things, preparing, watching the television. It came about 3:00 or 4:00 o'clock, I said well it was about time to get to Stennis. I usually come here. I'm not on a ride-out crew but I usually come here and volunteer for whatever I can do. Walk the halls, help people out. Do work. So, I got here at 5:00 or 6:00 o'clock. Things were beginning to percolate. So, Sunday night I slept in a sleeping bag on the floor. Actually I was in my office. Monday morning I got up and had breakfast and started doing my normal work. I had a lot of e-mails. Computers worked, so I was sitting at my desk doing work most of Monday.

MARTIN ORAMOUS: What would your normal Monday be like? What's your position and main responsibilities on a normal work day?

TERRY BORDELON: Well, on a normal work day we have a number of meetings on Monday with the contractor to see what the status of the communications is and how the contract is running. I'm also the ODIN Program Manager for Stennis. ODIN handles all the IT desktops, network video, communications, radios, whatever. We have a Monday morning checkup meeting to see how things are going.

MARTIN ORAMOUS: So, you started out as a kind of a normal morning more or less.

TERRY BORDELON: Right, because there wasn't very many people here. My main work was in the e-mails. I had a lot of e-mails. So I figured I would go through all those things and catch up. So, I'm sitting at my desk and I'm looking out the window. I have just about a corner office on the top floor of the ADMIN Building. Occasionally, I would look outside and I'd see the wind really blowing hard. I could feel the windows kind of move. At one time, I thought to myself maybe I shouldn't be in this office. I should be somewhere else but in the past I have always done the same kind of thing, stayed in my office. The hurricane came through, passed. Whatever it was and then we went on with our business. Monday afternoon, Cheryl Bennett came to my office and said there was some noise in one of the mechanical rooms. So, we went over there. We opened it up and there was water coming in, flooding the floor near one of the network closets. So, we opened the network closet and we saw that it was not getting the network gear wet. So, we were concerned about the 2nd and 1st floor. So, we went down to the 1st floor, opened it up and went in there. We had piles of boxes in there of network gear that was being rained on.

MARTIN ORAMOUS: What building was this?

TERRY BORDELON: 1100, North Wing. So, I started moving the boxes out of the water and pretty soon, some other people came in and helped us move. As they were moving the boxes, I checked the Com room to see what was going on. I looked in there and there was water coming in there but not getting the cables wet and then all of sudden something hit the side of the building. It sounded like a car had been thrown into the side of the building. So, I heard everybody running out and hollering at me get out, get out! So, I looked around the corner and I didn't see anything, so I finished what I was doing, only a few more seconds, then I left, went back to the hall. So, after that we split back up and I went back to my office to do some work and that's when I opened the door and the roof had been torn partially off, the windows sucked out and water was everywhere. Everything was essentially wet. I found out later that a tornado had passed over us. Security had seen windows sucked out of vehicles from the back of 1100 by the cafeteria just sucked out, blown out. It went over 1100 and the North Wing and pulled off a lot of the roof and split trees. You could see the path. I'm glad I wasn't in the room when it happened but it was close. The rest of Monday, a lot of people from contractors and NASA were moving computers, printers and everything out of the North Wing, 3rd floor because it was raining just about everywhere. We were trying to save what we could. That was Monday. Monday afternoon, the eye came by. I was constantly watching the tower because that was a big concern. Once that tower goes down we lose all our radio communications.

MARTIN ORAMOUS: Can you see it from the window of your office?

TERRY BORDELON: Not from my office, I would have to go to somebody else's office. After the roof came partially off and it started raining, all we were doing was moving computer equipment and hardware and stuff trying to save whatever we could. So, I wasn't paying a lot of attention to what was happening to the tower. After we finished that, the eye came over that afternoon. I went outside and I walked over to the COM Building to see how it was coming along. I walked around the Com Tower and it looked O.K. Walked into the Communications Building and checked all the rooms. We were already losing air-conditioning. Things were already happening to us. So, I got back to the EOC which is in 1100 and I gave them a report, Don Griffith and Ron Magee. I was giving them constant reports on what was going in Communications.

MARTIN ORAMOUS: Were there communications at that point and power or was it pretty much all down or was it degrading?

TERRY BORDELON: It was degrading. One of the things we lost was our voice messaging system. The power supply blew. So, that carried a lot of messages for employees when they dialed in we noticed that FTS went down. On-site communications were stabilized where we had power. Every node on the site has a battery backup but not every node has a generator. So, the generators kept up the batteries and the nodes. So, those had communications. Networks were down.

MARTIN ORAMOVS: Before the eye hit?

TERRY BORDELON: This was probably afterwards. We were losing things as the storm was hitting. It's hard to know exactly when things were happening. That was Monday night. I slept in 1201 this time the Communications Building. My office was essentially uninhabitable. So was all my stuff that I had. I had brought some clothes and a sleeping bag and things like that. So, I was in 1201 staying over there with three contractors and they had their families over there also. Someone took pity on me and gave me a blanket and an air mattress which I was very grateful for. Otherwise, I would have been on the floor. I figured I would stay in 1201 being close to the heart of the communications activity. Being with the technicians so that anything came up we could work on it immediately.

MARTIN ORAMOVS: Meanwhile, you must have been concerned about your family. I could see how you were so busy that it might keep it off your mind but once you were ready and the storm has passed and you were ready to settle down for the night, did your mind kind of turn toward them? Could you check on them? Were you able to see how they were because I know there were some circumstances that anybody would be worried about? Your wife parents needed extra help.

TERRY BORDELON: My wife and her parents were here on the 3rd floor and they were safe. Some of my children were in Shreveport and some of the others went to Detroit. So, they were out of arms way as best I could tell. Of course, when you put a lot of people and a lot of animals in a house for a few days it gets tight. So, they were O.K. I could not contact them. Cell phones didn't work. Essentially nothing worked going in or out of the center that we could tell. Monday night, I just buckled down and went back to sleep as best you could. I kept monitoring the systems to see what we could do to repair, fix or whatever but we had to wait until daylight now.

MARTIN ORAMOVS: Did you think about formulating a plan? Did your mind really turn toward that as you were going to sleep? Did you get a good night's rest or are you waking up during the night thinking you had to do this tomorrow or did you really just kind of have to wait until the next day to evaluate better?

TERRY BORDELON: Well, at that point we really didn't know how bad it was. The tornado came through. We thought maybe other tornadoes had taken out poles and things in the area. We did not realize how much devastation it was on the entire Gulf Coast. So, that night I can't remember whether I got a good night's sleep or not. We were monitoring things and trying to get things to work making sure that what we had was safe and checking buildings. We had to wait until Tuesday morning, daylight, to really start doing anything.

MARTIN ORAMOVS: So what turned out to be the most urgent and important thing to do immediately? Was there one thing that stood out?

TERRY BORDELON: Well, on Tuesday we tried to assess what was going on here. Cell phones didn't work. One of the activities that happened at the EOC, AT&T came. AT&T's disaster recovery truck showed up and they were talking to Don and Ron. Since it was communications, they turned them over to me. What AT&T needed was some place to stage their efforts to punch through Logtown, which is part of the Stennis buffer area. Punch through Logtown to get to New Orleans East, to provide communications for the rescue teams. I talked to them a bit about the requirement and we settled on the South Gate, just by the security building. This gave them the security I think they were looking for to protect their equipment and their people. They had a better idea what happened out there than what we did because they just drove in from I-10, the interstate. While I was talking to them, I asked them if there was any spare capacity communications that we could use here. They agreed to give us six satellite phones and also a slow speed internet connection. So at the South Gate by Tuesday afternoon, we had six sat. phones and two or three computers and printers up and running at the South Gate. Also, Marshall had flown down here Tuesday morning and installed a couple of sat. phones in the Gainesville Room which was the staging area for management. So, that was up and working. So, Tuesday afternoon when things were settling down a bit as much as they could, I took a vehicle and went up and down I-10 looking for communications towers to see what the devastation was and what was going on. That's when I realized how bad it was. There was absolutely no signal, nothing, trees everywhere. You couldn't get to certain areas I wanted to check. The realization really hit on Tuesday.

MARTIN ORAMOUS: How far were you able to go on I-10? Could you go both ways and was it blocked? Could you describe it for us?

TERRY BORDELON: I-10 itself was passable towards Slidell and Hammond, Covington area. It was passable. Many of the exits had trees and high water. You couldn't get very far off of I-10. There was another crew that went East towards Diamondhead and I think they had better luck over there. The first cell phones came up from the Diamondhead area. That was fortunate in a way. Tuesday afternoon I came back to the EOC and I talked to management about what was going on and I got invited to the staff meeting, the early morning staff meeting with Admiral Donaldson. Wednesday morning we were going around the table talking about power, people, fuel, food, refugees a whole lot of subjects. I raised the communications issues. What the status was, what we had, what we needed to do and what I needed. I needed help from power people. I needed help from the air-conditioning people for me to keep what I had up running and to proceed, in order to get other things up and running. So, the first thing we had was an AT&T communication and the Marshall satellite. That was Tuesday.

MARTIN ORAMOUS: Did you have any information from the Test Complex as far as their communications or what they might need immediately?

TERRY BORDELON: The Test Stand area, no I did not have information on that communication. Of course, they weren't testing, so there wasn't a need for data or whatever. They had power generators over there and they actually eventually back fed the power generator from the test stand into many of the areas of Stennis. The administration

areas which were a fantastic help. With that power I was able to keep things running and expand communications and spring board off of that in order to bring Stennis back up from its knees to its feet. I felt we really needed to do that. Looking at the community, the devastation, we're it. We were the things that survived here. NASA is a team. NASA is experts in this area. We need to show the public that we are here to help and we are here to continue our operations. I felt very enthused about that. Wednesday I also took another trip trying to get further into the towns and I was successful but even on Wednesday it was a lot of flooding and trees, power lines you name it. People walking around not knowing what to do.

MARTIN ORAMOUS: What was next as far as communications goes? Did you have to try and work up any other connections outside of the site or any other kind of requirement? Did anything hit you that you really didn't expect that you had to deal with?

TERRY BORDELON: Well, Wednesday SkyTel showed with a portable tower. They are a pager company. So, we set them up in the parking lot to start working. We were trying to get that going. Cingular has a tower on the Army Plant which is part of Stennis. They showed up and I was working with them trying to get that up and running. So, on Wednesday we were trying to establish wireless communications. Thursday, I heard about activity of a data line from the Test Stand area which has a high restoration priority. They had some activities on it. So, I called a teleconference with our local people here and with Marshall. We validated that T1 which is a 1.5 megabit line was actually up and running. Either it never went out and we didn't see it or it was reestablished because it had a higher priority. Hospitals and DOD, there's a checklist of restoration priorities that communications companies go by and that's who they reestablish first. So, I asked Marshall to change that data line to a voice line and so they were able to do that. So, by that night I had 24 voice lines leaving Stennis connecting our telecommunication systems switch, a telephone switch, to Marshall's switch. So all you had to do at Stennis was dial 3-7000 and you had a Huntsville or Marshall dial tone. So you could call just like you were at Marshall from Stennis, 24 line. So that was a breakthrough on that. Also, the strategic petroleum reserve group at the Army Plant, in the staff meeting in the mornings, they said they needed to have a network connection for their data center at the Army Plant so that they could exercise the presidential decision that they expected. What they were referring to is that the President was going to announce the selling of some of our strategic oil because the Gulf Oil Companies weren't producing oil anymore. So, our communications task was to establish a network for them from the Army Plant. So working a number of hours with some good technicians we established a low speed network from the Army Plant to the Communications Building here at Stennis, to the South Gate into the AT&T network, AT&T satellite communications. That was pretty unique. AT&T actually turned over their service to us so that we could reconfigure them anyway we wanted as long as we didn't interfere with their voice communications. So we had that up and running by the next day for the Strategic Control Unit Reserve Group. Friday, there was some activities with DOD,... They were up and running and we found there was an OC3 10 megabit line that was not being used by one of our DOD residents, NAVO Office. So, working with NAVO and Marshall. Marshall flew down a technician here. We couldn't find our technician. We

didn't know where he was. So they flew a technician down here to help establish that OC3 line. So by Friday afternoon we had a 10 megabit link. Our networks here at Stennis were working where we had power. Plus we had communications to the outside world for networking and also for voice. It wasn't a lot of capacity but it was working. We didn't have a lot of people here to support any how. I was also asked to establish an information center on the 2nd floor. They needed a whole bunch of computers and phones. People were dialing in trying to find out information and so we put that together also in a day. I must say that the three technicians from Lockheed Martin did a fantastic job in radio communication, video, networks and telephone. Without them, I just kind of ask them to do something and they get it done. It was great support.

MARTIN ORAMOUS: So at that point we had the capability to actually get information out?

TERRY BORDELON: Yes sir.

MARTIN ORAMOUS: That was Friday.

TERRY BORDELON: That was by Friday.

MARTIN ORAMOUS: At that point, what was the status of the power on site? Were we still in pretty bad shape?

TERRY BORDELON: Power was coming back in different areas. They were staging it. I don't know exactly how the power infiltrated into the ADMIN areas. I do know we were driven by the generators initially and we have a track team, a power team and an air conditioning team that was working on it. NASA people. They were working Mississippi Power trying to get the power up and running. I don't know exactly when it turned on. I believe it was maybe like Saturday or Sunday or maybe even Monday where we started running on commercial power. Of course, we were all notified of that but we had to be aware of the systems to make sure the systems were ready to accept the change in power if there was any fluctuation. So, I don't know exactly the date that it came in.

MARTIN ORAMOUS: Would you say that maybe by Saturday or Sunday that you felt like there is a lot more work to be done but we are O.K. and the worst is behind us as far as just the basic things you needed to get done to get back in some form of being able to function pretty well?

TERRY BORDELON: I think around Thursday or Friday, we were able to do things. We were able to manage tasks. We were beginning to get fuel in here. That was a key issue, to power the generator diesel to fill the filling station up for vehicles. So, probably by Saturday we were doing pretty good.

MARTIN ORAMOUS: Is there anything else you can think of that might be of importance as far as being able to bring the site back up with communications? Your role in it. Is there anything that we have not touched on?

TERRY BORDELON: One of the things that we have done in the past is order communications from carriers and they decide how to route those lines. We worked with Bell South for many years. We put ourselves on a ring for that. The South Gate got clobbered. We had a North Gate. However, because the way the tariffs are written, the way communications work, they have to go through set cities in order to go from one area to another. Our set city for the ring that we are on is Gulfport. It goes from Gulfport, from Stennis South Gate to Gulfport or Stennis North Gate to Gulfport and right on down to New Orleans. That was a key issue. We lost everything because of that. Right now we are working trying to get a north bound route that does not go South. It goes through Jackson, Birmingham or whatever. That is a key for survivability in the future. So we are on the up swing for hurricanes. We've got to be prepared for some more of this stuff. So that was one of the things. The other thing was restoration priority. Make sure that we are as high on the list as we can get. Also, more coordination, closer coordination with our sister agencies here on the site. Department of Defense, we have some people with some very high powered communications here. We need to work a little closer with them in order to see what their spare capacity is and how we can support them and how they can support us. The team effort here, the NASA team, was just extraordinary. We'd sit down together and we've got a problem and somebody would come up with a solution that would domino effect to solve that problem. When I came into the Admiral's conference room I said I need air-conditioning in the Network Operations Center. Otherwise, I can't give you network. It's impossible because it is too hot in there. Someone figured out a way to run power to the air-conditioning unit to get the air-conditioner so I could support them. Team effort was really extraordinary. From NASA, from the resident agencies, from our sister centers, we so much appreciate even the calls that we got or whatever help that they could give us. Marshall was very instrumental in getting us back on our feet. The helicopters with providing us supplies. Our voice message went out Monday night. Our main telecommunications system, telephone system, has two processors in it and you either use one or the other and if one fails you've got a backup. Well, one of those went out too about Wednesday. So we had an emergency order for power supplies and another processor. Those things were shipped to Marshall and Marshall ferried those down here to us to put in. So, that was a lifeline for us. That's about it.

MARTIN ORAMOUS: One other question as far as on-site goes. What would you consider was the biggest obstacle you faced or was it just a combination of so many different things it's even hard to pick one or two?

TERRY BORDELON: In a normal hurricane, one that does not destroy an entire infrastructure around you I guess, the devastation was so thorough. I think it was just a whole combination of things. Understanding where you were, what you had and what you had to do to contact people to get help. I was calling the FTS contractor, MCI. I couldn't get through to them and when we did they never returned calls. I don't think it was because they didn't want to I think it was because they couldn't. The devastation was so thorough throughout the Gulf Coast. This was one of those storms we hope we never have again. I don't know how you can prepare for CAT 5. Everybody wants to prepare for something. I think you have to be reasonable and prudent once you do. There

are some times when you just have to get knocked down but you've got to be prepared to get back up again. We can not fund everything for all events. It's just no way. You just can't do it.

MARTIN ORAMOVS: Hurricane Camille has always been considered the benchmark for just the worst it could be around here which Katrina proved wrong. Did you experience Camille also and if you did what was that like especially considering what you just went through with Katrina? Where were you then?

TERRY BORDELON: I had just graduated from LSU or the University of New Orleans and was on vacation before starting by first job in Washington. I was scuba diving in Florida. So when Camille started to hit I ran down to Hollywood, Florida to body surf. On my way back, I decided to drive 90 through the Gulf Coast and I passed through Waveland, Bay St. Louis, the Pass. I went over the Bay Bridge before one of the spans fell in. Hey, I was 24. I could do anything, right. The devastation that I saw was pretty bad. I got to Louisiana. I got to New Orleans. My home was fine. Packed up my stuff. Everything was O.K. in New Orleans, not a problem. It was kind of localized to the Gulf Coast area and I was only passing through. I wasn't living there. When I compare that to Katrina, Katrina was just so much more powerful. I think the winds lasted like 12 hours. The waves, the surf that came in things were pushed into the area that had never seen these kinds of surges before. I think Katrina was a lot more devastating. Costly, lives, property than anything else that I can remember.

MARTIN ORAMOVS: After Katrina, when were you able to finally return to your home and how did you fare there?

TERRY BORDELON: I think it was Wednesday, I was able to take lunch. I drove to Slidell and I couldn't drive to my house but I waded through water to get to my house. I just could not believe it. I could not believe a no flood area had that much water. So, I don't even remember. I opened the windows. I just walked out. Went back to my vehicle and came back to work and I didn't go back home until a number of people here were telling me to go home. I just stayed working here because I didn't know what to do at the house.

MARTIN ORAMOVS: What part of Slidell?

TERRY BORDELON: East part of Slidell off of Military, they call it Military Road. South of Gause. So, I worked until probably Labor Day or afterwards. I didn't go back to the house essentially to do anything. I may have taken a trip to see how communications were doing. Cell towers or whatever and what was going on and just came back here. I think it was when Bill Parsons came back. He and Marina and a few of the managers knew I had been working continuously and they said go home, go home. So I was sleeping here. So, I would wake up in the morning and have meetings with the technical people and see what was going on and tried to help out whenever I could and have lunch. It wasn't much to eat at my house or in Slidell. I would have lunch and then I'd go home and try to do something and I would come back here at night and sleep and do the same

thing. I did that for two or three weeks. Things are still not back to normal for me or for a lot of people. I fared a lot better than many. I do have a shell of a house. There are a lot more people that have nothing. Some people lost family. I consider myself somewhat lucky in this catastrophe.

MARTIN ORAMOUS: Where are you staying now?

TERRY BORDELON: It's a mix bag of things here. Essentially I've got a cot in one of the rooms that I thought I had cleaned but over the weekend I found a lot more black mold in there. I guess I'm getting used to it. I'm not coughing anymore. I move between there and my wife's son has a little house that I occasionally take a break to to find a bed but most of the time I spend at the house trying to finish gutting it and cleaning out and getting to start so I can start again. I don't feel like I'm at start yet. I'm still in the gutting area.

MARTIN ORAMOUS: Anything else you would like to share with people that might not have experienced something like this? People call up and say things must be about back to normal now. What's normal? It's not going to be normal around here for a long time. Anything that you might share with other people either about here, personally or the community as a whole?

TERRY BORDELON: The one thing that struck me about NASA and the government, the people associated with NASA, the community, the nation if you will is that the outpouring of help. It can bring you to tears sometimes just to see how much people care. Ames sending care boxes with shirts and things in it. I was fortunate. I have a lot of my shirts left. Other people don't. It's just the caring of people trying to help out. You're right and I've heard this. It's been a month. It's been two months. They think things are probably back to normal now. Well, there are some people that haven't even seen their homes yet. Some people don't even know if all their family is alive yet. They can't find them. It is truly a devastation here. Help gives you courage to move forward. At one point, I didn't know whether I was even going to keep my house but there was church group cleaning the yard of a neighbor and they just came over and started helping clean my yard. My goodness, these people don't even know me. They are out there cutting trees. Helping clean my yard and it took a lot of cleaning but maybe there is some more hope in this than we realize. We've just got to move forward. We've got to get up, take the next step just like we did after the storm hit us. Try to get back on our feet. Being NASA, doing NASA business. Helping people is one of the things we do. A lot of other centers don't have that. I don't know if it is a burden to carry but it is tough opening your doors to the community and letting them come in and helping them. You get a variety of people and a lot of people are good but occasionally you get people that have issues. So anyhow we've done that over the years. Stennis has opened its doors to help the community out. I think we will continue to do that. We are a cornerstone in Mississippi, Louisiana. We are a cornerstone on the Gulf Coast. People look up to us for a variety of things.

MARTIN ORAMOUS: Thank you.

TERRY BORDELON: You're welcome.

MARTIN ORAMOUS: We appreciate it.

(End of Interview)