

Kurt Debus Oral History Interview – 3/31/1964
Administrative Information

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Interviewer: Walter D. Sohler and Eugene M. Emme

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Biographical Note

Debus was director of the National Aeronautics and Space Administration Launch Operations Center (1960-1963), and director of John F. Kennedy Space Center (1963-1974). In this interview, he discusses visits that John F. Kennedy made to NASA sites on September 11, 1962 and in November of 1963, and his conversations with Kennedy on those visits, among other issues.

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11/24/64

Oral History Interview

with

Dr. Kurt Debus

March 31, 1964
Cape Kennedy, Florida

By Walter D. Sohler and Eugene M. Emme

For the John F. Kennedy Library

SOHIER: This is an oral interview for the John F. Kennedy Library with Dr. Kurt Debus, Director of the Kennedy Space Center, NASA, made on March 31, 1964, in Dr. Debus' office at Cape Kennedy. Conducting this interview are Dr. Eugene M. Emme, NASA Historian, and Mr. Walter D. Sohler, NASA General Counsel.

To start off, Dr. Debus, I wonder whether you could tell us a little bit about the transition period from the Eisenhower Administration [Dwight D. Eisenhower] to the Kennedy Administration. You may remember that during this period the so-called Wiesner Committee was formed. Dr. Jerome C. Wiesner [Jerome B. Wiesner] of M.I.T. was at its head, and they issued a report on January 12, 1961, that was quite critical of NASA's programs, specifically Project Mercury. Did this group or any of the incoming Kennedy team have any discussions with you during this period that might have contributed to the report?

DEBUS: No, not to my knowledge. I was not contacted and I'm not aware of other contacts here.

SOHIER: And what about in connection with the appointment of the Administrator of NASA or the top positions?

DEBUS: There were no such contacts here.

SOHIER: I guess the first time that you met President Kennedy, then, was in connection with the Glenn [John Glenn] ceremony down at the Cape?

DEBUS: Yes, this was essentially taken care of except for official greetings. Mr. Webb [James E. Webb] and NASA officials took care of this ceremony. I had no personal contact with him.

SOHIER: This was February 23, 1962, so this was an official kind of thing?

DEBUS: Just a handshake and welcome.

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SOHIER: One of the key decisions that was made back on May 25, 1961, was the announcement of the manned lunar landing decision. You may recall that shortly after the Wiesner Report was issued, which was critical of the space program in a number of respects, we had studies conducted within NASA in connection with what we ought to do. Then there was the Shepard [Alan B. Shepard] flight, and shortly after the Shepard flight the decision to get to the moon with a man in this decade was made. Did you have any contacts of interest during this period with anyone at the White House, the Vice President [Lyndon B. Johnson], the Space Council people, or the President?

DEBUS: No direct contacts, no. I was aware of the contacts that were made, but I had only secondary contributions.

SOHIER: Your contributions were made within the NASA family?

DEBUS: Within the NASA family, yes.

SOHIER: Well, then, the first extended conversation you had with President Kennedy was during his September 11 visit in 1962. Is this correct?

DEBUS: Yes, this was longer than any other previous visit and was quite well planned jointly with Major General Leighton Davis, USAF (Commander of Atlantic Missile Range). The President was touring the three manned space flight centers and came from the Marshall Space Flight Center in Huntsville [Alabama]. He had Vice President L.B. Johnson, Secretary of Defense [Robert S. McNamara], Director of the Bureau of the Budget [David E. Bell], Congressman Miller [George P. Miller] of California (Chairman of the House Space Committee), and a great number of other key government officials with him. They arrived in two airplanes and the Vice President asked Dr. von Braun, during their departure from Huntsville, to jump into his airplane and "come along on the tour," which was to go on to Houston the same afternoon. So Wernher von Braun arrived without toothbrush or any of the paraphernalia which one usually takes along on a trip. The tour of the President started at Cape

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Kennedy and was focused on the space programs. Military and range installations were also pointed out during the tour. For this reason things happened alternately. We (General Davis and I) changed seats next to the President in his car. We had a dry run before as to what we would point out and say. During these briefings, the President continuously asked very interesting questions.

SOHIER: Can you remember some of the things he asked?

DEBUS: Yes. One question was (it was shortly after the Russians had put two astronauts in orbit, nearly simultaneously): Would they execute a rendezvous or not? Now the President asked: "Why would the Russians do this? Do you think they intended to rendezvous?" I said, "No Mr. President, I don't believe they would." He said, "Why, then, would they do that?" I said, "Well, they want to prove to themselves a launch capability that would bring two astronauts in the same orbital plane, or near enough orbital planes; and secondly, I believe that, as the headlines show, the Russians are very well aware of the impact, propaganda impact, of their activities in the world. And if they can perform a significant first of some type, they'll certainly do it. So on the way to executing rendezvous there are several significant firsts they could do and be recognized for and get, for nothing, the headlines of the world. Near simultaneous or well-timed sequential launchings into close to equal orbits is one step to the actual rendezvous and there are good reasons for them to do this."

He seemed to agree with this and said, "What do you think they will do next?" This was after the decision was made for us to go to the moon, after he had addressed Congress and stated that we wanted to go there and investigate.

He continued, "What is their present status and what are the firsts you talked about?"

I said, "Well, as I can estimate it presently, I think steps to the rendezvous and the actual rendezvous will be first."

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The next thing they probably are going to do is to make a manned lunar circumnavigation. I think they can do that before we can. They will also try to bring reconnaissance pictures of high resolution back from such a mission."

Then he wanted to know what I felt about our chances for doing the manned lunar landing first, and I told him I was not aware of any large booster development in Russia at that time and that I felt that booster development was necessary. If they would not go for large boosters, they perhaps had decided to assemble their lunar spacecraft in orbit using lighter boosters, which I considered a much more difficult task to do.

SOHIER: Did he ask you any questions about the relationship with the Air Force down here, or with the military generally?

DEBUS: No, he did not. Going north on “ICBM-Road” we passed Centaur, then stopped at Pad 14, where Glenn had been launched and Schirra [Wally Schirra] was to fly shortly thereafter. Schirra briefed on the Mercury spacecraft. Then we stopped by Titan II Pad 16 where Colonel Thompson briefed on Titan II as Gemini booster, and Titan III—using a model—as a potential USAF space booster.

The program provided that we would then drive through Complex 37, which was under construction, stop at Pad 34, and then proceed to the Blockhouse 34 for an extended briefing on the Saturn-Apollo program. During this portion of the tour, I was sitting next to the President. Leaving the Titan pad he had seen the Centaur, Atlas, Titan II, and Titan III model, and on the way to the Saturn facilities. So he asked, “Now, why do we concentrate on a few classes?” So I referred this question to General Davis, since Titan II and Titan III are, of course, military developments. General Davis did not answer immediately; he referred the question probably to General LeMay [Curtis E. LeMay] and more likely to Secretary McNamara. In the Blockhouse, I then overheard Secretary McNamara stating to the President that he was aware that he,

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the President, had asked the question and that the answer was that one needed a space booster of near instantaneous readiness, as compared with the cryogenically fueled vehicles. The President did not further dwell on this subject.

SOHIER: Did the President get formal briefings on this particular visit, or was this informal?

DEBUS: The briefings looked informal but they were well planned regarding time and content. In Blockhouse 34 he got a briefing, the briefer was Lt. Colonel Rocco Petrone, on the status of Saturn I, I-B, and Saturn V, and what we were doing here in developing the general operational capability of this nation, facility-wise, for space operations. That we considered the manned lunar landing as a steppingstone, a milestone, but not as *the* only significant development. The President seemed to be well aware of that.

We stressed that we were developing general-purpose boosters of certain classes. We pointed out the characteristics of the facilities that he had seen up to that point and which he still saw at Complex 34, which have a rather limited capability and are built for specific launch vehicle configurations. Out of this we derived that we saw the future need of this country for more general-purpose, highly adaptable, advanced facility, and derived the characteristics of launch complex 39 for Saturn V. We explained on models and charts, the operational characteristics of this complex, possible number of launches per year, flexibility, capability of simultaneous operations, compared costs with conventional “fixed” facilities, et cetera. He listened very attentively and didn’t ask many questions. We pointed out that, if required, Complex 39 could take the additional Saturn I-B’s that one might need for manned or unmanned missions.

Before we entered the blockhouse, we had a look at the pad itself, where a model of Saturn I was displayed.

SOHIER: Did he discuss at all what he felt the importance of the space effort was, or his philosophy? Did he get into any discussions with you or anybody else that you overheard?

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DEBUS: Well, it was implicit in all the questions that he had: Where do we stand in our race for a recognition of our capabilities in the Free World, also in relation to Russia and his questions showed. What is Russia bound to do next and where do we stand and our chances of pulling equal with their capabilities?

SOHIER: In connection with the Mercury flight, did he ever telephone you or ask you what the safety problem might be?

DEBUS: No, he never did contact me directly.

SOHIER: I guess, then, that the final time you saw him was in November of '63?

DEBUS: Yes. Here the plan was, since he was here only briefly, to drive him by the Minuteman pads, shortly step into the assembly facility, if his time would permit. It turned out that he came about a half an hour or so later than was planned and so this part of the briefing had to be scrubbed.

We then drove by the Centaur pad, up the "ICBM-Road," and this time we planned to have him take a look at the Gemini capsule. The time turned out to be too brief to go to the Titan pad. He was briefed on a Gemini spacecraft that was laid out in front of Blockhouse 37.

Now, at that time we had for the first time a live second stage on the Saturn SA-5.* The briefing was planned in this fashion: Mr. Webb would brief him on the general status of all NASA activities on the way to Blockhouse 37. In Blockhouse 37, Dr. George Mueller (Associate Administrator for Manned Space Flight) would give him the status of the

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manned flight, both on Saturn essentially and how it would tie in with Gemini and Mercury, how the various projects interlaced with each other and were interdependent. And then give him a status report on Complex 39.

This was done. We had a considerable number of space vehicle and facility models set up for him, the umbilical tower, umbilical connections, Saturn I-B, Saturn V, et cetera. We had models of the crawler, of the Vertical Assembly Building, of the pad, and we actually executed a transfer of a Saturn V, using the crawler. We showed how the Arming Tower would move in, we gave him operational times, the status of the construction. He received that very, very well.

Then, Dr. von Braun was to brief him on the special Saturn SA-5, which he did out on Pad 37B. I was standing too far away to hear what the President asked at this time. He did

* Saturn SA-5 was the fifth development launching of the Saturn I Booster. Saturn V is the advanced rocket booster to be used in the lunar landing Apollo program.

have questions, he stepped under the Saturn SA-5 and looked into the engines from underneath the pad. He was told about the proven capability to lift large weights into space if this would succeed. And he was very much interested and hopeful that it would succeed.

SOHIER: There were no particular comments?

DEBUS: There might very well have been. I think Dr. von Braun would be the one who could remember the type of questions he asked.

SOHIER: You may have heard that after the successful Saturn SA-5 shot Dr. Seamans [Robert Seamans] paid a call on Mrs. Kennedy [Jacqueline Bouvier Kennedy] and gave her the engineering model of the SA-5, which is going to be in the Kennedy Library.

DEBUS: No, I didn't know that.

SOHIER: Dr. Seamans pointed out to Mrs. Kennedy how interested the President had been in the fact that it would put us ahead of the Russians in booster capability.

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DEBUS: Yes. Some magazines implied, after the President's assassination, that Mrs. Kennedy had suggested that this Saturn SA-5 (launched on January 29, 1964) somehow be marked in memory of the President. We investigated several possibilities.

a. Take a tape of his Inaugural Address and a transmitter into orbit and have it played back for a day or so while the payload would be passing over the U.S. or various other countries.

b. The President's name would be written on the orbiting payload, perhaps even by Mrs. Kennedy, and SA-5 would thusly be a special memorial to John F. Kennedy.

These possibilities were reviewed by NASA's general management and discarded for good reasons: There is always the possibility of a malfunction and an early explosion. The implications would have been too obvious, if there had been any special public dedication prior to launch, and an accident should occur. On the other hand, a small secret dedication ceremony, to be revealed later and only after a successful launching, would have been entirely unacceptable to the press. So, the decision was made to do nothing but just proceed with the shot as scheduled in the program.

SOHIER: Well, the Library is going to have the engineering model.

DEBUS: That's fine.

EMME: Were you aware that President Kennedy was watching your early Saturn launches via TV?

DEBUS: We were not aware of it here; we heard later that he did, yes. The same is true for President Johnson—he watched the Saturn SA-5 on television.

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SOHIER: He didn't call down in the middle and ask, "How's it going?"

DEBUS: No, he did not, he called afterwards.

EMME: Well, now, you're going to have to dedicate this Kennedy Space Center, aren't you, some day in the future?

DEBUS: I think there would be some such ceremony some fine day, perhaps at the completion of a significant milestone in the development of the Center.
Now, coming back to his visit in November 1963. From Pad 37, I was to brief the President during a helicopter overflight on the status of the MILA [Merritt Island Launch Area] and the status of the facilities. This was done with a swing out from 37 over the pad 39A under construction, over to the Vertical Assembly Building, then back down to the south and along the industrial area under development. Dr. Seamans and I were to brief him, and, as soon as we flew over the coast line, Admiral I.J. Galantin, Director of Special Projects, Department of the Navy, would brief him on the Polaris shot from a submerged submarine that was to be observed from the deck of the USS. "Observation Island."

We had limited time, about 15 minutes for the overflight. We started the briefing over Pad 39A, which at that time still had about 80 feet of soil heaped on it. The President wanted to know what that was. I explained to him that this was an accumulation of weight in order to compact the ground underneath and that in the time we had this packing on, about a half a year or so, the ground had settled about three feet. He wanted to know whether this was the final settling. I told him that probably, with a fueled vehicle, it would still settle some small fraction of an inch but not much more and we would be aware of the settlement and would make surveys of it.

Then, we overflowed the crawlerway which was already under construction. I explained to him that we removed those

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layers of organic material that were undesirable. The type of sand that was to be used was explained, the way in which, by filling, we had created a canal which we could see at this time, and the turning basin which we approached.

Then he saw all the beams sticking out from the Vertical Assembly Building. We circled around the site. We had requested the pilot to come in at the eventual height of the Vertical Assembly Building, approximately 540 feet, and had suggested that we hover a minute or so, but this is against regulations. We learned at this point that the President's helicopter is never permitted to hover. It has to have some forward motion for safety reasons.

But we flew in at this altitude and the President was told that this was how high this building would be.

Referring to the piles, I explained that the bedrock here is about 160 feet below surface and that the tremendous weight of this Vertical Assembly Building does require a very good foundation. I said that we had a total of 160 miles of 16-inch steel pipes driven in and that for each foot we saved for him five dollars. He wanted to know "how come?" So I told him that the lowest bidder here was five dollars below the next highest bidder per foot pile driving, using a new technique. It is called "sonic pile driving," and uses a vibratory gadget that is put on top of the pipe and drives it down. So the second lowest bidder was about \$12.00 a foot. With this new technique, we came to a much faster pile driving and, as I say, saved five dollars a foot. He smiled about that type of "saving" money. Dr. Seamans elaborated on that principle a little more.

Then I explained to him the Launch Operation Center and the distance from the launch pad. Then we took off to the south along the railroad and Highway A1A to the industrial area. As we flew by, I explained the various buildings here. The Operations and Checkout Building was farthest advanced. He saw the utilities, the various test stands, the causeway, bridge, and so on. But I didn't see his facial expression too often because he looked out the window and was absorbed by what he saw.

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SOHIER: Did he ask about the Florida East Coast Railway difficulties?

DEBUS: I cannot recall whether he did. He may have asked. Dr. Seamans may know. Well, then we swung out over the Indian River and saw the coast line and Admiral Galantin took on the briefing. Here the President had some very remarkable questions as to some special operational features of the Polaris subs and their strategic readiness. I'm sure the answers are classified. Admiral Galantin may wish to say what he said.

SOHIER: Thank you very much, Dr. Debus.

[END OF INTERVIEW]

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DR. KURT H. DEBUS, DIRECTOR
John F. Kennedy Space Center, NASA

Dr. Kurt H. Debus is the Director of the John F. Kennedy Space Center, National Aeronautics and Space Administration. The Center launches manned and unmanned space vehicles in the national space program.

Born in Frankfort, Germany, November 29, 1908, Dr. Debus is the son of the late Heinrich P. Debus and Melly Debus, who lives in Frankfort, West Germany. He attended high school at the Leibig Oberreal Schule, then entered Darmstadt University where he received his initial and advanced degrees in mechanical and electrical engineering. He was awarded his doctorate in 1939 and appointed an assistant professor of the University. He became active in the rocket research program at Peenemuende during this period.

In November, 1945, Dr. Debus came to the United States with a group of scientists and engineers headed by Dr. Wernher von Braun. They undertook ballistic missile development projects at Fort Bliss, Texas, for the United States Army. In 1950 the group was moved to Redstone Arsenal, Huntsville, Alabama which became the focal point of the Army's rocket and space programs. Dr. Debus and the other members of the group became American citizens.

As the chief of the missile firing element, Dr. Debus was given his initial assignment at Cape Canaveral, Florida in 1952. He supervised the launching of the first ballistic missile fired from the Cape, an Army Redstone, on August 20, 1953. Since then his team has successfully launched more than 150 missiles and space vehicles including the first U.S. earth satellite, Explorer I, January 31, 1958; the first U.S. space probe to orbit the sun, Pioneer IV; the first suborbital manned flights in the Redstone Mercury by Astronauts Shepard and Grissom, and the world's heaviest earth satellite, SA-5, in January, 1964.

The Center is presently constructing complete facilities on Merritt Island, adjacent to Cape Kennedy, from which to launch a new and larger class of space vehicles, such as the Saturn V which is scheduled to launch Astronauts to the moon and return before the end of this decade. The Kennedy Space Center will conduct all Saturn launch operations including assembly of the vehicles and the Apollo spacecraft.

The Merritt Island complex occupies 88,000 acres of land and, upon completion, will represent a total investment of approximately one billion dollars. A force of some 15,000 Government and contractor personnel will occupy the complex over the next five years.

Dr. Debus joined the National Aeronautics and Space Administration July 1, 1960 when the President of the United States transferred the organization headed by Dr. von Braun to NASA. He continued to supervise missile and space vehicle launchings as Director of the Launch Operations Center, which was renamed the Kennedy Space Center in December, 1963 in honor of the late President John F. Kennedy.

Several honors have been conferred upon Dr. Debus in recognition of his unique technical accomplishments. The U. S. Army gave him its highest civilian decoration, the Exceptional Civilian Service Medal, in April, 1959. He was elected a Fellow of the American Institute of Aeronautics and Astronautics and an honorary member of the German Rocket Society. He is also a member of the Board of Governors of the National Space Club, the Advisory Board of Brevard Engineering College, and the Management Council, Office of Manned Space Flight, NASA.

Dr. Debus and his wife, Gay, reside at Cocoa Beach, Florida. They have two daughters, Sigrid, a student in Florida State University, and Ute, a graduate of Vanderbilt University, who is the wife of Dr. Adam Matheny of Baltimore, Maryland.