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CUBAN PLANE INCIDENT AT NEW ORLEANS

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HEARINGS

BEFORE THE

ARMED SERVICES INVESTIGATING SUBCOMMITTEE

OF THE

COMMITTEE ON ARMED SERVICES HOUSE OF REPRESENTATIVES

NINETY-SECOND CONGRESS

FIRST SESSION

UNDER AUTHORITY OF

H. RES. 201

HEARINGS HELD NOVEMBER 9, 17; AND
DECEMBER 9, 1971

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CUBAN PLANE INCIDENT AT NEW ORLEANS

TUESDAY, NOVEMBER 9, 1971

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
ARMED SERVICES INVESTIGATING SUBCOMMITTEE,
Washington, D.C.

(The deletions indicated herein were made by the Department of Defense for security reasons)

The subcommittee met at 9:02 a.m., in room 2337, Rayburn House Office Building, Hon. F. Edward Hébert presiding.

The CHAIRMAN. The committee will be in order.

Members of the committee, this is the first meeting we are holding this morning in this refurbished room. I hope it is comfortable for everybody. The room has been secured and we welcome the individuals who are here to testify before the committee.

This is an executive session, as you well know, and nothing is to be repeated that is said in this room. The committee will not release any of the testimony taken in this room until we have our report, and then the testimony will be cleared with security. However, the committee will reserve to itself its right to decide what is secure and what is not secure, what is sensitive and not sensitive as far as its report is concerned. It will respect the wishes of the Departments in the testimony, but we reserve our right to change what we will say in our report when this matter is finished, which is a very serious one.

Members of the committee, I have a statement here which I am making for the record in order that we may have it before us at the time we come to our decision.

Almost 10 years ago I served in an Armed Services Special Subcommittee, chaired by the late L. Mendel Rivers, to inquire into the adequacy of the defense of southeastern United States against airborne attack, either by enemy missiles or aircraft. We found that no significant effort had been made to provide the southern perimeter of the United States with a degree of protection comparable to that in similar areas in the northern half of the Nation, and we specifically pointed out that—

* * * The threat from hostile aircraft and airbreathing missiles which can be launched from ships, submarines, or hostile territory remains a continuing concern to Southeastern United States. This is accentuated by the marked political change which has occurred in those nations to the south and southeast of the United States.

Our findings led to a recommendation that, among other things, immediate action be taken to improve our radar intercept capability in this geographical area. We urged then Secretary of Defense McNamara to institute such plans and report by January 1963 the positive steps he had taken to overcome our southern defense deficiencies. This,

characteristically, he failed to do, and in the intervening years our southern defenses have been so degraded that recent events suggest they are of questionable military value.

Just 2 weeks ago today a Cuban aircraft (a Russian built AN-24) flew from Havana to New Orleans totally undetected, although a flight plan had been submitted to the Federal Aviation authorities and relayed to NORAD, State, FBI, and Customs. On the basis of records that we have assembled, it appears that the first inkling that either civilian or military officials had of the presence of the plane in the New Orleans area was when the pilot radioed the control tower at New Orleans Moisant International and requested landing instructions. At that time the Cuban aircraft was approximately 10 to 20 miles from the New Orleans airport.

Just 2 years ago, an armed MIG-17 flew from Santa Clara, Cuba virtually undetected until it flew past the control tower at Homestead Air Force Base near Miami, Fla. At the time the MIG-17 landed at Homestead, the presidential aircraft, Air Force One, was on the field at Homestead.

To me these incidents suggest a real and present danger and the subcommittee is meeting this morning in an attempt to learn how these intrusions into our airspace could be made by a potential enemy without detection—and how this intolerable situation can be prevented in the future. To help us in reaching valid conclusions, we have requested the presence of CINCNORAD and representatives of the Federal Aviation Administration.

General McKee, I want to thank you for taking time out of your busy schedule to assist us in this matter. I understand you have a commanders' conference in Puerto Rico and, therefore, we will try not to impose on you unduly.

Mr. Smith will represent the FAA and the subcommittee appreciates your attendance here and your cooperation this morning.

Captain Ellis will speak for the Navy in the event the members have any questions with respect to the Navy's aircraft and missile surveillance capabilities in southeastern United States. I thank you for being here, Captain.

We will first hear from the FAA, so Mr. Smith, if you will come forward to the witness table, we will get the proceedings underway.

Proceed from there. Do you have a prepared statement?

Mr. SMITH. Yes, I have, Mr. Chairman.

The CHAIRMAN. You may read it without interruption, then members of the committee will make inquiries as they desire.

STATEMENT OF KENNETH M. SMITH, DEPUTY ADMINISTRATOR, FAA

Mr. SMITH. Thank you, sir.

Mr. Chairman, members of the committee, as Acting Administrator of the FAA, it is a pleasure to appear before the Special Investigating Subcommittee of the Committee on Armed Services today in executive session to discuss FAA's role in the events surrounding the flight of "Cubana 877" from Havana, Cuba to New Orleans on October 26, 1971.

With me, I have Mr. James Murphy, Director of the Office of Air Transportation Security, and Mr. Henry Holder, Chief, Enroute and Procedures Branch, Air Traffic Service.

As you know, the primary mission of the FAA Air Traffic Control System in the gulf area is to provide for the safe and expeditious handling of aircraft. The responsibility for providing this service is shared by air route traffic control centers located at Houston and Miami.

These two air route traffic control centers are responsible for control of instrument flight rule traffic in the Gulf of Mexico generally to the north of an east/west line tangent to the southern tip of Florida. Mr. Holder is pointing out these areas on the map as I am speaking.

These control jurisdictions are called flight regions and control areas. We also refer to this airspace as oceanic control areas. Havana center controls the airspace to the south of Miami airspace and a small portion of Houston's airspace.

If "Cubana 877" had operated under the instrument flight rules, Havana center would have passed control to Miami center and Miami center in turn to the Houston center, who would have eventually transferred control to the New Orleans International Tower. While our responsibility is primarily the separation of instrument flight rule traffic, we do have a requirement to pass certain aircraft movement data to the North American Aerospace Defense Command.

The committee staff has been furnished transcripts of the conversation and actions by FAA from the time of receipt of the first notification of a possible flight by a Cuban aircraft to the United States until the actual landing of the "Cubana 877" flight at New Orleans International Airport, along with specific FAA operating procedures required in handling flights from Cuba.

On the morning of October 26, 1971, at 1150 Greenwich mean time (GMT), (7:50 a.m. EDT), Havana Air Traffic Control Center filed a teletype instrument flight rule (IFR) flight plan on a proposed flight from Havana to New Orleans. The flight was designated in the flight plan as "Cubana Special One."

The flight plan was filed directly with the FAA's communications switching center in Kansas City, which, in turn, related it automatically to the Houston and Miami centers and New Orleans International tower.

The flight plan proposed a takeoff time from Havana of 1300 GMT (9 a.m. EDT). The estimated time of arrival in New Orleans, based on information in the flight plan, was 1559 GMT (11:59 a.m. EDT).

Upon receipt of this information, in accordance with standing FAA procedure, the U.S. Air Force North American Aerospace Defense Command was notified, as well as the FAA Headquarters and the Department of State. I spoke personally to the Office of the Under Secretary of State for Political Affairs, because a hijacked American Airline B-747 was at that moment still on the ground in Havana. The flight plan was considered possibly to be related to the hijacking, so the FBI was also notified.

At 1353 GMT (9:53 a.m. EDT) Miami Air Route Traffic Control Center contacted Havana center and was informed that "Cubana Special One" had not yet departed Havana. At 1457 GMT (10:47 EDT) New Orleans Approach Control received a radio contact from an aircraft using the identification "Cubana 877." The pilot reported he was approximately 20 miles south of New Orleans International Airport at 4,000 feet flight altitude with intention to land at the airport.

Because the pilot's identification differed from that used in the flight plan, coupled with the fact that the flight plan had never been officially activated, there was some uncertainty as to whether "Cubana 877" was the aircraft covered by the flight plan. The aircraft was vectored to a landing at New Orleans International Airport at 1519 GMT (11:19 a.m. EDT) and this fact was relayed to the Air Force NORAD at 1522 GMT (11:22 a.m. EDT).

After the aircraft landed, the FAA's air traffic control responsibility was concluded. Our Headquarters Communication Control Center continued to provide a convenient communications hub for the Departments of State and Justice and Customs for transmitting instructions to their respective staffs in New Orleans.

Mr. Chairman, that concludes my prepared statement. My associates and I will be glad to answer any questions the committee may have about FAA involvement in this matter.

The CHAIRMAN. Thank you very much, Mr. Smith.

One thing that crops up in my mind immediately, is for the committee to understand that an aircraft leaving Cuba merely has to notify FAA and can take off for the United States?

Mr. SMITH. This is not the prescribed procedure we have been requested by the State Department to abide by. We require any flight from Cuba to file a formal flight plan 5 days in advance of the date of intended flight, at which time the various elements of government in this country are notified of the proposed flight.

In this instance the flight plan was filed with us on the same morning the aircraft departed. I think it is interesting to note that even after we contacted Havana ATC and asked them if the flight had departed, they replied that the flight had not yet departed, yet it already had been airborne about 40 minutes.

The CHAIRMAN. How did you determine that?

Mr. SMITH. Based on the arrival of the aircraft in New Orleans and its speed.

The CHAIRMAN. Wasn't that unusual that under the rule a Cuban plane coming into this country has to give a 5-day flight notice, and this gave figuratively a 5-minute notice, and nothing was done about it?

Mr. SMITH. Very peculiar, as far as their actions. They know the requirement to file 5 days ahead of time. They didn't take any—

The CHAIRMAN. Of course you are not charged with the military responsibility of it. I am just trying to find out exactly when the military knew about it, and establish exactly what their procedure should have been, in the event. Here was an aircraft that violated the rules, was in the air, on the way. NORAD was your first military contact, wasn't it?

Mr. SMITH. Yes; the flight plan proposed a takeoff time from Havana at 9 a.m.

The CHAIRMAN. When did you notify NORAD?

Mr. SMITH. I will repeat that portion of it. At 7:50 a.m. eastern daylight time, Havana Air Traffic Control Center filed a teletype instrument flight rule flight plan on a proposed flight from Havana to New Orleans. The flight was designated in the flight plan as "Cubana Special One." The flight plan was filed directly with the FAA's communications switching center in Kansas City which in turn relayed it automatically to the Houston and Miami centers and New Orleans International Tower.

The flight plan proposed a takeoff time from Havana of 9 a.m. eastern daylight time. 8:26 a.m. is the time that we notified NORAD.

The CHAIRMAN. You got your first information at what time?

Mr. SMITH. 7:50 a.m.

The CHAIRMAN. 7:50 a.m. You notified NORAD at 8:30?

Mr. SMITH. 8:26, yes, sir. 36 minutes later.

The CHAIRMAN. 36 minutes. Why a delay of 36 minutes?

Mr. SMITH. This was the filing of a flight plan, and it was not to be activated until 9 o'clock in the morning. The information came in to us at our Kansas City switch, was then transmitted to all three facilities, Moisant Tower, Houston Center, and Miami Center.

The CHAIRMAN. But under this unusual thing, your position then was merely taking the word of the Cubans they were not going to take off until some time in the future, some minutes later. A half hour was delayed before NORAD was notified?

Mr. SMITH. This has been standard practice, Mr. Chairman, with regard to cueing NORAD as early as a file plan is filed.

The CHAIRMAN. A half hour is usual?

Mr. SMITH. A half hour before they were to depart.

The CHAIRMAN. I am talking about the notification of the flight plan. Is half an hour usually the time before you notify the military people?

Mr. SMITH. Routinely, I would say this is not unusual. It will vary, depending upon the station and the workload at that particular point.

The CHAIRMAN. With modern planes, a lot can happen in half an hour, couldn't it?

Mr. SMITH. Yes, sir.

The CHAIRMAN. Why that delay? Aren't we alert? I am talking about the alertness of the FAA. We will come to the military side. Was this communication by NORAD?

Mr. SMITH. Yes.

The CHAIRMAN. NORAD did know a half hour after there was a plane coming from Cuba for New Orleans?

Mr. SMITH. I believe the General will acknowledge that when he testifies here.

The CHAIRMAN. We are just establishing your responsibility. We are not going beyond that. We are just trying to get the procedures of FAA, and the instructions that you have.

In other words, the instructions are that on any flight coming out of Cuba, a 5-day notice should be given.

Mr. SMITH. That is correct.

The CHAIRMAN. It was not given in this case?

Mr. SMITH. That is correct.

The CHAIRMAN. And it was half an hour before the military authorities were notified. Of course you are not in charge of the intercepts or anything else except to notify them of this. How many flights out of Cuba take place like this wherein they notify us 5 days, in advance that they intend to come into America?

Mr. SMITH. Rarely do we have flights coming out of Cuba.

The CHAIRMAN. Wouldn't that be unusual then? Didn't it arouse your suspicion?

Mr. SMITH. It did immediately. We set up a command post in Washington headquarters at our communications control center, and

Mr. Murphy, head of transportation security, was put in charge of the particular communications networks then, and the voice contact with the various elements of Government.

The CHAIRMAN. Of course you said you notified the State Department. Except for the interest in the testimony given, that is not this committee's responsibility. We are particularly charged with the military responsibility.

Mr. SMITH. Yes, sir.

The CHAIRMAN. However, perhaps some members may want to pursue this. I am directing my entire attention to the communications between other agencies and the military, and as far as I am concerned now we have established that the military knew a half hour later, which to my mind is 30 minutes too late, that this flight was en route, and of course I will pick up there later on.

Mr. Stratton, do you have any questions?

Mr. STRATTON. Thank you, Mr. Chairman.

Mr. Smith, what is the relationship between our FAA and Havana Center? Havana Center is not part of your establishment, it is operated by the Cubans?

Mr. SMITH. Yes, that is correct.

Mr. STRATTON. Well, now, what is your relationship with them? Do you cooperate fully with them, have a complete interchange of information?

Mr. SMITH. In the function of air traffic control, we treat Havana Center in a very restricted way as far as communications are concerned, and the communications relate only to the movement of aircraft. I guess that the principal communication has been the notification of Havana Center of any hijacked aircraft that are headed in that direction, letting them know the approximate position of the aircraft that we have reasons to believe the aircraft will be arriving in their area, and the estimated arrival time.

At the same time, they have cooperated with us by telling us when a hijacked aircraft has taken off and is returning to the States.

Our interface is one of oceanic air traffic control, and it essentially is limited to that.

Mr. STRATTON. I am not quite clear just where that line goes, but it looks as though—I guess it is below Key West, is that right?

Mr. HOLDER. Yes, sir; Key West is right up here, sir (pointing).

Mr. STRATTON. It looked for a time as though aircraft operating off the southern tip of Florida would have to check with Havana Center, but I gather that is not so.

Mr. SMITH. No.

Mr. STRATTON. Suppose you are flying from Miami to Panama, for example, do you have to report to Havana Center?

Mr. SMITH. Yes, we report.

Mr. Stratton, it is established by the ICAO, International Congress of Aviation Organizations, which has set these up many, many, many years ago, as to who has what kind of perimeter control of airspace, and flying through that area, we would contact Havana Center and identify the flight level and the speed, the type of equipment, and essentially an inflight plan, if you like, and proceed to Panama in your case.

Mr. STRATTON. Is any permission required to overfly Cuba?

Mr. SMITH. Mr. Holder.

Mr. HOLDER. Just normal air traffic control requirements. We file an approval request with the Havana Center, and then subject to the altitude which they assign us, we clear the aircraft on the route and at the altitude specified by Havana Center.

Mr. STRATTON. Well, I gather in spite of our other difficulties with the Cubans, we still participate with them through ICAO?

Mr. SMITH. ICAO; yes, sir.

Mr. STRATTON. Is that a continuing kind of relationship?

Mr. SMITH. It is a very old relationship, and it is continuing at all times; and all of the governments of the world, with very few exceptions, are members. This is how we work out our interfaces in air-space throughout the world.

Mr. STRATTON. I understand that. Occasionally there is an ICAO conference?

Mr. SMITH. Yes, sir.

Mr. STRATTON. But is there some sort of liaison, even in between the individual conferences?

Mr. SMITH. Very rarely in our case with the Cubans. I believe that our only contact with them has been through air traffic control frequency communications to the Havana Center.

Mr. STRATTON. But in general, any communications that you would have with them, you would handle, I gather, pretty much in the same way you would handle them from any other international center?

Mr. SMITH. Yes.

Mr. STRATTON. The fact we are not on the best terms doesn't exactly figure, from your point of view?

Mr. SMITH. Our communications are rather limited. They occasionally ask us to go to teletype and not use voice. We don't understand why, maybe they want a printed record. They are certainly not as friendly and warm toward us as they are toward many other countries of the world, but we do have this continuing liaison with the Cuban Government. It is an odd situation, in that I guess we are one of the few elements of government that have a continuing direct relationship with Cuba while most of the others go through the Swiss Embassy or other sources.

Mr. STRATTON. The voice communications are all in English, aren't they?

Mr. SMITH. This is a determination from ICAO, that all air traffic control communications shall be in English.

Mr. STRATTON. Do you require, or does anybody require, any permission for a Cuban aircraft to enter the United States, or to land? In other words, somebody files a flight plan and says they are coming into New Orleans. I gather this is handled routinely without any requirement that, well, this has to be cleared with so-and-so and so-and-so before we can let you go?

Mr. SMITH. No, sir. Very strict rules are established. First of all, a Cuban flight has to file a flight plan 5 days prior to departure. As soon as we receive the information on the flight plan, then we have certain elements of Government that we notify, including NORAD, the State Department, various intelligence agencies, and so forth.

At this time, it is determined whether or not the flight is one that is recognized by this country, or if the individuals have been given visas,

whether this is something that is an official function; and it is not the FAA's determination, ours is one of air route traffic control.

We then would coordinate with the Havana center to determine the time the flight plan had been activated. At no time, Mr. Stratton, had this flight ever been activated.

Mr. STRATTON. Activated in what sense?

Mr. SMITH. Activated in the sense that we were notified that the aircraft was airborne, just departing Havana.

Mr. STRATTON. I see. Well, under this procedure, would you normally have to go back to Havana center and say, "OK, we approve this flight," or "I am sorry, we don't approve it"?

Mr. SMITH. Well, after the 5 days have elapsed, the plan can be activated by them. We can't prohibit them from departing from their country, as far as the FAA is concerned. We can tell them we will not accept the flight for various reasons, and be the communicator, but the flight plan is an international instrument, and it is activated by the time the aircraft takes to the air.

Mr. STRATTON. Well, now, when you got this notification of a flight plan that was coming in the very same day, did you immediately go back to them and say, "Hey, wait a minute, you are supposed to file 5 days early"?

Mr. SMITH. Mr. Murphy.

Mr. MURPHY. No, sir; we didn't. The flight plan was filed just a couple of minutes before 8 o'clock with the Kansas City switch. There was about a 10-minute delay, Mr. Chairman, in the mechanics in switching that flight plan to the Houston and Miami centers, which accounts for the 10 minutes of the delay in notifying the 20th Air Division.

We immediately, since our only business at this point is the safe movement of air traffic without political considerations—I don't mean to sound naive, but that is it—notify the appropriate Defense facilities. State Department, Justice, Defense Intelligence Agency.

Mr. STRATTON. Did you in that notification point out to them that this was very unusual, that here was a notification of a flight that was coming in in a couple of hours, and instead of giving the 5-day notice, they were giving you none?

Mr. MURPHY. This was clearly pointed out to all, including the Civil Aeronautics Board, Immigration and Naturalization Service.

Mr. SMITH. As a matter of fact, Mr. Stratton, I established in the Command Communications Headquarters, Mr. Murphy, to take care of the specific details of this flight, because it was so unusual.

Mr. STRATTON. Did you then go back to the Cubans and say, "You have not given us enough time"?

Mr. MURPHY. We were having a hard time with the Cubans that particular day. The night before—because of the American 747 with 235 people on the ground, the Havana Center told the Miami Center to stop bugging them. They didn't want any more transmissions. We tried to be very selective in communicating with Havana Center until it really counted, as far as I was concerned.

Finally, after the flight plan allegedly had been in effect for 53 minutes, I instructed Miami to query Havana directly if that aircraft had taken off or not. But we were in a delicate balance with the Havana Center that particular day, because our airplane had been on the ground for over 2 days.

Mr. STRATTON. Is it possible you were perhaps being a little bit easier with them than you might otherwise, in the hope that this might indicate the 747 problem was going to break?

Mr. MURPHY. That was our suspicion, one of the possibilities of this flight. We had en route to Havana procedures at the time this was going on. We had 235 people on the ground in Havana with no indication from Havana when they were going to release the 747.

We had the flight, Cubana Special One. I was concerned this might possibly be related to the release of the Americans and the 747 at Havana, and we were urging the State Department and other elements to treat the Cubans with courtesy and consideration on their arrival, because we didn't want to jeopardize the release of the hijacked Americans in Havana.

The CHAIRMAN. May I?

Mr. STRATTON. Yes.

The CHAIRMAN. One question. How many of these types of clearances have you received from Cuba in the past? Just taking off from Cuba.

Mr. HOLDER. I have to answer it in about three directions, sir. Going into the Houston area, practically none.

The CHAIRMAN. All right.

Mr. HOLDER. Maybe one a year, or something of that sort.

The CHAIRMAN. What was that occasion?

Mr. HOLDER. I don't know what that occasion was.

The CHAIRMAN. This is the first time it happened? This is important. That is what I am trying to find out.

Mr. HOLDER. I can't answer that, because we don't retain our records on these flights.

The CHAIRMAN. You don't have to have a record. If a man held you up overnight, you don't have to have that written down as a record. You will remember how you were held up. An unusual thing coming in here from Cuba, if a Cuban plane is coming out of Havana, you could well remember that, couldn't you?

Mr. HOLDER. Yes, sir.

The CHAIRMAN. You don't remember any such instance?

Mr. HOLDER. No, sir.

The CHAIRMAN. Do you, Mr. Smith?

Mr. SMITH. May we supply that for the record?

The CHAIRMAN. You don't remember it?

Mr. SMITH. No, sir; I do not.

The CHAIRMAN. Mr. Murphy?

Mr. MURPHY. We have had Cubans going to the United Nations flying American air space.

The CHAIRMAN. I am not talking about the United Nations, everybody goes to that place. I am talking about coming into our places, like New Orleans, Houston, Miami, and civilian air fields. This is the first time this has happened.

Mr. SMITH. Is that correct?

Mr. MURPHY. The first plane I couldn't recall.

Mr. HOLDER. I understand there was one flight that went into the Houston area.

The CHAIRMAN. One MIG landed in Florida, as far as we know. That is the only other instance?

Mr. HOLDER. Twice a week, sir, I understand there is a schedule run that goes up to Canada on the off-shore area.

The CHAIRMAN. We are not talking about that. They don't land on our ground. This is the first time, that is what concerns me. This is an unusual thing, and to say you are going to refer to records, you don't have to refer to records. Every American knows this plane is landing. Two years from now they will remember it, they won't have to refer to records or this hearing.

Mr. STRATTON. Are there Cuban planes that fly refugees into the States?

Mr. MURPHY. Those are American airplanes.

Mr. STRATTON. Those are American airplanes. Then when you checked with Havana and asked them whether the flight had departed, they said "No," and it was actually at that time 40 minutes in the air?

Mr. SMITH. Yes, at that point in time.

Mr. STRATTON. Did you do anything at that point to—of course you weren't aware that they had lied to you, but was there any attempt on the part of the FAA to make sure that the flight was going to be monitored in any way?

Mr. SMITH. As you say, we did not know at that point in time they were lying to us, and we didn't really realize that the aircraft was en route until it was approximately 20 miles south of New Orleans—if you will point to that particular area, Henry.

Mr. HOLDER. Yes, sir; about here (pointing).

Mr. SMITH. Until they made contact with us and identified themselves. This smaller map will give you more detail of the point at which initial radio contact was established.

Mr. STRATTON. Let me ask just one other question. What kind of coverage do you have of this area, so that Houston Center can know what planes are in the area, and where they are? I gather at least from your chart that they followed some kind of an air corridor. Do you have any way of knowing whether they are flying that corridor, whether they are maintaining the assigned altitude and so on?

Mr. SMITH. This is the standard flight path, Amber 9 Airways, coming into the New Orleans area, and we do not know even at this point in time actually what track they did follow, or their altitude. We did understand when they reported in they were at flight level four zero, 4,000 feet, which is substantially under the radar coverage in this area.

Henry, if you go to the radar map that might help.

Mr. STRATTON. How much radar coverage do you have of the Gulf, in other words?

Mr. HOLDER. Let me explain it to you, sir. I will start with this one, at our best coverage at 200 miles, the radar coverage is a circle like this, another one like this, another one out here (pointing) and this portion of the route from here through to about in here, there is no radar coverage whatsoever.

Correlating that to this map, which happens to be one for 14,500, and drawing the route out again, it would take off from Cuba, which is right here (pointing), would have gone through here (pointing), and then up this way into New Orleans, and you can see at 14,500 feet, we do not have any coverage there.

This is rather difficult to see through, but I can do it again. And again, starting out—now this is radar coverage at 8,000 feet, and at 8,000 feet you will notice the coverage is noticeably less (pointing). We would have started right about here, go up through here, and then turning up into New Orleans here (pointing), and this would be at 8,000 feet, which is roughly around 80 miles southeast of New Orleans.

Mr. DICKINSON. Would the gentleman yield for a question there?

Mr. STRATTON. Yes, sir.

Mr. DICKINSON. What radar are we talking about?

Mr. HOLDER. OK, sir. We are talking actually about five different sites. We are talking about FAA radar.

Mr. DICKINSON. Only?

Mr. HOLDER. Yes, sir.

Mr. DICKINSON. You are not relating there in any way to the Air Force?

Mr. HOLDER. I am not.

Mr. DICKINSON. Or whatever radar identification they have?

Mr. SMITH. Except, Mr. Dickinson, in general there are some joint use radars where we take information from the military, but not in those cases, no.

Mr. DICKINSON. In your testimony—if I may just pursue this one point, Mr. Stratton—what you are talking about is FAA radar, and you are not saying there is no Southern coverage by other radar, or are you?

Mr. SMITH. We are not saying that. We are simply saying these are our radars for air traffic control.

Mr. DICKINSON. What else is there, you get the other from the military?

Mr. SMITH. Yes.

Mr. DICKINSON. Thank you, Mr. Stratton.

The CHAIRMAN. Mr. Pirnie.

Mr. PIRNIE. Mr. Smith, as I understand it there was this lapse of time between the Cuban information and the transmittal to NORAD. What was your reaction to that fact?

Mr. SMITH. First of all—

Mr. PIRNIE. Is that contrary to your standard operating procedure?

Mr. SMITH. No, it is not. This is the filing of a flight plan. This is not—

Mr. PIRNIE. Just a minute. I understand that. But that is knowledge, and that is the only information that you received.

Mr. SMITH. Yes, that is correct.

Mr. PIRNIE. Well, if there is going to be any purpose in transmitting information to NORAD, isn't timeliness an element?

Mr. SMITH. Certainly it is, and the information was transmitted to Kansas City to our central switch at which time the tape was punched, it was taken off and repeated back to Houston through Traffic Control Center at Miami.

Mr. PIRNIE. Talking about the communication to NORAD, what is your intent in regard to the future? Do you intend to follow this same practice?

Mr. SMITH. Filing the flight plan—yes, sir.

Mr. PIRNIE. Even in light of this situation?

Mr. SMITH. Well, I see no reason to change the procedure. The flight plan was filed a good half an hour before the aircraft was scheduled to depart.

Mr. PIRNIE. That isn't timely. You require 5 days. It looks to me as though you are suggesting that that 5-day requirement is meaningless.

Mr. SMITH. No; I am not suggesting that at all, sir. I think the 5-day requirement in the case of the Cuban Government is very meaningful and should have been followed. They were illegally operating.

Mr. PIRNIE. It seems to me from the information, something irregular happening should have been of such consequence you would wish to have it immediately transmitted.

Mr. SMITH. I think we could certainly speed up the process, but—

Mr. PIRNIE. It seems to me you are defending the delay instead of expressing concern.

Mr. SMITH. I am really trying to explain the normal procedures.

Mr. PIRNIE. You can explain, but we are talking about what is going to be our attitude. You didn't have any information regarding the passengers, did you?

Mr. SMITH. Yes, part of the flight plan filing.

Mr. MURPHY. No; not the filing of the flight plan, but from intelligence sources later.

Mr. PIRNIE. Isn't it required in the flight plan?

Mr. MURPHY. Just the number of passengers, and in the flight plan they filed that is missing.

Mr. PIRNIE. Well, just a minute. Maybe I am stupid, but if that is required and it is missing, isn't that an irregularity?

Mr. SMITH. Yes, but the irregularity was so gross at this point with regard to the 5 days.

Mr. PIRNIE. That is emphasizing just my point. But with this gross irregularity which you are underscoring now, you don't feel there was any responsibility to give a timely notification?

Mr. SMITH. Well, may we explain the process of how a flight plan comes to us and how in turn it is distributed?

Mr. PIRNIE. I don't care to go into all of the detail. If you want to say on the record that that was the most expeditious way in which you could handle it, then maybe we will have to investigate the way in which the plan is handled. But I would rather not go into the detail. I am only interested in the result.

Mr. SMITH. No, sir, this is not the most expeditious way it could be handled. I am sure we could speed that up by collapsing that 36 minutes to something like 10 or 15, or even perhaps below that.

Mr. PIRNIE. Shouldn't that be the objective?

Mr. SMITH. Perhaps it should.

Mr. PIRNIE. In other words, I am not trying to belabor it, but we are trying to achieve a constructive result, and if this notification is to have any significance at all, it must be treated at all levels as being significant, isn't that true?

Mr. SMITH. Yes, it is.

Mr. PIRNIE. Could you tell me—you reported this to the State Department?

Mr. SMITH. Yes.

Mr. PIRNIE. What was your reaction from them?

Mr. SMITH. I personally talked with the Office of the Under Secretary to explain to them we had an unusual situation developing.

Mr. PIRNIE. Who did you contact at the State Department?

Mr. SMITH. Mr. Getz, who is an Executive Assistant to the Under Secretary of State. The Under Secretary at that time was in conference with the Secretary. I felt it sufficiently important that we contact the State Department because of the 747 airplane that was there at Havana. I wanted to be certain we were completely in tune with each other as to what was happening at that time, and again, our responsibility is for air traffic control, and certainly extends to the safety, to the extent we can help this, of any American passengers in the air transport service—in this case the 747 in Havana.

I did get the message through to the Under Secretary. They understood the problem, and they were prepared when the aircraft arrived at Moisant Airport in New Orleans.

Mr. PIRNIE. Did they give any other instructions or make any other comment?

Mr. SMITH. They were trying to determine at that point in time, from the earlier alerts, the Cuban desk, as to whether or not any transports or visas had been issued at that time through the Swiss Embassy. We got nowhere. We had no communications, to my understanding—I am relating a secondhand piece of information here. It was simply our job to alert the State Department, and then to respond to their wishes with regard to the parking of the aircraft on the ramp at Moisant.

Mr. PIRNIE. Did you have anyone else you notified?

Mr. SMITH. Yes; we notified a number of elements of government. Jim, would you run down that list?

Mr. MURPHY. Immigration and Naturalization Service, FBI.

Mr. PIRNIE. Could you name the people there?

Mr. MURPHY. I will have to look that up. The Associate Director of Immigration and Naturalization, Mr. Greene, I believe, and we talked to the Office of the Assistant Commissioner of Customs. I will have to look up that name for the record. I spoke to the Criminal Division of the Federal Bureau of Investigation, which handles air piracy matters. We spoke to the Defense Intelligence Agency, and to the Air Force Command Post. Now the notification to NORAD was actually from the Miami Air Route Traffic Control Center to the 20th Air Division of the Aerospace Command.

Mr. PIRNIE. When was that done?

Mr. MURPHY. 8:26 a.m. At approximately 8:30, or 8:35, from Washington FAA Headquarters, we notified the Air Force Command Post in addition to the alert of the 20th Air Division.

Mr. PIRNIE. There were quite a few violations, weren't there?

Mr. SMITH. Yes, sir.

Mr. PIRNIE. Of your requirements?

Mr. SMITH. Yes, indeed.

Mr. PIRNIE. And yet, it didn't seem to have too much impact upon your thinking in regard to it, did it?

Mr. SMITH. Yes; it did have serious impact on our thinking, and it is one of the reasons why it is rather unusual for the FAA to set up a command post in our communications center, but as soon as these elements began to develop and we were notified, I established then

Mr. Murphy as the man in charge of the FAA total communications system.

Mr. PIRNIE. Mr. Murphy has testified that he hesitated to take any action because it might annoy the Cuban people.

Mr. SMITH. No, sir; I don't believe he said that.

Mr. PIRNIE. Well, you said you didn't want to send a message there because you thought it might upset them.

Mr. SMITH. Mr. Pirnie, they told us to quit communicating with them about the 747. They didn't want any more communications by voice.

Mr. PIRNIE. You didn't have any advice this was 747. You didn't have any advice it was related to it, did you?

Mr. SMITH. We were unable at that time to get any firm answer from them as to when the aircraft might return. They asked us to go to teletype communications if we had any more statements or questions. This is somewhat unusual.

Mr. PIRNIE. Is that going to be the practice from here on, you take instructions from them?

Mr. SMITH. No, sir; not at all. But we do have a consideration of many innocent civilians then in Havana.

Mr. PIRNIE. How can innocent civilians be involved in the inquiry as to time of takeoff?

Mr. SMITH. Well, if we annoy—unnecessarily annoy the Cuban Government while they have captive our aircraft and a number of individuals, we do have a concern that they not start manhandling these people or treating them in a very roughshod fashion. So far we have been very fortunate in these hijackings that they have been very good in treating the people, they have taken care of them well.

We did not want them to start any reprisal actions against the Americans that were down there.

Mr. PIRNIE. You thought seeking to have conformance with the aircraft requirements would be annoyance?

Mr. SMITH. No, sir. We simply did not want to annoy them any further by blasting them with more messages.

Mr. PIRNIE. Can't you send a message without a blast?

Mr. SMITH. Yes, we can and we did. We treated this very cautiously, because we did not want to unnecessarily rile them up while still having the information we were required to have for air traffic control.

Mr. PIRNIE. I didn't think you had that information.

Mr. SMITH. We asked them again at 9 o'clock when the aircraft was to be activated, and they said the aircraft had not departed.

Mr. PIRNIE. It is my understanding this information is supposed to be filed with the flight plan.

Mr. SMITH. It is.

Mr. PIRNIE. Not just when it becomes activated.

Mr. SMITH. Well, we asked again at 9:53 whether or not the aircraft had departed, and they said "No." We can't control what they say to us.

Mr. PIRNIE. I understand that, Mr. Smith. I am not criticizing the action that was taken as a result of complete deception. I am talking about the attitude during the period of implied deception. I just don't feel the reaction to that was such as to give assurance that it was being viewed as we view it.

Mr. SMITH. I guess, Mr. Pirnie, the problem here is one that has developed over the years in a relationship sense with the Cubans. With all the hijackings we have had in this area, and all of the costs, we try and maintain formal and very sparse communications with them so we don't get them upset and still get the information that we need.

Mr. PIRNIE. Is this leading towards permissiveness with respect to the application of our air traffic regulations?

Mr. SMITH. None whatsoever.

Mr. PIRNIE. Then why is this idea of annoyance introduced into this picture when we are only talking about existing regulations? We are not talking about any form of discipline or censure. We are only indicating that we expect flights are going to be made, and if they are going to be made to this country, they will be under the rules of air traffic regulation.

Mr. SMITH. Sir, at times they have been very cooperative in giving us information about the aircraft, about the passengers, about when they expected to go. These are communication elements that are clearly outside the realm of air traffic control.

We attempt to press as much as we can for this information because it is of great financial value to an air carrier to know whether or not he is going to get that particular machine back, and if so, at what time. These are all outside of air traffic control.

When it comes to the basic fundamentals of air traffic control, we don't care about people's attitudes or opinions, we will go after that. They have cooperated with us in the past and have told us it looks like we might release the aircraft this afternoon, or it may not be until tomorrow morning, and we want to maintain that communication to the maximum extent. That is the element we are trying to protect.

Mr. PIRNIE. I understand you are trying to protect that, but I am just wondering whether this so-called protective approach is the justification for permissiveness with respect to a failure to comply with the rules.

Mr. SMITH. I don't believe you will find any permissiveness anywhere in the procedures, certainly not those that I have reviewed and not those I am aware of in this entire episode. There has been no permissiveness on our part, and when they violate our areas, when they violate a flight plan regulation of 5 days, when they take off and they tell us they have not yet taken off, all of these items are something we didn't know a thing about until we saw the aircraft from our shores.

Mr. PIRNIE. The only thing you didn't know about was the takeoff. You know about the failure on the others.

Mr. SMITH. We knew about the 5-day failure, yes.

Mr. PIRNIE. And failure to give complete notification.

Mr. SMITH. Yes.

Mr. PIRNIE. Those facts, I am suggesting they have given rise to some proper suspicion of irregularity which would justify prompt transmission of information.

Mr. SMITH. Sir, we will certainly see what we can do to improve that time. I appreciate the point you are making.

Mr. PIRNIE. Thank you, Mr. Chairman.

The CHAIRMAN. Mr. Smith, are you familiar with the reaction of the Cubans on the broadcast? They made it appear that they had made fools out of the Americans?

Mr. SMITH. No, sir; I am not aware of it.

The CHAIRMAN. Once safely back in their country, they said that they thumbed their noses at the Yankee imperialists.

Mr. SMITH. I am not aware of that, Mr. Chairman.

The CHAIRMAN. I have some newspaper filings that will be up here later where the amazing statements are made. You are familiar with Castro himself meeting these "heroes" when they returned to Cuba and congratulated them on their great flight?

Mr. SMITH. No, sir; I am not surprised. It is tragic.

The CHAIRMAN. In the face of this, would your reaction be different? Even mine, Mr. Smith, I said I am interested in military coverage of the thing, but these other things all go to fit into a picture that is concerning people today.

The fact this happened is purely a coincidence in the New Orleans area, the fact I represent the area means nothing. It is not parochial or provincial at all.

Mr. SMITH. I understand.

The CHAIRMAN. This is something we have been talking about for a long time. It is amazing to me the apathy on the part of our officials, these things happen one against the other, and before this committee particularly. We don't play games, we just want facts, that is all we want.

It is rather shocking what we have heard already this morning, I will be very frank with you. Perhaps we are a captive of the system, I don't know. Like Mr. Murphy says he called the State Department and couldn't find anyone to speak with. This is a serious matter. He spoke to a Deputy Assistant, to some other Deputy, and not to the man in charge himself, the Secretary.

Here is an underling—and I use the word "underling" advisedly—way down the line. Whether he got that information to the Secretary or not, we don't know. We will have to bring him in. We will bring in all the military and find out what they did.

I am just expanding to indicate the concern of the committee. And then the gentleman here testified he would have to go to the records to find out if this ever happened before; 200 million Americans don't have to go to the record to know what happened in New Orleans. They will know about it 5 years from now. This sort of fencing disturbs me. You either know it or you don't know it. I am not directing the remarks to you personally. I am trying to put you on the plateau in which we operate. That is all we are trying to find out. It is a disheartening thing.

Mr. Pike?

Mr. PIKE. Mr. Smith, let's assume that the Cubans had not filed any flight plan. What would the first knowledge of the FAA have been of the approach of this aircraft?

Mr. SMITH. If it had been as it was, it would have been approximately 20 miles off the coastline of Louisiana when they, by voice, reported to us their position.

Mr. PIKE. But at the time—again, that is something that they gave to us. They called us, and I have been looking at the transcript of the communication. Our air traffic control people still did not have them on any radars at the time they called us, is that not correct?

Mr. SMITH. That is correct, yes.

Mr. HOLDER. Correct.

Mr. PIKE. So if they had neither filed a flight plan, nor called us by radio, how far away would they have been before FAA would have been aware of their presence?

Mr. SMITH. Are you speaking of the altitude they were flying, 4,000 feet?

Mr. PIKE. Yes; the altitude they were flying at 4,000 feet.

Mr. SMITH. At the distance we did pick them up, which was approximately 11 miles, is that correct?

Mr. HOLDER. That is where we established radar contact.

Mr. PIKE. At 11 miles?

Mr. HOLDER. Right.

Mr. PIKE. How fast was the plane traveling?

Mr. SMITH. Around 160-180 miles at that time.

Mr. PIKE. You are talking about 3 or 4 minutes from the airport?

Mr. SMITH. Essentially, yes.

Mr. PIKE. Now, when you communicated with the Department of State, did you at any time suggest to them that the plane should not be allowed to land?

Mr. SMITH. No, we did not.

Mr. PIKE. Did they at any time suggest to you that the plane should not be allowed to land?

Mr. SMITH. No, they did not.

Mr. PIKE. Did you at any time ask them whether the plane should be allowed to land?

Mr. SMITH. No, sir, we did not.

Mr. PIKE. There was no question given to whether the plane should be allowed to land?

Mr. SMITH. None whatsoever.

Mr. PIKE. So, if no question is given whatsoever as to whether or not the plane should be allowed to land, what difference does it make whether they file a 5-day flight plan or not?

Mr. SMITH. This is a requirement that has been placed upon the FAA by the State Department, Mr. Pike.

Mr. PIKE. But if it doesn't matter when they don't do it, what meaning does the requirement have?

Mr. SMITH. I would have to ask you to refer that question to the Department of State. It is a request they have made of the FAA.

Mr. PIKE. Let's assume that they had not filed any flight plan, instead of a late flight plan, and had just contacted the radio tower as they did, 20 miles south of New Orleans. Would they have been allowed to land?

Mr. SMITH. Yes; they would be allowed to land.

Mr. PIKE. When you contacted NORAD, whom did you contact in NORAD? Your statement just says NORAD—North American Aerospace Defense Command was notified. Was that a voice communication?

Mr. MURPHY. Yes.

Mr. HOLDER. Yes, it was.

Mr. PIKE. Who made the voice communication to whom?

Mr. HOLDER. We have a position called the Aircraft Movement Information Service, the name is Controller, who provides this information to NORAD, and he was the gentleman who made the call to NORAD.

Mr. PIKE. To whom did he speak at NORAD?

Mr. HOLDER. I will tell you in just a moment, sir; 15:25 Miami, Sergeant Lynch.

Mr. PIKE. A Sergeant Lynch got the message?

Mr. HOLDER. Yes, sir.

Mr. PIKE. At NORAD?

Mr. HOLDER. Right, and then——

Mr. PIKE. Do you have the transcript of the conversation?

Mr. HOLDER. Yes, sir; I just received this, this morning.

Mr. PIKE. All right; what did FAA say to NORAD, and what did NORAD say to FAA?

Mr. HOLDER. I will read it.

He is calling NORAD, Sergeant Lynch is answering. Miami, our controller says "This is Miami, sir. Could I speak to the senior director, please?"

And then Captain Williams comes on the line. We say to Captain Williams "This is Miami. I got kind of an oddball flight proposed off of Havana. What it is roughly is a Cuban special AN-24 going from Havana to New Orleans Moisant."

He says "New Orleans, OK."

"He is proposed off at 1300, two plus 59 en route, and the type of aircraft an AN-24."

"What is that Cubana?" He is asking what is that Cubana, what is the number again? And he says "Cubana Special One."

"Special One, OK."

"And he is going to Havana to Lora"—now he is describing the route flight—"Amber 9, vector ILL, Moisant, that is all I have here."

"OK," this is NORAD talking back. "OK, we will find, we will pass this word to your D section." He signs with his initials, our controller does, and he says initial "JD," NORAD says, in the ICAO code, he says "Juliette."

Mr. PIKE. And that was the end of the communications between FAA and NORAD?

Mr. HOLDER. At that time, sir.

Mr. PIKE. Was there a subsequent communication between the FAA and NORAD?

Mr. HOLDER. Yes, sir.

Mr. PIKE. Would you give us the time of the subsequent communication?

Mr. HOLDER. Let me see now.

The subsequent communication with NORAD was at 11:21 eastern daylight time.

Mr. PIKE. All right, 11:21 eastern daylight time.

Mr. HOLDER. Yes, sir.

Mr. PIKE. Now will you tell us what you said—who initiated this subsequent communication?

Mr. HOLDER. Our Miami center.

Mr. PIKE. All right. Would you tell us who it was and who he talked to and what he said?

Mr. HOLDER. Yes, sir. I just want to be sure I hadn't missed the transcript. I said 1121. I should have said 1521, and it is the 20th Air Division. Sergeant Lynch answers.

Mr. PIKE. 1521 is Greenwich time, is that correct?

Mr. HOLDER. Yes, sir. That is 11:21 eastern daylight time. Our Miami man says "Senior director, please. This is Miami center." And then they answer "Go ahead, he is on."

Mr. PIKE. Who was on?

Mr. HOLDER. The senior director, this is the 20th indicating the senior director is on.

Mr. PIKE. Who was it?

Mr. HOLDER. I don't have a name, sir.

Mr. PIKE. All right.

Mr. HOLDER. The initials in the transmission are unintelligible.

Mr. PIKE. Were unintelligible?

Mr. HOLDER. Yes, sir; it didn't come through on the transcript.

Mr. PIKE. You don't know whether this was the same Captain Williams or not?

Mr. HOLDER. I do not know.

Mr. PIKE. All right, go ahead.

Mr. HOLDER. Miami says "Hey, I have a message from Houston to you that a Cuban says he is 1517 north"—correction, I will read it again. He says "He is at 1517," and he is talking time there, "New Orleans approach control advised them that a Cubana 877, an AN-24, was 10 southeast of New Orleans VFR," visual flight rules, that is. "I assume I"—and then there is an "I" in there, "they assume this is the one we are holding a proposed flight plan on to New Orleans." And then there is an unintelligible statement, says I, "Houston is" and it breaks off there.

20th Air Division says "OK."

Miami says "And he wanted me to relay it to the 20th. That is all I have on it." Then there is a signoff with the initials that are unintelligible and our controller JD is on the line.

Mr. PIKE. Mr. Smith, you have made a rather major point in your statement to the effect that a flight plan was filed for something called "Special One."

Mr. SMITH. Yes, "Cubana Special One."

Mr. PIKE. "Cubana Special One."

Mr. SMITH. That is correct.

Mr. PIKE. And the plane which approached New Orleans designated itself as Cubana 877?

Mr. SMITH. Yes.

Mr. PIKE. Whose job was it to find out whether this was the same plane for which the flight plan had been filed?

Mr. SMITH. At point of contact it was with the tower at Moisant Airport. The tower operator would be the individual to interrogate the flight as to whether or not this was the one that matched the flight plan that was submitted.

Mr. PIKE. Was any such interrogation made?

Mr. HOLDER. Yes. There was discussion between the tower and Houston Center to whom the normal procedures would say that the tower should go to Houston Center first. Houston Center in turn told them he had nothing on the airplane, they had nothing active, that they had the flight plan on "Special One," and Houston Center in turn went back to Miami to determine if they had any more information on the flight, and then at 1532, as this was going on, which would be 11:32, eastern daylight time, Miami went to Havana, and had asked

Havana if Cubana 877 that arrived at New Orleans was the same as "Cubana Special One."

Havana did not answer them at this time. He says "I will have to call you back."

Mr. PIKE. Is there anything in the FAA regulations which would have prevented the FAA from asking the airplane?

Mr. HOLDER. No.

Mr. SMITH. No.

Mr. PIKE. Would that not have been a logical thing to do, to ask the airplane "Are you Cubana Special One?"

Mr. SMITH. We did ask the question, and he said "Wait one" or went off the air at that point.

Mr. HOLDER. Yes, they were asking him in the air, in the transcript I believe also.

Mr. PIKE. Is that in the transcript?

Mr. HOLDER. I believe so, sir.

Mr. PIKE. I thought I had looked at that and I didn't find it. If it is in there, all right.

Mr. HOLDER. May I add, sir, the instructions to our controller with regard to aircraft calling up is, we will normally go back to him and call him by the same name that he uses in the call.

Mr. PIKE. Yes, but here is the situation where you have a flight plan filed for a plane from Havana to New Orleans. You've got a plane coming in under a different name. You don't know whether it is the same plane for which the flight plan was filed, and I would just like to find out whether anybody ever asked him.

Mr. SMITH. Well, I believe in the conversations we had, the question was asked, and to the best of my recollection I am not saying this was the case, but we were asking and he dropped off the air. We had trouble, incidentally, even trying to get him to have the right frequency. We had to go to ground-control frequency to be able to communicate with the airplane while he was in flight.

Mr. PIKE. Mr. Smith, there are pages of communication here.

Mr. SMITH. Yes.

Mr. PIKE. You may have had frequency trouble and all that but I find a lot of pages of communication, and I am just trying to find out where in this communication anybody asked him whether this was the plane that had filed the flight plan.

Mr. SMITH. If you will give us just a moment, I think we can locate it here.

Mr. HOLDER. Sir, I have just gone through the transcript. We apparently did not ask him that.

Mr. SMITH. We did not?

Mr. HOLDER. No, sir.

Mr. HUNT. Will the gentleman yield?

Mr. PIKE. Of course I yield.

Mr. HUNT. Has it been established the New Orleans tower knew this plane had filed a flight plan 1 day before? Is there anything that indicates to us that they knew a flight plan had been filed for "Cubana Special One"?

Mr. PIKE. Yes. That has been established that New Orleans did know that a flight plan had been filed for "Cubana Special One."

Mr. HUNT. But not for Cubana 877?

Mr. PIKE. They did not know this was "Cubana Special One." They assumed that.

Mr. SMITH. We received the identification of Cubana 877 when they called into the controller. He identified himself as Cubana 877.

Mr. PIKE. Well, I am not going to pursue this any further, Mr. Chairman. I would simply say that this seems to be a very convoluted process for the purpose of trying to find out the answer to a question which you should have been able to at least get a hint of if you had asked the airplane.

Mr. STRATTON (presiding). Mr. Dickinson.

Mr. DICKINSON. Thank you, Mr. Chairman.

Mr. Smith, just for the record, I would like to try to establish what violations there were by the incoming plane. In order to do that, I think we have to establish what is the required pattern of flight.

You said first they are required to file 5 days in advance.

Mr. SMITH. Yes, sir.

Mr. DICKINSON. Second, they are required to state the number of passengers, is this correct?

Mr. SMITH. Yes; it is usual.

Mr. DICKINSON. With no additional information, other than just the number of passengers?

Mr. SMITH. That is correct.

Mr. DICKINSON. Then they are to file their destination?

Mr. SMITH. Yes.

Mr. DICKINSON. And the time they are to take off?

Mr. SMITH. Yes; that is correct.

Mr. DICKINSON. The route they will take?

Mr. SMITH. The route they will take.

Mr. DICKINSON. And the altitude?

Mr. SMITH. Yes, sir.

Mr. DICKINSON. What altitude did they give?

Mr. SMITH. They gave an altitude of 14,000 feet.

Mr. DICKINSON. The only contact we had with them, they were not at that altitude, then?

Mr. SMITH. Yes; that is correct.

Mr. DICKINSON. So they violated almost every requirement of FAA toward filing a flight plan, if I understand you correctly.

Mr. SMITH. They didn't violate everything about it, but they violated many things about it, and, of course, it is difficult to say how much else they violated while they were en route, because we were not aware of that.

Mr. DICKINSON. I understand, but all the elements I have enumerated, we know that they did violate, in other words.

Mr. SMITH. Yes, they did; we knew that, that is correct.

Mr. DICKINSON. If I understand it correctly, this could just as well have been a fighter plane, and be equally undetected until they were 20 miles out.

Mr. SMITH. Undetected by the FAA radar; yes, that is correct.

Mr. DICKINSON. I think in all fairness—and we do want to be fair—in order to understand this, we have to have some of the background that you have given. We all have 20-20 hindsight, you know.

But in the history of your dealings with Cuba, and with hijacked planes—and I can certainly understand the delicate situation in which

we find ourselves as a Government, whether we are talking about FAA or whoever deals with them. If they don't want to return our planes, there is not much we can do, if we are not willing to use force. If they have 200-odd civilians on the ground, we are trying to get back, we have to deal with them with more tact than might be the case otherwise.

Mr. SMITH. Yes, sir.

Mr. DICKINSON. Is it your feeling, from knowing the history of our dealings with them over a number of hijackings and so forth, that they would deliberately, using the instance of the 747 on the ground to tweak our tail or spit in our face, so to speak, they know we were concerned over the plane on the ground, and that they deliberately violated every requirement that we might put on them to send this plane up here?

Is this a reasonable inference? Would you read this into it, or am I just guessing at that?

Mr. SMITH. I am certainly not an expert in these areas, but I would like to call your attention to the fact that the 747 was on the ground at Havana. Another one was overflying the United States to Montreal. This flight was in the process of departing Havana. It seems this is an unusual set of circumstances, and it could well be all of this had been planned at some time.

Mr. DICKINSON. Well, looking at the converse of it, can you think of any reason why they would file a flight plan without giving the advance warning required, that they would not give the route or would not maintain the given altitude? They would not give the number of passengers, they would not even admit the plane had taken off 30 minutes after it was in fact airborne?

Can you think of any reason why the Cuban Government might react as they did in these particulars?

Mr. SMITH. The only other element of information that might be helpful is that there was a sugarcane convention going on in New Orleans, and it was our understanding—this is after the fact, after they landed—they wished to attend that convention. That is the only other element I can offer.

Mr. DICKINSON. I was talking about why they would deliberately violate all the requirements.

Mr. SMITH. I really can't answer, except it is an unusual set of circumstances.

Mr. DICKINSON. I realize you are probably looking through the mind of someone else. I thought possibly over the history of FAA's dealings and this country's dealings with Cuba in connection with air flights and so forth, you might shed some light there.

One other question, and I will conclude. What would FAA do if a plane without filing a flight plan simply called in and said, "This is Cuba so-and-so," and didn't land at New Orleans, just flew inland? What would FAA do?

Mr. SMITH. If the aircraft had filed a flight plan and had overflowed New Orleans?

Mr. DICKINSON. Either with or without a flight plan.

Mr. SMITH. In the case where the flight plan is filed, we would promptly notify the North American Defense Command.

Mr. DICKINSON. Your responsibility ends there?

Mr. SMITH. Yes, sir.

Mr. DICKINSON. You make no determination whether a plane will or will not land or where they will land, or what will happen to them after they do land, is that correct?

Mr. SMITH. Well, sir, our charge by Congress is to maintain safety of flight. Let's take the case of the AN-24. If he is running out of fuel, we could tell him, "You may not land." He could then declare an emergency, and we have to permit him to land.

So we don't have any control over whether he is permitted to land or not. He has got to land somewhere. We do control the airport at which he would land. If he overflies, we will do our very best to communicate with him, continue to track him by radar, and continue to pump this kind of information on a real time basis into NORAD, and our relationships, I think, have been excellent. I will leave that up for the general to say.

We will continue to track him to the best extent we can and to alert all those individuals, but our jurisdiction stops at that point in time.

Mr. DICKINSON. Did FAA vector him in?

Mr. SMITH. Yes, we did. We have the map here.

Mr. DICKINSON. FAA could determine whether or not he landed at this airport or another airport?

Mr. SMITH. To the extent he would follow our directions, yes, sir. We did vector him—this orange path on this map—take it up, Mr. Holder.

Mr. HOLDER. Yes, sir.

Mr. DICKINSON. The orange path is your vector bringing him in?

Mr. SMITH. Yes, is the direction of flight of that particular aircraft.

Mr. DICKINSON. If he tried to land someplace else, there is nothing you can do about that?

Mr. SMITH. No, sir; we can continue to track him and violate him the moment he hits the ground.

Mr. DICKINSON. You don't have anything to do with the Air Defense Identification Zone, do you?

Mr. SMITH. Yes; I wonder if you would put up the map?

Mr. DICKINSON. I wonder who would be the proper one to ask about that, you or the Air Force?

Mr. SMITH. We require flights penetrating the ADIZ, the moment they are at that line, to communicate with the FAA indicating their position that they are coming into the ADIZ.

Mr. DICKINSON. If they don't, what?

Mr. SMITH. If they don't, and our radar doesn't extend, we don't know they are penetrating.

Mr. DICKINSON. Thank you, Mr. Chairman.

The CHAIRMAN. Mr. Daniel.

Mr. DANIEL. I would like to direct one question to Mr. Murphy, Mr. Chairman.

In an era of instant communications, why would it require 10 minutes to activate the switch between Kansas City and Houston?

Mr. MURPHY. I think I will defer to Mr. Holder, Mr. Daniel.

Mr. HOLDER. I will answer that question. I can't explain why there was 10 minutes difference, except that the 1150 that was in the flight plan was the time it was originated by Havana, and I can't truthfully say that it was a total of 8 minutes between the time it electronically went through the switch in Kansas City or not.

But that was the time that it was transcribed on the flight plan that they filed. It undoubtedly was filed, actually electronically transmitted,

sometime later than that, but I have no way of determining the precise time.

Mr. DANIEL. My question really is, how long does it take to make this switch, so far as your communications equipment is concerned?

Mr. HOLDER. Very rapidly, sir. I don't know what the precise time is.

Mr. DANIEL. It is not 10 minutes, is it?

Mr. HOLDER. No, sir.

Mr. DANIEL. If it is, we have a serious credibility with the ABM, to require that much time.

Mr. HOLDER. Yes, sir.

Mr. DANIEL. It does not require that much time?

Mr. HOLDER. It does not require that much time. I can't tell you precisely how much time.

Mr. SMITH. Let me get back to one thing, Henry. This is a punched tape we receive. It has to be punched on a strip like a teletypewriter. The tape is removed from the machine and taken to the transmit position, and submitted to that machine, where it is punched out and sent on to the other three areas that are under discussion.

Mr. DANIEL. In an emergency, you would have a more rapid means of communication, would you not?

Mr. HOLDER. Voice.

Mr. SMITH. Voice, certainly, by telephone. We are not involved in any way—you mentioned ABM, we are not involved with that. That voice communication would speed that up. At that particular moment of time there are a number of tapes being transmitted in the Kansas City switch.

Mr. DANIEL. There is no urgency about this particular flight. I am talking about communications.

I would be glad to yield, Mr. Pirnie.

The CHAIRMAN. May I interrupt?

Mr. PIRNIE. Absolutely.

The CHAIRMAN. I want this question answered. I am reading what is quoted, and I believe accurately so, the report of the Havana newspaper to which I referred a while ago. I will read this to you, Mr. Smith.

A simple call to the Houston, Texas air traffic control center would have sufficed for Democratic representative from Louisiana Edward Hébert to learn that the U.S. authorities were informed of the Cuban flight plan for New Orleans. He will be told that a flight plan with a New Orleans destination for the Cuban plane had been approved, and later the Cuban plane was authorized to land at the destination airport, namely New Orleans.

This is admitted, you say this. This is the question I would like to have answered:

He will be told that a flight plan with a New Orleans destination for the Cuban plane had been approved, and later the Cuban plane was authorized to land at the destination airport, namely, New Orleans.

Mr. SMITH. Sir, who is saying that?

The CHAIRMAN. This is a Havana news report, undoubtedly a propaganda sheet from Havana, copying what they said, and what they were spreading. They can be very inaccurate by this one thing, they called me a Yankee Congressman. They can sink pretty low.

Mr. SMITH. That must establish the validity of that column.

The CHAIRMAN. It establishes the lack of validity.

Mr. SMITH. Yes.

The CHAIRMAN. I ask you the question, this is what appeared in the Havana papers. You never authorized this?

Mr. SMITH. Never at all, and would never under these circumstances.

The CHAIRMAN. That is all I wanted. Thank you, Mr. Pirnie.

Mr. PIRNIE. Thank you.

Mr. HÉBERT. Sam, you take over. I have to go to the Rules Committee.

Mr. PIRNIE. As I understand your question here, radar would permit you to track 160 miles out?

Mr. SMITH. At approximately 18,000 feet, Mr. Congressman, but not at 4,000 feet.

Mr. PIRNIE. The fact it wasn't picked up until a very short distance seems to indicate it might have been deliberately flying at an altitude so as to avoid that?

Mr. SMITH. It could have been so, yes, it could have been and they would know, I am certain, that if they came in at 4,000 feet, they would be below our radar net, and they would expect our ability to pick them up at about 11 or 12 miles at that low altitude.

Yet they filed for 14,000 feet altitude route. That could have been a decoy, so that we would have expected to have found them on radar, but did not.

Mr. PIRNIE. If they were in the areas of what hour?

Mr. SMITH. When we heard voice contact from them for the first time, which was approximately 20 miles south of New Orleans.

Mr. PIRNIE. You got your information that way instead of any information from Havana at all?

Mr. SMITH. Nothing at all further from Havana.

Mr. PIRNIE. Thank you.

Mr. STRATTON (presiding). All right.

Mr. DANIEL. I have no further questions, Mr. Chairman.

Mr. STRATTON. Mr. Smith, following up that question Mr. Hébert asked, you did not approve the flight plan, but they were cleared for a landing when they came in?

Mr. SMITH. Yes, sir.

Mr. STRATTON. Is that not the case?

Mr. SMITH. Yes; that is true.

Mr. STRATTON. Mr. Hunt.

Mr. HUNT. Thank you, Mr. Chairman.

In regard to your radar designated coverage, which shows on that particular map in yellow [pointing]—

Mr. HOLDER. That is the air defense—

Mr. HUNT. What, sir?

Mr. HOLDER. That is the air defense identification zone in yellow.

Mr. SMITH. Not radar coverage, sir.

Mr. HUNT. Let me get over to your radar coverage.

Mr. SMITH. Yes; change the map.

Mr. HUNT. Point out the half moon to me that would cover the New Orleans area?

Mr. HOLDER. OK, sir. At 8,000 feet, here is New Orleans, and the coast is right here. [Pointing.]

Mr. HUNT. All right. Now, with a plane indicated speed of 160 miles, are you indicating ground speed, or are you indicating air speed at 160 on this particular day?

Mr. HOLDER. Right.

Mr. HUNT. What are you indicating, which one?

Mr. HOLDER. I don't know—

Mr. HUNT. We are trying to find out about this plane. The first thing we know about this plane is the plane calls in and says "I am here."

Mr. HOLDER. Yes, sir; that is right.

Mr. HUNT. "I am 20 miles offshore." Up to that point nobody knew this plane was anywhere in the area.

Now I am trying to determine with a plane of this nature—it is a Russian-built plane comparable to our Fairchilds, a turbo-prop—what was the actual speed, and why was it it was not picked up by radar prior to their calling in?

Mr. SMITH. May I answer? He shows the half moons, as you call them, at radar coverage at 8,000 feet. The aircraft was at 4,000 feet.

Mr. HUNT. I realize that.

Mr. SMITH. Therefore, the first point of radar contact wouldn't have been until about 11 miles where we did intercept him to begin with.

Mr. HUNT. Your radar intercepted them on the radar after they had called in?

Mr. SMITH. Yes, sir.

Mr. HUNT. When they called in, they were only 20 miles offshore?

Mr. SMITH. Yes, sir.

From the airport rather than offshore.

Mr. HUNT. What kept that plane from going on somewhere else, if they hadn't called in—

Mr. SMITH. Nothing.

Mr. HUNT. I am just laying the groundwork to ask somebody in the Air Force. That is the thing I am interested in. I want to get clear in my mind that your radar at that point would have been 8,000 foot altitude, and below that you have a void so far as contact is concerned?

Mr. SMITH. It is a tapering void; yes.

Mr. HUNT. I am familiar—I have done a little flying in my time, I have held a license since I was 19 years old.

I am curious about this thing. A lot of things here don't make sense to me. Gentlemen, do I understand you to say the transmission of messages did not have a receiver's initials because they were unintelligible?

Mr. HOLDER. They don't have the initials because the recorder was garbled.

Mr. HUNT. It was garbled?

Mr. HOLDER. Yes.

Mr. HUNT. But he didn't think it important enough to come back and find out who he was talking to. He may have been talking to a gardner somewhere in Miami.

Mr. HOLDER. Sir, the communications between our control facilities with each other and with NORAD are fairly commonplace, and throughout the period of a day in the exchange of information, I cannot say that the controller maybe understood the initials, but the transcript did not indicate what the initials were.

Mr. HUNT. Didn't you think by this time, between the ensuing time that this incident took place and the time when you are appearing before this committee, it would have been somewhat of a requirement to tell us that you went back and went over this and found out who was talking to whom?

We would like to know who talked to whom on that day. I think it is your business to find out who your people talked to and tell us. We want to talk to these people. Don't you think this would be a sensible approach?

Mr. HOLDER. I certainly will find out who that was.

Mr. SMITH. We will furnish this to the subcommittee, Mr. Hunt.

Mr. HUNT. You talked about the State Department, and dealing with the Swiss Embassy. Have you encountered any difficulties on the visas through the Swiss Embassy? Are they cooperative? You had contact, the flight plan was filed, you knew it was late. You must have immediately sensed there was some violation when they filed it in 1 day instead of 5. There must have been something a little bit weird.

I can anticipate and appreciate your anxiety over their passengers. I would have been concerned, too. I realize they had you over a barrel in some respects.

Was Kosygin in the flight area, was the 747 on the ground with a number of American people there? They were taking advantage of everything they could. This is their usual procedure, and I hope that you recognize that by this time.

Mr. SMITH. Absolutely.

Mr. HUNT. Something must have been wrong, filing a flight plan in 1 day instead of 5.

Mr. SMITH. Yes; that alerted us instantly this was absolutely askew, this was totally illegal, and they knew it.

Mr. HUNT. At that time when you knew this was occurring, and these things were coming into being, would it not have been within your realm to have notified the 20th Air Defense that something is strange here somewhere?

Mr. SMITH. We did.

Mr. HUNT. When?

Mr. SMITH. At 8:26 a.m. eastern daylight time.

Mr. HUNT. It was airborne then?

Mr. SMITH. No.

Mr. HUNT. It wasn't airborne?

Mr. SMITH. No.

Mr. HUNT. You told them there was nothing wrong with the plane coming in?

Mr. SMITH. We established the command post in the FAA Communications Center, at which time I personally directed Mr. Murphy to take charge of all communications to all Government elements. The 20th Air Division was informed at 8:26 a.m. We had learned about the flight plan at 7:50 a.m. The whole system became electrified at that point, including voice communications to all the elements Mr. Murphy indicated.

Mr. HUNT. And still no one saw this confounded plane, this flying bucket of bolts that they came in on. You know you can walk faster than that today, 160 miles an hour. No one knew anything about this thing. There was nothing scrambled. They were having a plane coming in unidentified.

I just don't understand it. I can't for the life of me understand. It was bad enough before when that MIG got through, but it is inconceivable to me that even after that occurred we get into a worse predicament to have a plane 20 miles off the major city of New Orleans, without proper identification. I just can't conceive it.

I understand your civilian perspective. I am not saying to you you should have gone out there and looked down and asked them who they were, I am not saying this. But I am saying there certainly is a distinctive time lag, a distinctive lack of proper attitude in the defense of the Nation. Something is wrong here somewhere. Either there is a lackadaisical—I am taking a coffee break approach—but we need to do something to pick this time lag up, when we have a message of transmission between your department, agency, and the Air Force defense, and the tower, and no one knows who talked to whom.

This is incredible in my estimation.

Thank you.

Mr. PIRNIE. Would you yield?

Mr. HUNT. Surely.

Mr. PIRNIE. I think, Mr. Smith, without our having to be overly severe in our questioning, we are trying to arrive at an area of full harmony.

Mr. SMITH. I understand.

Mr. PIRNIE. As you gather from my earlier questions, I was more concerned with the way in which you viewed the situation than the precise action taken. I understand error can take place when we have large numbers of people, but there are many of us who are trying to support action so as to give validity to our defense, and we wish to have regulations enforced, for whatever advantage we may derive from that enforcement, and if people from suspicious areas can announce their coming and receive no reaction, no effort to intercept, you can see how our system seems to go right down the drain.

That is why I would assume that you in your agency, even though you are not directly a defense agency, would be anxious to see that all the procedures were so coordinated as to reduce this exposure to the mission. Don't you agree?

Mr. SMITH. I certainly do, sir. I think you brought up an excellent point as to the amount of time it took us to communicate. I am going to personally look into this, and work closer with the Defense Department to see what other things we might do. In other words, my point is that we can make lemonade out of this lemon. If we can do that, let's do it, and we will work at this point. You brought this home clearly to me, I appreciate it.

Mr. PIRNIE. I appreciate that affirmative statement on your part.

Mr. SMITH. Let me say one thing else, sir. This is an extremely complex situation and difficult to bring into focus. In this area, down into the gulf coast, there are virtually hundreds of flights daily, visual flight rules and regulations, properly penetrating and identifying, or even not going outside of ADIZ, so the tower is constantly looking at all kinds of flights. It isn't as though the whole day were stopped and they were waiting for one flight to come in. There is a great complexity of the traffic.

Mr. PIRNIE. I understand that. I wanted to be sure we are able to separate the sheep from the goats, that if we don't have adequate radar coverage, we want to know that too. Maybe something can be done about it.

Mr. SMITH. I think this will be helpful to us in bringing it into focus, Mr. Pirnie.

Mr. PIRNIE. Thank you.

Mr. STRATTON. Dr. Hall.

Dr. HALL. I am sorry, Mr. Chairman, I was late and have not been able to grasp enough of this, because of another committee meeting, to ask mutually beneficial questions.

Thank you.

Mr. STRATTON. Thank you, Doctor.

Mr. Smith, let me ask you a couple of other questions to clarify something. As I understand it, this is the first time, to your knowledge or recollection, that the Cubans have ever filed a plan for a plane actually to land on U.S. territory; is that correct?

Let me correct that. I think you testified earlier that they do fly to the U.N. so that would be a flight plan into Kennedy.

Mr. SMITH. We believe they go through Montreal to go into the United Nations. To the best of my knowledge, sir, as Deputy Assistant Administrator for 18 months, this is the first time that I am aware of a direct flight into the United States in the last few years.

Mr. STRATTON. I think somebody here read the conversation with the 20th Air Division when you passed on that information for the first time. This was passed on to some enlisted man I gather, who was monitoring the circuit; is that correct?

Mr. HOLDER. "No," Captain Williams answered.

Well, the first callup was acknowledged by Sergeant Lynch. In response to that they wanted to talk to a senior director, and Captain Williams answered.

Mr. STRATTON. His final communication I think was "OK, I will pass this on."

Mr. HOLDER. To our ID section.

Mr. STRATTON. Our ID section?

Mr. HOLDER. Yes, sir.

Mr. STRATTON. Did you testify there had been any followup from the ID section back to you?

Mr. HOLDER. No, sir; I did not.

Mr. STRATTON. I think you testified in answer to Mr. Pike's question that there was a time when NORAD called you back?

Mr. HOLDER. No. I believe he asked if we had talked to them again, and it was at 1522, sir, that I relayed the—repeated that conversation.

Mr. STRATTON. Those circles on your chart represent, Mr. Smith, all of the radar coverage which the FAA has on the southern flank of the United States?

Mr. SMITH. Yes; throughout the United States, as well as the southern flank; yes.

Mr. STRATTON. To what extent do you, as a routine matter, cooperate with NORAD in utilizing those radars and the information they pick up? Do you refer to that information as a general rule?

Mr. SMITH. All aircraft penetrating the ADIZ of the ZI of this country, on flight plan—all of the information is relayed to NORAD, and we identify this as a routine flight, a scheduled flight, or an unknown.

All of this information is continually fed to the North American Aerospace Defense.

Mr. STRATTON. Do you have any idea what they do with it? Do they get back to you, or do they simply utilize it without letting you know what if anything has been done?

Mr. SMITH. We understand what information we pass and what they do in relation to air traffic control. As to further analysis of it, or further defense reasons, I am not aware of that.

Mr. STRATTON. If you have an unidentified aircraft, for example, would they say "Well, keep us posted on where that plane is going," or something of that kind?

Mr. SMITH. Yes, indeed.

Mr. HOLDER. They may ask for correlation.

Mr. SMITH. They will ask us to further track and keep them advised. They in turn will use coordinates.

Mr. STRATTON. Mr. Dickinson.

Mr. DICKINSON. Mr. Chairman, I think it might be helpful to clear up one other fact. You used two or possibly three diagrams showing the radar coverage of FAA. Are all of these at a constant altitude or do they vary?

Mr. HOLDER. They vary.

Mr. DICKINSON. The charts vary with the coverage?

Mr. HOLDER. This one here is 8,000.

Mr. SMITH. All of these areas are at 8,000, all the circles here.

Mr. DICKINSON. Those are what altitudes?

Mr. SMITH. 14,500. You can see the circles, of course, getting larger.

Mr. DICKINSON. Yes. That is as large as you have a chart for?

Mr. HOLDER. No; I have a chart for 24,000.

Mr. DICKINSON. Is this standard why you are using 14,000 feet? Why do you pick that altitude?

Mr. HOLDER. We have it for several altitudes. I tried to bring representative altitudes for you.

Mr. SMITH. This continues to expand when you get to higher altitudes.

Mr. DICKINSON. You might want to keep the chart, but it would be beneficial for the committee to know what the radar coverage is at the various altitudes.

Mr. SMITH. We will supply that. We have some for higher altitudes, too.

Mr. PIRNIE. Do I understand you have nothing below 4,000?

Mr. SMITH. We control right down to the ground, for that matter.

Mr. PIRNIE. Why in the testimony was there constant reference to it coming in under 4,000?

Mr. SMITH. In relationship, sir, to the fact we picked them up for the first time at 11 miles out. That is just about the slope of the 4,000 penetration into the radar coverage; 8,000 is a larger area. Had he been at 8,000 or 14,000 we could have picked him up.

Mr. PIRNIE. The correct way for us to view it is the radar coverage below 4,000 is not effective beyond 11 or 12 miles?

Mr. SMITH. That is correct, sir, yes. There are two radars that Henry is reminding me of. It is a little bit complicated.

We have the en route radar, which is the long-range radar. That is the one that does extend 160, 180, sometimes 200 miles south, in this particular zone, if you are at altitude.

Mr. PIRNIE. What is the altitude, 8,000?

Mr. SMITH. That is at 28,000.

Mr. HOLDER. That would be somewhere around 14,000 through 18,000 around in that category would be the level.

Mr. SMITH. For that kind of range. In addition to that at Moisant, we have an airport surveillance radar, which will pick up aircraft up at lower altitudes. It is a different location than the main long-range radar. But it does all vary with altitude.

Mr. PIRNIE. Thank you.

Mr. STRATTON. You say you have a long-range radar that goes out 100 miles?

Mr. SMITH. These are the long-range radars we showed here, Mr. Chairman.

Mr. HOLDER. They go out roughly 200 miles; in the context you asked on the offshore area it goes out approximately 150, yes, sir.

Mr. STRATTON. Following up the question Mr. Pike had asked, suppose this plane did not file a flight plan, and suppose they came in below the radar so you didn't pick them up until 11 or 12 miles out of New Orleans, and suppose they went on over New Orleans, and went on up the country, what would you do then? And didn't ask permission to land.

Mr. SMITH. We won't do anything. There is quite a probability we may not even see the aircraft. This is visual flight rules.

Mr. STRATTON. Suppose you pick up the unidentified plane on your radar at 4,000 feet, and she keeps flying north. What would the FAA do then?

Mr. SMITH. This happens all the time. It is happening right now. We do nothing. The aircraft is under visual flight rules and can proceed. He doesn't have to report in. He doesn't have to have positive control unless he goes into the area of positive control within the FAA.

Mr. STRATTON. You mean you could have a Cuban airplane over the New Orleans airport which had not filed a plan. It would simply be a radar blip on your scope which had been unidentified, and unless somebody happened to notice that it didn't look American, you would do nothing, is that right?

Mr. MURPHY. Mr. Chairman, an aircraft has to want to be controlled before we control it.

Mr. STRATTON. Well, I am just wondering to what extent—and again, I appreciate some of this is being wise after the fact—but I am wondering to what extent your cooperation with the Air Force in passing along information on unidentified planes makes any positive contribution to our defense?

Mr. SMITH. Sir; if we reported every unidentified aircraft flying visual flight rules within our control area or outside of it, the sky is full of them and we would swamp the North American Air Defense Command, there is just that volume of traffic, and there is no way for us without a substantial change in our procedures and personnel to be able to establish the communications to identify all these kinds of aircraft.

Mr. STRATTON. Mr. Murphy says you must want to be controlled in order to be controlled.

Mr. SMITH. Yes.

Mr. STRATTON. Haven't you changed that situation now? I thought you had now ordered that all aircraft operating within a certain area have to be under positive control to avoid these collisions between jets and small aircraft?

Mr. SMITH. May I explain? This is in altitude control from 18,000 feet upward. This is the area of positive control. All below that is not positive control.

There are some exceptions where we have lowered the floor of positive control to 10,000 feet. In addition to that, as is the case here in Washington, D.C., we have the upside-down wedding cake, which is the terminal control area in and around that airport.

Mr. Murphy is correct. An aircraft has to want to be controlled in order for us to control him, but he will want to be controlled if he violates any of these regulations the next time around from our enforcement standpoint.

Mr. STRATTON. Mr. Daniel.

Mr. DANIEL. Sir; you have answered this question partially on three different occasions. In order to get the record clear, since the flight plan was never activated, and most of the rules were violated, who authorized this plane to land, and why?

Mr. SMITH. We authorized the aircraft to land, Mr. Daniel, when he indicated he wished to land at Moisant, as we would any kind of an aircraft under these circumstances or others, because if he cares to land at that airport it is our job to get him down safely.

Mr. DANIEL. I understood you to say something about the State Department had some sort of rule that required you to permit landing of any type of aircraft. What part did the State Department play in this, if any?

Mr. SMITH. Sir; my reference to the State Department was the 5-day filing of the flight plan. The Department didn't have any influence on the landing of the aircraft. We did contact them with regard to where they wanted the aircraft parked.

Mr. DANIEL. I understand that. You have answered my question. Thank you very much.

Mr. STRATTON. Thank you very much, Mr. Smith. I think that concludes our questioning. We want to get on to General McKee. I am afraid if we don't get started here, we can't finish.

Mr. PIRNIE. There is just one question I would like to ask. I understand your primary consideration is air safety.

Mr. SMITH. Yes, sir.

Mr. PIRNIE. But inasmuch as you are an arm of the Government which has other considerations, do you feel that some other steps should be taken in order to improve your ability to cooperate in this area of our investigation, our concern?

Mr. SMITH. No, sir; within the resources we have—

Mr. PIRNIE. I understand that, but I am talking about whether or not you feel that you should have further resources, or whether they should just be related to the defense posture? It might very well be it is an element of defense posture, but I wanted to get your opinion.

Mr. SMITH. We do work very closely with the other elements of Government, and we would be willing and most anxious to help in any way possible to tighten this or to help whatever situation may develop from this. There is complete cooperation.

Mr. PIRNIE. You say they ignored your requirements, there might be something different next time around. What do you mean by that? I just didn't understand it.

Mr. SMITH. I am sorry, I am not tracking.

Mr. PIRNIE. In your last statement—

Mr. SMITH. If the aircraft ignored our directions to land and so forth?

Mr. PIRNIE. Yes, sir; you said there might be something different the next time around.

Mr. SMITH. Oh, I am sorry. What I meant is, if this were an American aircraft, an American crew, anyone flying in the airspace violated the Federal Aviation regulations, we will take immediate enforcement action against them. Civil penalties are very severe sanctions.

Mr. PIRNIE. Is there anything against the foreign aircraft?

Mr. SMITH. There is, but enforcement of this of course has to be worked out through the State Department, and to the extent we can enforce. We would promptly take those matters up with the State Department relating to the violation.

Mr. PIRNIE. All of that is more properly a subject of inquiry of the State Department?

Mr. SMITH. Yes, sir.

Mr. STRATTON. Thank you, Mr. Pirnie.

Thank you, Mr. Smith and gentlemen.

General McKee, we will be glad to hear your testimony now.

Mr. DICKINSON. Before you leave, Mr. Smith, will you supply the subcommittee with a chart showing radar coverages at various altitudes?

Mr. SMITH. Yes; would you like it at 8,000, 14,000, 24,000?

Mr. DICKINSON. Whatever is helpful. I think we should start at 4,000 feet.

Mr. STRATTON (presiding). Mr. Smith, I think we ought to have charts made available to the committee.

Mr. SMITH. Yes, sir.

Mr. STRATTON. I want to make sure we have that in the record.

Mr. SMITH. Yes, sir.

Mr. STRATTON. Thank you, very much.

General McKee, we are very happy to welcome you here to the subcommittee. I recall the last time we met, I think was when a version of this subcommittee met with you in Japan, in 1967, when Mr. Hardy was chairman of the committee, and we were out there investigating our commitments in the Pacific theater, and I believe you have also subsequently had some association with Mr. Pike, on an event that occurred shortly after we were there.

So we are glad to have you back again, General, and you may proceed.

STATEMENT BY GEN. SETH J. McKEE, COMMANDER IN CHIEF, NORTH AMERICAN AIR DEFENSE COMMAND

General McKee. Thank you, sir.

Mr. Chairman and gentlemen, as commander in chief of the North American Defense Command and the North American Air Defense Command, it is a privilege for me to appear before your committee.

In order to set the stage for questions concerning the October 26 incident of the Cuban registered aircraft landing at New Orleans International Airport, I would like to define for you those tasks for which CINCNORAD is responsible to the President of the United States and the Prime Minister of Canada, and to discuss our capability

to perform those tasks today, addressing in detail our air defense capability of the gulf area.

(With the exception of those deleted because of security classification, the slides are at the end of General McKee's statement.)

CINCNORAD is responsible to the President of the United States and the Prime Minister of Canada, through the Joint Chiefs of Staff and Secretary of Defense and Canadian Chief of Defense Staff and Minister of Defense, respectively, for air defense of the North American Continent. Additionally, CINCNORAD or commander in chief of the Continental Air Defense Command is responsible to the President, through the U.S. channels previously mentioned, for air, missile, and space defense. The CONUS air defense mission includes the specific task of restricting unauthorized overflight of U.S. airspace. (Slide 1.)

NORAD, as a binational command, is assigned operational control of three component commands: The USAF Aerospace Defense Command, the Canadian Forces Air Defense Command and the U.S. Army Air Defense Command. These commands contribute forces which are under CINCNORAD's operational control through the NORAD Combat Operations Center in Cheyenne Mountain, and at NORAD regional level (of which there are presently eight, including Alaska). (Slide 2.)

The region headquarters with responsibility for Southeastern United States is located at Fort Lee, Va. (Slide 3.)

When NORAD was established in 1958, substantial forces from both nations were assigned to NORAD's operational control. Those forces included (Slide 4.): Air divisions numbering 22, each equipped or being equipped with a SAGE direction center; 65 Regular U.S. and Canadian fighter interceptor squadrons; 14 air defense artillery gun batteries; 244 NIKE batteries; 9 BOMARC squadrons; 193 long-range radar sites; 105 gap filler radars; 57 distant early warning or DEW line stations; 11 airborne early warning and control stations off our coasts; and 90 mid-Canada line stations.

This interceptor force was sufficient to police the airspace in carrying out the air sovereignty task.

As you see, the radar coverage during the same time period provided military radar surveillance of the gulf area. This is coverage at 2,000 feet. (Slide 5.)

This slide shows high altitude coverage at 40,000 feet. The combination of radar and interceptors permitted CINCNORAD to carry out his air defense tasks in this area. (Slide 6.)

Now, let us look at our capability today. Since the early days of NORAD when we achieved our maximum capability against an atmospheric threat, or forces have been greatly reduced.

We now have 63 NIKE/HAWK batteries instead of 270, 14 regular Air Force fighter interceptor squadrons instead of 65, three of these are Canadian interceptor squadrons. Fifteen Air National Guard fighter interceptor squadrons instead of 38, seven BOMARC squadrons instead of nine, and, in the near future, the two Canadian squadrons will be inactivated, lowering the total to five. In long-range radars, we have 99 instead of 187. All 105 gap filler radars have been phased out. (Slide 7.)

In this same time period, personnel assigned for the air defense of the North American Continent were reduced approximately 60 percent. (Slide 7A.)

Today, defense in depth is only a concept, not an actuality. Our remaining interceptors and radars are currently deployed to counter the most likely threat which is, of course, from the north.

As shown on this slide, I no longer have the forces to cover our southern approaches. However, we do maintain four to six aircraft on alert at Homestead AFB on a temporary duty basis from our fighter interceptor squadron at Langley AFB, Va. During the past 12 months, the 20th NORAD region which, as previously mentioned, has air defense responsibility for the Southeastern part of the United States, has detected a total of 176 unknown aircraft. This breaks down to an average of 15 unknowns per month in this southern area. Like all other NORAD regions, the 20th region maintains available aircraft on a 24-hour-a-day, 5-minute alert to respond to the air sovereignty mission. (Slide 8.)

Like our interceptors and air defense artillery, our radars and command and control have been similarly reduced, leaving only a thin perimeter coverage at 2,000 feet with a gap from Florida to California along the southern border.

Here is the coverage at 40,000 feet. (Slide 9.)

To summarize the impact of these air defense reductions, I can say that our antibomber defense systems are obsolescent and generally nonexistent along our southern border. We still have precisely the same types of weapons that we had in the early 1960's, but they are now 10 years older, and we have them in far fewer numbers. In spite of this phasedown in weapons and personnel, CINCNORAD's responsibilities have not diminished.

With this as a background, I will now address the incident of October 26. I will explain the sequence of events as they occurred within the NORAD command and control structure.

First, here is a picture of the actual aircraft involved in the incident. (Slide 10.)

That is the actual aircraft by tail number.

The flight characteristics of this Russian-built AN-24 are shown here. (Slide 11.)

At 0830 eastern daylight time (EDT) on October 26, 1971, the NORAD Combat Operations Center at Colorado Springs received a call from the Air Force Command Post advising that a Cuban aircraft, AN-24, call sign "Special 1," was to depart Havana at 0900 EDT en route to New Orleans.

This is in contrast with the figure used by Mr. Smith. Actual tape says 025 and 15 seconds, so we were less than a minute of each other.

At 0825 EDT, the senior director at the 20th NORAD Region Control Center at Fort Lee, Va., received a call from the Miami Air Route Traffic Control Center watch supervisor giving the following proposed flight plan:

(Slide 12.)

Cubana "Special 1." Aircraft type was an AN-24, estimated time of departure 0900 e.d.t., estimated time en route 2 hours plus 59 minutes. Route of flight was as shown on this slide. (Havana direct Lara intersection, direct Clary, Amber 9, Grand Isle, direct New Orleans International.)

The senior director at the 20th NORAD region immediately passed the proposed flight plan to the region identification section. The iden-

tification technician routinely began making calls to the air route traffic control centers, including the Miami ARTCC, in an attempt to gain information on the flight. Of particular concern was the desire to determine if the aircraft had departed in accordance with proposed flight plan at 0900 EDT. The 20th NORAD region was unable to obtain any information on the departure.

At 1125 EDT, the NORAD command director in Cheyenne Mountain received a call from the State Department desk at the National Military Command Center requesting information on "Special 1" flight of sugarcane conferees. The State representative was told that NORAD had been informed of the proposed flight by the Air Force Command Post. The State representative indicated that the flight could not depart due to closure of Havana Airport for Kosygin's arrival.

At 1130 EDT, the State desk at the National Military Command Center reported that the aircraft was approaching New Orleans requesting permission to land. The conversation was interrupted by the emergency action officer in the NMCC reporting that the plane was on the ground as of 1132 EDT.

The proposed flight path as shown on this slide is outside the NORAD low-altitude radar coverage and is within the 15,000 foot coverage—you recall he filed for 14,000 supposedly.

If the aircraft had reached an altitude high enough for detection prior to leaving radar coverage, the Key West radar would have had no means of identifying the aircraft as "Special 1." The proposed flight path, as shown, would not have entered the coastal ADIZ within military radar coverage.

We do have existing agreements with FAA on the procedures to be followed when Communist registered aircraft are cleared to overfly and/or terminate their flight in U.S. airspace. These procedures and additional guidance have been provided all NORAD regions in the form of a CONAD regulation.

Basically, the regulation directs intercept and escort, where available resources permit, when notified by FAA that a deviation of the approved flight route has occurred. Provisions of this regulation were not implemented in this case since the flight plan in question, to our knowledge, was never activated and no radar flight following was accomplished.

As a result of this incident, one question asked was, "Had the random surveillance aircraft been on station over the Straits of Florida, could it have helped in the detection of 'Special 1'?" The answer depends on where the EC-121 was in his orbit at the proposed departure time of "Special 1." If he had been in the _____ of his orbit, he could have detected this aircraft. As a matter of fact, at 1358 EST on November the same Cuban aircraft departed New Orleans for Havana. We had an EC-121 airborne on station _____ at the time. Both the EC-121 and the ground radar station at Key West detected the aircraft approximately 150 miles northwest of Havana _____

The aircraft was tracked by both the airborne and ground based radars until fading into the ground clutter approaching Cuba.

Another question relating to this incident concerned the possible reconsideration of decisions which have practically eliminated our air

defense radars, command and control and weapons in the South Central part of the United States. Naturally, since I am charged with our air defense responsibility, I have been concerned about this situation. From a military standpoint I would like radar and weapons coverage in this area, but in my evaluation I cannot look at this problem in isolation; I must consider the threat to the entire continent. Cuba and possibly other Latin American countries could be a threat to our prestige, and possibly even more.

As you know, Russia has the capability to threaten our survival. That is the reason our limited air defense forces are deployed as they are. The need to modernize our air defense forces has been longstanding. In 1967 a master plan for CONUS air defense was developed which documented the requirements for a modernized force in the mid-1970's. The concept was based on the premise that the cost savings achieved by phasing down the existing system could amortize procurement of a modernized force. Our current air defense system has been phased down significantly. However, modernization has been deferred or slipped.

We still have a modernization program which has been approved in concept by the JCS—and to the best of my knowledge by the Office of the Secretary of Defense. If this program materializes in the late 1970's we could have a credible air defense system.

We would have over-the-horizon radars to cover our coastal and northern approaches and, if the southern threat merited a southward looking site, that also could be constructed. (Slide 13.)

OTHB is designed to extend offshore early warning beyond the range of conventional long range radars, however, it could perform the near surveillance role over the gulf if the transmitters were located inland to eliminate the _____ NM dead zone, which is typical of this type of radar installation. I have been advised that the cost for this southern coverage could range from \$70 million to \$125 million depending on type of propagation technology used.

Under our concept for the future we would have airborne warning and control aircraft providing surveillance and intercept control with the flexibility of being used both over the interior of the continent and beyond our borders. (Slide 14.)

Also, we would have an improved manned interceptor with supersonic dash speeds, long range, and a large radar search volume which would permit interception and identification of unknown aircraft beyond ground radar coverage. (Slide 15.)

With these systems we could effectively perform the air sovereignty role in peacetime and together with terminal defenses would have an improved wartime capability to defend the North American Continent.

(Slide off.)

Prior to activation of the modernized systems, when listing air defense needs on a priority basis, and when considering the austere defense dollars, I would not recommend our filling the southern gap by moving existing forces from their present location. However, there are other possible options. One which we have examined with

USAFADC is a lash-up of existing FAA radars, and activation of height finders.

The radars would be tied into the 20th and 26th NORAD Regions for command and control purposes. For the identification task, interceptors would have to be provided from sources not yet identified. Activation and first-year operating costs are estimated at approximately \$30 million. I would point out that this figure should not be accepted as a refined cost. It is extremely difficult to estimate the cost and effectiveness of such a nonintegrated system. Although I welcome added capability, I cannot recommend this course of action if such a system is in competition with modernization for available air-defense dollars.

We have, in addition, examined the possibility of using EC-121 aircraft to provide a full-time gulf and offshore Florida coverage. (Slide 16.)

We estimate that a _____ station capability would be required with seven to nine aircraft per station to cover rotation, maintenance, et cetera. The annual cost is estimated at approximately \$38 million per year. However, the problem is that no EC-121's are available since our fleet of 24 aircraft is now dedicated to high-priority commitments in Southeast Asia, Iceland, in the Florida Straits, and to other classified missions. (Slide 17.)

Further, the possibility of using _____ for air-defense surveillance has been considered. _____

(Slide 18.)

The use of _____ or EC-121's for surveillance of the Gulf of Mexico approaches does not appear practical. However, we have been concerned about this problem for some time. I think you would be interested in a project we are currently working on with the Advanced Research Projects Agency (ARPA).

The concept is that tethered balloon-borne radars could provide coverage of the Cuban area at reasonable cost. Radar surveillance data, with the coverage shown here, would be transmitted from the unmanned balloon to the Key West Manual NORAD Control Center. The equipment has been fabricated and the current schedule calls for starting technical feasibility tests on December 1, 1971. If this concept, which we have code named Pocket Veto, proves technically feasible and operationally reliable, it could possibly have further application in the gulf area. (Slide 19)

Mr. Chairman, I believe this answers the questions that were forwarded to me. It has been a privilege for me to brief you. I hope that the presentation has given you an overview of where we are in air defense and where, in my opinion, we need to go. We must modernize if we are to provide an adequate defense of this continent. Now I stand ready to entertain any questions that you or members of your committee may have.

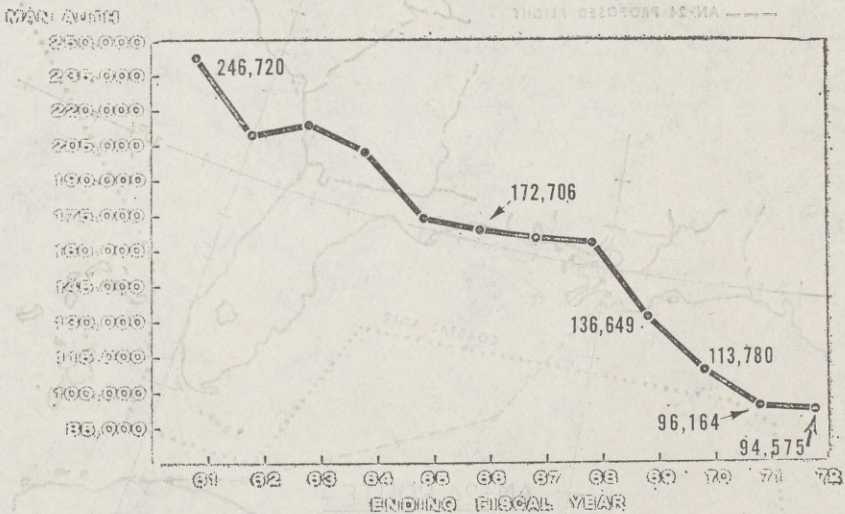
NORAD WEAPONS

	1960's	1971
NIKE/HAWK BATTERIES	270	63
FIGHTER SQUADRONS (REG)	65	14
FIGHTER SQUADRONS (ANG)	38	15
BOMARC SQUADRONS	9	7
TOTAL	382	99

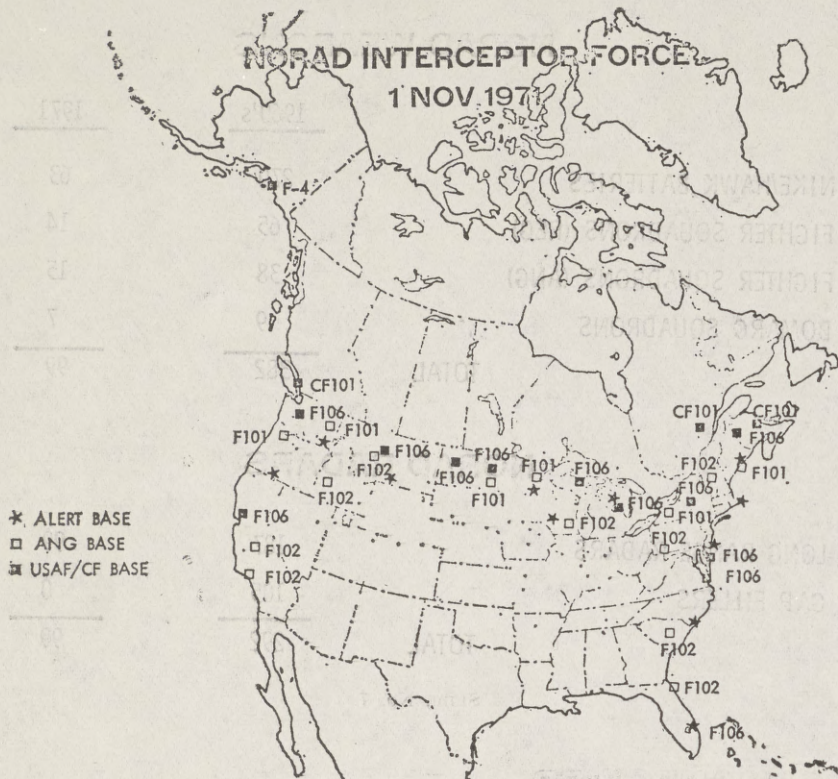
NORAD RADARS

LONG RANGE RADARS	187	99
GAP FILLERS	105	0
TOTAL	292	99

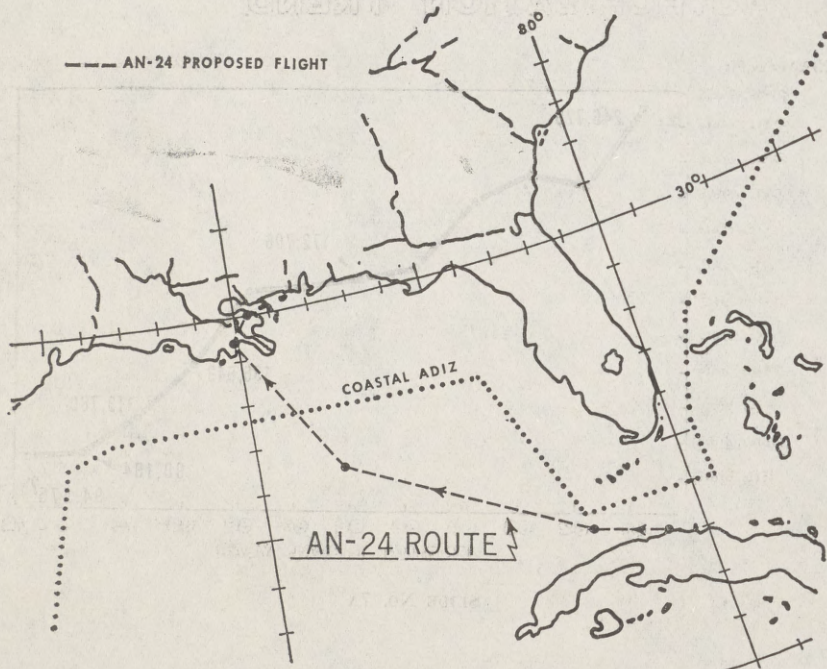
SLIDE No. 7

MANPOWER
AUTHORIZATION TREND

SLIDE No. 7A



SLIDE No. 8



SLIDE No. 12

Mr. STRATTON. Thank you, General.

What defense would you have against the air-breathing missiles fired from, let's say, submarines in the Gulf of Mexico, or the southern area?

General McKEE. It depends on the targets they were targeted against, sir. If they were targeted against the southern Florida area, I would have the F-106 as I have on alert at Homestead, and the air-defense missiles there. If they are fired into the northern gulf area, Mississippi, or the Louisiana coastline, I would have no capability.

Mr. STRATTON. Well, what I'm saying is, not only would you have to shoot them down, but what would you have for detection? At the present time you would have nothing, isn't that correct?

General McKEE. With the exception of the Florida Peninsula. If they were high enough I could detect them around the Florida Peninsula. In the gulf area; that is, Louisiana, Mississippi, and Texas, I would have no capability for detection.

Mr. STRATTON. This proposal that you have made here, for supplementing our defenses, would that provide any defense against the air-breathing missiles?

General McKEE. Sir, the problem of defending against an air-breathing cruise missile is the same as defending against a manned aircraft—yes, sir; they would.

Mr. STRATTON. I have forgotten which proposal you had there, but you had a proposal for supplementing the radar that would, I think—the 40,000 coverage—can you put that slide up there again, the 40,000 coverage, get over pretty close to New Orleans. The lesser coverage—

General McKEE. Our existing radar coverage I believe is what the chairman wants.

Mr. STRATTON. No; I'm talking about your proposal. You had a proposal.

General McKEE. I had about four proposals, sir. The one utilizing aircraft or the one utilizing radars?

Mr. STRATTON. The one using radars.

General McKEE. This is what I have today, sir, at 40,000 feet. This is in being.

So you can see that against anything coming into Florida, I would have some capability.

Mr. STRATTON. I guess that is what I meant.

A cruise missile would be likely to come in at what altitude, 2,000 or 3,000 feet?

General McKEE. Sir, we have missiles, and I presume others have some, that can come in high or low. If they come in high we have greater capability. If they come in low, they can underfly the radars. If you come in low enough, just like the Cuban MIG did into Florida, you can fly to the perimeter of the airbase before you are detected by the type radars we have today.

Mr. STRATTON. Your other darker orange on the slide is at what altitude?

General McKEE. 2,000 feet, sir.

Mr. STRATTON. You have practically nothing there?

General McKEE. Put that down to 200 feet, and you can imagine what it might be, sir.

Mr. STRATTON. Do you have a proposal for installing over-the-horizon radars in the southern area?

General McKEE. No, sir; not at this point in time.

I have recommended most urgently to the Joint Chiefs of Staff that we install _____

and if technically feasible orient another to the north.

Mr. STRATTON. You would have a southern section that you could put in there?

General McKEE. I stated that if it was considered necessary, it could be done; yes, sir.

Mr. STRATTON. I take it—what kind of coverage would that provide in the low altitudes?

General McKEE. All the way from the surface, to the ionosphere, sir. It would give complete coverage at all altitudes, within the shaded zone.

Mr. STRATTON. But I take it your general position is that, well, this could be done, but if you are limited in terms of cost it would be better to concentrate on the areas where we have a threat to our survival rather than a threat to our prestige.

General McKEE. Sir, I would like to have very much the 360° coverage, but if I can't have it at all I would like to have what we asked for _____

Mr. STRATTON. Is it possible this flight might have been set up primarily to test our radar coverage?

General McKEE. Sir, I obviously have no way of knowing but certainly it is possible.

Mr. STRATTON. What would be your guess?

They have exposed a rather serious gap in our defenses.

Do you think these people were just really sugar promoters eager to come to the sugar conference, or did they have something else in mind?

General McKEE. Once again, sir, it would be conjectural on my part, but the way the flight was conducted and the fact that we didn't detect them indicates to me that they underflew our radar which did give coverage in the Cuban area. Also since they didn't report in at the mandatory reporting points as they should have done; it is my opinion they didn't want us to know they were there until they arrived.

Mr. STRATTON. Even though you don't have the equipment, as you pointed out yourself, you do have the responsibility. If they had come in, let's say, and dropped bombs or something or other, you would be the fellow that would be on the pan, would you not?

General McKEE. Most likely, sir.

Mr. STRATTON. Do you have any idea who these people were who were in this aircraft?

General McKEE. Only what I read in State Department and newspaper releases, sir.

Mr. STRATTON. I'm talking about the Air Force intelligence, haven't you made any effort to try to find out who they were?

General McKEE. Yes, sir; the intelligence sources tell me they were sugarcane conferees. That is the best identification I have been able to get on them.

Mr. STRATTON. You have not been able to get anything any better than that?

General McKEE. No, sir.

Mr. STRATTON. I'm a little concerned about the degree of coordination that you have between the FAA and yourselves, even with the limited facilities that are available.

I rather detect an attitude that since you don't have the material to protect us, there isn't very much to do about it.

What happened in this particular case? If I remember your testimony, by the time somebody had asked a few questions, the plane was already on the ground; is that correct?

General McKEE. Yes, sir; at about 1132 we were notified the plane was on the ground. That is almost the same time we were being notified that he had just been noted in the traffic pattern, and had called in for landing instructions.

Mr. STRATTON. There was a communication, if I remember correctly, in Mr. Smith's testimony, that NORAD had been notified, a Captain Williams, I believe it was—and this was—

General McKEE. At 0825 sir, or 0826, he said.

Mr. STRATTON. 0826.

General McKEE. Yes, sir.

Mr. STRATTON. This was 3 hours before the plane landed; was it not?

General McKEE. Approximately; yes, sir.

Mr. STRATTON. What happened from the point of view of NORAD in that interval?

General McKEE. All right, sir.

No. 1, we were notified of a proposed flight plan, not of an aircraft taking off. As was pointed out earlier, the flight plan was never activated.

Once we were notified of this proposed flight plan, and I refer to a deposition here from the identification sergeant on duty, these are the actions he took. These are actions delegated to NORAD regions. I pointed out there are eight regions and each NORAD region correlates—

Mr. STRATTON. Before you read that, General, you say you were notified of a proposed flight plan.

You are familiar with the FAA rules, are you not, that require that any proposal be submitted 5 days in advance?

General McKEE. That is only for Cuban registry aircraft, as I understand it, sir. I am now aware of that.

Mr. STRATTON. Well, then, you would have been aware this very plan itself violated that rule, and it was a proposed flight plan to take place about 3 hours from the time it was submitted, from the time you got the information?

General McKEE. Sir, there is no question but that we now know that he had not complied with State Department requirements.

Mr. STRATTON. Was there any evidence in the record there that you were aware of that, or that anything was done on the basis of it?

General McKEE. There is nothing in here that says we were aware, and there is nothing I'm supposed to do or required to do. The way we work this, on any Communist flight plan, if the State Department approves it, and FAA schedules them in, we are notified and we

flight follow where we have capabilities. We do nothing but flight follow, as long as it is approved.

If they get off course, deviate from course, in time or distance, we will intercept them and escort them and the escort aircraft will respond to any additional instructions forwarded to him. If they notify us of flight plan, and if they enter off course, where we have a capability, and when we can't correlate with FAA that it is an approved flight plan, we designate it an unknown. Where we have a capability we scramble fighters to intercept it and identify it. If it is a Communist aircraft not on an approved flight plan, we have procedures that we follow under those sets of circumstances.

Mr. STRATTON. Actually, you did not have any fighters you could have scrambled on that mission, did you? The nearest ones you have are two or three planes at Homestead?

General McKee. The only possibility, sir, had this aircraft initiated its flight plan so we knew it was taking off, and had it climbed to the 14,000 feet as specified in the flight plan, it is quite possible we could have picked it up on our Key West radar in the very early stages of the flight. If the decision had been made to do so, I could have dispatched 106's to intercept the aircraft in that area and escorted it or tried to turn it back or taken whatever action would have been proper under the circumstances.

Mr. PIKE. Will the gentleman yield?

Mr. STRATTON. Yes.

Mr. PIKE. If who had requested?

General McKee. FAA.

Mr. PIKE. It would be at the FAA request fighters would be scrambled to escort him in?

General McKee. Two sets of circumstances. If it is an authorized flight and he gets off flight path for some reason, FAA notifies us and we scramble. If it is an unapproved flight, we would intercept it if we pick it up on our radars.

Mr. STRATTON. Doesn't the Navy have some antisubmarine aircraft patrolling in the Gulf of Mexico?

General McKee. Sir, I would have to defer to the Navy on that. They do have Naval activities operating out of Key West. I'm not familiar with all the details of it.

Mr. STRATTON. You are not aware of any coordination with P-3 aircraft that might be flying in that area?

General McKee. P-3 aircraft—

Mr. STRATTON. To provide some kind of coverage that your own radars might not be able to provide?

General McKee. We have no coordination with P-3 aircraft in that area insofar as providing surveillance is concerned.

Mr. STRATTON. You were going to read a statement by the fellow that picked up the first information.

General McKee. All right, sir.

Mr. STRATTON. Will you do that?

General McKee. It says, "On 26 October 1971 I was on duty. While on duty I received a communication from 20th NORAD senior director, Capt. John C. Williams. He passed to me the complete proposed flight plan for Cuban Special One, aircraft type AN-24, estimated time of departure 1300 Zulu, Amber 9—"

Mr. STRATTON. Excuse me, General, who is it that submitted this statement?

General McKEE. The identification sergeant. Captain Williams called him and passed the information received from FAA relative to the proposed flight plan, and asked the sergeant to see what he could do to get the aircraft identified. His name is George Harris, tech sergeant.

Mr. STRATTON. Thank you.

Go ahead.

General McKEE. Captain Williams said: "Following this I received several telephone calls from Sergeant Harris who said he had been checking and had not found out any more information. At about 1510Z the Command Director, NORAD Combat Operations Center (NORAD COC) called me and asked if we had any information about Cubana 887, a flight from Havana to New Orleans. I immediately called Sergeant Harris and asked him to check Houston Air Movements Information Service (AMIS) to see if they had anything on Cubana 887.

Sergeant Harris called me back and told me that Houston AMIS had him as 10 miles southeast of New Orleans. I told Sergeant Harris to keep checking with Houston AMIS to get a down time. I passed the information Sergeant Harris had given me to the Command Director, NORAD COC. Shortly thereafter Sergeant Harris gave me a down time of 1517Z. I also passed this information to the Command Director, NORAD COC."

Mr. DICKINSON. That was radar, not radio?

General McKEE. Radar, yes, sir.

Mr. STRATTON. General, the thing that strikes me there on that statement is that there was a good deal of scrambling around to try to find out information, but there was no action, either suggested or initiated.

Again, maybe it is easy to be wise after the fact, but since this was the first plane apparently that had ever filed a plan to land in the United States, it would seem to me this would be a fairly unusual situation. What about the planes that you had at Homestead, or what about your C-121? Shouldn't they have suggested that some of those planes make themselves available to track the incoming aircraft?

General McKEE. If I may, sir, I will take them one at a time. The interceptors at Homestead would be ineffective unless they had some command and control, some surveillance, to identify the target and direct them to the intercept. That we didn't have because they eluded our radar at Key West.

We have some EC-121's stationed at Orlando, Fla. They are there for the purpose of covering that area, _____ and for other classified missions I mentioned earlier. Orlando is some 2 hours flying time from where this track might have been departing Cuba. It would have been impossible to get one of those down there in sufficient time to be there at the time the Cuban aircraft took off, if it took off as scheduled.

Mr. STRATTON. It sounded a little bit like what went on at Pearl Harbor when the radar operators were arguing whether those were B-17's or not.

I noticed that in the transcript that you have presented there, Captain Williams referred to Cubana 887 as having landed. Where did he get that information?

General McKEE. Captain Williams is here, sir. As I mentioned earlier, sir, the NORAD Combat Operations Center received that from the National Military Command Center from the State desk, while my command director in NORAD was talking to him on the phone.

Mr. STRATTON. Well, now the flight plan called for Cubana Special 1.

General McKEE. Exactly, sir; that was the point.

Mr. STRATTON. So where did Captain Williams and where did the National Command Center up here pick up the designation 887?

General McKEE. Sir, as Mr. Smith briefed you earlier, they filed a flight plan for Special 1. When they called in for landing instructions in New Orleans they identified themselves as Cubana 887. They could possibly have been two completely separate aircraft on separate flights.

Mr. STRATTON. Captain, would you stand up, please?

Captain WILLIAMS. Yes, sir.

Mr. STRATTON. Where did you get that information about 887?

Captain WILLIAMS. I got that from my ID sergeant who obtained it from Houston AMIS, sir.

Mr. STRATTON. Where did Houston AMIS obtain it from?

Captain WILLIAMS. I assume, sir, they received it from the New Orleans tower.

Mr. STRATTON. At the time that the New Orleans tower finally heard from the aircraft, is that it?

Captain WILLIAMS. Yes, sir.

Mr. STRATTON. Were you in communication with the National Command Center in Washington?

Captain WILLIAMS. No, sir, we deal with Colorado Springs, the NORAD Operations Center.

Mr. STRATTON. Do you know how this information got to Washington?

Captain WILLIAMS. No, sir; I do not.

General McKEE. Sir, if I may, the FAA notified the AF Command Post.

Mr. REDDAN. Mr. Smith, can you tell us what time the plane was first identified as Cubana 887, the actual time?

Mr. SMITH. Are you addressing the question to me?

Mr. REDDAN. Yes, sir.

Mr. SMITH. We will get the information here.

Mr. REDDAN. If you can tell us what your logs show as of the actual time.

Mr. PIKE. 1457.

Mr. STRATTON. New Orleans approach.

In your transcript it is 1457, New Orleans approach, Cubana 887.

Mr. SMITH. 10:47 daylight time, sir.

General McKEE. Sir, the point I was making was they filed a proposed flight plan, using one call sign. On the terminal end they used a different call sign, for what reason, I can't explain.

Mr. SMITH. May I make a correction please, 10:57 eastern daylight saving time.

Mr. STRATTON. We have it here in your own transcript at 1457.

Mr. SMITH. Yes.

Mr. STRATTON. Mr. Pike, do you have any questions?

Mr. PIKE. Yes.

General McKEE, where physically was Captain Williams during this?

General McKEE. He was at Fort Lee, Va., in the command center of the 20th NORAD, sir.

Mr. PIKE. How many NORAD's are there?

General McKEE. There are eight NORAD regions, one NORAD and eight NORAD regions.

Mr. PIKE. He was in the command center of one of the eight NORAD regions?

General McKEE. Yes, sir.

Mr. PIKE. Did the message which went from the FAA go directly to his region, or did it go to NORAD first and then back to his region?

General McKEE. It went directly to him in his region, sir.

Mr. PIKE. Was there any communication at that time from him directly to NORAD?

General McKEE. Not at that time, sir.

Mr. PIKE. How long was it before this NORAD region command center communicated with NORAD?

General McKEE. I don't believe I have that immediately available, sir. It wasn't until some couple of hours when the flight was actually detected, if my memory serves me. Is that correct?

Captain WILLIAMS. Yes, sir; 1510, Zulu.

Mr. PIKE. Captain Williams, what was your title at the time that you were involved with this situation? We had it earlier you were officer of the day?

Captain WILLIAMS. Senior director, sir.

Mr. PIKE. Senior director. Did this put you in charge of this entire regional command center for NORAD?

Captain WILLIAMS. For daily operations, yes, sir. I still have the director of operations and the 20th NORAD region commander working over me, but I handle the day-to-day operation.

Mr. PIKE. When you were first notified that there was a Cuban plane which had filed a flight plan to fly from Havana to New Orleans—and that was the first notification you got, is that not correct?

Captain WILLIAMS. Yes, sir.

Mr. PIKE. Didn't you think this was sufficiently important to pass on to your boss at Colorado Springs?

Captain WILLIAMS. No, sir; I did not at that time.

Mr. PIKE. When did you first inform Colorado Springs of this fact?

Captain WILLIAMS. At 1510 Zulu, sir.

Mr. PIKE. Did you initiate that transmission or had they already been made aware of this situation in some other manner?

Captain WILLIAMS. They initiated the call to me, sir.

General McKEE. May I respond to that, sir?

Mr. PIKE. Of course, you may.

General McKEE. We had been made aware in another manner. We were made aware 5 minutes after he was by the Washington Air Force command post as I related in my statement.

We were aware 5 minutes from the time the captain was. I might point out, if I may, as was pointed out by the FAA earlier, we routinely have Communist aircraft from Cuba overfly the United States to Montreal, and from Montreal to destinations further south, in accordance with ICAO procedures. We monitor those but that is all we do to them. They are a matter of routine. At the time the

captain was informed there was a proposed flight from Cuba he had no way of knowing this was not an approved flight plan to the United States insofar as I know. It would have been a routine flight of which we have hundreds per year, as far as he was concerned.

Mr. PIKE. Well, now, we are dealing with some semantics here. Is a flight plan on a flight from Cuba of less than 5 days' notice an approved flight plan?

General McKEE. That is for FAA and the State to say, sir. In accordance with State Department regulations it would not be.

Mr. PIKE. You used the phrase.

General McKEE. All right, sir.

Mr. PIKE. On the part of your concern, is it an approved flight plan?

General McKEE. If the FAA tells me an airplane is flying from here to there on an approved flight plan, I accept it.

Mr. PIKE. If the FAA says this is an approved flight plan?

General McKEE. To my knowledge they said this is a proposed flight plan, as far as talking to the captain is concerned. This is a proposed flight plan. They did not indicate whether it was or was not an approved flight plan.

Mr. PIKE. Well, the assumption then was made it was an approved flight plan?

General McKEE. Only the captain could answer that, but I would suspect that is the case.

Captain WILLIAMS. Yes, sir; that is true.

Mr. PIKE. I would like to get to the situation of your F-106's and your EC-121's. Can you show us the map again, the slide that shows the Florida coast, any slide that shows the Florida coast around New Orleans?

General McKEE. Give us the one of the route of the flight of the aircraft. I think that includes it.

Mr. PIKE. All right.

Now point out where your EC-121's were on that map.

General McKEE. Approximately there, sir [pointing].

Mr. PIKE. How much time elapsed between the first notice of this flight plan to NORAD and the landing of the aircraft at New Orleans?

General McKEE. Let's see, we were notified either 8:25 or 8:26, take your choice there, sir. It landed at 11:17—11:19. In that ballpark. So that would be 2 hours and roughly 52 or 53 minutes.

Mr. PIKE. In that period of time, an EC-121 could not have been scrambled and gotten close enough—gotten high enough up in the air to track that aircraft?

General McKEE. Sir, this is the complete circle that would be the coverage of an EC-121 radar. He would have to know where this aircraft was and be able to intercept him on the route in order to get any coverage. We didn't even know he had taken off. We had no way to know where to go to try to intercept it.

Mr. PIKE. You did know he was going from—at least you were advised he was scheduled to go from Havana to New Orleans?

General McKEE. We knew he had proposed to go, yes, sir.

Mr. PIKE. Right. And that he was supposed to go by a certain route, is that not correct?

General McKEE. Yes, sir; he had filed a certain route as indicated here.

Mr. PIKE. Right. Now, if you had put an EC-121 in the air as soon as you got the message of this proposed flight plan, and if he had followed his proposed flight plan, could you have detected him?

General McKEE. No, sir; for two reasons. He took off, if my memory serves me, about half an hour after we were first notified. His take-off time must have been close to the time that we were notified in order for him to arrive up there when he did. EC-121's do not stand on a ground alert posture. We could not have gotten the aircraft airborne in that half hour in my opinion. The Cuban aircraft would have been airborne before the EC-121 was. There would have been no way to catch him.

Mr. PIKE. Does he go faster than the EC-121 does?

General McKEE. Their speeds are comparable.

Mr. PIKE. As I look at the map, it looks to me as though it is a somewhat shorter distance from Orlando to New Orleans than it is from Havana to New Orleans.

As I look at the map it looks to me as though it would have been possible even taking off at the same time, for the EC-121 to have gotten into the area of New Orleans before the other plane did.

General McKEE. If it had been able to take off at the same time, which I personally question we could have achieved due to posture—

Mr. PIKE. That would figure a half hour of preparation time?

General McKEE. Yes, sir, and he went directly to New Orleans, hoping to intercept at New Orleans, he might possibly have gotten there at the same time, sir.

Mr. PIKE. All right, now, did the F-106 have the range to get to New Orleans?

General McKEE. They have the range to fly directly to New Orleans, yes, sir.

Mr. PIKE. How much loiter time would they have had?

General McKEE. Off the top of my head I'm estimating the distance is 700 miles, somewhere in that ballpark, they could have stayed on station another 30 or 40 minutes.

Mr. PIKE. Or refuel?

General McKEE. Or landed and refueled, yes, sir.

Mr. PIKE. Yes.

General McKEE. is it common today in the Air Force that the man in charge of a regional center for North American Air Defense would be only a captain?

General McKEE. It varies. When you say "in charge," he is one of many there, sir. He was the senior director. The commander of each region is a major general, or a brigadier general in two instances. They are not on duty 24 hours a day.

Mr. PIKE. But there ought to be somebody somewhere between the major, general and the captain, it seems to me.

General McKEE. There are. There is the operations officer he mentioned. There is only one operations officer. He is not on duty 24 hours a day. The command directors we are speaking of are the men who man a radarscope. The captain mans a radarscope. He directs the intercept. That is what we mean by this. In the NORAD regions in the United States, we have, I guess, 200,000 flights a day. We have to

delegate to the level that can handle this volume, correlation of all the flights with flight plans, and tracks and what not. I believe captain is an average rank for people manning the scopes in our NORAD region. He has immediately available his superior for anything out of the ordinary.

Mr. PIKE. Captain Williams, I get back to you, who was your superior at that time?

Captain WILLIAMS. General Gamble, sir.

Mr. PIKE. Did you contact General Gamble?

Captain WILLIAMS. No, sir; I did not.

Mr. PIKE. Did you contact anybody superior to you at that time?

Captain WILLIAMS. No, sir.

Mr. PIKE. General McKee, I will get back to you. Would it not seem to you that the filing—the simple filing—of a flight plan of a plane from Havana to New Orleans ought to have caused some greater reaction in the Air Defense Command than the reaction which was observed?

General McKEE. In my opinion, the filing of such a flight plan is unusual enough that people up the chain should have been notified. On the other hand, sir, there was no action to be taken, and there is normally no action to be taken until a flight plan is initiated, which this one never was, or until a flight track is detected, which this never was.

Mr. PIKE. Well, when you say the flight plan was not initiated, what you are saying is that there was a change in the designation of the aircraft which landed?

General McKEE. No, sir. When you intend to fly an airplane someplace, you file a flight plan, just as this man tried to do, saying where you propose to go, what time, what route, what altitude, et cetera. He did that, but that flight plan is not initiated until he gets to the end of the runway and says, "I request clearance for takeoff." He takes off. Then the tower notifies FAA that he departed such and such a time; you correlate that departure with his timing all the way down the flight plan. Unless you have the time of departure or unless you can detect him on radar, you have no way of knowing whether he ever took off or not, sir.

Mr. PIKE. So it is your judgment that having noticed in advance that a flight plan had been filed for an aircraft with 50 passengers aboard, to fly from Havana to New Orleans, the Air Defense Command did everything it should have done?

General McKEE. Sir, it is my opinion that the Air Defense Command did everything it should have done insofar as attempting to intercept this plane is concerned. It is my opinion the region should have passed the word up the line a little more rapidly that they had knowledge of such a plane. However, we did have knowledge from other sources.

Mr. PIKE. Well, when you say they did everything they should insofar as attempting to intercept the plane is concerned, who considered that issue?

General McKEE. No one would consider it until they had word that the aircraft was airborne, or until it was detected, so no one had to consider it, sir. There was no reason for considering it.

Mr. PIKE. If someone then filed a flight plan for an aircraft from Cuba to any city in America, in your judgment no one should even consider whether that flight should be intercepted until you have gotten word that the flight was taking off?

General McKEE. No, sir; that is not quite right, sir. If it is an illegal flight, obviously you would consider this, and you would plan to intercept it when it took off.

Mr. PIKE. Well, of course, whether it is an illegal flight, you can't tell by the flight plan, can you?

General McKEE. Yes, sir, if it is—

Mr. PIKE. This was an illegal flight plan.

General McKEE. The captain did not know that, sir. All he was told they were proposing "off" at such and such a time; he was not told they had not been cleared.

So if it were a cleared flight plan, all we would do would be monitor it if it came within our capabilities to do so.

Mr. PIKE. Are you saying if the FAA had told the Air Force that this plane had only filed its flight plan today and it is not an approved flight plan, the Air Force would have reacted differently?

General McKEE. I am saying if FAA had said that this was not an approved flight plan, that they were not authorized to come into U.S. territory, within the capabilities we have, we would have taken what action we could. That would depend upon the time available, of course.

Mr. PIKE. Mr. Chairman, I am through, but I would like to have for the record not by name, but simply by rank, the organization which was available at the 20th NORAD region on October 26, 1971.

General McKEE. All right, sir.

Mr. PIKE. I want to know who was there.

General McKEE. Who was physically on the station?

Mr. PIKE. Well, who was assigned to the station.

General McKEE. All right, sir.

Mr. PIKE. If you want to tell me who was not actually there, that is all right. But I am interested, I am very concerned, General McKee, that the decision was made by a captain. You may or may not notice, I have taken some interest lately in the fact that the Air Force at the moment has, well, roughly 25,000 majors, and 14,000 lieutenant colonels, and 6,000 colonels, and I am very curious about how it is that in a matter of this importance and sensitivity, a captain is making the decision.

General McKEE. Sir, may I point out, had the aircraft activated its flight plan or had it been detected, a captain would not have made any decision.

Mr. PIKE. You remind me of one other question I wanted to ask. You said as it took off, it could not have been identified as Cubana Special 1 by Key West. You also said, however, that as it returned, it was identified by Key West. How do you do that?

General McKEE. Very simply, sir. It activated its flight plan. We knew its time of departure. We knew its route. We were expecting it. We identified it and tracked it.

Mr. PIKE. In other words, anything we can expect we can identify, but anything we do not expect we cannot identify?

General McKEE. Anything you do not expect you cannot identify unless you take a look at it from an interceptor, sir; there is no other way.

Mr. STRATTON. Thank you. I have just a couple of other questions, General. The captain here was in charge of a center located, where did you say, at Langley Field?

General McKEE. Fort Lee, Va., sir.

Mr. STRATTON. Fort Lee, Va. That is the closest center for dealing with activities originating in Cuba or the Gulf of Mexico?

General McKEE. No, sir; we have a manual control center at Key West, Fla., which is subordinate to Fort Lee. Fort Lee is the control center for this geographical part of the United States, the Southeastern part. The one at Key West is subordinate thereto.

Mr. STRATTON. The one at Fort Lee is in charge of all activities from the Southeast; is that right?

General McKEE. Yes, sir; the Southeastern part of the United States.

Mr. STRATTON. Are they also in charge of activities originating in the East?

General McKEE. They are in charge of any activities penetrating the air space assigned to them, regardless of its direction of arrival.

Mr. STRATTON. How much air space is assigned to them?

General McKEE. Let's have a region slide up here. There are eight regions, as I pointed out, in the North American continent.

This is the 20th NORAD region in question we are talking about, sir (pointing).

Mr. STRATTON. OK.

Then this region has a primary concern in not only the southern Atlantic, but also in the Gulf of Mexico?

General McKEE. Yes, sir.

Mr. STRATTON. Now, obviously, there is only one country in the Southeastern area that we are really concerned about, and that is Cuba.

You said that if Captain Williams has been notified that this flight plan was not proper because it had not been filed 5 days in advance, he might have done something else. But wouldn't you think that the officer in charge of the one area that had primary responsibility for flights originating from Cuba would be aware of that as part of his basic information?

General McKEE. I am not sure I followed the question completely, sir.

Mr. STRATTON. I would think that the person who is responsible for our air defenses, would be aware that any flight plans filed from Cuba had to be filed 5 days in advance.

They wouldn't have to be told by the FAA what the procedure was, I would think.

General McKEE. Sir, as I mentioned earlier, if a flight plan were filed without the 5 day's advance time, and if we were told it was coming in, and if we were not told it was not a valid flight plan, we would have to assume the State Department and the FAA had worked out a different procedure for this flight. That is all I know to say.

Mr. STRATTON. Don't you think your man in charge ought to be aware of what the procedures are?

General McKEE. Yes, sir; I think my man in charge should be.

Mr. STRATTON. If he is given the information on a particular morning, and the flight is scheduled for 3 hours later, wouldn't you think he would have at least queried why he wasn't notified several days ago?

General McKEE. I might think he would think so, sir. I don't know what he thought.

Mr. STRATTON. Well, you are the one that is responsible, General.
General McKEE. That is right.

Mr. STRATTON. I would think, as Mr. Pike says, that the man in charge has only one real area of possible hostility, which is Cuba, and wouldn't you think they would be familiar with the procedures relating to Cuba?

General McKEE. I would think he should; yes, sir.

Mr. STRATTON. General, you said you were notified—meaning—Colorado Springs—almost as soon as your Fort Lee headquarters was notified.

Were you personally notified?

General McKEE. No, sir; I was not in Colorado Springs.

Mr. STRATTON. Who was in charge in Colorado Springs?

General McKEE. My command director at the Combat Operations Center was the individual notified.

Mr. STRATTON. Who?

General McKEE. A Colonel Dooher, who is a Canadian colonel.

Mr. STRATTON. He was a Canadian?

General McKEE. Yes, sir.

Mr. STRATTON. Mr. Dickinson.

Mr. DICKINSON. Thank you, Mr. Chairman.

General McKEE, when you say the F-106's will be alerted, you say they are on alert, does that mean they are on 5-minute alert?

General McKEE. They are on 5-minute alert at Homestead Air Force Base around the clock.

Mr. DICKINSON. They can scramble in 5 minutes?

General McKEE. Or less.

Mr. DICKINSON. You have how many, four?

General McKEE. We normally keep six down there, _____ on 5 minutes _____ on 15 minutes, and _____ on backup.

Mr. DICKINSON. One was a 1960 scale, showing radar coverage. Was that SAGE?

General McKEE. Sir, SAGE is the control mechanism of NORAD; it is the control center, sir.

Mr. DICKINSON. We don't have SAGE any more; do we?

General McKEE. Yes, sir; I have one SAGE center in each of the six regions of the continental United States.

Mr. DICKINSON. What you are showing now is radar coverage in 1960 at 40,000 feet?

General McKEE. Yes, sir. Tied into SAGE. The radars are tied into SAGE, sir.

Mr. DICKINSON. They were then?

General McKEE. Yes, sir.

Mr. DICKINSON. You only have one element of SAGE now?

General McKEE. They are tied into SAGE now, sir, except we only have six of them instead of 22 in the continental United States.

Mr. DICKINSON. If I understand the import of what you said, it is that our radar coverage has degenerated and dissipated to the point where we have approximately one-tenth of what we had in 1960; is that right?

General McKEE. Well, I wouldn't say one-tenth, sir, but it is certainly degenerating. We certainly have much less than we had in 1960.

Mr. DICKINSON. Put up the most recent slide just for comparison.

General McKEE. At 40,000 feet.

Mr. DICKINSON. We are much more vulnerable to attack today than we were in 1960; is that correct?

General McKEE. Insofar as our ability to detect an attack; yes, sir.

Mr. DICKINSON. Are we in better shape as far as our ability to defend against attack?

General McKEE. We are in much worse shape, sir.

Mr. DICKINSON. That is what I thought.

Now what is BUIC?

General McKEE. BUIC is the backup interceptor control which is similar to SAGE. It is a computerized control center.

Mr. DICKINSON. It was to take the place of SAGE, was it not?

General McKEE. No, sir; to supplement SAGE, to provide a backup in the event a SAGE center went out of commission.

Mr. DICKINSON. We have had quite a few SAGE centers go out of commission, haven't we?

General McKEE. Yes, sir; when we reconfigured our NORAD to the regions, we kept one SAGE and two BUIC's in each region in the event the SAGE goes out, or is destroyed.

Mr. DICKINSON. You have the entire area from Louisiana it looks like, all the way west to California, including southern Louisiana, I would assume, and Texas and Arkansas. But from Texas on, any plane can fly into this country at random that can be undetected?

General McKEE. That is absolutely correct, sir, unless the FAA detected it.

Mr. DICKINSON. Well, we can't depend on the FAA because they are not integrated into your system. You don't get any readout from them?

General McKEE. That is right.

Mr. DICKINSON. Unless they are alerted to something that has to do with defense, rather than just flights in and out?

General McKEE. That is exactly correct, sir.

Mr. DICKINSON. You have no way of knowing?

General McKEE. No, sir.

Mr. DICKINSON. General, a MIG came in to Homestead a couple of years ago, I forget the date, you are aware of it?

General McKEE. Yes, sir.

Mr. DICKINSON. And created a little flap at the time. What was done, if anything, to change the procedures and to see that we aren't surprised again as we were then?

General McKEE. At that point in time we had been scheduled to deactivate our EC-121's. As a result of that incident, we retained the four we have at McCoy, so I could provide radar coverage off the southern tip of Florida on a random basis _____.

Mr. DICKINSON. That is all of it?

General McKEE. That is it, sir.

Mr. DICKINSON. I have no more speeches, Mr. Chairman. I think I have concluded. Thank you.

Mr. STRATTON. Thank you, Mr. Dickinson.

The committee will stand in recess until two. I think the chairman would like an opportunity to question you, General McKEE, at that time, so if you can come back then?

General McKEE. Yes, sir.

Mr. STRATTON. And the other witnesses as well, we will appreciate it.

General McKEE. Fine, sir.

Mr. STRATTON. We will stand recessed until two.

(At 12:02 p.m., the committee was recessed for lunch, to reconvene at 2 p.m., on the same day.)

AFTERNOON SESSION

The CHAIRMAN. The committee will be in order.

General, do you have a statement to make?

General McKEE. Sir, if I may?

The CHAIRMAN. All right, General.

General McKEE. Sir, if I may, in the hope of clarifying a couple of things I said this morning, clarifying the record in case I was misunderstood, I would like to make a couple of points.

One point discussed at great length this morning was the State Department requirement for 5 days' notification of unscheduled flights from Cuba into the United States. There was considerable discussion as to whether the captain who was first notified of this flight was aware of this requirement, and whether he should or should not have been, and things along that line.

As I indicated this morning, and as the captain indicated, he was not aware of this requirement by State. That response might have led you to believe that others of us were aware of that requirement. The facts are that I was not aware of it, and I have been unable to determine that anyone in NORAD was aware of it.

Mr. Smith has advised me that this information was put out in an FAA publication, but to the best that he can determine, NORAD was not advised.

I thought that would set the record straight on that point.

In the event the captain had been aware of the 5-day requirement, I have confidence it would have raised a red flag. I have confidence the same would have occurred at my headquarters. While I doubt different actions would have been taken in the military sense, because none could be taken, or I don't think could have properly been taken at that point of time, I do not think there would have been more interest shown in it at the time, and possibly more discussion up and down the chain of command.

As a matter of interest, I do have a policy reiterated many times throughout my command that I desire to be advised of all unusual incidents, regardless of time of night or day.

Obviously, it is impossible to individually identify everything that could be an unusual incident. In my opinion, even if this had been a properly, legally filed flight plan, to me it would have been an unusual incident. I hope that I would have been advised. I, of course, shall look into that further upon return to my command.

One other point might have been unclear this morning. In response to a question on who takes action when approved flight plans do deviate from their approved routes, I may have responded that we do at the request of the FAA. I should have said, FAA advises us of such deviations and action is taken or not taken by direction of NORAD or higher authority.

The only other point I would make, sir, is that it was quite obvious to me, and I think to Mr. Smith this morning, that there are possible areas for improvement in terms of timeliness of coordination and perhaps, possibly a better exchange of information. To that end, he and I have scheduled a meeting between him, myself, and appropriate members of our staffs in the very near future, to see what we can do to improve our coordination and timely exchange of information.

That concludes what I have to say, sir.

The CHAIRMAN. General, when were you first made aware of the Cuban incident?

General McKEE. I trust you mean NORAD, because I was out of town when it occurred.

The CHAIRMAN. When was NORAD advised?

General McKEE. NORAD was advised, and I would have to refer to my notes, but I believe it was 11:32—I will have to look at the exact time, sir.

At 11:30, the State desk at the National Military Command Center indicated the aircraft was approaching New Orleans. The National Military Control Center reported the airplane was on the ground as of 11:32 eastern daylight time. In other words, he passed the message at that time. It landed a little earlier.

The CHAIRMAN. When did it come to the attention of NORAD, officially, or you as an individual, this was an unusual incident? As I assume, at that time they were treating it as a routine deal?

General McKEE. It was not identified as an unusual incident, Mr. Chairman. While there are not numerous flights from Cuba to the United States, as we indicated this morning, this is the first—

The CHAIRMAN. Wasn't that unusual in itself?

General McKEE. In my mind it is unusual, sir.

The CHAIRMAN. All right.

General McKEE. On the other hand, if we are provided a flight plan by FAA, that would be an approved flight plan as far as we are concerned. We do not approve or disapprove flight plans.

On the other hand, since it is coming from Cuba to the United States, and the first time ever, to me that is an important incident.

The CHAIRMAN. Was there inquiry made?

General McKEE. Immediately. Upon being advised that the flight had been proposed, the appropriate NORAD region, in this instance the 20th NORAD region, instigated all possible actions in coordination with FAA to determine whether or not the aircraft had, in fact, departed from Cuba. That is, had it actually initiated the flight plan it had proposed. All results were negative, of course.

The CHAIRMAN. Maybe I got lost along the way. I said, when did you first initiate an inquiry? Was this immediately upon reception of the message at 11:05, whatever that time was there, before the plane allegedly had not landed, or was it after it had landed that your command became concerned?

General McKEE. Sir, I have to answer that in two parts. The command was concerned before we even knew it had taken off to the degree we were trying to determine whether or not it had in fact taken off. Although we were unable to determine this fact, efforts were made; therefore, we were concerned.

Obviously, we were also concerned when we found that it had in fact taken off, and that we hadn't been notified and were unaware of

it until it was in the traffic pattern. We were concerned once again, possibly even more so than we were before it had——

The CHAIRMAN. When you first knew of it, how much flying time, about 2½ hours from Cuba into New Orleans?

General McKEE. If my memory serves me, 2 hours and 59 minutes.

The CHAIRMAN. On the order of 3 hours?

General McKEE. Two hours 59 minutes.

The CHAIRMAN. Three hours' time?

General McKEE. Yes, sir.

The CHAIRMAN. What was done in 3 hours' time? Didn't you assume the plane had taken off?

General McKEE. No, sir.

The CHAIRMAN. Did you assume there was a flight plan?

General McKEE. No, sir; to my knowledge we have not had flight plans in the past that were proposed that were not either canceled or initiated.

The CHAIRMAN. From Cuba?

General McKEE. From any place.

The CHAIRMAN. Well, what is the mission of NORAD? Isn't the mission of NORAD to intercept unidentified planes, or even identify enemy planes?

General McKEE. Sir, the mission of NORAD is to intercept all unidentified planes where we have the capability to do so. Identified aircraft, even though they be of foreign registry, and even though they be of Communist registry, are not intercepted unless they deviate from the approved flight plan. Inasmuch as we didn't know this aircraft was on a flight path, there was no way of knowing whether he was deviating.

The CHAIRMAN. Where, in your opinion, is the weakness in this whole system?

General McKEE. Lack of surveillance capability, lack of intercept capability.

The CHAIRMAN. You then say you do lack intercept ability and you do lack capability?

General McKEE. Yes, sir.

The CHAIRMAN. Why do you lack it?

General McKEE. Because I do not have radars in sufficient numbers appropriately located to provide detection. I do not have interceptors located geographically to intercept aircraft all around the perimeter of the United States.

The CHAIRMAN. Have you ever asked for adequate radars and adequate intercept capability?

General McKEE. Yes, sir; I have been phased down periodically over a period of years.

The CHAIRMAN. We know what phasing down is.

General McKEE. Every time there has been a recommendation to phase down, I have objected strenuously to the Joint Chiefs of Staff and to other authorities that I was already below the minimum required to do my job.

The CHAIRMAN. Where would you place the phasing down responsibility?

General McKEE. Sir——

The CHAIRMAN. Defense or the Air Force or the Bureau of the Budget?

General McKEE. Sir, decisions to phase down in the air defense business are made by the Joint Chiefs of Staff and higher level.

The CHAIRMAN. Then it would not be the Air Force; it would be the Chiefs of Staff and higher level, and higher level would be the Department of Defense?

General McKEE. The Chief of Staff of the Air Force, of course, is a member of the Joint Chiefs, as you are well aware.

The CHAIRMAN. I understand that.

General McKEE. It may have been his position to have agreed to this phasedown; I can't answer to that, sir. But my instructions come from the Joint Chiefs of Staff.

The CHAIRMAN. That was that you couldn't get what you asked for?

General McKEE. That is correct, sir. I could not retain what I asked for. To date I have not been able to get what I asked for in the way of enough equipment.

The CHAIRMAN. I am not asking you this question that you should know, but if you do know, or can contribute, are you familiar with the report Mr. Rivers and I made 10 years ago in this situation?

General McKEE. Not in detail, sir. I am aware that you and Mr. Rivers had been concerned for some time in this matter of lack of equipment.

The CHAIRMAN. Were you aware there were radar spots to the south of the United States and they were withdrawn?

General McKEE. I am aware that we at one time had radar coverage in the area under consideration, sir, and it was—

The CHAIRMAN. Wait a minute. Did we have radar, actually, or radar withdrawn, or radar under consideration?

General McKEE. We had radar covering the entire perimeter of the United States. Not at all altitudes, but generally speaking, we had radar all the way around.

The CHAIRMAN. Can you recall the rationale of withdrawing from the southern part of the United States?

General McKEE. The rationale of accepting that we had to withdraw there rather than from the north was based on the fact that the major threat was most likely to be coming from the north. Therefore, the forces available were oriented primarily to the north and to the east and west.

The CHAIRMAN. The whole South—I am not speaking principally or parochially, I am talking about an area of the United States reaching over the Gulf of Mexico up the Rio Grande to the Atlantic coast. They were considered dispensable?

General McKEE. I don't know whether they considered them dispensable or not, sir. The radars were dispensed with; you are correct. There is a radar gap or lack of surveillance capability from western Florida all the way practically to southern California.

The CHAIRMAN. That includes the Rio Grande and the Mexican border?

General McKEE. That includes that area, yes, sir, except on the extreme far west.

The CHAIRMAN. In your opinion—it has to be an opinion—couldn't the strike be made from the south of us?

General McKEE. If anyone had the capability to make a strike, they could do so, sir, without detection.

The CHAIRMAN. Without detection?

General McKEE. Without detection. I am not suggesting anyone has the capability.

The CHAIRMAN. I know you are not. We can't deal in these things knowing what they are. The Russians had the missiles there. We know they were there. We had heard a lot of talk about the submarine base which was denied, but it was there. We know the mobile missiles were in Cuba; they were there. They have some MIG's; we know they are there. These strikes could come, inspired—maybe not inspired from these individual satellites of the Communist country; they could come from their own inclination, too, reckless inclination.

In this particular case, they, in effect, thumbed their noses at us. And sought to make us look absolutely silly in the eyes of the world.

General McKEE. I certainly agree, sir.

The CHAIRMAN. Here this petting and pampering is something that is beyond me.

I could understand the financial conditions of the 747 being there, and I don't know whether our people were out of there by that time or not. But treating our prisoners of war is an example. The prisoners we take, we treat them under the legal pact. They don't care what they do to our people.

This thing, General, I am not saying this to you, or to the people with you, but the American people are aroused. I have never been exposed in my life to such resentment as this particular incident. The 22 Cubans could have brought 22 bombs. Anyway, it could have happened.

Do you know anything about the composition of the people on that plane?

General McKEE. No, sir, except I was notified they were sugarcane conferees, but I can't vouch for that, sir.

The CHAIRMAN. We have information there were two particular individuals on that plane, we will explore and go into, one is the comparable head of the CIA in Cuba.

The pilot was Castro's pilot. That is checked out from our sources.

What do you recommend, General, to try to keep from a repetition of this?

General McKEE. I recommend the same thing I recommended to the Joint Chiefs in the past. I recommend a modernization of our forces for the future time period. I recommend retention of what we have today until such modernization can be accomplished. If the appropriate authority deems the threat from the south sufficient for the expenditure required, then I would recommend one of the four courses of action I recommended this morning in order to give us the capability in that area. It would be the utilization of FAA radars, tied in with activated height finders, to give us an intercept ability.

As you recall, I outlined about two or three possible ways on a more or less makeshift basis, taking care of this until modernization is achieved.

The CHAIRMAN. Maybe the Navy can answer this question, not you. There was a time when the intercepts came out from New Orleans, those flights were stopped; are you prepared to answer that? Do you know when they were stopped or why they were stopped?

General McKEE. Sir, we had an Air National Guard squadron stationed there, which was assigned to the air defense role. It came under

the operational command of NORAD and was utilized for identification just as you outlined, sir.

That squadron was reconfigured as a tactical air command squadron and equipped with F-100 aircraft in lieu of intercept aircraft on December 5, 1970.

The CHAIRMAN. Is that when you ceased making—

General McKEE. That is when we ceased having the capability, yes.

The CHAIRMAN. Was any representation made that this would dilute your capability if that mission was changed?

General McKEE. Sir, that action was taken in conjunction with other actions at the same time; and without specifically referring to that squadron, I know positively that I took exception to all deactivations at the time this was done.

The CHAIRMAN. Do you have a record to show what your statement was at that time and what action you took?

General McKEE. I have here excerpts.

The CHAIRMAN. I am sort of familiar with what happened in that transfer mission, but I never heard any exception was taken by NORAD, because I would have taken a second look at it.

General McKEE. I have a list of several things, actions I took, at that point of time, sir.

The CHAIRMAN. General, if you would furnish the subcommittee exactly what you wrote?

General McKEE. All right, sir.

The CHAIRMAN. In that part of the memo—I won't ask you to read it now—the generalization is what you state, you did make the protest. Then it is our responsibility in this chain of events to follow up. We have to know before we move forward.

So, the progress or the mechanism we follow in the committee is certainly not original, nor is it very secret, it is just the logical way of doing business. Perhaps one of the rare cases in Washington where logic prevails.

But anyway, we want to know these and we follow through so we don't indict or point a finger at people who are not involved.

General McKEE. Sir, here I have occasions where I have taken written exceptions, there are nine of them. I will provide that for the record.

The CHAIRMAN. The reply you received from them and signed by whom? There is no use, I mean if you made the recommendation, and you didn't get an answer back, we don't know where to go. And, of course, we will have to go to whom it was made, the direct individual. In other words, we want identification of individuals.

General McKEE. All right, sir, I would suspect in some instances rather than getting a specific signed answer back, I probably got the action, the decision.

The CHAIRMAN. And from whom? We want to know who that person is. It is a tedious and long drawn out thing as far as we are concerned, but we are prepared to go to that extent to get the facts. This generalizing is not going to give us any relief in the situation. It probably will confuse us a little bit more, and bring a little more of chaos out of confusion if that is possible.

General McKEE. I will do the best I can to provide it for the record.

The CHAIRMAN. Provide it to the subcommittee so we will have a followthrough on it.

General McKEE. Yes.

The CHAIRMAN. I didn't know whether the Navy was involved in this. But I am glad to know that you are in a position to give us a direct answer in response to that inquiry, or the query which I made there.

General McKEE. That was the 122d Fighter Interceptor Squadron.

The CHAIRMAN. That is right, they changed the mission. It was represented to me when that change was made that this was a big improvement for the air command down there and the National Guard. Nobody ever said this was removing the reconnaissance that we would have over incoming flight.

General McKEE. I have one right here, if you like. On September 4, 1969, this is a summary of a letter to the Joint Chiefs of Staff. I do not address it to an individual by name.

I said, "Attachment 12 (impact statement: long range radar closures) of ADC supporting document No. 1 (programed budget exercise 703) includes statements that"—and I quote from my letter:

If closure of six radars is directed, most should be selected from an area along the Gulf Coast and Southwest Border, which are considered the least critical geographical areas.

And,

However, with these eliminations, there will be a distance of 1300 NM extending from Louisiana to California which will be devoid of military surveillance and air defense command and control. We will be vulnerable to embarrassment by undetected and unchallenged flights entering the U.S. from the Gulf of Mexico and Mexico.

The CHAIRMAN. When was that written?

General McKEE. That was written on September 4, 1969.

The CHAIRMAN. You certainly have been embarrassed?

General McKEE. Yes, sir.

The CHAIRMAN. Those are all the questions I have. Any other questions?

Mr. STRATTON. I have a couple, Mr. Chairman.

The CHAIRMAN. All right.

Mr. STRATTON. General, I think you indicated in your statement, and with some of your slides, that if there was an increase in funds available for air defense, your first priority would not be this southern gap, is that true?

General McKEE. Sir, I recommend modernization above all else. Because if we don't modernize, we will be incapable of coping in the years to come with a threat to our very survival.

I think we must cope with the threat to our survival before we cope with the threat to embarrassment. I would like to be able to cope with both of them.

Mr. STRATTON. Well, in other words, if this committee were to recommend some increase in money for air defense, we couldn't be sure it would end up protecting that southern flank?

General McKEE. Sir, I would welcome any recommendations of this committee concerning improvements in my air defense capabilities either now or in the future and I would trust if you provide additional capabilities now we will additionally be able to modernize in the future. That is the alternative I have.

Mr. STRATTON. Again trying to remember your statement, what is your best recommendation for providing this protection on the southern flank? Is that the use of the EC-121's? I think you said it would cost about \$38 million to have them in operation. Or is it this balloon supported radar or a combination of the two?

General McKEE. Sir, the EC-121 is rather an impractical situation because the numbers required are not in being to do the job.

The most likely and most logical solution, sir, in my opinion, would either be the activation of height finder radars utilized in conjunction with FAA radars, and tying them in with existing command control centers, or the use of the balloon-borne radar if it proves technically feasible, or possibly a combination of the two.

Mr. STRATTON. I am not sure I understand what the height finder radar would be. How far out would that extend our capability?

General McKEE. It would not extend it farther than the radars can see now. If we utilize radars we will still be able to be underflown because it is the nature of the beast. Radar cannot see over the curvature of the earth, until we get to the OTH, which I referred to this morning, and which we don't have yet. Conventional radar has a very limited range at very low altitude and out to an excess of 200 miles at higher altitude. The purpose of the height finder is to position the height of any unknown aircraft entering this radar screen. In order to direct an intercept we must know the height. The FAA radars do not show height.

Mr. STRATTON. You say we don't have the EC-121's. What you mean is that we don't have any Constellations that are configured in this particular way.

We have a lot of old Constellations sitting around somewhere, don't we?

General McKEE. Sir, we have today 24 Constellations.

Mr. STRATTON. Twenty-four EC-121's?

General McKEE. Yes, the majority of which are in Southeast Asia, and I believe in South Korea doing the job out there.

Mr. STRATTON. I thought they stopped flying over there because it was too dangerous.

General McKEE. Well, the total is 24 we have available, sir, now. I have here some place the location of all that we did have.

It says here we have 24 active force EC-121's, _____ of which are in Korea, _____ in Iceland, nine in McClellan, four in McCoy.

We have seven EC-121's in the Reserve Force. They won't be operational until about August 1972.

There are 27 EC-121 H's, and 14 EC-121's in storage at Litchfield Park, Ariz. Three of them are in flyable storage, all others are in reclamation.

Mr. STRATTON. How many are in storage?

General McKEE. Twenty-seven, plus 14, which would be 41 total in storage. Three of them are in flyable storage, and that means 38 are undergoing reclamation.

Mr. STRATTON. How many at McClellan was it?

General McKEE. We have nine at McClellan AFB, sir, that is on the west coast, in California.

Mr. STRATTON. Then there was another?

General McKEE. There are four at Orlando, Fla.

Mr. STRATTON. I thought there was another point there somewhere? General McKEE. _____ in Korea, _____ in Iceland.

Mr. STRATTON. OK.

Do you know what the Navy is doing in terms of surveillance in the Gulf of Mexico? I think I asked this question before.

General McKEE. I have no knowledge of the Navy doing any surveillance contiguous to our shorelines in the Gulf of Mexico.

Mr. STRATTON. I think we have some Navy representative?

Captain ELLIS. I am Captain Ellis, Mr. Stratton. There is no active surveillance associated with continental air defense nor the gap between Cuba and the Gulf States.

Mr. STRATTON. I am talking about the ASW operations. Don't we fly any ASW patrols over the Gulf of Mexico regularly?

Captain ELLIS. Not regularly, but sporadically, sir. And those are looking down for surface target submarines, without a very good air search capability in the P-3, which is a down-looking solid contact seeking radar.

Mr. STRATTON. I understand that, but I am just trying to see what kind of aircraft might be available to fill this gap if we wanted to fill it as soon as possible.

Captain ELLIS. The E-1 and the E-2, one being much older, would be a more likely carrier-based version early-warning airplane—numbers, locality, availability, assigned to them.

Mr. STRATTON. Is that the "Willy Fud"?

Captain ELLIS. Willy Fud. Not as modern as the E-3.

Mr. STRATTON. OK. Thank you, Captain.

General, do you know what the status of the threat is in Cuba now?

General McKEE. Yes, sir; in terms of numbers of aircraft?

Mr. STRATTON. Yes, sir.

General McKEE. Yes, sir; I have that information available here.

In Cuba now we have listed here, they have a total of _____ aircraft. These are all of the fighter type, various vintages of the MIG aircraft.

I think you will find the DIA may vary from this figure as much as 10, listing in the order of _____ or _____. The reason for this is they are not counting some of the more obsolete ones I have included in this number. That is on the order of _____ or so.

Mr. STRATTON. There was a shipment just recently of, I think, MIG-21's?

General McKEE. Yes, sir.

Mr. STRATTON. Do we add it on to the other?

General McKEE. They would be additive.

Mr. STRATTON. Are they trained by the Soviets?

General McKEE. They still have technicians.

VOICE. There is a Russian detachment still in the country. For highly technical work they will seek advice, but they do have their own training programs. It is a little obscure for the moment.

Mr. STRATTON. Any bombers down there?

General McKEE. No, sir.

Mr. STRATTON. Then, as Mr. Hébert said earlier, we still have the submarines operating around here, supposedly out of that nonexistent base which represents both a ballistic and a cruise missile effect, is that not true?

General McKEE. Sir, I do know there are attack-type submarines that enter various ports in Cuba on occasion and have ventured further around on at least two or three occasions. I have no knowledge of any ballistic missile subs entering or leaving Cuban ports.

VOICE. No, sir; no ballistic missile submarines. We have had a cruise submarine in the area. This would be _____ nautical miles.

Mr. STRATTON. I think they come in and out. Sometimes it is a SSBN, sometimes it is the other kind.

General McKEE. Except for the ballistic missiles in 1962, sir. I know of no ballistic type missiles that have been there.

Mr. STRATTON. Do you have any other aircraft in your inventory, General, that do this job on a crash basis?

General McKEE. I have no aircraft in my command with an airborne surveillance capability such as we are talking about other than the EC-121.

Mr. STRATTON. I think you said the EC-121's were used on an emergency basis, if, and when needed?

General McKEE. As I mentioned, sir, several are overseas in Korea.

Mr. STRATTON. The ones that you have down there in Orlando?

General McKEE. Yes, sir; those are used to cover the southern tip of Florida, on a random basis, because we don't have sufficient numbers to keep them manned all the time. There are only four there. It takes on the order of nine aircraft to man a station 24 hours a day, 365 days a year, and we don't have the flying time or the aircraft to man it continuously. We man it on a random basis _____.

Mr. STRATTON. Then, even with those nine aircraft, you are only providing coverage how far out—the radius around Key Biscayne, is that it?

General McKEE. No, sir. We have _____ different stations. Do you have a chart you can put up there?

As I suggested this morning, we think it would take a minimum of _____ additional stations manned 24 hours a day to cover the current void part of the Gulf of Mexico.

Mr. STRATTON. I have no further questions.

The CHAIRMAN. Do you have any questions?

Mr. PIKE. I would like to ask this question on radar coverage.

General McKEE. Here is one map of the area, covered in yellow.

Mr. PIKE. Looking at that chart, General McKee, was the radar coverage the same when the MIG flew in to Homestead 2 years ago?

General McKEE. In the area where he penetrated it was approximately the same. There may have been one gap filler deactivated about in there [pointing].

So it was approximately the same at that time on the tip of Florida. There were some changes up around the coast, of course.

Mr. PIKE. Show us where Homestead would be on that chart.

General McKEE. Homestead is right about here, sir [pointing].

Mr. PIKE. Right in the middle of the coverage that you got, in other words?

General McKEE. Yes, sir; in the middle of the coverage that was available there and still is.

Mr. PIKE. So the fact you have the radar coverage does not mean a plane can fly in undetected?

General McKEE. That is correct; as you recall he came in at 33 feet and was undetectable.

Mr. PIKE. Just to try to put this in perspective a little bit, I know that in my own area we closed down the last air defense base on Long Island.

What is the scope of our radar coverage against a plane on the east coast flying at, say, 500 feet?

General McKEE. Practically nil. Will you put on the low altitude coverage chart, please? Put on the 2,000-foot coverage.

The answer is practically nil, sir.

This is at 2,000 feet. You can see the gaps that occur there. You put that down to 500 feet, and those will really shrink in size.

Mr. PIKE. If that were cut down to 500 feet, wouldn't the circles be one-quarter of that?

General McKEE. I would have to say in my opinion approximately that, sir, or possibly less.

Mr. PIKE. Less?

General McKEE. Possibly less.

Mr. PIKE. All you have really then is kind of a point coverage for some isolated point?

General McKEE. Sir, if I may make a statement. It is my opinion anyone coming in at minimal level of 33 feet maybe such as this undetected MIG did, can penetrate to practically any point on our coast anywhere around the perimeter, and be at the airfield boundary before he is detected. That will occur until we get OTH, which will give surface to high altitude coverage, and/or the airborne warning aircraft.

Mr. PIKE. Will you tell us what the capability of Soviet bombers is, just as far as range is concerned? Do they have enough fuel to fly, say at reasonable altitude, 15,000 or 20,000 feet, until they are, oh, say 500 miles offshore, and then come down and make a just-over-the-water approach?

General McKEE. Sir, I will have to once again qualify that. Their heavy bombers, their Bears, have sufficient range to come on an unrefueled basis at reasonable or high altitude, go down to very low altitude and penetrate to practically any place on our east or west coast, or to the other areas.

The Bison and Badger aircraft have lesser capability, but they still have capability to cover a major portion of the United States. The Badger aircraft, which is the medium bomber, would either have to fly at high altitude on a one-way mission to cover much of the United States, or would have to be refueled in flight.

Mr. PIKE. I am sorry that the chairman has left, simply because I think the fact of the matter is that as a nation we have sort of made a policy determination that the manned bomber threat is so unlikely that we are just unwilling to spend the amount of money necessary to defend against it. Isn't that really what has happened all around the country?

General McKEE. Once again this would be a personal assumption, sir. I think that would be my personal assumption. Or another way to say it is, if it does come, it will probably come in conjunction with the ICBM, and be such a small part of the total threat, that some people say don't worry about the little one if you can't handle the big one. I see some of that I am afraid.

Mr. PIKE. It just seems to me while your radar coverage is obviously lacking along that Gulf Coast of the United States of America, the real fact of life is that we do not have any effective antibomber system anywhere in the United States of America.

General McKEE. I would phrase it just a little bit differently, sir. I would say we do not have an antibomber system that cannot be either underflown or flown around.

Mr. PIKE. You don't really think that this is any secret to the Russians; do you?

General McKEE. I certainly don't believe it is, sir.

Mr. PIKE. You would not anticipate the Russians to come in any way other than low-level approach; would you?

General McKEE. Where they have the capability to come in at low level, I would expect them to do so.

Mr. PIKE. That is all.

Mr. STRATTON. General, following that, if they came across the pole they wouldn't be making that whole run at low level. Wouldn't at least your DEW line up there catch a bomber attack?

General McKEE. Any large bomber attack, I have much more confidence that the DEW line would give us early warning than I have confidence I have sufficient surveillance radars farther south to conduct the intercept.

Mr. STRATTON. If you knew they were coming you still wouldn't be able to find them?

General McKEE. To a large degree, sir.

Mr. STRATTON. What is the AWACS that we keep running into opposition on the House floor? Would that give us surveillance capability?

General McKEE. Yes, sir. If we had the AWACS, in conjunction with the over-the-horizon radar, in my opinion we would have surveillance capability from ground level and water level up to very high altitudes.

Mr. STRATTON. It would probably be simpler to put somebody up over Cuba and report out all the planes that were flying in our direction than to try to guard against them. Wouldn't that be simpler?

General McKEE. Well, sir, there is much flying activity that takes place over Cuba every day. They fly in every direction; we don't know whether they are coming toward us until they approach an ADIZ, which they haven't done until this incident. We quite often observe them flying at altitudes from our radar at Key West, but they are not headed toward us.

Mr. STRATTON. Again, this is not your area but still as I understand it, to carry out some overflight operations in Cuba, presumably this would have to be done on a pretty permanent basis to be very effective?

General McKEE. Sir, the type of surveillance we do is not for the purpose of air defense warning, as I am sure you are aware.

Mr. STRATTON. I understand that, but I am thinking of what kinds of things we might be able to put into the gulf area if we wanted to get some defense on a crash basis.

I don't think I have anything further.

Mr. PIKE. I have nothing further.

The CHAIRMAN. Jack, do you have any questions?

Mr. REDDAN. I do have a couple.

The CHAIRMAN. All right.

Mr. REDDAN. General, I wonder if you could help me understand a little better just what NORAD would do in the event FAA notified them that an incoming plane had deviated from its flight plan?

General McKEE. Sir, it would depend on where it was and what it was. If we knew what it was—

Mr. REDDAN. Assume that it was this Cuban special flight 1, Cubana 1.

General McKEE. He had filed a plan and deviated?

Mr. REDDAN. Yes; he had deviated from his flight plan.

General McKEE. Sir, if he were close enough to Homestead and I had the capability to intercept him, I would have done so.

Mr. REDDAN. Could you do that immediately on your own initiative or would you have to clear it with the State Department?

General McKEE. I would do it on my own.

Mr. REDDAN. Has the authorization for you to do this been cleared with the State Department in advance?

General McKEE. Sir, that is my mission to do that.

Mr. REDDAN. The State Department does not impinge on that, or in any way control your mission?

General McKEE. No. It is in my assigned mission to do that, sir.

Mr. REDDAN. This is strictly a Defense Department matter?

General McKEE. Yes, sir.

Mr. REDDAN. And in that event you would put whatever facilities you had, put them in the air, and then what would you do?

General McKEE. Well, if they were under surveillance, I would immediately attempt an intercept. I would fly these interceptors alongside the aircraft so they could identify it. There are various courses of actions I could take, depending on what the airplane was doing and things of this nature.

Mr. REDDAN. You take your instructions from the Pentagon?

General McKEE. I have the authority. If I have plenty of time, I would obviously check with them.

Mr. REDDAN. In the event this was an unidentified plane, coming from the Cuban area, that had filed no flight plan, in that event would NORAD take any action?

General McKEE. If we had it within our surveillance, saw it coming, and it was unidentified, we would immediately launch an interceptor. We do that about 15 times a month in that region alone.

The CHAIRMAN. Where do the interceptors come from?

General McKEE. From Homestead, sir, that is the only place we have the surveillance capability as well, sir.

Mr. REDDAN. But, in any event, in carrying out your mission, you do not have to clear with State?

General McKEE. No, sir.

Mr. STRATTON. General, does that mean 15 times that you scramble, or 15 times that you actually intercept?

General McKEE. I have some statistics here, sir, if I can find them. It is 15 unknowns. We scramble against certain numbers, and against others we don't because we correlate them.

Mr. STRATTON. I'm trying to find out just how effective your intercept capability actually is.

General McKEE. Here we are right here. If I may give you some examples, I have for the last year examples for this specific region. In November of last year there were 15 unknowns detected. There were 15 scrambles ordered.

There were seven of these identified by intercept. There were six of them identified by other means—that means we correlated a flight plan with them before the interceptor got to them. There were two that faded prior to intercept. That means the “blip” disappeared, and the interceptors turned around and went back. Next month there were 18 unknown. We scrambled against 17 of them. Identified seven; it averages about 15 a month. We scramble on the average of 13 a month. We identify about five of those on an average over a year's time by actual intercept each month.

We identify nine each month by other means, correlation of flight plans, the aircraft calling in, identifying itself, et cetera.

That is the brief summary, sir.

Mr. REDDAN. General, on these planes where you intercept them, were they planes reported to you by FAA, or were they planes picked up on your radar?

General McKEE. The planes we intercept as unknowns are always picked up on our own, sir.

Mr. REDDAN. How do you define an “unknown?”

General McKEE. An unknown is a blip that shows up on our radar where we have the people watching the scopes that we don't have a flight plan for.

Mr. REDDAN. I see. You check your blip against the flight plans that have been filed with you?

General McKEE. Yes, sir. FAA provides us copies of all the flight plans coming in to our ADIZ. We can expect those. When we expect them, we correlate them. If we have a blip that doesn't correlate with the flight plan, we have ——— minutes to find out if it can be correlated. If it can't be correlated we scramble two aircraft.

The CHAIRMAN. Thank you very much, General, we appreciate your appearance. We hope we have not inconvenienced you very much for your meeting in Puerto Rico. We appreciate your coming by.

General McKEE. Thank you.

The CHAIRMAN. The committee will stand in recess, subject to the call of the Chair.

General McKEE. I appreciate the opportunity to appear.

(At 2:53 p.m., the committee was recessed, subject to call.)

CUBAN PLANE INCIDENT AT NEW ORLEANS

WEDNESDAY, NOVEMBER 17, 1971

HOUSE OF REPRESENTATIVE,
COMMITTEE ON ARMED SERVICES,
ARMED SERVICES INVESTIGATING SUBCOMMITTEE,
Washington, D.C.

The subcommittee met at 2:30 p.m., in room 2337, Rayburn House Office Building, the Honorable F. Edward Hébert presiding.

The CHAIRMAN. The committee will be in order.

We have before us today the Air Force witnesses. I understand that you gentlemen have prepared statements.

Colonel AHERN. Yes, sir.

Colonel TAYLOR. Yes, Mr. Chairman.

The CHAIRMAN. Will you identify yourselves for the reporter, please, and proceed as you wish?

STATEMENTS OF COL. TIMOTHY I. AHERN AND LT. COL. PAUL A. TAYLOR, USAF, AIR STAFF

Colonel AHERN. Yes, sir.

I am Colonel Ahern from the Directorate of Operational Requirements and Development Plans, and I am on the Air Staff.

Colonel TAYLOR. I am Colonel Taylor, Directorate of Development and Acquisition, Office of the Deputy Chief of Staff, Research and Development, on the Air Staff.

The CHAIRMAN. Will you please just read your statement, Colonel Ahern?

Colonel AHERN. Yes, sir.

Mr. Chairman and members of the committee, I welcome the opportunity to testify today on the Continental United States (CONUS) over-the-horizon backscatter radar (OTH-B).

Under the supervision of the Deputy Chief of Staff Research and Development, the Director of Operational Requirements and Development Plans is responsible for evaluating the requirements of the operating commands and assessing their validity, for investigating the most economical and efficient means of filling validated requirements, and for describing the operational needs and the recommended solutions to responsible decisionmaking authorities.

With your permission, I should like to present a very brief review of the rationale and the events which led to consideration of the over-the-horizon backscatter radar system as one element of the modernized air defense system, bomber defense system, for the continental United States.

Our current air defenses were designed in the 1950's to counter the major threat to the United States at that time, 1,200 Soviet Bull

bombers, copies of the U.S. B-29. Today, the major threat to the United States is composed of a mix of Soviet ballistic missiles and bombers. While the preponderant concern is the Soviet missile threat, the Soviet bomber inventory has not significantly diminished over the past 10 years and the Soviets are pursuing development of a new strategic bomber utilizing a variable geometry wing.

Thus, in the 1970's, two related threats to the United States exist: the missile threat and the bomber threat. Either threat alone represents sufficient potential destructive power to jeopardize U.S. survival as a viable nation. If we are to maintain the credibility of our deterrence, we must create balanced defenses against both threats in order to render either option, missile or bomber, equally unappealing to a planner contemplating attack.

Our current air defense system has deficiencies. Present soft, fixed radars, and ground-based elements of the command, control, and communications system are vulnerable to attack.

Coverage of ground-based radars is limited by the radar horizon to approximately 250 nautical miles on high altitude targets and to less than 50 nautical miles on low altitude targets.

Present ground radars and interceptor radars also have limited capability to detect and track low-flying bombers in ground clutter. Soviet bomber tactics—low level penetration—and bomber payload, substituting air-to-surface missiles for gravity bombs, indicate Soviet awareness of these deficiencies.

To correct these deficiencies and to save money, in November 1967, OSD approved a modernized air defense system consisting of over the horizon backscatter radar, the airborne warning and control system, and a follow-on interceptor. To offset cost of the new system, phasedown of the current system began at once. A certain measure of risk was accepted in the interim between phasedown of the old system and deployment of the modernized system.

The present plan for modernization of the air defense system includes three key elements: airborne warning and control system (AWACS), an improved interceptor, and CONUS over the horizon backscatter radar (OTH-B). Each of the three elements is designed to correct a major deficiency in the present air defense system.

AWACS will provide a survivable, airborne command, control, and communications system, utilizing a radar, mounted on an eight-engine version of the Boeing 707. It will be capable of detecting and tracking aircraft targets at all altitudes over land and water. AWACS will be capable of flushing on warning unlike the present fixed air defense SAGE system which is vulnerable to missile attack. AWACS will be used by ADC to provide wartime surveillance of enemy aircraft and battle management of interceptors. AWACS will also be used by Tactical Air Command to control Tactical Air Command forces.

The second element of the air defense modernization program is an improved interceptor which can be effectively employed to provide low altitude kill to complement the AWACS low altitude detection and tracking capability.

The third element of the modernized system is the CONUS over the horizon backscatter radar system. It will provide long-range surveillance, early warning, detection, and tracking of aircraft.

And this slide you see indicates some of the specific advantages which we postulate for the CONUS OTH-B radar in the air defense role.

The OTH-B radars will utilize high-frequency signals which are transmitted around the earth's curvature by refraction of the signal in the ionosphere. Target reradiation of the signal—backscatter—is returned to the receiver by the same process. Development concept paper No. 49, which was signed in June of 1970, authorized the Air Force to proceed with contract definition for _____ sites, _____

in the _____ United States.

These radars will extend U.S. air defense radar coverage out to approximately _____ nautical miles from continental United States. This will insure sufficient warning of approaching enemy bombers to permit AWACS and other strategic defensive forces to proceed to positions to engage incoming enemy bombers. It will also force enemy bombers to remain outside the limits of the OTH-B radar coverage until after an enemy missile attack has been launched in order to avoid triggering premature warning of attack. OTH-B long-range radar coverage, therefore, precludes undetected simultaneous arrival of enemy bombers and missiles in a surprise attack against the CONUS.

DCP 49 also directed the Air Force to conduct experiments to gather information on the feasibility of a _____ site looking northward into the auroral zone. A somewhat different technical problem is involved here in looking north into the zone of the aurora (about 60° north latitude). Our tests are designed to produce the necessary data to determine whether a north-looking site can detect in the transauroral and polar regions.

OTH-B radar offers the advantage of covering large areas of interest continuously more economically than is possible by other means such as surveillance aircraft.

With your permission, I would like now to introduce Lt. Col. Paul Taylor, from the Directorate of Development and Acquisition in the Air Staff. Lieutenant Colonel Taylor will discuss the technical characteristics of the CONUS OTH-B.

Mr. STRATTON (Presiding). Thank you, Colonel Ahern.

Will you please just proceed, Colonel Taylor.

Colonel TAYLOR. Mr. Chairman and members of the committee, two techniques are employed with OTH radars—forward scatter and backscatter. With the forward scatter technique, the transmitter and the receiver are separated by great distances. High frequency energy is transmitted, reflected by the ionosphere, and returns to earth in a series of bounces or skips where it is detected at the distant receiver location. Missile disturbances to the ionosphere along these paths of transmitted energy are also received at the receiver site where missile detection can then occur. With the backscatter technique, receivers and transmitters are collocated or separated by a very few miles, depending upon the technique used for illumination.

In using the backscatter technique, energy is transmitted, refracted by the ionosphere to the desired area of illumination and then reflected back along a reciprocal path to the receiver.

The distances attainable with OTH radars can be varied by changing the frequencies. Generally, the higher frequencies provide greater distances while the lower frequencies permit coverage of areas closer in to the transmitter.

The CONUS OTH-B radars will utilize the backscatter technique. Frequencies will be available which will permit coverage from about _____ nautical miles, the first skip zone, to approximately _____ nautical miles from the transmitter. Aircraft targets within this area of coverage from the surface up can be detected by the CONUS OTH-B system.

OTH radars, which offer unique advantages, also have problems not normally encountered with line-of-sight radars. Specifically, we are concerned with the effects of the aurora in the northern regions. The problems associated with the auroral zone are recognized and are being investigated. However, the _____ radars proposed for the CONUS defense would be located in _____.

At the present time, our technical command, Air Force Systems Command, is investigating a concept of continuous illumination or floodlight type of radar. Sufficient information from the investigations of that technique is now available so that a baseline for this concept is now in preparation. It consists of building and installing sufficient transmitters and receivers in the proper combination to cover the threat area so as to continuously illuminate a _____ degree sector.

We believe the technology is in hand to provide the large area radar coverage which is unique to the OTH radar and which offers a feasible solution to the need for long-range surveillance in the modernized air defense system.

Air Force Systems Command is presently preparing a radar baseline configuration using the constant illumination technology. We anticipate the presentation to the Air Staff by AFSC representatives on the baseline configuration in mid-December. This presentation will include program costs and schedules.

Mr. STRATTON. Are there any questions?

Mr. Molloyhan?

Mr. MOLLAHAN. No, sir.

Mr. STRATTON. Mr. Pirnie?

Mr. PIRNIE. I think I will defer any questions, Mr. Chairman.

Mr. STRATTON. Mr. Daniel?

Mr. DANIEL. No, thank you.

Mr. STRATTON. Mr. Reddan?

Mr. REDDAN. One or two.

On the first page of your statement you refer to the over-the-horizon system, and in parenthesis you say (the bomber defense system).

Would this encompass also detection of missiles?

Colonel AHERN. You can employ the OTH-B for the missile detection task. As presently postulated, the air defense system is to do only the aircraft detection job.

Mr. REDDAN. What would it entail to configure it to do the missile job, too?

Colonel AHERN. _____

It requires, in the case of _____, the additional transmitter and receivers so you could cover the entire area constantly. With the _____ that is one of the natural attainments with that system. It does cover your entire area constantly, so it could handle quite nicely the SLBM task.

Mr. REDDAN. Simultaneously with bomber-to-bomber coverage?

Colonel AHERN. Yes.

Mr. REDDAN. On page 3 you refer to the present plan for modernization of the air defense system. Does that include defense of the southern perimeter of the United States?

Colonel AHERN. Sir, at the present time, based on priorities and resources, we are concentrating our efforts on the northern threat. So essentially, our forces are deployed looking northward as the area of greatest threat to the United States.

Mr. REDDAN. The answer to my question, then, would be "No"?

Colonel AHERN. Essentially that is correct.

Mr. REDDAN. On page 4 you also, referring to the deployment of the over-the-horizon radars, say, "They will insure sufficient warning of approaching enemy bombers," and you say that the _____ sites you refer to there would give air defense coverage out to approximately _____ nautical miles.

Colonel AHERN. _____

Mr. REDDAN. Then, on page 5, you say that this new radar coverage would preclude undetected simultaneous arrival of enemy bombers and missiles in a surprise attack against CONUS. Again you are not talking about surprise attack _____?

Colonel AHERN. No, sir; we are talking about the _____

Mr. REDDAN. Those are all my questions.

Mr. STRATTON. Colonel, I apologize for coming in late.

Do I understand that your testimony is that there is this protection available now? Or do I understand that it would be available once we got the AWACS and the over-the-horizon backscatter radar in operation?

Colonel AHERN. Sir, the message is that that protection will be available when we have the AWACS, the over-the-horizon radar, and the new interceptor. These are postulated now for mid-1970's IOC.

Mr. STRATTON. Do you have any of these backscatter radars in operation?

Colonel AHERN. Yes, there are backscatter radars in operation today.

Mr. STRATTON. Where?

Colonel AHERN. Most of them are in the Research and Development type of category. We have the FPS-95 in _____. Colonel Taylor might speak on that in more detail if the committee has a specific interest.

Mr. STRATTON. I don't think we have time for the detail. I am concerned as to whether we are talking about something we know we can

produce, provided the Congress, let us say, gives the direction to go ahead with it, and provides the funds, or whether we are talking about something that is on the drawingboard, that may in the future accomplish something.

Colonel AHERN. No. This is—this is hardware that is in operation today.

Mr. STRATTON. If you wanted coverage of the Gulf of Mexico, and to prevent the kind of thing we are open to now, where would these have to be installed?

Colonel AHERN. Sir, if you chose to solve that problem with the over-the-horizon backscatter radar—and that is one of several ways in which you might approach the problem, not necessarily the optimum way, depending on how you chose to go about it—you would have to assure your coverage to the south by siting the transmitter at least _____ miles north of the area which you wish to cover.

Your first skip zone from the transmitter gives you a void of approximately _____ miles from the transmitter, which is not covered by the HF energy.

Mr. STRATTON. If you wanted to get planes coming into New Orleans you would have to set up the radar _____ miles north of New Orleans?

Colonel AHERN. At a very minimum, and probably it would be better to set it up farther north, even.

Mr. STRATTON. Then that would cover New Orleans? If you set it up _____ miles—as I understand it the range is only _____ you would have just _____ miles of coverage, is that correct?

Colonel AHERN. Yes, sir. You would have coverage from a point about _____ miles from the transmitter out to a point about _____ miles from the transmitter.

Mr. STRATTON. You are not presenting, as I understand it, a specific plan for dealing with this particular problem, but simply indicating the kinds of things that are available for use.

Colonel AHERN. Yes, sir; indicating most specifically the CONUS OTH backscatter radar without reference to how it might be deployed, other than the present plan for the _____ sites.

Mr. STRATTON. I think it might be helpful if one or both of you gentlemen could perhaps suggest a plan that might deal with this northern gap. You suggested that the backscatter over-the-horizon radar is not necessarily the optimum arrangement. What kind of mix would you provide?

Colonel AHERN. At the present time we have a program management directive which is awaiting signature. I coordinated on it at my level today. This tasks the systems command to look at all of the areas of technology which you can bring to bear to solve the radar surveillance problem in the Florida straits.

If I might just list some of the ways that it might be done—and these are offered to the technical experts in systems command only as starting points, not limited, by any means, to these investigations—EC-121 aircraft might be used for this purpose; balloon-borne radar, and tests are being conducted in the Florida area of a radar attached to a tethered balloon with the point—

Mr. PIRNIE. Would the gentleman yield for a question right on this point?

Mr. STRATTON. Surely.

Mr. PIRNIE. When you speak of the tethered balloon approach, would that be quite vulnerable to knocking out your capability?

Colonel AHERN. I did not hear the last part of the question, sir.

Mr. PIRNIE. Would the tethered balloon approach be quite vulnerable to a knockout?

Colonel AHERN. Yes. It would have the limitations of a relatively fixed object tethered to the ground, to enemy action.

However, bearing in mind the coverage that you can attain by raising your radar, in effect, _____ feet into the air, you can back your radar off from enemy territory many miles and still get coverage.

Mr. PIRNIE. I see.

Colonel AHERN. Also, the radar and the balloon are relatively expensive vehicles, so one might be willing to risk them, depending on the purpose for which he intended them.

Mr. STRATTON. If I may interrupt, since we have Admiral Moorer here, and we are interested in hearing him, and his time is limited, perhaps we should cut off questioning at this point, and invite both of you gentlemen back again when we could go into greater detail.

Perhaps in the meantime you might come up with a suggested plan or plans for a particular mix of these systems that might provide coverage not of the entire United States but of the Gulf of Mexico.

Mr. DICKINSON. Before we suspend may I ask a clarifying question?

Mr. STRATTON. Surely.

Mr. DICKINSON. Colonel, when you talk about a balloon-suspended radar system, first, how high are we talking about?

Second, are we speaking of a point at sea or some point of land?

Colonel AHERN. We are talking about altitudes of on the order of _____ feet, and we can do it either from land or from a ship.

Mr. DICKINSON. Thank you.

Mr. STRATTON. Thank you, Mr. Dickinson.

If there are no further questions, thank you very much. Colonel Taylor, you are excused.

Mr. STRATTON. Admiral, thank you very much for appearing here before the subcommittee this afternoon. I am sure you are already familiar with the incident which the subcommittee is looking into.

You have a prepared statement, I note. We will be very happy to have you proceed with that.

Admiral MOORER. Thank you, Mr. Chairman.

STATEMENT OF ADM. THOMAS H. MOORER, U.S. NAVY, CHAIRMAN JOINT CHIEFS OF STAFF

Mr. Chairman and members of the committee, I welcome the opportunity to appear before your committee today to testify in regard to the incident of the Cuban registered aircraft which landed at New Orleans International Airport last month without interference from or detection by our air defense forces.

The committee is fully aware of what occurred. You have been briefed by General McKee on our air defense posture and the weaknesses and limitations in that posture. I will explain the background of our current position and the impact of this degradation in our air defense capability. I intend to forthrightly address these issues.

There is a one-word answer as to how we arrived at our current air defense posture—priorities. I need not detail for this committee the many pressing needs, foreign and domestic, claiming a larger and larger share of national resources. National security is, of course, of first priority, but a proper balance must be struck.

Sound military planning requires a recognition of the fiscal manpower and political realities. As you know, the Joint Chiefs of Staff, the Secretary of Defense, and the President often find themselves in the position of asking for more resources than are ultimately approved. I assure you, however, that the Joint Chiefs of Staff are very much aware that resources will rarely be available in sufficient quantity to satisfy all military requirements. We know that there is very strong competition among the many sectors of our society and that our national priorities are somewhat different today from those established even 5 years ago. For this reason, we cannot stop after we have recommended the size and type of forces we would like our Nation to have under ideal military conditions. If our military advice is to be of practical value, it must also be applied to levels constrained by budgetary limitations. It follows as a necessary corollary that choices must be made between competing demands for the defense dollar. What we would like to spend if there were no constraints must be related in terms of reductions in programs to what is realistically achievable. Strategic forces, general purpose forces, intelligence and communications, airlift, sealift, and the other programs are examined and the resources apportioned among the programs in an effort to insure that every available dollar is used to provide the maximum defense. Within the programs, further allocation must be done.

Decisions leading to reduction of forces are made only after careful consideration regarding threats to our national security and interests. Based upon the threat analysis, priorities in force reduction are established which will provide a balance of forces which can best cope with the most serious threat to our national security. Once force reductions have been identified, the commanders of unified and specified commands are requested to comment on the impact that the loss of these forces will have on their capability to accomplish assigned tasks. The Joint Chiefs of Staff carefully consider these impact statements before final reduction recommendations are made to the Secretary of Defense. The commanders of unified and specified commands would all like to have increased and improved capabilities with which to perform their assigned missions. Until such time as this Nation is no longer threatened, the Joint Chiefs of Staff would like to provide such resources.

The fiscal realities under which we operate preclude the Joint Chiefs of Staff from responding favorably to all recommendations submitted by the Commanders in Chief. Specifically, as related to the operations of the North American Air Defense Command, a decision was reached to phase down many of our then existing air defense capabilities in order to provide funds for future modernization for a force which would eventually better be able to cope with estimated and known Soviet military capabilities. In effect, a portion of the high costs of the existing system, which has only limited effectiveness, was to be traded for investment in a modernized capability.

Since 1969, incident to budget cuts imposed by Projects 693 and 703, air defense forces have been reduced by 14 fighter interceptor squadrons, 41 NIKE batteries, 49 airborne early warning aircraft, 29 search radars, and 17 gap-filler radars. The majority of these reductions occurred in fiscal year 1970. The radars located in the southern portion of the United States were selected by CINCNORAD as the least critical in view of the predominate Soviet threat from the north quadrant, and therefore inactivated. In the last 10 years, the air defense of the North American Continent has been reduced approximately 60 percent. Our surveillance and command control system has been reduced from one that had extensive radar coverage of the entire North American Continent plus seaward extensions, to one that today is essentially a thin perimeter of defense along the east and west coasts and the northern approaches. There is little redundancy and there are significant gaps, especially at low altitudes. There is, as you now know, a large open area across our southern boundary.

I have in previous appearances before this committee addressed in detail my concern for the growing Soviet strategic threat and the momentum of that development. I see no need to restate this concern at this time. Suffice it to say that the strategic relationship has changed from one of clear U.S. superiority to parity. The Soviet deep-water fleet, over the past decade, has been steadily expanding. They have, for many years, been far ahead of us in numbers of attack submarines. The balance is tenuous. It is against this background that I wish to address the air threat from the south.

The principal threat to the security of the United States emanates from nuclear-capable forces of the U.S.S.R. Soviet long-range aviation (LRA) has the capability to strike targets in the Southern United States. Such attacks could be made by BEAR heavy bombers on either inflight refueled two-way or one-way missions without refueling, and by Bison medium bombers on one-way refueled missions. However, considering target priorities, operational capabilities, distance involved, and the availability of other weapon delivery systems (for example, missile submarines), it is believed unlikely that Soviet planners would employ their heavy bombers against targets in the Southern United States when so many more favorable options exist.

Any assessment of this threat must, of course, address Cuba. The Cubans have very carefully avoided any possible military confrontation with the United States. The Cuban military establishment is oriented toward a defensive rather than offensive mission. Cuba has no long-range bomber capability and no nuclear weapons. The MIG-21/FISHBED F, which is in the Cuban inventory, has a combat radius of about 400 miles with two 550-pound conventional bombs. If it were to stay on the deck all the way, this range would be about 300 miles. The MIG-17, which is in the Cuban inventory, is limited to about a 95-mile attack radius. The combat radius and weapons capability of the MIG-21 limits Cuban air attacks to the Florida peninsula, an area which is protected by NORAD forces.

NORAD forces in the extreme Southeastern United States that would be available to counter such a threat from the south consist of:

- (a) Six F-106 interceptors located at Homestead AFB, Fla.

(b) Four NIKE HERCULES batteries located in the Homestead AFB and Miami area.

(c) Eight HAWK batteries: with four batteries located in the Homestead AFB and Miami area and four batteries located at Key West, Fla.

(d) Four EC-121 warning aircraft located at McCoy AFB (Orlando, Fla.) provide a continuous airborne surveillance capability at selected times and on a random basis at other times.

In the final analysis, it is, however, our ability to inflict unacceptable damage upon Cuba quickly and decisively from the air and the sea which constitutes our principal protection from an air attack by Cuba. The validity of such a defense is, of course, dependent upon an assumption that Cuba will behave rationally. While Castro has succeeded in maintaining his leadership in Cuba, there is little reason to anticipate such irrational action on his part, since the risk to his survival far outweighs the limited military gain he could achieve. There is a risk, but I believe a prudent one.

On the other hand, the decision in part to degrade our air defense was based upon projections of significant reductions in the Soviet bomber threat that have not fully materialized. The Soviets have developed a new swing-wing bomber designated BACKFIRE. There is evidence that this aircraft, approximately two-thirds the weight of the B-1, is capable of inflight refueling. If the Soviets decide to produce and deploy this new bomber, it could be operational by mid-1976. It is, therefore, my belief that our aging air defense forces are in need of modernization.

A continental U.S. air defense development concept was approved by the Secretary of Defense in November 1967. It consisted of a plan for the phasedown of a part of the existing system to provide cost savings to amortize procurement of a modernization force. The forces were phased down; however, further budgetary constraints and technical problems have forced deferral and slippage of the development of a modernized force.

Earlier, this year, the Joint Chiefs of Staff conducted a study of continental U.S. air defense to determine its current effectiveness and to establish objectives which would contribute to our overall military strategy. These objectives have been approved. The capability of the present force will be maintained and a modernized air defense force will continue to be developed. As a follow-on action, the Joint Chiefs of Staff have submitted to the Secretary of Defense a deployment plan which outlines the forces (current and modernized) necessary to satisfy the defense objectives. The plan provides for the retention of the current capability while developing and deploying a modernized air defense force. Research and development of these modern systems is proceeding.

There are deficiencies in our air defense posture when measured in its totality. However, new system acquisitions should decrease these deficiencies, hopefully by the mid-1970's. Budget cuts have necessitated decisions bringing about a lesser air defense capability in southern and mid-U.S. continental areas. This was done knowingly and after comprehensive analysis to determine priority of effort. Our air defense was knowingly alined so that our priority of effort would be applied to those areas from where, in our best judgment and in light of a compre-

hensive and continuous assessment of the threat, the greatest risk to the security of the United States would be launched. As I previously emphasized, the deployment of weapons systems is, at best, a matter of establishing priorities, applying judgmental factors, and distribution of existing resources. We are hopeful, however, that by the mid-1970's new system acquisitions will decrease some of these deficiencies in our perimeter defenses. We are continuously reviewing, assessing, and analyzing the threat to our national security, and this committee may be assured that if there is a significant shift in the geographical area of threat, our forces will be realigned to meet such changes.

Thank you, Mr. Chairman.

Mr. PIKE (presiding). Thank you, Admiral Moorer. That, in my personal judgment, is a fine, balanced, and responsible overview of the entire problem we are up against.

It does bring me to one of the questions which I have been known to raise from time to time. We hear so much in the press and in the public media about our shortcomings and our dangers in the realm of submarines, antisubmarine warfare, and we hear so very little about our shortcomings in this particular area. Do you not think that in the realm of giving the country the same perspective you have just given us, and the fact that it is a question of priorities, it would not be a good idea to declassify this document and put it out?

What is there in this particular document that is so harmful to our security?

Admiral MOORER. I don't think there is anything in particular in this document, Mr. Chairman. With your permission I would be very happy to examine it with that in view.

Mr. PIKE. I think that would be useful. I have a feeling that from time to time we declassify secrets in order to achieve procurements, and I would just like to see a balance throughout the system in this regard.

Of course, you don't have everything you need to do everything you want to do. And you do have hard priorities that you are up against. We are aware of them. But I do think it would be useful if you would declassify this.

As far as I am concerned, with the exception of some very tiny little items of specifics—you probably don't want to talk about gaps in your defense—I would like to see that done.

The other question I would like to add is simply this:

You say you anticipate procurements which—I guess you said “systems acquisitions,” to use your language—should decrease these deficiencies, hopefully by the mid-1970's. Well, if you are going to decrease these deficiencies by the mid-1970's we ought to be authorizing these systems acquisitions right now; and we have not authorized any new IMI, for example. We have been authorizing R. & D. on it for as long as I can remember.

What are you talking about, the “new systems acquisitions” that are going to lessen these deficiencies by the mid-1970's?

Admiral MOORER. You will recall I mentioned four items were involved. One was the Improved Manned Interceptor.

Mr. PIKE. To have that by the mid-1970's, shouldn't we be authorizing it right now?

Admiral MOORER. I think we anticipate a readiness date for the OTH in _____. I think the IMI, _____ AWACS in _____.

Mr. PIKE. The IMI in _____?

Admiral MOORER. Yes, sir; we would hope to have one squadron by _____ assuming, of course, that the research and development effort results in the machine we expect.

Mr. PIKE. We are just today in the process of voting on a defense appropriation bill for fiscal 1972. Is there anything in that bill for the acquisition of IMI's?

Admiral MOORER. No, not specifically as an IMI, sir; because none of these key items I speak of; namely, the over-the-horizon radar, the manned interceptor, or the AWACS—is ready to go into production yet. We are still looking into the possibility of using the F-14 or F-15 as the IMI. That is why the introduction into operation does not come until 19—.

Mr. PIKE. I am obliged to say, Admiral, I think in view of the fact there is going to be nothing in the budget before fiscal 1973, at best, or anything beyond R. & D., you are awfully optimistic in your prognosis as to when you are going to get it in your hands.

Admiral MOORER. That could be, Mr. Chairman. The readiness dates I gave you are the earliest we can expect.

I think you have a point, because all these devices are very complex technically. But this is the goal that we are shooting for.

Mr. STRATTON (presiding). Thank you, Mr. Pike.

Mr. Pirnie?

Mr. PIRNIE. Admiral, you have indicated your awareness that the plan currently in operation is deficient. Does it embody sufficient capability to detect and identify foreign aircraft?

Admiral MOORER. Yes, sir; those aircraft which have a capability of striking the United States with nuclear weapons. This is the prime mission of the Air Defense Command in wartime. In peacetime, of course, its mission is to prevent violation of the sovereignty of the air space over the United States.

The answer to your question is that, yes, it has the capability, certainly, to detect, which was the word you used, Mr. Pirnie. In addition to detection, the next step is destruction.

Mr. PIRNIE. The next step is reaction; and that is really my next question. Assuming the identification has occurred, what is the appropriate reaction, now?

Admiral MOORER. I believe you observed from the briefing by General McKee all of the reaction forces, or the destruction forces, or the interceptors and missiles, deployed along the most likely line of approach of the one force that could conduct such a strike against the United States.

Mr. PIRNIE. In regard to the incident in question, there was not any reaction, really, was there?

Admiral MOORER. No, sir; because there was no capability in the area for reaction, there were no interceptors, for instance. At one time we had an interceptor squadron in the New Orleans area, with the Air National Guard flying F-102's. When the radar was removed there was no point in interceptors. So the unit was converted to F-100. As you know, you must have the two working as a team, to be effective.

Mr. STRATTON. We had the detection, but it wasn't on station.

Admiral MOORER. It was not a matter of not being on station. It was just not deployed to cover that particular area.

Mr. PIRNIE. That is just another way of putting it, Admiral. Under the present operative plan that phase did not really exist, isn't that true; that is interceptor capability?

Admiral MOORER. That is quite true for that area, sir.

As I tried to explain in my statement, we think it is highly unlikely the United States would ever receive a nuclear strike from that area.

Mr. PIRNIE. I got that from your statement. But now we have, of course, appreciated at least psychological impact of that episode. I wonder in light of that whether or not we should assume more of an on-station attitude, so that there would be at least interceptors rising to escort or to control?

Admiral MOORER. Certainly I would be very happy, Mr. Pirnie, if we had 360-degree coverage around the perimeter of the United States. Again, getting back to the priorities, we made these reductions and so today we do not have such coverage. The particular area to which you refer is not covered.

Mr. PIRNIE. I was wondering whether, with redeployment of some of our forces from Southeast Asia, that mission could not be resumed within the framework of our existing force level and equipment.

Admiral MOORER. Well, sir, it, of course, would be necessary to re-establish the radars and the air control and warning stations. It is true that F-4 aircraft assigned to tactical commanders have a good intercept capability. It is also true that they would be the first to be deployed overseas, if we had a contingency of some kind, and that would, in turn, leave an air defense gap.

Our air defense forces are set up in such a way that those aircraft which are deployed in the United States but are scheduled in the contingency plans to move overseas, while near the United States, participate in its air defense. They operate with the Air Defense Command and augment the regular air interceptors, such as the 106's and F-102's while they are at their home stations.

Mr. PIRNIE. I understand the limitation of availability. I am thinking about the state of mind of our people and the viability of our defense posture, as to whether we should not move as rapidly as we can toward the provision of that capability, so that there would be the feeling in the country that if the airspace were violated by a craft that was capable of even carrying conventional bombs, it would not be permitted to proceed unnoticed and without interceptors rising to discharge their mission.

Admiral MOORER. Yes, sir. We had that at one time, and it would be necessary not only to restore radars and control stations, but also to restore a means of intercepting and identifying the aircraft.

Mr. PIRNIE. My last question: I would be interested in the Admiral's opinion as to whether or not that might be a subject of rather urgent priority, at least for investigation, in view of the reaction to what has occurred.

Admiral MOORER. Yes, sir. I think from the psychological point of view, and from the point of view of protecting the sovereignty of the air over the United States, that would be certainly a desirable capability. I quite agree.

Mr. PIRNIE. It would be also worthy as a phase of training, would it not?

Admiral MOORER. Yes, sir. It would contribute to training. I would say, also, that within the perimeter of the United States the southern sector is the most unlikely avenue of attack by nuclear weapons.

Mr. PIRNIE. I understand as far as evaluating the threat. I am thinking of the psychological effect of leaving any major portion of the United States open, unprotected.

Admiral MOORER. Yes, sir. As I have said, I would like to see complete 360° coverage, Mr. Pirnie.

Mr. PIRNIE. Thank you.

Mr. STRATTON. Thank you, Mr. Pirnie.

Admiral, if I understand correctly, your position is not too much different from that of General McKee. General McKee told us that if Congress provided more money for air defenses he did not think that money would be put into the southern sector, the Gulf of Mexico, but he would want to improve our defenses elsewhere. Is that basically what you are telling us, too?

Admiral MOORER. The air-defense forces that we have do have limited capabilities and they require modernization. Also, I believe that the most likely threat is from the north. The extent to which our air defense is improved will depend on how much money is provided for this purpose.

Mr. STRATTON. What would be your assessment at this point if you had a little bit more money? Would you fill this gap as a top priority, or put it somewhere else?

Admiral MOORER. Do you mean money designated for air-defense purposes only?

Mr. STRATTON. Yes.

Admiral MOORER. It would depend on what area of the budget it was in. But I would be inclined to concentrate on modernization. You might procure the AWACS aircraft for example, when it becomes available, so that it could be redeployed quickly to establish a barrier along the southern area in order to prevent these single-plane run-ins.

I think you are always going to have the possibility that a single plane flying on the deck can penetrate almost any system that you could develop. It would be very expensive indeed to build up a system in this area to have a 100-percent leakproof system. It would be very expensive for the purpose of intercepting one or two aircraft a year, if you consider these priorities that I have discussed.

On the other hand, I realize fully the psychological impact and the need for the United States to protect this airspace. It is a highly desirable capability, as I have said. But at the rate we have been reducing the defense budget, and viewing at the same time the condition of the current air-defense forces, I would have to look at the problem in totality to see just where we should put the money.

Mr. STRATTON. The thing that worries me a little about your statement is this idea of the deterrence of Castro, that since we obviously have much more power than he has, and he has been a reasonably rational individual, we can reasonably expect that he is not going to do anything unusual or untoward in spite of this gap.

The kind of scenario I see, if I may use a word that I understand is popular at the Pentagon—

Admiral MOORER. It is not necessarily with me, Mr. Chairman.

Mr. STRATTON (continuing). Is that the Cubans might come in with a surprise flight similar to what they came in with at New Orleans, and perhaps try to hit a couple targets, and then as we try to make up our minds how to retaliate we might find ourselves in a reverse Cuban missile crisis with the Soviet Union.

We had marked superiority in 1962. It is conceivable, as Mr. Alsop and others have suggested, that if they keep on building up their superiority there might come the time when we would be confronted with a showdown, and then we might have to blink, instead of they. This might be one of the cases where we would have to blink and, say, refuse to use our power against Cuba even though we had been needled with some attacks. Do you see this as a possible development?

Admiral MOORER. As I understand your "scenario," Mr. Chairman, you are suggesting that the Cubans would load up a few MIGs with 500-pound bombs and strike some selected target, then the Soviets would say "Don't you do anything about that or we will retaliate against you."

Mr. STRATTON. "With nuclear weapons."

Admiral MOORER. I don't think the Soviets would be willing to trade Moscow for New York in order to support Mr. Castro on such a junket as these MIGs might indulge in. I just don't see that. I don't see that the Soviets would be willing to get into a nuclear war to support Mr. Castro in such an irrational act as striking the United States by surprise.

Mr. STRATTON. As long as their own home territory was not threatened.

Admiral MOORER. That is right. As long as we maintain a deterrent which is secure and relatively invulnerable, and can be in such a posture that the Soviets know that no matter what irrational or preemptive action they take against us, we are going to fully retaliate against them, I don't feel the Soviets would be willing to kick off a major nuclear exchange in order to support Mr. Castro in any such act as that.

Mr. STRATTON. Considering our public opinion these days, the question of retaliation sometimes might have a question mark around it. But I will not persist.

Admiral MOORE. I agree with you. We have had such situations as the *Pueblo*, when we did not retaliate. So I understand what you are talking about.

Mr. STRATTON. Along the line of the question raised by Mr. Pike, let me ask this: These items you list on page 9, the backscatter radar, the AWACS, IMI, SAM-D, are any of those included in the budget as yet? And when would any of these be available?

Admiral MOORER. I believe they are all in the research and development category at the moment, sir. As I just read to Mr. Pike, in the plan we should have the over-the-horizon radar in _____, the IMI in _____, and the AWACS in _____.

Mr. STRATTON. IMI in _____. Where is the SAM-D?

Admiral MOORER. The SAM-D does not come in during this time period; it begins to replace NIKE HERCULES in the fiscal year _____.

Mr. STRATTON. I understand we have some of these backscatter radars located abroad, that there is one in _____.

Is that correct?

Admiral MOORER. There is not one in _____ that is being operated by the Defense Department.

Mr. STRATTON. Is it operated by the _____.

Admiral MOORER. No, sir; as I understand it, Mr. Chairman, it is in storage and it is not operational.

Mr. STRATTON. Not operational?

Admiral MOORER. No, sir.

Mr. STRATTON. Would this be the kind of thing we could bring back and move into New Orleans?

Admiral MOORER. As I think the previous witness explained, because of the skip distance you would have to locate it somewhere farther to the north.

But here again, one radar is not going to solve the problem. You have to deploy the entire system, with the control stations, interceptors, and all of the weapons associated with detection. It does no good simply to detect.

Mr. STRATTON. Thank you, Admiral.

Mr. Dickinson.

Mr. DICKINSON. I have a few questions.

Admiral, what do we have now that flies over the United States, what foreign planes, objects, missiles, spy-in-the-sky type of things, do we have flying now over the United States, that we know of? Are there any U-2 type of flights?

Admiral MOORER. No; the only aircraft I know of are those cleared through diplomatic channels to go into, for instance, New York or Kennedy International, and to overfly sometimes, going to and from Canada. These are cleared in advance and are what we call "flight-followed." Any time they penetrate the air defense identification zone they are flight-followed. Of course there are a large number of satellites overflying the United States all the time.

Mr. DICKINSON. Are there any planes similar to our U-2 or the SR-71, now?

Admiral MOORER. No; not to my knowledge, Mr. Dickinson.

Mr. DICKINSON. If a plane similar to the U-2 would fly over the United States, how could we stop it?

Admiral MOORER. If an airplane with an altitude of that kind overflew the United States it would be possible to certainly attack it with snapup techniques, as the fighter pilots call it, using such a missile as the SPARROW missile, or other weapons—again depending on the altitude.

Mr. DICKINSON. And if we caught it on radar?

Admiral MOORER. Yes; the higher it goes, the easier it is to detect, and the greater range at which you can detect it.

Mr. DICKINSON. What I am sort of thinking about is in the framework of Cuba, which brought this on. What type of coverage, if any, do we get from Guantanamo?

Admiral MOORER. Guantanamo is a naval base. _____

That is generally what takes place in Guantanamo.

Mr. DICKINSON. Is it unrealistic to expect us to have radar capability to observe planes flying from Cuba to the United States?

Admiral MOORER. We have radars in Key West, in Guantanamo, and the radars—

Mr. DICKINSON. Wait a minute. I know we have radars in Key West. But we have seen their coverage, and it only comes out—what? One hundred miles or less?

Admiral MOORER. It depends on the altitude of the plane. If the plane stays on the deck, there is no radar in existence today that will pick up a low-flying aircraft. That is why a low-flying attack is a key tactic used by all pilots to penetrate defenses.

Mr. DICKINSON. Getting back to our capability on Guantanamo Base in Cuba, do we have anything that would track a plane flying at commercial heights, a jet plane at commercial height, which I understand is over 14,000 feet, from Cuba to the United States?

Admiral MOORER. As you know, Guantanamo is on the eastern end of Cuba, and by the time the plane climbed out from Havana I think it would be out of range.

Mr. DICKINSON. Out of range of what we have there?

Admiral MOORER. Yes.

Mr. DICKINSON. The purpose of my question is to determine whether it would be financially feasible and technologically possible, with a payoff to make it worthwhile, to have some sort of radar installation on Cuba.

Admiral MOORER. On flights from Havana toward the north, if this were your interest, it would be better to locate such a radar in Key West.

Mr. DICKINSON. The statement has been that we have the capability to detect a buildup in Cuba. That is fine.

Admiral MOORER. Yes; that was my statement.

Mr. DICKINSON. What does that mean? Over what period of time are we talking about?

Admiral MOORER. We conduct such surveillance as is necessary to watch the deployments of aircraft on airfields and the arrival of ships.

We put this information all together. We also follow very closely every ship that enters the harbor there, particularly every Soviet warship that goes into the various ports. And we have a very good idea of their overall posture.

Mr. DICKINSON. But a squadron, say, could not fly in and land and refuel and be ready to take off again without being detected incoming?

Admiral MOORER. I do not think it would be possible for a squadron at this time to fly into Cuba undetected—a squadron which presumably would originally have come from the Soviet Union.

Mr. DICKINSON. We have been assured several times from several sources that there are no nuclear weapons in Cuba. Do we really know that? If so, how in the world can we be so sure?

Admiral MOORER. Well, we know in the first place the delivery vehicles that the Cubans have, namely the MIG's, are not equipped in such a configuration.

Mr. DICKINSON. I can understand how we can be reasonably sure—except maybe for some hidden rockets—that they do not have the capability of delivering the nuclear weapons. But I wondered how we can be sure that this is not used as a place of storage for nuclear weapons. We have some storage about the world without necessarily the present capability at that point. And I was just wondering how we can be so confident that they really have not used Cuba as a place for storage.

Admiral MOORER. Well, sir, I would not guarantee you that a ship would not arrive tomorrow with some weapons aboard to be stored in Cuba.

In the first place, you have the agreement Mr. Kennedy made at the time of the Cuban crisis.

In the second place, I think you would see some indications of the construction of the proper storage facilities. You would probably get other kinds of intelligence that would permit you to put two and two together.

I am saying that I have no knowledge, and no indication, that this has been done.

Mr. DICKINSON. I never did see a copy of that agreement Mr. Kennedy made.

Admiral MOORE. Well, it was that they would remove all nuclear weapons forthwith.

Mr. DICKINSON. There is always a quid pro quo. I never did understand what we swapped for what they did. I don't believe it was ever made public. It would certainly be interesting.

Let me just say in conclusion, Admiral, that I agree with the words enunciated earlier by Mr. Pike. I think you made a very good comprehensive statement here. It is certainly clear to me. I cannot quarrel with anything you say, when we get down to an ordering of priorities.

As a matter of fact, I don't know why we have such a tempest in the teapot here. All of us who have been on this committee any length of time have known we have had absolutely no meaningful radar coverage for a number of years. When the ABM system goes in—if and when—we still won't have any south-looking radar coverage. I don't know why it comes as a shock to anyone, because that section along the southern perimeter has been written off for some time now.

So I think it is fine if we should decide to reorder our priorities. And I think the more we can make things like this public knowledge instead of stamping everything "Secret," then those of us who are trying to fight for a strong defense posture will have some ammunition to counter the endless arguments of our friends who would like to denude us and strip us of all military capability whatsoever, as some of my colleagues on the floor today are trying to do.

I resent it, but quite often our hands are tied because we cannot effectively counter some of the arguments by pointing specifically to areas. If we can work up a good head of steam over some Cubans flying in, and help ourselves, fine.

Thank you, Mr. Chairman.

Mr. STRATTON. Thank you.

Mr. Lennon.

Mr. LENNON. On line 18, page 4, I quote, "In the last 10 years the air defense of the North American continent has been reduced to approximately 60 percent."

Is this an acceptable level to DOD, particularly the Joint Chiefs of Staff?

Admiral MOORER. No, sir. In our requirements, of course, we have always put forward a structure which included more detection systems, more intercept systems, and so on, than we have in our current posture. But we have done that in other fields, too, Mr. Lennon.

I would like to describe for the committee, if I may, the system used by the Department of Defense to develop the force levels. It begins with the Joint Chiefs of Staff submitting what we call volume 1 of the Joint Strategy Objectives Plan. This volume 1 relates the threat and development strategy worldwide to handle the threat, in the nuclear field as well as conventional field.

Then we submit this proposed strategy to the unified and specified commanders. The Unified and Specified Commanders then submit to the Joint Chiefs of Staff their force requirements necessary to execute this strategy.

Mr. LENNON. I think what you are saying is that the air defense of the North American continent has been reduced to approximately 60 percent and is not related to budgetary priorities.

Admiral MOORER. Yes, sir; it is, I am getting around to that. It is definitely related.

Mr. LENNON. And you say it has been going on 10 years, especially accelerated in the last three to five?

Admiral MOORER. Yes.

Mr. LENNON. You do not relate it to the retaliatory ability of our country, the reduction to 60 percent?

Admiral MOORER. It is all related, sir, to the fact that initially when we talked about the "bigger bang for the buck," and "massive retaliation at times and places of our own choosing," so on, we built up a strike force and a defense force.

In 1961 the air defenses reached their peak. At that time we not only had a full 360-degree perimeter coverage, but we also had seaward extensions. You will probably remember the Texas Towers, which had radars on them built out to defend against low-flying aircraft.

The Navy was operating surveillance aircraft from Argentina, also from Midway Island, to catch any aircraft that attempted end runs.

The air defense system reached a peak in 1961, and at that time we began to get into the missile business. The missile began to supplant the aircraft as the nuclear delivery vehicle in an intercontinental sense. So the air defenses themselves were reduced. In the first place, the Navy ceased the surveillance flights from the oceans, and in 1967 Mr. McNamara made the decision that we would reduce the air defenses, in order to fund the modernization of the forces, because at that time they were about 10 years old.

Mr. LENNON. Do you agree with that decision of the then Secretary of Defense?

Admiral MOORER. Yes, as long as we modernized.

Then along came the significant budget cuts. One was the \$3 billion cut from the defense budget in 1969. It was incident, I think, to the surcharge, and the income tax.

Next was the 1970 budget cut, the fiscal year 1970 budget was cut another \$3 billion.

The net effect of the cuts when we tried to arrange the priorities was to impact on the air defense system according to the figures I gave you.

If I may now continue with the way that the budget has developed, Mr. Lennon, as I said, after the JCS submit their strategy to the Secretary of Defense, we also provide this copy of the proposed strategy to the unified commanders, among whom would be the Commander in Chief, Pacific (CINCPAC) the U.S. Commander in Chief, Europe (USCINCEUR) the Commander in Chief, Strategic Air Command (CINCSAC) and the Commander in Chief, Continental Air Defense Command (CINCONAD). They, in turn, submit to the Joint Chiefs of Staff the forces they require to execute this strategy.

These forces and this strategy are submitted also to the Secretary of Defense after the Joint Chiefs of Staff have analyzed and taken a look at the whole thing.

The Secretary of Defense has fiscal limitations, of course, so he then will provide to the Joint Chiefs of Staff and to the services the fiscal guidance.

In other words, he says that the budget must not exceed a certain amount. Sometimes he will put what we call a "fence" around certain high-priority items.

Then we will restructure or modify the force levels, or force requirements, to fit within this fiscal envelope, according to the priorities as we see them in light of the threat.

After we have developed the force requirements, then the services themselves, of course, must flesh out the budget, because they are involved in recruiting, training and other specialized areas. That is the way the budget finally gets up to the Secretary of Defense.

The point is, the unified commands have ample opportunity to submit their requirements. The Joint Chiefs of Staff give full consideration to what the commanders in the field say they need to develop the strategy. Under Secretary Laird we have operated within a fiscal envelope which, I believe, is more realistic. Previously we were told that there were no restrictions on the size of the budget, and that we should submit our requirements. The forces were then cut down in the office of the Secretary of Defense. Mr. Laird gives the fiscal limitations and allows the Joint Chiefs of Staff to arrange the forces inside this envelope. This is the difference in the systems.

MR. LENNON. There is colloquy between you and the gentleman from New York about the declassification of the secret statement you are making here.

How often, Admiral, speaking in your capacity as Chairman of the Joint Chiefs of Staff, does the DOD attempt to go to the American public and point out in essence what you have said here today about restrictions on the budget, the situations in the several oceans, and seas of the world related to the Soviet Republic?

It seems to me the Members of Congress have the almost total responsibility to sell the American people on the continuing necessity for a viable, strong defense. It is just not done at the public relations level of DOD that I think it could be done. It is so vital.

Even though it is basically ours constitutionally, we have delegated public relation authority to you, to members of the Chiefs of Staff, and to DOD, to inform the American people to at least break this

thrust we get from the news media, certain Members of Congress, other public figures.

We have come to the point in time that we have to join hands to sell the American public that these things must be done, they must be the prime priority, as a matter of our national security.

Admiral MOORER. I agree 100 percent. I work on this all the time.

You will recall when I gave my presentation to this committee last spring on the Soviet momentum and buildup and the threat we are facing, I then prepared an unclassified version of that briefing. I had a very large-scale demand for it from students and from many people involved in writing about these things.

But I agree with you, sir, that this message is not getting across. Of course, when I try to put it across myself I have been accused of only talking about these things when budget time comes along.

Mr. LENNON. I think it has to be a continuing process.

Admiral MOORER. It is continuing for me. I can give you a series of speeches this high (indicating) where I have hit this just as hard as I could.

Mr. LENNON. But it doesn't get the coverage through the news media.

Admiral MOORER. Yes, we need all the help we can get in this area.

Mr. LENNON. Maybe we need a governmental television.

Mr. STRATTON. Thank you, Mr. Lennon.

Mr. Gubser.

Mr. GUBSER. Admiral, I am trying to refresh my memory. When was the decision made—it was during the McNamara administration—to cut back on these radars and to spend the money on higher priorities?

Admiral MOORER. 1967, I believe, sir. Then this plan was pushed further downward by these subsequent budget cuts that I mentioned, the 1969, and 1970 budgets.

Mr. GUBSER. Now I reach the point that I need my memory jogged. There was something which required congressional action, at least approval of this committee, because I can recall so vividly that we had a series of hearings, and I remember our former colleague, Mr. Foran, protested quite vehemently that the South, or parts of the South, were going to be exposed and would not have adequate anti-aircraft protection.

What was the action Congress had to take? Were we just investigating, or was there some approval that had to be granted?

Admiral MOORER. No, sir; I will check on that for you, sir. But this was simply an examination of the results of this decision.

Mr. GUBSER. Because it is kind of important to my line of questioning, I wonder, Mr. Chairman, if I could ask if anybody in the room remembers that incident and what was at stake.

Mr. REDDAN. I think it also had to do with the reconfiguration of SAGE.

Mr. GUBSER. That is what it was. It had to do with the reconfiguration of SAGE. That is correct.

Mr. REDDAN. It concerned the elimination of some long-range radars, and so on.

Admiral MOORER. Excuse me, sir. That was not a statutory restriction. It was an investigation.

Mr. GUBSER. Of course, then, I cannot make the point that Congress acted in reliance on a promise. But I can recall very vividly that we were assured there would be no serious degradation of air defenses in the southern part of the United States, and that conclusive action would be taken to upgrade the air defenses for what was being pulled out. Am I not correct in that?

Mr. REDDAN. That is right, sir.

Mr. GUBSER. What are the facts? Has anything at all been done to upgrade that admitted degradation which took place at that time?

Admiral MOORER. The only thing that has been done is to initiate in research and development the new programs—getting back again to to the point that the air defenses, SAGE system, radars, gap-fillers, and so on, are of about late 1950 vintage in terms of technology. The new systems are, among other things, relatively immune to counter-measures.

In other words, the state of the art is far advanced over what it was when the big buildup of the air defense system occurred in the late 1950's.

So in the sense that R. & D. programs have been initiated, action has been taken. In the sense of actually deploying forces we have not reached that point.

Mr. GUBSER. But that action has been slowed down by underfunding, that is correct.

Admiral MOORER. Yes, sir; that action was subsequently slowed down by additional cuts.

Mr. GUBSER. Tell me, if you are going to have a squadron of IMI's deployed by mid-_____, when does this have to take the form of an authorization request?

Admiral MOORER. It would have to be ready for production, I think, in _____.

Mr. GUBSER. And you would come in probably during calendar 1972 to ask for it?

Admiral MOORER. I would think so. I would like to correct that in accord with the Air Force's plan, if necessary.

For instance, the F-14 was actually built in 2 years, from scratch. So I am allowing about 2 years for the production.

Mr. DANIEL. Would the gentleman yield?

Mr. GUBSER. Surely.

Mr. DANIEL. Admiral, is progress on these systems to which the gentleman from California just referred the result of budgetary restraints?

Admiral MOORER. Is lack of progress, you mean?

Mr. DANIEL. Yes.

Admiral MOORER. Well, I think you can accelerate any development by additional funding. And I think there have been cuts in the R. & D. area with respect to these systems.

The IMI and the SAM-D and the AWACS deal in technology in which we have had previous experience.

The over-the-horizon radar is a new approach to radar techniques; and for this reason the exact cost is still unresolved.

Mr. DANIEL. What you are saying is that it could be speeded up if you had more funds?

Admiral MOORER. Yes; I think that is a fair statement.

Mr. DANIEL. Thank you, Mr. Gubser.

Mr. GUBSER. Just speculate with me a moment, Admiral. Let's assume Russia decides to launch a big-scale war against us. Would it not be a wise military decision for Russia to take three ordinary aircraft in Cuba, outfit them so they could drop a nuclear bomb, and send them in on a Kamikaze-type trip on the deck, like New Orleans, or a couple other southern cities, maybe our Houston Space Center, or something that might be strategic? Wouldn't it be a wise military decision to do that?

Admiral MOORER. No, sir; I don't think that would be the best way for them to make such an attack, because of the fact that in the act of getting the airplane down there, and so on, there is always some possibility of detection.

Mr. GUBSER. Do you have to get a special plane down there, or can you outfit one that is already there?

Admiral MOORER. You would have to get a special airplane down there.

The best way to do what you are suggesting, far more secure, would be by submarine. That is really a threat. They could operate in the Gulf of Mexico and their mission would not be so obvious.

Mr. GUBSER. A cruise mission?

Admiral MOORER. If I were a Russian general I would direct it to be done by submarine, not by airplane.

Mr. GUBSER. Let's take another situation then, and speculate about it.

What would prevent a 20-bomber formation of Russian bombers from landing in Cuba in the middle of the night and refueling and heading toward the New Orleans area, getting in under that radar screen, then fanning out to hit Cheyenne Mountain, and Omaha and Chicago and the eastern seaboard? Is there any protection there?

Admiral MOORER. Yes, sir; there is protection along the eastern seaboard—the southeast region, as General McKee explained, that extends from Key West up the east coast.

Mr. GUBSER. But you are coming in the back way now.

Mr. DICKINSON. From over Texas, say.

Admiral MOORER. From what launch?

Mr. DICKINSON. Cuba.

Mr. GUBSER. Cuba. You refueled at night, then started out. In the meantime all hell has broken loose everywhere else.

Admiral MOORER. Here again, sir, that is a possible scenario, perhaps. But I think it would be a very unwise way to attack that part of the United States.

I doubt seriously that they could get the 20 aircraft into Cuba without the United States being aware of it.

Mr. GUBSER. It is your contention that they would use an ICBM to hit these targets, is that right?

Admiral MOORER. Yes, sir; I think they would probably use their bombers in concert with the ICBM's in such a way that they could fly the shortest distance to their targets, and use the ICBM's and the SLBM's for the targets that are the greatest distance; that is, those in the southern part of the United States.

Mr. GUBSER. Thank you.

Mr. STRATTON. Thank you, Mr. Gubser.

Mr. Daniel.

Mr. DANIEL. I have no further questions, thank you.

Mr. STRATTON. Just one other question, Admiral. I attended a briefing the other day where a Mr. Scovell, who was on our SALT negotiating team, I think under the previous administration, was commenting on the nuclear threat, and someone raised the question of FOBS, and he replied that this does not really represent a threat to us at all, there was no real problem.

Would that view represent the thinking also of the Joint Chiefs of Staff?

Admiral MOORER. No, sir; the Soviets do have a FOBS capability. Of course, the detection system for such a vehicle would not necessarily be part of an air defense system, if that is what you are getting to, Mr. Chairman.

Mr. STRATTON. What I am getting around to is that, as I understand the FOBS, one of its advantages is that it would come in from the south rather than the north, and therefore encounter less detection capability.

Admiral MOORER. That is correct. And in order to detect it you would need the required type of radar and the required ABM system to destroy it.

Mr. STRATTON. So if we were going to protect ourselves against that kind of threat that would require installations in the same general locality that we have been talking about in regard to this air threat, wouldn't it?

Admiral MOORER. Yes, sir; but the point is, you are talking about a different kind of system—an antimissile system as opposed to an anti-aircraft system.

Mr. STRATTON. I understand. Is there no overlap on those two?

Admiral MOORER. Yes, sir; in certain radar technologies there is overlap, yes, sir. But the destruction system is entirely different.

Mr. STRATTON. But how about the radar? Is not the over-the-horizon radar something that could be used to pick up the FOBS?

Admiral MOORER. Yes, it could be.

But again I suggest, Mr. Stratton, we are still in the process of developing the over-the-horizon radar. It has some uncertainties, for instance, over the Polar region. And we really need to learn more about it before we can give a specific answer to what it will do.

Mr. STRATTON. That seems to be a little bit different from the testimony that we had from the previous two witnesses. In other words, that this is a little less certain than I gathered they suggested.

Admiral MOORER. Excuse me, sir. Are you referring to the FOBS as less certain?

Mr. STRATTON. No, sir; the over-the-horizon radar. I gather that these two colonels who testified earlier indicated that this radar was pretty much operational, if we just wanted to go ahead and build it.

Admiral MOORER. The technique is well established, but the production cost and things of this kind still need further examination. They are now getting such an examination.

Mr. STRATTON. Thank you.

Mr. Reddan?

Mr. REDDAN. Just one question, Admiral.

Could you tell us whether or not any study has been made which would assess the degree of our vulnerability to attack either by bombers

or air missiles through this 1,500-mile opening in our fence through the south?

Has there been any scenario which incorporates that possibility?

Admiral MOORER. The JCS made a study of the air defense system. I think perhaps you saw a briefing of the study, sir.

Mr. REDDAN. Yes.

Admiral MOORER. If you did not, or the committee would like to see the briefing that was given to the Senate Armed Services Committee, we would be very happy to make it available.

In this study, however, we did not pose a scenario which would envision an attack from that area, for the simple reason that at the moment there is no airborne threat from that direction. So you would have to postulate some kind of force buildup in an area, for instance in the Caribbean, or perhaps in South America, which would permit such an attack. Right now we do not see it as a likely threat.

If we were to see a big airfield built in some area, in South America or Cuba or a carrier there, obviously we would have to take action. We would use airborne detection systems, EC-121's, the various types used by the Navy on a temporary basis and then put in a more permanent system.

But at the moment we simply do not see that as a likely source of threat.

Mr. REDDAN. Excuse me, Admiral. I was thinking more of the air-breathing missile, for instance launched from a submarine.

Admiral MOORER. Here again I think you are referring to the Echo class, primarily.

Mr. REDDAN. Yes.

Admiral MOORER. This class, we think, is primarily designed for use against other ships, although it could, of course, be used against land targets. We feel it is far more likely that they would use the submarine-launched ballistic missile.

As you know, they have now _____, of the Yankee class either in water or abuilding, and they are building more all the time. So I think a tactical ballistic missile is far more likely.

Mr. REDDAN. The only reason I raise the question, Admiral, is because I believe it is a military axiom that the enemy always seeks to exploit your physical weakness.

I wondered whether or not we have made any effort to try to figure out how Russia or some other potential enemy could use this opening in launching an attack.

Admiral MOORER. Sir, we frequently make studies of how the Soviets would use their nuclear forces against the United States. We frequently do that. I don't want to give you the thought that we do not examine the possibilities, and so on.

Mr. REDDAN. Yes.

Admiral MOORER. It is also a military axiom that surprise is very valuable. So, looking at the surprise element as well as the weapons element and the defenses available to us, and so on, it is our considered judgment that if they make attacks by air, these would come from the north, and the air-breathing type of missile would more than likely be used against ships, or perhaps against communications stations, in an attempt to degrade the detection capabilities we have around the perimeter of the United States.

Mr. REDDAN. I gather from what you say that no such assessment has been made.

Admiral MOORER. No such assessment has been made envisioning an attack that would feed missiles or aircraft in through the southern corridor.

Mr. REDDAN. How about a scenario that would include the north, east and west?

Admiral MOORER. What we do is, in effect, attempt to envision how the Soviets would use their forces. And, of course, we do that frequently. In that case, you have a point, that is, that the enemy tries to do the unexpected. If the Soviets were to launch a preemptive attack against us, one of their key objectives would be to effect surprise. Consequently, we have looked at this in terms of how they could bring maximum firepower to bear on the United States with minimum chance of letting us detect that they had this in mind. If we detect them then they don't know whether or not we are going to retaliate. So we feel if they choose to launch a preemptive attack against us, they would exercise the utmost pains to effect surprise.

Mr. REDDAN. Just one other question, Admiral: In view of the current degraded condition of the perimeter defense of our country, isn't the money spent on it virtually wasted?

Admiral MOORER. No, I do not think so, sir. I think it would be highly undesirable, in the first place, to give the enemy a free ride.

It is also very important that we have the capability to flight-follow and identify those aircraft coming from the possible fleet area and penetrating the ADIZ and the northern reaches to the United States. I feel it would be a mistake to wipe out the system that we have.

As you know, sir, in peacetime we do, in conjunction with the FAA, watch very closely any foreign aircraft which flies a flight plan and then fails to follow that flight plan. So do other countries in the world. The only way you can really determine or identify an aircraft is to fly alongside and look at it. That is the only way we can identify an aircraft that is coming in at 30,000 feet or something on that order, principally a transport. Consequently, I feel it is necessary to have the capability to intercept and take a look.

I think it would be unwise to permit free access to the airspace over the United States.

Mr. REDDAN. Of course in this particular instance, as you know, the FAA did not know of the presence of the aircraft until it was about 10 or 15 miles away. He deviated in his plan, did not call in at his checkpoints, and he was sitting right in their backyard.

Admiral MOORER. Of course the Cuban did not comply with the requirements imposed by the United States. We run into this situation all the time in the United States.

The small nations like North Korea, North Vietnam, and Cuba have really nothing to lose, so they can violate the rules all the time, and they are the ones most apt to violate the rules. The bigger nations will comply with them.

This was simply a matter of their refusing to comply with established and agreed rules. You can fly from Havana to New Orleans in such a way as to easily avoid the radar coverage that is available. The way it is disposed now, there is no question about that.

I think one single airplane, if it chose to do so, could fly in unannounced in peacetime, when you have large numbers of aircraft flying visual flight rules and cluttering up the radar screen. You could fly almost anyplace in the United States, Canada, even Russia, if you wanted to fly one plane, stay on the deck, and fly into a certain airport. It is nearly impossible to have a leakproof air defense system right down to the deck.

Mr. REDDAN. Mr. Chairman, I think it is interesting to note a lot of people in the United States knew this group was coming in; as a matter of fact, they had reservations at a hotel in New Orleans, made several weeks in advance.

This is just one of these situations where apparently a lot of people knew about it, but FAA didn't know it, and would have no reason to check with the hotel, I am sure, nor would NORAD. But all the arrangements were made, and we are the only ones who did not know they were coming.

Admiral MOORER. I think this supports what I am saying, that a single aircraft can slip through almost any air defense system.

Mr. STRATTON. Along that line, Admiral, I would like to ask another question.

Mr. Reddan has pursued the same thing I was trying to get at—the idea that because we have a rather glaring weakness in the South, we might be more vulnerable to some kind of attack from that direction.

We got the impression from talking to the FAA that there is actually a policy, at least by our civilian aircraft people, that we handle the Cubans with kid gloves because every other day or so we have several million dollars worth of aircraft and 200 or 300 American citizens down there sitting on the runway at Jose Martí International Airport, and we have been trying to lean over backwards not to agitate them, in order to be sure that these hijacked planes and their passengers come back quickly and safely.

Is that a policy which the Joint Chiefs have been aware of and have perhaps condoned?

Admiral MOORER. No, sir. That is the first time I have heard of this. I don't think we should handle them with kid gloves. If they are going to live in the community of nations, I think they should be forced to abide by the rules.

Again, I return to the point that you will find worldwide, though, that the little countries that have nothing to lose will be the ones that will violate the rules.

During the Jordan crisis last year, you will recall the Fedayeen burned two very expensive aircraft. Nothing will ever happen to those people, because they cannot pay for them; you cannot do anything but line them up and shoot them, and, of course, we have no intention of doing anything like that.

So this is something the big countries have to contend with worldwide. But I certainly do not condone any such attitude. If they are going to be a sovereign country, I think they should behave like one.

Mr. STRATTON. Apparently, in our FAA communications, they deal with them regularly, "hands off" aircraft, from one controller to another, and Havana air control is one of them that is in the picture. This came as a matter of some surprise to me and, I think, to other members of the committee.

Admiral MOORER. Yes, if you have aircraft flying toward Latin America—Panama, and so on—any country that operates commercial aircraft must participate in this overall system, otherwise there wouldn't be any air safety for our airliners.

I think the Cubans in this case deliberately violated the agreement, Mr. Chairman. And, of course, some small countries take great delight in seeing how far they can go.

Mr. STRATTON. I think that covers the questions, does it not?

Thank you very much, Admiral, for your statement and your recommendations.

The committee will stand in adjournment, subject to the call of the Chair.

Thank you, sir.

(Whereupon, at 4:30 p.m., the subcommittee was adjourned, subject to call.)

CUBAN PLANE INCIDENT AT NEW ORLEANS

THURSDAY, DECEMBER 9, 1971

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
ARMED SERVICES INVESTIGATING SUBCOMMITTEE,
Washington, D.C.

The subcommittee met at 10 a.m. in room 2337, Rayburn House Office Building, Hon. F. Edward Hébert, presiding.

The CHAIRMAN. The committee will be in order.

This morning we are continuing our hearings relative to the circumstances surrounding the landing of the Cuban plane at New Orleans International Airport on October 26, 1971. The area which we will explore this morning does not concern this incident as such, but is a collateral matter which I feel should be covered in order to help us with any recommendations we may wish to make.

As you will recall, the testimony that we have received to date demonstrates conclusively that the _____

This situation must be corrected without further delay. The Department of Defense continues to talk about the introduction of AWACS, the IMI and the Over-The-Horizon radar at some future date, but they have been talking like this for almost 10 years. It appears they want to continue with research and development on these systems, while the country stands here naked as a jaybird.

What the committee wants to find out this morning is the present status of one of these systems—the over-the-horizon radar. What are its capabilities as of this time? Is it available now and what would it cost installed as an operational system to give us enemy detection capability at the CONUS perimeter? Of course, we need more than mere detection. We also need the capability of knocking the enemy out of the sky once detected. But this subcommittee has to take one step at a time, and today we are concentrating on the over-the-horizon radar.

I hope that the witnesses we have here today can enlighten us on this system, particularly in those areas I have just indicated.

Mr. Reddan, who is the first witness?

Mr. GUBSER. Commander Wanamaker, is the room secured?

Commander WANAMAKER. The room is secured.

Mr. REDDAN. Dr. Quinn.

The CHAIRMAN. Dr. Quinn, would you identify yourself?

TESTIMONY OF DR. THOMAS P. QUINN, DIRECTOR OF FIELD PROJECTS PROGRAMS, OFFICE OF NAVAL RESEARCH

Dr. QUINN. Yes, sir.

Mr. REDDAN. Just for the record, would you identify yourself with respect to the position you hold at the present time?

Dr. QUINN. Yes.

I am Thomas P. Quinn, Director of Field Projects Programs with the Office of Naval Research.

Mr. REDDAN. For the record, Doctor, could you just give us a brief biographical background, particularly with respect to education, training, and positions, et cetera?

Dr. QUINN. Yes.

I attended Penn State University after leaving the service during the Korean war, received B.S., M.S., and Ph. D. degrees from that university, and remained there and taught electrical engineering and was a member of the staff of the Ionosphere Research Laboratory until 1964. At that time I took a position with Stanford Research Institute as a consultant on naval communications problems.

In 1966 I took a position with the Office of Naval Research in the Field Projects Program, and in 1967 I assumed the job of Director of Field Projects Program. I have held that position since.

Mr. REDDAN. Could you tell the committee how closely you have worked with the system of over-the-horizon radar?

Dr. QUINN. The Navy has been in the over-the-horizon radar development field for about 13 years. The office that I am in has conducted research in over-the-horizon radars before my arrival there, and has continued such since my arrival.

The current _____ to be discussed here today developed out of a research program that was conducted in my office. The _____ was built under contract to the Office of Naval Research _____

Mr. REDDAN. Who _____, sir?

Dr. QUINN. The _____, by Electrophysic Laboratories of I.T.T.

Mr. REDDAN. Doctor, do you have a statement which you wish to present?

Dr. QUINN. Yes, I have a prepared statement which we have submitted for the record, and I would like to use that statement in my comments, but I may deviate somewhat from the actual prepared text in some of my comments.

Mr. REDDAN. Go ahead, sir.

Dr. QUINN. Thank you.

Dr. QUINN. Over-the-horizon radar technology can contribute to solving the problem of aircraft intrusion, although there are as yet no official Navy requirements for this type of surveillance system in the Caribbean area. However, because of limitations as pointed out in section 6, an H.F. radar cannot alone guarantee the detection of aircraft to the extent of being the sole solution. To implement an over-the-horizon radar for this problem, the mission must be clearly identified

and performance specifications generated against which a radar system can then be designed.

Research and development radars such as the Chapel Bell and Madre systems have demonstrated the feasibility of detecting aircraft targets at long OTH ranges of about _____ when the aircraft radar cross-section is at least _____

If one has complete freedom to employ the frequency necessary in the H.F. band to optimize the radar performance, and has a system based on commensurate equipment design, a time availability of about _____ percent could be expected.

I would like to check the _____, itself.

The _____, by ITT/EPL in _____ and _____ under contract to the Office of Naval Research. Costs of _____ were _____ million. A _____ system with an _____ using today's state of the art would cost about _____ million.

This table discusses such things as the operating frequencies, peak power, format, and that sort of thing.

(Table 1 deleted.)

Dr. QUINN. Navy use of _____ equipment:

The Navy took custody of the _____ to the U.S. east coast; the _____ was not salvaged. The equipment has been _____ and is ready for shipment.

An intensive study to determine the most effective use of _____ is currently being conducted by the Navy with consideration of both operational and R. & D. missions. Tentative conclusions of the study indicate that the _____ should be installed _____ and used in the R. & D. program.

Also, this site is ideally located to provide coverage of the Caribbean area, and can thus demonstrate many OTH radar capabilities in cooperation with the _____.

Although there are as yet no official Navy requirements for this surveillance, examples of coverage from three different possible locations for OTH radars to conduct aircraft surveillance _____ are shown in figures 2, 3, and 4.

The _____ could be used in a recently initiated advanced development program to develop a new concept _____

and will also provide _____

Several years of development time could be saved by using the _____ as the _____ in the _____ advanced development program, with an accompanying cost saving.

Equipment _____ and _____ costs:

Estimated costs to build an operating OTH radar with the available _____ and _____ are summarized in table 2.

Improvements should be made to significantly improve the _____ of the _____ and it would not make sense to _____ without making these improvements.

OTH surveillance of Cuban-United States air corridor:

Figure 5 shows the region in which an OTH radar could be located to provide surveillance of the Cuban-United States air corridor. The radar could be located anywhere between the two heavy block lines shown on the map of the Southeast United States. Also shown is the coverage capability from a midpoint location using a _____ sector.

Figure 6 illustrates the potential coverage capability if an OTH radar is deployed _____

_____ and these represent sort of the endpoints of that area where it could be located.

(Figures 5 and 6, are deleted.)

Dr. QUINN. Risks and limitations:

The baseline R. & D. OTH radar outlined in the cost consideration constitutes a sensor capability. A fully operational system would require augmentation of the baseline radar with data processing—automatic trackers, displays and a way to transfer detection information to appropriate DOD terminals. _____

That, Mr. Chairman, completes my prepared statement.

(Table 2; figures 2, 3, 4, are deleted.)

The CHAIRMAN. Doctor, do I understand from your statement that one of these radars would be insufficient, two would really cover the area?

Dr. QUINN. I would say one would not be sufficient. It may take two or more. We really didn't go into depth, but if you locate it—

The CHAIRMAN. Would three really cover it?

Dr. QUINN. I would not want to put a number on it, but three certainly sounds like enough at the moment. We looked at putting it — looking south, which covers the island pretty well, and the corridor, _____

_____. You would need another radar further to the west. A cursory look, looks like two of them thus located should cover the area. But it should be done properly.

The CHAIRMAN. You say it would be about \$180 million—

Dr. QUINN. \$30 million—

The CHAIRMAN. Just for the instrument itself?

Dr. QUINN. Yes, this would be to produce a radar similar to the _____

I think that should be kept in mind. It has a commercial grade-type of equipment and it is _____. So we are talking about producing this kind of equipment and installing it at a site for that kind of money.

The CHAIRMAN. How long would it take? Suppose we gave an order today to do it, how long would it take to do it?

Dr. QUINN. I think I would prefer ITT answer that. There are _____

some people here from ITT and they can give you a better idea of how long it would take to actually build it and install it.

The CHAIRMAN. What will it be able to scan; how high off the surface?

Dr. QUINN. It is independent of altitude once you get above the surface.

The CHAIRMAN. They can pick it up?

Dr. QUINN. Yes.

The CHAIRMAN. For instance, the Cuban plane, that was not identified until 20 miles off the International Airport in New Orleans, as I understand it, when could you have picked that up?

Dr. QUINN. _____

The CHAIRMAN. _____

Dr. QUINN. Yes.

The CHAIRMAN. Do you have any questions, members?

Mr. PIKE. Yes, Mr. Chairman.

The CHAIRMAN. Yes, Mr. Pike.

Mr. PIKE. I may have missed this in your statement, but how do you get from the _____ coverage that you are talking about on the first page of your statement to the _____ that you showed on your charts? Your statement says you have the feasibility of detecting aircraft targets at a range of about _____ when the cross-section is at least _____ square meters. Then you show a target at _____.

Dr. QUINN. It is _____.

Mr. PIKE. All right, _____.

Dr. QUINN. _____ is the limit.

Mr. PIKE. Right.

Dr. QUINN. _____, as on the chart, is about the midpoint. But you could cover from about _____ miles with one of these radars.

You see, the energy laid down from the ionosphere would cover an area of about that extent. But _____ would certainly be the limit. _____ would be the leading edge.

Mr. PIKE. Well, _____ you mean you can't cover shorter than _____?

Dr. QUINN. That is right, _____ to be shorter than that you are in a skip zone.

Mr. PIKE. Now, let's assume that this same situation took place that did actually take place. The plane takes off from Cuba and heads west over the Caribbean. _____

_____. Is that correct?

Dr. QUINN. Well, that is correct. If you look at the chart, that is one of the reasons why we must locate the radar inland, is to try and move that "skip zone" as close to the coast as you could.

Mr. PIKE. Well, looking again at your chart, the skip zone there is what, _____ miles off the coast of Louisiana?

Dr. QUINN. Yes; that is right.

Mr. PIKE. So _____ miles off the coast of Louisiana you lose it?

Dr. QUINN. Right.

Mr. PIKE. Then what do you do?

Dr. QUINN. Well, I would not want to infer that these two charts in this paper are the last word on OTH radar coverage for this problem. I think what should be done, as I mentioned in a previous answer to the Chairman, the problem should be laid out clearly as to where are the aircraft coming from, how many, and then a proper study done to locate precisely where the radar should go. We are just here giving examples of the fact that you can cover the area.

Mr. PIKE. If you had a third one, say, located up in _____ could you, despite ground scatter and all that, still continue to track that plane coming in?

Dr. QUINN. Yes, that would help.

Mr. REDDAN. Doctors, what is the arc of coverage that you have here in your present configuration?

Dr. QUINN. These are _____ degrees, I think, if I am not mistaken; yes, _____ degrees.

Mr. REDDAN. Could that arc be widened by a different antenna configuration?

Dr. QUINN. Yes. The arc is dependent on how you build the antenna, and how much transmitter power you want to put into the radar, and there are many options. For example, you could almost double the size of the arc and then time share. You could have the transmitter scan through the area on a scanning type of radar rather than continuously covering one sector.

Mr. REDDAN. If you extended this one, say, to _____ degrees, out of _____ wouldn't that give you the coverage from Cuba over to the gulf coast?

Dr. QUINN. Yes. But again I think the tradeoff of either widening that to _____ degrees or perhaps moving it farther west and widening it some lesser amount should really be examined.

Mr. REDDAN. But in any event, I am trying to determine whether or not one unit with a different antenna configuration could cover the area with which the committee is concerned.

Dr. QUINN. Well, so far as coverage, we are looking at where the energy is laid down. We must also be careful about the fact the aircraft needs to have a radial velocity vector. So if the aircraft were running normal to this radar beam, and then came out the side of the beam somewhere, it could turn north and you would miss it. So you must be careful that you are covering it both with energy and an area where you get a radial velocity component.

The CHAIRMAN. Any further questions? [No response.]

Thank you very much, Doctor.

Dr. QUINN. Yes, sir.

Mr. REDDAN. Gentlemen, will you identify yourselves for the record, please.

TESTIMONY OF WILLIAM C. AMIDON, VICE PRESIDENT OF BUSINESS DEVELOPMENT FOR THE ELECTROPHYSICS LABORATORIES, ITT; EDWIN LYON III, VICE PRESIDENT OF ELECTROPHYSICS LABORATORIES AND DIRECTOR OF SPECIAL PROJECTS, ITT; AND WESLEY MOLLARD, PROGRAM MANAGER, ITT

Mr. AMIDON. I am William Amidon.

Mr. LYON. Edwin Lyon III.

Mr. MOLLARD. Wesley Mollard.

The CHAIRMAN. All ITT?

Mr. AMIDON. Yes, sir.

Mr. REDDAN. Would you also state for the record what your position is with ITT?

Mr. AMIDON. I am William Amidon. I am vice president of Business Development for the Electrophysics Laboratories of I. T. & T.

Mr. LYON. Edwin Lyon III, vice president of Electrophysics Laboratories, and director of special projects. My special project for this period of time is over-the-horizon radar.

Mr. MOLLARD. I am Wesley Mollard, program manager. I am responsible for the _____ radars.

Mr. REDDAN. Gentlemen, you know that the committee this morning is interested in the over-the-horizon radar, and is particularly concerned with what its present capability is, and what its availability is. Is it an off-the-shelf item; can it do the kind of a job we are talking about here of identifying or picking up low-flying aircraft or low-flying cruise missiles. How much would it cost to put this thing in.

As I understand, IT & T developed _____ for the Navy. You have had some experience with its operation. So if you can just tell us in your own words just what _____ can do, and how long it would take to install if the decision is made to go ahead.

Mr. AMIDON. All right.

Mr. Chairman, with your permission I would like to submit a very short prepared statement which in summary says that the _____ radar technology can in fact track both airplanes and missiles.

I would like to conduct our presentation to you, however, on a fairly informal basis by this standard and present a series of technical concepts and ideas which we believe demonstrate that the radar technology does _____.

Prior to that I would like to comment just briefly on the basis for this belief in experience.

The Electrophysics Laboratories has been performing research and development in over-the-horizon radar for approximately 15 years, _____. We began with the research and development under the cognizance of the Office of Naval Research in 1957, _____

We have throughout the period since 1957 been performing research and development for the Navy, for the Air Force, and for the Advance Research Projects Agency, the Department of Defense

During the period 1961 to 1963, we delivered _____ operational OTH radar systems to the Air Force. _____

The _____ system, which we will discuss in detail today, was put into _____ in _____. Our most recent experience involves the design and fabrication of a large OTH radar system for the Air Force. This will be implemented within the next _____ months. It is referred to as a _____ radar and will be used for investigating practicality of aircraft detection in the _____.

I believe that that summarizes our major elements—the major elements of our experience, both with R. & D. and with operational systems.

Mr. Lyon, sitting at my right, has been responsible for the design of a major portion of these radars. He has been with the Electrophysics Laboratories since 1957.

Mr. Mollard, as indicated, has been the _____ program manager.

What I would like to do, if it meets with your approval is to have Mr. Lyon present a—following the outline in front of you—a general briefing on the applicability of OTH radar, for this particular application, and then Mr. Mollard will follow that by discussing how one might use the _____ in this particular application.

Mr. LYON. With your permission, sir, I would like to stand so I can identify the points of interest on the viewgraph slides.

The next slide.

I think it would be advantageous at this point to show some of the basic fundamental principles so we can all be on the same grounds as I continue the conversation, and I point out the highlights of the operation principles of these radars.

Over-the-horizon radars operate on the basic principle that energy sent out from the radar set is refracted in the high altitude ionosphere, anywhere from 50 to 200 miles above the earth. The energy is then bent back down toward the earth and arrives at the earth leaving a footprint in which targets can be detected. This footprint can be anywhere from _____ miles from the radar to about _____ miles from the radar. Distances shorter than _____ miles are not achieved very reliably due to the steep angles required, and distances beyond _____ miles cannot be reached because of the limitations in the ionospheric height.

The targets that are seen in the footprint have energy reflected back toward the radar, and are received at the same location. This constitutes what is termed a “monostatic” radar, one antenna, one site, for transmitting and receiving. At the same time, moving targets are detected and are separated from each other by virtue of their motion. Stationary targets, and I am here depicting an island, have their reflections gaged as to distance and they form a motionless background against which targets can be plotted.

These we use as a fixed background against which to plot the motion of aircraft, and other moving targets.

Mr. STRATTON. Could I ask a question at this point, Mr. Chairman?

Does this energy go out in a kind of a beam so you have to have the beaming back and forth, up and down, something of that kind, in order to cover more than a little circular area, as you indicate there?

Mr. LYON. Yes. This, of course, is an artist's depiction. The size of the area covered at any instant is of the order of a _____ miles wide. and of the order of _____ miles in depth, at least.

Mr. STRATTON. But it will still move, or rotate?

Mr. LYON. To move to larger areas than that, it is true one must move the beam, or device, a wider beam. Of course, the wider the beam the less the energy per unit area on the ground. So there is a tradeoff which must be made.

The next viewgraph shows the type coverage envisioned by a _____ site.

Notice the _____ blue areas at the top of the figure are more northeastward and northwestward coverage of likely Soviet approaches to the Continental United States. These are the subject of an

The _____ sites which are of most concern to us today are the _____ sites.

The coverage is shown to scale here, meaning that the minimum range of coverage _____ and the maximum range of coverage is of the order of _____ miles outward. It can be seen with these _____ sites, both the major Soviet approach zones and other peripheral zones around the coastal United States are completely covered.

_____. This is a subject of a study now underway by our company called _____.

The next slide please.

We want to emphasize during this presentation that these over-the-horizon radars and the OTH-B radars, meaning backscatter radars, can be used to detect targets by virtue of their reflection of energy back to the radar set. We can track targets by _____. They can be measured as far as their position, course, and speeds are concerned for the purpose of trying to match any target detected with flight plan data, or with oceanic control reporting data.

So that, commercial aircraft and aircraft which are flying in accordance with flight plans can be sorted out of the many aircraft which will be detected.

It requires that the targets be moving in order to be declared threats. Of course that can include aircraft, sublaunched cruise missiles and sublaunched ballistic missiles. The range window is anywhere from _____ miles in distance.

The quadrant shown on the previous viewgraph indicates that a typical operating quadrant is _____ degrees wide and an allowance of _____ miles distance.

A typical radar site as shown in this next figure of a research and development sort is this one. This is a photograph of _____ site, and it is here shown to give you an idea of the size of these radars.

They are not small microwave radars, as you might have seen at airports, or aboard ship.

A typical transmitting antenna size is here shown. These towers are of the order of _____ feet. This is typical of a transmitting antenna which could be used effectively in this problem of watching the southeast approach zone to the United States.

A typical receiving antenna can just barely be seen against a vegetation background, and it runs on the order of _____ feet span, a _____ antenna, a _____ foot span is shown running off the picture to the _____ to the top, and to the right-hand side of the picture.

The equipment for all these antennas is housed in buildings and in trailers, so that these radar sets can be made semiportable, and have been, over the years.

The next viewgraph, please.

From an equipment point of view the radar system set which is most effective in offering complete operational coverage of the entire perimeter would have each _____ covered by a radar set of this complexity. Two antenna systems, a low-frequency and a high-frequency antenna, because the problem is larger than what can be accommodated on a single antenna in an operational mode, where one has to consider the full 11-year cycle that the sun goes through, and its impact on the ionosphere—the total span of frequencies required. It requires parallel channels of receiving for the high-low frequency antennas and parallel channels of excitation and transmitting to allow the radar set to be complete.

Finally, signal processing must be included to discern one target from another and targets from ground clutter, and data processor is required to track all targets detected in the signal processor.

Finally displays, and a connection with the air defense establishment must be made.

The next viewgraph, please.

Mr. REDDAN. Did you say what the effect of sun spots was on the reliability of the system?

Mr. LYON. I can do that right now.

Mr. REDDAN. All right.

Mr. LYON. Leave that on.

The radar operates on many different frequencies, one at a time. The frequency in use is determined by the distance desired to be covered at the moment.

The frequency in use is not a fixed table, as one might find in an almanac, but must be measured at the moment by sensing the ionospheric height and ionospheric density. This is done by _____ that might be out in the _____.

The activity of the sun changes the ionospheric density and height when a sunspot shower occurs, or when a large solar activity occurs,

the frequencies required generally go upward rather than the radar operating at 14 megaHertz, for example, it may be required to operate at 30 megaHertz. The radar must be capable of operating over any of these frequencies so as to accommodate showers of protons from the sun. The effect of complete blackouts often called SID, solar disturbances, are extreme absorption of these waves. This absorption manifests itself to the radars in that at the worst he can't detect anything.

These last generally about 40 minutes. They are unpredictable, that is why they are called by, even scientists, sudden ionospheric disturbances. They are so unpredictable no one could take advantage of them in a strategic fashion. An enemy could not plan on them happening and plan to fly his aircraft during this period, because they only last at the order of 10 to 40 minutes. They do not occur at night, and it occurs when the sun is around high noon or midafternoon. Those are the subionospheric disturbances caused by the sun which would cause the radar to be blacked out.

Mr. REDDAN. What is the frequency of these disturbances in your experience?

Mr. LYON. Around 1960, and again around 1969, when the sunspot numbers were at their peak, we might have an experienced one per year, or possibly two. I personally did not experience any in 1969, operating any of the radars I was associated with for the simple reason we weren't looking in an area where there was one at the time. They can be on any portion of the earth. They are always under the sun. On the same side of the earth as the sun.

So if one occurred while the sun was over Australia for example, we would never know about it unless we asked somebody in Australia.

The CHAIRMAN. Did I understand you to say you could _____.

Mr. LYON. Yes. I will show you in a moment—we can go back to that viewgraph, the map, Bill, if you don't mind.

Mr. AMIDON. Yes.

Mr. LYON. There is a dual radarsite shown approximately

The _____ open Atlantic are covered by another radar operated from the same location and looking, roughly, eastward.

The CHAIRMAN. May I interrupt? As I understand the operation, then, the radar has to face the area with which you are concerned?

Mr. LYON. That is right.

The CHAIRMAN. Right.

Mr. LYON. That is right.

The CHAIRMAN. If you moved it south, would you take in the perimeter of the other Latin American countries, Honduras, Guatemala?

Mr. LYON. With a site further south, you would encompass the South American coast, but you would leave a gap in the Gulf.

The CHAIRMAN. You would leave a gap?

Mr. LYON. There is always a gap up to _____ miles from the radar site.

The CHAIRMAN. I see. So you compensate for that gap by moving it back more.

Mr. LYON. That is right.

I want to paint a contrast in a few minutes between this completely operational system which consists of _____ sites to cover the entire approaches to the United States from the ocean to an interim capability which can be had very quickly and very reasonably, which can cover the area of immediate concern.

Mr. HALL. While we are on this, though, and before you get to that, do you have _____.

Mr. LYON. _____ itself will not do. What we have done is areas where there _____

Mr. HALL. The other question, Mr. Chairman, before we leave this area:

What about elevations? Is it effective in all elevations if you get a blip or reflecting piece against your backgrounds, clear up to the ionosphere?

Mr. LYON. Yes; it is. One can detect moving targets until they penetrate the ionosphere. Beyond that point we can't see them any longer. They are above our ceiling.

Mr. HALL. But from there down to the surface in your footprint?

Mr. LYON. In the footprint and the beam.

Of course the higher they are, like ballistic missiles, for example, might be launched outside of our footprint, but pierce our down-coming footprint waves.

Mr. HALL. But you have no problem with the OTH, or backscatter of something coming in at different levels from which you are effective in? That is all prose, but I think you know what I mean?

Mr. LYON. That is right. As long as the object moves into the area which is under illumination, we have it covered.

Mr. HALL. Thank you.

The CHAIRMAN. For instance, addressing ourselves to this particular plane that came into the international airport in New Orleans, if this installation had been there, would it pick up the airplane?

Mr. LYON. _____ it would have tracked it _____.

As Dr. Quinn mentioned, though, at times when it moved exactly tangential, if it could maintain a tangential course forever, it would escape detection because we would consider it ground clutter, or something not moving.

It couldn't reach our coastline doing that, though. It would have to end up in Mexico somewhere.

The CHAIRMAN. How could you identify that particular plane?

Mr. LYON. That plane could not be identified by this radar if it never moved toward the radar set or away from it. If it always kept the same distance, like a ball at the end of a string, we would never detect it. We would think it was ground or earth, or something not moving.

Mr. HALL. But the minute it turned in off the tangent toward New Orleans, bingo, you would have it.

Mr. LYON. Tangential _____, which is rather low, we would detect it.

The CHAIRMAN. At what height off the surface of the earth?

Mr. LYON. From _____ or so.

The CHAIRMAN. Let's take the case of this particular plane. Our information is that Havana filed the flight plan with Houston. We knew there was a plane on this flight plan. Immediately upon knowing that, later, the radar could be able to pick up that plane, by being alerted.

Mr. LYON. You wouldn't need to be alerted.

The CHAIRMAN. Would you know what type of plane we were looking for?

Mr. LYON. If you had a flight plan which told you when the plane took off and generally what course it took, we could identify that plane from any planes around it, providing it adhered to the flight plan.

The CHAIRMAN. What I am talking about is with planes taking off every day from Havana, how could you identify this one particular plane?

Mr. LYON. Only by its course.

The CHAIRMAN. Only by its course. Otherwise it would be just like any other aircraft.

Mr. LYON. There is no special reflection we can get from it or signal it sends out.

The CHAIRMAN. To identify it as a particular aircraft?

Mr. LYON. That is right.

Mr. STRATTON. Would you explain again briefly how the tangential thing works? I don't quite understand it.

Is this because the radar beam itself goes back and forth, and therefore you can't detect any movement within the little spot of the spotlight?

Mr. LYON. No. The physical reason is that we require that _____ the same _____. The _____ out by even a tiny amount.

Mr. STRATTON. I understand now.

Mr. LYON. The reason is the fixed ground offers so much clutter that you cannot see echoes that are exactly on the same frequency as you transmit. Because the earth offers so much of a background noise.

Mr. STRATTON. But you still do see the ground?

Mr. LYON. Oh, yes.

Mr. STRATTON. When you orient your radar, though, that _____.

Mr. LYON. It is _____. That is the _____.

The CHAIRMAN. Assuming you are familiar with what happened in this particular instance, if this installation had been present would that have been helpful to us in tracking that plane?

Mr. LYON. Yes, it would have provided a track in real time which one could use to scramble interceptors, for example, to fly alongside it.

The CHAIRMAN. We could send interceptors out?

Mr. LYON. Oh, yes.

The CHAIRMAN. The information we have is that we did not know the plane was approaching the International Airport until it was 20 miles out. It was practically there.

Mr. LYON. The only recourse is line-of-sight radars that can see over the horizon.

The CHAIRMAN. We recognize that fact. This could have remedied that condition?

Mr. LYON. That is right, sir.

The CHAIRMAN. That is what we are trying to get at.

Mr. LYON. That is exactly right.

The CHAIRMAN. Where the track would go, we can send intercepts out from land to escort the plane, an unidentified plane, or a suspicious plane of a foreign power?

Mr. LYON. That is absolutely correct.

The CHAIRMAN. We could send an interceptor out?

Mr. LYON. That is absolutely correct.

Mr. DICKINSON. Just as a practical matter, does the scope for radar look like any other radar scope, or is it different?

Mr. LYON. In the operational radar, yes. It seems pretty much the same type of picture as the other radars, except the distances are somewhat larger. The number of aircraft being tracked on this display will be very large. We would expect to see possibly _____ or so aircraft at any one time.

Mr. DICKINSON. I understand.

Also, if a _____

you could also pick it up on this?

Mr. LYON. Yes. That has been done. We have not, because we do not have _____

Mr. STRATTON. Could I ask one other question?

I understand there is a detection limitation in terms of the aircraft cross section. Would this plane have been visible? I think it is something on the order of a DC-3 in size.

Mr. LYON. _____

Can we pick up with the previous slide?

That one has been covered. That was to indicate the complexity, yet the relative directness of the equipment layout from electrical point of view.

The next one, please.

Mr. DICKINSON. In connection with that one question I asked you, when we had the SAGE system, for instance, blips were identified and when there were a number of blips, you could take an electric pencil and touch a point and you would get a read-out on the scope of the number of the plane, the flight plans, speed, and so forth. Can you do that with this system also—just touch it and get a read-out?

Mr. LYON. You can't get as complete a read-out because the SAGE system in that mode operated by virtue of transponders in the aircraft. These were cooperative transponders. We can't expect the enemy to provide that, nor do we have transponders operating in this frequency regime on our own aircraft.

Mr. DICKINSON. All right.

Mr. LYON. I am not sure we can get a sympathetic ear from the aircraft industry in this regard because of the size of the transponder required.

Mr. DICKINSON. Thank you.

Mr. LYON. This picture will serve to indicate that it is a rather direct relationship between the electrical diagram and the physical layout—transmitters being located in such a way as to be very close to their own antenna portion, and receiving antennas, being much larger in span, are used to doing the fine grain discernment of one target compared to another, and _____.

We have divided the problem into two radars, really, for any one of these _____ degree _____. A low frequency radar and high frequency radar, for the reason that we want to maintain high reliability. We have found that to try to do the problem with one radar antenna and one radar set, will press the available technology a bit too hard. It does reduce the reliability to try to do the entire problem with one antenna and one radar set. The next viewgraph, please.

One method which we found is optimum for scanning a _____ degree area is not to illuminate the whole area all the time with the radar transmitter, but to lay down a footprint of about this scale size [indicating] and this one is shown for the _____ radar in a study conducted for the Air Force.

Overlaid on each of those footprints in turn is a fine grain set of receiving lobes. These are used to discern one aircraft from another if they are flying side by side, or in the same general area. We do get azimuth resolution of the order of _____ by this technique, yet it _____ the entire zone. This is essential for the _____ problem. We can _____ this aircraft. This is on the order of _____ is required to _____, using a radar of the size we are going to indicate next.

This is not a small radar. The final configuration one, which will satisfy the problem from an operational viewpoint, that is provided _____ [next viewgraph shown]—would require transmitters of the order of _____ power in each _____. It would require large _____ on the order of _____. It would require a receiving system which would allow _____ azimuth, and would require _____.

Finally, it would do the _____ without _____ between _____ and any _____ into the radar set, having to do with known _____.

There is, however, an interim configuration which would provide a coverage of the _____ sector to a quick reaction basis which is not the final configuration. It lacks the ability to _____, and it does require _____ and it does not do _____ or any other _____.

Mr. Wesley Mollard will describe that in some detail in a few moments.

The next viewgraph.

This picture will indicate the complexity of the equipment. It is shown here for technical completeness. It shows a one _____ of the radar sets consists of a _____ receiving _____. Modular transmitter design for redundancy and high reliability. And it might be noted at this point that the _____ radar which will be described is also modular, has offered a reliability which is measured in availability to the mission of over _____ percent.

—Inhibitors

It requires multiple receivers for the fine grain azimuth measurement of targets, and a signal processor which must go through these processes. It must cancel or remove ground clutter.

This is the problem of the aircraft moving tangentially. It will be removed along with clutter, so we will not detect it. It must reduce interference from others.

This frequency range _____, is filled with interference by other users. It must employ _____

It finally has a data processor which computes the tracks and correlates these tracks against the other information based on range, velocity, and azimuthal targets.

Finally, it is under centralized control. One operator does most of the central control; that is, developing the scan program which optimally fits the mission, the frequency program which matches with the ionosphere demands, and antenna configuration which is a function of the area under surveillance and, finally, processing parameters as the target type and the ionosphere will allow.

These are all functions of the ionosphere and all functions of the mission at hand, and it must be under central control to maintain effectiveness of the radar set.

Finally, what I have tried to point out is that the problem of early warning against intrusion into coastal areas of the continental United States by either aircraft or missiles can be easily satisfied by the use of a network of _____ these sites and fit the operational mode. We would suggest, and recommend _____ technique, a _____ overlaid over the transmit lobes assembled to scan throughout the area to permit a completely automated and fully operational system—which, incidentally, has all the required technologies already developed and field-tested, and there is in addition an interim capability which we have identified using the _____ over-the-horizon backscatter radar,

Mr. PIKE. Mr. Chairman, may I ask a question?

Mr. STRATTON (presiding). Yes.

Mr. PIKE. First I am both amazed and delighted that this system could be operated by one man. You are talking about a man at a console of some sort.

Can you give us any idea about the manning for the whole base? What are we talking about, both in people and in terms of the amount of training they have to have?

Mr. LYON. Yes. If I gave the impression one man operates the entire radar, I am very sorry. One man operates the radar controller console, which is the man who establishes the frequency and scan—

Mr. PIKE. I assumed that. You are now talking about the whole base. How many people are we talking about?

Mr. LYON. There must be at least another group of men, probably three, who operate the console which displays the target situation at any time. They are the ones who have the assignments to do something about target detection.

The complete operating cadre in, for example, _____ was 22 contractor personnel, supported by 15 local people who did things like custodial—

Mr. PIKE. Housekeeping?

Mr. LYON (continuing). Diesel plant maintenance, mechanics, and that sort of work.

Mr. PIKE. Roughly 40 people?

Mr. LYON. Forty people could be used to handle _____ and we would guess that a _____ radar like you would need somewhere _____ as I mentioned, would probably require a total complement of 60 to 65 personnel.

This number I would like to confirm for the record, but I would say offhand that is correct.

Mr. DICKINSON. That would be about 250 military.

Mr. PIKE. Are you referring to civilian contractor personnel?

Mr. LYON. Yes; I am referring to contractor personnel. The training is 1 year in a classroom, laboratory, and on-the-job training at a field site _____. This has been our experience.

Mr. PIKE. OK. The other question: How do you jam this?

Mr. LYON. _____

It can be discerned as being a jammer _____. If we provide for the ability to track _____ targets, it is quite difficult for someone to correctly simulate _____ targets to an extent that even a modest computer could not identify these as being scoop targets. _____

The radar can be made to discern this and to catch that out as a false track. _____

It makes an international nuisance of the jammer, and, second, the radar does have inherent capability to obviate the effects of interference—other manmade interferences.

Mr. PIKE. We have seen many pictures of great big Russian radars which we have either been told or assumed had to do with their missile-tracking defenses. Do we have any knowledge about any work that they are doing in over-the-horizon radar?

Mr. LYON. I have a little bit on my own, and what I do have I don't believe I am at liberty to discuss without corresponding with my sponsors.

Mr. STRATTON. Mr. Reddan points out that there is an article in Aviation Week and Space Technology this week, on this subject of Soviet radars.

Mr. REDDAN. _____

Mr. PIKE. Let's not put him on the spot. Because they say they have the technology doesn't mean we can read about it here.

Mr. LYON. Are there any other questions?

Mr. STRATTON. Can you give us an idea of what the operational costs per year might be?

Mr. LYON. I think Mr. Mollard can talk about that for the interim system. For the permanent system, I would like to enter a number for the record but I can't produce it right at the moment. I would have to go back to our plant and determine the figure.

Mr. STRATTON. I believe Dr. Quinn said the installation cost would be _____.

Dr. QUINN. That is for one site; yes.

Mr. LYON. This is for the operational radar.

Mr. STRATTON. For one site.

Dr. QUINN. That is not a defined denominator, that is the gross.

Mr. LYON. I can provide the numbers to the subcommittee.

Mr. STRATTON. Your chart indicates one radar operating from _____ could cover the entire Gulf. The purpose of having two would be to prevent the loss of detection of something that was operating tangentially, is that correct?

Mr. LYON. Yes; especially in view of the slightly reduced capability of the interim systems.

What Dr. Quinn referred to was _____ radars _____ of the same characteristics _____.

_____. As a result, it does suffer more from loss of target due to tangential motions _____.

_____. miles.
Mr. HALL. The immediate answer to his question is you need _____ degrees in each one of them just as a _____ degree scan. Isn't that right?

Mr. STRATTON. Your circles there were swung, representing the operational radar?

Mr. LYON. That is right. This showed _____ radars at the same location covering _____ degrees. Dr. Quinn's presentation showed _____ radars covering the same area redundantly to guarantee against the tangential motion.

Mr. STRATTON. Right.

Mr. REDDAN. Did you tell us how many objects each radar could track at any one given time?

Mr. LYON. That is a function of the tracker itself. _____

Mr. REDDAN. _____ is limited to what?

Mr. LYON. _____

Mr. STRATTON. Any other questions?

Mr. Lennson?

Mr. LENNON. What is the production and installation timeframe for this radar?

Mr. LYON. The final operational configuration, we are talking about the _____ period as being the final—the operational capability. For the interim, I would like to refer that to Mr. Mollard, who can show you a way of getting coverage of the immediate zone of interest in a very short time _____.

Mr. STRATTON. Thank you very much.

Mr. Randall?

Mr. RANDALL. What we are really talking about is this instance at New Orleans. As I envision it, you said you could really follow it only if you knew something about the time of takeoff, and then I understood you to say a moment ago you have this mini computer, or whatever it is, you can track all manner of targets.

It seems to me you weren't quite consistent. Maybe I misunderstood you. I thought you said as long as you had a flight plan, but if it moved out.

Mr. DICKINSON. Identified.

Mr. RANDALL. You still show something is going on but you can't identify it, is that it?

Mr. LYON. Yes, I know there is an airplane flying toward us, I know its exact course and speed moment by moment, but I do not know who he is, unless I can match his flight with a flight plan.

Mr. RANDALL. I see.

Mr. LYON. You see at these radar frequencies there is no reporting automatic to the radar system, like there is for the Aviation Administration, for example, where all commercial aircraft carry responders that respond to all HF radars and identify themselves on the scope as to their flight number or tail number.

Mr. RANDALL. Obviously an enemy would not be that good to us.

Mr. LYON. That is right.

Mr. RANDALL. It occurred to me that might be a weakness of this.

Mr. LYON. It is an added problem for over-the-horizon radar operator or the system. It must operate in the blind, as though all targets are enemy targets.

Mr. RANDALL. All right, thank you.

Mr. MOLLARD. Mr. Chairman.

Mr. STRATTON. Yes, sir; Mr. Mollard.

Mr. MOLLARD. The preceding has described the application of available HF/OTH Backscatter radar technology to the problem of CONUS peripheral defense.

What I would like to speak about in this portion of the presentation is the application of a particular radar system to a specific surveillance mission. This task, or mission, involves the surveillance of the southeast continental U.S. coastal areas really extending from the island of Cuba to the Gulf Coast States of Florida, Louisiana, and Texas, and in width from the western coast of Puerto Rico to the eastern coast of Mexico.

The particular radar which could be utilized for this mission is known as the _____ radar.

However, it is adaptable. Its configuration is such that additional equipments could be added to meet possible user requirements. As we will see later, it has a low 5-year cost to it. And one last point is that the siting of this radar is not a critical factor. Its location is not limited to one or two particular sites. In fact, it can be, as I will show on another chart, it can be installed on an existing Government installation where _____ ground is available.

The next viewgraph is an aerial photograph of the _____ facility

The next chart I believe is a possible repeat of one that Dr. Quinn had, but just to point out a few characteristics of the system: It does operate in a _____ megaHertz portion of the frequency spectrum. It has a peak pulse power output of a little over _____ watts. Its average power is approximately _____ watts as compared to the _____ wattage power capability described for the fully operational system.

These values here for range, velocity, and azimuth resolution, and azimuth accuracy, are values that have been achieved _____

and measured _____

The next slide, the radar could be installed, for example in the Southeast United States, we have shown it here for pictorial presentation, Eastern United States, near our _____ and what we have shown here is a _____ degree sector.

Again, as Mr. Lyon defined, there is a _____ nautical mile skip zone, coverage could be achieved out to _____ nautical miles _____. Depending on how one wished to orientate his antenna, this _____ degree sector could be covered, _____

This area here, we indicated that the siting was not critical [indicating]. Some areas may be more advantageous than others. But anywhere within this swath we have shown here, the shaded area, the radar could be sited to provide coverage into this area. [Indicating.]

The next chart indicates some of the answers to the questions you asked earlier.

If the radar were to be located in the Southeastern United States, we assume we deployed the present _____ radar system which, by the way is not complete as a system, as Dr. Quinn pointed out. It is missing an antenna, and some receiving equipment _____.

The _____ first-year costs, including refurbishment, adding these components which are needed, installation and site preparation as well as 1 year of operational manning, would run _____.

If one were to deploy the _____ radar itself, if it were not available, and we were asked to deploy a new _____ radar system, we could have one interim operational capability within _____ at a first-year cost of approximately _____ which would be essentially an upgraded version of the present _____ system but not at the full level that Mr. Lyon described as a truly fully operational system.

Annual operating costs based on our experience with the radar, we know pretty well what the spares and consumables and technical and logistic support run. This assumes a 21-man contractor operating staff, also assumes 24-hour-day, 7-day-a-week operation at approximately _____.

Mr. DICKINSON. Would you multiply it by _____?

Mr. MOLLARD. _____.

The CHAIRMAN. How long will it take to install the equipment Dr. Quinn referred to?

Mr. MOLLARD. This would be the interim capability _____.

The CHAIRMAN. Would that be the most desirable or least desirable for the full protection that is needed?

Is this the same radar that you described as costing _____ originally?

Mr. MOLLARD. Yes, sir; it is essentially the same radar. It has been upgraded in that time.

The CHAIRMAN. It has been upgraded, and this can be installed _____ time?

Mr. MOLLARD. Yes, sir. That is providing we didn't spend a lot of time negotiating for land.

The CHAIRMAN. You assumed we have land available in _____ we have such land available, to your knowledge? You said _____.

Mr. MOLLARD. Well, we said you could put it in that area. It would probably be better, in our opinion, if we had _____ is a research facility, as such _____.

Mr. MOLLARD. Yes, sir.

Mr. LYON. I would like to hazard an answer to the question of which is the best solution, whether to go with this interim thing or to go for the operational one.

I think that probably the optimum way to go would be both. You would have coverage during the time the other one is being militarized and go through the procurement cycles, which although it could be produced in a few years, a couple of years, it would probably take several years to get out of the bidding and procurement rat race.

The CHAIRMAN. You well named it "rat race." Rat race is right.

Mr. LYON. You would really have operational capability for the particular problem which is worrying everyone during the time when the other radars, if they are ever procured, are being procured.

The CHAIRMAN. I think that is logical and sensible.

Mr. MOLLARD. I would like to point out one thing, since we have talked with Dr. Quinn. He mentioned that we have not looked—he did not have available at this time the _____ aircraft, which I understand is also concerned. We have modeled that particular aircraft on our range, and its HF cross section characteristics are larger than _____ square meters. The system is capable of detecting even the _____.

The CHAIRMAN. Would you suggest _____ of these would be better than _____, or would _____ be adequate?

Mr. MOLLARD. _____ of these, sir; would certainly provide you—I have one viewgraph here—with a—locator.

We have looked at putting a _____, if you will, over here, looking this way [indicating]. It certainly would eliminate, or reduce to a very minute problem, this aspect that Dr. Quinn talked about, the tangential philosophy, if you had _____, you reduce the possibility of one sneaking through, a very, very low probability, less than, I think, _____ percent.

The CHAIRMAN. With _____ you could protect the _____ and with _____ you would go all the way to the _____.

Mr. MOLLARD. Yes; it is a matter of antenna orientation. You could orientate this antenna such that you gave coverage out here [indicating] whereas the one up here gave coverage over here [indicating].

You would have a lot of overlapping coverage, also.

Mr. DICKINSON. Do you anticipate, if we get the _____ radars installed, and give you _____ degree coverage, will they all feed into one place, such as NORAD, to one bank of screens, or will they still be fragmented at _____ different locations and four different scopes and _____ different operators?

Mr. LYON. I would like to answer that.

That is a problem facing the Air Force now, _____ so many aircraft at one time. I can't answer that in that that would reflect policy that the Air Force or NORAD intends to take. Certainly it would be advantageous to have it centralized so as to tie it into our Air Defense System. I assume they will take that course.

Mr. DICKINSON. Well, considering the technology, you could do it, if deemed desirable?

Mr. LYON. Yes, sir, we certainly could do it.

Mr. DICKINSON. Thank you.

Mr. REDDAN. Doctor, I would like to just ask you one question in light of the testimony that the committee has just heard.

Would the utilization of the present _____ system that the Navy now has custody of—if that were used for aircraft detection and missile detection purposes in the Gulf and Southeast Gulf area—would it in any way interfere with the Navy's present plans for utilization of that equipment? In other words, could the Navy be using it and could we be using it for defense purposes at the same time?

Dr. QUINN. My opinion is it could not be used for both. If you want to do _____ with it, as we are proposing and develop some _____ capability using this radar in a program which means we would not have to buy a similar radar for the Navy program, you could not also use it for _____ because the two missions are not compatible.

Through the development work _____, we need control of the radar. That is, we would like to operate it when we want to operate it, change frequency, format, antenna-look angle, and this sort of thing. That would be incompatible with keeping the radar pointed in some direction to keep that direction under surveillance.

And so my opinion would be that the two missions would not be compatible.

Mr. DICKINSON. In connection with that, _____—we have discussed the effect of sunspots and other conditions on the reliability of the radar. What about weather? Does it make any difference?

Dr. QUINN. No. That is an advantage of the HF, that it is weather independent.

The CHAIRMAN. Mr. Pike.

Mr. PIKE. I take it the reason we could get this interim capability, looking toward _____ at this low cost, is simply because there is available this one set _____.

Mr. MOLLARD. You are covering almost that _____-degree vector. What you do—one, the technology is there and radar could be used to scan that sector—all you are doing is you are decreasing the scan time and the number of times that you are actually looking into the gulf coast region.

I would personally not want to use that radar in that type of operation at this time.

Mr. HALL. Is the _____ interim solution similar to the one you have at _____. Or is it more similar to the operational mockup _____.

Mr. MOLLARD. It is more similar in that respect to what we have at _____. It has more capability. It is a complete system. It has more complete data displays, and storage capability within the system as far as data storage goes.

It also has the larger power capability at this time.

Mr. HALL. Will it continue to be an experimental research area or could it be used as a prototype by simply changing the aerial, the antenna to the southeast? Would there be any fallout benefit therein, and would the company consider that incorporation?

Mr. MOLLARD. _____.

Mr. HALL. Yes.

Mr. LYON. That is a Navy site. It is up to the Navy, really at this time. That is a Navy site. It is under cognizance of the Office of Naval Research. And think you should probably—

Mr. HALL. The Navy is our ally, we work with them too. That is an interesting possibility. Does the _____ interim system also have the _____ capability?

Mr. LYON. Yes.

Mr. MOLLARD. Yes, sir.

Mr. HALL. Will any of those we have discussed this morning detect the _____?

So I am just asking you for information.

Mr. MOLLARD. I do not know the _____.

Mr. HALL. _____.

Mr. MOLLARD. No, sir.

Dr. QUINN. As long as it is outside the ionosphere, the radar won't pick it up. The radar detects reflections from the ionosphere.

Mr. HALL. That is, if they decide to attack.

Dr. QUINN. Right.

Mr. HALL. As far as the _____.

Dr. QUINN. Yes, sir.

The CHAIRMAN. Mr. Randall.

Mr. RANDALL. It seems to me proceeding with _____ are those configured or would they be adaptable, I wasn't sure, to a fully operational system or do you have to start all over?

Mr. MOLLARD. It could be adaptable.

Mr. RANDALL. One more question. The antennas are obviously fixed in one direction. There is no way you can turn those around for a different surveillance? Your reserve would be all right, but your transmitter can go only in one direction, only one eye, in one direction.

Mr. MOLLARD. Are you referring to this one here?

Mr. RANDALL. Yes, I am.

Mr. MOLLARD. This sector could be rotated.

Mr. RANDALL. That is the question right there.

Mr. MOLLARD. Whatever is felt most desirable.

Mr. RANDALL. It is not fixed, you can turn it around?

Mr. MOLLARD. Once it is in, it is fixed; then it would scan in that sector. If it is desired to cover from here over to here, when you install the antenna you would install it to give you that type of sector coverage.

Essentially, it is in concrete, and covers that _____ degrees. The antenna itself is not rotatable.

Mr. DICKINSON. One more question, Mr. Chairman. Could you compare this and what it would do if we had _____-degree coverage with the Dew Line and other warning systems that we now have, or are you conversant with that?

Mr. MOLLARD. I personally am not conversant with the Dew Line system. I don't know to what degree; Mr. Lyon could speak to that.

Mr. LYON. I have worked in the _____ problem, and we have to look at it as a potential ultimate replacement for things like Dew Line, which has its faults _____.

Mr. DICKINSON. This seems to me to be a good solution to abolish the Dew Line, but maybe the Dew Line does something this doesn't do.

Mr. LYON. One thing the Air Force is doing is investigating the possibility of operating in the _____ which have other phenomenon _____.

That must be more thoroughly aired before _____.

Mr. DICKINSON. May I assume the ultimate would be to _____?

Mr. LYON. I suppose so, though I am not equipped to answer that.

Mr. DICKINSON. Thank you.

The CHAIRMAN. Mr. LENNON.

Mr. LENNON. Dr. Quinn, I would like to return to the colloquy you had with Mr. Reddan, counsel. The _____ was designed primarily for _____.

I believe you said, right?

Dr. QUINN. No, sir. That simply means the process of moving it. We are having it shipped to _____ and that is what I meant by the east coast. It will be stored there temporarily until we decide to install it.

Mr. LENNON. Then there were no plans to utilize it on the east coast?

Dr. QUINN. The current plan, the results of our study indicates we will install it at the _____ facility.

Mr. LENNON. For what specific purpose?

Dr. QUINN. To use it in a _____ system development _____.

Mr. LENNON. Is there a pressing need for the utilization of this facility for that purpose at this point in time?

Dr. QUINN. _____.

Mr. LENNON. Then if it were transferred _____ for the purposes that are being suggested here now related to the Gulf Coast, _____, you would not be able to utilize it at the _____ location for the purposes which you have planned for it?

Dr. QUINN. That is correct.

Mr. LENNON. If that were done, would the Navy then proceed to acquire the new _____ project, that is, would they have to move in that direction?

Dr. QUINN. Yes, sir; that is my understanding, we would have to replace that radar with other equipment to carry on our program.

Mr. LENNON. You see the new configuration of the radar, which you indicated would cost _____ each, so this committee is faced then with the decision as to whether or not to make the decision if it is an essential priority need related to the protection of the Gulf Coast and that area there, it must make its recommendation to DOD that this

be utilized for this purpose, but at the same time recognizing that the Navy will ask DOD for the funding for the acquisition at a minimum of _____ for a new system _____; is that a fair statement?

Dr. QUINN. Yes; _____.

Mr. LENNON. I think we ought to get that crystal clear. When the suggestion is being made this could be utilized—if it is done, and this committee persuaded DOD we ought to move now rather than wait for the installation of the new facilities, it would result in the Navy moving that way.

So what, in your judgment, is the best way for us to move, as a committee, in our recommendation in the event we reach that point in time where we think by the severe priority needed we must move it? Should we move to the acquisition of the _____ or should we move to the more sophisticated _____ system to meet the need on the Gulf Coast?

Mr. QUINN. That is the heart of the whole matter. I wouldn't like to just—

Mr. LENNON. You can't speak for DOD about it?

Dr. QUINN. No, sir, I can't.

Mr. LENNON. Anyway we are faced with the cost of _____?

Dr. QUINN. That is right.

The CHAIRMAN. You will have to have _____, no matter what you do; is that correct? The Navy has the one now. We can utilize that, as I understand, immediately, and then replace it with the more sophisticated machine or radar, or else we can wait and have the interim and then build the more sophisticated one; is that correct? That is correct, isn't it? In other words, we have available one right now at _____ that could be used to suit our purposes, but that would deny the Navy its usage for what it was supposed to be used for.

Dr. QUINN. I don't think—there is perhaps a little bit of confusion. The current system at _____ in my opinion could not be configured or reconfigured to do this job, because it has several other missions which it is currently conducting that are not all Navy.

The CHAIRMAN. The answer is negative, we can't do that.

Mr. LENNON. Mr. Chairman, the one that is there now you are talking about.

Dr. QUINN. Yes.

Mr. LENNON. The one you have in case, packed here, in the _____ east coast is the one we are talking about.

Dr. QUINN. Right.

Mr. RANDALL. _____ it isn't installed yet.

Mr. LENNON. _____, it isn't installed yet. What the doctor is saying if DOD did follow the recommendation of this committee, if that is what the subcommittee ultimately did, and acquired the one that is a part of the Navy then the Navy is going to have to get the new version _____.

The CHAIRMAN. That is the one used?

Mr. LENNON. We are talking about the one stored in _____, which is the one the Navy intends to put at _____ for the purpose he has specified. But if it is acquired for the purpose that we are in-

terested in, then the Navy is going to have to acquire the new version, as I understand it.

Dr. QUINN. That is correct.

The CHAIRMAN. In other words, the one at _____ is not in use now.

Dr. QUINN. It is not in _____ yet, it is on the way.

The CHAIRMAN. All right, it is on the way, it will land in _____. It is not in use.

Dr. QUINN. That is correct.

The CHAIRMAN. Instead of using it for the purposes it was originally procured for, it could be diverted for this purpose and you would have to acquire a new one.

Dr. QUINN. That is correct.

Mr. HALL. That would all be an interim solution.

Dr. QUINN. I would like to also state for the record, I can't speak for the Navy on what they intend to do with this radar. It is our recommendation the radar be put at _____ at this time. Now the Navy is still concerned about some operational problems, as I indicated in this little paper, and that decision is up to the operational Navy, not the research people.

We are simply making this recommendation.

Mr. LALLY. Dr. Quinn, could the set currently used at _____ be used _____

?

Dr. QUINN. I guess it could be rehabilitated and all of this sort of thing and converted to that use, but it will be dismantled and used in other Air Force programs anyway—part of it. And so what we need is a radar which has all the processing equipment, displays, and so on, as an intact unit used for the _____ program.

We don't have that at the moment. There are for example only limited display systems at _____, there are chart recorders and this sort of thing. We don't have any processing system that begins to be adequate for our purposes.

So we can't use what is there now.

Mr. STRATTON. Doctor, what do you have down there _____?

Dr. QUINN. _____

_____. It has some of the features. What we did was take the _____ equipment and integrate it with that and update it _____.

But it is strictly an experimental facility. It is the one, however, that has demonstrated much of the capability that has been mentioned here.

Mr. STRATTON. It couldn't be put into a regular operational set?

Dr. QUINN. No, not without a great deal of modification.

The CHAIRMAN. Thank you, gentlemen, very much. You have been most helpful to us. We appreciate your cooperation.

Mr. LYON. Thank you.

The CHAIRMAN. The committee will stand in recess subject to the call of the Chair.

(Whereupon, at 11:45 a.m., the subcommittee was recessed.)

referred to then the Navy is going to have to acquire the new version.

The Chairman: That is correct.

The Chairman: In other words, the one at _____ is not in use

now.

The Chairman: It is not in _____ yet, it is on the way.

The Chairman: All right, it is on the way, it will land in _____

it is not in use.

The Chairman: That is correct.

The Chairman: Instead of using it for the purpose it was originally intended for, it could be diverted for this purpose and you would not require a new one.

The Chairman: That is correct.

The Chairman: That would all be an interim solution.

The Chairman: I would like to also state for the record, I don't speak for the Navy on what they intend to do with this system. It is our recommendation the system be put at this time for the Navy is still concerned about some operational problems and that

ended in this paper, and that decision is up to the operational Navy, not the research people.

We are simply making this recommendation.

The Chairman: The Chairman: I don't see any way at _____

used.

The Chairman: I guess it could be retained and all of this sort of thing and converted to other use, but it will be dismantled and used in other ways. A few programs anyway—part of it, and so what we need is a rather which has all the processing equipment, displays, and so on, and which can be used for the _____ program.

We don't have that at the moment. There are for example only the _____ display systems at _____ their own recorders and this sort of thing. We can't have any processing system that begins to be adequate for our purposes.

So we can't use what is there now.

The Chairman: Doctor, what do you have down there _____

The Chairman:

It has some of the features. We have taken the _____ equipment and made it into that and updated it.

But it is still an experimental facility. It is the best however that has demonstrated much of the capability that has been mentioned.

The Chairman: It couldn't be put into a regular operational set?

The Chairman: No, not without a great deal of modification.

The Chairman: Thank you gentlemen very much. You have been most helpful to us. We appreciate your cooperation.

The Chairman: Thank you.

The Chairman: The committee will stand in recess subject to the call of the Chair.

(Whereupon, at 11:45 a.m., the subcommittee was recessed.)