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B-342194

6 March 1954

Colonel Christian H. Clarke, Jr.
Executive Officer
The National War College
Washington 25, D. C.

Dear Colonel Clarke:

In accordance with your request the transcript of General LeMay's lecture and the subsequent question period has been edited and the original copy is returned herewith.

With reference to requests from other governmental agencies for copies of the lecture, it is the policy of this headquarters that General LeMay's lectures at the various service schools are for school use only. It is requested that you advise such governmental agencies of this policy and suggest that their requests be forwarded to this headquarters. In this way, more detailed information can be provided on those aspects of the lecture in which they are interested.

Sincerely,

Incl:
Transcript (T.S.)

R. M. MONTGOMERY
Brigadier General, USAF
Chief of Staff

If inclosure No. 1 is withdrawn (or not attached) the classification of this correspondence will be downgraded to ~~Top Secret~~ in accordance with AFR 205-1.

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Auth Comdr, SAC
1 MAR 1954

MEMORANDUM FOR THE CHIEF OF STAFF 26 February 1954

SUBJECT: Lecture at the National War College

1. Existing policy on the loan of the Commander's speeches by service schools to other governmental agencies has prescribed that the service school be informed to have the request forwarded to this headquarters. This policy permits the maintenance of closer control over information regarding this command and enables this headquarters to answer queries for specific information in lieu of forwarding the entire lecture.

2. It is recommended that this policy be continued and that the attached draft letter to the National War College be approved for dispatch over your signature.

3. Since the Commander's lecture to the National War College was prepared by the Director of Operations, it is recommended that the attached transcript of the lecture and the subsequent question period be forwarded to that office for editing and return. It is requested that one corrected copy of the transcript of the lecture and question period be forwarded to this office as a matter of information.

Claude E. Putnam

2 Incls
1. Draft Ltr to NWC
2. B-33815 - Ltr and Transcripts, and Policy File

CLAUDE E. PUTNAM, JR.
Colonel, USAF
Deputy Director of Plans

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B-33815

THE NATIONAL WAR COLLEGE
WASHINGTON 25, D. C.

NWC-352.13

16 February 1954

Dear General LeMay:

Reference is made to your lecture "The Strategic Air Command" delivered at The National War College on 28 January 1954.

Enclosed are the stenotypist's transcriptions of this lecture in triplicate. The original transcription is for editing and return; the two carbon copies are for your retention.

Please feel free to make such changes as you desire on the original rough draft transcription. Unless the space is insufficient, please make your notations directly on this copy.

We anticipate requests from other United States Government agencies for copies of your lecture on loan for their official use. We ask your permission for us to reply favorably to these requests, at our discretion. It will continue to be classified "Top Secret" and will not be publicized.

Sincerely,

Christian H. Clarke Jr.

CHRISTIAN H. CLARKE, JR.
Colonel, Inf.
Executive Officer

1 Encl.
Transcription of lecture in triplicate.

General Curtis E. LeMay
Commander
Strategic Air Command
Offutt Air Force Base
Nebraska

TOP SECRET

Rec'd 23 Feb 54 (Receipt returned)

TOP SECRET

B-3381 5/3

THE STRATEGIC AIR COMMAND

By

General Curtis LeMay

Presented at
The National War College
Washington, D.C.
20 January 1954

TOP SECRET

TOP SECRET

THE STRATEGIC AIR COMMAND
By
General Curtis LeMay

(28 January 1954)

GENERAL CRAIG: On Tuesday, General McCormack talked to us about the atomic and thermonuclear bombs. This morning we discuss the other half of this weapon system, the bomb carrier, which some people think is more difficult to operate than the bomb itself.

General LeMay, the Commander of the Strategic Air Command at Omaha, has made a special trip to Washington to talk to us this morning about strategic air operations, how we are organized for the job, how we go about executing it, our capabilities and limitations. I am sure that he will have something worthwhile to tell us, something that will cause us to think and perhaps talk about it.

It is a great pleasure for me to present him to both colleges. General LeMay.

GENERAL LeMAY: Good morning, gentlemen. I have three hours to tell you about the Strategic Air Command. In the discussion, I would like to cover the present force and its capabilities, as opposed to future TRENDS AND requirements, because I believe that too many people are dealing with the future without having an accurate understanding or appreciation of the present forces and the problems that face us today. I will cover my part of the story in the first two hours, and then answer your questions during the third hour. When I am through,

TOP SECRET

I hope you will have a better understanding of strategic bombing and its relationship to our national objectives.

This chart indicates the topics to be covered with a few words on the Strategic Air Command — a summary of strategic bombing in World War II, followed by the Strategic Air Command mission, organization, resources, including the aircraft, crews, bases and communications, and then our capabilities which include range, mobility, navigation, bombing and ability to penetrate. Then I would like to conclude with some general strike plans to give you an idea of how the bombing force might be employed under a variety of conditions.

First, a few words on the background of strategic air warfare. At the time of Pearl Harbor we had in the Air Force some 600 military air planes of all types. Only a small part of these were bombers. By this time, the B-24 and the B-17 had been produced in rather small numbers. The first United States bomb group arrived in England several months after Pearl Harbor, and the first United States bomber attack was flown in August of 1942 with B-17s against some targets in France. Although the newspapers headlined the fact that the United States Air Force had gone into action, the fact of the matter was the Air Force had yet to be built.

The B-29 made its maiden flight that same year, 1942, and at the time of its first flight, due to the pressing need for a long-range bomber, some 1600 of them were already on order. On the 15th of June, 1944, two and a half years after Pearl Harbor, a force of about 50 B-29s were operating from bases in India and staging through forward

bases in China and struck targets on the Japanese home islands. On this same day, two Marine divisions landed at Saipan to seize the Marianas Islands to become the primary operating base for the B-29s in the campaign against Japan. On the following day, Washington announced the formation of the 20th Air Force, the first Joint Chiefs of Staff long-range strategic air force. Since the B-29s were to operate against one target complex from widely separated bases, China and the Marianas, one central agency was required to control the operations. The 20th Air Force was created for this purpose, and was designated a Joint Chiefs of Staff force under the Commanding General of the Army Air Force, the executive agent of the Joint Chiefs of Staff. The Strategic Air Command today operates under this same command arrangement and strategic concept.

Although you are all familiar with the story of the air effort against Germany and Japan, I would like to refresh your memory on some of the more prominent aspects of it. This chart shows the monthly tonnages dropped on German targets by the Royal Air Force and the United States Air Force. The RAF started in 1940 with small monthly efforts and reached a peak in 1944 with about 100,000 tons a month. The United States Air Force started in 1942 and reached a peak of about 150,000 tons a month in the spring of 1945. All told, a million and a half sorties were flown; over two and a half million tons of bombs were dropped; 22,000 airplanes were lost; and 158,000 airmen were lost. The two Allied air forces contributed almost evenly to this campaign in both effort and expended forces lost.

Note in the first three years of the war, only 17 percent of

the total tonnage was dropped; 83 percent was delivered during the last year. Three years were therefore required to mount a decisive force. Obviously we won't have the time to build a bombing force to fight the next war. We will have to fight with what we have the day the war starts. And we cannot expect Russia will leave our aircraft factories unmolested to build something after the war begins. I certainly don't intend to leave the Russian industry undisturbed.

The story against Japan follows very much the same pattern, but on a smaller scale. The effort in tons by month is shown against the background of the effort against Germany: 33,000 sorties, 160,000 tons, 485 B-29s lost; some 3000 crewmen lost; three and a third years were required to mount a decisive effort. The over-all results against Japan were remarkably similar to those against Germany. There are MANY reasons for this, some of the more significant being we had a more efficient attacking force, having the benefitof a great deal of tactical experience against Germany. The Japanese people were not as aggressive and resourceful in defending themselves. Japanese cities were far less substantial and highly vulnerable to incendiaries.

The over-all results of the campaign are listed on this next chart. The figures on the top of the chart you have already seen. The results of this effort in 49 months against Germany as compared to 14 months against Japan: the economic system — both suffered a general collapse; cities — 61 destroyed or heavily damaged in Germany, compared to 63 in Japan; key industries — all destroyed or heavily damaged; housing — 20 percent destroyed in Germany, 30 percent in Japan; total

casualties — remarkably similar in both countries; transportation and military forces — equally knocked out or immobilized. Today we have the capability of inflicting more damage in one m ion than was done against Germany and Japan during the entire course of the war. So much for the background on strategic air warfare.

Next, the mission. The Strategic Air Command's mission and targets are designated by the Joint Chiefs of Staff. Briefly stated, the mission is to conduct the strategic air offensive utilizing atomic weapons. The mission embraces three principal tasks: the blunting or Bravo task, which is to destroy the Soviet atomic force on the ground; the retardation task, to prevent the massing and launching of Soviet military forces; the destruction task, to systematically destroy the Soviet war-sustaining resources. The Joint Chiefs of Staff have assigned the blunting task the highest priority. I might add this is our most difficult task. Retardation targets have not been designated as yet. These targets are being nominated for destruction by other JCS commanders. The bulk of the targets are in the destruction category. Although blunting has the first priority in point of time, we are prepared and capable to carry out operations against all three categories of targets simultaneously.

This is SAC's mission as previously defined. However, I feel our real mission goes far beyond the mere delineation of this wartime task. We think we must remain sufficiently strong to convince any enemy it will not be to his advantage to start a universal war. As things stand now, with our present capability I think there is certainly a

question as to whether there is any profit in anybody starting a war.

Next, a quick look at the present organization of the command. Headquarters is located at Omaha. We have two overseas air divisions and three combat air forces. The 5th Air Division is in French Morocco; the 7th Air Division in England. The 2nd Air Force with headquarters at Shreveport, commands ten bases generally in the southeastern part of the United States and Puerto Rico. The 8th Air Force, with headquarters at Forth Worth, commands ten bases generally situated in the central part of the United States. The 15th Air Force, with headquarters at Riverside, California, commands eleven bases, generally in the western part of the United States.

Each air force has a composite array of aircraft, making it more or less tactically self-sufficient. For example, the 15th Air Force has heavy bombers at Spokane, medium bombers at March and reconnaissance at Travis Air Force Base. Each medium bomb wing has its own tankers as part of the wing.

In connection with the retardation task in support of the theater commanders, it is necessary to maintain overseas command elements to facilitate and expedite lateral coordination with the theater commanders. The overseas command arrangements are shown on the next chart. Shown here is the commander of the Strategic Air Command operating under Joint Chiefs of Staff control with the three combat air forces. I have designated five deputy commanders of the Strategic Air Command and have named them Oboe, Victor, X-ray, Yoke and Zebra, to operate in the areas indicated on the chart. The offices of these deputy commanders

are in being and manned on a skeleton basis with the necessary communication centers established and in operation. These deputy commanders operate on a parallel basis with the theater commander in the area to which they are assigned, and control all the SAC forces assigned to them for operations. This permits the commander of the Strategic Air Command to have deputy commanders in the forward area to facilitate the accomplishment of the retardation task, and it further provides a command post which the commander can deploy to if he so desires.

We have conducted several exercises designed to test these command arrangements and coordination with the theater commanders in both the Far East and in Europe. The commanders of the 8th and the 15th Air Forces have moved their headquarters and staffs to the scene of action in each case, and have assumed command of the Strategic Air Command forces in those areas. The exercises include all the steps required in the typical retardation mission, up to and including a simulated bombing of the targets. The theater commander selects the targets. The operational feasibility was determined by a conference with the SAC deputies. Target material was distributed to the units and the attack was laid on. In every exercise to date, the SAC units have turned in acceptable target times, and we are satisfied that the system works.

The presence of other United States forces in the same theater created a problem. I am speaking of other forces capable of carrying on atomic warfare. So a special coordination system has been

set up to prevent overlap of targets and duplication of interests. This system is illustrated on the next chart. Coordination centers have been set up in Europe and the Far East under a main coordination center at the Pentagon. The Far East center is manned by representatives from SAC X-ray, Commander in Chief Far East, Commander in Chief Pacific, Commander in Chief Alaska; in Europe, SAC Zebra, Supreme Allied Commander Europe, Supreme Allied Commander Atlantic, and the Commander in Chief North Atlantic, Mediterranean.

Here is how these centers work. The Joint Chiefs of Staff allocate weapons through the main coordination center. An atomic delivery force will announce its intentions for a strike. The field coordination center will attempt to resolve any difference between its members, passing the problem back to the Pentagon if it cannot be resolved in the field. X-ray delivery agency schedules the strike and executes the mission, and finally results are reported to the Joint Chiefs of Staff through the field representative to the main center at the Pentagon.

We have run three exercises testing this system. The details of the preliminary exercise are outlined on this next chart. Exercise Prophecy was executed in May 1953. At zero hour, the Supreme Allied Commander in Europe made known his requirement for selected retardation targets to be destroyed directly to the Joint Chiefs of Staff at the Pentagon. Two hours were allowed for a simulated Presidential approval. At 6 hours 24 minutes past zero, the headquarters United States Air Forces received the approved requirement and issued execution orders to the

Tactical Air Command, the Air Material Command, SAC and Sandia Base. Other agencies were involved, but we need not discuss them at this time. Sandia received the word 7 hours 48 minutes past zero. They notified their BOSSIER storage site. BOSSIER delivered a simulated load to OUR 3rd Strategic Support Squadron at Barksdale. C-124s flew nearly 24 hours non-stop delivering the cargo to alerted bombers in England. The bombs dropped on time as requested by SACEUR at the beginning of their exercise. The second strike was scheduled and bombs away on time at H plus 61. We can cut this time down if it is required by employing faster delivery aircraft from the storage sites. You will see later on a B-47 can get from the United States over to the U.K. in a very short time.

The next chart shows the units which are combat capable. There are 29 wings shown on this chart, including 5 heavy bomb wings, 13 medium bomb wings, 4 heavy reconnaissance wings, 2 medium reconnaissance wings and 5 strategic fighter wings. In addition, THERE ARE 24 tanker squadrons assigned to the medium wings and one rescue squadron. The wings are located as you see them on the chart. A portion of the force is deployed outside of the zone of the interior continuously. At the moment there is one B-47 wing in the U.K. plus a small reconnaissance task force. In the Far East there are two standard B-29 wings which fought in the Korean war, and one fighter wing is located in Japan with the defensive mission. A reconnaissance task force is also located in FEAF. On Guam there is one atomic B-50 squadron. These forces are rotated normally every ninety days.

Not shown on this chart because they are not combat capable at the moment are 11 more wings. These wings are not combat capable because they are either converting from B-29 or B-50 to B-47 airplanes, or they have not yet trained up to a combat capable status. In summary, there are 40 wings formed in the Strategic Air Command today, 29 combat capable, 11 not combat capable.

This chart indicates the units program for the Strategic Air Command under the 137-wing program. The strength in the command will then be 54 wings and 4 strategic support squadrons. This program is scheduled to mature by the end of the fiscal year 1956 at which time we will have 7 heavy bomb wings, 30 aircraft per wing; 4 heavy reconnaissance wings, 30 aircraft per wing; 28 medium bomb wings, all programmed to be B-47s, with 45 aircraft per wing; and 8 strategic fighter wings with 75 aircraft per wing. They will be supported by 4 strategic support squadrons. There will be a tanker squadron equipped with 20 KC-97s assigned to the medium bomb wings and the reconnaissance wings.

6 RECCE WINGS - 5 WITH RB-47s AND 2 WITH RF-84s

The B-47 build-up is shown on this chart. The conversion of a medium force from B-29s and B-50s to B-47s is a problem and has to be planned with care. The most important thing was not to let the conversion program interfere with our combat capability. We could not permit a warplan unit to convert until a new unit was ready to take over the targets assigned to the unit we wanted to convert. Converting a unit to new equipment is quite a chore. The first thing you have to do is take your people, Even though they are trained mechanics, trained

bombsight people, trained electronics people, they are getting new equipment and they have to go off to school to become familiar with the new equipment so they can take care of it. Some courses require a long time, some a short time. They have to leave at such time as will get them back when their airplanes arrive. The crews have to be taken off in the transition to new equipment. The supplies on a base have to be turned over and the old supplies disposed of and new supplies brought in. Finally, when all of your trained people and all your supplies meet the arrival of the airplanes — and making it meet is quite a chore — then you have to make your crew of trained people into a fighting outfit. The best we can do at the rate the B-47 is being delivered to us at the present time is nine months. It takes nine months from the time you take a unit out of a war plan until you get it back into the war plan with its new equipment.

Notice on this chart the first seven units are already converted to B-47s. The red block indicates a three months' period on the personnel away at school. The beginning of the sloping line indicates when the unit begins receiving its aircraft from the production line. The remaining four months on the green bar are required to fully equip and train the unit up to combat level. Present indications are that all units will be converted by the end of fiscal 1956, but this program has slipped and it may slip again.

On this chart is the history of the build-up of Strategic Air Command aircraft. In 1950 the command had 850 aircraft. This figure rose to 950 in 1951, 1225 in 1952, 1744 in 1953. The current number of

combat aircraft assigned to the command is approximately 2005, and it consists of the following types: 825 bombers, 295 reconnaissance, 500 tankers, 305 fighters, 50 strategic support and 30 rescue. The bomber category includes 187 B-36s, 150 B-29s, 137 B-50s and 351 B-47s. Approximately 90 percent of the bombers are equipped to carry the A-bomb. We are rapidly phasing out the non-atomic aircraft as well as the atomic modified B-29s and B-50s, and eventually our entire medium force will consist of the B-47 type airplane.

I know you are all familiar with most of the combat characteristics of the aircraft that we use, but I would like to cover some vital statistics on three of the most important airplanes. First, the B-36. The equipment includes two 20 mm. guns in the nose and tail, two 20 mm guns located in the forward and aft top turrets and an aft bottom turret. There is a bomb-spotting camera. There is electronics countermeasure equipment, a K-system radar for bombing and navigation. There is a gun wing radar located in the tail. It is manned by a crew of 16. They can carry a 10,000 pound bomb load 8300 nautical miles and bomb at 30,000 feet, or it can go 7650 nautical miles if it bombs at 45,000 feet. Our normal bombing altitude is 45,000 feet, and cruising speed about 305 knots. We can bomb with this aircraft at 50,000 feet and have conducted many tests at that altitude.

We all place a great deal of importance in achieving maximum altitude for penetration and bombing, which increases the air defense problems many fold. As you can see from the variation in the range — the numbers on those charts — the range of all of the airplanes is

variable depending on how it is employed. It is a very versatile aircraft and has been the main delivery vehicle we have had for the past five years. We anticipate using this airplane for at least another two years before it will be replaced with the B-52.

I think it is worthy of note the change that has taken place in the B-36 during its useful life. It was built as a 10,000 mile, 10,000 pound bomb load airplane, and it actually flew 10,000 miles. But as the defensive capabilities of the Russian air force increased, so the requirement for better performance out of the attacking airplane increased. So the airplane has been improved with better engines, including jet pods on it and other modifications to get more altitude, more speed, higher performance over the target. Nothing is free. This has been done at the expense of range. The B-36 as it now stands is on its last legs. There is one more thing which I don't want to mention here which we can do and which I think will enable us to use this airplane for a couple more years, but at that time it will be some twelve years old. The B-36 was first laid down in 1942, and it is ready for retirement.

The next airplane is the B-47. Its equipment includes 20 mm. cannon in the tail, bomb-spotting camera, electronic countermeasures equipment, K-system bombing radar and it is manned by a crew of three. The range is variable depending on how many times you want to refuel the aircraft. All the B-47s can be refueled in the air. With a single in-flight refueling, the range is 5600 nautical miles. Normal bombing altitude is 42,000 feet; cruising speed, 425 knots, a maximum speed of

490 knots.

The next airplane I would like to show you is the B-52. We won't have this airplane in operation in quantities for many months. We have high hopes for its contribution to the strategic bombing chore. It has far exceeded expectations in its preliminary tests. It combines all the advantages of a B-36 with those of the B-47, and in addition, it is built to carry the hydrogen bomb or other bombs up to 40,000 pounds in weight. Its equipment includes a tail turret equipped with radar computer, bomb spotting camera, electronic countermeasure equipment, K-system radar, and a multi-purpose capsule capability which allows photographic or countermeasure equipment to be easily installed in the bombbay for reconnaissance missions. It can carry a 10,000 pound bomb load at an optimum altitude for 7800 nautical miles with one inflight refueling. With two refuelings, it can fly 9000 miles. Normal bombing altitude is 46,500 feet; cruising speed, 450 knots; maximum speed, 540 knots. This airplane combines long range with high altitude and speed. And, believe it or not, it is the first airplane that the Air Force has ever had that was designed specifically as a bomber and built around a bombardier. We have great hopes for it.

So much for the discussion of aircraft. The next is the matter of trained crew units. I would like to introduce some of the various subjects coming up by asking a question and then discussing certain factors or situations which will permit you to arrive at an answer to the question.

The first question is, Are experienced and trained crews available to carry out the Strategic Air Command's mission? About three and a half years ago we started a system known as the select crew system. It was instituted under the concept that a controlled list of crews, earmarked to deliver atomic bombs, should be maintained. The crews so selected should be of demonstrated capability. This action was based on our experience that it was impossible to elevate all crews within the unit to the same general level of proficiency, and it was also impossible to raise all wings of all units to the same level of proficiency. You always had some people just starting in the business and you always had a few old-timers around who had been in the game a long time. Wing commanders designated their best crews as select crews and each crew was put through a central evaluation school to determine whether the wing commander was right or not. Those passing the test have been given definite aiming points in the Russian target complexes. They are required to study these targets on a daily basis. Our crews have many, many hundreds of hours of target study under their belt. Crews measuring up to performance and service criteria were given special promotions known as spot promotions as a reward for their incentive and technical skill.

This next chart reflects the status of our bomber crews. The total is 1008 of which 728 are combat capable. Three hundred of the over-all total are in the select crew category or lead crews with aiming points. The remaining crews, 708, are the reservoir from which crews are drawn in the select category. Most of these crews are of lead crew

caliber. I might point out the line where you see the cream in the bottle is very flexible, and I move it back and forward to use up the spot promotions which have been allocated. I have crews down below that are just as capable of dropping atomic bombs, and will; however, I don't have a promotion for them, so I don't call them select crews. If we went to war, of course, all bomber crews would be available for combat and those we don't call combat capable now would be combat capable in a pretty short time.

The performance of select crews is a subject of close and continued scrutiny. When a crew fails to measure up to its requirements, it is placed on a 30-day probation and re-evaluated. In most cases, the deficiency is corrected during the probationary period, but occasionally it becomes necessary to remove a crew from a select category.

I am sure all of you understand how vital it is to have stability among this group of highly professional people. We had a commanders' meeting in the Pentagon the other day, and the Director of Personnel told us we had some 940,000 people in the Air Force and next year 700,000 of them were going to move on a permanent change of station. A certain number of people overseas have to be replaced. We have our professional schools and our training establishment. There are people leaving the Service. Those unavoidable changes added up to over 700,000. So you can see what a chore I have in trying to keep a combat crew together. We have been able to do it, not to the extent I would like, but, as I will show you later, these crews have been together a long time compared to the stability of the rest of the Air Force as a whole.

It is very important and that is the reason for their skill in carrying out their chores.

We maintain detailed records on these select crews to permit a continuous evaluation. Such records are maintained in the SAC headquarters and serve as supporting evidence for the spot promotions which we give out to the select crews. On this record we have plotted the following phases of activity: radar bombing, visual bombing, night celestial navigation, cruise control, electronic countermeasures, gunnery, abort rate and flying time. In addition, we keep records on the crew changes as they are made, the results of special evaluations and any data on the probation the crew might have had during its career, bombing competition results, etc.

On the next chart we have plotted the experience level and the status of the select and lead crews in the command. In this study we examined the records of 367 crews, consisting of 4,232 men. Of this total, over 2051 were officers and 2281 were airmen. Ninety percent of the officers are married. Their average age is 32; the average number of children per officer is 1.5; the average time on the Strategic Air Command crew is 35 months. Fifty-seven percent of the airmen are married and their average age is 26½; average number of children, .8; average time on a SAC crew, 29 months. Looking at the airplane commander category, 61 are lieutenant colonels, 172 are majors, 120 are captains, and 14 are lieutenants. The oldest is 40 years and the youngest 26, with an average age of a little over 32. Average flying time is 3800 hours; average commissioned service, 9 years; average

time on a lead crew, 24½ months. Fifty-six percent of these men have had combat experience, with an average of 39 combat missions. Comprehensive training programs have been designed to make these crews combat capable.

I will summarize the essential elements of our training program on this next chart: First, the quarterly minimum requirements program, which I will cover in more detail in a moment. Special training periods during which time the wing commander has freedom to schedule training activities as he sees fit. Each wing flies unit simulated combat missions which exactly duplicate their war plan missions except for geography. An extensive rotation and maneuver program which sends our units to their programmed war plan bases to exercise both the unit and the base. A continuous program of evaluation missions is conducted to keep abreast of our bombing capability. Standardization checks are given. A strategic evaluation squadron which evaluates each lead crew in the command once a year. Operational readiness test inspections. Special intercommand exercises are conducted with the Air Defense Command and the Eglin Proving Ground to test tactics. A school to teach crew members survival techniques, and an annual bombing competition is conducted. Special weapons exercises to keep abreast of A-bomb handling and last, but not least, we place great emphasis on our flying safety education. There are other elements, together with checks and balances, but these listed are the most important.

Now I would like to elaborate on the first one mentioned, the quarterly minimum requirements. For the command as a whole to insure that training is standardized throughout the command and that essential

requirements are incorporated in the unit programs, SAC headquarters publishes a list of minimum requirements to be accomplished by each crew during each three months' period. Without going into detail, I have shown a list of these basic requirements. It calls for bombing, navigation, electronic countermeasures, flight engineering, air refueling, gunnery and a general phase. For example, under bombing the crew of a B-36 unit must perform six radar bomb scored record runs each quarter. The general category includes formation flying, night cell tactics, pilot proficiency flying, depressurized flying, standardization check rides, and unit simulated combat missions. The depressurized flying is required because it is uncomfortable but necessary in the training program, and the crew will not do it unless you have it required. Pilot proficiency flying is included, since without it we have found some B-36 trained air commanders would get only one or two landings a month, even though they fly as much as 50 hours a month. Two landings, of course, are insufficient to maintain proficiency.

In addition, to establishing minimum training requirements, we have in effect a rating system designed to evaluate the work done on a comparative basis by units during each three months' period. Scoring is based on both quantity and quality. This is done not so much to generate healthy competition between the units, although we think that is good, but by the rating system you can easily point out the soft spots in any unit as well as the strong points and take necessary action to benefit either from the strong points the unit has or to bring the soft points up to standard. Also there must be some means

for evaluating crews as to their bombing and their navigation and over-all performance. This is necessary to insure ourselves that our top crews are given the job of delivering atomic bombs. Additionally, individual gunners must be evaluated.

We have a network of facilities and equipment to fulfill the evaluation requirement shown on this next chart. Atomic crews are selected by wing commanders and evaluated at MacDill, Carswell and Hunter. The evaluation takes fourteen days and covers all phases of the crew's flying activity. Circles indicate gunnery sites where our gunners are given periodic tests. The triangles show radar bomb scoring sites situated in cities throughout the country. These sites track the approach of bombers and compute the theoretical point of each drop. An accurate method of scoring bombardment training was required when the targets were simulated complexes in our major industrial cities, and the radar bomb scoring system was developed as a means of scoring bombing runs against industrial targets. This has proven highly satisfactory. At first, crews were reluctant to accept the scores given them by the radar sites. However, extensive use has served to develop confidence in the system, and during the past several years we have had many, many thousands of scored runs against all types of industrial targets.

I have already mentioned the survival school at Reno, Nevada where combat crew members are taught escape, evasion and survival in enemy territory. To date, some 10,500 men have taken the fifteen-day course.

The next chart shows the tactical hours flown and the accident

rate. The hours flown is read on the left scale and indicated by the height of the bar. Notice in 1948, '49, and '50 we were going downhill in our flying time. The Korean war, however, in 1950 resulted in an increase in 1951, '52, and '53. During this time our flying safety rate, indicated on the right-hand scale, has been steadily improving. In 1948 and '49 the rate was around 60 accidents per 100,000 flying hours. Last year the rate was 18 per 100,000 flying hours. We are placing a great deal of emphasis on flying safety, since accidents are expensive not only in dollars to buy new equipment but in lives of trained people which are far more important. I am very proud of this rate, and we hope to improve it this year even more.

The next question, Is the zone of the interior and FORWARD base complex adequate to support the SAC mission? On this next chart we show aircraft versus bases. The height of the bar indicates the increase in aircraft from 1950 to 1954, while the increase in the triangles on the chart indicates the increase in bases for 1950 to 1954. We have more than doubled in aircraft while only increasing the bases some 60 percent. This has caused us to double up on most of our bases. Overcrowding not only increases the workload, but it causes concern in view of the possibility of sabotage or fire or tornadoes, etc. At one of our medium bases housing two wings are 90 bombers, 40 tankers, together with a few scattered administrative aircraft. This is too many airplanes for one base. Further planning indicates some relief in this matter with the construction of new bases in the program.

As far as the overseas bases are concerned, it is a continual

problem of construction and negotiation. Our overseas bases fall into two categories, operating and staging, staging bases being those we use merely for refueling and do not require as much build-up as we do on an operating base. Principal areas where our bases are located are in the United Kingdom, French Morocco, the Mediterranean area, Northeast North America, including Thule, Alaska and in the Pacific area. Currently the forward bases available for SAC to use are barely marginal to support the SAC mission, but with the completion of the construction projects underway, future program base complexes will support a future force. Should the forward base areas be denied us, either through military or political action, we have plans to operate from intermediate bases and from bases on our own real estate. I will touch on this matter a little later. Forward bases are important to us since their existence permits greater flexibility, launching of a larger strike force and taking full advantage of the aircraft performance because of the shorter haul we have to make.

The next question, Is the communications network adequate to support global atomic operations controlled from Omaha? First, a look at the network itself. The black lines indicate radio teletype circuits now available on a direct exclusive, USE, FULL [redacted] period, with automatic cryptographic capability. The red lines show circuits which we share with other agencies but with the same automatic cryptographic capability. Dotted lines indicate telephoto circuits employed for transmission of bomb damage assessment and scope photography. This network embraces all foreign areas of major interest to the Strategic Air Command. These

circuits although not owned by the Strategic Air Command are under the operational control of the command where their use is required. This is important since we must have direct communication to all operating and staging bases.

The capability of this network is very high. We have run a number of test exercises. These exercises involve the simultaneous placing of control teams at the various locations throughout the world where SAC forces are expected to operate. Messages are passed back and forth between Omaha and the forward area. The results of these exercises are shown on the next chart. On the left is indicated the average time per message on a one-way basis, plotted by the descending line. On the right hand scale is shown the volume of traffic in numbers of messages plotted by the bars.

The first command post exercise was conducted during September 1950, at which time 239 messages were passed, each averaging 4 hours 44 minutes for one-way transmission. Not very good. In October, the next month, by backing up the system the volume was doubled and the time was cut in half. Then we really got to work. The exercise conducted in October 1952 involved about 7000 messages and averaged one-way transmission time of 44 minutes. The figure of 44 minutes includes certain delays normally encountered in each one of these exercises, like sun spots and some frequencies out of commission due to interference of some sort. Actually, the majority of the messages are handled in 20 to 35 minutes. In March of 1953 the exercise experienced an unusual amount of these atmospheric difficulties, running the time

back over one hour. The number of messages passed exceeded 10,000. The last exercise we ran really put the communications people on the spot. I don't see how they can improve too much more. They passed over 10,0C messages again, setting a new low of an average of 20 minutes per message. We feel the present system can do the job. However, there is still room for small improvements not only in techniques but we know of better equipment we can install that will help out the situation. So much for communications.

The next question is are assigned targets within reach of present aircraft operating from the existing network of bases? The answer is yes. Our refueling capability permits us to cover all of Russia with our medium force. The B-36 can reach targets anywhere in Russia. I would like to talk about this refueling capability.

We first began refueling in 1949 when the B-50 was flown around the world non-stop from Fort Worth to Fort Worth in 94 hours. Four refuelings were required to make the flight. Since that time, refueling has become nothing more than a routine part of our mission. It requires hard work and some precision formation flying, but it is done consistently and safely. Better than 95 percentof all of our refuelings attempted are successful. When there is a failure, it usually results from a failure in the equipment.

This chart shows some of the statistics on refueling. Notice the summary at the bottom of the chart. In 1950, 747 hook-ups were attempted; 358 gallons of fuel were transferred. In 1951, there were 6500 hook-ups; in 1952, 10,000; in 1953, just under 16,000 hook-ups

during which 11½ million gallons of fuel were transferred. Refuelings are conducted day and night, fighters and bombers, good weather and poor weather. Obviously we do not refuel when the weather is so bad we cannot make visual contact. In such cases we move the refueling area. We can, and do, refuel aircraft on many missions more than once, and if the mission requires it, we refuel it three or four times. The only limitation is crew fatigue — how long you want to keep them up flying the airplane. November is the last month in which we have a full month's operation to compare. I was looking over the charts the other day, and at that time, in November, there was a SAC airplane being refueled with gasoline every five minutes, twenty-four hours a day, thirty days, all during the month.

Next is the question of mobility — Are our combat units capable of rapid deployment to forward areas? First, a few words on our mobility plan. To begin with, all combat units are maintained in a combat readiness condition. In addition to readiness of aircraft equipment, personnel are required to be ready. Their personal affairs, wills, medical inoculations are kept up to date. The unit's essential equipment, or the minimum equipment immediately required for short-term operations is maintained in a readiness condition. Fly-away kits, consisting of aluminum bins on casters, are packed with critical aircraft spares for quick hoisting into bombbays and movement to forward areas. These kits always accompany the tactical aircraft, and will support the wing for thirty days of combat operations wherever the wing may be sent. Lastly, the plan calls for a phased movement, which means

equipment which is needed immediately is provided first, while the equipment not immediately required is phased in during later periods. A medium bombardment wing is maintained in the U.K. at all times. These units remain there for 90 days and are then replaced.

This next chart shows the rotation of the 305th Bomb Wing with B-47s to the U.K. replacing the 306th which had been there for 90 days. These rotations are conducted in accordance with the units war mobility plan, including MATS airlift and support to place the essential cargo and maintenance and other support personnel forward with the units at the proper time. The 305th Bomb Wing, shown in white, departed Tampa in equal increments on the 3rd, 4th, and 5th of September, fifteen aircraft each day, landing at Limestone. The next day they flew from Limestone to Upper Heyford, a total distance of just under 4000 miles. Flying time was 9 HOURS AND 17 minutes. The 306th Bomb Wing returned from the U.K. to Tampa non-stop along the red route. They moved on the 4th, 5th and 6th of September. Twenty-nine of the aircraft flew directly to Tampa, a distance just under 4000 miles; time, 9 hours 39 minutes, with one mandatory and FIVE optional refueling. The mandatory refueling was over Scotland, and the optional refueling over Goosebay.

At this time the Vandalia Air Show was being conducted at Dayton, Ohio, and the air staff requested one squadron of the returning 306th Bomb Wing make a fly-by over the air show on their return home. Fifteen aircraft took off from the U.K., refueled over Scotland, the second refueling over Buffalo, dropped down and made a fly-by of the air show and flew on to Tampa and landed. At the same time, we coordinated

the flight of a B-36 with this air show fly-by. The B-36 took off from Japan, flew non-stop to Dayton, rendezvoused with the B-47s at a scheduled time, and flew by the AIR show with the B-47s.

The next chart shows the typical fighter deployment. This one involved F-84Gsin a flight from Turner Air Force Base in Georgia to French Morocco and the U.K. The 31st Fighter Wing on the 20th of August, with eight fighter aircraft, flew 3860 miles in 10 hours 22 minutes on the route shown on the chart. They departed Turner, refueled over Bermuda, again refueled between Bermuda and the Azores, and the third refueling over the Azores, and non-stop to French Morocco. They returned to the zone of the interior along the route indicated by the dotted line. The route was taken in easy stages so they could take a look at some of the bases in that area.

The 508th Fighter Wing on the same day flew twenty aircraft 4015 nautical miles in 11 hours 24 minutes. They departed Turner, refueled over Limestone, northeast of Goosebay, Iceland and then into the U.K.. Of the 25 aircraft involved, one failed to get the proper tip tank feeding and was forced to land at BW-1 in Greenland. They repaired this malfunction and he arrived in the U.K. on the same day with the rest of the flight.

Both of these non-stop flights show what is possible with refueling capability. There are no tricks involved, just hard work and proper employment of the tools available.

I am sure you have all noticed the B-47s make that Atlantic

crossing a lot faster than the fighters do, an indication of the comparative performance of the airplanes.

In attaining mobility, we find it essential to maintain a rather heavy and extensive maneuver schedule. Two basic purposes are involved. First, every combat unit must be familiar in detail with the geography and the base facilities, weather and the conditions existing at the forward base designed as their final launching area. Second, only through actual operations can we determine the soft spots in the units and at the forward bases and take corrective action.

Before leaving the mobility question, there is one more phase of the problem I would like to discuss, and that is dispersal. If given a few hours warning, our entire force can disperse throughout the United States, and thereby reduce the danger of destruction by a bombing attack directed at our operating bases. To meet this contingency, we have developed a dispersal plan designed to spread our force throughout the United States to designated points where they orbit in the air, and of course they can be controlled then back to their original home base after the attack is over, or they can be diverted to alternate bases if that is necessary. Each of our units has a designated area for orbiting and designated dispersal points if it is necessary to land there. We have tested this plan several times at odd hours, over the weekend and at night, and we find within two hours notice we can evacuate half the force. With five to six hours warning we can disperse 80 to 90 percent of the force. In this respect, the Air Defense Command warning system plays a very important role.

Next is the navigation question — Are our crews with their present equipment able to navigate to their assigned targets? We have examined this capability very carefully and the results of hundreds and hundreds of flights under controlled conditions with UMPIRES ABOARD have been recorded.

There are four basic methods of navigation available under combat conditions. These four methods are dead reckoning, radar, pilotage and celestial. Radio navigation is not listed since we do not rely on radio waves to navigate over enemy territory in time of war. Our dead reckoning error is about 15 nautical miles per 600 mile leg, and it requires normal flight instruments and drift observations. Radar navigation has no error at all, if the aircraft is over land with recognizable points within radar range. Pilotage error and requirements are the same as for radar, no error at all. Celestial navigation produces an outside error of about 15 miles, with the obvious requirement that celestial bodies must be visible.

Let me show you what a celestial capability of 15 miles means when combined with the surveillance range of the airborne radar. With celestial methods the navigator is able to keep the airplane within a cylinder having a radius of 15 miles. This will bring him well within the range of his radar which is approximately 50 miles. By employing all four basic methods together AND checking one against the other, the problem of navigation falls well within our present capabilities.

Next is the question of bombing accuracy — Can our targets

be bombed with acceptable accuracy? The determination of the command's bombing capability is dependent on several different factors. With the variation of any one of these factors our capability varies. These factors include the type of bombing equipment used, the proficiency of the crews — is it a new crew or an experienced one? — the type of target you are going against, etc. Therefore, it is not possible for me to give you any one figure representing our bombing capability, but I can give you an appreciation of our bombing capabilities under different conditions.

The major portion of our bombing missions are scored by radar methods. As I mentioned previously, we use a technique whereby the bomber flies over an industrial target and instead of releasing a bomb at the point of release, he releases a radio signal. The point and the time of transmission of this radio release are s cored by prepositioned ground radar units which are trained in this type of operation. This method of bombing training enables us to attack a wide variety of industrial targets which obviously would not be possible if we actually had to go out and drop bombs. All of these scores are evaluated and recorded and tabulated.

We realize we cannot pick the weather for attacking an enemy target and we must be able to bomb at any time in any weather. Radar bombing therefore has become the most important phase in our bombing training.

This chart shows the frequency of cloud cover over the Soviet Union. In the darkest area on the left of the chart you have a cloud

cover over 70 percent of the time; over 60 percent of the time on the next shaded area; and to the right over 50 percent of the time in the next area. In the lightest colored area there is cloud coverage up to 50 percent of the time. The predominance of target systems lies in the area where the cloud coverage is over 60 percent of the time. Obviously, therefore, as we must, ~~be supposed to direct~~ EXPECT TO BE DIRECTED TO attack at any time regardless of the weather, we must have a radar capability.

This chart shows the bombing accuracy during the years 1949 through 1952. The record shown here is the plot of all the radar record runs with all bombing being conducted above 25,000 feet. This is all runs, all types of crews, all types of equipment, against all types of targets. In the left column is the circular error probable. The red line shows the radar circular error probable going from around 6000 feet in 1949 to around 1500 or 1600 feet in 1953. The visual accuracy is maintained steady at around 500 or 600 feet. We have done all the obvious things to improve our bombing. From here on it is a matter of refinement and procuring better equipment.

The next chart reflects the results of one of our evaluation missions which we are conducting to keep abreast of our capability and to develop new techniques. Generally these evaluation missions have ground rules as tough as possible. We restrict the target materials or restrict the use of equipment or other special ground rules to find out some particular answer to some problem. This evaluation was conducted in October of 1952 and involved 202 releases. All bombing was over 25,000 feet. The visual circular error probable was 352 feet and the

radar C.E.P. was 1390 feet. This is a respectable bombing. I would like to mention again we do all of our bombing against selected pinpoint industrial targets which simulate as nearly as possible the Russian targets which the crews are studying. This makes our bombing training as realistic as possible.

Another evaluation mission was conducted against Omaha. This one in October 1953 involved 267 runs by all types of crews. The target was a tank farm in the northeastern section of Omaha. The B-29s, B-50s, B-36s, B-47s and even some RB-36s, or reconnaissance airplanes, were employed. The units were given a free rein in this evaluation and told to bomb in any manner they desired. Nearly all of the bombing was visual, and the circular error probable was 480 feet. The actual circular error was 645 feet.

Since we must be prepared to do radar bombing and since we have no radar scope photos of Russian targets, it has been necessary to develop a prediction system so we can tell as close as possible what the target will look like on the radar scope. Several agencies, including the Library of Congress, have collaborated to develop a system which we now use within the command. This next chart shows the stages producing synthetic scope photos.

First a visual photograph is analyzed as to the height and type of structures. From this a pattern is made showing the areas of high and low intensity returns. Next, we make a plate by placing copper on glass in such a way as to produce a pattern of high and low returns when the plate is placed in a supersonic trainer. From the trainer, a

photograph is made from various distances and these synthetic scope photos are entered in our target folders. We have produced scope photos of nearly all the presently assigned target areas. In fact, we have the plate so the plate can go in the trainer and the crew can make a bomb run against the target currently assigned to him.

Another evaluation is to test a technique known as off-set bombing which was conducted against Springfield, Missouri. An imaginary target, called a no-show target — it won't show up on your scope — was designated some eight miles NORTHWEST of town. It was actually a set of coordinates in a cornfield down there, and of course gave no radar return. The units were provided with 17-year old target material simulating what we now have on some Russian targets, and told to bomb this set of coordinates in the cornfield. Our bombing equipment incorporates a computer which permits the bombardier to aim at one point which will give a good radar return but the bomb will fall on another selected point which is a specified distance and azimuth from the aiming point. In the Springfield mission, offset bombing points such as marshalling yards, tank farms, industrial build-up areas were selected as aiming points by the units and the scoring was done by a radar bomb scoring site. Ground speeds varied from 200 to 540 knots, involving B-50s, B-36s and B-47s at altitudes from 27,000 feet to 40,000 feet. The circular error probable for all crews on this mission was 2600 feet; for the lead and select crews, 2400 feet. This shows what can be done when you are attempting to bomb a target by radar which does not have a radar return. A lot of the airfields in Russia that we are interested in are of this type of

target. We know the airfield is there; we don't have the picture of it and we are pretty sure it will not show up on a radar scope. But we know its actual position, so we can hit it by this method.

When we first got the B-47s about a year ago, we set up a mission to evaluate their capability, called Operation Sky Try. One squadron of 15 B-47s was directed to fly ten missions, one every third day. Now the normal planning factor for wartime operation of medium bombers is 6 sorties a month. We wanted to make it really tough, so we took 10 sorties a month, and said, furthermore, we would have one every third day. Of the 150 missions scheduled, every one took off on the mission — no aborts. That is a remarkable record for a new airplane. You can't even do th at with the B-29s today. Of the 150 aircraft, 109 completed their missions as scheduled, plus 17 more which were effective over the target. There were a total of 24 air aborts, non-effective over the target, and all of these aborts were attributable to the malfunction in the K-system, indicating a need fo improvement in that area. We have made some gain since then. We have done a little better in keeping the K-system in operation, and i is getting more reliable every day. The circular error probable for all of these missions was 1935 feet.

The next question, Can our forces penetrate enemy defenses with acceptable losses? This is somewhat harder to prove. We have actual tabulated records of bombing scores, navigation scores over thousands and thousands of tries. However, it is illegal to shoot at each other these days, especially if the people are on our side, and

so it is a little more difficult to demonstrate actually and tabulate the results of penetration. However, we have studied the problem at great length and are convinced that no defensive system presently in existence is capable of stopping or even imposing prohibitive losses on a determine well-developed and coordinated bombing attack which employs optimum tacti diversion and deception.

The advent of the jet fighter and the high muzzle velocity sub-caliber antiaircraft gun since World War II have strengthened the capability of air defense systems. However, there have been developments on the other side which favor the offense and tend to counteract the advances made in the air defense systems. For one thing, the atomic bomb has vastly reduced the weight of effort which must be thrown against any given target system. Its great lethal radius makes it possible to destroy precision targets during the hours of darkness by instrument bombing methods such as radar and shoran. The problem of night defense, of course, against aircraft is as different from day defense as day is from night. It calls for more equipment, both on the ground and airborne, and a higher level of training and organization throughout the entire defensive setup. We have found that B-29s could operate at night over North Korea with a very low loss rate. In fact, the combat loss rate is very much lower than the accident loss rate. It seems reasonable to assume if the Communists could not stop this night attack of the B-29s operating in Korea in a very restricted area, they certainly could not stop them over Russia where the breadth of the land is some seven thousand miles and the concentration of fighters therefore

very, very much reduced.

A while back — I think most of you probably remember — when we were bombing in the daytime over in Korea, about five B-29s got shot down in one day, and four more were shot up pretty well. We stopped bombing in the daytime and went to night bombing, and some of our friends of strategic air power said the day of the bomber is over; you can't live in the daytime; you have to go to night and you probably won't last there either. Here is what actually happened: Up until that time, no bomber had ever been attacked by a fighter. A lot of MIGs were up there flying around, yes, but they never came in and made an attack. You could see them build up. Finally they had 1200 sitting up there across the Yalu. Yet the B-29s were going up day after day after day, individually and in small formations. One of their chores was to keep out of action some airdromes that were being built just south of the Yalu. It was a very important chore because if the MIGs ever got close enough to operate against the front lines, our ground troops were in for some trouble. So about every third day a formation of three B-29s went up to bomb these three airdromes, three B-29 loads of bombs being all that was necessary to put them out of action for the following three days. Just an efficient bomb hauling operation was going on. True, they usually sent the airplanes up in some sort of formation, but the airdromes were 15 miles apart, so that meant the three-ship formations were 15 miles apart.

One day, 300 MIGs hit them and they shot the hell out of them, as you might expect, because all the gunners were sitting around reading

comic books or otherwise engaged in nonuseful pursuits. Not having been fired at since they had been in the war over there, they weren't much interested. In examining some of the airplanes that got back, they found some of the guns wouldn't even shoot because they had never been used during the entire course of the war to date. So naturally they were caught unprepared.

I still believe a B-29 formation, properly flown, of proper size to defend itself, with the gunners on their toes instead of reading comic books, could fly any place against the MIGs, bomb a target and come back. Sure, some of themwould be shot down — there would be some MIGs shot down too — but I don't think they could be stopped. But why do that in Korea? The biggest target we had called for three B-29 loads of bombs. Why send a large formation up there and waste the taxpayers' money in dropping more bombs than were necessary, and waste the taxpayers' money in using up the gasoline to fly up there when you could do it with individual airplanes at night and far cheaper? That is the way we chose to do it; not because we were driven out of the sky by the MIGs. (AS THAT'S) Not so.

At the present time the interceptor fighter and the anti-aircraft guns seem to be OUR most serious threat against bombardment aircraft. However, we have some missiles coming into the picture, such as the Nike, the ground-to-air missile, which we have to consider. The antiaircraft problem, so far as the ground defense is concerned, is also made difficult by increased speed and operating altitudes. Antiaircraft must perform the function of detection, identification, computation and hitting. Let's look at the antiaircraft picture today as it compares

with the World War II situation.

In World War II, a German flak gun could fire at a B-17 at 22,000 feet for about 59 seconds. Today in 1954, the Soviets using an improved version of their flak gun of World War II can fire at a B-36 at 40,000 feet for about 20 seconds, or one-third the time. The B-47 at 42,000 feet and the stripped B-36 at 47,000 feet are beyond effective range of the conventional Soviet antiaircraft artillery. Let's assume they have the most advanced antiaircraft gun, a sub-caliber gun giving a vertical range of 55,000 feet. We have no convincing evidence that they do have it, but assuming they do, this gun could fire for only 54 seconds at a B-36 at 47,000 feet, less time than the time the German gun could fire at a B-17. Since the problem of hitting the airplane at 47,000 feet is much greater than at 22,000, the Soviets can equal the German effectiveness only by offsetting this disadvantage through better equipment and training.

In World War II, the losses to antiaircraft amounted to approximately one percent of the sortie effort. It is worth noting that the Germans had 15,000 guns with which to defend Europe. Today our best intelligence indicates that the Soviets have approximately the same number of guns to defend the Soviet Union, a much larger area. Our speed and altitude capability coupled with improved bombing equipment gives us still another advantage, employment of evasive action in the target area. So much for antiaircraft.

Our speed and higher altitude will also make the interceptor fighter problem more difficult. This chart shows the increasing difficulty

experienced by the fighters at these higher altitudes. Notice that while the MIG-15 can make a complete circle at an altitude of 30,000 feet in a radius of 4800 feet in 42 seconds, it requires a radius of over 30,000 feet and takes 6 minutes to complete a turn at 50,000 feet. By contrast, our heavy bombers can turn well within the fighter's capability. The B-36 can turn inside of 17,500 feet and in 2 minutes and 54 seconds. The B-52 can turn in 23,000 feet in 3 minutes 10 seconds. I don't mean to imply by this illustration we are going to stop to dog-fight with the MIGs, but you can see a MIG will have a hard time maneuvering to make a good attack if we take a little bit of evasive action.

Another interesting limitation of the interceptor is the time to climb. A MIG can reach a 38,000 foot altitude in 6 and 3/4 minutes. It takes him another 6 and 3/4 minutes to climb the last 10,000 feet up to 50,000 feet. This 6 and 3/4 minutes is a critical time in the interception problem.

Going further into the matter of penetrating Russian defenses, here is a chart which summarizes the various defense systems and includes the electronics devices required for the successful operation of these defense systems. The defense systems include the interceptor, the interceptor with guided missile or rocket, the beam-rider guided missile, the command control guided missile, and the antiaircraft gun itself. All of these forces require the electronic devices shown at the bottom of the chart which includes acquisition radar, target tracker, missile tracker, and air-ground radio. Some of these systems are not

available for operational use today since they are still in the development stage. Guided missiles fall in this category.

For any automatic defense systems to operate there must be acquisition radar. This is the first link of the defense system, and therefore one which receives a great deal of attention from us and from anyone making attacks against us. Should any link in this defense system be rendered inoperative, then the defense system itself is inoperative. Therefore, our problem is to find one or more links in the defense system and render it inoperable through one of the many countermeasures available to us.

Our countermeasures include jamming, chaff, decoys, diversion and special tactics. We will get a certain amount of assistance from the weather since ground radars are easily blanketed by heavy cloud formations. I don't want to talk too much about the tactical countermeasures because I consider our tactics to have a higher classification than the Atomic Energy Commission and the Congress have placed on our atomic secrets, but I can give you an idea of the problems that we can give the ground observer by using simple electronic countermeasures and chaff.

Electronic jamming is caused by our airborne transmitters which are directed at the radar sites. A strong signal tends to black out this radar screen. I think you are probably all familiar with chaff which is sometimes called Window, but is simply a mass of flimsy tinfoil which we throw overboard and it reflects the radar beams back to the radar site. This produces a clutter on the screen and confuses

the orderly identification and plotting of radar returns. The following series of charts show the effect of both electronic jamming and chaff. These are actual ground radar photos taken during joint test missions with the Air Defense Command and the Air Proving Ground Command.

This scope scans a radius of one hundred miles. Six aircraft are dropping random and continuous chaff. The controller is given an almost impossible task of determining the number of aircraft and their present position. On this chart again six aircraft, but the chaff has been blown by the wind and is fusing together and drifting across the area. This chart is the first of two scope photos showing progressive stages of electronic jamming. These scopes indicate weak jamming from an aircraft approaching from due west. This would be classed as Condition 3. Normally our jamming activity could be withheld until a stronger reaction results to avoid giving away the direction of the approach of the airplane. This chart shows Condition 5. The entire scope is useless. This can result from a single aircraft properly using its spot jamming equipment.

In addition to the jamming, we can resort to diversified altitudes for penetration of defended zones. This also complicates the defensive problem.

In summarizing the discussion on ability to penetrate, I would like to emphasize that there are many tactics which can be employed to complicate the defender's problem. Altitudes can be varied for penetration, defense units can be saturated, evasive action can be employed against the antiaircraft with no loss in bombing accuracy. Chaff and spot jamming

can be used to the best advantage. Last and most important, there will be no time for the enemy to train his antiaircraft and interceptor forces when the shooting starts. Experience has shown that a certain amount of operational experience is required to develop good fighters and anti-aircraft units. In the next war, there will be little or no opportunity to gain this experience during the critical phases of atomic attack. In short, we have good reason to believe our forces can penetrate any defense system in existence today with acceptable losses.

We must be alert, however, to new developments in the air defense field, and we should continue to push the development of electronic countermeasures, gunnery and optimum tactics for our penetration and bombing chores. We see nothing in the future that is going to change this picture. I am sure you all read that article in Colliers Magazine the other day about the Nike missile, the ground-to-air missile. After reading it you probably think the day of the bomber is over. Not so. The Nike can be interfered with. It has been interfered with. All you have to do is toss a bundle of chaff over your shoulder and the Nike goes after the chaff and the airplane goes on. Now they can fix that. They can fix it so the Nike will probably ignore the chaff and go back to the bomber. But that is just the simplest of countermeasures. The point I am trying to make is the same principles that make the guided missile go and operate in the first place, the same principles of physics and the same natural laws can be turned around and used against it much easier than they can be made to work in the missile in the first place. So it is a matter of staying ahead of the game, and that I am

sure we are going to do.

Next, I would like to show you some strike plans in general form only. There are any number of ways, of course, that you can use a force against targets. How we actually employ the command cannot be determined exactly until the actual directive is received to implement our war plans. All conditions at the moment — the availability of bases, political negotiations, force availability, knowledge of the enemy's defenses, and our actual objective — will play a part in determining how the strike will be launched. However, we are developing as many plans as we can to meet any foreseeable contingency. We actually have hundreds of plans already written, so when SAC is told to launch an attack, we can pull the proper plan, depending on the situation, out of the drawer and put it into effect as is, or with whatever changes are necessary. These plans have been disseminated to our appropriate combat units and each crew has been earmarked to deliver the atomic bomb on the specified target, knows his target, knows where he goes in the forward area, the bases, routes, everything necessary to properly lay down the attack. Also our requirements have been given to the area commanders so they know what is required in the way of support in their areas.

For simplification I have narrowed down my discussion to five possibilities as indicated on this chart: first, considering only U.S. bases will be available in North America; second, that slightly more advanced, intermediate bases will be available; and third, a strike involving our heavy units from North American bases plus units already

deployed; and fourth, a strike where tankers have been deployed; and fifth, a strike under ~~optimum~~ OPTIMUM conditions where we deploy the whole force.

First, let's take a strike we might want to use from the zone of the interior. Here is a B-47 strike from Limestone. The aircraft can take off from Limestone and reach any target in the light colored area and return to Limestone. This mission will involve both pre- and post-target refueling. The flight would be at optimum altitude and we assume carrying the Mark VI bomb. Notice we can get past Moscow or as far as Kiev or ~~Archangelsk~~ MARKOVO. This is a B-52 capability from Eielson. Again the aircraft returns to its take-off base. The B-52 can reach any target within the area indicated in red, carrying the Mark VI bomb. If a heavier bomb is carried, something as high as 40,000 pounds, the coverage is reduced as indicated by the dotted line. Notice that even with the bomb weighing this much, we can get past Moscow from Eielson and return to Eielson. The B-36 has a coverage comparable to that shown on this chart.

Next, the strike from the forward or intermediate areas. This chart shows the coverage obtainable by the B-36 launched from Guam, Eielson, Goosebay and Lages, carrying the Mark VI bomb at an altitude of 40,000 feet. All targets fall within this capability, the capability of the B-36.

This chart indicates what a heavy force could do in 60 hours. The B-36 could stage from Fairchild, Walker, Carswell, Limestone to Goosebay, Thule and Eielson, ~~launching~~ LAUNCHING into the target area indicated. The medium force in the U.K. and on Guam could also be launched at the

same time. With just this much of a force, we could get complete coverage of all the principal target areas.

Now the next SCHEME employs tankers at forward bases, as indicated on this chart — tankers at Kindley, Limestone, Thule, Keflavik, Lages, the U.K., French Morocco and Wheelus Field. The medium force of B-50s and B-47s could take off from the United States, be refueled by tankers at the places indicated and strike Russian targets in considerably less time than 60 hours. The time to execute a strike of this nature would be dependent upon the time to ready the weapons and the flight time to the target area. Of course, a strike of this nature presupposes the tankers are in place. Such a scheme might be required when political considerations prevent our launching atomic bombers from our allied bases overseas.

This next scheme involves a general force deployment. It assumes world conditions would permit us to mass our entire force for an optimum strike. UPON the direction of the Joint Chiefs of Staff to execute the war plan, all combat units will immediately deploy to forward areas as shown on this chart. Deployment will begin within 12 to 24 hours, when the first squadrons would move out to the areas indicated. The major portion of the medium force would deploy to French Morocco and the U. K. However, smaller forces would go to the Far East. The heavies would stage TO Limestone, Goosebay, Thule and Alaska. Small forces would go into the Azores, Iceland and Wheelus. With our forces deployed, we could launch a mass attack, making a simultaneous penetration of the Russian perimeter defenses. Targets in the northwestern

region of Russia could be struck by medium bombers based in the U.K. and by B-36s launched from the North American continent. Targets in the southwestern and west central regions could be attacked by U.K. and Moroccan based mediums approaching along the Mediterranean route and withdrawing to bases in North Africa. The green indicates the withdrawal routes. Forces launched from Alaska and Guam could strike targets in the Far East and the Lake Baikal regions, withdrawing to Japan or Okinawa. The yellow lines indicate retardation strikes in progress which would start from the very first moment war was declared.

There is a great military advantage to be gained through mass saturation of enemy defenses. This tactic is graphically shown by the next series of charts. H-hour would be the time designated for the lead aircraft of each task unit to arrive at periphery positions indicated by the head of the route lines. At this time, enemy early warning radar would pick up any aircraft approaching along the different routes. The next chart develops this movement on a half-hourly progression. The lines show the penetration routes employed. There are successive waves of aircraft behind the leading elements which do not show on this chart other than the leading element. The stars represent target complexes to be bombed.

During the first thirty minutes, forces would penetrate the distance represented by the white route lines. Outlying targets, shown by the white stars, would be struck first. Green stars show targets remaining to be attacked. The distance flown represents jet speeds. By H plus one hour, forces would have advanced the distance indicated

by the white lines to the positions indicated at the end of the lines. Additional targets would be bombed during the previous thirty minutes, indicated by the white stars. Red stars indicate the targets bombed in the first thirty minutes. Forces which already have bombed would be withdrawing to home bases. By H plus an hour and thirty minutes, the forces continue in as shown on this chart, approaching the final targets in this system. By H plus two hours, all targets in this hypothetical complex would have been struck.

This gives you a rough appreciation of the speeds with which such an attack could be developed and the resulting problem confronting the defending forces. There would be little or no time for large-scale shifting of fighters or antiaircraft forces within Russia. MOREOVER, there would be little opportunity to commit the same fighters to multiple sorties which requires intermediate reservicing on the ground. The SCHEME of deployment AND attack just shown could be conducted under optimum conditions and presupposes the availability of overseas operating bases at the time are available to conduct such an operation. In two hours we crossed the heart of Russia in all directions, saturated the defenses, placed a heavy destruction on them in a very short period of time. The destruction in terms of explosive power is greater than that which was laid down on Germany and Japan during the entire course of the war.

This is the ideal way, of course, to strike Russia. It is the way we would like to carry out the job. The strike, if we do it at night or in bad weather from every direction would saturate their defenses, and

the Russian defense system would have only two hours in which to attempt to stop the strike. Regardless of how successful they might be, a large destruction would occur to Russia. It would be impossible to inflict prohibitive losses on the attacking force if they use this scheme of attack.

This concludes the prepared part of my presentation, and I am sure two hours of discussion has served to raise many questions in your mind, and I will be very happy to answer them.

~~TOP SECRET~~ DECLASSIFIED

THE STRATEGIC AIR COMMAND
By
General Curtis LeMay

(28 January 1954)

QUESTION PERIOD

COLONEL ASMUTH, USMC: You said your first task was to destroy the enemy's atomic capabilities on the ground. Can you discuss a little more in detail your possible success in that line?

GENERAL LeMAY: I also said that was our most difficult task. Some five years ago when I first took over the Strategic Air Command, we had a very small capability compared with what we have now, and we could ignore in our plans some of the rules in the rule book. One of the rules is you must fight and win the air battle first before you can go on with your operations. Russia at that time had no atomic bomb and not much in the way of delivery capability even if they had one. So we weren't worried about a tremendous attack falling on us. We were free to go about the business of putting down one on Russia. Since that time they have developed atomic weapons and they have a means of delivering them. And as their stockpile increases, the danger to this country increases. Therefore, something has to be done about going back to the rule book and fighting the air battle first.

We think the best chance of preventing attacks on this country is to get those airplanes on the ground before they take off, rather than depending on the Air Defense Command to shoot them down after they got here. A specific answer to your question is impossible. I don't know

~~TOP SECRET~~

how we are going to do it. Our intelligence system is pretty sorry in telling us or answering some of the questions we particularly want to know. We hope it will get better as time goes on, and I believe it will. I think however -- and this is my personal opinion -- that it will never be good enough to tell us that so many airplanes are coming off this field at such and such a time to attack the United States. I think we are going to have to make up our mind at some time or other to launch our attacks, and that may well be any time from when the bomb actually falls on the United States back to where our intelligence reports they have an intention of doing it. What that time will be, I don't know. I move when I am told. I think, however, the time will come when most of our effort, at least in the first attacks, will be a counter air force effort against the Russian air force. I believe the public will demand it. I think that is the most efficient way of stopping an attack. I see no other way of doing it. The airplanes that are already airborne when the attack is laid down, of course, will not be stopped by this method. We will have to depend on the air defense system for them. But as I see it now, that is the only way we can do it. I think a large proportion or percentage of the stockpile of weapons we have at our disposal will be expended on this task.

CAPTAIN KIBBE, USN: I notice about one-third of your force is reconnaissance planes. In the same connection, you probably have to go out and get your own intelligence. Could you give us some of your reconnaissance plans -- ideas on reconnaissance?

GENERAL LeMAY: Every war plan or every plan for a bombing

attack has a reconnaissance phase of it. The reconnaissance people operate right on top of the bombers for protection, of course. They clutter up the air and help out in the saturation of the defenses, and they go about their chores. We have enough information for our target folders to put down the first few missions. The reconnaissance go out to get additional information that we require to put down attacks on targets where we do not have the information. Then, of course, they will bring back information of new targets we know nothing of now. We knew much more about Japan than we know about Russia; yet when we got to flying over Japan and taking some pictures, we covered twice as many targets as we knew about. We think the same thing will happen in Russia. And of course, we have machinery for grinding that stuff out into target material to get it to the units so the attack can be brought about.

STUDENT (ICAF): General, I would like to make reference to the chart having to do with the 61 hours that you talked about earlier in your discussions. First of all, I have two questions. The first is what, if anything, could be done about reducing that time? The second question is if the Russians use the same philosophy in their attack, that is, eliminating the United States Air Force, wouldn't many of your plans go out the window?

GENERAL LeMAY: I don't think the Russians can destroy our Air Force on the ground. We have given it a lot of thought. We have run tests continually over the weekends or in the middle of the night, at awkward times, to see how we can disperse. We think we are going to have some time. I just cannot visualize a complete surprise.

If there is a complete surprise, then we still will survive such an attack because the Russians have the choice of coming in and penetrating the early warning net at the same time and bombing the targets progressively, as I outlined in this last plan, which means the targets out near the borders will be bombed first and then there is a couple of hours before they get to the last targets, so you have at least that much warning plus your early warning time, your radar time; or they can decide to bomb every target at the same time, which mean that they have to penetrate the nets at different times, and you have enemy airplanes flying over the country for a long period of time, and certainly they have to be picked up and you can get into the air. Now I believe the Russians can do the same thing. However, I know of no other way except trying to catch them on the ground and at least destroying their bases so their operations are very much curtailed, very much curtailed.

I foresee the time when we will be putting attacks down on all of the bases, and we will reach that capability a long time before the Russians will. I am thinking of bombing every airfield in Russia on the initial attack, and there are some 600 at the present time. With supporting heavy airplanes, we can reach the point where we can expend that number of weapons on that chore long before the Russians will. Right now they can't put very many weapons on that job and still have any left for industry. So we will be ahead of them in that game. There will come a time, I think, when we will have to further disperse. Right now we can't. While we are building up a force we just couldn't afford to disperse it all over the countryside. We haven't the people to

maintain it, and it would wreck the training program. But once we stabilize on the size of the air force we are going to have, get it trained, then we can maintain its proficiency a lot easier and we can afford to disperse it and have it pretty well scattered.

MR. YLITALO, State Dept.: What is the nature of coordination with the Navy in the strategic bombing attacks?

GENERAL LeMAY: They have at the coordination centers representation from the Navy theater commanders. That is all. I would like very much to know what the Navy is going to do but never have been able to find out. Those boys maintain they must be flexible or something. I'd like to know what they are going to do. We have never been able to find out.

COLONEL MINER, USA: How long, logistics-wise, do you think it will be before SAC has any effect on the operations and movement of the Soviet Army into Western Europe?

GENERAL LeMAY: That question should properly be answered by someone other than me. However, we are going to make sure that no additional supplies get to Western Europe. I feel confident of being able to accomplish that. So there will be no more support come into Western Europe, and the Russian armies in Western Europe will have to conduct their campaign with what they have on hand. The speed with which that runs out depends on the stockpiles they have and the rate at which they expend it. I personally believe there will be an immediate effect for this reason: If you are a commander a long way from home and everything goes up behind you and you are not sure when you are going to

have your supplies replaced, your equipment replaced and at what rate, you are going to be very cautious about using up what you have. So I think there is going to be an immediate effect for that reason.

MR. WOLF, State Dept.: One hears some optimistic thinking, wishful thinking, that the use of the new weapons can be limited to the so-called tactical battlefield. Would it be possible for you to accomplish your mission if you were denied the use of the new weapons?

GENERAL LeMAY: No, I don't think it would be impossible to accomplish the mission, but you cannot do it with the force you have in being. You must go back to the World War II practice — fire up your aircraft industry, build a tremendous force and do the job like we did before. I don't foresee, however, the day when we will agree to outlaw atomic weapons. If we are going to do that, we might as well go a little further and outlaw artillery and rifles and go back to fighting the Russian horde with a knife or a rock. I don't think that is to our advantage. Our advantage is certainly not in our manpower, our numerical strength, but in our technical ability. We shouldn't sacrifice our technical ability and put it back to fighting them on a man to man basis. We are bound to lose that way.

CAPTAIN MARTELL, USN: General, I would like to take issue a little with that last statement of yours about not knowing what the Navy is going to do. Last summer you had a number of your planners visit the various theater commands and sit down and go over in considerable detail the plans of the theater commanders as to what they wanted in the way of retardation missions. I sat in one of those conferences, and I believe

that we furnished at that time types of bombs, ground zeros and every other piece of information that was required. Now the naval forces are assigned to the theater command and operate under their orders. We don't have the luxury of an independent command that we can do things with. It seems if you have the theater commanders' plans you have full information on the Navy's intentions.

GENERAL LeMAY: Well, it's a free country. We can all differ. I differ with you. And you do have an independent command in the Supreme Commander in the Atlantic. Admiral McCormick has a substantial force. It is true the Mediterranean force is supposedly under the theater commanders, but I have yet to be able to pin down one definite target that the Navy is going to hit, timing and things of that sort. I don't know where the fleet is going to be. I don't know where their submarines are going to be. I have a vague idea by talking to people that they will be operating around some place, but I haven't been able to get together to get a communications plan whereby we can pass information to the submarines. I am sure they would be very happy to know the information we know. We fly over a lot of area. For instance, they say they are going to operate submarines in the Black Sea. All right, I am not a submariner, but if they are going to operate in the Black Sea, I am going to have a lot of airplanes flying over there almost continuously, and we report every surface vessel and its exact position in the Black Sea. If the submarines are going to do anything, they ought to know that. I haven't been able to work out any way of passing that information. I would like to know where the submarines are

going to be because I am undoubtedly going to have some airplanes shot down. They should be capable of picking them up -- my crews -- in the next war the same as they did in the Pacific in the last fracas. But I haven't been able to get that. All the Navy plans I have read are so general that they are worthless to me in carrying out my chores.

COLONEL STRAUSS: General, in your experience in the training of SAC, do you think the Russians would be able to develop a significant strategic force by training within their own border and without our being aware of it?

GENERAL LeMAY: Will you hold up a minute? I had another thought for the Navy commander back there.

I see some hope on the horizon, however, for correcting this situation, in that the theater commanders have recently been asked to send in an atomic annex to their plan. They were told to coordinate among themselves. The coordination has not taken place as yet. There hasn't been any agreement as to who would strike which target and how and when. But that is in the Joint Chiefs now. I hope that out of this will come one target list for the country. We should be able to take all the targets that all the commanders think are important and arrange them in some sort of a priority list -- the first one will contribute the most to the winning of the war and on down the list. Then the Joint Chiefs could assign to the various commands that have the capability for destroying these targets the chores of destroying them. Then I think we would have real coordination. I hope that it is not too far away.

COLONEL STRAUSS: I wondered if you felt the Russians would be

able to train an effective force along the line of your own by restricting their training to the limits of the Soviet Union without overseas missions, and if they could build this force up without our being aware of it.

GENERAL LeMAY: Well, I doubt very much if they could build a long range force up without our being aware of it. We are aware they have one and we know a little something about it. I think it is very helpful to have this world-wide training field that we have, but I do think you can still train inside the borders of Russia. You find that Russia is a pretty big place and they get all types of weather and terrain to fly over. I think they could train a force over there.

However, I don't think their force is any where near comparable to ours in professional skill because they haven't World War II under their belts in strategic bombing. We learned a tremendous amount about the business during World War II. They do not have that background. It is quite a chore to build a bomber force, and you can't do it overnight. You have to get that flying time and experience, and that takes time.

One thing really worries me. In questioning the defectors that have shown up on our side of the line, we find the Russians have apparently understood the value of air power, and are doing their best to attract good people into it. We find the air force has twice the pay the rest of the forces do, but that is not so important in the type of living they have to do, that they have to contend with over there. But on an air base, for instance, they have three different types of messes with the pilots eating better than anyone else, and everybody in the

air force eating much better than the rest of the people. So they are given privileges and a better life than they get anywhere else. That will attract some good people into the air establishment and it is bound to produce at some future time a really good air force. We seem to be doing quite the opposite here in this country, driving them out the best we can by cutting out fringe benefits and haggling about flying pay and things of that sort.

MR. STEVENS, CIA: General LeMay, do you foresee a time when the Strategic Air Command will not need to depend on overseas bases?

GENERAL LeMAY: I foresee a time when we could carry out our missions without depending on overseas bases. However, you must remember this mission is a transportation mission. We are hauling something from here to here, and if you can shorten the haul, you are more efficient. You can do the job quicker and better. So if you do have the bases, it is an advantage.

CAPTAIN PRESSEY, USN: General, it seems to me the capability of your overseas based heavy bombers may be very much limited for immediate action by the availability of the weapons. There has been some thing in the paper recently about that. Would you care to discuss any future possibility of getting weapons over there ready for quick use?

GENERAL LeMAY: Let me collect my thoughts on how much I can give you. One of the time factors now in putting down say a bomb to help out the theater commander in retarding the advance forces, assuming that is the way the war starts, by a ground attack on Western Europe — I don't think it will happen that way, but supposing it does happen that

way, and we first know we are at war by the marching of the Russian armies to Western Europe, that is our first contact . The military, as you know, has no weapons at its disposal. They all belong to the Atomic Energy Commission. So we must first get possession of the weapons. Then we have to getthem in the proper places for attack. The situation is not as bad as it seems. We have very carefully worked out plans, and so has the Navy, for getting the weapons where we want them. I don't think we are handicapped too much in that respect. As a matter of fact, I would rather assume the burden of the additional time it is going to take us to get the weapons in our hands than I would to fight all the newspaper comments and things of that sort about the untrustworthiness of the military Services to have this tremendous power at their disposal.

COLONEL HILLYARD, USA: General, we have heard quite a bit about the "New Look" recently in peripheral wars and brushfires. Would you care to comment on SAC's mission in connection with a small war?

GENERAL LeMAY: I thought, by reading that same national policy that I think you are talking about, we weren't going to have any small wars. It was my understanding that any further aggression would bring massive retaliatory attacks, not necessarily limited to the point of aggression.

STUDENT: General, there has been some information in the press recently that strong pressure is being brought to bear by England to get the United States, through our foreign aid program, to sponsor the building of a strategic air force for England. In view of the high cost in our own situation here, what do you think about the practicability of

having to build two strategic air forces in our Western alliance?

GENERAL LeMAY: I haven't given much thought to the British strategic air force because I have enough trouble with the one I am responsible for. However, it seems to make sense to me that the British leave the strategic chore to us, and they should try to better fill their NATO commitments and to build up their defense establishments to protect the advance bases. However, if I were in an RAF uniform, I certainly would take a dim view of that type of program. They have always been ahead of us in their air thinking. They were the first to have a separate air force right after the war, and they were the first to have a bomber command, the first to have the concept of the long-range force to get back in to carry out that chore. They know the importance of it. They know that your best defense is a strong offense, and that means bombers. I could quote Mr. Churchill, Air Marshal Slessor, Tedder, Trenchard and all the rest who point out that the bomber only could win a war for them. They know that, and they are very reluctant to be without it, very reluctant, because something might happen to NATO and they would be on their own. Probably we won't play the way they will want to play, and they will be on their own. So they dislike to tie their country's existence to the United States Strategic Air Force. They want one of their own, and I don't blame them. However, purely from a standpoint of efficiency in the NATO organization, where we are trying to pool our efforts for our mutual protection, it seems reasonable to me that England's resources should be given to protect the advance bases and to make her contribution to close-in defense of the NATO

countries in Europe.

COLONEL SCOTT, USAF: Sir, do you see a greater or a lesser role for fighter aviation in SAC for the delivery of the weapon?

GENERAL LeMAY: I see a lesser role. There are many reasons for it. Primarily this weapons' delivery business is getting more and more technical and more and more professional. In fact, that is true of the whole Air Force. The Air Defense Command, for instance, are complaining bitterly about the quality of their crews, that they just don't have the experience to operate this complicated equipment they have with the fighters. They want more experience. They come out with something that requires more experience and maybe two people or more in the airplane just to take off and go up and shoot down a bomber, and yet people are inclined to blithely say you can hang an atomic bomb on a fighter and send it off in the middle of Russia to bomb a target with one fighter jockey. I don't think so. I think your chances of success are better if you put more people on the job. So for that reason I see a lesser tendency to use fighters in the atomic business, that is, for my part of the chore.

I also see a tendency for us to hold back as we can and depend less on advance bases because they are more vulnerable and therefore require longer ranges and the fighter won't take care of that chore. But that is a whole subject that would take days to discuss completely.

STUDENT: General, could you tell us something about the type of airplane the Russians would use to bomb us?

GENERAL LeMAY: They have the TU-4, which is their improved

version of our B-29. That they have in quantity. There are indications they have one about like the B-36, somewhat less range. And I believe they are capable of having an airplane similar to the B-47. However, we don't know that it is in units. Certainly if they want to build it they can. They have given every reason to show they can mass produce good, useable airplanes. We finally got our hands on a MIG, and in spite of all the articles you have seen in the newspapers about too many gadgets on American fighter planes, and what they need is a good airplane like the MIG, no fighter pilot would trade his F-86 for that MIG because it has characteristics they wouldn't like. But it is still a pretty good airplane and it is mass produced. The engine, for instance, was purchased from England, fifteen of them, and in two years it was put in mass production and improved, something we couldn't do at the present speed at which we are trying to expand our air force. We haven't done anything like that. So I think they are capable of building a B-47 or a B-52 type airplane if they put their mind to it.

COLONEL CLIFTON, USA: General, I understand from the "New Look", too, we are putting great reliance on your force for the future military security of the United States. My question is in the budget they have provided you are they giving you enough aircraft and sufficient funds to carry out your mission as well as you could?

GENERAL LeMAY: I have to answer that by saying no. Did you ever know any commander who thought he had enough either in information or in supplies or people? It is true more responsibility is being placed on the Strategic Air Command for carrying out a large segment of the defense

of the United States, and I am not happy with what they have. The bases, for instance — I don't have one base that is like I want it. Maybe I shouldn't have them like I want them. Maybe I should be restrained so I get 95 percent of what I want at a reasonable cost rather than getting a hundred percent at a higher cost. That is for the Bureau of the Budget and the Appropriation people in Congress to decide. But I could greatly improve my command, I think, with better bases, more people particularly. That is the thing that bothers me now. This job is not a job for a week-end soldier. He has to be a professional, and it takes time to train, time to get them so they can do their job and be efficient. Right now we have not enough people. I have received word from the personnel people in Washington about a month ago the Air Force can only be manned to 85 percent of our needs. So we might as well not requisition any more people because they won't be forthcoming. That is officer strength. In some of our critical skills we are only 50 percent manned, skill-wise. We have a body there but he is just a warm body; he is not a skilled man. If we had a few more people to train and we could retain a few more of them, I think we would build to the proper number of skilled people. I think the manning tables are all right if those people knew their business, but some of them don't. That is important. So if I could ask for more, I would ask for more people so that I would eventually reach a goal where I could cut back in numbers, but my people would all be well-trained and capable of doing their job. When that happy day arrives, then I think we can still cut further back because the bulk of the resources of the

Air Force -- and I am sure this is true of the Navy and the Army, too -- is tied up in the training establishment. They have such a rapid turn-over they have much of the resources in the training establishments training the new people who come in.

COLONEL PACHLER: General LeMay, you have given us a clear picture of the Strategic Air Command. For both colleges, I wish to thank you for an outstanding presentation, sir.