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Op-36C/jm

18 MAR 1954

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MEMORANDUM

From: Op-36C
To: Op-36
Via: Op-36B

Subj: Briefing given to representatives of all Services at SAC Headquarters, Offutt Air Force Base, Omaha, on 15 March 1954

1. On 15 March SAC gave a briefing, understood to be the same one given to the new JCS last July, to about 30 officers of all Services, including several from OPNAV. The briefing lasted from 0830 until about 1500. It was given by MAJGEN A. J. Old, the Director of SAC Operations. General LeMay, COMSAC, conducted a question-and-answer period for about 30 minutes at the end.

2. The briefing was done in an excellent and skillful manner utilizing many charts, diagrams, projector slides, etc. The rapidity with which it was given made it difficult to take more than highlight notes. The gist of these follows, using the same breakdown of major topics as was used by General Old.

BACKGROUND

The first strategic air mission was conducted in August 1942 when a group of B-17's sortied from U.K. to attack targets in France.

The first B-29 strategic air mission occurred on the same day Guam was invaded and consisted of 50 B-29's attacking Japan from bases in India.

RESUME' of WORLD WAR II

During 49 months of World War II 22,000 bombers were lost in strategic air attacks against Germany (10,000 U.S. and 12,000 RAF). Similarly during a 14-month period 485 B-29's were lost in strategic air attacks against Japan.

2,690,000 tons of bombs were used in attacking Germany whereas only 160,000 tons were used against Japan.

The above data were intended to indicate the great difference between the scale of strategic air warfare against Germany as compared with Japan in World War II.

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MISSION

General Old showed a chart listing the BRAVO, ROMEO and DELTA objectives and stated that the JCS had established these as having priority in that order. He stated that although SAC has been "assigned" only a certain number of targets by the JCS their planning has gone well beyond this number. A current plan, indicated on a chart as SAC-WNEX, covers up to 1700 DGZ's, which includes 409 air fields. General Old stated that SAC is not much concerned over current or prospective JCS allocations of weapons "because we know we will get the weapons when the bell rings", or words to that effect. He stressed, however, that their primary concern is: "Where are these weapons which they expect to be allocated?" That is, in what sites are they located so that SAC can plan his pick-up schedules accordingly. This aspect of SAC's philosophy, indifference to JCS allocations, was repeated later by General LeMay.

ORGANIZATION

Charts flipped by quickly which showed that the SAC consists of 3 "Air Forces" in the United States as follows: Second Air Force based at Barksdale AFB, Louisiana; Eighth Air Force at Carswell AFB, Fort Worth, and Fifteenth Air Force at March AFB, Riverside, California. SAC has 5 Deputy Commanders overseas designated as follows:

X-Ray - Deputy Commander Far East
Victor - Deputy Commander Alaska
Yoke - Deputy Commander French Morocco
Zebra - Deputy Commander U.K.
Obce - Deputy Commander Northeast

Yoke and Zebra are intended for the support of SAGEUR (an NATO commander).

Other units overseas were shown, however I did not have time to take any notes on these.

RESOURCES

Aircraft

SAC now consists of:

- 5 Heavy bomber wings (30 B-36's per wing)
- 13 Medium bomber wings (all composed of 45 B-47's per wing, except one wing of B-29's.)
- 4 Wings of heavy strategic reconnaissance B-36's.
- 2 Wings of medium strategic reconnaissance B-47's.
- 14 Wings of aircraft refueling tanker planes (42 squadrons).
- 5 Strategic fighter wings,
and a couple of more types.

As of 15 March SAC consisted of 2131 combat planes of which 835 are bombers, 315 reconnaissance, 540 tankers, 325 fighters, 50 strategic support, 35 air-rescue and a few others. Of the total of 2131 planes 2095 were "combat capable" on 15 March.

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There followed charts showing characteristics of different bombers from which I made the following notes:

The B-36 carrying the MK-6 has a range of 8,000 miles going on a mission at 40,000 ft. altitude, or 8,800 miles at 30,000 ft.

The B-47 carrying the MK-6 proceeding on a mission at optimum altitude, which means a steady climb to release point, has a range of 5,600 miles using one in-flight refueling or 7,800 miles using 2 refuelings.

The B-52 carrying the MK-6 and proceeding at optimum altitude (steady climb) will have a range of 7,800 miles with one in-flight refueling, and 9,000 miles with 2 refuelings.

(The first B-52 quadron is expected to become operational about mid-1956 with a second squadron coming in near the end of that year.)

CREWS

SAC now has 2,390 crews ready for duty. A crew ranges from 1 for the fighters up to the large number required in the heavy bombers. A breakdown of this 2390 figure is:

- 1008 bomber crews
- 490 fighter
- 516 air refueler
- 272 reconnaissance
- 74 strategic support
- 30 air rescue

A survey some time ago of about 360 of the crews showed that the average age of the officers was 32, of the airman - 28. Recently the average age of the airman has dropped somewhat and also the percentage of those married. General Old said that this trend worries them because it shows that the more experienced ones with families are starting to get out of the military service, possibly as a result of the recent losses of "fringe benefits", etc.

Certain bomber crews which reach a high level of proficiency are designated as "Select" crews. Others of a slightly less proficiency but better than the average are called "Lead" crews. There are now 300 Select and Lead crews out of the 1008 bomber crews. Each of these crews is given a target folder containing all the data available on one specific enemy target and they spend all their time studying and practicing on all aspects of how to attack that particular target. General Old did not say but I presume that they also have an alternate target or two to study. SAC uses the spot promotion practice liberally among members of the Select crews. All SAC crews are given periodic thorough proficiency checks by a special hot-shot team at Fort Worth, as I recall, and if for any reason a crew loses its special designation any members of the crew with spot promotions also revert to their

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normal rank or rating. There was quite a bit of elaboration on this competitive reward system indicating that SAC considers it an important factor for attaining high morale and high proficiency.

In answer to a question General Old said that SAC consists of about 80% Reserve officers. They have a rather high degree of permanency in their crews simply because they keep personnel assembled as crews as long as practicable.

SAC's training program was discussed at some length at this point and is considered very thorough. From the number of different phases of training they undergo and different types of proficiency checks run on them it would appear that they must spend about 3/4 of their time in the air. The frequency of long range training flights, 2 - 4,000 miles or more, was impressive.

Around the U.S. there are quite a number (30 or 40 I would guess) RBS (Radar Bombing Scoring) units. Some of these are mobile. This is an electronic lash-up on the ground in different industrial areas of the U.S. which tracks bombers on their practice bombing runs and is able to measure the error of hypothetical drops in relation to the DGZ's. This phase of their training is stressed and continual records are kept on all bombing crews.

One interesting phase of the training which each SAC bomber crew must undergo concerns their survival and escape capabilities in case they are shot down over enemy territory. Each crew as a unit is sent out to some remote area in Nevada and turned loose in the wilderness with "nothing but a few fish hooks and a pocket knife." These crews must make their way back an appreciable distance over rough terrain to "free territory" and at the same time evade SAC "enemy" personnel trying to capture them. General Old said that this is quite a strenuous ordeal for a lot of the city lads and often "separates the men from the boys." In a few cases plane commanders were removed from their commands because of their poor leadership qualities revealed by this unusual test.

Bases

SAC now has 31 operational and staging bases for 2005 aircraft in the U.S. and overseas. In 1950 SAC had 18 such bases for 850 aircraft. The ultimate plan is to have one heavy bomber wing per operational base, or two medium wings. I did not get the breakdown between operational and staging bases. Later General Lemaire remarked that he will be happier when he has a few more bases.

Communications

SAC has an elaborate teletype system by which direct communication to many places is possible. By relay over networks of other agencies still more of his outposts can be reached. The Communication Control Center is in the basement of the building in which we were briefed. In addition SAC uses the RCA telephoto system by which pictures can be flashed to Omaha very quickly directly from U.K., Japan, Guam and North Africa. Security for this circuit is under development. It is presumed these are intended primarily for intelligence purposes. A sample of such a picture transmitted in quite a short time was very clear.

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CAPABILITIES

Range

Considerable data on combat ranges were presented. General Old remarked that the Air Force will be delighted when jet tankers are available so that heavy bombers will not have to slow and come down to lower altitudes to take a drink. This, of course, cuts down their overall range. Jet tankers will be required to refuel B-52's due to their high speed. Their range will be increased 1,000 miles with one refueling or 2,500 miles with 2 refuelings when the fueling is done at 30,000 ft. Designs of jet tankers are being developed.

In-flight refueling of all plane types is now a routine and easy operation, day or night. SAC now makes a wet hook-up every 5 minutes some place in the world. Wet hook-ups are 99% successful. Refueling is usually done at 18 - 20,000 ft. at 600 gals. per minute.

Mobility

General Old stressed that the performance of the B-47 is not limited by the plane itself but by the crews' endurance. Various studies are going on to determine just how much the crews can stand and also how their proficiency in bombing, navigation, etc. falls off after prolonged operation. Similar studies are conducted for the crews of other SAC types. Examples of a few long range mass flights of SAC planes were cited including the famous round-the-world flight by the B-50 "Lucky Lady", which passed over Washington at the height of the B-36 controversy. Later General LeMay remarked that SAC can go anywhere in the world and hit any target designated by the JCS.

Navigation

SAC bombers use the "K" system which apparently is quite wonderful and reliable. General Old did not elaborate on just what this system is and I hope to find out more about it. Apparently it is tied in with the bombing equipment itself and actually releases the bomb at the proper moment without the touch of human hands. General Old stated that SAC can "bomb within 2% of the distance run blind (I presume this means by dead reckoning) by the 'Sharkey' system." A question was asked as to how the fighters navigate when they are not accompanying larger planes. He said they use a very rapid system of celestial navigation for which pre-computed data is provided for each flight.

Bombing Accuracy

General Old stated that if the target can be seen their bombing errors will be 800 - 100 ft. less than if radar bombing has to be used. The current CEP's for all bomber crews using simulated radar bombing from 25,000 ft. vs. industrial targets is about 1400 ft. For visual bombing this drops to 600 ft. Tests were run on their Lead and Select crews only to see how much better they were than the average. The measurements of 202 simulated drops from 25,000 ft. gave an average CEP of 1390 ft. for radar bombing and 352 ft. for visual. It is presumed that these tests were conducted using the RBS ground equipment previously mentioned.

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SAC's "radar prediction technique" was described at some length. This consists of making "plates" using old intelligence data on Russian targets. These plates consist of square pieces of clear lucite about 1/4" thick on which have been etched, or built up with a metallic substance, outlines and solid block-in areas of topographical features by technicians in such a manner that when this plate is viewed in a special training device it shows up exactly as would the radar scope of a bomber flying over the actual target. This technique has been developed to a fine art, largely by using old data on U.S. cities to prepare such plates and then checking them with pictures of the radar scope of the actual cities today. In other words, lakes, rivers, etc. never change, industrial areas do not move but normally just change size and shape slightly. SAC has prepared such plates for 90% of the "assigned Russian targets." It was illustrated how these plates can be used to establish "offset aiming points." In this system some prominent point on the plate such as a bend in a river or other easily identifiable point within 10 miles of the DGZ, is selected as the actual point on which the bombardier attempts to drop the bomb. However, the bombing system takes into account the distance and bearing of the true DGZ from the offset aiming point and actually guides the plane in such a manner that the bomb is dropped on the real target.

Recently SAC ran a check on 150 bombing training missions in a 30-day period to check their theoretical effectiveness. 109 were scored as completely successful, 17 were scored as having dropped their simulated bombs successfully but had some sort of an abort after bomb release, 24 (16%) had air aborts before they got to the target, all of which were due to some difficulty with the "K" system and none were caused by the flying capabilities of the planes themselves. These missions were all long range in nature, some as much as 4,600 miles.

Penetration (into Russian territory)

In World War II only 1.68% of the bomber losses were due to enemy defensive action.

On 11 July 1953 SAC conducted Operation TALLMIND which consisted of a drill to test the Air Defense Command. During a certain 48-hour period SAC was supposed to make simulated attacks on various U.S. cities in order to test ADC. Shortly prior to the start of this 48-hour period SAC surreptitiously flew a large number of heavy bombers out of the country by flying them out in the East over South Carolina and Georgia, and in the West by going out at low level over Mexico (for which no previous diplomatic arrangements had been made). These planes then turned and made coordinated strikes against major cities all up and down both coasts and also inland cities including ADC headquarters in Colorado. The striking time was within a half-hour after the start of the 48-hour period. SAC states that ADC was caught flat-footed and that they only scored 1/2 of a "kill" before bomb release and only 1 "kill" after bomb release. By the scoring system used 4 interceptions of bombers by ADC fighters was considered equal to one "kill".

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In this exercise 33 bomber sorties were used in the West and 66 in the East. It would be interesting to obtain an official report of this exercise and hear the ADC side of it as well. This exercise got ADC so stirred up that later on another drill was held in which the number of interceptions was appreciably greater.

SAC's presentation on this point was intended to demonstrate that it is extremely difficult to effectively prevent penetration of coordinated heavy bomber attacks which hit the early warning screen from many directions simultaneously. To perform effective fighter interceptions depends on the ability of ground radars to first acquire the incoming aircraft, then track them, and then by radio communication to be able to vector fighters to the interception points. A breakdown of any part of this complicated electronic system by the very saturation of the radar screens, the use of "chaff" and other ECM devices, will result in virtually no interceptions. Concerning the use of chaff we were shown some aerial photographs of a target bomber being tracked by the same radar tracking system which will control the NIKE guided missile. When the bomber threw out some chaff the radar crosswires got off the bomber and followed the chaff. General Old stated that this particular shortcoming could be corrected probably, but it was indicative of the inability of radars to sense relative military values of different targets. It is practically impossible for a fighter pilot to take off from the deck, go up to 30 or 40,000 ft. and find an incoming high speed bomber in darkness all by himself.

STRIKE PLANS

"We have several hundred strike plans prepared."

From ZI Bases

The scope of a strategic air attack on Russia from ZI bases would be determined primarily by the number of tankers available to accomplish in-flight refueling. Charts were displayed which showed the different depths of penetration that could be accomplished from various ZI bases using in-flight refueling.

From Intermediate Bases

The scope of strategic bombing efforts from such bases would also be governed by the number of tankers available. Intermediate bases were such places as Goose Bay, Alaska, Guam, Limestone, Thule.

Heavy Strike

SAC could lay down a barrage of about 200 bombs on Russia starting from Fairchild AFB (Washington), Walker AFB (New Mexico), Carswell AFB (Texas) and Limestone AFB (Maine). These strikes would be refueled by tankers on the way at Thule, Eielson (Alaska), etc.

Tankers Deployed

If refueling tankers are deployed overseas in advance SAC could lay down a barrage of about 400 bombs, operating all bombers from ZI.

Optimum Plan

SAC considers that the optimum situation would be to have adequate tankers deployed to overseas bases and also that the bombers would be similarly deployed prior to the major attack. It was estimated that SAC could lay down an attack under these conditions of 600 - 750 bombs by approaching Russia from many directions so as to hit their early warning screen simultaneously. It would require about 2 hours from this moment until all bombs had been dropped by using the bomb-as-you-go system in which both BRAVO and DELTA targets would be hit as they reached them. This part of the briefing was skillfully done by showing successive charts of Europe based on 1/2-hour time intervals after SAC bombers first hit the Russian early warning screen. Many heavy lines, one representing each wing, were shown progressively converging on the heart of Russia with pretty stars to indicate the many bombs dropped on DGZ's. The final impression was that virtually all of Russia would be nothing but a smoking, radiating ruin at the end of 2 hours. The number of planes involved in this attack would be $5 \times 30 = 150$ B-36's plus $13 \times 45 = 585$ B-47's for a grand total of 735 bombers. As I recall the SAC fighters would play practically no part in this attack.

General Old stated that the exact manner in which SAC will fight the war is known only to General LeMay and that he will decide this matter at the moment, depending on the existing conditions.

SURVIVAL

This part of the briefing was an effort to answer the question, "How well could SAC survive a Pearl Harbor type of attack?" SAC presumes that Russia has the BRAVO (blunting) objective as top priority just as we have. Familiar charts were shown to indicate the depth into the United States that Soviet planes could penetrate on one-way missions from different starting points. Some of these overlap the entire United States.

In making attacks on the U.S. SAC estimates that USSR would have to plan on the following operational factors:

- a. 10 - 30% aborts.
- b. 0 - 30% losses from U.S. defenses.
- c. 5 - 20% gross errors.
- d. 5 - 15% dud.
- e. 1000 - 10,000 ft. CEP's.
- f. 30 - 100 KT bomb yields.
- g. 25 - 75 weapons allocated to their BRAVO objective.
- h. 0 - 36 hours alert time in the U.S.

General Old then displayed a whole family of charted data to show the estimated effects on SAC of various combinations of the above items. Assuming conditions among the items above most favorable, least favorable, and averagely favorable to the Russians the following estimates were given:

	<u>Amount of Alert Time in U.S.</u>			
	<u>0 hrs.</u>	<u>2 hrs.</u>	<u>6 hrs.</u>	<u>36 hrs.</u>
		(% of SAC Destroyed)		
Most favorable	90%	35%	15%	5%
Least favorable	8.9%	2.4%	1.2%	0.3%
Averagely favorable	69%	23%	10%	3.4%

All of this points up that the amount of alert time is the most important factor as far as SAC is concerned. It is believed that these survival data are based on Rand studies.

General LeMay has pulled several surprise exercises at various off times, such as late Saturday afternoon, in which the idea was to see how quickly all SAC planes can get in the air and go to certain orbit points or to other fields. Some of these drills were done under one of two assumptions, either the planes should take off fully manned and equipped and ready to go on a strike mission, or simply take off with skeleton crews as soon as possible to get away from the threatened home fields.

This concluded the briefing by General Old.

QUESTION AND ANSWER PERIOD CONDUCTED BY GENERAL LE MAY

Some of the interesting questions asked General LeMay included:

Q. What period of time do you consider we should plan for to fight a "short war"? (Asked by a Navy Captain.)

A. About 30 days. SAC has been compiling continuous data on critical parts required to keep the planes operational. These parts are kept in "flying kits", one for each plane, which are taken with the plane when it departs for a mission. I consider these critical parts so important that I have never allowed them to be taken out of flying kits for local use. Necessary parts have to be gotten from somewhere else other than the flying kits or else the plane stays on the ground until the part is obtained. (Note: It is understood that General LeMay has in the past indicated a 60-day period, later dropped to 45 days, and still later to 30 days. This question was apparently an effort to see if he had reached any lower estimate by now. It seemed apparent from General LeMay's answer that he is firmly convinced that 30 days is long enough to conclude World War III.)

Q. Is SAC prepared to conduct strategic air warfare in case the use of atomic weapons is outlawed? (Asked by a Navy Captain.)

A. You "sailor boys" are always asking this foolish question - (or words to that effect). It is inconceivable to me that this situation will ever arise.

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Q. How do SAC's plans fit in with the stated national policy that the U.S. will never strike the first blow?

A. I have heard this thought stated many times and it sounds very fine. However, it is not in keeping with United States history. Just look back and note who started the Revolutionary War, the War of 1812, the Indian Wars, and the Spanish-American War. I want to make it clear that I am not advocating a preventive war; however, I believe that if the U.S. is pushed in the corner far enough we would not hesitate to strike first (or words to this effect).

Q. Could you say a few words as to your thoughts on how to fight a war in Indo-China?

A. I could talk for 2 or 3 weeks on this. In fact, I wouldn't fight a war in Indo-China because this is a squabble that could be settled by political action. This may necessitate offering independence to those people ultimately.

Q. What would you advocate in case hostilities are renewed in Korea?

A. There are no suitable strategic air targets in Korea. However, I would drop a few bombs in proper places in China, Manchuria and Southeastern Russia. In those "poker games", such as Korea and Indo-China, we (U.N., I presume) have never raised the ante -- we have always just called the bet. We ought to try raising sometime.

Q. We have heard a lot of optimistic statements today about SAC's capabilities. Do you have any reservations about these capabilities? (Asked by a Navy Captain.)

A. No, I would like to have a few more bases, however.

ADDITIONAL INTERESTING STATEMENTS MADE BY GENERAL LE MAY

SAC's mission is to conduct strategic air warfare against the targets "assigned by the JCS." I hope that someday all the atomic weapon targets in the Soviet complex will be listed in a complete order of priority and that someone will be designated to drop bombs on every one of them. Anyone who has the capability to do this should be considered, including the "Beaver Patrol" if they have this ability.

We have a boss just like all other commanders and our bosses are the JCS. This is not always clearly understood even by members of the JCS themselves. Recently, when I was in Washington one of the JCS expressed apprehension to me that I would go off on my own dropping bombs wherever I please. He did not even realize that I work for him.

If any of you have any doubts about any parts of our program which can be demonstrated we will be glad to take you out and show you.

SAC's ultimate goal is to develop a true inter-continental bombing capability so that overseas bases and support will be unnecessary.

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GENERAL IMPRESSIONS RECEIVED AS A RESULT OF THIS BRIEFING

SAC is, in effect, a sort of "elite corps" dominated by a forceful and dedicated commander, who has complete confidence in SAC's ability to crush Russia quickly by massive atomic bombing attacks. No aspect of the morals or long range effect of such attacks were discussed, and no questions on it were asked.

SAC has planned a thorough and exacting training program -- and is carrying it out. Accordingly, SAC is probably in a higher state of combat readiness today than any other U.S. military command.

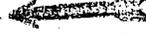
SAC now must rely heavily on much in-flight refueling to carry out his strike plans.

SAC is confident that when the bell rings they will get the lion's share of the stockpile no matter what the JCS "allocations" are at the moment.

SAC purposely gives the impression at such briefings that they consider themselves a "delivery service" to attack whatever targets the JCS tell them to attack -- and, in effect, do not originate strategic air targets directly or indirectly.

W. B. MOORE
CAPT, USN

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