SOME COMMENTS ON THE CAPABILITY OF SAC IN NON-ATOMIC, LIMITED WAR

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D-4659

21 October 1957

10-21-57

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Any discussion of SAC capability in non-atomic weapons delivery tends to center around the following four main questions:

1. What are the present capabilities of SAC aircraft and SAC crews in the delivery of non-atomic weapons?

2. How much of SAC might be committed to a limited war without reducing SAC's general war capability to a dangerous level and how might such a force be committed and employed?

3. What measures might be taken to improve these capabilities or make existing capabilities more useful?

4. Under what conditions would it be necessary or appropriate to commit a portion of SAC to non-atomic weapons delivery in a limited war?

This paper is an attempt to suggest some possibilities in answer to the first three questions posed above.

The non-atomic weapons delivery capabilities of SAC aircraft and crews

The B-47E, with the installation of appropriate, available racks, can deliver 13 - 500 lb GP bombs or 26 - 220 lb fragmentation bombs within a radius of approximately 1750 n.m. of existing SAC operating and staging bases, without resorting to air refueling. One refueling by a KC-97 would add approximately 1000 n.m. to this figure. The ferry range of the B-47E in this configuration is approximately 3150 n.m.

The RB-47E has a ferry range comparable to the B-47E. Its combat range, unrefueled at altitude, is approximately 3,500 n.m. at 420 K. It can take practically continuous radarscope photographs over enemy territory

and can carry and employ 20 photo-flash bombs for night, visual reconnaissance photographs.

The KC-97G, used as a vehicle to ferry a 25-man command and control team (12,500 lbs) has a ferry range of approximately 4300 n.m., in an elapsed time of twenty and one-half hours, if it carries aviation gasoline in its refueling tanks.

The KC-135A, carrying a similar load has a ferry range of approximately 7350 n.m. in an elapsed time of sixteen hours.

The B-52D, with the installation of appropriate racks can deliver 27 - 1000 lb GP bombs with an unrefueled radius of approximately 3300 n.m. Its ferry range in this configuration is approximately 6700 n.m.

The training given SAC bombardment crews and units, the frequent rotations to and exercises through SAC's overseas bases, their continuous practice bombing run against airfield and industrial targets in the U. S. should make it possible for some selected units to move overseas quite rapidly and launch strikes against airfields if these airfields have been pretargeted, if the ground and air crews are trained in non-atomic weapons handling and delivery and if appropriate weapons are prestocked at selected oversea bases. Current SAC training does not fit their crews for interdiction and/or close support type missions, these being normally considered as missions not amenable to pretargeting and, therefore, unique to tactical type aircraft and units. It should be pointed out at this point that this is primarily a limitation in crew training and not a restriction imposed by the configuration, performance or bombing systems of the SAC aircraft themselves. The magnitude of effort required to train SAC air and ground crews in "non-atomic, tactical" operations is not known.

How much of SAC might be committed to a non-atomic, limited war?

In considering the commitment of part of SAC to a limited war, the first conclusion at which one might arrive is that the remainder of SAC should be placed on an advanced state of general war alert. In terms of forces available and their possible commitment to the alert, a cursory inspection of the SAC forces available in 1960 reveals the following approximate numbers of now existing aircraft types.

B-47's	approximately 1000
RB-47's	approximately 225
KC-1-35's	approximately 450
B-52's	approximately 450
KC-97's	approximately 600

Other published programs vary these numbers somewhat by a not too significant degree.

If the following assumptions are made (and they appear to be logical for a cursory examination),

1. The in-commission rate of bombers and tankers will be similar.
2. Each B-47 or RB-47 on general alert will require (on an average) one KC-97 (or 1/2 a KC-135 to refuel it).
3. 250 of the B-52's require a KC-135 refueling and 200 can go unrefueled.

then, 225 B-47's and/or RB-47's cannot be committed in the initial general War strike but must await a recycling of the tankers. Or, stated another way, the commitment without their tankers, of about 200 B or RB-47's to a limited war should not noticably reduce the size of SAC's first, massive, general war strike capability. If a recycle time of 12 hours is assumed for the tanker aircraft (12 hours from start of first refueling to start of second refueling) they would not be available for refueling of the "surplus"

bombers until about the second day of general war.

How might such a force be committed and employed non-atomic limited war?

Given a "surplus" of approximately 225 B-and/or RB-47's, and a basic assumption that SAC would go onto general war alert prior to the commitment of such a force to limited war, one might envision that six B-47 wings and 1 RB-47 wing in the eastern ZI, and a similar number in the western ZI, will be prepared to dispatch one squadron each when so ordered. The eastern "task force" should be prepared for rapid deployment to areas bordering the Atlantic, Mediterranean and Indian Oceans, the western "task force" for the Pacific areas.

To provide contact with the nation to be supported, and to provide a "forward(?)" control element to direct the attacks of the B-47's when they arrive, a KC-135 might be used to ferry a control team plus communications equipment from the U. S. ZI to the nation to be supported. Due to its extremely long ferry range and its speed capability, this aircraft can, if desired, be the first SAC aircraft to arrive in the area.

By using their capability to ferry by staging, into the operational area, it appears that the B-and RB-47's could be at the appropriate overseas SAC base within 18 to 24 hours after departure from the ZI and be prepared to takeoff on initial strike within 48 hours after departure from the ZI. No data is available to the author at this time which might permit calculation of the time required prior to departure from the ZI to prepare these aircraft for the suggested operations.

Assuming that the "forward" control team, in conjunction with the local military headquarters, can obtain information adequate to their control function (this may be the most questionable assumption of the lot)

and further assuming that they can communicate back to the appropriate SAC staging base, approximately 60 B-47's carrying 195 tons of GP bombs can be over target within 2-1/2 days of their departure from the ZI. A night attack by the B-47's on pretargeted airfields should present few problems to the SAC crews. (Although the effectiveness of the attack is questionable). Photo and Radar reconnaissance of the area can proceed simultaneously.

By ferrying in appropriate ground support personnel and by using existing overseas SAC depot bases (such as Nouasseur) for rear echelon maintenance, a daily "steady state" commitment of 60 B-47's out of the 90 in the task force and 10 RB-47's out of the 15 dispatched, might be achieved. The logistic and personnel support required for such an operation has not been explored so no comment can be made here on the effect of such support or SAC's general war capability.

Deployment and use of a few B-47E's in "Blue Cradle" configuration (a B-47E equipped to jam over 12 radar frequencies simultaneously) and RB-47H's (ARB-47 equipped for detection, location and analysis of ground radar transmissions) might be considered if the situation appears to warrant. The use of any large number of these aircraft types might be precluded by non-availability or by the excessive reduction of SAC's general war capability.

Annex No. 1 lists a number of areas and the overseas SAC bases which might be used to base B-47's to cover them.

What measures might be taken to improve the non-atomic capabilities of the B-47's or make existing capabilities more useful?

The B-47E, as it is currently configured, is "rack limited" in its

General Purpose bomb delivery capability. A more useful load than 13 - 500 lb GP bombs, and one it appears quite feasible to carry, might be 26- 220 lb. fragmentation bombs. The loading of 2 - 220 lb fragmentation bombs on one 500 lb shackle should be simple to arrange, although the characteristics of the aircraft might make the accurate release of these weapons a difficult problem.

A more elaborate but possibly more effective arrangement might be contrived in which the U-2 release is used to support a large cluster of GP bombs or alternatively a large aimable canister of small fragmentation bombs. (The U-2 release is designed to support up to approximately 9 tons in one package whose dimensions are approximately 5 feet by 12 feet.)

Another, and possibly even more elaborate possibility might be the loading of 10,000 lb aimable, aerodynamic canisters on the existing wing tank pylons of the B-47. (The B-47 wing tank when full of JP4 weighs approximately 11,000 lbs each.) This procedure would considerably reduce the combat radius of the B-47E (approximately radius in this configuration - 1300 n.m. - see Annex No. 2) and aircraft balance considerations would dictate simultaneous release.

General Comments

No attempt has been made by the author to either estimate the prestocked and airborne support required, nor evaluate the current or potential effectiveness of the B-47 in the operations suggested here. Only a most general investigation has been made of possibilities offered by the long range and weight lifting capabilities of these aircraft.

It seems reasonable to assume that B-47's used in a semi-tactical role might suffer heavier attrition and have larger aiming errors than

more maneuverable and faster tactical aircraft. It is possible that their longer ferry ranges and combat radii, combined with a larger load carrying potential, might make these penalties acceptable in some situations.

Finally, since no attempt has been made here to evaluate the effectiveness of either atomic or non-atomic weapons in a limited war, the reader is advised not to infer that any recommendations are being made in this paper.

REFERENCES

1. USAF Base Utilization and Major Deployment, PD-59-1-1, Vol. 1 December 1956, (S).

2. B-52D Flight Handbook (C).

3. KC-135A Flight Handbook, (C).

4. KC-97G Flight Handbook, (Uncl.)

5. B-47E Flight Handbook, (Uncl.)

6. Volume 1 USAF Standard Aircraft Characteristics (Green Book.) (S).

ANNEX I

AREAS WITHIN B-47 NON-REFUELED RADIUS
OF SAC OPERATING OR STAGING BASES

(1750 N.M.)

In compiling these base/area combinations, a direct flight has been assumed. Any deviation from direct flight to avoid overflight of "neutral" territory will, of course, reduce the radius of action indicated. In some cases flights may be mounted from more remote bases with post strike stagings occuring at nearby available bases.

AREA	SAC BASES OR BASE AREA
Central America and South America to southern borders of Equador, Columbia and Venezuela	Homestead AFB, Florida and Ramey AFB, Puerto Rico
Indonesia, Indo-China, Laos, Cambodia, Thailand, and most of Burma	Clark AFB, P.I., supported by Anderson AFB, Guam
Korea and Taiwan	Okinawa, Japan, Guam
Balkans, covering Turkish-Bulgarian border down to Egyptian/Libyan border	Spain and/or Morocco
Middle East to past Iran/Iraq border, western half of Saudi Arabia and northern two-thirds of Sudan	Wheelus, Libya
All Middle East, including Saudi Arabia down to Ethiopia and Sudan	Adana, Turkey
West Pakistan, Afghanistan, Kashmir, West and Central India, Western Nepal, and Western Tibet	Dhahran, Saudi Arabia
India, East and West Pakistan, Nepal, Kashmir, Tibet	Karachi, Pakistan
Balkans, East and West Germany, Poland, Norway, Sweden and Finland	England

ANNEX II

AREAS WITHIN NON-REFUELED RADIUS OF SAC OPERATING OR STAGING BASES FOR B-47 CARRYING EXPLOSIVES ON WING TANK PYLONS

(1300 N.M.)

In compiling these base/area combinations, a direct flight has been assumed. Any deviation from direct flight to avoid overflight of "neutral" territory will, of course, reduce the radius of action indicated. In some cases flights may be mounted from more remote bases with post strike stagings occuring at near by available bases.

AREA	SAC BASE OF BASE AREA
Central America	Homestead AFB, Florida
South America to southern border of Equador, Columbia and Venezuela	Ramey AFB, Puerto Rico
Northern Indonesia, Indo-China, Laos, Cambodia and Thailand	Clark AFB, P.I.
Korea, Taiwan	Okinawa, Japan
Balkans, Middle East to east border of Syria, Egypt and Northern Sudan	Wheelus, Libya
Middle East to Mid-Iran and covering Northern Saudi Arabia	Adana, Turkey
West Pakistan and Afghanistan	Dhahran, Saudi Arabia
India, East Pakistan, Tibet, Nepal and Kashmir	Karachi, Pakistan
Balkans, East and West Germany, Poland	Spain
Balkans, East and West Germany, Poland, Norway, Sweden, Finland	United Kingdom