STANDARD FORM NO. 64

~~CONFIDENTIAL~~

Office Memorandum • UNITED STATES GOVERNMENT

FEB 17 1953

TO : Chief, Production Division/SI
ATTN : [redacted] 25X1A9a
FROM : Acting Chief, Weapons Division/SI

DATE: 12 February 1953

SUBJECT: Critique of Special Estimate 14

1. Per your verbal request, this date, the accompanying Weapons Division critique is forwarded.

2. Special attention is called to the last two paragraphs of this critique.

3. We are pleased to provide detailed critiques on all estimates related to the Weapons field, but request that additional time be allowed on estimates as important and pertinent as this one.

25X1A9a [redacted]

~~CONFIDENTIAL~~

DRAFT

12 February 1953

II. DELIVERY OF MASS DESTRUCTION WEAPONS BY AIRCRAFT

8. Weapons Division is not prepared to comment on current order of battle unless given sufficient time to coordinate with the US Services regarding the latest information. (Weapons Division does not follow order of battle intelligence inasmuch as this is not in their mission.)

9. The second sentence should be changed to read: "No prototype jet medium bomber capable of attack on the Continental US from Soviet bases has yet been observed." (Delete remainder of that sentence.) Line 5: Delete the phrase "There are indications" and substitute the phrase "It is speculated". Change the next sentence to read: "This type of aircraft is not known to be in production." (Delete the remainder of the sentence.) Comments on the chart in para. 9: Mid-1953 - medium bomber - jet, change the word "few" to "one". Mid-1953 - heavy bomber - turboprop, change "25/50" to read "none". Mid-1954 - medium bomber - jet, change "50-150" to read "25-50". Mid-1954 - heavy bomber - turboprop, change "50/200" to read "25/50". Mid-1955 - medium bomber - jet, change "150-300" to read "50-150". Mid-1955 - heavy bomber - turboprop, change "100/250" to read "50/200".

10. Should be changed to read "The TU-4, under normal operating conditions, is estimated to have a combat radius of 1700 nautical miles, and a combat range of 3100 nautical miles with a 10,000 lb. bomb load. Under cruise control conditions necessary to reach distant target areas, its speed would be approximately 175 knots at an altitude of about 10,000 feet; however, it is capable for a limited period of time of attaining a maximum speed of 347 knots at about 32,500 feet altitude with a service ceiling of 39,500 feet. (Delete the entire last sentence.)(See NOTE under para. 10, next page.)

11. Change to read: "It is estimated that the prototype heavy bomber, assuming it is equipped with a turboprop power plant, would by Mid-1955 have a combat radius of 3420 nautical miles. Aerial refueling is not considered feasible with this type in view of the limited numbers of similar aircraft available for this purpose. The one-way combat range of this aircraft would be about 6600 nautical miles carrying a 10,000 lb. bomb load. It would have a maximum speed of approximately 360 knots at 30,000 feet. Obviously under cruise control conditions necessary to accomplish long distance mission, the flight speed would be somewhat lessened."

12. Line 6, change from "could bomb only ..." to end of paragraph to read: "cannot bomb even the northwest extremities of the US and return to base. Flying a one-way mission from Chukotski such a plane could not reach New York or the Great Lakes industrial region but could strike in the Los Angeles area. If the Soviets are willing to accept the high attrition attendant with aerial refueling over defended territory even with fully developed aerial refueling techniques, on a one-way mission, it is possible to reach all critical target areas in the US."

NOTE: All foregoing changes in the characteristics and performance of the current TU-4, as well as the deletion of "improvements" in future versions, are based upon lack of indications in the paper as to what specific improvements are to be considered; Air Branch does not know of any specific manner in which "technical modifications and improvements" can be made re the TU-4 which would give it even an approximation of the potential characteristics which we have deleted from paragraph 10.

14. Second sentence, change to read: "Nor could they, on one-way missions, reach New York or the industrial area of New England and upper New York State."

In place of the remainder of this paragraph, insert the same statement regarding aerial refueling as made in para. 12 with the exception that likewise unreachable would be targets in the entire western, south-central to southwestern parts of the US, as well as targets south and westerly from Charleston.

15. In place of the last sentence, insert: "However, these bases are even more distant from key US target areas and only a very limited number of target areas could be reached even with one-way missions using aerial refueling."

16. Last sentence, delete: "but there is no evidence of bomb exercises by other than usual means, no evidence of practice in the use of bombing and navigational radar, and."

18. Line 7, change to read: "The USSR has produced blind bombing and navigating radars...."

19. After first sentence, insert: " ; however, considering the limitations of base areas for use against the western hemisphere only a limited percentage of these aircraft could be staged against targets in the US." Delete the second sentence and insert in its place: "In view of the fact that western hemisphere industrial targets could be reached only by one-way air refueling missions, the attrition rate would be 100% per mission; the abort rate of aircraft which would not reach the target areas is estimated at 20-25% of those staged without consideration for interception and poor navigation, with varying increases according to season, weather, extent of preparation, and other factors." Add to the end of para. 19: "However, in view of the limited number of bases available, the high attrition which would be caused by air refueling over defended territory, normal abortion due to engine failure and navigation errors, combat attrition, weather, and other factors, only a moderate percentage of aircraft launched at these target areas could conceivably place bombs on targets; in

addition the limiting factor of utilizing the same aircraft as refueling tankers plus utilization of the same limited base facilities for launching such tankers, plus tanker attrition which would invariably mean the attrition of the aircraft planned to be refueled, plus necessary utilization of similar type aircraft and the same base facilities for radar countermeasures aircraft and aircraft accompanying to provide firepower for defense against fighter attack, would all severely limit the capabilities to successfully stage mass attacks against these distant targets."

21. Top of page 12, line 3: Change to read: "and although it had previously appeared that the Soviets would produce operational missiles at the earliest possible time, such has not appeared to be confirmed." After the last sentence of this paragraph, add: "It is not known that the Soviets have carried even these types to series production; although undoubtedly these types have been improved and at least limited

22. This entire paragraph should be changed to read:

27. Page 15, line 4: Between the words "does" and "now", add the word "not". In the footnote, add: "and/or a surface vessel".

It is strongly recommended that paragraph V. be deleted on the basis that it is beyond the stated scope of this paper. Similarly paragraph VI. is beyond the scope of this paper and we recommend that it be deleted. If these "war gaming" paragraphs are not deleted, Weapons Division insists that it will not feel obligated to support any of the foregoing which might be utilized out of context. We do not believe that a simple "re-write" job would suffice; to correct the statements made in these paragraphs, the basic fundamentals (which are strongly questioned) must be reviewed. Not having the leeway to engage in "war gaming", Weapons Division is precluded from detailed attack on the problem.

It is urged that in the Naval portion of this paper, there be included a statement on the submarine order of battle in a manner similar to the order of battle of bomber aircraft, as well as characteristics and performance of such submarines. In addition, data should be included regarding the number of submarines available for use as missile launching platforms and the number of missiles which could be utilized from each submarine per missile. Given sufficient time, Weapons Division could supply such figures.