

1. The following were present at the initial meeting of the Target Committee held on 27 April 1945 in conference room designated by General Norstad: Major General Groves, Brigadier General Norstad, Brigadier General Farrell, Colonel Fisher, Major Derry, Drs. Von Neumann, Wilson, Penney, Stearns and Dennison

2. Meeting was scheduled for 8:30 am, 27 April, and got underway at 8:40 am. General Groves briefed the group on the importance of the mission relative to selection of targets and that the material which would be discussed was to be treated with the highest degree of secrecy. General Norstad informed the group that the facilities of the 20th Air Force would be made available to whatever degree necessary through Colonel Fisher and Dr. Stearns in providing related data, operational analyses, maps, information and target data.

3. General Groves and General Norstad left the meeting after the short briefing and the session continued with General Farrell in charge. General discussions were entered into by Drs. Dennison, Stearns and Wilson with comments supplied by Colonel Fisher. Dr. Dennison, with the positive concurrence of Colonel Fisher, advised that visual bombing was essential. Colonel Fisher suggested that the existing bombing procedure of using radar approach and the shifting to visual bombing might be used, which procedure had proved successful up to 5% overcasts with the possibility of extending its use up to 8% overcast clouds. Dr. Dennison also suggested that it would be essential to have a spotter plane lead the flight into the target or targets with the spotter plane charged with locating clear targets.

4. Inasmuch as it was necessary for Dr. Wilson to leave the conference at 9:45 a.m. to attend another conference in Washington, various other general questions were discussed relating to the target problem. Dr. Wilson suggested the possibility of having model studies made of blast damage to building types. It was pointed out to Dr. Wilson that experiments of this sort might be necessary but that valuable time would be consumed. The next meeting is to be held between 10 and 15 May at site Y. Major Derry will notify all personnel of the firm time and date of the second meeting.

5. Conference continued after Dr. Wilson left with General Farrell designating certain fundamental criteria taken from the general discussions held initially, to wit:

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- a. Maximum range of B-29s - 1500 miles
- b. Visual bombing essential.
- c. General weather conditions over targets
- d. Effect of the bomb blast and damage expected
- e. Need to know the bombing situation in July, August & September in urban or industrial Japanese areas.
- f. Combat group should have one primary and 2 alternate targets

6. Prior to noon recess General Farrell and Colonel Fisher decided that certain data must be secured before continuing on target discussion. Colonel Fisher volunteered to secure the following data:

- a. The 20th Air Force target directive to the 21st Bomber Command

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- b. Priority of targets
- c. Time coordination on targets
- d. Time schedules on targets

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Colonel Fisher suggested that the above information should be used in making our target selection as weighted against the 20th Air Force directives. Colonel Fisher suggested that a probably good target for our initial mission might be Yawata Steel industry. The target selected in this area probably should be surrounded by an urban area.

7. General Farrell suggested that possible procedure on target selection could be as follows:

- a. Select target area
- b. Select pin-point aiming points
- c. Predict the date on which the initial mission is to take off within the minimum possible number of days (2 or 3)

8. Item "c" in the above paragraph developed quite a discussion from Dr. Dennison since it was pointed out that the months in which the initial mission will be run constitute the worst weather months of Japan. Dr. Dennison suggested that Dr. Lansburg (top weather forecaster in the 20th Air Force operational analysis group) plus four selected men from his group go to the area to make forecasts of weather for the missions. In order to do this, Dr. Lansburg's group would need the best weather information possible. Dennison pointed out that all weather maps indicated that there were only an average of 6 good bombing days in August and that of these 6 days a conservative estimate would probably result in safely predicting that we would have 3 good days in the month of August but these 3 good days could not be positively predicted in advance of more than 48 hours. General Farrell pointed out that we did not want to bring the bomb back to the home base but that we wanted to make a visual run over the target and hit the target with some degree of accuracy.

9. Summarizing the above, General Farrell listed the following requirements for our initial mission

- a. Top command man would be completely in charge, as to when and how the flight is made after the weapon is technically ready. He will have available to him all the necessary technical advice channeled to him through a military representative of General Groves
- b. Top weather man should be available to the group. Suggest assignment of Dr. Lansburg to this job.
- c. Absolutely essential that we get a good day for the initial mission. Exhaustive study should be made so as to enable prediction within a 3 day period of the day of the mission from 3 possible target areas.

10. After lunch, Dr. Lansburg from Dr. Stearns group was brought to the conference to consult on weather. After a general discussion Lansburg listed the following criteria.

- a. Regarding weather--we could expect 7 good days in July, which would be 3/10ths or less overcast clouds.

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- b. Middle of the afternoon is the most desirable time of the day.
- c. Number of days in July which can be forecasted safely with present data is four.
- d. Other various factors cut two forecastable days from the grand total of 7 leaving 5.
- e. Only once in 5 years have there ever been 2 successive good visual bombing days of Tokyo.

11. It was suggested as a preliminary measure that Dr. Lansburg secure further data to the following questions:

- a. Average number of days over each of the 3 possible targets which might be considered as "flyable" days.
- b. If average number of good days is 4 or 5, how many years from the 11 years of available data could 1 or 2 or 3 "flyable" days be safely forecasted?
- c. How long a wait or delay would be necessary to get the forecastable days listed as "flyable"?
- d. Correlate the estimate of weather and target data on forecastable days
- e. Examine the correlation on the data secured in "d" to 12, 2 and 4 p. m. of any one day.

12. Summarizing the above General Farrell and Dr. Dennison outlined the following task for Dr. Lansburg and his weather group:

Select the following days, i.e., 1 August, 15 August and 1 September 1948, and secure data indicating how long we must wait for an operational day, (as a comment on this Dr. Lansburg advised that when the limits of a 3 day wait were placed on an operational day, it was practically impossible to make a safe prediction). In securing the answer to this question Dr. Lansburg will check the 11 year weather records and secure the answer for Shimnozeki and Tokyo.

Dr. Lansburg had the following additional comments to make on weather in Japan:

- a. June is considered the very worst month; a little improvement is present in July; a little bit better weather is present in August; September weather is bad; then steady improvement with weather exists to January which is probably the best weather month over Japan.
- b. A 24 hour period only is considered safe for forecasting an operational day.
- c. A 48 hour period is the longest safe period for making a negative forecast of an operational day.
- d. Dr. Lansburg suggested that submarines be sent to the target area and act as radiosonde stations to secure weather data and then break silence and radio weather reports back to the operational base.
- e. Require good weather ~~to~~ ~~miss~~ ~~the~~ ~~target~~.

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13. General Farrell summarized Dr. Lansburg's comments by pointing out that we might have 5 good days over the target in August; that we might have a 2 weeks delay in waiting for an operational day; that we should re-examine radar bombing; and that we could not now safely predict the day of the mission based on expecting good weather over the target.

14. Colonel Fisher reviewed the 20th Air Force directive to the group with the following comments:

- a. Ultimate range of the B-29s is 1500 miles at 30,000 feet altitude
- b. 21st Bomber Command has 33 primary targets on their target priority list
- c. The following comments were offered on available targets in the Japanese islands:
 - (1) Hiroshima is the largest untouched target not on the 21st Bomber Command priority list. Consideration should be given to this city.
 - (2) Yawata is an area that should be considered although it exists as UA/1 and is on the A priority list (steel industry)
 - (3) Yokahama is lower on the priority list of targets since it is listed as UA/2 and has a C priority on the target list. Consideration should also be given to Yokahama area UA/2 which is on the B priority list targets.
 - (4) Tokyo is a possibility but it is now practically all bombed and burned out and is practically rubble with only the palace grounds left standing. Consideration only is possible here. Suggest area UA/3 which is on the B priority list. It should also be remembered that Tokyo is the most heavily defended area both by fighter planes and anti-aircraft.
 - (5) It should be remembered that in our selection of any target, the 20th Air Force is operating primarily to laying waste all the main Japanese cities, and that they do not propose to save some important primary target for us if it interferes with the operation of the war from their point of view. Their existing procedure has been to bomb the hell out of Tokyo, bomb the aircraft, manufacturing and assembly plants, engine plants and in general paralyze the aircraft industry so as to eliminate opposition to the 20th Air Force operations. The 20th Air Force is systematically bombing out the following cities with the prime purpose in mind of not leaving one stone lying on another:

Tokyo, Yokohama, Nagoya, Osaka, Kyoto,
Kobe, Yawata & Nagasaki

Colonel Fisher also advised that the 20th Air Force existing operational plans pointed toward dropping 100,000 tons of bombs on Japan per month by the end of 1945.

15. In order that reasonable target informational data might be secured from an existing competent source, Dr. Stearns suggested and General Farrell approved General Norstad requesting the Joint Army-Navy target group to prepare maps and informational target data based on a cover plan of a 200 foot air burst explosion of the British "Tallboy" 11,000 lb bomb. The joint target group would also prepare

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and submit separate descriptive data on specific targets in the areas listed with informational matter covering type of buildings, nature of industries and other pertinent points. It was suggested that the following criteria be given as a basis for preparation of the data in response to the above request:

- a. Consideration is to be given to large urban areas of not less than 3 miles in diameter existing in the larger populated areas.
- b. The targets should be between the Japanese cities of Tokyo and Nagasaki.
- c. The target and/or aiming point should have a high strategic value.
- d. The following areas are considered appropriate for study: Tokyo Bay, Kawasaki, Yokohama, Nagoya, Osaka, Kobe, Kyoto, Hiroshima, Kure, Yawata, Kokura, Shimosenka, Yamaguchi, Kumamoto, Fukuoka, Nagasaki, Sasebo.
- e. The Joint Army-Navy Target Group is to eliminate areas in any one of the 17 above listed areas which have already been destroyed.

16. In conclusion, General Farrell summarized the responsibilities of each one of the members of the target committee in preparation for the second meeting, as follows:

- a. Dr. Dennison will complete the weather data and correlate Dr. Lansburg's reports.
- b. Dr. Penney will have available and correlate the informational data on the size of the bomb burst, the amount of damage expected, and the ultimate distance at which people will be killed.
- c. Dr. Von Neumann will complete all of the computations and work with Dr. Penney on assigned tasks.
- d. Dr. Stearns will secure the target data from the Joint Army-Navy Target Group and bring, for correlation with Dr. Dennison, any additional weather data submitted by Dr. Lansburg. Dr. Stearns will also make available to Colonel Fisher some definite data on the target areas to take to the Mariannas on his projected trip with General Norstad of May 5 to 15. We will propose that the target data then in Colonel Fisher's possession be discussed with the Commanding General of the 21st Bomber Command with the purpose in mind of reserving certain target areas for our use, if such reservation is practicable.

17. The initial meeting of the target meeting adjourned at 4 p.m., 27 April 1945.

18. The second meeting of the Target Committee has been established for 9 a.m., 10 May 1945, at site Y in Dr. J. R. Oppenheimer's office. The meeting has been cleared with Dr. Oppenheimer in concurrence with General Farrell. Dr. Stearns has been advised and arrangements will be completed for Major Derry to accompany Dr. Stearns to site Y for the meeting. Dr. Dennison will proceed to site Y from Ann Arbor on 7 May in order to correlate his data for presentation. Dr. Penney and Dr. Von Neumann will be at site Y in residence and available for the meeting. Dr. Wilson has agreed to attend the meeting and has been further advised of the firm date and time; Dr. Wilson will proceed from Boston to site Y. Colonel Seaman may be in the States and available to attend the second meeting.

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