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Report date: 13 December 1944

Title: Standard Operating Procedures (SOP) Night DZ Marking, 82nd
Airborne Division

Author: Headquarters, IX TCC Pathfinder Group (Provisional)

Abstract: The following report is the standard operating procedure for marking demilitarization Zone (DZ) for night parachute drops by the 82nd Airborne Division during World War II.

Number of pages: 4 p. includes diagrams

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SOP Night DZ Marking.

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No. 5200.9 27 Sep 58
by Ruth Wesley, Librarian LX TCC PATHFINDER GROUP (PROV)
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APO 133 U.S. Army
13 December 44

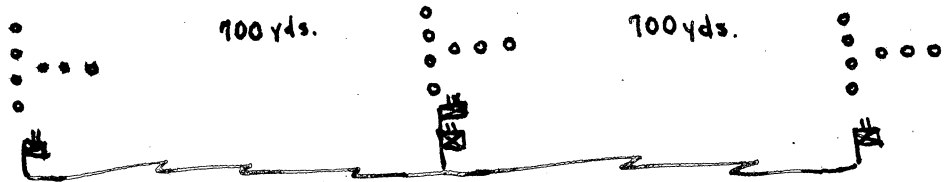
SUBJECT: S.O.P. Night DZ Marking, 82nd A/B Division.

TO : Commanding General, XVIII Corps (Airborne), APO 109, U.S. Army

Attn: Capt. Kellog.

1. The S.O.P. for marking DZ for night parachute drops as set down by 82nd A/B Division is given below:

- a. Three identical teams, with such attached security as the Division Commander deems necessary, are committed to each DZ in three aircraft flying in tight "V" formation.
- b. All three aircraft drop their troops on the center of the DZ at the same time.
- c. Immediately after assembly the senior officer present selects the spot for the "T" of lights carried by his team so as to cause the center of impact of the main serial guiding on his lighted "T" and navigational aids to drop on the center of the DZ.
- d. The senior officer (usually the Regimental or Division Pathfinder Officer) then dispatches the other two teams, in opposite directions from the base position. The other two teams move seven hundred (700) yards, laying assault wire as they move.
- e. Each of the alternate teams establishes light "T"s and navigational aides identical to those of the base team. Sound power telephones are installed so that voice communication facilities connect all three sticks. The senior officer, located at the center installation controls the use of the navigation aids by telephone. (See Diagram below:)



2. Purpose of the above S.O.P. is to allow each battalion of a regiment to drop on a separate section of the DZ thus aiding in the assembly of the main body. The commanding officer of the regiment would drop on the center installation and would have telephone communication with his battallion commanders at either end of

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A/B Division, dated 13 December 44, cont'd.

the DZ and actual contact with the commanding officer of the battalion dropping on the center installation. Only one set of navigation aids would be turned on at one time. Employment of these aids would be coordinated so that each incoming serial dropped troops on the desired section of the DZ.

3. Summary and Conclusions.

a. Theoretically a unit would be able to assemble faster if the above plan was put into use. Actually troops from all battalions become interspersed due to drift, slipping, and position of planes when jump signal is given.

b. Airborne Pathfinders preceding the main columns are forced to move over a distance of fourteen hundred yards. This is a definite threat to security inasmuch as additional time is required to cover the distance involved.

c. Teams are so separated on the field that they would be able to offer little mutual support in the event of enemy attack.

d. Extra equipment, in the form of assault wire and sound power telephones, is required. This adds weight and bulk to the load now carried down by Airborne Pathfinders.

e. The Commanding Officer, IX TCC Pathfinder Group states that the same results, in regard to segregation by battalions, can be achieved by having the group leader make a time-distance estimate in regard to the single "T" of lights set up on the ground and drop his troops accordingly on the DZ. i.e., Planes carrying 1st Battalion drop when lead plane of formation is over lighted "T", planes carrying 2nd Battalion and Regimental Headquarters should drop ten to fifteen seconds after passing over "T", planes carrying 3rd Battalion would drop twenty to thirty seconds after crossing the cross-bar of the lighted "T".

f. If the method set forth in par 3 e. is employed all three Pathfinder Teams would work together with one team setting up the equipment and the other two teams acting as security and standing by to replace such equipment as might be damaged by the drop or by enemy action. Further the S.O.P. in question does not allow for the fact that one or more planes may be lost due to enemy action prior to reaching the DZ, as was the case on DZ "A", Operation "Market".

4. Use of lights in Normandy proved that a different method of marking a DZ for a night drop was needed. Overlays of the landing points of each stick of the 101st Airborne Division showed that the troops on DZ "D" had received the best drop with regard to dispersion. The only navigational aid actually in operation on this DZ was an AN/PPN-1 (Eureka). Lights were employed but were destroyed by enemy fire prior to the arrival of the main column. At present IX TCC Pathfinder Group (Prov) is training toward dropping accurately on a DZ marked only by AN/PPN-1 (Eureka).

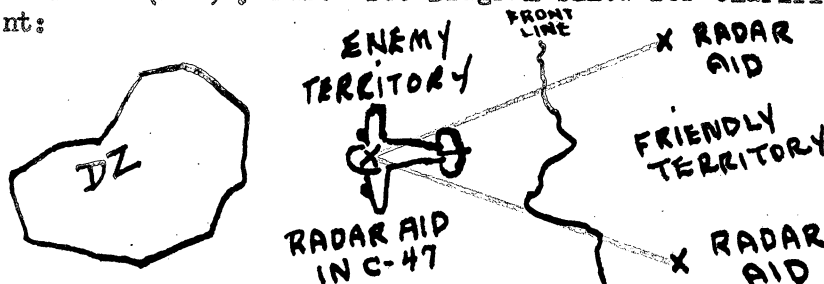
Par 4, Ltr Hqs, IX TCC Pathfinder Group Subj: S.O.P. Night DZ Marking, 82nd A/B Division, dated 13 December 44, cont'd.

Due to the fact that the AN/PPN-1 was used in Normandy and Holland it is definitely believed that the set has fallen into the hands of the enemy. Two sets were lost enroute to DZ "A" during operation "Market" when an aircraft was shot down by AA fire. The men carrying the sets cleared the ship but it is not known whether or not their parachutes opened, thus allowing them to detonate the explosives inside the sets prior to capture. A radar signal on the same frequency as the sets mentioned above was picked up by aircraft flying re-supply missions during this operation. This signal was ignored due to the fact that it was not coded as provided in the S.O.I. It is believed that the set was being operated by the enemy.

5. In view of the facts set forth in par. 4 above the Radar Section, IX TCC Pathfinder Group (Prov) immediately began experimental work on Radar devices that could be substituted for the Eureka. A representative of O.S.R.D. is based with this section and works in conjunction with same. Details are not available at this date on the latest development mentioned but Mr. Eicher (O.S.R.D.) promises to furnish a detailed report within ten days from the date of this letter.

a. The AN/UPN-1 (Army Navy Ultra Portable Radar Navigation, commonly called the BUPS BEACON) has been modified so that it is lighter and less bulky. It can be used to substitute the AN/PPN-1 (Eureka) and/or the CRN-4 (Radio Compass Beacon.) Four of these sets (AN-UPN-1) are available for tactical employment as of this date. Attention is invited to the fact that this set may be employed behind our own lines, on our own front as a navigation aid for a main serial to guide on enroute to the DZ.

b. Perfection of the second device (as yet unnamed) will allow all Pathfinder aids to be set up behind friendly front lines. It consists of two Radar devices set up behind friendly lines and a third mounted in a C-47 Aircraft. Devices so installed would form a triangle and the DZ would be located by triangulation. Accuracy of the device on the test table in the Radar Shop indicate a possible error of twenty feet. Accuracy when employed in an aircraft and considering the human element (possible errors in readings by navigators) indicate that maximum error would be two hundred (200) yards. See Diagram below for clarification of method of employment:



It is expected that this equipment would be employed in the Group Commanders aircraft and in a deputy leaders aircraft. No other aircraft in the group would require special equipment. This method is now in use by Bomber Command for precision bombing. Further information on this equipment will be transmitted to Head-

~~TOP SECRET~~
Par 5 Ltr Hqs, IX TCC Pathfinder Group, Subj: S.O.P. Night DZ Marking, 82nd A/B
Division, dated 18 December 44, cont'd.

quarters XVIII Corps (Airborne) and to Headquarters IX Troop Carrier Command im-
mediately upon receipt by the undersigned.

Frank L. Brown

FRANK L. BROWN
Captain, Infantry (Prcht)
Corps Pathfinder Officer