

Denver Presentation Script

1. Title
2. Handwritten DAAR after msn by Navigator from msn notes
3. Clerk/Typist types clean copy report format / checked by Ops/Tgt officer
4. Master map for project and tgt colored in by Navigator
 - a. Note "NO Spray" hatched areas
 - b. Note warning note about not spraying when wind west to east
5. 1965 letter DAAR: Note F G H I J K
6. Not always clear – electronic report of 31 Dec 65 on 20W mission
7. DAAR 8 Dec 65: short project # w/tgts, only one UTM. Msn 93920 note XS 800 230
8. Extract from HERBS Tape for 8 Dec 65: date, CTZ, proj #, F, UTM pts, UTM coord, type herbi, amt herbi, A/C, msn type, prov, track in km. NOTE XS 230 800
9. Later model DAAR: Note Alpha, a/c 6/4/4, UTM meaning, gallons/type, Weather data, ELOC
10. V for crop
11. Locating Ho Chi Minh trail in Laos
12. Right Echelon – defoliation
13. Left Echelon – defoliation
14. Spray pattern – single ship - never fly just one
15. Spray pattern – multiple ships – computing spray width - ? HERBS Tape shows ?
16. How does Stellman do it – 1-km envelope, including ends. Dots are points spaced 0.01 degrees in longitude and latitude representing SW corner of a grid with the center of the grid as exposure point for "hits."

17. Stellman goes even further with grid points out to 5-km
18. Here is same Vung Tau area mission – width not plotted because I don't know R or L echelon. Note populated areas.
19. Stellman's direct and indirect models of exposure. What if leave before spray?
Length of time to decay
20. Lets compare DAARs vs HERBS Tape – note rmks “double pass on TGT” – Tk 7.3 width is 8 ships, not 4, but Stellmans don't care
21. Hotel lift is type AB; India lift is type ABC; note Juliet is AB AB AB on HERBS
22. But the DAAR Coordinates show AB ABCD; was AT872049 to AT844080 sprayed?
23. On 15 Aug 67 Alpha lift sprayed AB AB, but notice the HERBS completely left off the 2nd leg! Also the 5 ships mix O & W, but HERBS solves this by making 2 missions, but with same coordinates (spray on top each other?) Note that msn X (no DAAR) did same thing.
24. Bravo msn 2 a/c had O&W, but HERBS says O
25. Charlie rmks “1 aircraft dumped on tgt” w/5000 W, but HERBS split into 2 msns dividing gallons on own and making up coordinates?
26. Bravo lift, 6 a/c, 5 O, 1 W; HERBS B & B+ spray on same coordinates; for fun, note acres and hectares
27. Alpha lift: no spray ... FAC couldn't get airborne
Bravo lift: 3 a/c, o/2500/w, rmks “A/C 685 lead did not spray on for first 2/3rds of mission Valve malfunction.” HERBS shows ABC msn of 2500 W, all tracks sprayed
Charlie lift: Rmks “All tgts canx for wx (High Winds)”, flew 5:30
For fun, note HERBS Juliet: 2200 gal = 14 km, 346A vs Bravo: 2500 gal = 15 km, 245A
28. Hotel lift is type AB, but HERBS shows AB AB with UTM coordinates at 2A & 2B, no indication where the coordinates for 1A & 1B came from!

29. DAAR clearly indicates type ABCDE msn, but HERBS has ABC AB! Makes track in error, 7.5 vs 10.4

30. Alpha lift, 5 a/c, attacked AB AB with combination of W & O, but HERBS left off the second leg (VQ726494 – 733512) and divided the msn into 2 msns (A & A+). Note that msn X is similarly divided.

31. This is what the previous Alpha lift plots out to be. HERBS left off the shorter spray near the village of Xom Rach Tau. Clear is left echelon, hatched is right echelon

32. Alpha lift: msn type = AB AB AB, but HERBS says ABC ABC. Results: US895137 to 894133 DIDN'T get sprayed, but HERBS says it DID; US894133 to 947133 DID get sprayed, but HERBS says it DIDN'T; US947133 to 955127 DIDN'T get sprayed, but HERBS says it DID! With effort, can you screw it up any worse!

Answer: YES, see the Bravo lift! HERBS says the 3 a/c sprayed 2000 gal of orange from CR050144 to 034180, a distance of 4 km (actually computes to 3.93). But DAAR rmks implies that (logically) the formation made 3 passes, so spray track would be 9 a/c wide (approx. 12 km of spraying), EXCEPT the rmks says "Lead spray pump did not work on last pass [3rd]. #3 was late and joined up on second pass." Actual result: 1st pass was 2 a/c (Lead & #2) wide, 2nd pass was 3 a/c wide (all a/c), and 3rd pass was 2 a/c (#2 & #3) wide for a total width of 7 a/c! Lets see Stellman exposure model compute that from the data on the HERBS Tape!!!!

33. Finally we come to 14 May 1969.

Alpha lift out of Bien Hoa was type AB AB, but HERBS listed it as ABCD. Without spraying BC the track is only 6.3 computed, so I would suspect 2 passes for width of 6 a/c (but can't prove it without the target map or other data than the amount of herbicide used).

Bravo lift out of Bien Hoa reported using 3600 gal. of Orange herbicide, but the HERBS Tape made it 4600 gal. of Orange

Charlie lift out of Phu Cat made 3 passes over tgt area, each 3 a/c wide according to the rmks section, but the HERBS tape doesn't indicate this so the Stellmans have a 66% error again!

3 out of 3 in one day's DAAR looks like 100% error rate to me!