MEMORANDUM FOR THE SECRETARY OF DEFENSE

Subject: Installation of MSQ-77 in Northern Laos

1. (U) Reference is made to:
   a. CINCPAC message to JCS 250002Z February 1967, JCS IN 33282.
   b. AMEMB Vientiane message to State 130930Z March 1967, JCS IN 83281.
   c. CINCPAC message to JCS 082145Z April 1967, JCS IN 27411.

2. Persistent inclement weather over the northern portion of NVN and the BARREL ROLL area of Laos continues to limit extensive air strikes against important targets in those areas. CINCPAC has recommended immediate measures be taken to increase his all-weather attack capability. The installation of MSQ-77, providing radar-controlled coverage over the northern portion of NVN and Laos is considered a desirable way of quickly providing CINCPAC with an increased all-weather bombing capability in this area. Such an installation would also provide substantial assistance in the precision positioning of search and rescue aircraft for rescue of downed airmen and in the recovery of aircraft experiencing navigation difficulties.

3. From Site 85, as shown in Appendix A, radar guidance coverage would be extended over areas of northern NVN and Laos not now covered. This site, now containing a TACAN navigational installation, is the only location in friendly hands from which the necessary coverage can be obtained. An MSQ-77 can be emplaced by air and be in operation on Site 85 within 60 days after approval.
4. (TOP SECRET) A total of 31 personnel, based at Nakhon Phanom, would be required to support operations at Site 05 on an around-the-clock basis; however, no more than 14 personnel, comprising a shift, would be working on-site at one time. If it became necessary, in the interest of Lao political considerations, these personnel could be placed under "shallow cover" (i.e., wear civilian clothing, use civilian titles and identification documents, and be supported by a local contractor as are the TACAM personnel at the site) in order to conceal their identity as military personnel.

5. (TOP SECRET) The accuracy of HSO-77-directed bombing has been proven from combat experience to be excellent. The Circular Error Average (CEA) for strikes controlled to a range of approximately 100 NM has been 300 to 350 feet. There has been some reduction in accuracy as range increased, but CEA's at 240 NM have been well within acceptable limits averaging about 410 feet. The maximum range for control of beacon-equipped strike aircraft is 200 NM. There are now approximately 300 beacon-equipped aircraft in the Air Force Southeast Asia inventory with an additional 600 programmed.

6. (TOP SECRET) In addition to providing an improved all-weather, day and night bombing capability against targets in the BARREL ROLL and northern ROLLING THUNDER areas, an HSO-77 would provide ground control for the following:

   a. Increased air protection during darkness and adverse weather to short take-off and landing (STOL) sites and other key complexes in northern Laos.

   b. Air strikes against perishable targets which might otherwise enjoy freedom of movement under protection of darkness or poor weather.

   c. Accurate positioning of search and rescue (SAR) efforts in the area of radar coverage.

   d. Reducing the possibility of inadvertent attacks against friendly forces.

   e. Improvement in avoidance of border violations.

7. (TOP SECRET) HSO-controlled strike aircraft operating within the SAM envelope would be provided not only the existing protection...
of E-3 stand-off jammers and pod-mounted QRC 160-1 ECM equipment, they would be afforded the added protection of operating above the heavy ground fire, thus enhancing aircraft and aircrew survivability. Barring successful countering of our defensive electronic countermeasures, the current loss rate of 1.5 aircraft per 100 strikes in the Hanoi/Haiphong area (Route packages 6A and 8) is expected to be reduced.

8. (C) The American Ambassador, Vientiane, has stated his opposition to the installation of MSQ equipment at Site 85, on the political grounds that this would involve the use of Lao territory for offensive operations against SVN, with political risks for the Prime Minister. Ambassador Sullivan has also pointed to the vulnerability of the site to capture by the enemy and the attendant possibility that the presence of US military operators in Laos would be disclosed.

9. (C) The TACAN has been operational at this same site for over six months without significant molestation. The MSQ mission is not obvious from outward appearance of the installation or equipment and its identification as an aid to offensive operations is not readily discernible. If required, supplemental amendments could be made to existing plans for the emergency extraction of personnel and destruction of the MSQ to prevent the enemy's identifying the MSQ operators as US military personnel.

10. (C) The Joint Chiefs of Staff concur in CINCPAC's proposal to install MSQ-77 at Site 85 and consider this capability a valid military requirement in which the advantages outweigh the disadvantages. They, therefore, recommend approval of this proposal and further recommend that a memorandum, substantially the same as that contained in Appendix B hereto, be forwarded to the Secretary of State to obtain approval of the Royal Lao Government.

For the Joint Chiefs of Staff:

SIGNED

EARLE C. WHEELER
Chairman
Joint Chiefs of Staff

Attachments
Appendix A

COMBAT SKYSPOT

With beacon in A/C, 200 NM range
Without beacon in A/C, 56 NM range

NOTE: Proposed installation at Site 85 will have 200 mile range for A/C with SST-181 "X" Band transponder beacon. 56 mile range for A/C without beacon.
APPENDIX B

MEMORANDUM FOR THE SECRETARY OF STATE

Subject: Installation of MSQ-77 in Northern Laos (S)

1. (S) The Joint Chiefs of Staff have studied for some time measures to improve the all-weather and night capability of our aircraft operating in the BARREL ROLL (Laos) and ROLLING THUNDER (North Vietnam) areas. They have concluded that the installation of MSQ-77 ground-controlled bombing equipment at Site 85 in northeastern Laos would materially improve our ability to conduct operations in the northern parts of Laos and North Vietnam. Such an installation would also provide substantial assistance in the precision positioning of search and rescue aircraft for rescue of downed airmen and in the recovery of aircraft experiencing navigation difficulties.

2. (S) The MSQ-77 is a radar guidance system with a 200-mile range which has been used successfully in Southeast Asia since March 1966. The over-all accuracy of MSQ-directed bombing has been excellent. Experience has shown that the Circular Error Average (CEA) for strikes during darkness and inclement weather conditions out to 100 miles has been 300-350 feet. There is some reduction in accuracy as range increases, with CEA's averaging about 410 feet at 140 miles.

3. (S) Installation of this equipment at Site 85 would enable us to increase the number of bombing missions under night and adverse weather at the time of our choice. Bombing accuracy under MSQ control would compare favorably with that of visual attacks degraded by defensive environment and target obscuration generated by previous strikes. Further, MSQ-controlled aircraft would be operated above heavy ground fire, thus enhancing aircraft and aircrew survivability. Although the strike aircraft would be operating in the SAM envelope, these operations would be
supported by defensive electronic countermeasures equipment.

It is expected therefore that the loss rate of 2.5 aircraft per 100 sorties in the Hanoi-Haiphong areas would be reduced.

4. (□) The MSQ-77 would enable us to give increased air support around the clock to Lao ground forces, key Lao installations, and short take-off and landing sites. Upon their discovery by intelligence teams, perishable targets which might otherwise have freedom of movement could be attacked by MSQ-controlled aircraft during periods of poor weather. This equipment would reduce the possibility of inadvertent attacks on friendly forces and localities, and improve the control of possible border violations.

5. (□) Placement of MSQ equipment at Site 85 can be accomplished by air without undue difficulty. It is estimated that the equipment can become operational within 60 days after approval. A total of 31 personnel, based at Nakhon Phanom, would be required to support operations at Site 85 on an around-the-clock basis; however, no more than 14 personnel, comprising a shift, would be working on-site at one time. If necessary, in the interest of Lao political considerations, these personnel could be placed under "shallow-cover," so as not to be identifiable as members of the military.

6. (□) The American Ambassador, Vientiane, has stated his opposition to the installation of MSQ equipment at Site 85 on the political grounds that this would involve the use of Lao territory for offensive operations against North Vietnam, with political risks for the Prime Minister. Ambassador Sullivan has also pointed to the vulnerability of the site to capture by the enemy and the attendant possibility that the presence of US ground operators in Laos would be disclosed.

7. (□) The Joint Chiefs of Staff have confirmed the military value and importance of this equipment positioned at Site 85. They point to the fact that another guidance...
system, TACAN, has been operational at the same site for the past six months without significant molestation. The TACAN system, which has a more limited capability, is periodically serviced by US personnel, although in smaller numbers than would be required for MSQ. The MSQ mission is not obvious from outward appearance of the installation or equipment and its identification as an aid to offensive operations is not readily discernible. If required, supplemental amendments could be made to existing plans for the emergency extraction of personnel and destruction of the MSQ to prevent the enemy's identifying the MSQ operators as US military personnel.

8. I concur in the military merits of the proposal by the Joint Chiefs of Staff and request that the necessary steps be taken to obtain Royal Laotian Government approval for MSQ-77 installation at Site 85 as soon as feasible.