

usually be required.

5. Diazinon appears to have become unsatisfactory for cockroach control in most areas. Best results are now obtained with a 1% Baygon spray. However, as with any insecticide, selective and thorough application is required for good results. The 2% Baygon bait is also valuable as a follow up treatment and often will give control alone in minor infestations where food is limited.

IV. Pesticide Hazards

1. Actions to restrict the use of DDT because of its persistent quality have unfortunately led to unjustified fears about harmful effects on man. Actually it is still one of the safest insecticides. Injuries to humans have been observed only in those who have been exposed accidentally to acute massive doses. However, there are few necessary uses for DDT by the Armed Forces and the new restrictions should not cause any problems. Greater hazards will still arise from concentrates of organic phosphorous and carbamate pesticides.

2. There is no fool-proof method for disposal of surplus pesticides. New guidelines are being prepared by the Armed Forces Pest Control Board. In the meantime burial in locations removed from possible water supplies, and burning of some items, are considered the least hazardous methods of disposal.

3. The new insecticides Baygon and Dursban are moderately toxic and the handling of concentrates will require great care. Abate is useful as a mosquito larvicide in unpolluted water and has a very low toxicity.

V. Training and Certification

Bureau of Medicine and Surgery is preparing an instruction on procedures for certification of personnel who will supervise and conduct vector and pest control operations. It should be emphasized that the card form given out for shipboard one day pest control training does not constitute certification as a qualified pest control operator and does not authorize the handling of concentrated pesticides.

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JCS POLICY AND PROCEDURES FOR THE JOINT QUARANTINE PROCESSING OF RETROGRADE MATERIEL

LCDR E. E. JENKINS, MSC, USN, Moderator

GOAL

To prevent the exportation of agricultural pests and diseases of medical and agricultural importance from Republic of Vietnam.

IMPLEMENTATION

Joint Chiefs of Staff with technical support
from Armed Forces Pest Control Board,
USPHS, and USDA-PQD.

OPERATIONS

1. Retrograde materiel thoroughly cleaned of all organic matter at field echelon.
2. Rodenticide-Insecticide treatment provided as appropriate.
3. Equipment transported to designated marshalling area.
4. Inspection provided by Military Quarantine Inspector (MQI).
5. Additional cleaning, etc. accomplished as directed.
6. Retrograde materiel may then be declared precleared and stored pending embarkation.
7. Subsequent USDA-PHS inspections at CONUS ports not required if cargo remains intact without additions of non-cleared cargo.
8. Results of operation to date - Excellent.

I. Introduction

As the legend goes, the humble bumble bee should not fly since reportedly this insect is not aerodynamically sound. However, regardless of this fact and in spite of this adversity we have flying bumble bees.

In the same context, the current retrograde program should never have gotten off the ground. Although well-planned on the drawing board and with sound intent of economic and health safeguards as goals, this new program was attempted by a military machine involved in an active unpredictable conflict with a geographical area plagued with unrealistic weather extremes. And to complete the picture of a program which, by its success runs parallel to the humble bumble bee saga, outside of ex-

tremely limited numbers of highly qualified technical professionals in the area of vector control, the initial success of the retrograde cargo processing program was accomplished by the combined efforts of 30 quickly trained military quarantine inspectors who took to the field on 1 Oct 69. As a testimonial to their efficient dedication and in several cases on record sheer fortitude these MQI's processed during one 88-day phase of the retrograde program 28,375 short tons of cargo to the basic satisfaction of the quality control agencies passing judgment on their efforts at receiving ports in CONUS. Some of these individuals so involved are in this room and can with justifiable pride view the results of their efforts both as instructors and inspectors.

II. History

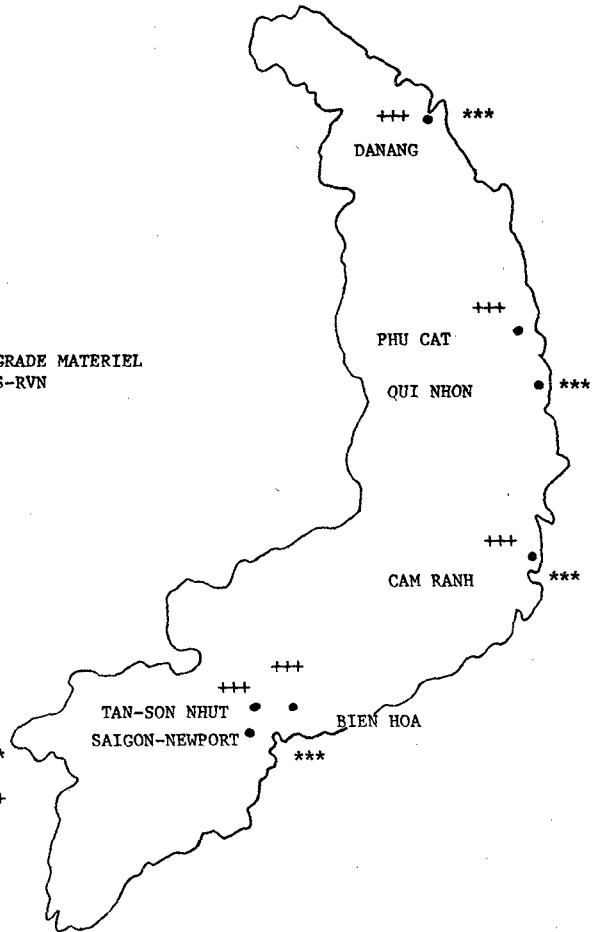
Past history of military involvements in the area of retrograde cargo processing should be mentioned before going further.

World War II, for example, found the military machine disposing of war weary and new equipment alike in the easiest manner; off a cliff, abandoned in fields, at sea, given to our allies or even brought back to our shores for reuse. And those of you who accompanied shiploads of this equipment back into the United States also recall the lack of adequate or professional processing which took place. The extent of vector and/or blight importation may or may not have been recorded. The fact remains - the potential of harmful crop and disease involvement within the United States remained potentially high due in part to inadequate retrograde preparation. The Korean Conflict provided very little change in the picture. We, as a military machine, learned a lesson during the "Mediterranean Snail" problem when exportation of that important intermediate host from an infested area became a situation for immediate correction.

And so it was not in the least unrealistic or unexpected that, during the CINCPAC OP-plan 67-68 Conference held in May 1968, the medical functional committee composed of representatives from CINCPAC, MACV and the Surgeon General, Department of the Army, carefully analyzed various potential aspects of the anticipated retrograde cargo handling program from the Republic of Vietnam. It was agreed that an on-site analysis by a USDA representative within Vietnam to advise this committee on preparation of retrograde materiel to meet quarantine requirements for entry into the United States would not only be helpful but an expedient to the overall retrograde program. Subsequently, CINCPAC invited Mr. Ken MAEHLER, Supervisor, Pacific Region, USDA, to produce an in-country analysis and evaluate possible retrograde preparation procedures. During this trip, Mr. MAEHLER conceived the program to preclear retrograde cargo within RVN by "Military Quarantine Inspectors" (MQI) under the supervision of USDA and USPHS representatives as assigned. In view of potential disease vectors being imported

DESIGNATED RETROGRADE MATERIEL
EMBARKATION SITES-RVN

SEA PORTS ***
AERIAL PORTS +++



KEYSTONE EAGLE SUMMARY

8 JULY 1969-27 AUGUST 1969

<u>BY SERVICE</u>	<u>UNIT PERSONNEL</u>		<u>CASUALS MOVED</u>	<u>TOTAL PAX MOVED</u>		<u>CARGO S/T MOVED</u>
	<u>PROGRAMMED</u>	<u>MOVED</u>				
U S ARMY	14,369	14,348	1,087	15,471	4,997	
U S NAVY	1,222	1,222		1,222	0	
U S MARINE	8,394	8,404		8,404	10,287	
TOTALS	23,985	24,010	1,087	25,097	15,284	

<u>BY DESTINATION</u>	<u>PAX MOVED</u>	<u>CARGO MOVED</u>
CONUS	9,956	0
HAWAII	6,333	4,997
OKINAWA	8,257	9,892
JAPAN	551	395
TOTALS	25,097	15,284

GRAND TOTALS:

CARGO S/T - 15,284

PERSONNEL - 25,097

KEYSTONE CARDINAL SUMMARY

20 SEPTEMBER 1969 - 17 DECEMBER 1969

MOVEMENT BY DESTINATION

	<u>PAX</u>	<u>CARGO S/T</u>
CONUS	5203	7229
HAWAII	24	3
OKINAWA	8766	20531
JAPAN	321	606
PHILIPPINES	39	6

MOVEMENT BY CARRIER

MAC SAAMS	4701	132
PACOM C130 A/C	883	261
ORGANIC AIR	289	7
PACFLT SHIPS	8480	25395
MSTS	---	2580

KEYSTONE CARDINAL SUMMARY

20 SEPTEMBER 1969 - 17 DECEMBER 1969

PROGRAM AND MOVEMENT

	<u>PAX</u>	<u>CARGO S/T</u>
TOTAL PROGRAM	14331	30362
TOTAL MOVED	14353	28375

MOVEMENT BY SERVICE

U S ARMY	1535	0
U S NAVY	3284	4502
U S MARINES	9445	23813
U S AIR FORCE	89	60

KEYSTONE BLUEJAY28 JANUARY 1970 - 3 APRIL 1970
(Incomplete)MOVEMENT BY SERVICE

<u>SERVICE</u>	<u>PROGRAMMED PERSONNEL</u>	<u>OTHER MOVEMENT*</u>	<u>REPLACEMENT REDUCTION**</u>	<u>TOTAL PAX MOVED</u>	<u>CARGO S/T MOVED</u>
U S ARMY	425	4000	25018	29443	0
U S NAVY	246	1804	0	2050	0
U S MARINES	5852	7048	0	12900	27434
U S AIR FORCE	317	3452	1838	5607	287
TOTALS	6840	16304	26856	50000	27721

*MAC CHANNEL - CASUALS, PCS, ETC.

** REDUCTION IN REPLACEMENT FLOW TO RVN

KEYSTONE BLUEJAY

28 JANUARY 1970 - 3 APRIL 1970
(Incomplete)

MOVEMENT BY CARRIER

<u>CARRIER</u>	<u>PAX PROGRAMMED</u>	<u>PAX MOVED TO DATE</u>	<u>CARGO/ST MOVED</u>
MAC SAAMS	584	159	44
PACOM C130 A/C	246	263	345
ORGANIC AIR	104	410	---
PACFLT SHIPS	753	5863	27332
TOTAL	840	6457	27721

KEYSTONE BLUEJAY

28 JANUARY 1970 - 3 APRIL 1970
(Incomplete)

MOVEMENT BY DESTINATION

<u>DESTINATION</u>	<u>PAX MOVED</u>	<u>CARGO S/T MOVED</u>
CONUS	4999	14759
OKINAWA	35	6139
JAPAN	1240	5141
HAWAII	122	1669
GUAM	30	13
TOTALS	6426*	27721

*LESS THAN 1000 ADDITIONAL PAX ANTICIPATED BY 15APRIL 70 DEADLINE

within cargo destined for all portions of Southeast Asia, as well as CONUS, PHS representation was mandatory for the success of this program. With technical assistance from the Armed Forces Pest Control Board, USDA, and USPHS, the Department of Defense implemented the present program and produced the basic authorizing document "Policy and Procedures for Joint Quarantine Processing of Retrograde Materiel." This document was originated by the Deputy Assistant Secretary of Defense (Supply and Services) in a memorandum dated 13 Jun 69. OPNAVINST 4660.2 dated 8 Jul 69 promulgated this DOD policy and additional specific clarification was furnished this program in MACV message DTG 111305Z Sep 69 which announced specific command support responsibilities within Vietnam. Under this program, retrograde materiel could be precleared in Vietnam for direct entry into the USA without additional formal inspection or documentation at Ports of Entry, assuming no admixture of non-cleared cargo from Vietnam occurred. The present aerial and sea ports designated to be involved in this program are indicated within this report. Within each of these areas logistic support was required for adequate preparation of equipment basically consisting of adequate hardstand storage area, washracks, pressure pumps with an adequate water supply and personnel to manage the program at each chosen site. Three movements have been authorized to date by the President. Bearing the code names Keystone Eagle, Keystone Cardinal and Keystone Bluejay, these movements have resulted in a total of approximately 71,380 short tons of cargo shipped to various Pacific and CONUS ports. With the high exportation risk of nematodes, snails, termites, plague vectors, khapra beetles, malaria and yellow fever vectors, citrus and rice blight and hoof and mouth disease virus from Vietnam to mention a few public health and agriculture potentials, an analysis of cargo destination plus tonnage statistics are found within the attachment of this report.

III. Problem Areas

Each service has shown peculiarities, weaknesses and/or strong points during these Keystone movements. While no stones are intended, several interesting facets have been uncovered requiring subsequent correction.

The Air Force, for example, temporarily withheld the use of micronized DDT within aircraft even when ultimately available due to an apprehension concerning the possible effect or danger to aircraft instruments, wiring or personnel exposed to repeated applications of this insecticide. After extended tests and as the result of intervention by extremely high authority, this hesitation was reluctantly withdrawn. Diazinon was the insecticide of choice during this interruption with rodent bait blocks used freely according to predetermined specifications.

The Army had until recently obstinately withheld hardtop and washrack construction anticipating utilization of such readily available facilities already provided for by one of her sister services. A crash con-

struction program developed when original suppositions proved incorrect.

Marine units in the field believed erroneously that if a light dusting of Diazinon worked wonders for vector control, a shovelful on the floor of a tank would work miracles. Tires, exposed engines, gun barrels and even open cabs received not only handfuls of Diazinon dust but paraffin diphacin blocks as well. Such actions proved not only dangerous to personnel so involved, but provided an extremely difficult destination disposal problem.

In the initial stages of Keystone movements before adequate wash racks and pressure apparatus were made available, cleaning was accomplished in some cases by turning a piece of equipment on its side and scraping each unit with hand tools (e.g., spoons, spatulas and chipping tools).

The Navy was quickly recognized at the inception of the program as not only having the physical capabilities necessary to correctly process equipment but having expertise due to background experience and training to accomplish the work at a high level of effectiveness.

Regardless of past inconsistencies, however, present tri-service involvement in this program indicates an extremely high level of compliance and equipment readiness to process retrograde materiel.

IV. Control Methods

Insecticides and rodenticides currently used in this program after the equipment to be treated is thoroughly clean include:

- a. Diazinon dust (2%) 4 lbs/1000 sq ft of floor space
- b. Micronized DDT 2 gms/1000 cu ft of area
- c. Paraffin Diphacinone bait blocks (2 parts paraffin to 3 parts bait) 1 block for 5 linear feet

- (1) loaded sea land vans - three blocks
- (2) empty sea land vans - no requirements
- (3) conex (loaded or empty) - one block

d. Vapona strips

- (1) loaded sea land van - three strips hung
- (2) empty sea land van - no requirements

Fumigation facilities are not readily available within RVN, but could be provided in an extreme emergency.

V. Personnel Involvement

MQI training courses are being routinely held for selected Army, Navy

and Air Force enlisted personnel with the last class of 24 qualified on 8 Apr 70. These individuals graduate only after successfully completing a three-day didactic and practical field trip course of study sponsored by the 20th Preventive Medicine Unit, USARV. Non-transferable Quarantine Inspector Registration Numbers are issued to each graduate. The MQI's are then reassigned to aerial or sea ports previously designated. Of interest is the fact that the MQI Registration Number remains assigned for the duration of his enlistment or length of military service. Thus, if a broader program of retrograde cargo processing should occur, such qualified individuals could immediately be utilized regardless of geographical location.

VI. Future Outlook

A. Southeast Asia

Should T-Day be officially declared by the President, little delay can currently be anticipated in handling the influx of materiel created by such a declaration. MACTHAI has provided a workable retrograde cargo processing document patterned after that currently being successfully enforced in RVN.

B. World Wide

In view of the success evidenced in SEASIA, action is underway, though unofficially, by the Office of the Assistant Secretary of Defense (Installations and Logistics) to provide groundwork for a document involving World Wide Standards on Retrograde Cargo Processing.

An analysis of General Order 20 dtd 12 May 62 as pertains to precleared retrograde cargo either under current or future programs discloses discrepancy or limitation.

EPIDEMIOLOGY & INFECTIOUS DISEASE SURVEILLANCE

LCDR W. J. BROWNLOW, MC, USN, Moderator

Communicable disease - TB is still a problem in the Navy; however, we have an effective control program outlined in BUMED directives. All Navy and Marine personnel with hepatitis admitted to Tripler Army Hospital are now interviewed by PMU-6. Occasionally we (PMU-6) get calls about immunization requirements. We are asked occasionally about malaria prophylaxis; when one is going into an endemic area they should start prophylactic CP a week ahead of time and continue it eight weeks after leaving endemic area. Urethritis: Many cases we see are non-specific, a mild discharge with very little cellular debris in the discharge. We give them a course of tetracycline (1.5 gm stat and 1.0 gm b.i.d. for seven days). In addition we may give mandelamine for a total of four

weeks (1.0 gm before meals and at bed time). Epidemiological surveillance: We are trying to develop a system for monitoring the incidence of acute diseases in the 14th Naval District and WESTPAC. Incidence is new cases of the disease, while prevalence is the number of existing cases of the disease. In acute respiratory disease surveillance we are collecting acute and convalescent sera, and taking throat cultures, looking initially for streptococci and viruses. There is a high prevalence of acute respiratory diseases in Oahu. We have a good bacteriology lab at PMU-6 but no virological capabilities; this has been partly resolved by going to the Sixth Army Medical Laboratory in California. They will process 24 virus specimens a week for us currently. We are missing the mycoplasma organisms.

We are beginning to use computerized techniques to handle our epidemiological surveillance at PMU-6. NAS Barber's Point, and the Naval Station, P.H., Dispensary give us weekly reports of acute illnesses. It is important to have a good surveillance system: First, the medical officer needs to know what to expect in his crew when they go back to sea. Secondly, it provides information for statistical morbidity purposes and general medical intelligence. The Navy has an epidemiological reporting system (6220 Series); however, it does not function effectively. If you don't give the man in the field any feedback, you will not get good input; furthermore, the collected data has to be used. At PMU-6 RESS is the Rapid Epidemiological Surveillance System. Basically it is a weekly collection of data with computerized manipulation of the data to put out biweekly reports to the medical officer in the field. Individual data sheets from the outpatient clinics give a clinical diagnosis. A Flexowriter converts this to input for a computer. The computer read-out has clinical diagnosis across the top, and various dispensaries down the side.

The 6220 series surveillance is sent by message and has instructions on how to compute incidence rates. Venereal disease denominator data now uses total liberties, which I believe are poor estimates. Denominator data should be more solid in terms of personnel, e.g. to compare rates in Subic vs Honolulu. Comparisons then are more easily made by individuals untrained in statistics. To make programs effective they have to be implemented. Medical officers lack training in preventive medicine, and medical officers coming right out of internship are not concerned with preventive medicine. TB program: For control of tuberculosis see and follow BUMED INST. 6224.1C. It is sometimes difficult to read induration of PPD test. Record it in millimeters. Hepatitis: Contacts aboard ship are people who sleep in the same compartment and mess at the same facilities. We believe that cooks and stewards should have the benefit of prophylactic gammaglobulin routinely while in WESTPAC. However, CDR ALEXANDER MC USN questioned this policy, and pointed out one may only be suppressing clinical symptoms in these individuals.

ENVIRONMENTAL HEALTH

LT J. H. SAMMONS MSC USN, Moderator

1. SHIPBOARD/SHORE WATER