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EXHIBIT NO. 3-L

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

FAA'S RESPONSE TO QUESTIONS REGARDING MSAW AT GUAM CERAP & TOWER

(6 pages)

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#1 NOTAMs for either tower or CERAP for 90 days preceding accident.

Neither the CERAP or the Tower retain NOTAMS beyond the above period or after receiving an updated summary.

#2 What is the process, and level of authority for allowing the approval of inhibiting of MSAW at Guam?

Order 7210.3, paragraph 13-2-7, clearly states the procedure to temporarily inhibit MSAW. This can only be done by the facility AT manager, who in turn must notify the ATD and ATO-1OO.

To turn MSAW off would require a waiver from ATO- 100. There was no waiver granted to Guam to turn MSAW off. Site adaptation at Guam prevented MSAW processing within a 54 mile radius around the radar antenna. MSAW processing only took place within a one mile ring within Guam's airspace - between 54 and 55 miles out.

#3 What did the facility at Guam do with the documentation to provide guidance for the inhibiting of MSAW?

This took place prior to the present CERAP management staff. We have searched all administrative, correspondence, and project files and have been unable to locate any correspondence that would explain the MSAW configuration.

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#4 What guidance is being developed for ARTS II and II-A as compared to ARTS III and III-A? What office is responsible for the development?

The ARTS 111A CPFS (NAS-MD-633) "Standards for Defining and Adapting Values for MSAW Site Variable Parameters" will serve a guide for ARTS 11A. We-are in the process of updating the ARTS 11A Computer Program Functional Specification (CPFS) - NAS-MD-903 Part 2 Chapter 15. The update is expected to be completed by the end of November 1997.

(Note: There are no more ARTS II and ARTS III's - all have been converted to 11A and 111A.)

Air Traffic Operations is the responsible office for the development.

#5 Request a copy of the guidance that was sent to WP region and Guam to satisfy the intent of our safety recommendation to the FAA (conduct a complete national review of all radar environments using MSAW systems. This review should address all user-defined site variables for the MSAW programs that control general terrain warnings, as well as runway capture boxes to ensure compliance with prescribed procedures). Also want the facility and regional response citing their action(s).

See attached documentation.

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#6 A copy of policy and guidance for "zero alarm time" - chronology and names. (EARTS)

NAS-MD-684 paragraph 3.2.3.2 Alarm Presentation states: "The controller alerts declared by MSAW shall be presented both aurally and visually. An alert warning shall consist of an aural alarm for five (SP) seconds, ...". NAS-MD-684 applies to both EARTS and MEARTS (Micro-EARTS). EARTS systems have a central alarm in the TRACON, and individual alarms at each display. The display alarms can be set for a duration between O -86,400 seconds. Micro-EARTS (used at Guam) do not have a central alarm in the TRACON, only in the displays. If alarm time, a site adaptable parameter, is set to (0), there will be no audible alarm.

Guam CERAP does not have a copy of any guidance regarding zero alarm time. It is our understanding that it is an accepted practice for no aural alarm in the enroute environment.

#7 NOTAM criteria

In going back through all the NOTAM Manuals, MSAW has been carried as a NOTAM L item since its inception on the domestic side of the NOTAM world. In the current NOTAM manual, MSAW is not addressed directly, this change occurred between 1993 and the present. Since MSAW did not directly affect the pilot nor his decision to go or no-go it was dropped from the domestic manual. It was regarded as a service the same as DF, VOT, ARTS 11/111 Another reason was the lack of MSAW being identified in Annex 15 of the ICAO community. Since the International Civil Aviation Organization does not recognize this, MSAW is not a NOTAMABLE item for International distribution.

A NOTAM is any unanticipated or temporary change to components of or hazards in the National Airspace System (NAS). The specifics are further defined in the NOTAM manual 7930.2.

A NOTAM D consists of information that meets the criteria of the NOTAM Manual, 7930.2 and requires wide dissemination via telecommunication and pertains to enroute navigational aids, civil public-use airports listed in the Airport/Facility Directly , facilities, certain services and procedures. This data is available electronically.

A NOTAM L consists of information that meets certain criteria of 7930.2 and requires local dissemination. Only available in the local area that it covers and issued only by the Flight Service Station that originated it. Not available by electronic means.

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#8 Mapping data sent out by NOAA - what did facility do with data. Was it updated? . . . .

Yes.

#9 Technical inspection conducted last year on MSAW - what is criteria, how often performed, how logged, how did technicians get around certification of system?

The Technical Inspection was conducted under the guidance of the National technical Evaluation Program (NASTEP) during the period of Sept 11 to Sept 19, 1996. Among the facilities inspected was the ARTS 11A facility. The MSAW system function was not inspected singularly and apart from the ARTS 11A system inspection. The certification logs for the ARTS 11A showed weekly and monthly testing was completed. The weekly certification calls for validating performance of the Aural Alarm by setting appropriate bits in a register per TI 6190.22 Table 1-1, this causes an aural alarm. The Maintenance of Automated Radar Terminal System (ARTS 11A) Order 6190.5D monthly PM references paragraph 41 “ARTS 11A System Operational Program”. This calls for the use of Test Target Generator (TTG) to generate a tracked target with an altitude and position that will generate a low altitude alarm, then verifying the data block indicates a low altitude condition.

#10 Certification of ARTS II following radar site relocation.

The ASR-8 was placed by the FAA as an F&E project 1987-1989 at its present location. AWP475 does not have any records of the work that was done regarding repositioning the ARTS II maps or certification. Dell Rupp, former FAA ARTS technician, retired for 7 years, recalled that the necessary changes were implemented by Hawaii personnel after the ASR-8 was installed. Note:(the FAA had the ASR-8 radar on long term loan from the NAVY). The ASR-8 was installed to replace an ASR-5 located on Anderson Air Force Base. The ASR-8 was placed at a location to provide superior coverage for both the Air Force and Navy airfields (Agana).

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#11 D-BRITE - installation schedule and commissioning schedule, is it to be controllable (keyboard), mapper? training of controllers to be completed when? When is it to be operational? Will it have MSAW alarm capability? Why was it not available at the time of the accident?

Hardware installation of a separate DBRITE System at Agana ATCT was completed in July 1997. The Agana System will require it's own mappers which are being ordered. No delivery date is available. Because we have no firm date for the Mapper delivery no firm date is available for commissioning. Yes, additional controller training will be required which will focus on the different type of equipment (own controls) and MSAW alerts, which will be available to the tower controllers.

MSAW is not required in VFR towers since terrain avoidance is a function of IFR service, therefore, the CERAP would have responsibility for notifying pilots of low altitude alerts (this could be done through the tower if the aircraft is on tower's frequency). Therefore, there is no requirement for Agana Tower to have MSAW available (as is the case with all VFR towers).

MSAW was not available because it is not a requirement in a VFR tower. Agana Tower was sharing (and still shares) the DBRITE signal from the Anderson AFB System. When the Agana system is commissioned, it will have its own controls and receive the signal directly from the CERAP Automation System. This will negate the need for a shared signal with Anderson. Finally, MSAW would not be displayed to tower controllers (even if it were available) unless the ARTS 11A were programmed to generate the alerts.

Until Agana gets its own independent DBRITE, they continue to share the signal from Anderson ATCT.

#12 Need to review documentation used to develop chronology passed out at today's meeting (9/19/97).

This questions was not answered by Air Traffic and should be addressed to the meeting attendees. We have no knowledge of this meeting.

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#13 Need to know who at the facility attempted to issue NOTAM on MSAW.

Again, this was done by the previous manager and AUS, and there are not copies of file.