



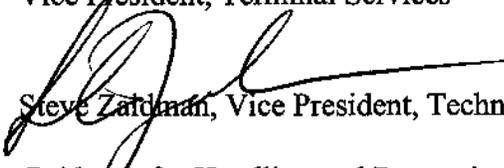
# Federal Aviation Administration

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## Memorandum

Date: JUN 14 2007

To: Vice President, Acquisition and Business Services  
Vice President, En Route and Oceanic Services  
Vice President, System Operations Services  
Vice President, Terminal Services

From:  Steve Zaidman, Vice President, Technical Operations Services

Subject: Guidance for Handling and Processing Tone Incidents

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The attached document provides guidance for handling and processing tone incidents encountered by employees in the Air Traffic Organization (ATO). Unexpected noises of increased volume over land lines or radio frequencies (collectively known as "tones") are encountered primarily in the performance of air traffic control duties. These tones can be heard over headsets, handsets, or speaker systems, and are distracting or even temporarily painful to experience.

The FAA has implemented a series of technical safeguards to console voice switch systems and to the headsets themselves that are intended to protect employees from tones. With these technical safeguards in place, and with the implementation of the Guidance for Handling Tone Incidents, we will be in full compliance with the Occupational Safety and Health Administration's standards for occupational noise exposure.

The guidance was developed by a workgroup comprised of representatives from ATO-E, ATO-T, ATO-R, ATO-W, AAM, and bargaining units. Following development and coordination, the guidance was reviewed by Field Labor Relations and Customer Service (AHL-10), which concurred in the guidance document.

The guidance document identifies the roles and responsibilities of employees, supervisors, and air traffic managers associated with tone incident reporting and processing. In view of the continuing issues of tone incidents, please take immediate action to begin implementation of this guidance in your organizations. Tone incident tracking and documentation should begin immediately with full implementation to follow as headset testing units and associated training are delivered to the field air traffic facilities.

If you have any questions regarding this document, please contact George Kelley, Environmental and Occupational Safety and Health Services Group, at (701) 792-4303.

Attachment

# Air Traffic Organization Guidance for Handling Tone Incidents

1. **PURPOSE.** This document establishes guidance for the handling and processing of tone incidents encountered by employees in the Air Traffic Organization.

2. **BACKGROUND.** Unexpected noises of increased volume over land lines or radio frequencies (collectively known as “tones”) can be encountered during air traffic control duties. These tones can be heard over headsets, handsets, or speaker systems. While distracting or even temporarily painful to experience, the FAA has implemented a series of technical safeguards to console voice switch systems and to the headsets themselves that are intended to protect employees from tones. With these technical safeguards in place, the FAA complies with OSHA standards for occupational noise exposure.

3. **FORMS.** FAA Form 3900-5, Tone Incident Report, is included as Appendix 1 of this document. A form for Employee Notification of Headset Test is included as Appendix 2.

## 4. **ROLES & RESPONSIBILITIES.**

a. **Employees.** Employees subjected to tones should report these events to their immediate supervisor as soon as possible after the incident. This reporting is necessary to determine the source of the tone and to ensure that all technical safeguards are functional.

b. **Supervisors.** Supervisors advised of a tone incident shall follow the steps as outlined in Section 5 below. These responsibilities include receiving reports of tone incidents from operational employees, securing operational positions and equipment for testing, notifying Technical Operations personnel of the need for equipment evaluation, making appropriate entries in the facility log, and ensuring that FAA Form 3900-5, Tone Incident Report, is completed and routed in accordance with this guidance.

c. **Air Traffic Managers.** Air Traffic Managers are responsible for tracking and processing tone incident reports and ensuring that technical safeguards are in place to protect their employees. Air Traffic Managers shall also follow the steps outlined in Section 5, coordinating with Technical Operations personnel for equipment evaluation, ensuring headset systems are tested (if applicable), monitoring tone incident investigations, and completing necessary reports.

## 5. **tone INCIDENT REPORTING AND PROCESSING.**

### a. **Employee Reports a Tone Incident.**

1. When an employee reports a tone incident, secure the employee’s headset for testing as soon as it is operationally feasible to do so. Ensure that Technical Operations is notified to evaluate the affected operational position and associated National Airspace System (NAS) equipment for normal operations as soon as possible. Air Traffic Management will ensure that the employee’s headset acoustic limiting circuits are functioning

properly by using a Plantronics varistor check box in accordance with the Plantronics *Varistor Check Box User Guide*. Air Traffic Management will also give the affected employee the opportunity to observe the headset testing. If a Technical Operations employee was involved with the tone incident, that employee's Manager shall also be notified and appropriate actions taken.

2. Make an "E" entry in facility log and carry entry forward until:

(a) Technical Operations tests console/voice switch/NAS equipment,  
and

(b) Air Traffic Manager confirms headset testing (if applicable).

3. In order to facilitate equipment checks, Technical Operations needs to understand what was going on at the time of the tone incident. Record this information on FAA Form 3900-5, Tone Incident Report, and forward for action and processing.

4. Secure the recording of the tone incident. A copy of the reported tone incident will be provided to the Air Traffic Manager.

5. When equipment testing is complete and cleared, annotate facility log with the statement, "Tests complete. Equipment operating normally." Report any abnormal test results and annotate log appropriately.

6. Complete FAA Form 3900-5. If the employee files Form CA-1, Federal Employee's Notice of Traumatic Injury and Claim for Continuation of Pay/Compensation, retain original FAA Form 3900-5 in a designated facility file for five years. If the employee does not file Form CA-1, retain the original FAA Form 3900-5 for two years. During the first week of October, report the total number of tone incidents for the fiscal year at your facility, along with the number of CA-1 tone cases, to AJW-232 at 701-792-4303.

7. Determine if the employee intends to file Form CA-1 and mark Form 3900-5 appropriately. If employee is filing Form CA-1, follow guidance below.

**b. Employee Files Form CA-1, Federal Employee's Notice of Traumatic Injury and Claim for Continuation of Pay/Compensation.**

1. Provide Form CA-1 and assist the employee as necessary with the completion of the form.

2. Advise the employee that the Agency's position is that our equipment is designed not to exceed OSHA standards for occupational noise exposure as outlined in 29 CFR 1910.95. If an employee files a claim of permanent injury due to a tone, the FAA will ensure that the Department of Labor is fully informed of the technical safeguards and agency's position.

3. Complete Supervisor's portion of the CA-1.

(a) Include the statement, "Equipment to be tested to ensure acoustic limiters are working."

**(b)** Include any known information about employee's hobbies or activities that could contribute to hearing loss.

Example 1: Employee plays in a rock band on weekends.

Example 2: Employee uses loud/heavy equipment at part-time job.

**4.** Attach "Tone Incident CA-1 Supplemental Information" sheet to the CA-1. A copy of this sheet is provided as Appendix 3 of this document.

**5.** Immediately upon completion, forward Form CA-1 and any attachments through your Air Traffic Manager to the National Workers' Compensation Division (AHP-500).

Note: CA-1 forms must be processed by the Agency and forwarded to the Department of Labor within ten (10) days of being filed by the employee.

**6.** Fill out FAA Form 3900-6, Mishap Report, and enter the data into the Safety Management Information System (SMIS). Provide detailed documentation of the tone incident and the operational conditions at the time of the incident.

**c. Employee Requests Medical Attention Due to a Tone Incident.**

**1.** Complete the front of Form CA-16, Authorization for Examination and/or Treatment, and check Block 6.B.2 indicating that there is doubt that the employee's condition was caused by the tone incident. Complete the front of the form and check Block 6.B.2 before you provide the CA-16 form to the employee.

**2.** If the employee requests leave or Continuation of Pay (COP) as a result of the tone incident, approve absence in accordance with the Federal Employee's Compensation Act (FECA) and all applicable collective bargaining agreements.

**3.** Forward the employee's claim for reimbursement for medical expenses to the National Workers' Compensation Division (AHP-500) for processing.

**TONE INCIDENT REPORT**

<b>Part A</b> Employee filing report to complete and forward to OS/CIC.			
Employee Name:		Date/Time of Tone Incident:	
		Position/Line/Frequency:	
Description of Incident:			
Employee Signature:			Date Submitted:
<b>Part B</b> OS/CIC complete and forward to OM or Tech Ops. Log incident on Form 7230-4.			
OS/CIC Signature:			Date:
<b>Part C</b> (When applicable) OM review and forward to Tech Ops.			
OM Signature:			Date:
<b>Part D</b> Tech Ops to complete and forward to Air Traffic Manager.			
Initial Investigation: <input type="checkbox"/> FAA Equip <input type="checkbox"/> Telco Equip <input type="checkbox"/> Aircraft Equip <input type="checkbox"/> Other <input type="checkbox"/> Unknown			
Corrective Action Taken:			
Tech Ops Signature:			Date:
<b>Part E</b> Air Traffic Manager Review			
Employee filed Form CA-1: YES		NO	Headset tested: YES
			NO
ATM Signature:			Date:

## Instructions for Completing Form 3900-5, Tone Incident Report

This report is used for an employee who experienced a tone incident at any operational position in the facility. As the respective part (A through D) is completed, forward the report as indicated for additional action. After all parts have been completed and the report reviewed by the Air Traffic Manager, this form shall be retained in a designated facility file for five years if the employee files a CA-1 and for 2 years if the employee does not file a CA-1. During the first week of October, report the total number of tone incidents for the fiscal year at your facility, along with the number of CA-1 tone cases, to AJW-232 at 701-792-4303.

**Part A.** The employee affected by the tone incident shall complete this portion. Include the employee's name, the date and time the tone incident occurred, the position being operated, the land line and/or frequency involved, and a detailed description of the tone incident. Be as specific as possible, relating details of the duration, pitch, and loudness of the tone. Continue on a separate sheet of paper if necessary. The employee shall sign and date this section when complete, then forward to the Operations Supervisor (OS) or Controller-In-Charge (CIC) as appropriate.

**Part B.** The OS/CIC shall complete this portion. Perform an initial investigation to determine whether the telephone company or Technical Operations (Tech Ops) was working on the land lines and/or frequencies involved in the tone incident. If maintenance was being conducted, was the facility/area/position given prior notification of the work? If notification was not received, explain that prior notification is required for the safety of our employees and note this in this section. Obtain the name, title, and phone number (if applicable) of the parties contacted and include an explanation of what they said. Continue on a separate sheet of paper if necessary. The OS/CIC shall sign and date this section when complete, then forward for additional action.

**Part C.** When locally applicable, the Operations Manager (OM) shall review the form to this point, sign and date this section, and forward to Tech Ops for further investigation and equipment tests.

**Part D.** Tech Ops shall complete this portion. Tech Ops shall investigate the tone incident to the best of their ability, including the testing of affected NAS equipment to ensure that acoustic limiting devices are installed and functional. Tech Ops should also investigate the source of the tone to further the Agency's effort to reduce the number of tone incidents encountered. Provide detailed documentation of tests conducted, tone sources investigated, and corrective actions taken. Continue on a separate sheet of paper if necessary. The investigating Tech Ops employee shall sign and date this section when complete, then forward to the facility Air Traffic Manager (ATM) for review.

**Part E.** The facility ATM shall complete this portion. The ATM shall review the form, check the appropriate box indicating whether or not the employee filed Form CA-1, verify that the headset was tested, then sign and date this section before administrative forwarding and filing.

## Employee Notification of Headset Test

From: Manager, \_\_\_\_\_

To: \_\_\_\_\_

Date: \_\_\_\_\_

On this date, using Plantronics Headset Checker, Model Number SSP2271-01,

Serial Number \_\_\_\_\_, the following headset was tested by the undersigned.

Plantronics Headset Model: \_\_\_\_\_  
(See Plantronics Headset Model Identification Guide)

Plantronics Headset Bar Code: \_\_\_\_\_  
(If bar code is missing, tag headset to identify facility and user, e.g. "ORD AB", and note identification here)

The acoustic limiting varistor in this headset                      PASSED                      FAILED.  
(circle one)

If the headset passed the varistor test, the headset can be returned to use.

If the headset failed the varistor test, the headset will remain impounded and may be sent to Plantronics for further testing. (Contact the Headset Contracting Officer, AMQ-240, in Oklahoma City at 405-954-7887 for more information on having this headset tested by Plantronics.)

\_\_\_\_\_  
Manager's Signature

# Plantronics Headset Model Identification Guide

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Image

Headset Model Numbers



H31N – Noise canceling  
H31CD – Non-noise canceling



H51N – Noise canceling



H61N – Noise canceling  
H61 – Non-noise canceling



H81N – Noise canceling  
H81 – Non-noise canceling



H91N – Noise canceling  
H91 – Non-noise canceling



H101N – Noise canceling  
H101 – Non-noise canceling

## CA-1 Attachment – Tone Incident Supplemental Information

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There is a natural aversion to loud sounds and an immediate tendency to eliminate that which is uncomfortable. This can be accomplished by prompt removal of the headset, disconnection of the plug from the jack, or simply reducing the gain. OSHA standards define what the allowable limits are before permanent injury can occur. The tone levels may fall within the uncomfortable or even painful range. They can also cause a temporary threshold shift in hearing. However, these shifts are of short duration. Evaluations of tone incidents at FAA facilities by both OSHA and NIOSH have indicated that the tones ATCSs are exposed to do not exceed the OSHA limits and therefore should not cause permanent threshold shifts.

The following paragraph is excerpted from a sound survey collected by the Federal Aviation Administration's Aeronautical Center Industrial Hygiene Program, AAC-162, and from correspondence of Jerry V. Tobias, PhD., Chief, Communications Processes Unit, Aviation Psychology Laboratory, AAC-118.

“In spite of the fact that exact sound levels of the tones have not been determined, the headset systems incorporate devices that limit the level of any transmitted sound that can reach the ear, thereby obviating any harmful effects.”

Time Weighted Average is the most current method of calculating sound pressure exposure. One-part headsets have limiting devices in the headset. Two-part headsets have limiting devices in the part that plugs into the control console as well as in the headset itself. Additionally, the various voice switching systems used in air traffic facilities have complex circuits that quickly attack the excessive audio levels and suppress its signal strength. Each of these safeguarding devices are designed to limit the maximum output to a safe value.

In conclusion, air traffic control communications cannot, in any way, be considered a source of hazardous noise. The sound levels and exposure durations are not of sufficient magnitude to constitute a damage risk.