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ALASKA WEATHER LINE MAINTENANCE***

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Signed 7/15/04  
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Acting Regional Director

## Alaska Weather Line Maintenance

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1. Introduction. The National Weather Service (NWS) Alaska Region (AR) operates a toll-free telephone access system that provides a method for the public to obtain “electronically voiced” weather information. We call this system the Alaska Weather Line (AWL). The AWL consists of two major components: a proprietary automated “concatenated voice” system developed by Speech Technology Research Ltd. (Speech Tech Ltd), Victoria, B.C., referred to as Starcaster; and a menu of weather products that uses the telephone switch systems located in the Anchorage, Fairbanks and Juneau Weather Forecast Offices (WFO).

The Starcaster system is located at the Anchorage WFO. The Starcaster system generates an electronic concatenated voice of selected AR weather products that are placed in “bins” located in each of the WFO telephone switches. In addition, Starcaster performs an initial product quality control check using a built-in, user defined vocabulary. This supplement defines the AR

maintenance philosophy and responsibilities for the Starcaster and AWL systems and describes the process used for submitting vocabulary changes to the Starcaster system.

2. Maintenance Philosophy. This section defines the maintenance philosophy for the AWL system. The user should follow the instructions contained in Section 5, Failure Resolution, when experiencing an AWL failure.

2.1 Starcaster. Repair of defective Starcaster hardware will be done using a complete line replaceable unit (LRU) maintenance approach. The Starcaster system is based on a personal computer and includes the following LRUs:

Central Processing Unit	Monitor
Keyboard	Mouse or Pointing Device

Speech Tech Ltd. will repair defective LRUs and perform software maintenance of the Starcaster system under a maintenance agreement with the NWS. The NWS may elect to purchase commonly available LRUs locally for Starcaster repairs.

2.2 Telephone Switches. The telephone switches used to support the AWL in the Anchorage, Fairbanks and Juneau WFOs are under commercial contract maintenance. The AR Telecommunications Manager serves as the point of contact for all telephone switch maintenance.

3. Repair Priority. The AWL system requires a repair response by 8:00 a.m. local time the next business day after notification of failure. Following regional guidance, the Meteorologist in Charge (MIC), or their designee, at the affected WFO may decrease the response time required to meet an emergency where public safety is concerned.

4. Maintenance Responsibilities. The following section defines the maintenance responsibilities for components of the AWL system.

4.1 Electronics Unit Anchorage (EUA). The EUA will provide electronics maintenance staff to perform corrective maintenance actions, including LRU replacements, to the Starcaster system. Corrective action may involve minor Starcaster system configuration changes. The maintenance staff will:

- a. Perform the preventive maintenance of the Starcaster system. Preventive maintenance consists of scheduled cleaning of the major LRUs.
- b. If necessary, restore Starcaster operation by activating the backup Starcaster unit.
- c. Ship any defective LRU to Speech Tech Ltd and coordinate the return of the defective unit with the Computer Program Manager.
- d. Install Starcaster software modifications.

- e. Perform Starcaster system administration, including configuration changes required for version upgrades of Starcaster application software.

4.2 Area Electronics Supervisor (AES). As the supervisor of the EUA, the AES will:

- a. Assign Starcaster maintenance responsibility to designated EUA staff.
- b. Provide an after hours contact telephone number for the AES, or their designee, to the Computer Program Manager.

4.3 Speech Technology Research Ltd. Speech Technology Research Ltd. provides LRU maintenance for the Starcaster system under a maintenance agreement. The maintenance agreement includes replacement of internal printed circuit cards. In case of complete Starcaster system replacement, the maintenance agreement includes the installation and configuration of all required software.

The EUA electronics maintenance staff must return defective LRUs to the Speech Tech Ltd. facility for repair. After receipt of any defective items at their facility, Speech Tech Ltd. will repair and return all hardware to the Anchorage EUA in less than two weeks. Speech Tech Ltd. will notify the NWS if there are any delays. The statement of work for the Starcaster maintenance agreement contains complete details of the software and hardware maintenance.

Speech Tech Ltd. will provide technical support to answer questions from NWS personnel involving operation of the Starcaster system. This support will be provided via fax, e-mail or in response to telephone inquiries during regular business hours (Monday through Friday from 9:00 a.m. to 5:00 p.m. Pacific Time). NWS will contact Speech Tech Ltd. on their toll-free number, 1-877-477-0588, for telephone inquiries.

4.4 Computer Program Manager. The Computer Program Manager is the point of contact for troubleshooting AWL failures. The Computer Program Manager will:

- a. Provide an after hours telephone number to the MIC at each WFO for inclusion in the station duty manual.
- b. Coordinate the return and repair of any defective LRU with Speech Tech Ltd. and the EUA maintenance staff.
- c. Coordinate the delivery of new software received from Speech Tech Ltd. with the EUA maintenance staff for installation on the Starcaster system.
- d. Coordinate any required changes in "bin" numbers for the AWL products with the Telecommunications Manager.

- e. Update the Chief, Systems Integration Branch, on significant events relating to the Starcaster System.

4.5 Chief, Systems Integration Branch (SIB). The Chief, SIB, serves as the Contracting Officer's Technical Representative (COTR) for the maintenance agreement between the AR and Speech Tech Ltd. Only the Contracting Officer or the COTR will direct Speech Tech Ltd. to perform work under the maintenance agreement.

4.6 Telecommunications Manager. The Telecommunications Manager is responsible for any configuration changes required in the WFO telephone switching systems in support of the AWL operations.

4.7 WFO MICs. The WFO MICs will establish call-back procedures for use by local staff in case of an AWL failure. The station duty manual will include these procedures and a list of after hours contact telephone numbers for the personnel involved in the AWL maintenance.

5. Failure Resolution. This section describes the failure resolution for both the Starcaster system and the AWL telephone switches.

5.1 During Normal Work Hours. When an AWL failure occurs during the normal work hours of 8:00 a.m. to 4:30 p.m., Monday through Friday, the lead forecaster, or their designee, at the affected WFO will contact the Computer Program Manager, or their designee, using the AR Hotline number at (907) 271-1752, to initiate an AWL repair action.

If the Starcaster system causes an AWL failure, the Computer Program Manager, or their designee, will contact the AES, or their designee, to initiate a Starcaster repair action.

If a telephone switch causes an AWL failure, the Computer Program Manager, or their designee, will contact the Telecommunications Manager to initiate a telephone switch repair action.

5.2 Outside Normal Work Hours. When an AWL failure occurs outside normal work hours, the lead forecaster, or their designee, at the affected WFO will determine the need for an after hours repair.

If the decision is to delay the repair, the lead forecaster, or their designee will call the AR Hotline number at (907) 271-1752 and leave a voice message describing the failure. The Computer Management Unit staff will begin repairs during the next business day.

If the decision is to request an after hours repair, the lead forecaster, or their designee, will contact the Computer Program Manager to initiate the repair action. The after hours contact telephone number for the Computer Program Manager will be listed in the WFO's station duty manual.

If an after hours repair action involves the Starcaster system, the Computer Program Manager will contact the AES, or their designee, to initiate a Starcaster repair action. The AES will

provide an after hours contact telephone number to the Computer Program Manager for the designee responsible for Starcaster repairs.

If an after hours repair action involves a telephone switch, the Computer Program Manager, or their designee, will contact the Telecommunications Manager to initiate a telephone switch repair action. The Telecommunications Manager will provide the Computer Program Manager with an after hours contact telephone number.

6. Vocabulary Changes. The following process describes the steps required to process vocabulary changes to the Starcaster system.

6.1 Speech Technology Research Ltd. Speech Tech Ltd. monitors and reports Starcaster rejections under a maintenance agreement. With NWS approval, Speech Tech Ltd. will add new speech vocabulary items and modify Starcaster formatting rules. These changes will be done quarterly. Speech Tech Ltd. will provide these software modifications to the EUA electronics maintenance staff for installation on the Starcaster systems.

6.2 Alaska Region Offices. All users who supply operational products for use on Starcaster must submit any suggestion or request for vocabulary or configuration file changes to the Computer Program Manager. Users should submit suggestions or requests to the Computer Program Manager via e-mail.

6.3 Computer Program Manager. The Computer Program Manager will:

- a. Serve as the point of contact for the collection of suggestions or requests for vocabulary and configuration file changes received from the WFOs and Weather Service Offices (WSO).
- b. Forward suggestions and requests for vocabulary and configuration files changes to the Environmental and Scientific Services Division (ESSD) for their action.
- c. Forward rejection messages received from Speech Tech Ltd. to ESSD for their action.
- d. Forward the monthly Starcaster Broadcast Statistics Report received from Speech Tech Ltd. to ESSD for their action.
- e. Forward vocabulary changes approved by ESSD to the Chief, SIB, for implementation under the Speech Tech Ltd. maintenance agreement. (No vocabulary changes will be referred to the Chief, SIB, for implementation until they have been officially approved by ESSD.)

6.4 Environmental and Scientific Services Division (ESSD). The ESSD Chief, or their designee, will:

- a. Monitor Starcaster rejection messages and take the steps necessary to correct failures caused by improper vocabulary within AR products.
- b. Approve vocabulary changes and send them to the Computer Program Manager for implementation.