

Factual Report – Attachment 9

“ASOS Maintenance Note 18, Revision A” found in section 2.6 of the National Weather Service (NWS) Engineering Handbook 11 and its “Attachment A – List of ASOS Spares Kits,” Engineering Management Reporting System logs for the ELY ASOS during the days surrounding the accident time, and NWS Engineering Handbook Number 4.

METEOROLOGY

WPR19FA084

Submitted by: Mike Richards

ASOS MAINTENANCE NOTE 18, REVISION A

Operations Division

W/OPS12: GS

SUBJECT: ASOS Spares Kit

PURPOSE: To circulate the official ASOS technician spares kit list (attached).

SITES AFFECTED: All sites with ASOS maintenance responsibility.

AUTHORIZATION: The authority for this note is by National Weather Service Headquarters direction.

VERIFICATION STATEMENT: N/A

ESTIMATED COMPLETION DATE: N/A

TIME REQUIRED: N/A

ACCOMPLISHED BY: N/A

EQUIPMENT AFFECTED: N/A

SPARES AFFECTED: N/A

PARTS/MATERIALS REQUIRED: N/A

SOURCE OF PARTS/MATERIALS: N/A

DISPOSITION OF REMOVED PARTS/MATERIALS: N/A

TOOLS AND TEST EQUIPMENT REQUIRED: N/A

DOCUMENTS AFFECTED: This note supersedes ASOS Maintenance Note 18 dated April 1995.

PROCEDURE: N/A

TECHNICAL ASSISTANCE: For questions or problems pertaining to this note, contact W/OPS12 at 301-713-1835.

REPORTING INSTRUCTIONS: N/A

Mark S. Paese

Director, Operations Division

Attachment A – List of ASOS Spares Kits

Attachment B – Sample EMRS Report

ATTACHMENT A - List of ASOS Spares Kits

PRIMARY - ASN	DESCRIPTION	QTY
K220-1A5(S100-2MT1A5)	Light Monitor	1
K220-1A6(S100-2MT1A6)	Receiver	1
K220-1A7(S100-2MT1A7)	Transmitter	1
K220-1B1(S100-2MT1B1)	Window Conditioner	1
K220-1TE2(S100-TE1TE2)	CTX-16 Optical COUP/FIX	1
S100-10-2	Modem,V.3225 Stand Alone	1
S100-1A10	Transmitter, GTA Radio	1
S100-1A2A1-2	ACU Processor Board (Standard)	1
S100-11DS22-1	OID, Terminal Emulator (Thin Client)	1
S100-11DS-PS2K	Keyboard, OID, Thin Client	1
S100-11DS-V1	Monitor, OID/VDU	1
S100-1A2A13-1	Board, A/D	1
S100-1A2A14	Board, VME Resistor	1
S100-1A2A15-1	Board, Digital I/O	1
S100-1A2A16	Video Cont BD.	1
S100-1A2A20	Processor, Voice VDS	1
S100-1A2A5	Board, Serial I/O RS422	1
S100-1A2A6-1	Board, Serial I/O, RS232	1
S100-1A3A1	Modem Model 2440 Rack	1
S100-1A3A1-2	Modem.V.3225 Rack	1
S100-1A3PS1	Power Supply ACU Rack	1
S100-1A3XA1	Adapter, Modem	1
S100-1A4A1	Panel, PCB Status	1
S100-1A4A2-1	RS232 INTFC Board	1
S100-1A4A3	INV 1.5KVA PCB Filter	1
S100-1A4A4	PCB-INV 1.5KVA Board	1
S100-1A4F1	Fuse, UPS	1
S100-1A5PS1	Power Supply	1
S100-1A6A1	Sensor, Setra	1
S100-1A6A4-3	Modem 410.075 Motorola	2
S100-1A6S1	RF Switch	1
S100-1A7A12-1	Terminal Block	1
S100-1A7A12-20	Ground Terminal Block	1
S100-1A9A1-1	Adapter, RJ-11/RS232	1
S100-1A9A5	Surge Protector, Video	1
S100-1A9J1	Connector, EMI Surge	1

PRIMARY - ASN	DESCRIPTION	QTY
S100-1A9J22	Adapter, EMI Surge	1
S100-1A9J39	Surge Detector, RF	1
S100-1A9J40	Filter, UPS Output	1
S100-1A9J41	Filter, AC Line	1
S100-1FL1	Filter Air, ACU	1
S100-1W72	Cable, TELCO	1
S100-2A1A2A1	CPU Board, DCP	1
S100-2A1A2A10	Board, VME Resistor	1
S100-2A1A2A3	Board, Memory XVME-1	1
S100-2A1A3A2	Power CNTRL MDL (Ceilometer)	1
S100-2A1A3A3-1	Power CNTRL MDL (FZR)	1
S100-2A1A3A4	Power CNTRL MDL (LEDWI)	1
S100-2A1A3A5	Power CNTRL MDL (TS)	1
S100-2A1A3A5-1	Power CNTRL MDL (AWPAG)	1
S100-2A1A3A6	Power CNTRL MDL (WS\WD)	1
S100-2A1A3A7	Power CNTRL MDL (Temp/DP)	1
S100-2A1A3A8	Power CNTRL MDL (VIS)	1
S100-2A1A3A16	Power CNTRL MDL (DTS1)	1
S100-2A1B1	Fan	1
S100-2A1HR1	Heater Element	1
S100-2A1K1	Relay, Solid State	1
S100-2A1S1	Thermostat 60/40	1
S100-2A1S2	Thermostat 70/50	1
S100-2A1S3	Thermostat 80/60	1
S100-2A3A1-1	Modem, Fiber Optic	1
S100-2A3A17-10	Block, Power Distribution	1
S100-2A3W42	Cable, DCP RF SW Antenna	1
S100-2A4A1-1	Terminal Block Fuse	1
S100-2A4A1MP3	Fuse Plug	1
S100-2A4CR1	Diode	1
S100-2A4CR3	Semiconductor	1
S100-2A4PS1	Power Supply +5 V	1
S100-2A4PS3	Power Supply +12v	1
S100-2A5S1W13	Cable, DCP RF SW Out	1
S100-2A5A1W3	Cable, DCP RF SW Modem1	1
S100-2A5A2W4	Cable, DCP RF SW Modem2	1
S100-2A6S1	Switch, Photo Control	1
S100-2A8MT1A1A2-1	Processor Controller Card Version 4.0	1

PRIMARY - ASN	DESCRIPTION	QTY
S100-2A8MT1A2A1-1	Wind Speed Transmitter (Mod2)	1
S100-2A8MT1A2A2	Cup, Assembly Small Skirt	1
S100-2A8MT1A2A2-1	Cup, Assembly Large Skirt	1
S100-2A8MT1A3A1-1	Wind Direction Transmitter (Mod2)	1
S100-2A8MT1A3A2	Vane, Assembly Small Skirt	1
S100-2A8MT1A3A2-1	Vane, Assembly Large Skirt	1
S100-2A8MT3A1-F1	Fuse, 2amp (S200-1A1Z3200F5)	1
S100-2A8MT3A1-F2	Fuse, Slow-Blow, 1/4 Amp (017-F-5-8)	1
S100-2A8MT3A2	IFW Sensor, Model 425NWS	1
S100-2MT1A1	Data Processor, Firmware 2.46	1
S100-2MT1PS1	Power Supply, ASOS LBC	1
S100-2MT2A1A1A1	Card, Transmitter	1
S100-2MT2A1A1A3	Card, Microprocessor, Firm 3.49	1
S100-2MT2A1A1A6	Card, Signal Processor II	1
S100-2MT2A1A1A7	Card, Signal Processor I	1
S100-2MT2A1A1A8	Card, Receiver AGC	1
S100-2MT2A2	Cross-Arm Assembly, LEDWI	1
S100-2MT4A2A3	Power Supply 5 volt DC	1
S100-2MT4A2A4	Power Supply 1063-203	1
S100-2MT2A1PS1	Power Supply Hood Heater	1
S100-2MT2A1PS2	Analog Power Supply	1
S100-2MT2A1PS3	TX/DIGIT/LE	1
S100-2MT2MS1	Insecta Paint	1
S100-2MT4-3A1A1	Probe/DTT1 Transmitter Assembly	1
S100-2MT4-3A1F1	Fuse DTS1, 2amp (5 X 20 mm)	1
S100-2MT4-3A1FL1	Probe Filter	1
S100-2MT4-3A1PS1	Power Supply, DTS1	1
S100-2MT4-3A1A2	Thermostat, OTP	1
S100-2MT4-3A1HR1	Enclosure Heater	1
S100-2MT4-3A1K1	Heater Relay	1
S100-2MT4-3A1R1	HP Resistor	1
S100-2MT4-3A1S1	Power Switch	1
S100-2MT4A1A1-1	Dewpoint Sensor	1
S100-2MT4A2A1-1	Transmit Logic, ASOS 1088	1
S100-2MT4A2A1-2	Transmit Logic, ASOS R1063-204	1
S100-2MT5A1A1	Processor Controller Card Version 040	1
S100-2MT5A2A3	Optical Transmitter	1
S100-2MT5A2A4	Optical Detector (Receiver)	1

PRIMARY - ASN	DESCRIPTION	QTY
S100-2MT5A5	Sensor, Day/Night	1
S100-2MT6-3A1A3A2	Ring Heater Controller Board	1
S100-2MT6-3A1A3HR1	Logosense Internal Heater	1
S100-2MT6-3A1A3RT1	Ambient Temperature Sensor	1
S100-2MT6-3A1A3S1	Sensor Pipe-house Switch	1
S100-2MT6-3A2PS1	DC Power Supply	1
S100-2MT6A2A2A1	Fiberoptic Transmitter	2
S100-5	Handset, FAA	1
S100-TE163	Manual Pump Assembly Kit	1
S100-TE165	Volumetric Flask	1
S100-TE169	Antifreeze Test Strips	1
S100-TE300	RS232-Test Box	1
S100-TE301	Gauge, Torque	1
S100-TE303	Compass, Magnetic	1
S100-TE304	Beaker, 800 ML Capacity	1
S100-TE305	Visibility Calibration Kit	1
S100-TE307	Cable, Nulling	1
S100-TE308	LEDWI Calibration Kit	1
S100-TE309	Cable, Interface	1
S100-TE315	Psychrometer, Aspirated	1
S100-TE316	Solar Noon Align Kit	1
S100-TE320	Wattmeter, RF	1
S100-TE320-3	Element, 5 watt, T520-17	1
S100-TE321	Wind Speed Test Cable	1

WFO	Station ID	Open Date	Close Date	AOMC Trouble Ticket	Response Priority	EMRS DOCUMENT #	Equipment Code
LKN	ELY	12/27/2018 12:22	1/22/2019 7:49	812270418	1	AOMC812270418	ACOMM
LKN	ELY	1/7/2019 13:02	1/7/2019 13:39	901070266	3	AOMC901070266	ADCP
LKN	ELY	1/17/2019 15:02	1/18/2019 15:23	901170340	1	AOMC901170340	ADTS
LKN	ELY	1/20/2019 21:58	1/22/2019 7:49	901210056	1	AOMC901210056	AACU
LKN	ELY	2/5/2019 16:42	2/27/2019 14:10	902060013	1	AOMC902060013	AVIS
LKN	ELY	2/23/2019 14:04	2/25/2019 13:51	902230299	1	AOMC902230299	AIFWS
LKN	ELY	3/2/2019 14:52	3/5/2019 4:45	903020257	1	AOMC903020257	AVIS
LKN	ELY	3/5/2019 4:58	3/14/2019 19:15	903050158	1	AOMC903050158	AVIS
LKN	ELY	3/26/2019 5:02	3/26/2019 7:22	903260158	3	AOMC903260158	AWPAG
LKN	ELY	3/26/2019 8:00	3/26/2019 18:30	903260308	4	PMI19033100018	ASOSP
LKN	ELY	3/27/2019 21:02	3/28/2019 6:43	903280075	3	AOMC903280075	AWPAG
LKN	ELY	3/30/2019 15:02	4/1/2019 7:49	903300251	3	AOMC903300251	AWPAG
LKN	ELY	4/14/2019 6:02	4/15/2019 8:59	904140175	4	AOMC904140175	ADCP

Serial Number	Maintenance Hours	Type Main
001	0.17	Corrective
000398	0.25	Corrective
X4740009	0.17	Corrective
000430	0.17	Corrective
A0433	16.00	Corrective
A0192	0.25	Corrective
A0433	0.25	Corrective
A0433	17.00	Corrective
153	0.25	Corrective
001	21.00	Quarterly P
153	0.25	Corrective
153	0.17	Corrective
000398	0.25	Corrective

Maintenance Description
AOMC found multiple missing observations. AOMC called and spoke with NEMC () who advise there is a major telecommunication outage affecting 1,500
Opened ticket. AOMC dialed into the site and found 1 +12 Supply #2 Volts error on DCP#1 PWR. WFO (LKN) contacted.
Opened ticket. AOMC dialed into the site and found 1 sensor status failure, 1 dewpoint xmtr status failure, 2 dew quality failures on DTS1 Sensor . POC ()
Opened ticket. AOMC dialed into the site and found multiple errors on CL31 and Freezing rain caused by ACU Warm Start. WFO LKN (Elko, NV) POC was not
opened ticket. NEMC () reporting VIS and WIND are unreliable. WFO () contacted.
Open / Close Ticket, AOMC dialed into the site and found no errors or problems with the wind sensor @ 2237Z 02/04/19 .
Opened ticket. AOMC dialed into the site and found multiple errors on VIS#1.WFO LKN (Elko, NV)POC () notified.
Opened Ticket. AOMC dialed into the site and found 1 Sensor Status failure, 1 Vis Quality failure, 1 Photo Quality failure on Visibility #1. POC () notified.
Opened ticket. AOMC dialed into the site and found 1 sensor response error on AWPAG.WFO LKN (Elko, NV)POC was notified via email.
ASOS: Quarterly PMI: 1-001
Opened ticket. AOMC dialed into the site and found 1 sensor response error on AWPAG.WFO LKN (Elko, NV)POC was notified via email.
Open Ticket, AOMC remotely dialed into site and found that DCP#1, for the AWPAG had error flag on Sensor Response.Notified POC (via email per new di
Opened Ticket. AOMC dialed into the site and found 1 ON AC LINE error, 1 Battery Status error, 1 Temperature error on DCP#1 UPS#1. POC notified via em

ELTEC Comments
close this ticket. Cleared remotely [REDACTED] 1532Z
JB, RC 1 DCP 12V error. 2138z
[NCO-MCL] @(1829)z ([REDACTED]) reported the following via email: Please close ticket # 901170340 1 METAR: Station:KELY - Missin
close this ticket. Cleared remotely SJL, 1532Z
WFO: LKN , [REDACTED] 2153Z, Technicians visited the site and repaired the visibility sensor. Replaced Optical Transmitter and calibrated sensor.
Closed ticket. Tech ([REDACTED]) r/c errors on WIND Sensor on 02/25/2019 @ 21:16z
@1237Z received an email from NSB ([REDACTED]) stating:Alert received during maintenance window from 03/05/2019 3:29 - 03/05/2019 3:40am. Site ha
Closed ticket. Tech ([REDACTED]) removed and replaced the processor card in VISIBILITY Sensor on 03/14/2019 @ 2200
Closed E-Ticket. Tech ([REDACTED]) Please close ticket number 903260158 KELY ASOS, [REDACTED] 1515Z, Cleared remotely.
Completed 90 day PM with the exception of the viz sensor. Unable to calibrate visibility sensor due to wind speed in excess of ten knots. Will complete visib
Closed E-Ticket. Tech ([REDACTED]) r/c errors on AWPAG.
Problem = - AWPAG.Action Taken = Cleared remotely.Date = 04/01/2019Time = 1540zPriority = 3Initials = [REDACTED]
At 1530Z, the AOMC received an email from tech [REDACTED] requesting the ticket at KELY be closed. At 1526Z, the tech [REDACTED] cleared the error. AOMC/[REDACTED]

Fully Op Hrs	Partly Op Logistics Hrs	Partly Op Other Hrs	Not Op Logistics Hrs	Not Op Other Hrs	Restore Time (days)	USOS Outage Doc #
619:27					25.81	
0:37					0.03	
24:21					1.01	
33:51					1.41	
			520:28	5:00	21.89	
47:47					1.99	
61:53					2.58	
			222:00	8:17	9.60	
2:20					0.10	
ility sensor on subsequent visit.					0.44	
9:41					0.40	
40:47					1.70	
26:57					1.12	



National Weather Service Engineering
Handbook Number 4 (EHB-4)
**Engineering Management
Reporting System**

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Weather Service
Office of Systems Operations


Al Wissman (Acting)
Director, Operations Division

5/14/09
Date

Maintenance Data Documentation

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1 Introduction. This handbook describes the Engineering Management Reporting System (EMRS) and the procedures necessary for collecting data used to assess the reliability and maintainability (R&M) of weather surveillance systems, facilities and infrastructure. These systems and facilities are operated, owned and/or maintained by the National Weather Service (NWS). The data collected by EMRS is vital to achieving maximum responsiveness to NWS missions.

The EMRS is the primary field level maintenance data collection, analysis and maintenance workflow management tool used by the NWS. EMRS data allows the NWS to:

1. Determine equipment R&M.
2. Anticipate equipment and facilities maintenance requirements.
3. Measure the effectiveness of equipment and facilities upgrades and modifications.
4. Provide configuration data for specific equipment and facilities.
5. Provide evidence of equipment operational status for use in legal matters.
6. Monitor engineering resources expended on designated equipment and facilities.
7. Provide program performance data.
8. Manage maintenance workflow at the weather forecast and field office
9. Assess equipment and facilities maintenance requirements, and assist in planning for future staffing levels.

1.1 EMRS Data. The systems and facilities tracked in EMRS vary in nature. Systems such as the Weather Surveillance Radar are large, stationary, and composed of many subsystems and communication links. Other systems tracked in EMRS are small and portable. Some systems are located at remote locations, such as on mountaintops or on offshore oil platforms. Other systems are located at the WFO/Office. Facilities tracked by EMRS also vary in size, complexity and location. Complex facilities such as the Weather Forecast Office include the physical building, Heating/Ventilation/Air Conditioning (HVAC), electrical, emergency power and plumbing systems. Other less complex facilities are co-located with remote weather surveillance systems. These facilities may only include the physical building and electrical power.

There are three general classes of data in EMRS.

1. Equipment and facilities inventory.
2. Equipment, facilities and infrastructure maintenance data.
3. Equipment maintenance activity information.

Data collected, via EMRS, is used to conduct periodic and ad hoc maintenance data analyses. NWS Program Managers, Regional Officials, field offices, other agencies and the private sector conduct these analyses. Typical analytical studies include equipment reliability, maintainability and operational availability. Equipment maintainability analyses are the primary method for assessing maintenance requirements, and planning for future electronics staffing levels.

The information entered into EMRS is accessible four different ways.

- (1) EMRS Data Entry System.
- (2) EMRS Web page at http://ops13web.nws.noaa.gov/pls/emrsuser/emrs_main.home
- (3) End-User ad hoc query and analysis tools.
- (4) Standardized or ad hoc reports.

2 Point of Contact. Contact the NWS, Operations Division, Configuration Branch, (W/OPS13) at (301) 713-1892, for information or assistance regarding EMRS.

3 General Instructions. The EMRS Data Entry System is a web based data collection and maintenance workflow management tool. The system requires Internet connectivity and a web browser to transmit and receive data from a centralized database located at the WSH, in Silver Spring, MD. The EMRS combines multiple phases of maintenance data collection, report generation, and maintenance workflow management into a single Enterprise Web Portal.

3.1 Accessing the EMRS. The EMRS is for official NWS use only. A valid username and password is required to access the system. Contact NWS, Operations Division, Configuration Branch (W/OPS13), at (301) 713-1892, for information or assistance regarding access to EMRS.

3.2 Maintenance Record, A-26. The Maintenance Record, or A-26, is used to report maintenance activity on all equipment, facilities and infrastructure designated by the Director of the Office of Operational Systems. Reportable maintenance activities include equipment outages, routine maintenance, maintenance related system administration, activations, deactivations, and engineering modification implementation. See Appendix C for a listing of designated equipment and facilities.

3.3 Maintenance Data Reporting. Initiate an A-26 when a maintenance event occurs. A maintenance event is defined as any routine or non-routine maintenance activity associated with preventive maintenance, equipment failure, activation, deactivation, modification, or when special sampling is conducted. If more than one maintenance event is associated with a system or facility, an A-26 for each maintenance event is required. For example, if an Electronics Technician (ET) investigates a failure of a Radar Data Acquisition (RDA) equipment group, and a second ET investigates another non-related failure within the same RDA, each of these non-related maintenance events require a separate A-26.

Enter all information regarding the maintenance event. Incomplete data may lead to confusion about the maintenance performed or the outage that occurred. Use the EMRS Data Entry System to request maintenance, manage maintenance workflow and to document completed maintenance activity. If there is no access to the data entry system, employees will follow locally established procedures to ensure proper notification of maintenance requests and documentation of maintenance activities.

NOTE: NWS Field Staff performing, documenting, or assisting with maintenance on contract maintained equipment must report the maintenance activity they accomplish. This includes contract maintenance, coordination, and oversight.

3.3.1 Reportable Maintenance Events. There are five types of reportable maintenance events:

1. Corrective Maintenance - The remedial action to correct failures and restore equipment or facility operation to prescribed capabilities and tolerances. This includes unplanned and non-periodic repairs, as well as systems administration performed as a result of evidence indicating a failure has occurred or is imminent.
2. Equipment Management - The accomplishment of equipment or facilities activation, deactivation, relocation, and other similar activity.
3. Modification - The authorized hardware and/or software configuration changes required to improve/extend equipment or facility operations/life or to satisfy new requirements.
4. Special Activity - The authorized short-term or limited collection of data (special sampling), equipment installation, equipment relocation, equipment modification system test and other similar activity for a specific purpose.
5. Preventive/Routine Maintenance - Maintenance actions performed on equipment or facilities to ensure continued operation within the prescribed capabilities or to minimize failure probability. Routine maintenance includes scheduled, planned or periodic preventive maintenance actions.

3.3.2 When to Open or Submit an A-26. NWS Field Staff must open or submit an A-26 when:

1. Equipment, facility or infrastructure failure occurs.
2. Equipment or facility undergoes routine maintenance.
3. Equipment or facility is relocated.
4. Equipment or facility is activated, deactivated or modified.
5. Special activity or sampling occurs.
6. Maintenance related system administration is accomplished.

3.3.3 When to Commit an A-26. The A-26 is committed when all activities associated with the maintenance event are concluded. The EMRS Data Entry System will not permit a maintenance record to be committed unless all mandatory data fields are entered and the data meets validation requirements for consistency and logic. If data types and logic do not match, (e.g., the Close Date is later than the Current Date) a warning will be displayed on the computer screen. When data validation is complete and correct, the A-26 may be committed to the EMRS database.

NWS Field Staff should commit an A-26 when:

1. An outage is cleared and the system or facility is returned to service.
2. An activation, deactivation, modification or relocation is completed.
3. Regularly scheduled maintenance is completed.
4. Other maintenance activities are completed.

3.4 Disposition of A-26s. Once an A-26 has been committed to the EMRS database, there is no requirement to retain or forward hard copies to WSH.

3.5 Maintenance Data Quality Control. Automated and manual processes provide quality control of EMRS data. Equipment performance measurements and maintenance data trends are

computed and analyzed. Staff-hour information accumulates, and is monitored to assess Maintenance Staff requirements. Failure rates and trends are monitored. Configuration management data is loaded and reviewed. Maintenance goals, processes and directives are then modified to achieve maximum responsiveness to the missions of the NWS. All operating units review and monitor EMRS data to provide additional measures of quality control.

4 Maintenance Data Reporting Requirements. The EMRS Data Entry System is the primary field level maintenance data collection and workflow management tool used by the NWS. Use the EMRS Data Entry System to:

1. Request maintenance activity on failed equipment and facilities.
2. Acknowledge maintenance request and document activities required to return failed equipment and facilities to service.
3. Report equipment outages, maintenance actions, activations, deactivations and engineering modifications on all equipment designated by the Director of the Office of Operational Systems. See Appendix C for a listing of designated equipment and facilities.
4. Monitor and review reported maintenance activity on systems under your maintenance responsibility.
5. Manage the maintenance workflow at your WFO/Office
6. Collect data associated with a short-term, special test or project.

There are ten sequential steps that describe the EMRS maintenance data collection and workflow management process.

- (1) Submit - Maintenance or operational personnel “Submit” an A-26 to request maintenance.
- (2) Open - Maintenance personnel access the EMRS Data Entry System and “Open” an A-26. “Open” refers to the process of reviewing an existing A-26 or initiating a new A-26 to document maintenance activity in the EMRS Data Entry System.
- (3) Forward - Maintenance managers forward a “Submitted” A-26 to a responsible authority to request action. The “Submitted” A-26 then becomes a record “Pending” action by the responsible authority. “Forward” refers to the process of requesting action from a responsible authority and placing an A-26 in a “Pending” status.
- (4) Place on Hold - If the maintenance event is not completed, the A-26 is placed “On Hold”. “Place on Hold” refers to the process of placing an incomplete maintenance action on hold, awaiting action.
- (5) Defer - Maintenance managers “Defer” A-26 activities that cannot be completed or will not be initiated. “Defer” refers to the process of placing an activity in long-term hold status or placing it on hold indefinitely.
- (6) Assign - Maintenance managers can assign “Submitted”, “Open”, “Pending”, “On Hold” or “Deferred” A-26 activities to their subordinate

staff. Assign refers to the process of designating an individual (or maintenance contractor) as being responsible for completing a maintenance activity.

- (7) In-Progress - Maintenance managers can notify the WFO/Office staff of maintenance activities that are currently “In-Progress”. “In-Progress” notification refers to the process of sending notification to interested individuals about current or unfinished activities.
- (8) Retrieve - The “Submitted”, “Forward/Pending”, “On Hold”, “In-Progress”, and “Deferred” maintenance records can be “Retrieved” at any time to update information. “Retrieve” refers to the process of retrieving an A-26 to continue or complete the maintenance documentation or manage workflow.
- (9) Reject - A “Submitted”, “Forward/Pending”, “Hold”, “In-Progress”, and “Deferred” maintenance record can be “Rejected” at any time. When maintenance records are “Rejected” the MIC/HIC/OIC is automatically notified. “Reject” refers to the process of stopping all activity associated with a maintenance request or maintenance event.
- (10) Commit - When the maintenance event is completed, the A-26 can be “Committed”. Commit refers to the process of validating a completed record and marking it complete and final. “Committed” maintenance records can only be edited by contacting WSH.

4.1 Maintenance Record Description. A number, letter or acronym identifies each block on the A-26. Completion of some blocks is mandatory, while data entry in other blocks provides additional information about the maintenance activity and is not mandatory.

4.1.1 General Information. The General Information section of the A-26 provides space for documenting maintenance event dates, maintenance requester’s initials, response priority and a description of the event.

1. WFO (Weather Forecast Office) - The WFO/Office station identifier is the three to five character site identifier of the office documenting the maintenance activity. This identifier is assigned and managed by the National Weather Service Location Identifier (NWSLI) system.
2. Document Number - This unique number is generated automatically and identifies the maintenance event in EMRS. It is also used to link EMRS data to information documented in other maintenance data collection systems for a particular maintenance event.
3. Open Date - The open date is the date the maintenance event began or when the equipment malfunction was first noticed, in the mm/dd/yyyy format. This is the date when the corrective or preventive maintenance started, equipment activation/deactivation began or an equipment modification began.
4. Open Time - The open time is the time when the malfunction was first noticed or the time maintenance began, in the format hh:mm. Use local time and a 24-hour time convention (for example: 3:15 pm is entered as 15:15).

5. Op Initials - The operator (Op) initials are the initials of the WFO/Office operations person submitting the maintenance request or WFO/Office person opening the maintenance record.
6. Response Priority - The response priority is based on local WFO/Office equipment and facility restoration priority.
 - (1) Immediate Priority - If the equipment or facility restoration justifies interrupting any other maintenance work-in-progress.
 - (2) Routine Priority - For next working day service.
 - (3) Low Priority - For service as time permits.
 - (4) Not applicable - For maintenance events not having restoration priorities. Assign this priority to routine maintenance, activation, deactivation, scheduled modifications or relocation activities.
7. Close Date - The close date is the date the maintenance event was completed, or when the system or facility was returned to service, in the mm/dd/yyyy date format.
8. Close Time - The close time is the time the maintenance event was completed, or the time the system or facility was returned to service, in the hh:mm format. Use the local time and a 24-hour convention.
9. Maintenance Description - The maintenance description identifies the malfunctioning system or facility and the maintenance to be performed. It describes the symptoms observed. It also includes relevant information, such as the name of the equipment, location, and conditions or actions preceding the malfunction.

4.1.2 Equipment Information. The equipment information section provides space for identifying the system or facility that is subject to the maintenance event. It describes the maintenance type, action taken and how the equipment failed. This section also provides space to describe the operational status of the equipment during the maintenance event. Standard codes are used to simplify data entry and enhance data analysis. Standard codes describe:

1. Station Identifier (SID) - The SID is the three or five character identifier that describes the physical location of the system or facility. This site identifier is assigned by the National Weather Service Location Identifier (NWSLI) system.
2. Equipment Code - The equipment code identifies the specific type of equipment that is being maintained, activated, deactivated, or modified. (See Appendix C for a complete list of all Equipment Codes).
3. Type of Maintenance (TM) - The TM code describes the type of maintenance performed. The TM codes are the main determinant of the method for completing the A-26. It is essential to select the proper TM code when documenting maintenance activities. (See Appendix B for a complete list of all TM Codes).
4. Action Taken (AT) - AT code describes the action taken to fix the problem. AT codes simplify data entry and increase the amount of EMRS information available to the analysts. (See Appendix B for a complete list of all AT Codes).

5. How Mal (How Malfunction) - The How Mal code describes the reason for the maintenance event; the type of malfunction that occurred. (See Appendix B for a complete list of all How Mal Codes).

NOTE: The A-26 is dynamic. Depending on the maintenance event, once the Equipment Code is entered, additional sections requiring data entry may appear on the form.

4.1.3 Equipment Operational Status Times. The Equipment Operational Status Times describe the operational status of the equipment or system identified in the Equipment Information Section during the maintenance event. Operational status hours are grouped into two categories, “Logistics” and “All Other”.

1. Fully Operational - Equipment is “Fully Operational” when it is operating with no loss of output of intended products or functions.
2. Partially Operational - Equipment is “Partially Operational” when it is operating in an impaired, degraded or reduced mode; but is still able to perform or produce at least one of its primary functions.
 - (1) Logistics Delay - This is the duration of time the system or equipment was partly operational due to a logistics delay.
 - (2) All Other - This is the duration of time the system or equipment was partly operational due to other reasons.

Not Operational - Equipment is “Not Operational” when it is not functioning. There is a loss of all primary products, or the equipment cannot perform any of its primary functions.

- (1) Logistics Delay - This is the duration of time the system or equipment was not operational due to a logistics delay.
- (2) All Other - This is the duration of time the system or equipment was not operational due to other reasons.

4.1.4 Parts Usage and Configuration Management Reporting. The Parts Usage and Configuration Management Reporting section provides space for documenting parts failure and replacement data. For each part that fails and is replaced, the Agency Stock Number (ASN) and Serial Number (SN) of the failed part are documented in this section. In addition to the failed part information Vendor Part Number (VPN) and Serial Number of the replacement part can also be documented.

NOTE: Not all systems or equipment have configuration management requirements. The Director of the Office of Operational Systems will designate systems or equipment subject to configuration management. Data input in the Configuration Management Reporting section is only required when directed by WSH.

4.1.5 Work Load Information. The workload information section provides space for documenting maintenance activity hours. There are five categories of staff hours that describe the time spent on the maintenance activity. They are:

Routine - Routine time is the time spent performing routine scheduled maintenance.

Non-Routine - Non-Routine time is the time spent performing unscheduled/corrective maintenance.

Travel - Travel time is the total time spent traveling.

Miscellaneous - Miscellaneous time is the total time spent working on equipment that is not included under Routine, Non-Routine, or Travel categories.

NOTE: Time spent implementing authorized engineering modifications is documented as miscellaneous time.

Overtime - Overtime is the number of hours spent making repairs (non-routine), traveling, performing scheduled maintenance (routine) or miscellaneous activities that occur while the staff person is in overtime status.

NOTE: Overtime is a subset of the staff-hour categories 1-4 described above. Overtime can never be the only category listed on a completed A-26.

4.1.6 Miscellaneous and Special Purpose Reporting Information. The Miscellaneous Information and Special Purpose Reporting Information section provides space for documenting additional information that may be required to fully describe the maintenance event. These two sections provide space for maintenance comments, initials of the person completing the maintenance, engineering modification identification, and implementation dates. There are also blocks for indicating when the system or facility was activated or deactivated. This section is also used for special reporting as directed by WSH.

NOTE: When applicable, Special Purpose Reporting Information section is also used to document the unique trouble ticket numbers used by operational support facilities, maintenance contractors, or other agencies. There is also space to document the Unscheduled Outage Reporting System (USOS) document number.

4.1.7 Work Order Information. The work order information block provides space for the maintenance manager or contract maintenance point of contact (CMPOC) to document who accomplished the work. There are also blocks for viewing the original estimated cost, the required completion date, and other contractor maintenance information. This block is typically used for documenting activities associated with facilities maintenance or work accomplished by a maintenance contractor.

4.2 Data Validation Conventions. The EMRS Data Entry System compares A-26 information fields for consistency and logic. AT codes are compared to TM codes to ensure compatibility of data. See Appendix B for a complete list of data validation conventions.

4.3 Deletion of an A-26. Contact WSH, W/OPS13 at (301) 713-1892, to delete a “Committed” A-26. The Field Staff may delete A-26s that have not been committed.

4.4 Block-By-Block Instructions. Instructions for completing an A-26 are presented in Table 4-1. Mandatory entries are marked with an asterisk (*) below the block name.

Table 4-1. Instructions for Completing an A-26.

BLOCK NAME	DESCRIPTION
General Information	Complete the General Information Section when: - An equipment failure occurs. - Equipment undergoes routine maintenance activities. - Equipment is relocated. - Special sampling occurs. - Equipment is activated, deactivated or modified. - Maintenance related system administration is accomplished.
Document Number	This unique document number is generated automatically and identifies the maintenance event in EMRS. It is also used to identify additional maintenance activities associated with this particular maintenance event.
Open Date *	Enter the date the maintenance event began or when the equipment malfunction was first noticed in the mm/dd/yyyy format. This is the date when the corrective or preventive maintenance started, equipment activation/deactivation began or an equipment modification began. The Open Date cannot be later than the current date.
Open Time *	Enter the time when the malfunction was first noticed or the time maintenance began in the hh mm format. Use local time and a 24-hour time convention. <u>Example</u> : 3:15pm is entered as 15:15.
Op Initials	Enter the initials of the person submitting the maintenance request or initiating the maintenance record.
Response Priority *	Annotate the Response Priority based on local station equipment and facility restoration priority. <u>Immediate Priority</u> - Used if the system or facilities restoration justifies interrupting any other maintenance work-in-progress. <u>Routine Priority</u> - Used for next working day service. <u>Low Priority</u> - Used for service as time permits. <u>Not Applicable</u> - Used for responses not having restoration priorities. Assign this priority to routine maintenance, activation, deactivation, scheduled modifications, or relocation of equipment or a system.
Close Date *	Enter the date the maintenance event was completed, or when the system or facility was returned to service, in the mm/dd/yyyy date format. The Close Date cannot be later than the current date.
Close Time *	Enter the time the maintenance event was completed, or the time the system or facility was returned to service in the hh:mm format. Use the local time and a 24-hour time convention.

BLOCK NAME	DESCRIPTION
Maintenance Description	Identify the malfunctioning equipment and the maintenance to be performed. Describe the symptoms observed. Include relevant information, such as the name of the equipment, location, and conditions or actions preceding the malfunction.
Equipment Information	This section refers to the equipment associated with the maintenance event. Do not confuse this section with the Parts Failure Information section. The Parts Failure Information section addresses Lowest Replaceable Unit (LRU) failures.
Station ID (SID) *	Enter the three or five character Site Identifier (SID) that describes the physical location of the system or equipment. This may be the same as or different from ESA/ET Station ID (HID). The SID will be validated against official SID data in the NWS Location Identifier (NWSLI) system. Do not use equipment identifiers in this block. <u>Example</u> : Radar, NWR, and Surface Equipment often have distinct alphanumeric identifiers used for system identification.
Equipment Code *	Enter the Equipment Code listed in Appendix C that corresponds to the equipment being maintained, activated, deactivated or modified.
Serial Number *	Enter the serial number of the equipment. Refer to the EMRS Site Equipment List for the serial number. If the Site Equipment List does not contain a serial number, see the ESA/AES for a serial number assignment.
TM *	TYPE MAINTENANCE - Enter the code that describes the maintenance performed. See Appendix B for a complete list of all TM Codes.
AT *	ACTION TAKEN - Enter the code that describes the activities needed to restore the equipment to operational status or complete the maintenance event. The action taken refers to the equipment or system described in the Equipment Information section. See Appendix B for a complete list of all AT Codes.
How Mal. *	HOW MALFUNCTION - Enter the code that describes the malfunction of the equipment described in the Equipment Information section. How Mal. codes describe the cause of the problem, malfunction, or outage that required the maintenance activity. See Appendix B for a complete list of How Mal. Codes.
Equipment Operational Status Times	This section describes the operational status of the equipment or system identified in the Equipment Information section. The status times reflect the length of time the equipment was in a specific operational status. Operational status hours are grouped into two categories – “Logistics Delay” and “All Other”. An operational status of “Logistics Delay” shows the time spent waiting for parts or other logistics activities. Record all time not associated with a logistics delay in the “All Other” category. The “All Other” category includes delay time when the ET is not on duty. It also includes delay time due to weather, travel conditions, or when staff has been assigned to a higher priority maintenance activity. The Maintenance Personnel determines the operational status of the equipment for the duration of the maintenance event and enters the total hours in the appropriate category. The total time elapsed between the Open Date/Time and Close Date/Time, MUST EQUAL

BLOCK NAME	DESCRIPTION
	the sum of the operational status times.
Fully Operational	Enter the duration of time the system or equipment was “Fully Operational” in the hhh:mm format. Equipment is “Fully Operational” when it is operating with no loss of output of intended products or functions.
Partly Operational (Logistics Delay)	<u>Logistics Delay</u> - Enter the duration of time the system or equipment was “Partly Operational” due to a logistics delay in the hhh mm format. Equipment is “Partly Operational” when it is operating in an impaired, degraded or reduced mode; but is still able to perform or produce at least one of its primary functions.
Partly Operational (All Other)	<u>All Other</u> - Enter the duration of time the system or equipment was “Partly Operational” due to reasons other than logistics delays in the hhh:mm format. Equipment is “Partly Operational” when it is operating in an impaired, degraded or reduced mode; but is still able to perform or produce at least one of its primary functions.
Not Operational (Logistics Delay)	<u>Logistics Delay</u> - Enter the duration of time the system or equipment was Not Operational due to a logistics delay in the hhh mm format. A piece of equipment is “Not Operational” when the system is not functioning. There is a loss of all primary product(s), or the equipment cannot perform its primary function.
Not Operational (All Other)	<u>All Other</u> - Enter the duration of time the system or equipment was not operational due to reasons other than logistics delay in the hhh mm format. A piece of equipment is “Not Operational” when the system is not functioning, there is a loss of all primary product(s), or the equipment cannot perform its primary function.
Parts Failure Information	This section describes the maintenance performed on failed parts, for the equipment or system described in the Equipment Information section.
ASN	Agency Stock Number refers to the LRU that is the subject of the maintenance. Enter the ASN from the Instrumental Equipment Catalog (EHB-1). Include hyphens when entering the ASN. If there is no ASN, enter the manufacturer’s part number. If there is no manufacturer’s part number, enter a description of the part. Enter “None” if a description is not available.
Vendor Part Number (New Part)	Vendor Part Number refers to the replacement LRU. Enter the uniquely identifying vendor part number assigned by the vendor or manufacturer. If there is no Vendor Part Number, enter a description of the part. Enter “None” if a description is not available.
Serial Number (Old Part)	This Serial Number refers to the LRU being replaced. Enter the uniquely identifying serial number assigned by the vendor or manufacturer. Enter “None” if a serial number is not available.

BLOCK NAME	DESCRIPTION
Serial Number (New Part)	This Serial Number refers to the replacement LRU. Enter the uniquely identifying serial number assigned by the vendor or manufacturer. Enter "None" if a serial number is not available.
Work Load Information	This section identifies the staff hours required to complete the maintenance event. Enter time in the hhh mm format. Staff hours are divided into five categories. a. Routine. b. Non-routine. c. Travel. d. Miscellaneous. e. Overtime.
Routine	Enter the total time spent performing routine scheduled maintenance in the hhh:mm format. Report time spent on routine monitoring of remote systems, (e.g., ASOS), as routine hours. This does not include the re-setting of maintenance flags. Include the total time spent performing the maintenance, even if a portion of the time was overtime. Report any overtime in the Overtime category.
Non-Routine	Enter the time spent performing unscheduled/corrective maintenance to restore equipment in the hhh:mm format. Report corrective maintenance of remote systems by electronic communications in this category. This includes the re-setting of maintenance flags (e.g., ASOS). Include the total time spent performing maintenance, even though a portion of the time was overtime. Report any overtime in the Overtime category.
Travel	Enter total travel time in the hhh:mm format. Include the total time spent traveling, even though a portion of the time was overtime. Report any overtime in the Overtime category.
Miscellaneous	Enter total time spent working on equipment not included under Routine, Non-Routine, or Travel categories. Report the implementation of authorized engineering modifications in this category. Include the total time spent performing maintenance, even though a portion of the time was overtime. Report any overtime in the Overtime category.
Overtime	Enter the number of overtime hours spent making repairs (non-routine), traveling, performing scheduled maintenance (routine) or miscellaneous activities. Overtime cannot be the only entry in the Work Load Information section. The total number of hours in the Routine, Non-Routine, and Travel categories MUST BE GREATER THAN OR EQUAL to the number of overtime hours reported.
Miscellaneous	Miscellaneous Information

BLOCK NAME	DESCRIPTION
Information	
Maintenance Comments	Enter information that describes the maintenance event, parts ordered, notes or other information that supports the activity. A comment is required if there is difficulty (excessive delay, unexpected severe weather, etc.) or other events that occurred during the maintenance event.
Initials *	Enter the initials of the person completing the maintenance event.
Special Purpose Reporting	The information in this section includes engineering modification/activations/deactivation dates, WSH directed reporting data and trouble ticket numbers. WSH directed reporting requirements are issued, when needed, by the Engineering Division for special equipment maintenance related studies. Enter this information as required when directed by WSH.
Mod. No.	<u>Modification Number</u> - Enter the assigned hardware or software Modification Note, Maintenance Note, or Request for Change (RC) number as directed by WSH or Regional Headquarters. If a Modification Number has not been assigned, enter the word "NONE". An entry is required if an Action Taken (AT) code of "M" (Modification) is used.
Mod./Act./Deact. Date	<u>Modification/Activation/Deactivation Date</u> - Enter the date the modification/activation/deactivation was completed in the mm/dd/yyyy format. An entry is required if an Action Taken (AT) code of "M" (Modification), "A" (Activate), or "B" (Deactivate) is used.
USOS Document Number	<u>USOS Document Number</u> – The Unscheduled Outage System (USOS) Document Number is a unique number generated by USOS and identifies a particular outage event documented in USOS. Enter the USOS Document Number when the maintenance event being documented in EMRS is subject to USOS reporting.
Trouble Ticket Number	<u>Trouble Ticket Number</u> – The Trouble Ticket Number is a unique number generated by an operational support facility (i.e. ROC, AOMC, NCF) or maintenance contractor that identifies a particular maintenance event. Enter the Trouble Ticket Number when the maintenance event being documented in EMRS is subject to reporting by an operational support facility or maintenance contractor.
Block C and Block F	Enter data in these fields as directed by the Engineering Division.
Work Order Information	The information in this section includes who accomplished the work. There are blocks for viewing the original estimated bid/cost, the required completion date, and the Contractor's maintenance time.
Work Accomplished by	<u>Work Accomplished By</u> – Select the position description of the person or group primarily responsible for completing the maintenance task.
Estimated Cost or Bid	<u>Estimated Cost or Bid</u> – Enter, review or update the estimated cost or bid submitted by the maintenance requestor.

BLOCK NAME	DESCRIPTION
	The estimated cost or bid is an estimate of the total cost to perform the requested task.
Requested Completion Date	<u>Requested Completion Date</u> – Enter, review, or update the requested completion date provided by maintenance requestor. The requested completion date is the date that all maintenance activities associated with this maintenance event must be completed.
Contractor Maintenance Time	The maintenance time worked by a Contractor on the event being documented.

5 References. The following references contain greater detail.

NWSPD 30-11, Engineering Modifications

NWSPD 30-12, Configuration and Data Management

NWSI 30-1201, Data Management

NWSI 30-1202, Engineering Drawings

NWSI 30-1203, Configuration Management for Operational Systems

NWSI 30-1204, Site Identifiers

NWSPD 30-21, System Maintenance

NWSI 30-2101, System Maintenance Management

NWSI 30-2104, Maintenance Data Documentation

NWSI 30-2106, Radar Maintenance

NWSI 30-2107, NOAA Weather Radio Maintenance

NWSI 30-2108, Surface Equipment Maintenance

NWSI 30-2110, Hydrologic Maintenance

NWSI 30-2111, ASOS Maintenance

NWSPD 30-22, Technical Orders

NWSI 30-2201, Engineering Documentation

NWSPD 30-31, Logistics Planning and Operations

NWSI 30-3101, Supply Manual and Catalog

6 EMRS Maintenance Notes. Maintenance Notes serve to establish day-to-day procedures regarding the use and operation of the EMRS by NWS employees, and to augment technical material presented in system user guides. They function as a communications device to assist WFO/Office staff in following the correct procedures established in the use of EMRS. Maintenance notes provide information generally not found in other sources and are the primary means by which WFO/Office staff is kept informed of significant changes to the EMRS software. They are issued only by the NWS Office of Operational Systems, Operations Division; the sole authorized organization for establishing and/or approving maintenance documentation policy, and are distributed to all WFO/Office staff and on a selective basis to other pre-designated organizational units having a requirement for the information.

Revisions to existing material are made to enhance maintenance documentation and to update obsolete technical information. Input for maintenance notes is derived from operational experience obtained through various reporting channels, suggestions from field staff that use the system and the experience of NWS staff engaged in managing the maintaining the EMRS at the regional and NWS Headquarters level. In essence, maintenance notes are developed from numerous inputs throughout the organization.

APPENDIX A. - ACRONYMS

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1 Acronym Descriptions

<u>Acronym</u>	<u>Description</u>
A _o	Operational Availability
AA	Assistant Administrator for Weather Services
A-26	WS Form A-26, EMRS Maintenance Record
ACN	AWIPS Communication Network
ACT	Activation(s)
AES	Area Electronics Supervisor
AOMC	ASOS Operations and Monitoring Center
ASN	Agency Stock Number
ASOS	Automated Surface Observing System
AT	Action Taken Code
AWIPS	Advanced Weather Interactive Processing System
BIT	Built-in-Test
CLS	Consolidated Logistics System
CM	Configuration Management
CMIS	Configuration Management Information System
COTS	Commercial Off-The-Shelf
CRS	Console Replacement System

<u>Acronym</u>	<u>Description</u>
DAPM	Data Acquisition Program Manager
DEACT	Deactivation(s)
ECP	Engineering Change Proposal
EHB	Engineering Handbook
EMRS	Engineering Management Reporting System
EPM	Electronics Program Manager
EQUIP	Equipment
ESA	Electronic Systems Analyst
ET	Electronics Technician
FMK	Field Modification Kit
GSA	General Services Administration
H-14	WS Form H-14, Equipment Return Tag
HIC	Hydrologist-In-Charge
HMT	Hydro-meteorological Technician
HOW MAL.	How the System Malfunctioned
ID	Identification
LRU	Lowest Replaceable Unit
MDC	Maintenance Data Collection
MIC	Meteorologist-In-Charge
MOD	Modification(s)
NCF	(AWIPS) Network Control Facility
NEXRAD	Next Generation Radar (WSR-88D)
NLSC	National Logistics Supply Center
NOAA	National Oceanic and Atmospheric Administration
NOAA Form 37-4	Stores Requisition
NRC	National Reconditioning Center

<u>Acronym</u>	<u>Description</u>
NSN	National Stock Number
NWR	NOAA Weather Radio
NWS	National Weather Service
NWSI	National Weather Service Instruction Manual
NWSLI	NWS Location Identifier
OIC	Official-In-Charge
PC	Personal Computer
QCI	Quality Control Inspection
OPS	Office of Operational Systems
OPS1	Maintenance, Logistics and Acquisition Division
OPS13	Maintenance, Logistics and Acquisition Division, Configuration Branch
R&M	Reliability and Maintainability
RC	Request for Change
RMS	Regional Maintenance Specialist
ROC	Radar Operations Center
SIB	Systems Integration Branch
SID	Station Identifier
SN	Serial Number
TELCO	Telephone Company
TIP	Technical Information Package
TM	Type Maintenance Code
URL	Uniform Resource Locator
USOS	Unscheduled Outage System
VPN	Vendor Part Number
WFO	Weather Forecast Office

<u>Acronym</u>	<u>Description</u>
WKLD	Work Load
WS Form A-26	Weather Service Form A-26
WSH	National Weather Service Headquarters, Silver Spring, Maryland
WSR-88D	Weather Surveillance Radar - 1988 Doppler

APPENDIX B. - ENGINEERING MANAGEMENT REPORTING SYSTEM (EMRS) DATA VALIDATION CONVENTIONS

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1 Engineering Management Reporting System (EMRS) Data Validation Conventions.

1.1 Type Maintenance Codes. Type Maintenance (TM) codes and Action Taken (AT) codes are compared for consistency. Valid AT codes are listed for each TM in Table B-1.

Table B-1. Valid TM Codes.

TM CODES	DEFINITION	REMARKS
C	Corrective	Maintenance action(s) to correct real or suspected equipment failure(s) occurring between regularly scheduled maintenance periods. Although some of the actions taken maybe the same as those initiated during preventive maintenance, <u>correction</u> rather than <u>prevention</u> is the reason the work was accomplished. Valid AT codes: C, D, E, F, G, J, L, N, R, S, T, U, V, W, X, Y, Z.
E	Equipment Management	Contract maintenance monitoring, activations, deactivations, relocations, or other similar activities. Valid AT codes: A, B, D, E, J, K, M, Q, R, T, U, W, X, Z.
M	Modification	Applies to all <u>authorized</u> hardware and software configuration changes to a system, equipment, or assembly. Valid AT codes: C, D, E, H, L, M, T, U, W, X, Y, Z.
S	Special Activity or Sampling	Short-term or limited collection of data for specific purposes. Valid AT codes: A, B, C, D, E, F, G, H, J, K, L, M, N, Q, R, S, T, U, V, W, X, Y, Z.
Z	System Administration Maintenance	Managing software operating systems and overseeing systems performance including managing user access and privileges, configuring devices, making backups, training users, managing system security, and installing approved operating system software changes. Valid AT codes: D, E, H, J, M, T, U, W, Y, Z.
1	As Required	Preventive/Routine maintenance performed as required. Not regularly scheduled. Valid AT Codes: C, D, E, F, G, H, J, L, R, S, T, U, V, W, X, Y, Z.

TM CODES	DEFINITION	REMARKS
2	Weekly	Regularly scheduled Preventive/Routine maintenance. Valid AT Codes: C, D, E, F, G, H, J, L, R, S, T, U, V, W, X, Y, Z.
3	Semi-Monthly	Regularly scheduled Preventive/Routine maintenance. Valid AT Codes: C, D, E, F, G, H, J, L, R, S, T, U, V, W, X, Y, Z.
4	Monthly	Regularly scheduled Preventive/Routine maintenance. Valid AT Codes: C, D, E, F, G, H, J, L, R, S, T, U, V, W, X, Y, Z.
5	60-Day	Regularly scheduled Preventive/Routine maintenance. Valid AT Codes: C, D, E, F, G, H, J, L, R, S, T, U, V, W, X, Y, Z.
6	Quarterly	Regularly scheduled Preventive/Routine maintenance. Valid AT Codes: C, D, E, F, G, H, J, L, R, S, T, U, V, W, X, Y, Z.
7	Semi-Annual	Regularly scheduled Preventive/Routine maintenance. Valid AT Codes: C, D, E, F, G, H, J, L, R, S, T, U, V, W, X, Y, Z.
8	Annual	Regularly scheduled Preventive/Routine maintenance. Valid AT Codes: C, D, E, F, G, H, J, L, R, S, T, U, V, W, X, Y, Z.
9	24 Month	Regularly scheduled Preventive/Routine maintenance. Valid AT Codes: C, D, E, F, G, H, J, L, R, S, T, U, V, W, X, Y, Z.
10	18 Month	Regularly scheduled Preventive/Routine maintenance. Valid AT Codes: C, D, E, F, G, H, J, L, R, S, T U, V, W, X, Y, Z
11	4 Month	Regularly scheduled Preventive/Routine maintenance. Valid AT Codes: C, D, E, F, G, H, J, L, R, S, T U, V, W, X, Y, Z

1.2 Hardware Action Taken Codes. Hardware Action Taken (AT) codes and Type Maintenance (TM) codes are compared for consistency. Valid TM codes are listed for each AT in Table B-2. Software AT codes are coded separately and shown in another table. See Table B-3 for Software AT codes.

Table B-2. Hardware AT Codes.

AT CODE	DEFINITION	REMARKS
A	Activate	Use this code to mark the addition of the equipment or system into EMRS. Valid for TM = E, S.
B	Deactivate	Use this code to mark the removal of equipment or systems from EMRS. Valid for TM = E, S.
C	Calibrate/ Re-calibrate/Align	Use this code when the <u>primary</u> activity was a calibration or alignment. Valid for TM = C, M, S, 1-9.
D	Run Diagnostics	Use this code to identify a hardware troubleshooting effort. Valid for TM = C, E, M, S, Z, 1-9.
E	Remote Monitoring	Use this code when maintenance is performed without visiting the site. This maintenance can be routine or non-routine. Do not use this code for remote technical support from operational support facilities. Valid for TM = C, E, M, S, Z, 1-9.
F	Repair	Use this code for repair of a larger end item without replacement of any parts or hardware, such as, tightening of loose screws or rerouting cables. Use AT = R or G, as applicable, for replaced hardware. Valid for TM = C, S, 1-9.
G	Repair/Replace Minor Parts	Use this code for repair or replacement of minor parts or hardware (piece parts). "Minor parts or hardware" includes screws, seals, etc. This code differs from Code F (Repair). Use Code R (Remove and Replace) for the replacement of larger items, such as, printed circuit boards, power supplies, or any Line Replaceable Unit (LRU). Valid for TM = C, S, 1-9.
J	Contact Telephone Company (TELCO)/ Other Agency	Use this code for activity involved with representatives of utility service providers or other agencies. May also refer to repairs made to associated equipment causing NWS equipment outages by outside representatives. Valid for TM = C, E, S, Z, 1-9.
K	Relocate	Use this code for activities required to move equipment or systems from one location to another within a site (SID). Equipment must have been operational at the previous location and is expected to become operational in the new location. Valid for TM = E, S.

AT CODE	DEFINITION	REMARKS
L	Adjust	Use this code for actions related to electrical adjustments, reseating of components, resetting interlocks or breakers, or similar actions correcting the discrepancy or condition. If the primary cause of the malfunction was a faulty part rather than an adjustment, use a code to reflect a replacement vs. an adjustment. Valid for TM = C, M, S, 1-9.
M	Modify As Directed	Use this code for work that is accomplished under authorized hardware or software modifications. May also be used to report upgrades to current configurations (retrofitting), request for change implementation, and standardization efforts. Valid for TM = E, M, S, Z.
N	Temporary Repair	Use this code for emergency repair that is temporary in nature and will require a permanent resolution at a later date. Do not use this code as a final action, unless directed by the Engineering Division. Valid for TM = C, S.
Q	Quality Control Inspection	Use this code for quality control inspections of equipment or systems. Valid for TM = E, S.
R	Remove and Replace	Use this code for removal and replacement of an assembly, printed circuit board, power supply, or any LRU. Code R differs from Codes F (Repair) and G (Repair/Replace Minor Parts). Valid for TM = C, E, S, 1-9.
S	Remove and Reinstall	Use this code when an item is removed to gain access to another item. Example: A printed circuit board is removed and replaced to see if a problem is corrected. Removal of the circuit board does not cause the malfunction to cease, but leads to the eventual correct conclusion through the process of elimination. Activity should be coded as a Remove and Reinstall not a Removal and Replacement. Valid for TM = C, S, 1-9.
U	Unable to Complete Task	Use this code to document all scheduled maintenance activities that cannot or will not be completed due to external factors or management decision. Valid for TM = C, E, M, S, Z, 1-9.
V	Clean	Use this code for removal of corrosion, dirt, ice, or another foreign substance. Also for the removal of paint and residue in preparation for repainting. Valid for TM = C, S, 1-9.

AT CODE	DEFINITION	REMARKS
X	Test/Inspect/ Service	Use this code for the maintenance of mechanical equipment such as generators or hoists where regular servicing intervals are known. Servicing involves the removal and replacement of an item expected to become contaminated or made useless. Some examples of servicing include filter changes, fluid replacement, greasing of moving parts, and painting. Valid for TM = C, E, M, S, 1-9.
Y	Troubleshoot	Use this code when failure isolation activities require 15 minutes or more to correct or determine the cause of failure. Valid for TM = C, M, S, Z, 1-9.
Z	System Administration	Use this code for activities related to managing software operating systems and overseeing systems performance. This includes managing user access and privileges, configuring devices, making backups, training users, managing system security, installing approved operating system software changes, and resolving fault isolation issues (e.g., software vs. hardware failures). Valid for TM = C, E, M, S, Z, 1-9.

1.3 Software Action Taken Codes. The Software Action Taken codes and Type Maintenance (TM) codes are compared for consistency. Valid AT codes are listed in Table B-3.

Table B-3. Software AT Codes.

CODE	DEFINITION	REMARKS
D	Run Diagnostics	Use this code for activities accomplished to support software troubleshooting efforts. Valid for TM = C, E, M, S, Z, 1-9.
E	Remote Monitoring	Use this code for maintenance performed without visiting the equipment site. Maintenance can be routine or non-routine, but does not include instances where the technician is directing the actions of another person in non-routine maintenance actions from a remote location. Valid for TM = C, E, M, S, Z, 1-9.
H	Backup/Archiving	Use this code for software related activity typically related to preventive maintenance. This code by itself does not indicate a software failure, since backup and archiving are part of normal preventive software maintenance. Valid for TM = M, S, Z, 1-9.
M	Modify as Directed	Use this code to report all authorized hardware and software configuration changes to a system, equipment, or assembly. Valid for TM = E, M, S, Z.

CODE	DEFINITION	REMARKS
T	Load/Patch/ Upgrade	Use this code for software related activity related to corrective or preventive maintenance when the software Load/Patch/Upgrade corrects a real or anticipated malfunction or failure. Valid for TM = C, E, M, S, Z, 1-9.
U	Unable to Complete Task	Use this code to document all scheduled maintenance activities that cannot or will not be completed due to external factors or management decision. Valid for TM = C, E, M, S, Z, 1-9.
W	Reboot	Use this code when shutdown and restart of the Central Processing Unit (CPU) is required. Valid for TM =C, E, M, S, Z, 1-9.

1.4 How Malfunction Codes. Table B-5 contains the listing of the How Malfunction (How Mal) codes.

Table B-5. How Mal Codes.

TYPE OF MALFUNCTION	CODE	DESCRIPTION
Physical & Mechanical	101	Outage, failure, or malfunction caused by or related to faulty, bent, buckled, collapsed, corroded, cut, broken, burned, or missing equipment.
Weather Related	201	Outage, failure, or malfunction caused by or related to wind, rain, hail, snow, or extreme temperatures.
Communications	204	Outage, failure, or malfunction caused by, or related to, external communications.
Lightning	210	Outage, failure, or malfunction caused by, or related to, a real or suspected lightning strike to or near by the system or equipment.
Software	301	Outage, failure, or malfunction caused by, or related to, software or firmware.
Electrical/Electronic	401	Outage, failure, or malfunction caused by, or related to, a faulty electrical or electronic LRU or component.
BIT Indicated Fault	406	Outage, failure, or malfunction identified by Built-In-Test (BIT) algorithm.
Unknown/Other	901	Outage, failure, or malfunction caused by unknown, unidentified or otherwise not listed source.
No Defect	902	Outage caused by associated equipment failure or commercial power outage.
Not Applicable	999	No failure. Action taken to facilitate other maintenance activity.

APPENDIX C. - EMRS EQUIPMENT CODES

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1 EMRS Equipment Codes	C-1

1 EMRS Equipment Codes. The Program Codes and Reporting Requirement Codes shown in Table C-1 are presented as reference items to support A-26 Equipment Codes. A-26 Equipment Codes are listed in Table C-2.

Table C-1. Program and Maintenance Reporting Codes

PROGRAM CODES	
B = WFO/RFC Voice Communications C = Communications D = Radar, WSR74C E = Information Systems F = Facilities H = Hydrology I = AWIPS J = CRS	L = Frame Relay Network N = NWR Q = Radar, Doppler R = Radar, WSR-88D S = Surface, ASOS T = Surface U = Upper Air W = Terminal Doppler Weather Radar X = Miscellaneous
REPORTING REQUIREMENT CODES	
1 = Workload Only 2 = Reliability, Maintainability and Workload 3 = Reliability, Maintainability, Workload and Engineering Modifications 4 = Workload and Engineering Modifications	

Table C-2. A-26 Equipment Codes.

EQUIPMENT	PROGRAM CODE	REPORTING CODE	DESCRIPTION
AACU	S	4	ASOS Acquisition Unit
ACOMM	S	4	ASOS External Communications
ADCP	S	4	ASOS Data Collection Package
ADMIN	X	1	Incidental Admin Work (Used to Report Time Expended on Administrative Work; for use only when directed by WSH).
ADR	H	1	Level Recorder, F&P Series 1540/1542, NWS-Owned, with phone or satellite COMMS
ADTS	S	4	ASOS Dewpoint Sensor (DTS1)
AFXR	C	1	Alden Fax Receiver
AFXS	C	1	Alden Fax Scanner
AGTA	S	4	ASOS Ground-to-Air Radio

EQUIPMENT	PROGRAM CODE	REPORTING CODE	DESCRIPTION
AHTB	S	4	ASOS Liquid Precipitation Accumulation Sensor (Rain Gauge)
AHU	F	1	Air Handling Unit (Fans, Heating and Cooling Coils, Air-Control Dampers, Filters and Silencers)
AIFWS	S	4	ASOS Ice Free Wind Sensor (Vaisala Model 425NWS)
AMDLS	T	1	Agriculture Meteorological Data Logger System
AMOS	T	1	Automatic Meteorological Observing System, Model 3-70/73
APER	S	4	ASOS Peripherals (OID, VDU, CVD and printer)
APRES	S	4	ASOS Pressure Sensor
APWX	S	4	ASOS Present Weather Sensor
ARC	H	1	Automatic Remote Collector (Handar Model 540)
ARD	I	3	AWIPS Remote Display System (Computer, Monitor, Printer, UPS, Router, Cables)
ART1	U	2	Automatic Radiotheodolite (Reconfigured GMD)
ART2	U	3	Automatic Radiotheodolite (Reconfigured WBRT)
ARTML	U	3	Upper Air Microwave Link
ASCA	S	4	ASOS Single Cabinet Assembly
ASKY	S	4	ASOS Cloud Height Sensor (Ceilometer)
ASOSP	S	4	ASOS System Administration and Preventive Maintenance
ATDP	S	4	ASOS Temperature and Dew Point Sensor
ATEMP	S	4	ASOS Temperature Sensor (1088/HO83)
ATRHS	U	3	RSOIS Air Temperature/Relative Humidity Sensor
ATS	S	4	ASOS Thunderstorm Sensor
AVIS	S	4	ASOS Visibility and Day/Night Sensor
AWIND	S	4	ASOS Wind Subsystem
AWIPS	I	4	Automated Weather Interactive Processing System
AWLE	E	1	AWIPS – Like Equipment System Administration
AWLNX	I	3	AWIPS LINUX Workstations
AWPAG	S	4	ASOS All Weather Precipitation Accumulation Gauge (AWPAG) - Dual Gauge Configuration
AZR	S	4	ASOS Freezing Rain Subsystem
B220	N	1	NWR 1-KW Transmitter (SRS)

EQUIPMENT	PROGRAM CODE	REPORTING CODE	DESCRIPTION
B222	N	1	Dual NWR 1-KW Transmitter (SRS)
B224	N	1	Dual NWR 100-Watt Transmitter (SRS)
B230	N	1	Dual NWR VHF 1-KW Transmitter (Energy-Onix)
B232	N	1	Dual NWR 100-Watt Transmitter (Energy-Onix)
B240	N	1	Dual NWR 1-KW Transmitter (CROWN)
B242	N	1	Dual NWR 300-Watt Transmitter (CROWN)
B244	N	1	Dual NWR 100-Watt Transmitter (CROWN)
B250	N	4	Dual NWR 1-KW Transmitter (Armstrong)
B252	N	4	Dual NWR 300-Watt Transmitter (Armstrong)
B254	N	4	Dual NWR 100-Watt Transmitter (Armstrong)
B342	N	1	NWR Warning Decoder/Field Strength Meter/7-Channel Receiver (Battery Replacement Only)
B343	N	1	NWR Specific Area Monitoring Encoder (SAME)
B345	N	1	Remote Off-Air Monitoring System (ROAMS) Upgrade
B430	N	1	NWR Interim Digital Console, Digital Recorders, INC.
B431	N	1	NWR Interim Digital Console, INTERALIA Model MMU2632ABMWR
B440	J	3	NWR Console Replacement System (CRS)
BASTA	U	3	RSOIS Base Station
BDDS	R	3	Base Data Distribution System, WSR-88D
BLDG	F	1	WFO/Office/Site Building
CCTV	F	1	Closed Circuit TV/Security Display
CL	T	1	Ceiling Light
CMAN	X	1	Coastal Marine Automated Network - National Data Buoy Center (NDBC) Program
CMISC	C	1	Miscellaneous Communications Equipment Not Assigned a Code
CRSSA	J	4	CRS System Administration Reporting Code
DCC	H	1	Direct Connect Telephone Coupler, PMMI Model MM-110
ELECT	F	1	WFO/Office/Site Electrical System
EMWIN	C	1	Emergency Manager's Weather Information Network System
EPG	F	1	Engine-Generator Used for Emergency Power

EQUIPMENT	PROGRAM CODE	REPORTING CODE	DESCRIPTION
F420	T	1	F420 Series Wind Systems With Readouts/ Re-transmitters
FAC	F	4	Miscellaneous Facilities Equipment Not Assigned a Code
FIRE	F	1	WFO/Office/Site Fire Alarm/Protection System
FMISC	T	1	Miscellaneous Wind Equipment Not Assigned A Code and Listed in EHB-1
FNP	H	1	Fischer & Porter Weighing Precipitation Gauge (Telemetered Only)
FRN	L	1	Frame Relay Network
FURN	F	1	WFO/Office/Site Furniture
H083	T	1	H083 Hygrothermometer Transmitter and Receiver
HGE	U	1	Electrolyser Hydrogen Generator
HMISC	H	1	Miscellaneous Hydrologic Equipment Not Assigned a Code
HSG	F	1	WFO/Office/Site Employee Housing (Alaska Region Only)
HVAC	F	4	WFO/Station or Office Heating and Air Conditioning System
HYFCEL	F	1	Hydrogen Fuel Cell
LAN	E	1	Local Area Network (Excluding Workstations)
LARC	H	1	Limited Automatic Remote Collector (Handar Model 550A)
LBC	T	1	Laser Beam Ceilometer with Recorder
LDAD	I	4	AWIPS Local Data Acquisition and Dissemination Server
LID	H	2	LARC Interface Device
M003	U	2	Upper Air Microcomputer
METXX	H	2	Siera-Misco Hydrologic Equipment
MLOS	R	3	Microwave Line-of-Sight Link, WSR-88D Radar (Per Hop)
MSCF	R	3	Master System Control Function, WSR-88D
MWR	T	1	Marine DARDC Wind/Temperature System Using Radio
MWT	T	1	Marine DARDC Wind System Using Telephone
NWWS	C	1	NOAA Weather Wire Service Satellite Broadcast System
OFFIC	X	1	Miscellaneous Office Equipment, Copy Machines, Non-Telephone Intercoms, Tape Recorders, etc.

EQUIPMENT	PROGRAM CODE	REPORTING CODE	DESCRIPTION
OPUP	R	3	Open-system Principal User Processor, WSR-88D
PAC	F	4	Packaged Air Conditioner
PBT	U	2	Pibal Timing System
PC	E	1	IBM PC or Equivalent and Associated Equipment (Includes Monitors, Printers, Modems, etc.)
PCSA	E	1	PC System Administration
PLUMB	F	1	WFO/Office/Site Plumbing
PMOADMIN	X	1	Western Region PMO Activities Only
PROF	U	2	Wind Profiler (ERL-Owned)
PSOS	U	1	Profiler Surface Observing System (ERL-Owned)
RAAC	R	4	Air Conditioner Unit, WSR-88D
RAEG	R	4	Emergency Power Generator Subsystem, WSR-88D (Incidental Facilities Work Performed by ETs)
RAMOS	T	1	Remote Automatic Meteorological Observing System
RDA	R	3	Radar Data Acquisition Subsystem, WSR-88D
RPG	R	3	Radar Product Generation Subsystem, WSR-88D (Now referred to as RPG A)
RPU	U	3	RSOIS Remote Processing Unit
RRS	U	3	Radiosonde Replacement System
RSOIS	U	3	Radiosonde Surface Observing Instrumentation System - RSOIS Equip not Converted by Codes ATRHS, BASTA, RPU, or WSENS
RWS	U	3	RRS Workstation
RWS51	N	1	VOX Monitor Alarm System for NWR
SAFEN	X	1	Incidental Environmental and Safety Work, Including Contract Monitoring
SECRTY	F	1	WFO/Office/Site Security System
SEIS	X	1	Seismic Equipment not Otherwise Specified
SITE	F	1	WFO/Office Facilities External to the Building
SOCAT	X	1	Off-Road Snow Vehicle (i.e. Snowcats, Snowmobiles)
SPG	W	3	Supplemental Product Generator for Terminal Doppler Weather Radar (TDWR)
SPS	U	3	RRS Signal Processing System
SR	T	1	Indicator – Sunshine, Wind, Precipitation

EQUIPMENT	PROGRAM CODE	REPORTING CODE	DESCRIPTION
TELCO	B	1	Site Telephone Equipment
TEST	X	1	General Code for all Site Test Equipment (Includes Coordination and Administration of Calibration Services)
TMISC	T	1	Miscellaneous Surface Equipment Not Assigned A Code
TOPS	E	3	Tsunami Warning Center Operational Systems
TPS	R	3	Transition Power Subsystem, WSR-88D
TRAIN	X	1	Electronics Staff Training (Used to Report the Time Expended on Training – Use Only When Directed by WSH)
TRF	1	1	Transceiver, HF-SSB
TRS	U	3	RRS Telemetry Receiver System
TRX	C	1	Transceivers, All Types
TVR	C	1	Television Receiver
TWRS	F	1	Towers
UHFRL	N	1	UHF Radio Link, Used with NWR
UP2	U	2	Wind Profiler, 449 MHZ
UPS	F	1	Uninterruptible Power Supply
VCAM	X	2	Video Camera- NWS Office of Meteorology Special Project System
VEH	X	1	Vehicles Used by NWS Staff (i.e. Autos, Vans, 4WD Vehicles) – Excludes Snow Vehicles Covered Under SOCAT
WAN	E	1	Regional Wide Area Network, Including Associated Equipment (E.G. Router) (Excludes AWIPS)
WDGR	T	1	Gust Recorder
WKST	E	1	LINUX/UNIX based workstations
WL900	U	3	WL-9000 LORAN Meteorological Processing System
WR74C	D	1	Local Warning Radar WSR-74C (R110) (C-Band)
WSENS	U	3	RSOIS Wind Sensor
WSR88	R	1	Systems Administration Reporting Code, WSR-88D
XMR	N	1	NWR Transmitter not Otherwise Specified - Under 100-Watts
XMRT	N	1	NWR Transmitter not Otherwise Specified - 100-Watts or Over

APPENDIX D. - ASOS DATA MAINTENANCE REPORTING REQUIREMENTS

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1 General. This appendix specifies data reporting requirements unique to the Automated Surface Observing System (ASOS). It includes both maintenance and configuration management (CM) reporting guidelines.

1.1 When to Report. An A-26 for an ASOS subsystem or peripheral will be opened or submitted when:

- a. Equipment failures occur.
- b. Equipment undergoes routine maintenance (or maintenance flags are cleared).
- c. Equipment is relocated.
- d. Special activity or sampling occurs.
- e. Equipment is activated, deactivated, or modified.
- f. Maintenance related system administration is accomplished.

1.2 Contract Maintenance. The ASOS maintenance concept is based in part on contracted maintenance. The Electronic Systems Analyst (ESA) is the local office focal point for all maintenance events involving the maintenance contractor. All Field Staff activities associated with contract maintenance, including contract maintenance oversight will be documented in the EMRS.

1.3 On-Site Depot Level Maintenance. The ASOS maintenance concept includes on-site depot level maintenance accomplished and/or administered by an operational support facility. The ESA is the local office focal point for all maintenance events involving on-site depot level maintenance. All Field Staff activities associated with on-site depot level maintenance will be documented using EMRS, including coordination, collaboration, and/or contract maintenance oversight.

1.4 Operational Support Facility Maintenance. The ASOS Operational Monitoring Center, (AOMC), serves as the ASOS operational support facility, monitoring the ASOS Network and providing technical support to field sites. All events involving depot level maintenance administered by the AOMC will be documented in EMRS by the AOMC. All Field Staff activities associated with AOMC maintenance will be documented using EMRS, including contract maintenance oversight.

2 ASOS Maintenance and System Administration Reporting. ASOS maintenance and maintenance related system administration is documented in EMRS. One A-26 is typically initiated for each maintenance action performed. A single A-26 may be initiated on a bi-weekly basis to report all maintenance related system administration duties.

Instructions for Specific Fields - detailed procedures for specific fields found on the A-26 are listed below.

- (1) Open Date - The Open Date/Time records when a maintenance event begins for ASOS. A maintenance event caused by a failure or data quality error is considered to begin when the

AOMC is made aware of the problem. If the AOMC is not aware of the maintenance event, then the Field Staff determines when the problem began. Routine scheduled maintenance events are considered to begin when the Field Staff notifies the AOMC and begins work on the maintenance event.

- (2) Response Priority - The Response Priority indicates the rank of importance of the problem. For ASOS: priority 1 indicates an immediate response; priority 2 indicates a routine reaction response; priority 3 indicates a low reaction response. The AOMC sets the priorities and response time (see NWSI 30-2111).
- (3) Trouble Ticket Number - When applicable, the AOMC trouble ticket number corresponding to the maintenance event is reported on the A-26.
- (4) AOMC-EMRS Autoload Process - If an equipment failure or data quality error occurs at an AOMC monitored site, the AOMC will open and close the trouble ticket using the AOMC monitoring and maintenance procedure. Closed trouble tickets are submitted to the automated AOMC-EMRS load process. At least one A-26 will be generated and loaded into EMRS. Use the auto-generated A-26 to report maintenance by verifying and/or modifying the auto-populated fields.

NOTE: The auto-generated fields of the A-26 can be changed (except for the document number field). It is advised not to change the trouble ticket number. The trouble ticket number is the primary identification of the maintenance event used by the AOMC and EMRS.

2.1 Designated Equipment Codes for ASOS. An A-26 is initiated when a maintenance event or maintenance related system administration activity occurs. Seventeen equipment codes have been defined for the ASOS. These equipment codes are listed in Table D-1.

Table D-1. Reportable Equipment Codes for ASOS.

EQUIPMENT TYPE	EQUIPMENT CODE
ASOS Acquisition Control Unit	AACU

EQUIPMENT TYPE	EQUIPMENT CODE
ASOS External Communications	ACOMM
ASOS Data Collection Package	ADCP
ASOS Dewpoint Sensor (DTS1)	ADTS
ASOS Ground-to-Air Radio Subsystem	AGTA
ASOS Heated Tipping Bucket Rain Gauge	AHTB
ASOS Ice Free Wind Sensor (Vaisala Model 425 NWS)	AIFWS
ASOS Peripherals (OID, VDU, CVD, and Printer)	APER
ASOS Pressure Measuring Subsystem	APRES
ASOS Present Weather Subsystem	APWX
ASOS Single Cabinet Assembly	ASCA
ASOS Cloud Measuring Subsystem	ASKY
ASOS System Administration and Routine System Inspection Reporting Code	ASOSP
ASOS Temperature and Dewpoint Measuring Subsystem	ATDP
ASOS Temperature Sensor (1088/H083)	ATEMP
ASOS Lightning Detection Subsystem	ATS
ASOS Visibility Subsystem	AVIS
ASOS Wind Subsystem	AWIND
ASOS All Weather Precipitation Accumulation Gauge (AWPAG) - Dual Gauge Configuration	AWPAG
ASOS Freezing Rain Subsystem	AZR

NOTE: Use the EMRS Equipment Code “FAC” to report incidental facilities maintenance/activities performed on an ASOS.

NOTE: If a DCP or an ACU failure causes failure indications for multiple sensors, complete one A-26 using the equipment code ADCP or AACU. The failed sensors may be listed in either the description field (Block 5) or the comments field (Block 15).

2.2 Equipment Code Activation for ASOS. Weather Service Headquarters (WSH) activates ASOS equipment codes. As a representative of the Government accepts each ASOS subsystem, the appropriate equipment codes for the ASOS are activated in the EMRS. In addition, the Field Staff may be responsible for activating particular ASOS subsystems as directed in an official Hardware Modification Note or Software Installation Instruction Note. Follow these equipment specific instructions to activate ASOS equipment in EMRS. Prior to official activation the NWS Field Staff will report all pre-acceptance activities using the reportable equipment code “ASOSP” and the serial number “001”.

2.3 Serial Number Locations and Assignments. In general, each ASOS subsystem identified by an EMRS equipment code has a unique serial number. The location or assignment of each subsystem serial number is described in Table D-2 below.

Table D-2. Location of ASOS Serial Numbers.

EQUIPMENT TYPE	LOCATION
Acquisition Control Unit (AACU)	The AACU serial number is located on a metal label centered on the inside of the main enclosure door.
External Communications (ACOMM)	Use generic serial number "001".
Data Collection Package (ADCP)	The ADCP serial number is located on a metal label centered on the underneath side of the main enclosure door.
Dewpoint Sensor Subsystem (ADTS)	The ADTS serial number is located on the front of the electronics enclosure.
Ground to Air Radio Subsystem (AGTA)	The AGTA serial number is located on a white label centered on the face of the GTA radio.
Heated Tipping Bucket Rain Gauge (AHTB)	The AHTB serial number is located on a metal label centered on the outside of the tipping bucket.
Ice Free Wind Sensor Subsystem (AIFWS)	The AIFWS serial number is located on a metal label on the sensor head, (part #s100-2A8MT3A2).
Peripherals (APER)	Use generic serial number "001".
Pressure Measuring Subsystem (APRES)	Use generic serial number "001".
Present Weather Subsystem (APWX)	The APWX serial number is located on the inside of the enclosure door.
Single Cabinet Assembly (ASCA)	The ASCA serial number is located on a metal label centered on the underneath side of the main enclosure door
Cloud Measuring Subsystem (ASKY)	The ASKY serial number is located on a metal label on the inside of the ceilometer above the transmitter card.
ASOS System Administration and Routine Inspection (ASOSP)	Use serial number "001".
Temperature and Dewpoint Measuring Subsystem (ATDP)	The ATDP serial number is located on the metal label centered on the outside of the enclosure door.
Temperature Sensor Subsystem (ATEMP)	The ATEMP serial number is located on the metal label centered on the outside of the enclosure door.
Lightening Detection Subsystem (ATS)	The ATS serial number is located on a metal label near the lower right corner of the back of the sensor.
Visibility Subsystem (AVIS)	The AVIS serial number is located on a metal label in the lower left corner on the outside of the main enclosure door.
Wind Subsystem (AWIND)	The AWIND serial number is located on the metal label in the lower left corner on the outside of the main enclosure door.

EQUIPMENT TYPE	LOCATION
ASOS All Weather Precipitation Accumulation Gauge Subsystem (AWPAG)	The AWPAG serial number is located on a label on the stainless steel bucket sensor shell.
Freezing Rain Subsystem (AZR)	The AZR serial number is located on the metal label centered on the side of sensor.

NOTE: If a temporary serial number of “000A” (or similar variation) appears in a site’s equipment population, the EMRS database has not been updated with the correct serial number. Use the Equipment Inventory “Edits and Updates” function on the EMRS Data Entry System webpage or enter an A-26 form to submit the correct serial number.

If an A-26 is used to submit the correct serial number, the Data Entry System will respond with, “SID, Equipment Code and Serial Number combination does not exist in EMRS database! Click OK to continue or click Cancel to go back and correct it.” Click OK. The EMRS analyst will be notified of the discrepancy and will update the site’s equipment inventory.

2.4 Remote Equipment Maintenance. When performing remote monitoring or other administrative work for a site, a group of sites, or equipment, use equipment code ASOSP. When reporting for multiple sites, complete one A-26 using the ESA/ET Station ID (HID) of the sites in the Station ID field (Block 6). Report remote monitoring and administrative work on a bi-weekly basis. Remote monitoring reported under ASOSP does not include the clearing of maintenance flags. Report the remote clearing of maintenance flag as a corrective action.

2.5 Redundant Equipment Uniquely Identified in ASOS. Maintenance activity reporting associated with redundant equipment does not apply to the ASOS program.

2.6 System Administration. Use the Equipment Code “ASOSP”, Type Maintenance code “Z”, and Action Taken code “Z” to report maintenance related system administration.

NOTE: Reporting maintenance related system administration duties do not preclude reports required as the result of normal maintenance activities (i.e. preventive, corrective, modifications, etc.).

3 Configuration Management (CM) Reporting. CM information related to scheduled routine maintenance, corrective maintenance, equipment management activities and engineering modification implementation is documented in EMRS by A-26. CM information is used to:

- a. Provide program managers with an accurate record of site configurations.
- b. Determine modification kit distribution priority for approved engineering changes.

- c. Identify sites having implemented a particular modification.

3.1 A-26 Data. CM data, collected via EMRS, is used to update databases supporting the Configuration Management Information System (CMIS). The CMIS provides users with site-specific hardware and software configuration reports, as well as information concerning equipment modification implementation. Contact the Weather Service Headquarters (WSH) Maintenance, Logistics and Acquisition Division, Configuration Branch, (W/OPS13) at (301) 713-1892, for more information or assistance regarding CMIS.

3.2 Categories of CM Reporting. CM Reporting requires additional data in the Parts Failure Information section of the WS Form A-2 when:

- (1) Parts or equipment replacement associated with a failure occur.
- (2) Parts or equipment replacement associated with scheduled routine maintenance occur.
- (3) Parts or equipment replacement associated with a special activity or sampling (installation of test configurations, retrofits, or inspections) occur.
- (4) Equipment is activated, deactivated, or modified.

3.3 Equipment Failure Requiring Parts Replacement. When ASOS equipment fails, the Field Staff must document the Lowest Replaceable Unit (LRU) that failed and order a replacement part. The part number, marked on the equipment, is used to cross-reference the Agency Stock Number (ASN) in Engineering Handbook 1 (EHB-1), for ordering replacement parts. The removal and replacement of the failed unit may require specific CM data. When directed by WSH the following requirements apply:

- a) For each part that fails enter the correct Agency Stock Number and Serial Number.
- b) For each replacement part enter the correct Vendor Part Number and Serial Number.

NOTE: When replacing an entire subsystem or a part of the subsystem having a uniquely identified serial number, complete two separate A-26s. The first A-26 (Deactivation A-26) contains the serial number of the subsystem being removed. The second A-26 (Activation A-26) contains the serial number of the newly installed subsystem.

3.4 Modification/Software /Maintenance Note and Request for Change (RC) Implementation. In addition to the requirements outlined in paragraph 3.3, follow specific CM data reporting requirements outlined in each official instruction. The Field Staff will ensure that the modification number has been entered in the A-26 and that the date-of-action is completed. General reporting requirements are defined in the Table D-4 below.

Table D-4. Reporting Guidelines for Modifications.

Modification Type	TM Code	AT Code	Mod. No.
Hardware Mod	M (Modification)	M (Modify)	The Note#
Maintenance Note	E (Equip. Mgmt.)	M	M and the Note#
RC Implementation	E	M	The RC #
Other Mods	S (Special Activity)	M	None

The MOD number field on the A-26 (block 17a) must be completed for all modifications. When reporting Field Modification Kits (FMKs), that are not a part of an official NWS modification note, enter the FMK number preceded by “FMK” in block 17a. When reporting Engineering Change Proposals (ECPs), that are not part of an official modification note, enter the ECP number preceded by “ECP” in block 17a. When reporting a modification that has no MOD number, enter the word “NONE” in block 17a. All time spent performing modifications is reported using the “MISC” category in the Work Load Information area of the A-26.

3.5 Modification Reporting Autoload Process. The WSH is responsible for automatically placing an A-26 into the EMRS “On Hold” area for all WSH directed engineering modifications. The Field Staff may report the Modification/Software /Maintenance Note or Request for Change (RC) Implementation using this automatically loaded A-26.

3.6 Installation of Test Configuration. When test configurations are fielded in baseline controlled systems, specific CM data are required. The installation and removal of configurations must be reported. Test configurations have unique identifications to distinguish them from approved configurations. Specific CM reporting guidance will be provided with each installation instruction.

NOTE: CM Data Reporting Verification - If there are questions about CM reporting requirements, contact the NWS, Operations Division at (301) 713-1824, or the WSH Configuration Branch, (W/OPS13) at (301) 713-1892.
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APPENDIX E. - WSR-88D MAINTENANCE DATA REPORTING REQUIREMENTS

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1 General. This appendix specifies data reporting requirements unique to the Weather Surveillance Radar System (WSR-88D). It includes both maintenance and configuration management (CM) reporting guidelines.

1.1 When to Report. An A-26 for a WSR-88D subsystem will be opened or submitted when:

- a. Equipment failures occur.
- b. Equipment undergoes routine maintenance.
- c. Equipment is relocated.
- d. Special activity or sampling occurs.
- e. Equipment is activated, deactivated, or modified.
- f. Maintenance related system administration is accomplished.

1.2 Contract Maintenance. The WSR-88D maintenance concept is based in part on contracted maintenance. The Electronic Systems Analyst (ESA) is the local office focal point for all maintenance events involving the maintenance contractor. All Field Staff activities associated with contract maintenance, including contract maintenance oversight, will be documented in the EMRS.

1.3 On-Site Depot Level Maintenance. The WSR-88D maintenance concept includes on-site depot level maintenance accomplished and/or administered by the Radar Operations Center (ROC). The ESA is the local office focal point for all maintenance events involving on-site depot level maintenance. All Field Staff activities associated with on-site depot level maintenance will be documented using EMRS, including coordination, collaboration and/or contract maintenance oversight.

1.4 Operational Support Facility Maintenance. The ROC serves as the WSR-88D operational support facility monitoring the WSR-88D Network and providing technical support to field sites. All events involving depot level maintenance accomplished and/or administered by the ROC will be documented in EMRS by the ROC. All Field Staff activities associated with ROC maintenance will be documented by the Field Staff using EMRS, including contract maintenance oversight.

2 WSR-88D Maintenance and System Administration Reporting. WSR-88D maintenance and maintenance related system administration activities are documented in EMRS. One A-26 is typically initiated for each maintenance action performed. A single A-26 may be initiated on a bi-weekly basis to report all maintenance related system administration activities.

2.1 Designated Equipment Codes for WSR-88D. An A-26 is initiated when a maintenance event or maintenance related system administration activity occurs. Ten equipment codes have been defined for the WSR-88D. These equipment codes are listed in Table E-1.

Table E-1. WSR-88D Equipment Codes.

EQUIPMENT TYPE	EQUIPMENT CODE
Radar Data Acquisition Subsystem	RDA
Radar Product Generation Subsystem	RPG
Base Data Distribution Service	BDDS

Microwave Line of Sight Subsystem	MLOS
Master System Control Function Subsystem	MSCF
Open-System Principal User Processor	OPUP
Emergency Power Generator Subsystem	RAEG
Air Conditioning Unit Subsystem (RDA)	RAAC
Transition Power Source	TPS
WSR-88D Systems Administration Reporting Code	WSR88

NOTE: Use the EMRS Equipment Code “FAC” to report incidental facilities maintenance/activities performed on a WSR-88D site.

2.2 Equipment Code Activation for WSR-88D. Weather Service Headquarters (WSH) activates WSR-88D equipment codes. As new equipment is added to the WSR-88D configuration baseline, the appropriate equipment codes are activated in the EMRS. In addition, the Field Staff may be responsible for activating particular WSR-88D subsystems as directed in an official Hardware Modification Note or Software Installation Instruction Note. Follow these equipment specific instructions to activate WSR-88D equipment in EMRS. Prior to official activation the NWS Field Staff will report all pre-acceptance activities using the reportable equipment code “WSR88” and the serial number “001”.

2.3 Serial Number Locations and Assignments. In general, each WSR-88D subsystem identified by an EMRS equipment code has a unique serial number. The location or assignment of each subsystem serial number is described in Table E-2.

Table E-2. Location of WSR-88D Serial Numbers.

EQUIPMENT TYPE	LOCATION
Radar Data Acquisition (RDA)	The RDA serial number is located on a metal label on the front, bottom panel of the right rack (UD 5).
Radar Product Generation (RPG)	The RPG serial number is located on a metal label on the front, bottom panel of the RPG cabinet (UD 70).
Base Data Distribution Service (BDDS)	The BDDS serial number is located on a metal label on the back of the rack (UD 72).
Master System Control Function Subsystem (MSCF)	The MSCF serial number is located on a sticker on the rear of the CPU unit in the upper left corner. Some units also have a sticker on the left side of the CPU chassis.
Microwave Line of Site (MLOS)	The MLOS serial number is located on the metal label on the front door, upper right corner of the MLOS transceiver rack (UD 19 or UD 39).

Emergency Power Generator Subsystem (RAEG)	The RAEG serial number is located on the left side of the front panel of Onan generators or on the right side of the control panel for Kohler generators (UD 10MG1).
Air Conditioning Unit Subsystem (RAAC)	Use a serial number of "001".
Transition Power Source (TPS)	The TPS serial numbers are located on the exterior upper left side of the unit (UD 62).
WSR-88D Systems Administration Reporting Code (WSR88)	Use a serial number of "001".

NOTE: If a temporary serial number of "000A" (or similar variation) appears in a site's equipment population, the EMRS database has not been updated with the correct serial number. Use the Equipment Inventory "Edits and Updates" function on the EMRS Data Entry System webpage or enter an A-26 form to submit the correct serial number.

If an A-26 is used to submit the correct serial number, the Data Entry System will respond with, "SID, Equipment Code and Serial Number combination does not exist in EMRS database! Click OK to continue or click Cancel to go back and correct it." Click OK. The EMRS analyst will be notified of the discrepancy and will update the site's equipment inventory.

2.4 Remote Equipment Maintenance. In some cases, the Radar Data Acquisition Subsystem (RDA) is located at a remote site. When reporting maintenance activity on equipment at a remote site, use the Station Identifier (SID) of the remote RDA site.

2.5 Redundant Equipment Uniquely Identified in WSR-88D. EMRS reporting procedures for redundant RDA systems require the serial number of the primary RDA be used when maintenance is performed on the primary channel. The Primary RDA channel consists of the following equipment.

- a. Transmitter (UD3).
- b. Receiver (UD4).
- c. Data Processor (UD5).
- d. Electrical Equipment Shelter.
- e. Steel Tower Structure.
- f. Antenna/Pedestal Assembly.

Report all maintenance performed on the equipment listed below using the serial number of the Secondary RDA channel.

- (1) Transmitter (UD103).
- (2) Receiver (UD104).
- (3) Data Processor (UD105).

2.6 System Administration. Use the Equipment Code “WSR88”, Type Maintenance code “Z”, and Action Taken code “Z”, to report maintenance related system administration.

NOTE: Reporting maintenance related system administration duties does not preclude reports required as the result of normal maintenance activities (i.e. preventive, corrective, modifications, etc.)

3 Configuration Management (CM) Reporting. CM information related to scheduled routine maintenance, corrective maintenance, equipment management activities and engineering modification implementation is documented in EMRS using an A-26. CM information is used to:

- a. Provide program managers with an accurate record of site configurations.
- b. Determine modification kit site distribution priority for approved engineering changes.
- c. Identify sites having implemented a particular modification.

3.1 A-26 Data. CM data, collected via EMRS, is used to update databases supporting equipment and system status accounting at the Operational Support Facilities, Regional Headquarters and field offices. These databases provide users with site specific hardware and software configuration information, as well as information concerning equipment modification implementation.

3.2 Modification/Software /Maintenance Note and Request for Change (RC) Implementation. Follow specific reporting requirements outlined in each official instruction note. Ensure that the modification number has been entered in the A-26 and that the date-of-action is completed. General reporting requirements are defined in Table E-4 below.

Table E-4. Reporting Guidelines for Modifications.

MODIFICATION TYPE	TM CODE	AT CODE	MOD. NO.
Hardware Mod	M (Modification)	M (Modify)	The Note#
Software Mod	M	M	S and the Note#
Maintenance Note	E (Equip. Mgmt.)	M	M and the Note#
RC Implementation	E	M	The RC #
Other Mods	S (Special Activity)	M	None

The MOD number field on the A-26 (block 17a) must be completed for all modifications. When reporting Field Modification Kits (FMKs), that are not a part of an official NWS modification note, enter the FMK number preceded by “FMK” in block 17a. When reporting Engineering Change Proposals (ECPs), that are not part of an official modification note, enter the ECP number preceded by “ECP” in block 17a. When reporting a modification that has no MOD number, enter the word “NONE” in block 17a. All time spent performing modifications is reported using the “MISC” category in the Work Load Information area of the A-26.

3.3 Modification Reporting Autoload Process. WSH is responsible for automatically placing an A-26 into the EMRS “On Hold” area for all WSH directed engineering modifications. The Field Staff may report the Modification/Software /Maintenance Note or Request for Change (RC) Implementation using this automatically loaded A-26.

NOTE: CM Data Reporting Verification - If there are questions about CM reporting requirements, contact the NWS, Operations Division at (301) 713-1824, or the WSH Configuration Branch, (W/OPS13) at (301) 713-1892.
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APPENDIX F. – AWIPS MAINTENANCE DATA REPORTING REQUIREMENTS

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1 General. This appendix specifies the data reporting requirements unique to the Advanced Weather Interactive Processing System (AWIPS). It includes both the maintenance and configuration management (CM) reporting guidelines.

1.1 When to Report. An A-26 for an AWIPS subsystem will be opened or submitted when:

- a. Equipment failures occur.
- b. Equipment undergoes routine maintenance.
- c. Equipment is relocated.
- d. Special activity or sampling occurs.
- e. Equipment is activated, deactivated, or modified.
- f. Maintenance related system administration is accomplished.

1.2 Contract Maintenance. The AWIPS maintenance concept is based in part on contracted maintenance. The Electronic Systems Analyst (ESA) is the local office focal point for all maintenance events involving the maintenance contractor. All Field Staff activities associated with contract maintenance including contract maintenance oversight will be documented through the EMRS.

1.3 On-Site Depot Level Maintenance. The AWIPS maintenance concept includes on-site depot level maintenance accomplished by the maintenance contractor. The ESA is the local office focal point for all maintenance events involving on-site depot level maintenance. The AWIPS Network Control Facility (NCF) will be notified of any faults or failures to AWIPS. The problem will be diagnosed by the NCF and if required the on-site maintenance coordinated with the ESA. All Field Staff activities associated with on-site depot level maintenance will be documented using EMRS, including coordination, collaboration, and/or contract maintenance oversight.

1.4 Operational Support Facility Maintenance. The NCF serves as the AWIPS operational support center, monitoring the AWIPS Communication Network (ACN) and providing technical support to field sites. All events involving NCF maintenance accomplished by the NCF or non-NWS staff acting in support of a NCF directed maintenance event, are documented by the NCF. All Field Staff activities associated with NCF maintenance will be documented by the Field Staff using EMRS including contract maintenance oversight.

2 AWIPS Maintenance and System Administration Reporting. AWIPS maintenance and maintenance related system administration activities are documented in EMRS. One A-26 is typically initiated for each maintenance action performed. A single A-26 may be initiated on a bi-weekly basis to report all maintenance related system administration duties.

2.1 Designated Equipment Codes for AWIPS. An A-26 is initiated when a maintenance event or maintenance related system administration activity occurs. Four equipment codes have been defined for the AWIPS in Table F-1.

NOTE: The EMRS Equipment Code “AWLNX” was created for LINUX based workstations installed within the AWIPS baseline. When a WSH Modification Note authorizes sites to install LINUX based workstations within the AWIPS baseline, these workstations are activated in EMRS using the code “AWLNX” (examples: LX1, CP1, PX1, AX, XT1, DX1,). Sites that have been given regional or other non-WSH directives to install LINUX based workstations should activate these workstations in EMRS using the “WKST” equipment code (examples: WES workstation, WES archive workstation).

Table F-1. AWIPS Equipment Codes.

EQUIPMENT TYPE	EQUIPMENT CODE
AWIPS Local Data Acquisition and Dissemination Server	LDAD
AWIPS Linux Workstations and Servers	AWLNX
AWIPS Remote Display	ARD
AWIPS System Administration Reporting Code	AWIPS

NOTE: Use the EMRS Equipment Code “FAC” to report incidental facilities maintenance/activities performed on AWIPS equipment.

2.2 Equipment Code Activation for AWIPS. AWIPS equipment codes are activated in EMRS by the Field Staff. Submit one A-26 to report all activities associated with the site preparation, installation and checkout of the equipment, system or subsystem. In addition, the Field Staff may be responsible for activating particular AWIPS equipment as directed in an official Modification Note, Maintenance Note, Software Note or Request for Change Implementation Memorandum. Follow these equipment specific instructions included in the equipment change documentation to activate AWIPS equipment in EMRS. Prior to official activation the NWS Field Staff will report all pre-acceptance activities using the reportable equipment code “AWIPS” and the serial number “001”.

2.3 Serial Number Locations and Assignments. In general, all AWIPS subsystems are grouped under one EMRS equipment code. However, selected subsystems are uniquely identified by a separate EMRS equipment code. The location or assignment of each subsystem serial number is described in Table F-2.

Table F-2. Location of AWIPS Serial Numbers.

EQUIPMENT TYPE	LOCATION
AWIPS System Admin Code (AWIPS)	All sites should activate the AWIPS equipment code with the generic serial number “001”.
Local Data Acquisition and Dissemination Server (LDAD)	The LDAD serial number is located on the rear panel of the processor case.
AWIPS Linux Workstations (AWLNX)	The AWLNX serial number is located on the rear panel of the processor case.

AWIPS Remote Display (ARD)	The ARD serial number is located on the rear of the processor case.
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NOTE: If a temporary serial number of “000A” (or similar variation) appears in a site’s equipment population, the EMRS database has not been updated with the correct serial number. Use the Equipment Inventory “Edits and Updates” function on the EMRS Data Entry System webpage or enter an A-26 form to submit the correct serial number.

If an A-26 is used to submit the correct serial number, the Data Entry System will respond with, “SID, Equipment Code and Serial Number combination does not exist in EMRS database! Click OK to continue or click Cancel to go back and correct it.” Click OK. The EMRS analyst will be notified of the discrepancy and will update the site’s equipment inventory.

2.4 Remote Equipment Maintenance. In most cases, the AWIPS Remote Display (ARD) is located at remote sites. When reporting maintenance activity on equipment at remote sites, use the Station Identifier (SID) of the remote ARD.

2.5 Redundant Equipment Uniquely Identified in AWIPS. Maintenance activity reporting associated with redundant equipment does not apply to the AWIPS program.

2.6 System Administration. Use the Equipment code “AWIPS”, Type Maintenance code “Z”, and Action Taken code “Z” to report maintenance related system administration.

NOTE: Reporting maintenance related system administration duties do not preclude reports required as the result of normal maintenance activities (i.e. preventive, corrective, modifications, etc.).

3 Configuration Management (CM) Reporting. CM information related to scheduled routine maintenance, corrective maintenance, and equipment management activities are documented by the AWIPS maintenance contractor. CM information related to activities performed by the Field Staff is documented in EMRS using an A-26. CM information is used to:

- a. Provide program managers with an accurate record of site configurations.
- b. Determine modification kit distribution priority for approved engineering changes.
- c. Identify sites having implemented a particular modification.

3.1 A-26 Data. CM data collected via EMRS is used to update databases supporting the Configuration Management Information System (CMIS). The CMIS provides users with site-specific hardware and software configuration reports, as well as information concerning equipment modification implementation. Contact the Weather Service Headquarters (WSH) Maintenance, Logistics and Acquisition Division, Configuration Branch, (W/OPS13) at (301) 713-1892, for information or assistance regarding CMIS.

3.2 Categories of CM Reporting. CM Reporting requires additional data in the Parts Failure Information section of the A-26 when:

- a) Parts or equipment replacement associated with a failure occur.

- b) Parts or equipment replacement associated with scheduled routine maintenance occur.
- c) Parts or equipment replacement associated with a special activity or sampling (installation of test configurations, retrofits, or inspections) occur.
- d) Equipment is activated, deactivated, or modified.

3.3 Equipment Failure Requiring Parts Replacement. When AWIPS equipment fails, the NCF must be notified. The NCF may determine that the unit must be repaired by the maintenance contractor, returned to the NRC, or repaired by the Field Staff. The removal and replacement of the failed unit may require specific CM data. When directed by WSH the following requirements apply:

- a) For each part that fails enter the correct Agency Stock Number and Serial Number.
- b) For each replacement part enter the correct Vendor Part Number and Serial Number.

NOTE: When replacing an entire subsystem or a part of the subsystem having a uniquely identified serial number, complete two separate A-26s. The first A-26 (Deactivation A-26) contains the serial number of the subsystem being removed. The second A-26 (Activation A-26) contains the serial number of the newly installed subsystem.

3.4 Modification/Software /Maintenance Note and Request for Change (RC) Implementation. In addition to the requirements outlined in paragraph 3.3, follow specific CM data reporting requirements outlined in each official instruction note. Ensure that the modification number has been entered in the A-26 and that the date-of-action is completed. General reporting requirements are defined in Table F-4 below.

Table F-4. Reporting Guidelines for Modifications

MODIFICATION TYPE	TM CODE	AT CODE	MOD. NO.
Hardware Mod	M (Modification)	M (Modify)	The Note#
Software Mod	M	M	S and the Mod#
AWIPS Application Software Note	M	M	AS and the Note#
AWIPS Patch or Other Modification	M	M	SP and the Mod#
AWIPS Contractor Interface Note	M	M	CI and the Note#
AWIPS System Administration Note	M	M	SA and the Note#
AWIPS Information Note	E (Equip. Mgmt.)	M	I and the Note#
Maintenance Note	E	M	M and the Note#
RC Implementation	E	M	The RC #

MODIFICATION TYPE	TM CODE	AT CODE	MOD. NO.
Other Mods	S (Special Activity)	M	None

The MOD number field on the A-26 (block 17a) must be completed for all modifications. When reporting Field Modification Kits (FMKs), that are not a part of an official NWS modification note, enter the FMK number preceded by “FMK” in block 17a. When reporting Engineering Change Proposals (ECPs), that are not part of an official modification note, enter the ECP number preceded by “ECP” in block 17a. When reporting a modification that has no MOD number, enter the word “NONE” in block 17a. All time spent performing modifications is reported using the “MISC” category in the Work Load Information area of the A-26.

3.5 Modification Reporting Autoload Process. The WSH is responsible for automatically placing an A-26 into the EMRS “On Hold” area for all WSH directed engineering modifications. The Field Staff may report the Modification/Software /Maintenance Note or Request for Change (RC) Implementation using this automatically loaded A-26.

3.6 Installation of Test Configuration. When test configurations are fielded in baseline controlled AWIPS, specific CM data are required. The installation and removal of configurations must be reported. Test configurations have unique identifications to distinguish them from approved configurations. Specific CM reporting guidance will be provided with each installation instruction.

NOTE: CM Data Reporting Verification - If there are questions about CM reporting requirements, contact the NWS, Operations Division at (301) 713-1824, or the WSH Configuration Branch, (W/OPS13) at (301) 713-1892.

APPENDIX G. - NOAA WEATHER RADIO (NWR) CONSOLE REPLACEMENT SYSTEM (CRS) MAINTENANCE DATA REPORTING REQUIREMENTS

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1 General. This appendix specifies data reporting requirements unique to the NOAA Weather Radio (NWR)/Console Replacement System (CRS) program. It includes both maintenance and configuration management (CM) reporting guidelines.

1.1 When to Report. An A-26 for a NWR/CRS subsystem will be opened or submitted when:

- a. Equipment failures occur.
- b. Equipment undergoes routine maintenance.
- c. Equipment is relocated.
- d. Special activity or sampling occurs.
- e. Equipment is activated, deactivated, or modified.
- f. Maintenance related system administration is accomplished.

1.2 Contract Maintenance. The NWR/CRS maintenance concept is based in part on contracted maintenance. The Electronic Systems Analyst (ESA) is the local office focal point for all maintenance events involving the maintenance contractor. All Field Staff activities associated with contract maintenance, including contract maintenance oversight, will be documented through the EMRS. All "On-Hold" A-26s submitted by the Maintenance Contractor will be reviewed by the ESA for reasonability and then committed.

1.3 On-Site Depot Level Maintenance. The NWR/CRS maintenance concept includes on-site depot level maintenance accomplished by the maintenance contractor. The site ESA is the local office focal point for all maintenance events involving on-site depot level maintenance. All Field Staff activities associated with on-site level depot level maintenance will be documented using EMRS, including coordination, collaboration, and/or contract maintenance oversight.

1.4 Operational Support Facility Maintenance. The NWR/CRS maintenance concept does not include a centralized operational support facility.

2 NWR/CRS Maintenance and System Administration Reporting. NWR/CRS equipment maintenance and maintenance related system administration activities are documented in EMRS. One A-26 is typically initiated for each maintenance action performed. A single A-26 may be initiated on a bi-weekly basis to report all maintenance related system administration duties.

2.1 Designated Equipment Codes for NWR/CRS. The NWR/CRS program is comprised of software-driven, stand-alone systems that process and disseminate weather information. The NWR/CRS program is divided into two equipment code groups:

- a. Equipment unique to CRS.
- b. Other equipment associated with the NWR program

An A-26 is initiated when a maintenance event or maintenance related system administration activity occurs. Twenty-one equipment codes have been identified for the NWR/CRS program. These equipment codes are listed in Tables G-1 and G-2.

Table G-1. NWR/CRS Equipment Codes.

EQUIPMENT TYPE	EQUIPMENT CODE
NWR Console Replacement System Processor (MP, FEP, VIP)	B440
CRS System Administration	CRSSA

Table G-2, NWR Equipment Codes

EQUIPMENT TYPE	EQUIPMENT CODE
Single NWR 1-KW Transmitter (SRS)	B220
Dual NWR 1-KW Transmitter (SRS)	B222
Dual NWR 100-Watt Transmitter (SRS)	B224
Dual NWR VHF 1-KW Transmitter (Energy Onix)	B230
Dual NWR 100-Watt Transmitter (Energy Onix)	B232
Dual NWR 1-KW Transmitter (Crown)	B240
Dual NWR 300-Watt Transmitter (Crown)	B242
Dual NWR 100-Watt Transmitter (Crown)	B244
Dual NWR 1KW Transmitter (Armstrong)	B250
Dual NWR 300-Watt Transmitter (Armstrong)	B252
Dual NWR 100-Watt Transmitter (Armstrong)	B254
NWR Warning Decoder/Field Strength Meter	B342
NWR Specific Area Monitoring Encoder (SAME)	B343
Remote Off-Air Monitoring System (ROAMS) Upgrade	B345
NWR Interim Digital Console (Digital Recorders, Inc.)	B430
NWR Interim Digital Console (Interalia Model MMU2632RAB NWR)	B431
NWR Transmitter, Under 100 watts	XMR
NWR Transmitter, 100 watts or more	XMRT
UHF Radio Link	UHFRL

NOTE: Use the EMRS Equipment Code “FAC” to report incidental facilities maintenance/activities performed on a NWR Transmitter Site.

2.2 Equipment Code Activation for NWR/CRS. NWR/CRS equipment codes are activated in EMRS by the Field Staff. Submit one A-26 to report all activities associated with the site preparation, installation and checkout of the equipment, system or subsystem. In addition, the

Field Staff may be responsible for activating particular NWR/CRS equipment as directed in an official Modification Note, Maintenance Note, Software Note or Request for Change Implementation Memorandum. Follow these equipment specific instructions included in the equipment change documentation to activate NWR/CRS equipment in EMRS. Prior to official activation the NWS Field Staff will report all pre-acceptance activities using the reportable equipment code “CRSSA” and the serial number “001”.

NOTE: When replacing an entire subsystem or a part of the subsystem having a serial number uniquely identified in EMRS, complete two separate A-26s. The “Deactivation” A-26 should have the serial number of the subsystem being removed. The “Activation” A-26 should have the serial number of the new subsystem or equipment.

2.3 Serial Number Locations and Assignments. In general, each NWR/CRS subsystem identified by an EMRS equipment code has a unique serial number. The location or assignment of each subsystem serial number is described in Table G-3 below. A description of each NWR processor and how to report maintenance for each subsystem is also included.

Table G-3. Location of CRS Serial Numbers.

EQUIPMENT TYPE	LOCATION
Main Processor (B440)	Located on a metal label on the back, lower right hand corner of the OMP (or 5MP). All maintenance performed to the Operators Unit (Monitor, Audio Control Panel, Keyboard, Mouse, Headset, etc.) will be reported using the equipment code B440 and the OMP (or 5MP) serial number.
Front End Processor (B440)	Located on a metal label on the back, lower right hand corner, of the FEP. All maintenance performed to the System Maintenance Unit (Monitor, Keyboard, Printer, etc.) will be reported using equipment code B440 and the 1FEP serial number. All maintenance to LAN Bridge, ROAMS Modem, LAN servers, Audio Switch Assembly, etc., will be reported using equipment code B440 and the 1FEP serial number.
Front End Processor (B440)	Located on a metal label on the back, lower right hand corner of the 2FEP.
Front End Processor (B440)	Located on a metal label on the back, lower right hand corner of the 3FEP.
Back-up Processor (B440)	Located on a metal label on the back, lower right hand corner of the 4BKUP.
Voice-Improvement Processor (B440)	Located on a metal label on the back or side of the VIP.
CRS System	CRS system administration reporting code (CRSSA) will have a Serial Number of “001”.

NOTE: If a temporary serial number of “000A” (or similar variation) appears in a site’s equipment population, the EMRS database has not been updated with the correct serial number. Use the Equipment Inventory “Edits and Updates” function on the EMRS Data Entry System webpage or enter an A-26 form to submit the correct serial number. If an A-26 is used to submit the correct serial number, the Data Entry System will respond with, “SID, Equipment Code and Serial Number combination does not exist in EMRS database! Click OK to continue or click Cancel to go back and correct it.” Click OK. The EMRS analyst will be notified of the discrepancy and will update the site’s equipment inventory.

2.4 Remote Equipment Maintenance. In most cases, NWR Transmitters are located at remote sites. When reporting maintenance activity on equipment at a remote site, use the SID of the remote transmitter site.

2.5 System Administration. Use the equipment code “CRSSA”, Type Maintenance code “Z”, and Action Taken code “Z”, to report maintenance related system administration.

NOTE: Reporting maintenance related system administration duties do not preclude reports required as the result of normal maintenance activities (i.e. preventive, corrective, modifications, etc.).

3 Configuration Management (CM) Reporting. CM information related to scheduled routine maintenance, corrective maintenance, equipment management activities and engineering modification implementation is documented in EMRS by A-26. CM information is used to:

- a. Provide program managers with an accurate record of site configurations.
- b. Determine modification kit site distribution priority for approved engineering changes.
- c. Identify sites that have implemented a particular modification.

3.1 WS Form A-26 Data. CM data, collected via EMRS, is used to update databases supporting equipment and system status accounting at the WSH, Regional Headquarters and field offices. These databases provide users with site-specific hardware and software configuration information, as well as information concerning equipment modification implementation.

3.2 Modification/Software /Maintenance Note and Request for Change (RC) Implementation. Follow specific reporting requirements outlined in each official instruction note. Ensure that the modification number has been entered in the A-26 and that the date-of-action is completed. General reporting requirements are defined in Table E-4 below.

Table G-5. Reporting Guidelines for Modifications.

MODIFICATION TYPE	TM CODE	AT CODE	MOD. NO.
Hardware Mod	M (Modification)	M (Modify)	The Note#
Software Mod	M	M	S and the Note#
Maintenance Note	E (Equip. Mgmt.)	M	M and the Note#
RC Implementation	E	M	The RC #
Other Mods	S (Special Activity)	M	None

The MOD number field on the A-26 (block 17a) must be completed for all modifications. When reporting Field Modification Kits (FMKs), that are not a part of an official NWS modification note, enter the FMK number preceded by “FMK” in block 17a. When reporting Engineering Change Proposals (ECPs), that are not part of an official modification note, enter the ECP number preceded by “ECP” in block 17a. When reporting a modification that has no MOD number, enter the word “NONE” in block 17a. All time spent performing modifications is reported using the “MISC” category in the Work Load Information area of the A-26.

3.3 Modification Reporting Autoload Process. The WSH is responsible for automatically placing an A-26 into the EMRS “On Hold” area for all WSH directed engineering modifications. The Field Staff may report the Modification/Software /Maintenance Note or Request for Change (RC) Implementation using this automatically loaded A-26.

APPENDIX H. – RADIOSONDE REPLACEMENT SYSTEM (RRS)/UPPER AIR MAINTENANCE DATA REPORTING REQUIREMENTS

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1 General. This appendix specifies data reporting requirements unique to the Radiosonde Replacement System (RRS)/Upper Air program. It includes both maintenance and configuration management (CM) reporting guidelines.

1.1 When to Report. An A-26 for a RRS/Upper Air subsystem will be opened or submitted when:

- a. Equipment failures occur.
- b. Equipment undergoes routine maintenance.
- c. Equipment is relocated.
- d. Special activity or sampling occurs.
- e. Equipment is activated, deactivated, or modified.
- f. Maintenance related system administration is accomplished.

1.2 Contract Maintenance. The RRS/Upper Air maintenance concept is based in part on contracted maintenance. The Electronic Systems Analyst (ESA) is the local office focal point for all maintenance events involving the maintenance contractor. All Field Staff activities associated with contract maintenance, including contract maintenance oversight will be documented through the EMRS.

1.3 On-Site Depot Level Maintenance. The RRS/Upper Air maintenance concept includes on-site depot level maintenance. The ESA is the local office focal point for all maintenance events involving on-site depot level maintenance. All Field Staff activities associated with on-site depot level maintenance will be documented using EMRS, including coordination, collaboration, and/or contract maintenance oversight.

1.4 Operational Support Facility Maintenance. The RRS/Upper Air maintenance concept does not include a centralized operational support facility.

2 RRS/Upper Air Maintenance and System Administration Reporting. RRS/Upper Air maintenance and maintenance related system administration is documented in EMRS. One A-26 is typically initiated for each maintenance action performed. A single A-26 may be initiated on a bi-weekly basis to report all maintenance related system administration duties.

2.1 Designated Equipment Codes for RRS/Upper Air. The RRS/Upper Air program is comprised of software-driven, stand-alone systems that detect, process, and distribute weather information. The RRS/Upper Air is divided into two equipment code groups:

- a. Equipment unique to the RRS.
- b. Other equipment associated with the Upper Air program.

An A-26 is initiated when a maintenance event or maintenance related system administration activity occurs. Seventeen equipment codes have been defined for the RRS/Upper Air program. These equipment codes are listed in Tables H-1 and H-2.

Table H-1. RRS Equipment Codes

Equipment Type	Equipment Code
RRS System Administration	RRS
RRS Telemetry Receiving System	TRS
RRS Signal Processing System	SPS
RRS Workstation	RWS
RRS Surface Observing Instrumentation System - System Administration Code	RSOIS
RSOIS Ambient Temperature/Relative Humidity Sensor	ATRHS
RSOIS Base Station	BASTA
RSOIS Remote Processing Unit	RPU
RSOIS Wind Sensor	WSENS

Table H-2. Other Upper Air Equipment Codes

Equipment Type	Equipment Code
Automatic Radiotheodolite (Reconfigured GMD)	ART1
Automatic Radiotheodolite (Reconfigured WBRT)	ART2
Upper Air Microwave Link	ARTML
PIBAL Timing System (Balloon Tracking Equipment for ART1 & 2)	PBT
Upper Air Microcomputer	M003
WL-9000 Upper Air Meteorological Processing System (2 Sites Only)	WL900
Wind Profiler (ERL Owned)	PROF
Profiler Surface Observing System (ERL Owned)	PSOS
Transponder Ranging System Used In ART1 and ART2	TRANP
Alaska Wind Profiler	UP2
Electrolyser Hydrogen Generator	HE

NOTE: Use the EMRS Equipment Code “FAC” to report incidental facilities maintenance/activities performed on RRS/Upper Air buildings.

2.2 Equipment Code Activation for RRS/Upper Air. RRS/Upper Air equipment codes are activated in EMRS by the Field Staff. Submit one A-26 to report all activities associated with the site preparation, installation and checkout of the equipment, system or subsystem. In many cases, a Hardware Modification Note or Software Installation Instruction Note may include specific equipment activation instructions. Follow these equipment specific instructions to activate

RRS/Upper Air equipment in EMRS. Prior to official activation, the NWS Field Staff will report all pre-acceptance activities using the equipment code "RRS" and the serial number "001".

2.3 Serial Number Locations and Assignments. In general, each RRS subsystem identified by an EMRS equipment code has a unique serial number. The location or assignment of each subsystem serial number is described in Table H-3 below.

Table H-3. Location of RRS Serial Numbers.

EQUIPMENT TYPE	LOCATION
RSOIS Air Temperature/Relative Humidity Sensor (ATRHS)	Located on a sticker at the center of the sensor wand enclosed in the aspirator assembly.
RSOIS Base Station (BASTA)	Located on a metal label on the connector side of the unit.
RSOIS Remote Processing Unit (RPU)	Located on a sticker on the inside door panel. The RPU serial number is the same as the System Data Logger (SDL) component serial number.
RSOIS Wind Sensor (WSENS)	Located on a sticker at the center of the unit body.
RRS Workstation (RWS)	Located on a sticker on the back of the CPU.
RRS Signal Processing System (SPS)	Located on a sticker on the back of the unit.
RRS Telemetry Receiver System (TRS)	Located on the metal label on the front of the equipment rack.

NOTE: If a temporary serial number of "000A" (or similar variation) appears in a site's equipment population, the EMRS database has not been updated with the correct serial number. Use the Equipment Inventory "Edits and Updates" function on the EMRS Data Entry System webpage or enter an A-26 form to submit the correct serial number.

If an A-26 is used to submit the correct serial number, the Data Entry System will respond with, "SID, Equipment Code and Serial Number combination does not exist in EMRS database! Click OK to continue or click Cancel to go back and correct it." Click OK. The EMRS analyst will be notified of the discrepancy and will update the site's equipment inventory.

2.4 Remote Equipment Maintenance. In some cases, the RRS/Upper Air equipment is located at a remote site. When reporting maintenance activity on equipment at remote sites, use the Station Identifier (SID) of the remote RRS/Upper Air equipment site

2.5 Redundant Equipment Uniquely Identified in RRS/Upper Air. Maintenance activity reporting associated with redundant equipment does not apply to the RRS/Upper Air program.

2.6 System Administration. Use the Equipment code "RSOIS", Type Maintenance code "Z", and Action Taken code "Z" to report maintenance related system administration.

NOTE: Reporting maintenance related system administration duties do not preclude reports required as the result of normal maintenance activities (i.e. preventive, corrective, modifications, etc.).

3 **Configuration Management (CM) Reporting.** CM information related to scheduled routine maintenance, corrective maintenance, equipment management activities and engineering modification implementation is documented in EMRS by using an A-26. CM information is used to:

- a. Provide program managers with an accurate record of site configurations.
- b. Determine modification kit site distribution priority for approved engineering changes.
- c. Identify sites having implemented a particular modification.

3.1 **A-26 Data.** CM data, collected via EMRS, is used to update databases supporting equipment and system status accounting at the WSH, Regional Headquarters and field offices. These databases provide users with site-specific hardware and software configuration information, as well as information concerning equipment modification implementation.

3.2 **Modification/Software /Maintenance Note and Request for Change (RC) Implementation.** In addition to the requirements outlined in paragraph 3.3, follow specific CM data reporting requirements outlined in each official instruction note. Ensure that the modification number has been entered in block 17a of the A-26 and that the date-of-action is completed. General reporting requirements are defined in the Table H-5 below.

Table H-5. Reporting Guidelines for Modifications.

Modification Type	TM Code	AT Code	Mod. No.
Hardware Mod	M (Modification)	M (Modify)	The Mod #
Software Mod	M	M	S and the #
Maintenance Note	E (Equip. Mgmt.)	M	M and the #
RC Implementation	E	M	The RC #
Other Mods	S (Special Activity)	M	None

The MOD number field on the A-26 (block 17a) must be completed for all modifications. When reporting Field Modification Kits (FMKs), that are not a part of an official NWS modification note, enter the FMK number preceded by “FMK” in block 17a. When reporting Engineering Change Proposals (ECPs), that are not part of an official modification note, enter the ECP number preceded by “ECP” in block 17a. When reporting a modification that has no MOD number, enter the word “NONE” in block 17a. All time spent performing modifications is reported using the “MISC” category in the Work Load Information area of the A-26.

3.5 **Equipment Modification Autoload Process.** The WSH is responsible for automatically placing an A-26 into the EMRS “On Hold” area for all WSH directed engineering modification

activities. The Field Staff may report the Modification/Software /Maintenance Note or Request for Change (RC) Implementation using this automatically loaded A-26.

3.6 Installation of Test Configuration. When test configurations are fielded in baseline controlled systems, specific CM data are required. The installation and removal of configurations must be reported. Test configurations have unique identifications to distinguish them from approved configurations. Specific CM reporting guidance will be provided with each installation instruction.

NOTE: CM Data Reporting Verification - If there are questions about CM reporting requirements, contact the NWS, Operations Division at (301) 713-1824, or the WSH Configuration Branch, (W/OPS13) at (301) 713-1892.
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APPENDIX I. – FACILITIES MAINTENANCE DATA REPORTING REQUIREMENTS

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1 General. This appendix specifies data reporting requirements unique to the Facilities Maintenance program. It includes both maintenance and configuration management (CM) reporting guidelines.

1.1 When to Report. An A-26 for facilities related equipment; system or infrastructure will be opened or submitted when:

- 1) Equipment, facility, or infrastructure failures occur.

Corrective Maintenance - Repair of existing equipment, system failure or malfunction. Examples include: HVAC compressor failure, HVAC control system malfunction, delaminating computer floor tiles, generator battery failure, leaking in fuel tank, UPS battery short, broken furniture or chair (repair), shorted power cables, etc.

- 2) Equipment, facility, or infrastructure undergoes routine maintenance.

Preventive Maintenance - Routine activities required to maintain normal operational performance; such as oil changes, filter changes, battery checks, UPS cleaning, pressure washing, etc.

Capital Improvement Project - Replacement of existing equipment or building systems to improve performance or aesthetics (i.e. painting, carpet replacement, roof replacement, operational generator replacement, additional electrical outlets, enhancing of exterior lighting, landscape repair, road repair, reconfiguration of existing furniture layout, resealing parking lots, furniture modifications including storage cabinets and chair replacement, etc.)

- 3) Equipment, facility, or infrastructure is relocated.

- 4) Special activity or sampling occurs.

- 5) Equipment, facility, or infrastructure is activated, deactivated, or modified.

NOTE: All activities associated with New Projects should be reported as part of an equipment, facility, or infrastructure activation. Examples include new wind towers, exterior storage buildings, underground conduits, new roads or sidewalks, furniture for new employees, new generator installation, installation of new equipment, etc.

1.2 Contract Maintenance. The facilities maintenance concept is based in part on locally contracted maintenance. The Facilities Engineering Technician (FET) is the focal point for all facilities related maintenance events involving the maintenance contractor. All Field Staff activities associated with contract maintenance, including contract maintenance oversight, will be managed using the EMRS.

1.3 On-Site Depot Level Maintenance. The facilities maintenance concept includes on-site depot level maintenance. The FET is the local office focal point for all facilities related maintenance events involving on-site depot level maintenance. All Field Staff activities associated with on-site depot level maintenance will be managed using EMRS, including coordination, collaboration, and/or contract maintenance oversight.

1.4 Operational Support Facility Maintenance. The facilities maintenance concept does not include a centralized operational support facility.

2 Facilities Maintenance Reporting. Facilities related maintenance activities are documented in EMRS. One A-26 is typically initiated for each maintenance event performed.

2.1 Designated Equipment Codes for the Facilities Program. An A-26 is initiated when a maintenance event occurs. Sixteen equipment codes have been defined for the Facilities program. These equipment codes are listed in Table I-1.

Table I-1. Equipment Codes for FACILITIES.

EQUIPMENT TYPE	EQUIPMENT CODE
Air Handling Unit (Fans, Heating, and Cooling Coils, Air-Control Dampers, Filters and Silencers)	AHU
WFO/Office/Site Building	BLDG
Closed Circuit TV/Security Display	CCTV
WFO/Office/Site Electrical System	ELECT
Engine-Generator Used for Emergency Power	EPG
Miscellaneous Facilities Equipment Not Assigned a Code	FAC
WFO/Office/Site Fire Alarm/Protection System	FIRE
WFO/Office/Site Furniture	FURN
WFO/Office/Site Employee Housing (Alaska Region Only)	HSG
WFO/Station or Office Heating and Air Conditioning System	HVAC
Hydrogen Fuel Cell	HYFCEL
Packaged Air Conditioner	PAC
WFO/Office/Site Plumbing	PLUMB
WFO/Office/Site Security System	SECRTY
WFO/Office Facilities External to the Building	SITE
Towers	TWRS
Uninterruptible Power Supply	UPS

2.2 Equipment Code Activation for the Facilities Program. Facilities related equipment codes are activated in EMRS by the Field Staff. Submit one A-26 to report all activities associated with the site preparation, construction, installation and checkout of the equipment, facilities and infrastructure. In addition, the Field Staff may be responsible for activating particular facilities related equipment as directed in an official Modification Note, Maintenance Note, or Request for Change Implementation Memorandum. Follow these equipment specific instructions included in the equipment change documentation to activate facilities related equipment in EMRS. Prior to

official activation the Facilities Staff will report all pre-acceptance activities using the reportable equipment code “FAC” and the serial number “001”.

NOTE: When replacing an entire subsystem or a part of the subsystem having a serial number uniquely identified in EMRS, complete two separate A-26s. The “Deactivation” A-26 should have the serial number of the subsystem being removed. The “Activation” A-26 should have the serial number of the new subsystem or equipment.

2.3 Serial Number Locations and Assignments: In general, most of the Facilities equipments are activated with a serial number of 001. However, the sites may be required to uniquely identify a piece of equipment by separately providing the EMRS Group with the actual serial number. A request for a uniquely identifiable serial number for facilities related equipment will be provided via official instruction note when required.

NOTE: If a temporary serial number of “000A” (or similar variation) appears in a site’s equipment population, the EMRS database has not been updated with the correct serial number. Use the Equipment Inventory “Edits and Updates” function on the EMRS Data Entry System webpage or enter an A-26 form to submit the correct serial number.

If an A-26 is used to submit the correct serial number, the Data Entry System will respond with, “SID, Equipment Code and Serial Number combination does not exist in EMRS database! Click OK to continue or click Cancel to go back and correct it.” Click OK. The EMRS analyst will be notified of the discrepancy and will update the site’s equipment inventory.

2.4 Redundant Equipment Uniquely Identified in Facilities. Maintenance activity reporting associated with redundant equipment does not apply to facilities related equipment.

2.5 System Administration. Use the equipment code “FAC”, Type Maintenance code “Z”, and Action Taken code “Z”, to report system administration.

NOTE: Reporting system administration duties do not preclude reports required as the result of normal maintenance activities (i.e. preventive, corrective, modifications, etc.).

3 Configuration Management (CM) Reporting. CM information related to scheduled routine maintenance, corrective maintenance, equipment management activities and engineering modification implementation is documented in EMRS using an A-26. CM information is used to:

- 1) Provide program managers with an accurate record of site configurations.
- 2) Determine modification kit site distribution priority for approved engineering changes.
- 3) Identify sites that have implemented a particular modification.

3.1 A-26 Data. CM data, collected via EMRS, is used to update databases supporting equipment and system status accounting at the WSH, Regional Headquarters and field offices. These databases provide users with site-specific hardware and software configuration information, as well as information concerning equipment modification implementation.

3.2 Modification/Software /Maintenance Note and Request for Change (RC) Implementation. Follow specific reporting requirements outlined in each official instruction note. Ensure that the modification number has been entered in the A-26 and that the date-of-action is completed. General reporting requirements are defined in Table I-4 below.

Table I-4. Reporting Guidelines for Modifications.

MODIFICATION TYPE	TM CODE	AT CODE	MOD. NO.
Hardware Mod	M (Modification)	M (Modify)	The Mod #
Software Mod	M	M	S and the #
Maintenance Note	E (Equip. Mgmt.)	M	M and the #
RC Implementation	E	M	The RC #
Other Mods	S (Special Activity)	M	None

The MOD number field on the A-26 (block 17a) must be completed for all modifications. When reporting Field Modification Kits (FMKs), that are not a part of an official NWS modification note, enter the FMK number preceded by “FMK” in block 17a. When reporting Engineering Change Proposals (ECPs), that are not part of an official modification note, enter the ECP number preceded by “ECP” in block 17a. When reporting a modification that has no MOD number, enter the word “NONE” in block 17a. All time spent performing modifications is reported using the “MISC” category in the Work Load Information area of the A-26.

3.3 Modification Reporting Auto-load Process. The WSH is responsible for automatically placing an A-26 into the EMRS “On Hold” area for all WSH directed engineering modifications. The Field Staff may report the Modification/Software /Maintenance Note or Request for Change (RC) Implementation using this automatically loaded A-26.