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SUMMARY OF REVISIONS: Supersedes NWS Instruction 10-814, *Center Weather Service Unit (CWSU) Site Review Program*, and dated June 2, 2010. Changes are necessary out of cycle to accommodate the next phase of the CWSU Site Review Program and take advantage of lessons learned during the previous site reviews.

Changes include:

1. Section 5.1 and 6 was updated as QVR method was changed.
2. Section 6.1.1 was updated to reflect implementation of a remote site review.
3. Previous section 7.5 "Results Briefing" is no longer required and has been removed.
4. Previous section 7.7 "Evaluations Resulting in Underperforming Elements" has been removed.
5. Appendix A has a new spreadsheet to reflect improved QVR method.
6. Section 3 "Background" has been removed.
7. Questions in Appendix A have been removed and a link to website is now provided.

//Signed//   March 12, 2012

Jason P. Tuell   Date
Acting Director, Office of Climate, Water, and Weather Services

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1.   Purpose. This directive establishes general procedures for conducting reviews for quality assurance of services and products provided by National Weather Service (NWS) Center Weather Service Unit (CWSU) to the Federal Aviation Administration (FAA). CWSU support to the FAA is detailed in NWSI 10-803.

2.   General. NWS CWSU support is designed to improve aviation safety and enhance efficient flow of air traffic by forecasting and monitoring adverse weather. Efficiency is promoted by maintaining close coordination with traffic managers whose decisions affect the flow of air traffic through the National Airspace System (NAS). Quality assurance of CWSU services and products results in improved services to the FAA.

3.   Site Reviews. Each CWSU will be reviewed annually and their products and services documented. Input will be gathered by on-site observations, and/or by interviewing the appropriate FAA representatives.

3.1   Notification of Site Review. During each fiscal year, the schedule of site reviews is determined and published. The published schedule, along with every revision, is provided to the FAA CWSU Contract's Officer Technical Representative (COTR) for forwarding to the Air Route Traffic Control Center (ARTCC) Facility Managers, the TMU Supervisor, and the regional FAA Quality Assurance Program Managers. The schedule is also provided to the NWS OCWWS Meteorological Services Division Chief, the OCWWS Aviation Services Branch Chief, the Regional Directors, the Regional Service Division Chiefs, the Alaska Aviation Weather Unit (AAWU), the Regional Aviation Meteorologists (RAMs), and the WFO and CWSU MICs.

One month prior to the scheduled Review, Aviation Weather Services Branch (ASB) will notify all representatives associated with the scheduled CWSU site review.

4.   CWSU Site Review Team. The function of the CWSU Site Review Team is to assess individual CWSU services and products and to report results to the NWS and FAA management.

4.1   On-site Review Team. The CWSU Site Review Team consists of two participants – a member from ASB and a RAM. A NWS Senior Executive, if available, or designate may also attend. The RAM and NWS Senior Executive cannot be from the region that is being reviewed. The team will proceed as planned even if the Senior Executive, or designate, cannot participate.

4.1.1   Other Participants. In addition to the Site Review Team, both the MIC of the "parent" WFO, the MIC of the AAWU when appropriate, and the MIC of the CWSU can accompany the Site Review Team to provide information to the reviewers, but they do not participate as reviewers. The CWSU MIC will not participate in any interviews. Regional headquarters managers may also observe the review but will have no input.

4.2   Remote Site Review Team. The Remote Site Review Team consists of two participants, a member of the OCWWS ASB and a RAM. The RAM should be from a different region than that of the CWSU.

5.   Initial CWSU Site Reviews (Fiscal Year (FY) 2009). Initial Site Reviews were conducted at each CWSU in FY 2009. These reviews were used as a "baseline" evaluation and provided CWSUs with insight into the review process and to program expectations. Findings and recommendations were identified and tracked. Findings were also used to determine the baseline for the Quality Verification Rating (QVR) which will be used in future reviews.

5.1   Determining QVR. Eight Service Categories or Routine Assessment Listings (RAL) are used to evaluate a CWSU. The RALs are:
- Stand-up Briefings
- On-Demand Briefings
- TMU Support
- TRACON Support
- Tower Support
- Center Weather Advisory (CWA)/ Meteorological Impact Statement (MIS)
- CCFP Tracking
- Standard Operating Procedure (SOP)

The acceptable quality level (AQL) for each category or RAL is 85%. Based on a scale of 1 to 10 where 10 equals 100% when converted to a percentage, one finding will drop a category to 90% and two findings will drop a category to 80% which is below the AQL of 85%.

Each section also has a point value assigned to it ranging from 4 to 20 points depending on the perceived importance of that section. The "points earned" section(s) are determined by multiplying your RAL percentage by the total points possible in that section. For example, a

RAL of 90% in a 20 point section would have the site earn 18 points in that section. This process is completed for each of the eight sections. Once all sections are completed, the points are totaled and the Quality Verification Rating (QVR) for the entire review is calculated by adding the sections together. The sheet used to determine QVR can be found at https://ocwws.weather.gov/cwsu/resources/QA_Assessment_Review_Crosswalk.pdf

The QVR worksheet has eight sections. The first section (ARTCC Briefing) is section A and the last section (CWSU SOPs) is section H. Each section also has eight squares which are assigned a number from 1 to 8 which will correspond with the proper question being asked. The number of each square is as follows: consistency (1), timeliness (2), accuracy (3), training (4), product (5), process (6), misc. (7) and equipment (8). So if a question is referring to a how consistent the product the CWSU is providing to the TMU then that would impact squares 1 and 5 for section c (TMU Support).

6.   CWSU Site Review Program. Individual elements of the CWSU services and products will be evaluated and any findings will be tabulated to determine a Quality Verification Rating (QVR). If a site does not meet the three criteria items listed below it will deemed "underperforming":

- Total QVR score of 94% or better
- A RAL of 85% or greater in each section (one finding or less per RAL)
- No findings in the CCFP section portion of the inspection

6.1   On-site Review. The CWSU Site Review is conducted over 1-2 days. Upon arrival to the facility, the site review team should meet with the Traffic Management Officer (TMO), appropriate members of the ARTCC staff, and the WFO MIC. The initial meeting should include a briefing by the CWSU Review Team explaining the purpose of the visit, procedure and review plan. Participation from the ARTCC TMU and Sector Managers/Supervisors is necessary to get an accurate evaluation of the services provided by the CWSU. When the primary TRACON is within a reasonable distance from the ARTCC, the CWSU Site Review Team should go to the TRACON and interview Traffic Management Personnel. Tower personnel should also be interviewed when possible to do so.

In addition, the CWSU MIC will provide an in-briefing to the site review team detailing CWSU operations and changes since the last site review visit including actions taken to address any findings from previous site reviews.

6.1.1   Remote Site Review. The team may perform a remote site review. Remote site reviews will be consistent in questions asked and format as the on-site visits. The only aspect of the remote review that may be impacted will be the team's observation of the unit. Observations of the unit will be determined by interviewing multiple sources who interact with the CWSU on a daily basis.

6.2   CWSU Observations. Ideally, the on-site review team will evaluate two standup briefings, preferably one each in the morning and afternoon. Furthermore, the team will observe the CWSU operations for as long as possible. This observation may include interactions between the CWSU and the FAA including scheduled briefings, on-demand briefings, and the

issuance of any CWSU product.

CWSUs will be evaluated using the CWSU Site Review Questions and Checklist (Appendix A).

6.3   Interviews. The Site Review Team will interview appropriate FAA representatives. The interviews should follow the CWSU Site Review Checklist (Appendix A) and responses should be noted on the checklist. The FAA COTR can request the FAA to schedule the FAA interviews. The team will ask FAA personnel to provide examples of how the CWSU meteorologist assists, or does not assist, the FAA in improving safety and efficiency of the NAS. Specific examples will be encouraged.

6.4   Exit Briefing for On-site Reviews. Upon completion of the on-site portion of the CWSU Site Review, the Site Review Team will provide the TMO, appropriate members of the ARTCC staff, WFO MIC and CWSU MIC with an exit briefing. The briefing should include a discussion of preliminary findings.

6.4.1   Exit Briefing for Remote Site Reviews. An exit briefing email will be sent by ASB to the WFO MIC, CWSU MIC, FAA COTR, RAM of the region whose unit was reviewed, Aviation Service Branch Chief and all team members of the site review within 72 hours of the team concluding its last remote review interview.

6.5   Final Report. The Site Review Team will provide a written report and QVR score to the following within two weeks of the end of the review:

- FAA CWSU COTR (COTR will provide a copy of the report to the appropriate FAA personnel)
- NWS OCWWS Director
- NWS Regional Director of the CWSU
- NWS Regional Service Division Chief of the CWSU
- NWS Regional Aviation Meteorologist of the CWSU
- WFO/AAWU MIC
- CWSU MIC

ASB will be responsible for sending out the final report and keeping a record of the report on file along with the QVR score.

6.6   Mitigation of Underperforming Element(s). If any element(s) of the CWSU Site Review is deemed underperforming, the WFO and CWSU MIC will provide a written Element Improvement Plan to the NWS Director of OCWWS within 30 days of receipt of the final report. The Element Improvement Plan should include planned actions to improve the underperforming element(s) with a timeline.

ASB, the NWS Region, the WFO and CWSU will work together to successfully mitigate any underperforming elements within 90 days of the final written report.

Appendix A
CWSU Site Review Questions and Example QVR Worksheet

The following link (http://ocwws.weather.gov/cwsu/index.shtml) contains examples of questions that can be used when talking with FAA Traffic Managers. Some pertain more to ARTCC personnel while others would be more useful when talking with tower or TRACON managers. This is not meant to be a complete list of questions, nor is it a list of questions that must be asked. The intent is to provide help and guidance to site review team members for generating their own questions.

Due to the small amount of data and questions asked regarding the CCFP and Product section (CWAs and MISs) the review team can use the monthly metrics numbers to support the review process. The team can only go back to the month after the previous review so units are not cited twice for the same issue. For the Anchorage CWSU (ZAN) review the CCFP section will be omitted since they are unable to participate.

For the CWA and MIS section metrics the correction rate needs to be kept as low as possible. For sites that have a correction rate of less than 5% no finding should occur. If the correction rate is between 5 and 10% a finding could be issued based on what the team determines during the review. If a correction rate is greater than 10% a finding should be issued unless the team or CWSU MIC being reviewed can prove corrections were not the fault of the unit such as equipment malfunction.

1. Example QVR Worksheet:

NWS QA ASSESSMENT/REVIEW CHECKLIST

1. LOADED BY:	NAME HERE		3. DATE	
2. QVR SCORE:	95.0%		MM/DD/YYYY	

4. REVIEWERS:

Team Member's Name	Team Member's Name
Team Member's Name	Team Member's Name

5. CWSU SITE LOCATION	6. TOTAL NUMBER OF FINDINGS	
XXXXXX		3

7. MEASURE		8. AREA		9. SERVICE CATEGORY			
CONSISTENCY		PRODUCT		Section A--ARTCC Briefings (12 points total)			
TIMELINESS		PROCESS					
ACCURACY		MISC					
TRAINING		EQUIPMENT					
TOTAL FINDINGS PER SECTION	0			RAL Score	100.0%	Points Earned	12.0
CONSISTENCY		PRODUCT	X	Section B--On-Demand Briefings (12 points total)			
TIMELINESS	X	PROCESS					
ACCURACY		MISC					
TRAINING		EQUIPMENT					
TOTAL FINDINGS PER SECTION	1			RAL Score	90.0%	Points Earned	10.8
CONSISTENCY	X	PRODUCT	X	Section C--TMU Support (20 points total)			
TIMELINESS		PROCESS					
ACCURACY		MISC					
TRAINING		EQUIPMENT					
TOTAL FINDINGS PER SECTION	1			RAL Score	90.0%	Points Earned	18.0
CONSISTENCY		PRODUCT		Section D--TRACON Support (8 points total)			
TIMELINESS		PROCESS					
ACCURACY		MISC					
TRAINING		EQUIPMENT					
TOTAL FINDINGS PER SECTION	0			RAL Score	100.0%	Points Earned	8.0
CONSISTENCY		PRODUCT		Section E--Tower Support (8 points total)			
TIMELINESS	X	PROCESS					
ACCURACY		MISC	X				
TRAINING		EQUIPMENT					
TOTAL FINDINGS PER SECTION	1			RAL Score	90.0%	Points Earned	7.2
CONSISTENCY		PRODUCT		Section F--CWSU CWAs & MISs (4 points total)			
TIMELINESS		PROCESS					
ACCURACY		MISC					
TRAINING		EQUIPMENT					
TOTAL FINDINGS PER SECTION	0			RAL Score	100.0%	Points Earned	4.0
CONSISTENCY		PRODUCT		Section G--CWSU CCFP (12 points total)			
TIMELINESS		PROCESS					
ACCURACY		MISC					
TRAINING		EQUIPMENT					
TOTAL FINDINGS PER SECTION	0			RAL Score	100.0%	Points Earned	12.0
CONSISTENCY		PRODUCT		Section H--CWSU SOPs (4 points total)			
TIMELINESS		PROCESS					
ACCURACY		MISC					
TRAINING		EQUIPMENT					
TOTAL FINDINGS PER SECTION	0			RAL Score	100.0%	Points Earned	4.0