

***NATIONAL WEATHER SERVICE INSTRUCTION 10-101***

**June 11, 2008**

***Operations and Services***

***NWS Requirements NWSPD 10-1***

***CHANGE MANAGEMENT PROCESS***

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**NOTICE:** This publication is available at: <http://www.nws.noaa.gov/directives/>.

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***SUMMARY OF REVISIONS:*** This revision supersedes National Weather Service Instruction 10-101, Operations and Services, Change Management Process, dated May 4, 2006. Changes include adding seven specific program terms-of-reference to the appendices.

/Signed/

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Date

NWS Change Management Process

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1. Introduction. National Weather Service (NWS) Instruction 10-101 establishes the Change Management Process (CMP) and includes an overview of the scope, structure, process, and responsibilities within the CMP for the systems under NWS change management control (Appendix A). This instruction is authorized by Policy Directive 10-1, NWS Requirements.

2. Purpose. The CMP ensures processes that are efficient, visible, uniform, and accountable. The process applies technical and administrative direction to control changes, records and reports change processing, verifies compliance with established requirements, and provides process improvements. Appendix B lists acronyms applicable to the CMP.

3. Closed Loop Process. The NWS operational systems under configuration management have established baselines managed by the NWS Office of Operational Systems, Configuration Branch (W/OPS13). Each change to those baselines requires a Request for Change (RC) to be submitted by a designated Submitting Authority (SA). The NWS Office of Climate, Water, and Weather Services, Operations and Requirements Division (W/OS1) processes RCs using the review and approval structures set up by the program managers of each individual system under configuration management control. During the review and approval process, W/OS1 compiles implementation activities recommended by reviewers and distributes action steps to the responsible offices along with the approval notification. After implementation of the changes and release of upgraded documentation by W/OPS13, approved changes create a new baseline that may be changed again to meet new or unmet user requirements: a closed loop process. Appendix J illustrates the closed loop change process.

3.1 Configuration Baseline. NWS Instruction (NWSI) 30-1203 CONFIGURATION MANAGEMENT FOR OPERATIONAL SYSTEMS authorizes the Configuration Branch, W/OPS13 to maintain the Configuration Baselines for selected operational NWS systems.

3.2 Needs and Requirements. Baseline changes must relate to established needs and requirements. W/OS1 refers RCs that do not meet all of the following criteria to the Operations and Services Improvement Process (OSIP) Requirements Team for OSIP action.

- a. The requested change is under the purview of an established approval authority for the applicable program. There is an implicit solution which lends itself to a specific program without impact on other systems requiring significant development or additional resources.
- b. The submitter identifies and describes an adequate solution. Sufficient information is, or will be available to describe the concept and requirements. No significant research will be required.
- c. The RC identifies an appropriate funding source and adequate funds are available so the request does not need to go to the Planning, Programming, Budgeting, and Execution System.
- d. The need to be met by the requested change fulfills or relates to an existing requirement.

3.3 Request for Change Process. Office-level organizations will initiate RCs in response to unfulfilled or changing user requirements and a designated SA will submit the RCs electronically to [nwsrc@noaa.gov](mailto:nwsrc@noaa.gov) using NWSRC Form 1001. The latest RC form and instructions are available at <http://www.weather.gov/os/cm>.

3.3.1 Change Management Analyst Roles and Responsibilities. The Systems Change Manager (SCM) assigns each RC to a Change Management Analyst (CMA). The CMA's responsibilities include: analyzing the RC prior to distributing it for review processing, obtaining all missing data, scheduling and providing secretarial assistance (agendas and minutes) to the CCB and PMC meetings, maintaining the current status of RCs including action items, maintaining charters and Terms of Reference (TOR), and coordinating the RC appeals process. Each CMA should have someone to represent them in their absence.

3.3.2 Submitting Authorities. The SA is the Office Director, Regional Director, Program Manager or their selected designee. Each SA should have someone to represent them in their absence. The SA is responsible for submitting RCs that reference a particular requirement in electronic (soft copy) form to the [nwsrc@noaa.gov](mailto:nwsrc@noaa.gov) mailbox. Only SAs and their designated back up representatives are authorized to submit RCs to the Office of Climate, Water, and Weather Services (OCWWS).

3.3.3 Focal Point Responsibilities. Each SA will designate a Focal Point (FP) for each applicable program to represent their office throughout the RC process. For each RC, FPs will identify a Cognizant Technical Individual (CTI) to be available to answer any technical questions that come up during the review process. Focal Point (FP) should also have someone to represent them in their absence. The FP functions are necessary for an effective and efficient CMP and include the following activities.

- a. Reviewing requested changes to ensure they are clear, concise, and valid.
- b. Coordinating with their respective offices before and after a decision is reached.
- c. Providing comments and recommendations for RCs in the time prescribed in section 3.3.5 Review Process.
- d. Notifying or designating someone to notify W/OS1 through the appropriate CMA mailbox (see Appendix A) of any changes in schedule or scope, and when implementation is completed.

3.3.4 Priorities. The SA may recommend a priority code, but the respective approving authority will make the final determination. Each program establishes a priority system and specifies criteria for assigning and processing RCs using the following three priority codes.

- a. Routine. This priority level applies to all RCs that do not meet the Emergency or Urgent criteria.

- b. Urgent. This priority level applies when at least one of the following criteria is met:
  - (1) To correct a potentially hazardous condition, the uncorrected existence of which may result in injury to the general public, injury to personnel installing or using the equipment, or damage to the equipment itself.
  - (2) To effect a change which, if not accomplished expeditiously, may seriously compromise the effectiveness of the program equipment, software or products.
  - (3) To effect an interface change which, if delayed, would cause a schedule slippage or cost increase.
  
- c. Emergency. This priority level requires immediate processing and applies when changes are necessary to correct a failure of the system as follows:
  - (1) Delay weather or water warnings to the general public of a hazardous condition that may result in fatal or serious injuries to the general public.
  - (2) To correct a hazardous condition that may result in fatal or serious injuries to personnel installing or using the equipment.
  - (3) Cause extensive damage or destruction to the equipment itself.

3.3.5 Review Process. W/OS1 will initiate RC reviews according to procedures established for the system or systems potentially affected by proposed changes. Charters and TORs applicable to specific weather systems and programs outline these processes, to include specific reviewing offices or individuals necessary to complete RC reviewing processes. Each reviewer will respond within 5 working days. Valid responses consist of a decision statement or a request for additional review time. Requests for additional time should include the estimated time needed with a clear explanation of why the extension is required.

3.3.6 Fast Track Process. Fast Track RCs include RCs that can be approved after coordination with a subset of the normal group of voting and approving authorities. Although fast track does not refer to the speed of processing, approval of routine Fast Track RCs may be quicker because of the reduced coordination required. The full set of voting and approving authorities will determine the criteria for Fast Track RCs in advance. This decision may be based on multiple criteria such as low cost, fewer stakeholders, simplicity of solutions, clear precedent, limited variables, or the routine nature of the change. Voting and approving authorities have the opportunity to identify any systemic problems with the process, allowing them to request a review of fast track criteria as needed. To reduce the overhead needed for many routine changes, each program should strive to increase the number of changes meeting the fast track criteria.

3.3.7 Request for Change Tracking System. The Request for Change Tracking System (RCTS) is a database tool for tracking RCs from receipt through the review process and to the final decision. The unique identifier is the number assigned by RCTS when analysts enter RCs into the system. Analysts include selected information from RCs in the RCTS and may supplement

the standard data with additional comments as needed. Users have restricted access, via the web, to the Reports section of RCTS at <http://www.weather.gov/os/cm/status.html>.

3.4 Approval Structure. Each program has an approving authority defined by program-specific charters and TORs. After completing the review process, voting members decide the disposition of each RC through consensus. Failure to reach a consensus may result in disapproval or a referral to the next higher board as determined by each program in their respective charters and TORs.

3.4.1 Systems Change Manager. The Systems Change Manager (SCM) is responsible for coordinating an appropriate review of all RCs. The SCM is the approving authority for any NWS system that does not have a decision board or Program Manager (PM).

3.4.2 Tri-Agency Programs. Automated Surface Observing System (ASOS) and Next Generation Weather Radar (NEXRAD) are tri-agency programs with stakeholders including the Departments of Commerce (NWS), Transportation (FAA), and Defense (US Navy and US Air Force). Decisions require a consensus among the representatives from each of the three departments.

3.4.3 Program Management Committees. For ASOS and NEXRAD, Program Management Committees (PMC) provide oversight of the program budget, policy, resource commitment, and management guidance. These committees also serve as higher level decision bodies and approving authorities for proposed major product improvement changes to ASOS and NEXRAD system configurations operationally deployed within the three agencies. PMC responsibilities are those necessary for effective and efficient lifecycle operations, maintenance, configuration management, and system evolution. The roles of the PMC members are as follows.

- a. Chair. The Chair presides over the PMC, arranges the presentation of information and issues to the PMC, and obtains all resolutions. The Chair, in consultation with members of the PMC, may invite other agency personnel to participate in meetings as necessary and may also create working groups. The Chair receives plans, issues, interagency Memoranda of Agreement and Charters from the agencies, as well as RCs and Engineering Change Proposals from the CCB.
- b. Executive Secretary. The Executive Secretary maintains the PMC administrative management process. The Executive Secretary performs the routine secretariat functions for the PMC including: maintaining the list of members, scheduling meetings, preparing agendas and supporting data, assisting the Chair in the conduct of meetings, distributing proposed revisions to the charter, and preparing and distributing meeting minutes.
- c. Agency Representatives. The agency representatives are delegated full authority by their respective agencies and will present agency issues and dispositions to the PMC. Each agency representative reviews the PMC agenda to be prepared to address and resolve each item on the agenda at the meeting. Agency representatives ensure appropriate coordination occurs to permit the

timely commitment of agency resources to agency-supported, PMC-approved activities.

3.4.4 Configuration Control Boards. For ASOS and NEXRAD, Configuration Control Boards (CCB) serve the PMCs as technical support groups responsible for addressing operations, engineering, logistics, Configuration Management (CM), testing, and other related technical aspects of proposed changes to the program. Several of the other programs listed in Appendix A, also have CCBs, though they do not have PMCs. CCBs serve as the central technical group that evaluates RCs, makes decisions within their purview, and performs special analyses when needed. Members may invite advisors to help them with the evaluations and discussions made at CCB meetings; however, members are responsible for representing the official positions of their offices and agencies. Following are specific responsibilities.

- a. Chair. The Chair presides over the board, arranges the presentation of issues, and coordinates their resolution. The Chair may designate Working Group Chairs. The Chair determines what specific tasks, if any, are to be completed by a Working Group and ensures that milestones for completing these tasks are assigned.
- b. Secretary. The Secretary performs routine secretariat duties for the CCB including: scheduling meetings, coordinating distribution of items for decision, preparing meeting agendas and supporting data, assisting the Chair in the conduct of meetings, preparing and distributing meeting minutes, and maintaining the status tracking of RCs.
- c. Members. Members serve as their respective office/agency representatives for technical and programmatic issues. The office/agency representatives ensure appropriate coordination occurs within their offices/agencies to obtain input involving each change request.

3.5 Notification. Upon completion of the decision-making activity, the CMA will notify the SA, focal points, and other appropriate authorities of the decision as soon as possible. Documentation reflecting the decision and defining all action items necessary to implement decisions will be distributed to individuals having action items. The designated SA should notify W/OS1 when the change is implemented through the appropriate program-specific point of contact listed in Appendix A.

3.6 Appeals Process. The appeals process may be used when a submitter disagrees with the final decision on their RC. This process does not replace program-specific provisions to elevate decisions under circumstances outlined in program charters and TORS. The NWS RC appeals form and instructions are available at <http://www.weather.gov/os/cm>.

3.6.1 Time Limit. Using the date the RC disapproval notice is distributed; the Submitting Authority will have up to ten (10) working days to submit NWSRC Form 1002, Appeal Request, to the CMA via e-mail indicating that they are appealing the disapproval of their RC with a complete description of their reasons for appeal.

3.6.2 Appeal Notification. Once the CMA has received the appeal notification e-mail, the CMA informs the appropriate Approving Authority and voting members.

NOTE: The term Approving Authority is defined as the person who has approval and disapproval authority. This person may be the PM, CCB Chair, PMC Chair, or SCM as indicated in the appropriate charters and TORs.

3.6.3 Adjudication. The Approving Authority should hold meeting(s) to discuss and agree that the appeal has sufficiently addressed the concerns of the voting members.

3.6.4 Decision. Upon agreement by the voting members, the CMA will send an e-mail to the SA, copying the Approving Authority and the voting members, informing them of the final decision.



**APPENDIX A - NWS Systems Under Change Management**

NWS System	Program	CM Responsible Organization	Point of Contact	Approval Authorities
Advanced Weather Interactive Processing System	AWIPS	OS1	awipsrc@noaa.gov	CCB
Automated Surface Observing System	ASOS	OS1	asosrc@noaa.gov	CCB PMC
Changes of Operation (other data collection, dissemination, and operational support systems)	CHOP	OS1	nwsrc@noaa.gov	SCM Program Managers
Cooperative Station Service Accountability	CSSA	OS1	cssarc@noaa.gov	SCM Program Manager
Data Review Group	DRG	OS1	drgcm@noaa.gov	DRG
Next Generation Weather Radar	NEXRAD	OS1/ OPS42	nexradrc@noaa.gov	CCB PMC
National Oceanic and Atmospheric Administration Weather Radio Console Replacement System	NWR CRS	OS1	crsrc@noaa.gov	SCM Program Manager
Radiosonde Replacement System	RRS	OS1	rrsrc@noaa.gov	CCB

## **APPENDIX B - Advanced Weather Interactive Processing System (AWIPS) Terms of Reference (TOR)**

### **Authority**

The *National Weather Service Instruction (NWSI) 10 -101, Change Management (CM) Process*, authorizes this Terms of Reference (TOR).

### **Mission**

The Advanced Weather Interactive Processing System (AWIPS) is an integrated suite of automated data-processing equipment that supports complex analysis, interactive processing, display of hydrometeorological data, and the rapid dissemination of warnings and forecasts in a highly reliable manner. AWIPS supports the weather and hydrologic forecasts and warning operations at the Weather Forecast Offices (WFOs), River Forecast Offices (RFOs), and the National Centers for Environmental Prediction (NCEP).

AWIPS provides open access, via NOAAPort, to extensive National Oceanic and Atmospheric Administration (NOAA) data sets; acquires and processes data from an array of meteorological sensors, including the Next Generation Weather Radar (NEXRAD), Geostationary Operational Environmental Satellite (GOES), Automated Surface Observing System (ASOS), and local sources; and disseminates warnings and forecasts.

### **Objectives**

This TOR documents the authority, mission, and the responsibilities for the CM of the AWIPS system.

### **Responsibilities**

- **Composition**

NWS CM administers the AWIPS Configuration Control Board (CCB). The AWIPS CCB is comprised of the AWIPS CCB Chair, NWS Headquarters (NWSHQ) Office representatives and the AWIPS CM Analyst.

- **Method of Work**

The NWS Systems Change Manager (SCM) arranges for the resources needed for effective CM functions within the NWS, including standardized forms, a Request for Change (RC) tracking system, and trained analysts to process the RCs. There is a single point-of-entry for all RCs, regardless of the authorized Submitting Authority (SA) or level-of-effort required to fulfill the request. Baseline changes must relate to established needs and requirements. When necessary, the CM Analyst will refer RCs to the

Operations and Services Improvement Process (OSIP) Requirements Team for OSIP action.

AWIPS RCs are processed by the AWIPS CM Analyst who analyzes the RCs, gathers any additional data needed, conducts reviews, and distributes adjudication notices. The AWIPS CCB assigns implementation actions among the organizations to specific individuals who are responsible for physical changes, software changes, notifications, and documentation. The AWIPS voting members and Focal Points (FP) are responsible for coordinating the review of AWIPS RCs with their offices and providing comments to their voting member for final vote. All comments and votes are due within 5 working days, unless granted an extension. Extension requests should be justified and submitted within 5 working days.

- **Membership**

1. AWIPS Configuration Control Board Chair: Approves or disapproves all AWIPS RCs. The AWIPS Program Manager serves as the AWIPS CCB Chair.
2. AWIPS Analyst/Secretary: Analyzes RCs prior to distributing them to the voting members and FPs for review; distributes and establishes a due date for the RC review; and sends adjudication notices to the SA, Cognizant Technical Individual (CTI) and reviewing members. The AWIPS CM Analyst serves as the CCB Secretary.
3. AWIPS Voting Members: Appointed by NWS Headquarters (NWSHQ) Office and Regional Directors. Voting members are responsible for coordinating the RC reviews within applicable NWSHQ and regional offices. They recommend approval, disapproval, or may request additional time for review of RCs.
4. Designated Submitting Authority: Appointed by NWSHQ Office and Regional Directors. SAs receive RCs from the CTI, review and submit RCs for processing, or return incomplete or invalid RCs for additional information or denial.
5. AWIPS Focal Points: Appointed by NWSHQ Office and Regional Directors. FPs are responsible for coordinating RC reviews within their respective organizations and providing all comments to the appropriate voting members for final vote.
6. Cognizant Technical Individual: Any user of the AWIPS system that has a need for a change to the existing baselined system may submit a completed RC to the appropriate SA.

- **Board and Committee Support**

The AWIPS CCB Charter is available on the NWS Change Management website at [www.weather.gov/os/cm](http://www.weather.gov/os/cm). Committees are established by the AWIPS CCB Chair on an as needed basis.

## **APPENDIX C - Automated Surface Observing System (ASOS) Terms of Reference (TOR)**

### **Authority**

The *National Weather Service Instruction (NWSI) 10 -101, Change Management (CM) Process*, authorizes this Terms of Reference (TOR).

### **Mission**

The Automated Surface Observing System (ASOS) program is a joint effort of the Departments of Transportation (DOT), Commerce (DOC), and Defense (DOD). The ASOS system serves as the nation's primary surface weather observing network. ASOS is designed to support the nation's meteorology, hydrology, and climatology operations and research needs.

### **Objectives**

This TOR documents the authority, mission, and responsibilities for the CM of the ASOS system.

### **Responsibilities**

- **Composition**

NWS manages the ASOS CM program and coordinates changes to the ASOS configuration baseline among the three agencies. Agency representatives submit Requests for Change (RCs) to the single point of entry maintained by the NWS. The CM objective is to help the agencies standardize their systems to the maximum extent possible, while remaining responsive to agency-unique and site-specific requirements.

- **Method of Work**

The NWS Systems Change Manager (SCM) arranges for the resources needed for effective CM functions within the NWS, including standardized forms, a Request for Change (RC) tracking system, and trained analysts to process the RCs. There is a single point-of-entry for all RCs, regardless of the authorized Submitting Authority (SA) or level-of-effort required to fulfill the request. Baseline changes must relate to established needs and requirements. When necessary, the CM analyst will refer RCs to the Operations and Services Improvement Process (OSIP) Requirements Team for OSIP action.

ASOS RCs are processed by the ASOS CM Analyst who analyzes the RCs, gathers any additional data needed, conducts reviews, and distributes adjudication notices. As appropriate, the ASOS Configuration Control Board (ACCB) and ASOS Program Management Committee (APMC) assign implementation actions among the agencies to specific individuals who are responsible for physical changes, software changes,

notification, and documentation. The ASOS voting members and focal points are responsible for coordinating the review of ASOS RCs with their offices and providing their comments to their voting member for final vote. Each agency participates in reviewing and approving or disapproving RCs through their membership in the ACCB and APMC. All comments and votes are due within 5 working days, unless granted an extension. Extension requests should be justified and submitted within 5 working days.

- **Membership**

1. APMC Chair: Directs the activities of the APMC and approves or disapproves ASOS RCs based on the consensus of the APMC members.
2. ACCB Chair: Directs the activities of the ACCB and approves or disapproves RCs based on the consensus of the ACCB members.
3. ASOS Analyst/Secretary: Analyzes RCs prior to distributing them to the voting members and focal points for review; distributes and establishes a due date for the RC review; and sends adjudication notices to the SA, Cognizant Technical Individual (CTI), voting members, reviewing members, and those assigned actions. The ASOS CM Analyst serves as the ACCB Secretary
4. ASOS Voting Members: Responsible for coordinating the RC reviews within their organization. Voting members recommend approval, disapproval, or may request additional time for review of RCs.
5. Designated Submitting Authority: Appointed by the directors of their respective offices. SAs receive RCs from the CTI, review and submit RCs for processing, or return incomplete or invalid RCs for additional information or denial.
6. ASOS Focal Points: Responsible for coordinating the RC reviews through their organizations at their respective headquarters and appropriate field activities, and forwarding consolidated comments to their respective voting members.
7. Cognizant Technical Individual: Any user of the ASOS system that has a need for a change to the existing baselined system may submit a completed RC to the appropriate designated SA.

The FAA (DOT), the NWS (DOC), and the US Navy and the US Air Force (DOD) are stakeholders in the ASOS program. Each participating agency provides funds for RCs in proportion to the number of ASOS sites they own, and in relation to agency-specific requirements.

- **Board and Committee Support**

The ACCB and the APMC charters include specific tri-agency responsibilities. These charters are available on the NWS Change Management website at [www.weather.gov/os/cm](http://www.weather.gov/os/cm).

The APMC includes senior-level representatives designated by each agency with the authority granted by the sponsoring agency to make appropriate decisions relative to the current and future configuration of the ASOS program. Because the hardware and software are standardized across all participating agencies to the maximum extent possible, each member has a stake in APMC decisions.

The ACCB serves the APMC by reviewing and approving RCs, recommending appropriate RCs for higher-level decisions, and performing other change-related tasks assigned by the APMC.

## **APPENDIX D - Cooperative Station Service Accounting (CSSA) Terms of Reference (TOR)**

### **Authority**

The *National Weather Service Instruction (NWSI) 10 -101, Change Management (CM) Process*, authorizes this Terms of Reference (TOR).

### **Mission**

The Cooperative Station Service Accountability (CSSA) System is a collection of Cooperative Observer Program (COOP) station information residing in a database on a centralized server at National Weather Service Headquarters (NWSHQ). The system is designed to provide for data entry and manipulation, observer payroll, reporting and other tasks associated with the NWS COOP Program. The CSSA does not include observational data. The CSSA system supports the nearly 12,000 stations in the Cooperative network, provides a single authoritative source for COOP station information; and creates a permanent archive of station information critical to the interpretation of climate data.

### **Objectives**

This TOR documents the authority, mission, and responsibilities for the CM of the CSSA system.

### **Responsibilities**

- **Composition**

The NWS Systems Change Manager (SCM) is the adjudicating authority for all CSSA Requests for Change (RC).

- **Method of Work**

The SCM arranges for the resources needed for effective CM functions within the NWS, including standardized forms, a Request for Change (RC) tracking system, and trained analysts to process the RCs. There is a single point-of-entry for all RCs, regardless of the authorized Submitting Authority (SA) or level-of-effort required to fulfill the request. Baseline changes must relate to established needs and requirements. When necessary, the CM Analyst will refer RCs to the Operations and Services Improvement Process (OSIP) Requirements Team for OSIP action.

CSSA RCs are processed by the CSSA CM Analyst, who analyzes the RCs, gathers any additional data needed, conducts reviews, and distributes adjudication notices. The CSSA voting members and Focal Points (FP) are responsible for coordinating the review of all CSSA RCs with their offices and providing comments to their voting member for



final vote. All comments and votes are due within 5 working days, unless granted an extension. Extension requests should be justified and submitted within 5 working days.

- **Membership**

1. System Change Manager: Approves or disapproves all CSSA RCs.
2. CSSA Change Management Analyst: Analyzes RCs prior to distributing them to the voting members and focal points for review; distributes and establishes a due date for the RC reviews; and sends adjudication notices to the SA, Cognizant Technical Individual (CTI), and reviewing members.
3. CSSA Voting Members: Appointed by NWS Headquarters (NWSHQ) Office and Regional Directors. Voting members are responsible for coordinating the RC reviews within applicable NWSHQ and regional offices. They recommend approval, disapproval, or may request additional time for review of RCs.
4. Designated Submitting Authority: Appointed by NWSHQ Office and Regional Directors. SAs receive RCs from the CTI, review and submit RCs for processing, or return incomplete or invalid RCs for additional information or denial.
5. CSSA Focal Points: Appointed by NWSHQ Office and Regional Directors. FPs are responsible for coordinating RC reviews within their respective organizations and providing all comments to the appropriate voting members for final vote.
6. Cognizant Technical Individual: Any user of the CSSA system that has a need for a change to the existing baselined system may submit a completed RC to the appropriate SA.

- **Board and Committee Support**

Currently, a Configuration Control Board does not exist for CSSA.

## **APPENDIX E - Data Review Group (DRG) Terms of Reference (TOR)**

### **Authority**

The *National Weather Service Instruction (NWSI) 10-101, Change Management (CM) Process*, authorizes this Terms of Reference (TOR).

### **Mission**

The Data Review Group (DRG) reviews, assesses and adjudicates data product changes on the National Weather Service (NWS) communication networks that are under configuration management control. These networks include the Emergency Managers Weather Information Network (EMWIN), the National Oceanic Atmospheric Administration (NOAA) Weather Wire Service (NWWS), and the Advanced Weather Interactive Processing System (AWIPS).

### **Objectives**

This TOR documents the authority, mission, and responsibilities for the CM of data products on the AWIPS, NWWS and EMWIN systems.

### **Responsibilities**

- **Composition**

NWS Change Management (CM) administers the DRG. The DRG is comprised of the DRG Chair, NWS Headquarters (NWSHQ) Office representatives, and regional members. The DRG Chair is the adjudicating authority for DRG Requests for Change (RCs).

- **Method of Work**

The NWS Systems Change Manager (SCM) arranges for the resources needed for effective CM functions within the NWS, including standardized forms, a RC tracking system, and trained analysts to process the RCs. There is a single point-of-entry for all RCs, regardless of the authorized Submitting Authority (SA) or level-of-effort required to fulfill the request. Baseline changes must relate to established needs and requirements. When necessary, CM analysts will refer RCs to the Operations and Services Improvement Process (OSIP) Requirements Team for OSIP action.

Data related RCs are processed by the DRG CM Analyst, who analyzes the RCs, gathers any additional data needed, conducts reviews, and distributes adjudication notices. The DRG assigns implementation actions among the organizations to specific individuals who are responsible for data changes, notifications, and documentation. The DRG voting members and Focal Points (FP) are responsible for coordinating the review of DRG RCs within their offices and providing comments to their voting member for final vote. All

comments and votes are due within 5 working days, unless granted an extension. Extension requests should be justified and submitted within 5 working days.

- **Membership**

The CM Analyst serves as the DRG Chairperson. The DRG FPs are appointed by the NWSH Office Directors and Regional Directors.

7. DRG Chair: Approves or disapproves all DRG RCs. The DRG CM Analyst serves as the DRG Chairperson.
8. DRG Analyst: Analyzes the RCs prior to distributing them to the voting members and FPs for review; distributes and establishes a due date for the RC review; and sends adjudication notices to the SA, Cognizant Technical Individual (CTI) and reviewing members.
9. DRG Voting Members: Appointed by NWS Headquarters (NWSHQ) Office and Regional Directors. Voting members are responsible for coordinating the RC reviews within applicable NWSHQ and regional offices. They recommend approval, disapproval, or may request additional time for review of RCs.
10. Designated Submitting Authority: Appointed by NWSHQ Office and Regional Directors. SAs receive RCs from the CTI, review and submit RCs for processing, or return incomplete or invalid RCs for additional information or denial.
11. DRG Focal Points: Appointed by NWSHQ Office and Regional Directors. FPs are responsible for coordinating RC reviews within their respective organizations and providing all comments to the appropriate voting members for final vote.
12. Cognizant Technical Individual: Any user who wants to make changes to data products may submit a completed RC to the appropriate SA.

- **Board and Committee Support**

The DRG Charter is available on the NWS Change Management website at [www.weather.gov/os/cm](http://www.weather.gov/os/cm). Committees are established by the DRG CM Chair on an as needed basis.

## **APPENDIX F - Next Generation Weather Radar (NEXRAD) Terms of Reference (TOR)**

### **Authority**

The *National Weather Service Instruction (NWSI) 10 -101, Change Management (CM) Process*, authorizes this Terms of Reference (TOR).

### **Mission**

The Next Generation Weather Radar (NEXRAD) provides hazardous weather warnings. Meteorologists can now warn the public to take shelter with more advance notice than any previous radar. There are 158 operational NEXRAD radar systems deployed throughout the United States and at selected overseas locations. The maximum range of the NEXRAD radar is 250 nautical miles. The NEXRAD network provides significant improvements in severe weather and flash flood warnings, air traffic safety, flow control for air traffic, resource protection at military bases, and management of water, agriculture, forest, and snow removal.

### **Objectives**

This TOR documents the authority, mission, and responsibilities for the CM of the NEXRAD system.

### **Responsibilities**

- **Composition**

The NEXRAD CM analyst manages the NEXRAD CM program and coordinates changes to the NEXRAD configuration baseline for the DOC/NWS as a representative on the NEXRAD Configuration Control Board (CCB), which is operated by the Radar Operations Center (ROC) in Norman, Oklahoma. Designated Submitting Authorities (SAs) submit Requests for Change (RCs) to a single point of entry maintained by the NWS. DOC/NWS, DOD/USAF and the DOT/FAA are stakeholders in the NEXRAD program. Each participating agency provides funds for RCs in proportion to the number of NEXRAD sites they own, and in relation to agency-specific requirements. Each agency participates in reviewing and adjudicating RCs through their membership in the NEXRAD CCB and the NEXRAD Program Management Committee (NPMC). The CM objective is to help standardize their systems to the maximum extent possible, while remaining responsive to NWS-unique and site-specific requirements.

- **Method of Work**

The NWS Systems Change Manager (SCM) arranges for the resources needed for effective CM functions within the NWS, including standardized forms, a Request for Change (RC) tracking system, and trained analysts to process the RCs. There is a single point-of-entry for all RCs, regardless of the authorized SA or level-of-effort required to

fulfill the request. Baseline changes must relate to established needs and requirements. When necessary, CM analysts will refer RCs to the Operations and Services Improvement Process (OSIP) Requirements Team for OSIP action.

NEXRAD RCs are processed by the NEXRAD CM Analyst, who analyzes the RCs, gathers any additional data needed, conducts reviews, and distributes adjudication notices. As appropriate, the NEXRAD CCB and NPMC assign implementation actions among the agencies to specific individuals who are responsible for physical changes, software changes, notification, and documentation. The NEXRAD voting members and Focal Points (FP) are responsible for coordinating the review of NEXRAD RCs with their offices and providing their comments to their voting member for final vote. Each agency participates in reviewing and approving or disapproving RCs through their membership in the NEXRAD CCB and NPMC. All comments and votes are due within 5 working days, unless granted an extension. Extension requests should be justified and submitted within 5 working days.

- **Membership**

1. NPMC Chair: Directs the activities of the NPMC and approves or disapproves NEXRAD RCs based on the consensus of the NPMC members.
2. NEXRAD Configuration Control Board Chair: Approves or disapproves all NEXRAD RCs. The Director of the ROC serves as the NEXRAD CCB Chair.
3. NEXRAD CM Analyst: Analyzes RCs prior to distributing it to the voting members and FP for review; distributes and establishes a due date for the RC review; and sends adjudication notices to the SA, Cognizant Technical Individual (CTI) and reviewing members. The NEXRAD CM Analyst also serves as the NPMC Executive Secretary and as the NWS voting member on the CCB.
4. Designated Submitting Authority: Appointed by the directors of their respective offices. SAs receive RCs from the CTI, review and submit RCs for processing, or return incomplete or invalid RCs for additional information or denial.
5. NEXRAD Focal Points: Appointed by NWSHQ Office Directors and NWS Regional Directors. FPs are responsible for coordinating the RC reviews by applicable NWSHQ and NWS Regional staff and provide all comments to the NEXRAD CM Analyst for final vote.
6. Cognizant Technical Individual: Any user of the NEXRAD system that has a need for a change to the existing baselined system may submit a completed RC to the appropriate SA.

- **Board and Committee Support**

The NPMC includes senior-level representatives designated by each agency with the authority granted by the sponsoring agency to make appropriate decisions relative to the current and future configuration of the NEXRAD program. Because the hardware and software are standardized across all participating agencies to the maximum extent possible, each member has a stake in NPMC decisions.

The NEXRAD CCB serves the NPMC by reviewing and adjudicating RCs, recommending appropriate RCs for higher-level decisions, and performing other change-related tasks assigned by the NPMC. Charters are available on the NWS Change Management website at [www.weather.gov/os/cm](http://www.weather.gov/os/cm).

## **APPENDIX G -NOAA Weather Radio (NWR) Console Replacement System (CRS) Terms of Reference (TOR)**

### **Authority**

The *National Weather Service Instruction (NWSI) 10 -101, Change Management Process (CM)*, authorizes this Terms of Reference (TOR).

### **Mission**

The National Oceanic and Atmospheric Administration (NOAA) Weather Radio (NWR) Console Replacement System (CRS) is a personal computer-based broadcasting console, installed at all NWS forecast offices. CRS automatically translates and schedules written NWS forecasts and warnings into synthesized-voice broadcasts over NWR. The automated broadcast programs for NWR All Hazards provides a more efficient means of disseminating severe weather watches, warnings, and emergency information.

### **Objectives**

This TOR documents the authority, mission, and responsibilities for CM of the NWS CRS system.

### **Responsibilities**

- **Composition**

The NWR Program Manager serves as the adjudicating authority for expansion CRS RCs. The CRS Software Program Manager serves as the adjudicating authority for software CRS RCs.

- **Method of Work**

The NWS Systems Change Manager (SCM) arranges for the resources needed for effective CM functions within the NWS, including standardized forms, a Request for Change (RC) tracking system, and trained analysts to process the RCs. There is a single point-of-entry for all RCs, regardless of the authorized Submitting Authority ((SA) or level-of-effort required to fulfill the request. Baseline changes must relate to established needs and requirements. When necessary, CM Analysts will refer RCs to the Operations and Services Improvement Process (OSIP) Requirements Team for OSIP action.

CRS RCs are processed by the CRS CM Analyst, who analyzes the RCs, gathers any additional data needed, conducts reviews, and distributes adjudication notices. The CRS voting members and Focal Points (FP) are responsible for coordinating the review of CRS RCs with their offices and providing comments to their voting member for final

vote. All comments and votes are due within 5 working days, unless granted an extension. Extension requests should be justified and submitted within 5 working days.

- **Membership**

1. NWR Program Manager and CRS Program Manager: Adjudicates all CRS RCs (depending on RC content).
2. CRS Change Management Analyst: Analyzes the RCs prior to distributing them to the voting members and FP for review; distributes and establishes a due date for the RC review; and sends adjudication notices to the SA, Cognizant Technical Individual (CTI) and reviewing members.
3. CRS Voting Members: Appointed by NWS Headquarters (NWSHQ) Office and Regional Directors. Voting members are responsible for coordinating the RC reviews within applicable NWSHQ and regional offices. They recommend approval, disapproval, or may request additional time for review of RCs.
4. Designated Submitting Authority: Appointed by NWSHQ Office and Regional Directors. SAs receive RCs from the CTI, review and submit RCs for processing, or return incomplete or invalid RCs for additional information or denial.
5. CRS Focal Points: Appointed by NWSHQ Office and Regional Directors. FPs are responsible for coordinating RC reviews within their respective organizations and providing all comments to the appropriate voting members for final vote.
6. Cognizant Technical Individual: Any user of the CRS that has a need for a change to the existing baselined system may submit a completed RC to the appropriate SA.

- **Board and Committee Support**

Currently, a Configuration Control Board does not exist for CRS.



## **APPENDIX H - Radiosonde Replacement System (RRS) Terms of Reference (TOR)**

### **Authority**

The *National Weather Service Instruction (NWSI) 10 -101, Change Management (CM) Process*, authorizes this Terms of Reference (TOR).

### **Mission**

The RRS is comprised of a Global Positioning System (GPS) tracking antenna referred to as the Telemetry Receiving System (TRS), GPS radiosondes operating on four pre-assigned frequencies, and a new technology-based workstation. The RRS communicates the products through an interface to the Advanced Weather Interactive Processing System (AWIPS) for transmission to the external community. The system improves data availability and accuracy, operates within a reduced frequency spectrum, and is more efficient to operate and maintain.

### **Objectives**

This TOR documents the authority, mission, and the responsibilities for the CM of the RRS system.

### **Responsibilities**

- **Composition**

NWS CM administers the RRS Configuration Control Board (RCCB). The RRS CCB is comprised of the RRS CCB Chair, members from the RRS Program Office, NWS Headquarters (NWSHQ) offices representatives and the RRS CM Analyst.

- **Method of Work**

The NWS Systems Change Manager (SCM) arranges for the resources needed for effective CM functions within the NWS, including standardized forms, a Request for Change (RC) tracking system, and trained analysts to process the RCs. There is a single point-of-entry for all RCs, regardless of the authorized Submitting Authority (SA) or level-of-effort required to fulfill the request. Baseline changes must relate to established needs and requirements. When necessary, CM analysts will refer RCs to the Operations and Services Improvement Process (OSIP) Requirements Team for OSIP action.

RRS RCs are processed by the RRS CM Analyst, who analyzes the RCs, gathers any additional data needed, conducts reviews, and distributes adjudication notices to the. The RCCB assigns implementation actions among the organizations to specific individuals who are responsible for physical changes, software changes, notifications, and documentation. The RRS voting members and Focal Points (FP) are responsible for coordinating the review of RRS RCs with their offices and providing comments to their voting member for final vote. All comments and votes are due within 5 working days,

unless granted an extension. Extension requests should be justified and submitted within 5 working days.

- **Membership**

1. RCCB Chair: Directs the activities of the RCCB and approves or disapproves RRS RCs based on the consensus of the RCCB members.
2. RRS Analyst/Secretary: Analyzes RCs prior to distributing them to the voting members and FP for review; distributes and establishes a due date for the RC review; and sends adjudication notices to the SA, Cognizant Technical Individual (CTI) and reviewing members. The RRS CM Analyst serves as the RCCB Secretary.
3. RRS Voting Members: Appointed by NWS Headquarters (NWSHQ) Office and Regional Directors. Voting members are responsible for coordinating the RC reviews within applicable NWSHQ and regional offices. They recommend approval, disapproval, or may request additional time for review of RCs.
4. Designated Submitting Authority: Appointed by NWSHQ Office and Regional Directors. SAs receive RCs from the CTI, review and submit RCs for processing, or return incomplete or invalid RCs for additional information or denial.
5. RRS Focal Points: Appointed by NWSHQ Office and Regional Directors. FPs are responsible for coordinating RC reviews within their respective organizations and providing all comments to the appropriate voting members for final vote.
6. Cognizant Technical Individual: Any user of the AWIPS system that has a need for a change to the existing baselined system may submit a completed RC to the appropriate SA.

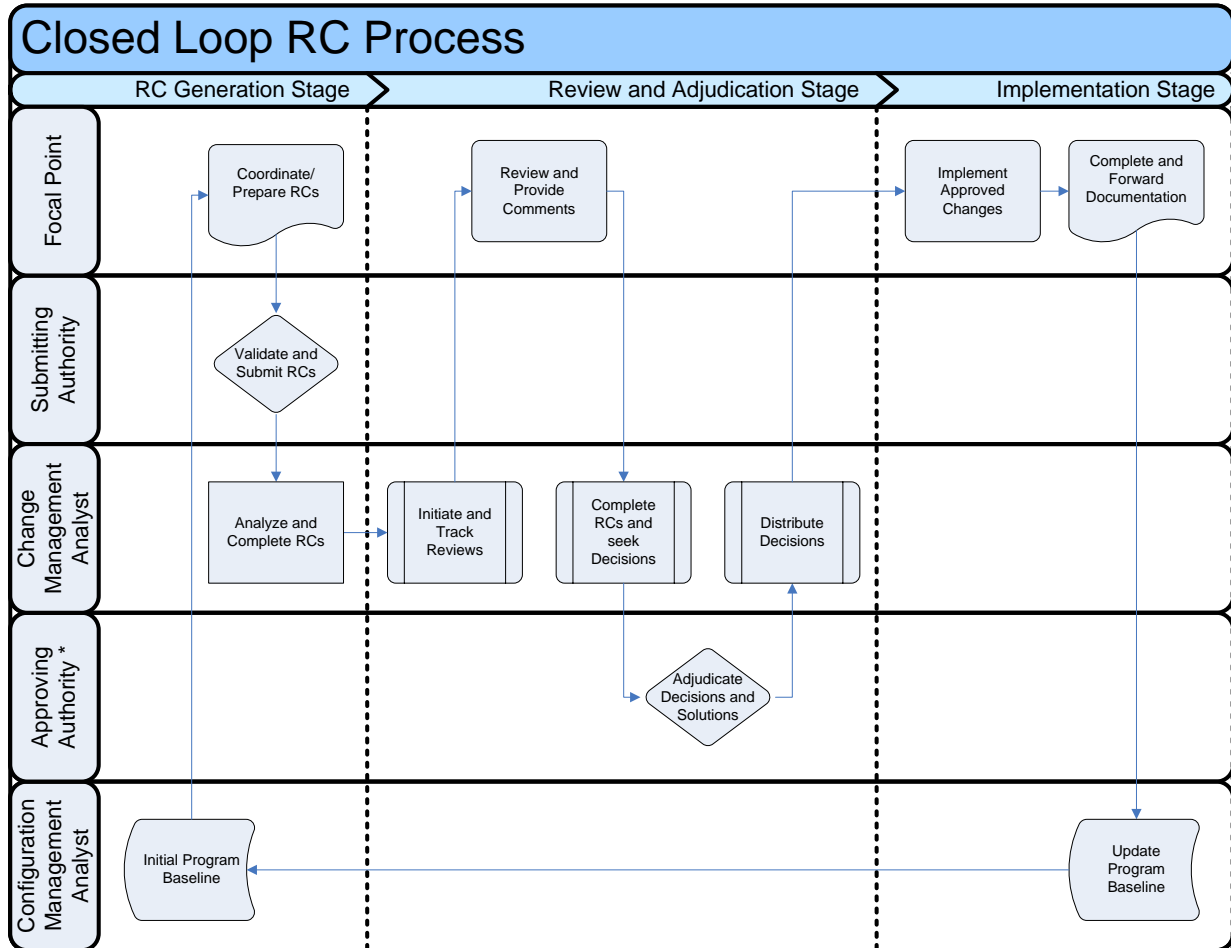
- **Board and Committee Support**

The RCCB Charter is available on the NWS Change Management website at [www.weather.gov/os/cm](http://www.weather.gov/os/cm).

**APPENDIX I** Acronyms and Definitions

<b>Acronym</b>	<b>Definition</b>
ASOS	Automated Surface Observing System
AWIPS	Advanced Weather Interactive Processing System
CCB	Configuration Control Board
CCR	Configuration Change Request
CHOP	Changes of Operation
CM	Change/Configuration Management
CMA	Change Management Analyst
CMP	Change Management Process
CRS	Console Replacement System
CSSA	Cooperative Station Service Accountability
CTI	Cognizant Technical Individual
DRG	Data Review Group
ECP	Engineering Change Proposal
FAA	Federal Aviation Administration
FP	Focal Point
MOA	Memoranda of Agreement
NEXRAD	Next Generation Weather Radar
NOAA	National Oceanic & Atmospheric Administration
NWS	National Weather Service
NWSI	National Weather Service Instruction
NWSPD	National Weather Service Policy Directive
NWSRC	National Weather Service RC
OCWWS	Office of Climate, Water, and Weather Services
OPS	Office of Operational Systems
OS	Office of Services
OSIP	Operations and Services Improvement Process
PM	Program Manager
PMC	Program Management Committee
RC	Request for Change
RCTS	RC Tracking System
RRS	Radiosonde Replacement System
SA	Submitting Authority
SCM	Systems Change Manager
SON	Statement of Need
TOR	Terms of Reference

APPENDIX J Closed Loop RC Process



\* Approval structures and approval processes are program specific. Program specific Charters and TORs provide program-specific details of approval processes and structures; including CCB, PMC, DRG, and SCM roles and responsibilities where applicable.