

CHARTER

NEXRAD Software Recommendation and Evaluation Committee (SREC) In Support Of The Weather Surveillance Radar-1988 Doppler (WSR-88D)

1. Authority, Purposes, and Responsibilities.

- a. Authority. The Next Generation Weather Radar (NEXRAD) Program Management Committee (NPMC) charters the NEXRAD Software Recommendation and Evaluation Committee (SREC) as a triagency organization to review and recommend changes to the WSR-88D software baseline. This version of the charter updates and replaces the SREC Charter the NPMC approved in the summer of 2002.
- b. Purposes. This Charter:
 - (1) Establishes SREC voting and non-voting membership.
 - (2) Describes procedures for the SREC to recommend to the NPMC:
 - a) The priority order of presented software modifications based on approved Configuration Change Requests (CCRs),
 - b) Software build contents,
 - c) Software build schedules, and
 - d) Future data quality efforts.
 - (3) Establishes an SREC meeting schedule in synchronization with the WSR-88D Planned Software Build Cycle as described in paragraph 2(d).
- c. SREC Responsibilities.
 - (1) Evaluate and prioritize software modifications, based on approved CCRs, for integration into the WSR-88D baseline,
 - (2) Recommend the contents and schedule for WSR-88D software builds to the NPMC, and
 - (3) Facilitate enhanced communication, cooperation, flexibility, and discipline among the triagencies that a shorter software build cycle (paragraph 2(d)) requires.

2. Definitions

- a. Approved Configuration Change Request (CCR). Depending on the impact and cost of a change to the WSR-88D System, a CCR must be approved by the WSR-88D Configuration Control Board (CCB) or the NPMC. (The WSR-88D Configuration Management Plan establishes the impact and cost thresholds of changes.)
- b. NEXRAD Program Management Committee (NPMC). The NPMC has high-level configuration management responsibility for the NEXRAD Program. The triagency membership and functions are described in the NPMC Charter.
- c. WSR-88D Radar Operations Center (ROC). The triagency ROC provides

centralized management, coordination, and control for comprehensive life-cycle support of the WSR-88D Systems operated and maintained by the NEXRAD triagencies. This includes the integration, testing, and deployment of software builds.

- d. WSR-88D Planned Software Build Cycle. The ROC has, as a goal, a regular six-month cycle of releasing maintenance, algorithm, and targeted changes to the WSR-88D software baseline. The content and release date of software builds will be planned with and approved by the NEXRAD agencies in advance.
- e. Emergency Software Release. A release needed to correct problems in fielded software that negatively impact customers, operators or maintainers, or changes required to support system/network security.
- f. WSR-88D Software Baseline. The software used at operational field sites to operate the Radar Product Generator (RPG), Radar Data Acquisition (RDA), Open RDA, and Open Principal User Processor (OPUP).
- g. Technical Interchange Meeting (TIM). A meeting of triagency technical staff called by the SREC members to address specific technical issues.
- h. NEXRAD Technical Advisory Committee (TAC). A triagency committee established by the NPMC to address technical needs and issues related to the operational use and evolution of the WSR-88D system.

3. Membership, Support Staff, and Appointment.

- a. Membership. The SREC consists of 3 voting and up to 14 non-voting members as follows. Members attend all SREC meetings including executive sessions.
 - (1) Chairperson and Vice Chairperson (non-voting).
 - (2) Executive Secretary (non-voting).
 - (3) Agency Members (voting and non-voting). There are up to three Members from each Agency: a Voting Member, a non-voting First Alternate, and a non-voting Second Alternate.
 - (4) Integration Members (non-voting). One representative from each of the four ROC branches.
 - (5) NEXRAD Product Improvement (NPI) Program Leader (non-voting).
- b. Support Staff (non-voting). Support Staff may include, but are not limited to: ROC Branch Chiefs and representatives, Agency representatives, NPI staff, Warning Decision Training Branch Chief and representatives, National Severe Storms Laboratory personnel, Lincoln Laboratory personnel, invited university faculty and students, NEXRAD agency support services contractor personnel, and other invited guests. Support Staff may attend executive sessions by invitation of an Agency Member, the Chair, or Executive Secretary to provide presentations to the SREC.
- c. Appointment of Members.

- (1) The Chairperson is the Director, Radar Operations Center.
 - (2) The Vice Chairperson is the Deputy Director, Radar Operations Center.
 - (3) The Executive Secretary is appointed in writing (email is acceptable) by the Director, Radar Operations Center.
 - (4) Three members from each Agency are appointed in writing (email is acceptable) by the NPMC representative (or his/her designee) from that Agency to the SREC Executive Secretary. The appointment should specify the: Voting Member, First Alternate, or Second Alternate.
 - (5) The Integration Members are appointed in writing (email is acceptable) by the Director, Radar Operations Center.
 - (6) The NPI Program Leader is the incumbent in the position.
- d. Substitute Appointments. In the event an SREC Member is unable to attend a specific meeting, the following substitute appointments may be made:
- (1) For an Agency Member (voting or non-voting) absence, the Agency representative to the NPMC (or his/her designee) may name no more than two substitute members for that meeting.
 - (2) For the Executive Secretary or an Integration Member absence, the ROC Director may name substitute member(s) for that meeting.
 - (3) Substitute appointments must be in writing (email is acceptable) to the Executive Secretary not later than the start of the SREC meeting.

4. Responsibilities and Functions

- a. Chairperson. The SREC Chairperson oversees distribution of approved CCRs, completed WSR-88D Algorithm Process Checklists, and other relevant technical information to SREC Agency Voting and Non-voting Members; chairs SREC meetings; and oversees preparation and distribution of meeting minutes, including action items.
- b. Vice Chairperson. The Vice Chairperson assumes the duties of the Chairperson in the absence of the Chairperson and performs other duties as assigned by the Chairperson.
- c. The Executive Secretary. The Executive Secretary, working with the Chairperson and Vice Chairperson, is responsible for:
 - (1) Meeting management, scheduling, setting meeting location and time, physical arrangements, and administrative duties in connection with meetings and records.
 - (2) Ensuring technical information supplied by presenters is available to SREC members.
 - (3) Managing SREC archives and an SREC FTP site.
 - (4) Tracking action items.

- (5) Maintaining official, hardcopy records of all SREC appointment actions.
 - (6) Recording, writing, and distributing meeting minutes, including action items, within 30 days of the close of each SREC meeting.
- d. Agency Members. Agency members are responsible for:
- (1) Reviewing all WSR-88D Algorithm Process Checklists (Appendix A) in advance of meetings.
 - (2) Developing a coordinated Agency position on approved CCRs to aid in prioritizing the software changes related to those CCRs.
 - (3) Representing their Agency in the SREC's development of a consensus prioritization of the CCRs, software build contents, and software build schedules.
 - (4) Attending SREC meetings and executive sessions.
 - (5) Voting to provide guidance to the NPMC. Each Agency has one vote. The Voting Member casts the vote for the Agency. In the event the Voting Member is absent, the First Alternate becomes the Voting Member. In the event both Voting Member and First Alternate are absent, the Second Alternate becomes the Voting Member.
 - (6) Reviewing and commenting on meeting minutes.
- e. Integration Members. The Integration Members, representing the ROC branches, will make assessments of proposed software changes, including, but not limited to, readiness of the system to accept proposed software changes, the impact of the changes on system performance (e.g., sizing and timing); results of Independent Verification and Validation tests; supportability of the change in the field and at the WSR-88D Hotline; and, suitability of adaptable parameter studies.
- f. Support Staff are not appointed and may provide technical assistance and studies at the request of the SREC Chairperson or Executive Secretary. The primary responsibility of Support Staff is to assist the SREC in obtaining information necessary for the voting members to make informed decisions for their respective agencies. Support Staff may attend SREC executive sessions by invitation to provide presentations.

5. SREC Meeting Structure and Procedures

- a. Meeting Schedule. The SREC meetings will be synchronized with software builds. In general, an SREC meeting will be staggered with software deployments such that the present meeting will consider the next software deployment, typically held 4 - 5 months before the current build is released. Additional CCRs intended for at least two subsequent software builds also will be considered and given preliminary priority ranking. (The recommendation to the NPMC for the subsequent two software builds will be for planning purposes and reassessed at subsequent SREC meetings.) The Executive Secretary will coordinate the meeting calendar with the Chairperson, Vice

Chairperson, and Agency Members and announce the dates, times, and location of the upcoming meeting and will publish the meeting agenda not less than 20 workdays prior to the meeting.

- b. Absent Members. This Charter provides for temporary appointments if SREC Members are absent. If all three regularly appointed members of one or more Agencies indicate they will be absent from an SREC meeting, the Executive Secretary will reschedule the meeting. In the event both the Chairperson and Vice-Chairperson are unable to attend a meeting, the meeting will be rescheduled.
- c. Meeting Structure. The SREC will consist of an opening executive session (optional as determined by the chair), a general session with invited presentations and directed discussions, and a closing executive session where the prioritization of software modifications and assignment to builds will be performed.
- d. WSR-88D Algorithm Process Checklist. Presenters to the SREC will submit a completed Checklist (Appendix A) to the SREC Executive Secretary or SREC FTP site at least 7 workdays prior to the SREC meeting to ensure all information brought before the SREC will be in a uniform format for: (1) ease of review, understanding, and discussion; and (2) to ensure all elements of information are available to the Voting Members. Failure of Agency advocates of a CCR to provide a completed Checklist to the Executive Secretary/SREC FTP site 7 workdays prior to its scheduled presentation at the SREC meeting may be cause for the SREC to defer the CCR to a future meeting.
- e. Software Build Content/Schedule. The SREC will recommend to the NPMC the priority order, content, and release date of WSR-88D software builds. The SREC may be guided by the Objective Scoring System, when invoked by the SREC Members, take into account the workload of the ROC Integrators, the system capacity and capability to receive new software, and the ability of the ROC to support new software.
- f. Emergency SREC Meetings. Emergency software builds may be handled by a teleconference meeting of the SREC Members. The SREC Chairperson or Vice Chairperson will inform the NPMC Chairperson an SREC teleconference meeting is being called. The Agency (or ROC) requesting the emergency software build will complete and deliver to the SREC Executive Secretary a WSR-88D Algorithm Process Checklist (Appendix A) as quickly as possible, but not less than 2 work days prior to the emergency meeting. The Executive Secretary will record the transactions of the emergency meeting and publish a summary including action items, if any, within 5 work days following close of the meeting.
- g. Technical Interchange Meeting (TIM). The SREC may vote to convene a Technical Interchange Meeting of triagency technical staff to address specific technical issues. The SREC will use the information to make better-informed recommendations to the NPMC. The SREC Executive Secretary will be responsible for setting up, leading the TIM, and providing a written summary of the TIM to the SREC.
- h. Algorithm and Product Readiness for Integration into the Baseline. The SREC will recommend which algorithms and products the NEXRAD Technical Advisory Committee (TAC) should evaluate. The SREC will consider the TAC evaluations along with other "scientific readiness" inputs when recommending algorithms and products for inclusion in a

particular software release. The TAC evaluations and other validation documentation will be included in the CCR kept at the ROC.

In practice, TAC validation will be requested unless all triagency SREC voting members agree TAC validation is not required. The TAC recommendations will be reported to the NPMC during SREC recommendation briefings and included in NPMC decision papers.

- i. Monitor Data Quality Improvement Efforts. The SREC voting members will assist the NPMC in ensuring the triagency requirements for improved data quality, algorithms, and products are being met and research resources are being effectively used and targeted for operational implementation. The NEXRAD TAC will provide the SREC technical review and advice on these efforts (MOUs administered by the NEXRAD agencies or ROC). The SREC will receive and review MOU managers' reports of progress, work plans, and recommendations for future work. At least annually, the SREC will update the NPMC and provide a recommendation with respect to continued funding of work or other recommended changes on the MOUs.

6. Resources and Funding

The ROC will provide administrative services. The agencies will be responsible for the salaries and travel expenses of the members they appoint.

7. Revision of SREC Charter

- a. The SREC Charter may be modified upon petition to the NPMC. (The NPMC Charter requires documents to be submitted to the NPMC not less than 15 working days prior to meetings.)
- b. The SREC Charter will be reviewed and revalidated by the NPMC every two years.

SUMMARY OF MAJOR CHANGES WITH RESPECT TO THE 2002 VERSION:

1. Added paragraph 2f, WSR-88D Software Baseline, in order to avoid confusion on the definition of baseline contents.
2. Added paragraph 5i, Algorithm and Product Readiness for Integration into the Baseline, as per the September 2004 decision briefing in regard to action item 3-3.1.
3. Added paragraph 5j, Monitor Data Quality Improvement Efforts, as per the November 2003 NPMC SREC decision briefing.
4. Changed the date for publishing the agenda from 30 days to 20 days to reflect reality.
5. Changed the due date of the Algorithm Process Checklists, paragraph 5e, from 30 days to 7 days to reflect reality.
6. Changed the due dates for emergency SREC meetings, paragraph 5g, to reflect the likely cause being security patches and the short time lines expected.
7. Added the NPI Program Leader as a non-voting SREC member, paragraphs 3.a.(5) and 3.c.(6).
8. Deleted reference to the Objective Scoring System (formerly Appendix B) to guide their decision making process and to establish priority of software projects due to lack of use or anticipated use.

SIGNATORIES

FOR THE DEPARTMENT OF COMMERCE:

Approved *(for) Dwayne Reynolds Jones* Date 3/2/05
Gregory A. Mandt
Director, Office of
Science and Technology, NWS

FOR THE DEPARTMENT OF DEFENSE:

Approved *Michael R. Babcock* Date _____
for Michael R. Babcock, Colonel, USAF
Director, Plans and Programs
Headquarters Air Force Weather Agency

FOR THE DEPARTMENT OF TRANSPORTATION:

Approved *Richard Heuwinkel* Date 3/2/05
Richard Heuwinkel
Acting Program Director,
Aerospace Weather Policy and Standards

WSR-88D Algorithm Process Checklist

Purpose: Provide the triagency Software Recommendation And Evaluation Committee (SREC) members with information they can use to determine the readiness of a projected software change for integration into the WSR-88D baseline and the expected impact of the change on the WSR-88D and NEXRAD agency operational requirements. The information will also assist the ROC in planning software development, testing, documentation, and WDTB training resources needed.

Date Of Preparation/Revision: Self Explanatory

Name And Contact Information Of Preparer: Self Explanatory.

Title/Name Of Algorithm/Change. Self Explanatory.

SECTION 1: CHANGE JUSTIFICATION INFORMATION

1. Configuration Change Request (CCR) Number. Also provide identification of associated CCR's, Case Files and/or Requests For Change.
2. Operational Or System requirement To Be Met With Change. Include either new or existing agency requirements/goals/strategic plans addressed by this proposed change. Identify which NEXRAD agencies and types of users will benefit.
3. General Description Of Change Being Proposed. Include identification of new functionality, improvement to existing functionality or repair of defect(s).

SECTION 2. ASSOCIATED INFORMATION

1. Concept Of Operations. Attach a short/one-paged document that describes how the change will be used by operators and potential training issues. Also, identify if the new algorithm or product will be a replacement for an existing algorithm or product. When early prototype product displays are available, provide sample(s).
2. Sponsoring Agency And Implementation Technical Point Of Contact Information. Self Explanatory.
3. Projected Build. Sponsoring agency's projected software build for deploying this change.
4. Projected Release Date To Begin Integration Work. Date (month/year) integration deliverables are expected to be delivered to the ROC.
5. Identification Of External Dependencies. List and/or describe how external-interfacing systems will be impacted by this change or if a change to an external system is driving this change.
6. Identification Of Internal Dependencies. List and/or describe RPG changes that must precede or accompany this change.
7. Agency/Organization That Will Maintain The Externally Implemented

Software. State who will provide post-deployment software maintenance support for the change.

8. Agency/Organization That Will Provide Support For Technical/Scientific Questions. State who will provide post-deployment scientific and technical support of the software (i.e., who will the ROC turn to for detailed questions/troubleshooting assistance).

9. IV&V Of Scientific Validation. Describe what validation of the technical goodness of this change has been completed and who has reviewed the validation work (e.g., NEXRAD Technical Advisory Committee, published scientific journal).

10. Identify Programmatic Risks Associated With This Change And Any Mitigating Measures That Can Be Taken. Scientific, schedule, impact on users, impact on system, impact on external interfaces. Quantify likelihood of occurrence and impact.

SECTION 3. CURRENT STATUS OF CHANGE

1. In Development Or Implementation Stage. Self Explanatory.
2. Percentage of Algorithm Enunciation Language (AEL) Or Functional Requirements Completed. Self Explanatory.
3. Percentage Of Other Technical Documentation Completed. For example: SRS, ICD, Product Specification.
4. Percentage Of Source Coding Completed (Development Phase). Self Explanatory.
5. Percentage Of Source Coding Completed (Implementation Phase). Self Explanatory.
6. Percentage Of Implementation Phase Testing Completed. Self Explanatory.

SECTION 4. CHANGE ATTRIBUTES

1. Projected System Usage Data. Provide information on the system usage observed during development or implementation activities. For example: product sizes, CPU usage, memory, and secondary storage requirements determined using defined tools and data sets.

2. List Of Baseline Documents To Be Created Or Updated As A Result Of Implementing This Change (Yes/No)

- System Specification (SS)
- Software Requirement Specification (SRS)
- Algorithm Enunciation Language (AEL)
- Product Specification
- Interface Control Document(s) (ICD(s))
- Software Description Document (SDD) (VISIO diagrams)

3. Number Of Adaptable Parameters Added, Modified, Or Deleted. Self Explanatory.

4. List Of Any Approved or Expected Waivers Or Deviations From The System Specification. Examples of possible changes: coding language, testing,

noncompliance with the Scientific Applications Software Insertion Process.

5. New Product Data. Provide any known product sizing (minimum, average and maximum) and methods/plans for distribution.

SECTION 5. INTEGRATION ISSUES AND SPECIAL CONCERNS REGARDING THE IMPLEMENTATION AND INTEGRATION OF THIS CHANGE.

Use this section to identify integration issues, change concerns, and unique support requirements that extend beyond the normal roles defined for the integration activity. Examples of items to be listed in this section would include:

- \$ Changes or patches required for external systems
- \$ Need for simulation or drivers
- \$ Non-availability of expected implementer input(s) or support for integration activities such as output analysis, product verification and anomaly investigation
- \$ Any required system or hardware upgrades
- \$ Any substantial new functionality required in the RPG to support the change (e.g., compression, new VCP, additional capacity)
- \$ New interfaces or connectivity