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TECHNICAL IMPLEMENTATION NOTICE 07-95
NATIONAL WEATHER SERVICE HEADQUARTERS WASHINGTON DC
118 PM EST MON NOV 26 2007

TO: FAMILY OF SERVICES /FOS/ SUBSCRIBERS... NOAA WEATHER
WIRE SERVICE /NWWS/ SUBSCRIBERS... EMERGENCY MANAGERS
WEATHER INFORMATION NETWORK /EMWIN/ SUBSCRIBERS...
NOAAPORT SUBSCRIBERS... OTHER NATIONAL WEATHER SERVICE
/NWS/ CUSTOMERS AND PARTNERS... NWS EMPLOYEES

FROM: RICHARD J. VOGT
DIRECTOR... WSR-88D RADAR OPERATIONS CENTER

SUBJECT: IMPLEMENTATION OF CHANGES TO WSR-88D LEVEL II DATA
STREAM AND FORMAT: EFFECTIVE WITH WSR-88D BUILD 10
/FEBRUARY 2008 BETA TEST/

REFERENCE PUBLIC INFORMATION STATEMENT SENT MARCH 2 2007
/USE LOWER CASE LETTERS/:

[HTTP://WWW.WEATHER.GOV/OS/NOTIFICATION/OLD/PNS_WSR-88D_LEVELII_MODFCTN.TXT](http://www.weather.gov/os/NOTIFICATION/OLD/PNS_WSR-88D_LEVELII_MODFCTN.TXT)

THE WSR-88D LEVEL II DATA STREAM CONTENT AND FORMAT WILL CHANGE
WHEN WSR-88D SITES INSTALL BUILD 10 SOFTWARE: BEGINNING WITH
WSR-88D BUILD 10 BETA TEST /STARTS IN LATE FEBRUARY 2008/.

THE NWS...USAF AND FAA WSR-88D SYSTEMS PRODUCE LEVEL II DATA...
THE HIGHEST RESOLUTION DIGITAL RADAR DATA AVAILABLE. THESE DATA
CONTAIN REFLECTIVITY... RADIAL VELOCITY AND SPECTRUM WIDTH DATA
FROM ALL RADAR SCANS. LEVEL II DATA ARE COLLECTED... DISTRIBUTED
AND ARCHIVED IN REAL TIME FROM 135 WSR-88D SYSTEMS VIA THE NWS
WSR-88D LEVEL II DATA COLLECTION AND DISTRIBUTION NETWORK.

PLANNED CHANGES:

THE LEVEL II DATA FORMAT AT ALL BUT ONE SITE AND THE CONTENT OF
THE LEVEL II DATA STREAM AT SELECT SITES WILL CHANGE BEGINNING IN
WSR-88D SOFTWARE BUILD 10. BETA TEST AT APPROXIMATELY FIVE SITES
BEGINS IN LATE FEBRUARY 2008 AND DEPLOYMENT TO ALL OPERATIONAL
SITES BEGINS IN EARLY MAY 2008.

1. THE FORMAT OF THE DATA WILL CHANGE FROM MSG1 TO MSG31 AS
SITES INSTALL BUILD 10 SOFTWARE... EXCEPT FOR THE KVMX /EVANSVILLE
INDIANA/ RADAR SITE... WHICH WILL CONTINUE TO USE MSG1
INDEFINITELY. USER LEVEL II SOFTWARE WILL NEED TO BE ABLE TO
RECEIVE AND DECODE MSG1 AND MSG31 FORMAT DATA DURING THE BUILD 10
BETA TEST DEPLOYMENT PERIOD AND BEYOND. THE CHANGE TO MSG31 IS
REQUIRED TO HANDLE THE PLANNED ADDITIONS TO THE WSR-88D LEVEL II
DATA STREAM: SUPER RESOLUTION DATA... BUILD 10... AND DUAL
POLARIZATION DATA... BEGINNING IN 2010. NWS WILL NOT CHANGE THE
LOCAL DATA MANAGER /LDM/ METHOD OF DISTRIBUTING LEVEL II DATA VIA
THE NWS WSR-88D LEVEL II DATA COLLECTION AND DISTRIBUTION NETWORK.

2. THE DATA STREAM WILL INCREASE IN SIZE DUE TO THE PLANNED
CHANGE TO SUPER RESOLUTION RADAR DATA IN BUILD 10. SUPER
RESOLUTION DATA INCREASE THE AZIMUTH RESOLUTION FROM 1 DEGREE TO
0.5 DEGREE... THE REFLECTIVITY DATA RANGE RESOLUTION FROM 1 KM TO
0.25 KM... AND DOPPLER DATA RANGE FROM 230 KM TO 300 KM FOR SPLIT
CUTS... GENERALLY SCANS AT 1.5 DEGREES OR LOWER ELEVATION. THE
AMOUNT OF DATA COLLECTED AND TRANSMITTED DURING A VOLUME SCAN
WILL INCREASE BY A FACTOR OF APPROXIMATELY 2.3.

CURRENT PLANS ARE THAT NETWORK-WIDE TRANSMISSION OF SUPER
RESOLUTION DATA WILL NOT BEGIN IMMEDIATELY AT ALL SITES AS BUILD
10 IS DEPLOYED. IT IS POSSIBLE THAT SOME OF THE BETA TEST SITES
WILL BE ABLE TO TRANSMIT SUPER RESOLUTION DATA DURING THE BETA
TEST. USER LEVEL II SOFTWARE WILL NEED TO BE ABLE TO RECEIVE AND
DECODE SUPER RESOLUTION AND LEGACY RESOLUTION DATA DURING THE
BUILD 10 BETA TEST... DEPLOYMENT PERIOD AND BEYOND. IN SOME
CASES THE LEVEL II DATA ARE NOT TRANSMITTED AS SUPER RESOLUTION.
... THE DATA WILL BE RECOMBINED... AT THE RPG... BACK TO THE
LEGACY DATA RESOLUTION. TIMING OF NETWORK-WIDE TRANSMISSION OF
SUPER RESOLUTION DATA WILL BE ANNOUNCED LATER.

THE FOLLOWING TOOLS ARE AVAILABLE TO LEVEL II USERS TO ASSIST

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THEIR TRANSITION TO THE NEW DATA FORMAT AND CONTENT. INFORMATION ON HOW TO ACCESS THE TOOLS AND OTHER RELATED INFORMATION ARE POSTED AND PERIODICALLY UPDATED ON THE LEVEL II WEBSITE AT /USE LOWER CASE LETTERS/:

[HTTP://WWW.ROC.NOAA.GOV/NWS_LEVEL_2](http://www.roc.noaa.gov/nws_level_2)

1. DRAFT INTERFACE CONTROL DOCUMENTS DESCRIBING THE NEW DATA FORMAT AND DATA STREAM ARE AVAILABLE AT.

[HTTP://WWW.ROC.NOAA.GOV/NWS_LEVEL_2/BUILDINFO/BUILD10ICDS.ASPX](http://www.roc.noaa.gov/nws_level_2/buildinfo/build10icds.aspx)

2. SAMPLE ARCHIVE DATA SETS USING THE NEW FORMAT AND DATA STREAM ARE AVAILABLE AT:

[HTTP://WWW.NCDC.NOAA.GOV/NEXRADINV/CHOOSEDAY.JSP?ID=NOP3](http://www.ncdc.noaa.gov/nexradinv/chooseday.jsp?id=nop3)

3. SAMPLE REAL-TIME DATA STREAMS USING THE NEW FORMAT AND DATA STREAM ARE AVAILABLE AS /NOP3/ ON THE NWS LEVEL II DATA COLLECTION AND DISTRIBUTION NETWORK AS PER THE SCHEDULE /BUILD 10 LDM SCHEDULE/ AT:

[HTTP://WWW.ROC.NOAA.GOV/NWS_LEVEL_2/BUILDINFO/BUILD10MAIN.ASPX](http://www.roc.noaa.gov/nws_level_2/buildinfo/build10main.aspx)

4. AN EARLY VERSION OF BUILD 10 SOFTWARE... EXECUTABLE AND SOURCE CODE... IS AVAILABLE FROM THE NWS COMMON OPERATIONS AND DEVELOPMENT ENVIRONMENT CODE WEBSITE /USE LOWER CASE LETTERS/:

[HTTP://WWW.WEATHER.GOV/CODE88D](http://www.weather.gov/code88d)

THE SOFTWARE CONTAINS CODE TO READ SUPER RESOLUTION DATA AND TO RECOMBINE THE SUPER RESOLUTION DATA INTO LEGACY RESOLUTION DATA. THE RPG LEGACY ALGORITHMS AND PRODUCTS WILL USE RECOMBINED DATA.

NWS IS PLANNING A CONFERENCE CALL STARTING AT 11 AM (EASTERN) ON DECEMBER 5 2007 TO PROVIDE USERS ANOTHER OPPORTUNITY TO ASK QUESTIONS ON THESE PLANS TO CHANGE THE DATA FORMAT AND CONTENT ALONG WITH THE TOOLS AVAILABLE. THE CONFERENCE CALL CONTACT INFORMATION WILL BE POSTED IN THE NEWS SECTION AT:

[HTTP://WWW.ROC.NOAA.GOV/NWS_LEVEL_2/BUILDINFO/BUILD10MAIN.ASPX](http://www.roc.noaa.gov/nws_level_2/buildinfo/build10main.aspx)

PLEASE SEND ANY COMMENTS OR QUESTIONS ON THE BUILD 10 CHANGES TO:

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WSR-88D RADAR OPERATIONS CENTER
1200 WESTHEIMER DRIVE
NORMAN OK 73069
TIM.D.CRUM@NOAA.GOV

THIS AND OTHER NWS TECHNICAL IMPLEMENTATION NOTICES ARE AVAILABLE ONLINE AT /USE LOWER CASE LETTERS/:

[HTTP://WWW.NWS.NOAA.GOV/OM/NOTIF.HTM](http://www.nws.noaa.gov/om/notif.htm)

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