

Frequently Asked Questions Concerning FAA TDWR – SPG Products Updated 11/24/08

New Postings as of 11/24/08:

1) **I see data is flowing from FLL, but very limited, just a subset of the list of types of data from the SCN provided last month. Any ETA on the whole suite?**

RESPONSE: This has been corrected.

2) **Why are there differences between the data and the SCN? The SCN says the data would be in directories like DS.182V0, but it appears that product is in DS.00tv0, DS.186zl is actually DS.00tzl. Instead of SI.TFLL they are in SI.kfl.**

RESPONSE: The RPCCDS is being refreshed as outlined at:

http://www.weather.gov/datamgmt/slide_show/AllanDarling061808.ppt. There has been a schedule slip to when TOC plans to retire the multicast version of the RPCCDS. Multicast was planned to have been off by now, but is now projected to be turned off in January.

The FTP server is still being driven by the old multicast system, consequently the directory names for the new products start with 00 (e.g, DS.00tv0), and the new radar sites start with k (i.e., SI.kfl). When the TOC switches the feed of the ingest to the new LDM version of RPCCDS (probably in January), the directory names are expected to change. This will also correct the names of the WSR-88D product directories which have been added in recent years (e.g., DS.00dhr, DS.00nmd).

3) **Why are there discrepancies between the ICDs and the sample products?**

a. Data Level Information in the Long Range Reflectivity Product. According to the ICD for the TDWR, product 186 is long range reflectivity, containing up to 255 data levels. Note 1 in figure 3-6 indicates that for product 186, the halfwords 31-Data Level 33 will contain the minimum, increment, and number of levels for the data. However, in the sample file, those halfwords are filled with actual data levels (e.g., ND, 5, 10, 15, etc.). Can you tell me which is the proper decoding formula for identifying the dBZ corresponding to the encoded data levels?

RESPONSE: There is a bug in that product. Halfwords 31, 32, 33 should be -320 (minimum possible -32.0 dBZ), 5 (increment 0.5 dBZ), 254 levels. The Data Levels are essentially identical to the DHR product (i.e., within the product, an integer value of 2 means -32.0dBZ, 3 means -31.5 dBZ, 4 means -31.0 dBZ, etc.). A fix will be provided in the next software release (date to be determined).

b. Number of Range Bins greater than 920. The ICD Figure 3-11c lists that the range of "Number of Range Bins" for a Digital Radial Data Array Packet is 0 to 920. For the long range product, the maximum is actually 1390.

RESPONSE: Agree. The ICD will be updated to report the correct maximum number of range bins.

New Postings as of 10/17/08:

1) What are the basic facts about the TDWR?

RESPONSE: See Family of Services (FOS)

Power Point and AMS papers:

ftp://ftp.roc.noaa.gov/Pub/TDWR_SPG_INF

O/References/

- a) Range
- b) Transmitter frequency band
- c) Data resolution
- d) Differing volume scans

2) Is the TDWR product format “compatible” with WSR-88D products?

RESPONSE: Yes. However, differences documented in the “SPG Class 1 ICD”

(ftp://ftp.roc.noaa.gov/Pub/TDWR_SPG_INFO/Interface%20Control%20Documents/)

include:

- a) new product codes are used for the base products since they are provided at a different resolution and maximum range than the WSR-88D,
- b) new VCPs numbers are used (80 or 90) and the elevation angle varies from site to site, and
- c) volume scan time stamps vary within each volume scan number.

3) How many TDWRs will be sending products to the RPCCDS and when?

RESPONSE: One initially and ramping up to 8 during Beta Test, starting 18 November. Between February and June, we will gradually ramp up to 45 sites.

4) What products will be available and at what frequency?

RESPONSE: See the FOS Power Point at:

ftp://ftp.roc.noaa.gov/Pub/TDWR_SPG_INFO/References/June_2008_FOS_Meeting_TDWR.ppt

5) What is the goal of product availability at the Radar Product Central Collection Dissemination Service (RPCCDS)?

RESPONSE: The goal is to meet the availability requirement of the WSR-88D (95%).

However, since the NWS does not maintain or operate the TDWR radars, availability of TDWR SPG products may be less than that of the WSR-88D.

6) Will TDWR products be available via NOAAPORT? If so, when will the products begin to reach users and which products will be on NOAAPORT?

RESPONSE: Yes, the products identified in the NWS Technical Implementation Notice (TIN) at: ftp://ftp.roc.noaa.gov/Pub/TDWR_SPG_INFO/Public%20Announcements/ and June 2008 FOS PowerPoint briefing

(ftp://ftp.roc.noaa.gov/Pub/TDWR_SPG_INFO/References/June_2008_FOS_Meeting_TDWR.ppt) will begin in November.

7) How do external users receive TDWR products?

RESPONSE: Same methods as WSR-88D products (i.e., from AWIPS via WAN to NCF, and then NOAAPORT and RPCCDS).

8) Will the TDWR products be archived at NCDC? Will the NCDC viewer display these products as they do WSR-88D products?

RESPONSES: Yes, the TDWR archive product inventory/ordering page will be in the same location as the WSR-88D product archives. Yes, the NCDC viewer will display the products.

9) What is the cause of occasional missing “wedges” of TDWR data?

RESPONSE: The TDWR base data is distributed from the radar as UDP (User Datagram Protocol) broadcast packets. The UDP is an unreliable protocol and consequently, if any data packets are missed during the transmission they are unrecoverable and are therefore lost. To mitigate the impact of lost packets, the SPG detects the lost data and fills in the missing radials with “empty” ones, that is, radials with no data except for a solid band of colored bins (currently 5 bins) at the maximum range. By doing so, products that may otherwise not be available, can be generated and displayed.

10) What is a Supplemental Product Generator?

RESPONSE: The Supplemental Product Generator (SPG) system is analogous to the RPG component of the WSR-88D system. However, the SPG receives base radar data from the FAA Terminal Doppler Weather Radar (TDWR). The TDWR SPG is used to gather weather information to be distributed to the National Weather Service (NWS), the Federal Aviation Administration (FAA), the Department of Defense (DOD), and the general public. The SPG is located at the NWS Weather Forecast Office and receives base data from the TDWR RDA through a wideband communication link. It is responsible for Base Data Ingest, Product Generation, Product Storage, Hydrometeorological Processing, Product Distribution, and Base Data Distribution.

11) Will TDWR Level II data be collected, distributed, and archived?

RESPONSE: Not at this time.