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Continuation of Section 15: KNOWN OR PROPOSED SOLUTION

To facilitate the addition of these products to NDGD, we are requesting that new subdirectories (GT.gimp) be added to the operational areas of the NDGD ftp server:

[ftp://tgftp.nws.noaa.gov/SL.us008001/ST.opnl/DF.gr2/DC.ndgd/GT.gimp/AR.conus/RT.XX \(XX=00-23\)](ftp://tgftp.nws.noaa.gov/SL.us008001/ST.opnl/DF.gr2/DC.ndgd/GT.gimp/AR.conus/RT.XX (XX=00-23))
<ftp://tgftp.nws.noaa.gov/SL.us008001/ST.opnl/DF.gr2/DC.ndgd/GT.gimp/AR.conus/VP.001-003>

The addition of these products to the SBN and NDGD will be advertised in a future TIN. We anticipate these products to add roughly 100 MB of data to the SBN and NDGD server once per hour at approximately 29 to 40 minutes past the hour.

This RC also plans for the TOC to distribute GLMP products to the National Climatic Data Center (NCDC). However, at the time of this RC, the NWS Telecommunications Operations Center (TOC) hardware cannot process the GLMP file sizes listed in Table 1 (attached) for NCDC distribution in a manner that would not tax the NCDC servers and file listings. Therefore, once the TOC has the upgraded hardware in place to accommodate the GLMP file sizes (possibly Summer 2011 when GLMP becomes operational), the TOC will give notification when the GLMP products can be distributed to NCDC. See Figures 1 and 2 for GLMP data routing from NCEP to TOC and SBN without and with TOC hardware upgrades.

NWS REQUEST FOR CHANGE
FORM

1. WSH TRACKING NUMBER

12654

1A. REV LEVEL

2. DATE RECEIVED

February 23, 2011

PART A - DATA PRODUCTS SUPPLEMENT

This information is required for Data Products submissions.

| | | | | | | | | |
|---|-----------------------|-------------------------------|-----------------|--------------|-------------------------------------|---------------|-----------------|--------------------|
| 3. INTERNAL NWS USE ONLY <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | | 4. PRODUCT SOURCE NCEP CCS | | | 5. AWIPS DATA TYPE Grids (GRIB2) | | | |
| 6A. NOTIFICATION | | 6B. CHANGE NOTICE NUMBER | | | 6C. ISSUE DATE | | 6D. TEST DATE | 6E. IMPLEMENT DATE |
| SBN/NOAAPort | | | | | | | | |
| EMWIN | | | | | | | | |
| NWWWS | | | | | | | | |
| NDGD | | | | | | | | |
| NCDC | | | | | | | | |
| 7. NODE ID | 8. AWIPS ID NNNXXX | 9. WMO HEADER | 10. ADD REV DEL | 11. SEAS Y/N | 12. CHAR PER MSG | 13. FREQUENCY | 14. NWSTG DISTR | |

Please see attached documents for complete header and product size/projection information

Header:

Description:

0-hour

Observations

| | | | | | |
|-------------|-----|---|--------------|-------------|------------------------------|
| LAUAii KMDL | Add | N | 1 MB/file | Once hourly | Temperature |
| LAUBii KMDL | Add | N | 0.75 MB/file | Once hourly | Temperature Error Estimation |
| LBUAii KMDL | Add | N | 1 MB/file | Once hourly | Dew Point |
| LBUBii KMDL | Add | N | 0.75 MB/file | Once hourly | Dew Point Error Estimation |
| LCUAii KMDL | Add | N | 1 MB/file | Once hourly | Ceiling Height |
| LDUAii KMDL | Add | N | 1 MB/file | Once hourly | Visibility |

**1-25 hour
Forecasts**

| | | | | | |
|-------------|-----|---|------------|-------------|----------------|
| LKUZ98 KMDL | Add | N | 20 MB/file | Once hourly | Temperature |
| LLUZ98 KMDL | Add | N | 20 MB/file | Once hourly | Dew Point |
| LMUZ98 KMDL | Add | N | 25 MB/file | Once hourly | Ceiling Height |
| LNUZ98 KMDL | Add | N | 25 MB/file | Once hourly | Visibility |

Total data volume per cycle: ~ 95.5 MB

Total data volume per day: ~ 2.292 GB

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WMO Headings for Gridded LAMP (GLMP) Products

WMO headings have the format of T₁T₂A₁A₂ii CCCC

1. The CCCC for all Gridded LAMP (GLMP) product WMO headings is **KMDL**.
2. The T₁ for all GLMP products is **L**.
3. The T₂ represents the weather element type designator.

Values for 0-hour observation T₂ are:

- A = temperature at sensor height (nominally, 2 m)
- B = dew point temperature at sensor height (nominally, 2 m)
- C = ceiling height
- D = visibility

Values for 1-25 hour forecast T₂ are:

- K = temperature at sensor height (nominally, 2 m)
- L = dew point temperature at sensor height (nominally, 2 m)
- M = ceiling height
- N = visibility

Note that T₂ skips letters between 0-hour observation and 1-25 forecast grids so that elements can be added in the future and subsequent to the appropriate list, observations or forecasts.

4. The A₁ designates the geographical area. This implementation is over CONUS only and therefore A₁=U
5. As there are multiple grids for GLMP 0-hour temperature and dew point elements and there is the possibility of multiple grids for the GLMP elements in the future (i.e. forecast probability grids), A₂ for individual element headers will represent those multiple grids per element. The ii will represent the cycle time for the observation grids and number of hours past cycle time for the forecast grids.
6. Since there will be multiple GRIB2 messages for the GLMP forecast grids in the same file, they will be grouped under a superheader where the A₂ and ii will be “**Z**” and “**98**”, respectively, when being routed to the tgftp at the TOC for NDGD. As there will only be one grid per header for the GLMP observations, superheaders will not be necessary for those grids.

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GLMP 0-hour observation grids:

LAUAii KMDL - Temperature
LAUBii KMDL - Temperature Error Estimation
LBUAii KMDL - Dew Point
LBUBii KMDL - Dew Point Error Estimation
LCUAii KMDL - Ceiling Height
LDUAii KMDL - Visibility

ii = valid UTC hour (00-23)

GLMP 1-25 hour forecast grids:

LKUAii KMDL - Temperature
LLUAii KMDL - Dew Point
LMUAii KMDL - Ceiling Height
LNUAii KMDL - Visibility

ii = forecast projection (01-25)

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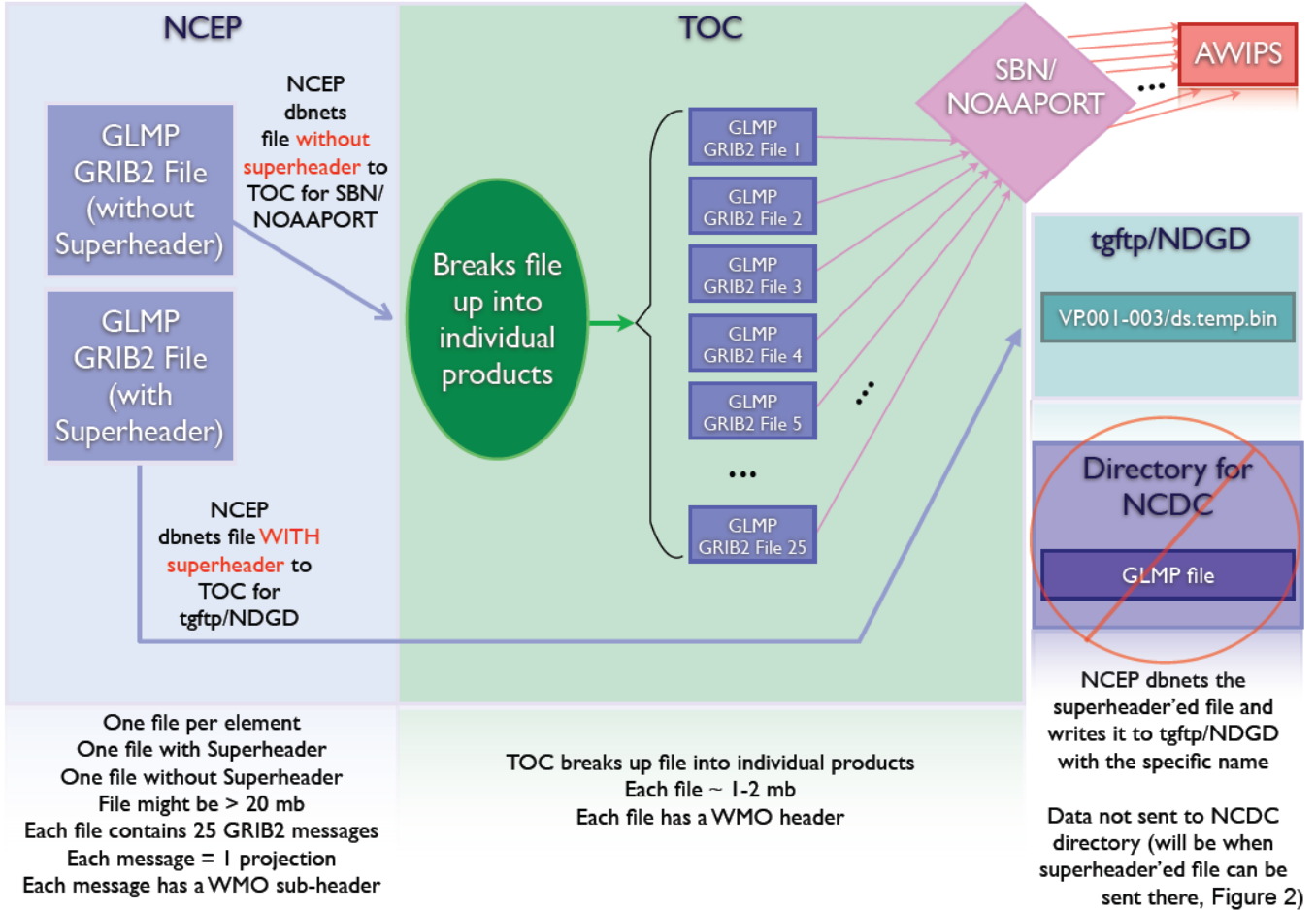
Table 1: Superheaders and individual headers and product sizes for Gridded LAMP products to be routed to NDGD beginning on August 2, 2011.

| Element | Super-header | Product Headers | Geographical Area | No. of Products per cycle | Projections (hr) | Bytes per header/ cycle |
|---|---------------------|---|--------------------------|----------------------------------|--------------------------------|--------------------------------|
| 0-hr Observed Temperature | N/A | LAUAii KMDL ii = valid hour in UTC (00-23) | CONUS | 1 | N/A | 1MB/1MB |
| Error Estimate of 0-hr Observed Temperature | N/A | LAUBii KMDL ii = valid hour in UTC (00-23) | CONUS | 1 | N/A | 0.75MB/0.75MB |
| 0-hr Observed Dew Point | N/A | LBUAii KMDL ii = valid hour in UTC (00-23) | CONUS | 1 | N/A | 1MB/1MB |
| Error Estimate of 0-hr Observed Dew Point | N/A | LBUBii KMDL ii = valid hour in UTC (00-23) | CONUS | 1 | N/A | 0.75MB/0.75MB |
| 0-hr Observed Ceiling Height | N/A | LCUAii KMDL ii = valid hour in UTC (00-23) | CONUS | 1 | N/A | 1MB/1MB |
| 0-hr Observed Visibility | N/A | LDUAii KMDL ii = valid hour in UTC (00-23) | CONUS | 1 | N/A | 1MB/1MB |
| Forecasted Temperature | LKUZ98 KMDL | LKUAii KMDL ii = forecast projection (01-25) | CONUS | 25 | 1-25 (in increments of 1 hour) | 0.8MB/20MB |
| Forecasted Dew Point | LLUZ98 KMDL | LLUAii KMDL ii = forecast projection (01-25) | CONUS | 25 | 1-25 (in increments of 1 hour) | 0.8MB/20MB |
| Forecasted Ceiling Height | LMUZ98 KMDL | LMUAii KMDL ii = forecast projection (01-25) | CONUS | 25 | 1-25 (in increments of 1 hour) | 1MB/25MB |
| Forecasted Visibility | LNUZ98 KMDL | LNUAii KMDL ii = forecast projection (01-25) | CONUS | 25 | 1-25 (in increments of 1 hour) | 1MB/25MB |
| Totals | | | | 106 | | 95.5 MB/cycle (each hour) |

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Figure 1. GLMP data product routing with present TOC hardware

Temporary solution: GLMP data transfer if TOC file size limitation is unchanged



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Figure 2. GLMP data product routing when TOC hardware upgrade is in place

