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VALID TIME EVENT CODE (VTEC)

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signed
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Valid Time Event Code (VTEC)

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1. Introduction. The Valid Time Event Code (VTEC) always is used in conjunction with, and provides supplementary information to, the Universal Geographic Code (UGC), to further aid in the automated delivery of the National Oceanic and Atmospheric Administration’s National Weather Service (NWS) text products to users. The VTEC is included in many event-driven or non-routine products and in some routine Marine forecasts (see Section 3.6.1). The VTEC provides information on the event, while the UGC (see Section 1.1) describes the affected geographic area. See important definitions in sections 1.4, 1.5, 1.6 and 1.7.

There are two forms of VTEC: (1) the “primary” or **P**-VTEC, and (2) in certain hydrologic products, a supplementary hydrologic or **H**-VTEC that always is used in conjunction with, and occurs on the line immediately after, the P-VTEC string(s). The P-VTEC rules and format are described in sections 1, 2, and 3; the H-VTEC rules and format, providing flood information for certain products, are described in sections 4 and 5.

NWS text product generation software applications automatically include the P-VTEC and H-VTEC string(s) in appropriate products.

Appendices A and B provide the listing of P-VTEC elements and H-VTEC elements, respectively.

Examples of the VTEC with detailed interpretation are found throughout this document. More comprehensive examples illustrating how VTEC is utilized in products are found in Appendix C.

1.1 References. Following are the NWS Instructions (NWSI) that are referenced in this document. They are on the Internet at <http://www.nws.noaa.gov/directives>.

NWSI 10-1701, Text Products Formats and Codes. This instruction provides the overall formatting structure for all text products.

NWSI 10-1702, Universal Geographic Code (UGC). This instruction provides the rules and formatting for the UGC.

Following are the NWSI series that describes rules and formats for most NWS products in individual Products Specifications and Regional Supplements to those NWSIs. References to the relevant Products Specifications are found throughout this document.

- NWSI 10-3 series. Marine and Coastal Weather Services
- NWSI 10-4 series. Fire Weather Services
- NWSI 10-5 series. Public Weather Services
- NWSI 10-6 series. Tropical Cyclone Weather Services Program
- NWSI 10-9 series. Hydrologic Services Program

1.2 Mission Connection. The NWS mission to protect life and property and enhance the national economy is carried out by timely delivery through a variety of dissemination systems of warnings, watches, forecasts, and other relevant weather, flood, climate, and critical non-weather-related information under the “all hazards” concept (see definition in NWS Policy Directive 10-17, Dissemination, which provides the overall dissemination policy). Correct use of product formats and codes is essential to ensure this delivery and allow users to select, process, and redistribute the information regardless of the dissemination method of receipt.

1.3 Implementation. The NWS will operationally implement the P-VTEC and H-VTEC in products produced at Weather Forecast Offices (WFOs) and in national Watch by County products produced by the Storm Prediction Center beginning after January 1, 2005. The suite of initial VTEC-enabled products will be listed in a Service Change Notice at least 180 days before the implementation date. The implementation of VTEC in other products will depend in part on the availability of NWS text product generation software applications and will be announced in a Service Change Notice at least 120 days in advance of the implementation date(s). An Operational Test and Evaluation of VTEC will be announced and conducted between the effective date of this directive and operational implementation. Select WFOs will issue products with an experimental or test VTEC string. Information regarding implementation of VTEC is available on the Internet at <http://www.nws.noaa.gov/os/vtec/>.

Most event-driven products that include the UGC will include the P-VTEC and, in some hydrologic products, also the H-VTEC. Additional codes may be added to the VTEC element tables in Appendices A and B, as needed, to meet future requirements.

1.4 Definitions.

- a. The **P-VTEC** identifies characteristics of the event(s), including (1) its status, type, and tracking number; and (2) the event(s) beginning and ending times.

- b. The **H-VTEC** string is “triggered by” and is always present when the Phenomena Code in the P-VTEC is FL for Flood or FF for Flash Flood. The H-VTEC identifies characteristics of the flood event, including the flood severity (for main stem rivers, when defined for the location); immediate cause; timing of flood beginning, crest, and end; and whether the flood will be at or near a record. The H-VTEC string occurs on a line immediately after the associated triggering P-VTEC string(s).
- c. **Event:** A specific combination of phenomenon (e.g., type of weather, flood) and level of significance (e.g., Watch, Warning, Advisory - W/W/A). See Appendix A for a list of phenomena and significance levels. Common examples of events include Tornado Warning, Winter Storm Watch, Wind Advisory, Flood Warning, and Special Marine Warning.
- d. **Event Beginning Time:** This is the first time group of the P-VTEC and H-VTEC strings and is the time when the event conditions (e.g., Lake Effect Snow Advisory) will become effective (i.e., when the W/W/A conditions are expected to begin occurring). This time also may be found in plain language in the narrative part of the product. For any actions taken after the event has begun, the P-VTEC Event Beginning Time will be encoded as zeros.
- e. **Flood Beginning Time:** This is the first time group of the H-VTEC string and is the time when the forecast point is expected to (or actually did) exceed flood stage. This time also may be found in the plain language in the narrative part of the product. For certain flood events, the H-VTEC Flood Beginning Time will be encoded as zeros.
- f. **Flood Crest Time:** This is the second time group of the H-VTEC string and is the time when the forecast point is expected to (or actually did) reach its flood crest. This time also may be found in the plain language in the narrative part of the product. For certain flood events, the H-VTEC Flood Crest Time will be encoded as zeros.
- g. **Event Ending Time:** This is the last (second) time group of the P-VTEC string and is the time when the event is no longer valid (i.e., when the W/W/A conditions are no longer expected to occur). Additionally, the event ending time is normally found in plain language in the narrative part of the product/segment and in the product/segment headline. For events valid “Until Further Notice”, the P-VTEC Event Ending Time will be encoded as zeros.
- h. **Flood Ending Time:** This is the last (third) time group of the H-VTEC string and is the time when the forecast point is expected to (or actually did) fall below flood stage. This time also may be found in the plain language in the narrative part of the product. For certain flood events, including those valid “Until Further Notice,” the H-VTEC Flood Ending Time will be encoded as zeros.

- i. **Segment:** Each segment (of a segmented product) consists of routine or event-driven weather, hydrologic, marine, or other information that uniquely applies to a geographic area (as encoded in the UGC string[s]).* The area includes one or more counties or NWS land or marine zones. The segment format includes the UGC grouping; the VTEC; and as may be appropriate, any UGC-associated plain language geographic names, and a repeat of the Date/Time line (see NWSI 10-1701 and respective product specifications documents for complete format rules).

* Exception: Certain hydrologic products that cover large areas or have multiple forecast points within the same county or zone may have segments describing differing events for the same geographic area. See NWSI 10-922, Weather Forecast Office Hydrologic Products Specification for more information.

- j. **Product:** The entire segmented or non-segmented message issued to the public under a single Mass News Disseminator (MND) header (see NWSI 10-1701 in Section 1.1) that may include information on one or more events.
- k. **Product Issuance Time:** The time when a message is entered into the Advanced Weather Interactive Processing System (AWIPS) for dissemination outside the issuing office (i.e., when the message is “sent”). It is found in the abbreviated World Meteorological Organization (WMO) header and included in the MND.
- l. **Product Expiration Time:** Found at the end of the last UGC group for an event, it is the time the product or product segment should no longer be used. In long-duration W/W/A products, when the event(s) is ongoing, the product expiration time is the time by which customers can expect to receive an updated product.

1.5 Event versus Segment versus Product. To use the P-VTEC and H-VTEC properly, it is important to understand the distinction between an “event,” a “segment”, and a “product” (as defined in section 1.4).

The product for a short-duration event (typically non-segmented) has the same title as the name of the event itself, e.g., Tornado Warning. Many long-duration (W/W/A) products, however, include several different events (not necessarily all contained within any one product issuance) and therefore have a different title than the event names.

For example: If “heat” is the phenomena and “advisory” is the significance level, then a “Heat Advisory” is the event and the public receives the information in a Non-Precipitation Weather (NPW) product.

Another example: A Winter Storm Warnings, Watches and Advisories (WSW) product can include a variety of events, such as a Heavy Snow Warning, a Freezing Rain Advisory, and a Winter Storm Watch, all included in a single product issuance. If each event were for a different geographic area, then the WSW product would be issued in multiple segments, each describing a specific event for a specific area.

1.6 Product Issuance Time versus Event Beginning Time. While the Event Beginning Time may be the same as or later than the Product Issuance Time, it should never be earlier. A special rule governs the coding of the Event Beginning Time after an event has begun. See Section 2.2.7 for more details.

1.7 Product Expiration Time versus Event Ending Time. For many short-duration events (e.g., Severe Thunderstorm Warning), the Product Expiration Time in the UGC string will be the same as the Event Ending Time in the P-VTEC string. For most longer duration events (i.e., those which last more than 12 hours), the product expiration time will normally be earlier than the Event Ending Time. In some very long-duration events, the product may expire even before the Event Beginning Time. The only time a Product Expiration Time will be later than the Event Ending Time is for final or follow-up products issued after an event has expired or been canceled.

2. Primary P-VTEC Format. The P-VTEC string(s) (and any H-VTEC string[s] - see Section 4) occurs immediately after the UGC string(s) and, depending on whether the product is segmented or not, will occur in different places in the product.

In segmented products, the UGC and any VTEC strings occur at the beginning of each segment, immediately followed by any UGC-associated plain language listing of zones or counties affected (or other words identifying the affected area). All segments of a product occur after the MND.

In non-segmented products, the UGC and VTEC strings (but without any plain language geographic listing) occur immediately after the NWS Communications Identifier and before the MND.

See NWSI 10-1701 and 10-1702 for important overall product format information.

Examples of VTEC coding in segmented and non-segmented products are found in Appendix C.

2.1 Generic Structure of P-VTEC Elements.

`/k.aaa.cccc.pp.s.####.yymmddThhnnZB-yymmddThhnnZE/`

The “aaa.cccc.pp.s.####” group depicts the characteristics of the event, and the “yymmddThhnnZ_B-yymmddThhnnZ_E” group depicts the event beginning and ending date/time in Universal Coordinated Time (UTC). Following are the individual P-VTEC code groupings/elements:

Product/VTEC String Type Identifier

k - Fixed identifier of product/VTEC string type (O, T, E, or X) (See definitions in section 2.2.1.)

Event Group

aaa - Action
cccc - Office ID
pp - Phenomena
s - Significance
- Event Tracking
 Number (ETN)

Date/Time Group

yy - Year
mm - Month
dd - Date
T - Fixed Time Indicator
hh - Hour in UTC
nn - Minute in UTC
Z_B - Fixed UTC Beginning Date/Time
 Indicator
Z_E - Fixed UTC Ending Date/Time
 Indicator

Notes:

- (1) The “T” in the Date/Time Groups is a fixed Time Indicator, with the following “hh” and “nn” being the hours and minutes in UTC, respectively.
- (2) The Z_B and Z_E are the fixed UTC indicators for the beginning and ending date/time groups, respectively. The subscripts B and E are only shown in the generic format; they are not included in any actual VTEC strings in products and examples.
- (3) The forward slash (‘/’), period (‘.’), and dash (‘-’) in the format are delimiters that separate fields for ease in decoding. The date/time format follows the FIPS/ANSI/ISO standard (FIPS 4-2:1998/ANSI x3.30-1997/ISO 8601:2000).

2.2 P-VTEC Element Definitions/Explanations.

2.2.1 **k** (Fixed Identifier): Identifies the following product and VTEC code string types.

k Code Definitions:

O (Operational Products) - Products defined in NWS policy and produced on a reliable and continuous basis, whose content has been validated and reflects real-time environmental conditions or events.

T (Test Products) - Products generated for the purpose of evaluation, the conduct of a communications test, or the conduct of a weather drill or test. Test products may be modeled after operational products or experimental products, but content does not reflect real-time environmental conditions or events. The word TEST will also be included in the product type line of the MND and the product text as described in NWSI 10-1701.

E (Experimental Products) - Products available for evaluation for a specified, limited time for the explicit purpose of obtaining customer feedback. Content has not been validated but generally reflects real-time environmental conditions or events.

X (Experimental VTEC in an Operational Product) - A non-operational VTEC string(s) is inserted into an otherwise operational product which is available for evaluation for a specified, limited time for the explicit purpose of obtaining customer feedback. The

experimental VTEC content has not been validated but reflects real time environmental events.

Note: In multi-segmented products, “T” or “E” product type VTEC segments should never be mixed with “O” or “X” product type VTEC segments.

2.2.2 **aaa (Action):** Identifies the action in the product issuance.

Action Code Definitions: Note that the following P-VTEC action codes apply to all of the area defined in the UGC string for that segment, except for certain EXA, EXB, and UPG actions.

NEW (NEW) - Used for an initial issuance of an event. Also used for an event that has replaced another event for the same area, as when an event is upgraded or downgraded (see the UPG and CAN action terms below). Whenever the NEW action code is used, the ETN increments from the last one used for that particular event. See section 2.2.6 for more information on ETNs.

CON (CONTINUED) - Used when providing updates to an existing event, where no changes were made to the area, valid time period, or Significance category.

Note that the CON action code applies only to the area (UGC) being continued from an earlier product issuance. This CON area may now only be part of the overall area of the updated event due to other segment(s) with an action code such as EXA (EXTENDED IN AREA) which may also have acted to expand the original area.

EXA (EXTENDED IN AREA) - Used when the valid area of an existing event has been expanded from its previous issuance. No changes were made to the valid time period or significance category. Two segments may be used, each with the same ETN in the P-VTEC string as the previous product or segment: one P-VTEC string will use the EXA action code (for the newly added area), and the other will use the CON action code (for the area being continued). This will make it easily apparent which area(s) is new to the event. If later follow-up products are issued with no additional changes to the event, both areas would then be included in one segment with the CON action code.

Alternatively, one product segment may be used with the EXA action code and include both the continued area and newly expanded area.

If the valid area of an event has been contracted, the EXA code is not used. Instead, two segments are required, one to Cancel the event in the area no longer in the event (using the CAN action code, see below) and the other to Continue the event in the remaining area (using the CON code).

EXA is not used in short duration warning products. Instead, a new warning is issued.

EXT (EXTENDED IN TIME) - Used when the valid time period of an existing event has been made longer or shorter by changing either or both the Event Beginning or Event Ending Date/Time Group, with no changes to the area or Significance category. Note that since an EXT code extends in time an already existing event, it does not require a separate P-VTEC string with the CON code.

EXT is not used in short duration warning products (specifically Severe Thunderstorm Warning [SVR], Tornado Warning [TOR], Flash Flood Warning [FFW], and Special Marine Warning [SMW]). Instead, a new warning is issued.

EXB (EXTENDED IN BOTH AREA AND TIME) - Used when the valid time period of an existing event has been changed (made longer or shorter) and the valid area has been expanded, while no changes were made to the Significance category. Two segments may be used, each with the same ETN in the P-VTEC string as the previous product or segment: one P-VTEC string will use the EXB action code (for the newly added area), and the other will use the EXT action code (for the area being continued with an updated valid time). This will make it easily apparent which area(s) is new to the event. If later follow-up products are issued with no additional changes to the event, both areas would then be included in one segment with the CON action code. Alternatively, one product segment may be used with the EXB action code and include both the continued area and newly expanded area.

EXB is not used in short duration warning products. Instead, a new warning is issued.

UPG (UPGRADED) - Used in one of two ways.

- When an existing event is upgraded for the same area to a higher significance level (with either the same phenomena or an environmentally related phenomena), e.g., from a watch to an advisory or warning, or from an advisory to a warning. Specifically, a Freezing Rain Advisory changed to an Ice Storm Warning, a Winter Storm Watch to a Blizzard Warning, and a Small Craft Advisory to a Gale Warning are considered upgrades because the changes in phenomena are considered meteorologically related
- For routine marine warnings where the phenomena have discrete criteria without overlap (e.g., a Gale Warning to a Storm Warning, or a Storm Warning to a Hurricane Force Wind Warning).

In both cases, two P-VTEC strings are used: The UPG is used in the first P-VTEC string to show the event being upgraded from (e.g., an advisory) and the NEW is used in the second P-VTEC string to show the event upgraded to (e.g., a warning). The NEW event may be for a different valid time, e.g., the warning extends the time of the original advisory, but another P-VTEC string using the EXT is not required.

UPG is not used in convective or hydrologic events. In those cases, a watch can remain

in effect even after local warnings are issued. For instance, a Flash Flood Watch (FFA) may cover a large area of several counties or states, while individual Flash Flood Warnings (FFW) may be issued for individual counties or streams (or portions thereof). The first issuance of these warnings will have a single P-VTEC string with a NEW action code.

CAN (CANCELED) - Used in one of three ways:

- The primary usage is to cancel a still-active event immediately upon product issuance, using a single P-VTEC string with the CAN action code.
- After an event has been canceled (before its scheduled expiration time), a final or follow-up statement may be issued referring back to the canceled event, using a single P-VTEC string with the CAN action code.
- And finally, for non-convective and non-hydrologic events, CAN is also used to identify when an event has been downgraded to a lower significance level (e.g., from a warning to an advisory), or (for non-marine products) replaced by another event at the same significance level (e.g., from an ice storm warning to a winter storm warning). In this case, two P-VTEC strings are used: The CAN is used in the first P-VTEC string to show the event being downgraded from (e.g., a warning) and NEW is used in the second P-VTEC string to show the event downgraded to (e.g., an advisory). The NEW event (in this case, the advisory) may have a different valid time, but another P-VTEC string using the EXT is not required.

In all cases, the event ending date/time in the P-VTEC string with the CAN action code remains the same as in the previous product issuance of that event.

EXP (EXPIRED) - Used in one of two ways:

- While an event is still active (i.e., hasn't reached its scheduled event ending time), the EXP is used in a concluding message to notify users that an event will be allowed to expire at the scheduled time.
- After an event has expired (i.e., after the scheduled event ending time), a final or follow-up message may be issued referring back to the expired event.

It is not generally required that a “concluding” product with the EXP action code in the P-VTEC be issued. See the respective Product Specifications Documents for additional guidance on permitted times of use in specific products. In both cases, a single P-VTEC string is used with the EXP action code, and the event ending date/time remains the same as in the previous product issuance of that event.

EXP is not used in routine Marine forecasts.

ROU (ROUTINE) - Only used in the Coastal Waters Forecast (CWF), Offshore Forecast (OFF), Great Lakes Open Lake Forecast (GLF), and Great Lakes Nearshore Forecast

(NSH). Since these products are used to convey both W/W/A events and routine information, the ROU is used only when there are no marine W/W/As in effect. The ROU or combined ROU and W/W/A P-VTEC are coded through the end of the third period. See Section 3.6.1 for more details on the use of the ROU code. Until a marine Tropical Cyclone VTEC string is operational, the ROU action code may be used in marine forecasts during tropical cyclone events (see sections 3.6.3 and 3.7).

COR (CORRECTION) - Used when correcting any non-VTEC or non-UGC error or omission in the previous product, i.e., for a typographical or grammatical error or omission which is not related to the VTEC or UGC coded elements. P-VTEC string(s) with a COR action code will be used in each corrected product segment. The MND header and product text indicate the corrections. With the exception of short-duration warning products (see below), corrections related to errors or omissions in VTEC or UGC coding will be made through the use of the appropriate P-VTEC action codes.

In short duration warning products, the COR action code may be used in corrections involving format or dissemination code errors, or for counties (or marine zones) either omitted or erroneously added to a warning. This is done in order to clear communications systems of incorrect warning text. Follow-up statements (Severe Weather Statement [SVS] for SVRs and TORs, Flash Flood Statement [FFS] for FFWs, and Marine Weather Statement [MWS] for SMWs) may also be issued to formally cancel a warning for any erroneous counties, using the CAN action code. Refer to the appropriate NWS Products Specification Directives for more details.

2.2.3 **cccc (Office ID)**. The standard four-letter identifier indicating the NWS office with the primary responsibility for the affected area. The office ID is the same as that in the plain language MND header. Any NWS office providing backup service will use the primary office's cccc.

2.2.4 **pp (Phenomenon)**. Identifies the type of weather, flood, marine, fire weather, etc., occurrence (e.g., freezing rain, river flood, gale, red flag), or non-weather occurrence (e.g., radiological hazard, volcano). See Appendix A for the complete list of Phenomena codes.

2.2.5 **s (Significance)**. Identifies the level of importance (e.g., watch, warning, advisory, etc.) of the weather or non-weather occurrence. When a follow-up statement is issued to update, cancel, or announce expiration of a previously issued event, the event significance code used in the updated, canceled, or expired P-VTEC string will be the same as the corresponding significance code used in the original product, even if the product was issued under a different communications identifier. See Appendix A for the complete list of Significance codes.

2.2.6 **#### (Event Tracking Number - ETN)**. The ETN is a four-digit number assigned to keep track of how an event (as defined in Section 1.4) is addressed by various VTEC actions and/or products issued over the lifetime of the event. The ETN is assigned automatically by NWS applications software for each type of event issued by each office, sequentially starting with 0001 for the first new event of its type for the calendar year starting at 0000 UTC on January 1. Events

that are first issued in one year and carry over into the next year will maintain the same ETN (from the old year) for the duration of the event, even if the Event Beginning Time is in the new year. There is one ETN list for each specific event (combination of phenomenon and significance level), and is used for all products or product segments containing that event, whether they be operational, test, or experimental.

A new ETN is assigned when the event is first issued, and the same ETN is carried when the event is continued, canceled, or extended (in area, time, or both). Note that when an event is, however, upgraded or downgraded (canceled) to another event, the original ETN is not used, and the ETN of the “new” event is incremented from the last time that event was issued.

Here is an example sequence of ETNs for a generic Weather Forecast Office’s (WFO) severe thunderstorm warnings at the beginning of a year:

<u>ETN</u>	<u>Date</u>	<u>Product Issued</u>
0001	2/12	Operational Severe Thunderstorm Warning for Alpha County
0002	3/17	Test Severe Thunderstorm Warning (for Weather Awareness Week)
0003	3/23	Operational Severe Thunderstorm Warning for Charlie and Baker Counties
0004	3/23	Operational Severe Thunderstorm Warning for Alpha and Delta Counties
0005	4/14	Test Severe Thunderstorm Warning for Baker County (for new proposed warning format)
0006	4/14	Test Severe Thunderstorm Warning for Charlie County (for new proposed warning format)
0007	4/24	Operational Severe Thunderstorm Warning for Delta County

If backup service is required from another office(s), the primary office’s ETN is used throughout the event.

For products (e.g., WSW, NPW) that may include more than one event, each specific event within the product will have its own ETN. For example, an office issues a NEW WSW product early in the calendar year with the following segments (each describing a specific event for a specific geographic area) and corresponding ETNs:

<u>Segment</u>	<u>ETN</u>
(1) Blizzard Warning	0002 (2 nd Blizzard Warning of the year)
(2) Blizzard Warning	0003 (3 rd Blizzard Warning of the year)
(2) Winter Storm Warning	0006 (6 th Winter Storm Warning of the year)

Two weeks later, another weather system causes the same office to issue another NEW WSW with the same order of segments, with the following corresponding ETNs:

<u>Segment</u>	<u>ETN</u>
(1) Blizzard Warning	0004 (4 th Blizzard Warning of the year)
(2) Winter Storm Warning	0007 (7 th Winter Storm Warning of the year)
(3) Winter Storm Warning	0008 (8 th Winter Storm Warning of the year)

As shown here, the same event (phenomenon and significance) may appear in multiple segments of the same product with different ETNs, so long as the segment areas of forecast points are unique and/or some aspect of the event differs between the two areas (e.g., expected accumulation, event start and/or end time, etc.).

Appendix C, Section 1.d, depicts the Full Event Sequence of ten products issued by a WFO during a Winter Storm, from Initial Watch to Cancellation of Warnings and Advisories.

A broad weather system may cause several offices to issue the same event for their area of responsibility, such as a Winter Storm Watch within a WSW product. The watch may have different ETNs from each issuing office, depending on how many prior Winter Storm Watches each office issued so far that year.

Nationally originated events. Locally derived watch products issued by WFOs that are based on the Storm Prediction Center's (SPC) Tornado/Severe Thunderstorm Watches use the same sequential ETNs as the original SPC watches. The SPC will use the ETNs 9990-9999 for test watches.

2.2.7 yymmddThhnnZ_B and yymmddThhnnZ_E (Event Beginning and Ending Date/Time Groups). These groups identify the valid time span of the event (from Event Beginning Time to Event Ending Time) in UTC. See definitions in section 1.4 and comparisons of Product and Event times in sections 1.6 and 1.7.

The Event Beginning Date/Time group for a particular event may only be changed prior to the scheduled start of the event (i.e., before the Event Beginning Time) and only through the use of the EXT or EXB action code. After an event has begun, the Event Beginning Date/Time group is coded with ten zeros (000000T0000Z). This prevents an accidental invalidation of an ongoing event and indicates that the event is ongoing.

The Event Ending Date/Time group for a particular event may only be changed prior to the scheduled expiration or ending of the event (i.e., before the Event Ending Time), and only through the use of the EXT or EXB action code. If an event is inadvertently allowed to reach its Event Ending Time before being extended, the event will be reissued with the NEW action code and a new ETN.

For very long duration events which are in effect "UNTIL FURTHER NOTICE," rather than giving a specific ending time for the event, the Event Ending Date/Time group is coded with ten zeros (000000T0000Z). When the end of the event is able to be specified, the zeros will be replaced with an actual date and time in the P-VTEC string using the EXT action code (and reflected in the flood timing of any associated H-VTEC string). The encoding of ten zeros for

the Event Ending Date/Time group will only be used when the appropriate NWS Products Specification Directives specifically permits.

Here are examples of P-VTEC strings for some action codes to illustrate date/time group coding when the product or product segment is issued before or after the event beginning time:

New (NEW)

Before Event Beginning Time /T.NEW.KLOT.SV.W.0003.040508T1430Z-040508T1500Z/
 After Event Beginning Time Not applicable

Continued (CON)

Before Event Beginning Time /O.CON.KCLE.HT.Y.0007.040718T1600Z-040718T2300Z/
 After Event Beginning Time /O.CON.KCLE.HT.Y.0007.000000T0000Z-040718T2300Z/

Extended in Time (EXT)

Before Event Beginning Time /O.EXT.KLWX.WS.W.0004.040116T1800Z-040116T2200Z/
 After Event Beginning Time /O.EXT.KLWX.WS.W.0004.000000T0000Z-040116T2200Z/

Upgraded (UPG) - always used in conjunction with a NEW event

Before Event Beginning Time /O.UPG.KOUN.BZ.A.0005.041228T0500Z-041229T0100Z/
 /O.NEW.KOUN.BZ.W.0003.041228T0500Z-041229T0100Z/
 After Event Beginning Time /O.UPG.KOUN.BZ.A.0005.000000T0000Z-041229T0100Z/
 /O.NEW.KOUN.BZ.W.0003.041228T0500Z-041229T0100Z/

Expired (EXP)

Before Event Beginning Time Not applicable
 After Event Beginning Time /O.EXP.KCAR.WC.W.0009.000000T0000Z-041118T1300Z/

Routine (ROU)

Before Event Beginning Time /O.ROU.KPHI.MA.F.0000.050201T1200Z-050201T1700Z/
 After Event Beginning Time Not applicable

The NEW and ROU action codes always will have the actual event beginning time encoded. The EXP action code is defined only for events that have ended, or are about to end (i.e., have already begun).

2.2.8 Example of a Full P-VTEC string (with associated UGC string).

Scenario: Initial issuance of a WSW product

Issuing Office: WFO Kansas City/Pleasant Hill MO (KEAX)

Current time: 1000 UTC on December 14, 2004

Event (Product being issued): Freezing Rain Advisory (WSW)

Advisory valid for: Missouri Zones 15 thru 17

Product expiration time: 1430 UTC on December 14, 2004

Event Tracking Number: 4th Freezing Rain Advisory of the year issued by KEAX

Expected Event Beginning and Ending times: 1200 UTC and 1430 UTC on December 14, 2004

MOZ015>017-141430-

(UGC)

/O.NEW.KEAX.ZR.Y.0004.041214T1200Z-041214T1430Z/

(P-VTEC)

Explanation: WFO Kansas City/Pleasant Hill, MO (KEAX - in P-VTEC), issued a new (NEW - in P-VTEC) operational (O - in P-VTEC) WSW product for Missouri Zones 15, 16 and 17 (MOZ015>017 - in UGC), for its 4th (0004 - in P-VTEC) Freezing Rain Advisory (ZR.Y - in P-VTEC) of the calendar year. The freezing rain is expected to begin at 1200 UTC on December 14, 2004 (041214T1200Z - in P-VTEC) and end at 1430 UTC on December 14, 2004 (041214T1430Z - in P-VTEC). In any follow-up statements, once the Event Beginning Date/Time is reached, that group will be coded as zeros in the P-VTEC string.

3. Special P-VTEC Rules, Applications and Interpretations. This section explains unique applications of P-VTEC in specific products and/or situations.

3.1 Event Significance Level Change or Replacement in Products. Two P-VTEC strings are required in the following products: WSW and NPW, Fire Weather, and certain marine products when an event for the same area is (1) upgraded/downgraded to a different significance level, e.g., a watch is being upgraded to a warning or advisory, an advisory is being upgraded to a warning, a warning is being downgraded to an advisory, or (2) replaced by a different but environmentally similar event, e.g., a winter storm warning is being replaced by an ice storm warning.

In the first P-VTEC string, the action code UPG or CAN is used to show the old W/W/A event being upgraded or canceled/replaced. In the second P-VTEC string, the action code NEW is used to start a new W/W/A event.

a. Upgrade Watch to Warning Example.

Scenario: Upgrade a Winter Storm Watch to an Ice Storm Warning

Issuing Office: WFO Norman OK (KOUN)

Current time: 2200 UTC on January 27, 2004

Event being upgraded (Product): Winter Storm Watch to Ice Storm Warning (WSW)

Watch and Warning valid for: Oklahoma Zones 6 thru 8, 11 thru 24, and 33 thru 36; and Texas Zone 83

Product expiration time: 1100 UTC on January 28, 2004

Event Tracking Numbers: 4th Winter Storm Watch of the year and 3rd Ice Storm Warning of the year issued by KOUN

Expected Event Beginning and Ending times of the

Winter Storm Watch: 0500 UTC on January 28 and 0000 UTC on January 29, 2004

Ice Storm Warning: 0500 UTC on January 28 and 0000 UTC on January 29, 2004

OKZ006>008-011>024-033>036-TXZ083-281100- (UGC)
 /O.UPG.KOUN.WS.A.0004.040128T0500Z-040129T0000Z/ (P-VTEC 1)
 /O.NEW.KOUN.IS.W.0003.040128T0500Z-040129T0000Z/ (P-VTEC 2)

Explanation: Two P-VTEC strings are required to upgrade the Winter Storm Watch to an Ice Storm Warning. The first (UPG) P-VTEC string indicates the event that is being upgraded (the Watch), and the second (NEW) string indicates the new upgraded event (the Warning). Since the Watch valid time had not yet begun when the action to upgrade it to a Warning occurred, the actual beginning valid time of the Watch is encoded in the first P-VTEC string. The UGC string shows the various OK and TX zones and the product expiration time.

b. Downgrade from Warning to Advisory Example.

Scenario: Downgrade an Ice Storm Warning to a Freezing Rain Advisory

Issuing Office: WFO Norman OK (KOUN)
 Current time: 1100 UTC on January 28, 2004
 Event being downgraded (Product): Ice Storm Warning to Freezing Rain Advisory (WSW)
 Warning and Advisory valid for: Oklahoma Zones 6 thru 8, 11 thru 24, and 33 thru 36; and Texas Zone 83
 Product expiration time: 1700 UTC on January 28, 2004
 Event Tracking Numbers: 3rd Ice Storm Warning of the year and 5th Freezing Rain Advisory of the year issued by KOUN
 Expected (actual) Event Beginning and Ending times of the
 Ice Storm Warning: 0500 UTC on January 28 and 0000 UTC on January 29, 2004
 Freezing Rain Advisory: 1100 UTC on January 28 and 0000 UTC on January 29, 2004

OKZ006>008-011>024-033>036-TXZ083-281700- (UGC)
 /O.CAN.KOUN.IS.W.0003.000000T0000Z-040129T0000Z/ (P-VTEC 1)
 /O.NEW.KOUN.ZR.Y.0005.040128T1100Z-040129T0000Z/ (P-VTEC 2)

Explanation: Two P-VTEC strings are required to downgrade the Ice Storm Warning to a Freezing Rain Advisory. The first (CAN) P-VTEC string indicates the product that is being downgraded or canceled (the Warning), and the second (NEW) string indicates the new product being issued (the Advisory). Since the Warning valid time had already begun when the action to downgrade it to an Advisory occurred, the beginning valid time of the Warning is encoded as all zeros in the first P-VTEC string. The UGC string shows the various OK and TX zones and the product expiration time.

c. Replace Ice Storm Warning with Winter Storm Warning Example.

Scenario: Replace an Ice Storm Warning with a Winter Storm Warning
 Issuing Office: WFO Norman OK (KOUN)
 Current time: 0530 UTC on January 28, 2004
 Event being replaced (Product): Ice Storm Warning with Winter Storm Warning (WSW)
 Warning valid for: Oklahoma Zones 6 thru 8, 11 thru 24, and 33 thru 36; and Texas Zone 83
 Product expiration time: 1200 UTC on January 28, 2004
 Event Tracking Numbers: 3rd Ice Storm Warning of the year and 6th Winter Storm Warning of the year issued by KOUN
 Expected (actual) Event Beginning and Ending times of the
 Ice Storm Warning: 0500 UTC on January 28 and 0000 UTC on January 29, 2004
 Winter Storm Warning: 0530 UTC on January 28 and 0000 UTC on January 29, 2004

OKZ006>008-011>024-033>036-TXZ083-281200- (UGC)
 /O.CAN.KOUN.IS.W.0003.000000T0000Z-040129T0000Z/ (P-VTEC 1)
 /O.NEW.KOUN.WS.W.0006.040128T0530Z-040129T0000Z/ (P-VTEC 2)

Explanation: Two P-VTEC strings are required to replace the Ice Storm Warning with a Winter Storm Warning. The first (CAN) P-VTEC string indicates the product that is being replaced (the Ice Storm Warning), and the second (NEW) string indicates the new product being issued (Winter Storm Warning). Since the Ice Storm valid time had already begun when the action to change it to a Winter Storm occurred, the beginning valid time of the Ice Storm is encoded as all zeros in the first P-VTEC string. The UGC string shows the various OK and TX zones and the product expiration time.

d. Upgrade Gale Warning to Storm Warning Example.

Scenario: Upgrade a Gale Warning to a Storm Warning
 Issuing Office: WFO Seattle WA (KSEW)

Current time: 2000 UTC on February 16, 2004
 Events (Product): Gale and Storm Warnings (CWF)
 Warning being upgraded: Gale Warning to Storm Warning
 Forecast valid for: Eastern North Pacific Marine Zone 133
 Product expiration time: 2300 UTC on February 16, 2004
 Event Tracking Numbers: 7th Gale Warning and 4th Storm Warning of the year issued by KSEW
 Expected (actual) Event Beginning and Ending times of the
 Gale Warning: 1100 UTC on February 16 and 0000 UTC on February 18, 2004
 Storm Warning : 2000 UTC on February 16 and 0000 UTC on February 18, 2004

PZZ133-162300- (UGC)
 /O.UPG.KSEW.GL.W.0007.000000T0000Z-040218T0000Z/ (P-VTEC 1)
 /O.NEW.KSEW.SR.W.0004.040216T2000Z-040218T0000Z/ (P-VTEC 2)

Explanation: The P-VTEC coding is similar to the previous examples, with upgrade (UPG) and new (NEW) strings. See Section 3.6.1 for more information on special VTEC coding rules in routine Marine forecasts.

3.2 Extend Event in Area, Time, or Both (EXA,EXT,EXB). Here are examples showing the use of the extend area and time codes.

a. Extend Event in Area (EXA) Example.

Scenario: Add counties to an existing Winter Storm Watch
 Issuing Office: WFO Bismarck ND (KBIS)
 Current time: 2200 UTC on November 23, 2004
 Event (Product): Winter Storm Watch (WSW)
 Watch originally valid for: North Dakota Zones 18 and 31
 Area being added to watch: North Dakota Zones 32 and 33
 Product expiration time: 0400 UTC on November 24, 2004
 Event Tracking Number: 12th Winter Storm Watch of the year issued by KBIS
 Expected Event Beginning and Ending times: 0500 UTC on November 24 and 0000 UTC on November 25, 2004

(segment 1 of 2 within WSW product - new area in watch)
 NDZ032>033-240400- (UGC)
 /O.EXA.KBIS.WS.A.0012.041124T0500Z-041125T0000Z/ (P-VTEC)

(segment 2 of 2 within WSW product - continued area in watch)
 NDZ018-031-240400- (UGC)
 /O.CON.KBIS.WS.A.0012.041124T0500Z-041125T0000Z/ (P-VTEC)

Explanation: Two segments are used, one with the EXA action code for the newly added area, and one with the CON action code for the area being continued. Since the Watch conditions are expected to begin after the product issuance, the Event beginning times are explicitly coded in both P-VTEC strings. Both segments maintain the same ETN (of 12) as the original product segment. If another follow-up product is issued later, and the entire Watch area is being continued with no time changes, the entire area will appear in one segment with the CON action code.

b. Extend Event in Time (EXT) Example.

Scenario: Extend the Event Ending Time of a Blowing Dust Advisory
 Issuing Office: WFO Tucson AZ (KTUS)
 Current time: 1600 UTC on May 12, 2004

Event (Product): Blowing Dust Advisory (NPW)
 Advisory valid for: Arizona Zones 33 thru 35
 Product expiration time: 2200 UTC on May 12, 2004
 Event Tracking Number: 3rd Blowing Dust Advisory of the year issued by KTUS
 Expected (actual) Event Beginning and Ending times of the
 Original Advisory: 1200 UTC and 1800 UTC on May 12, 2004
 Extended Advisory: 1200 UTC and 2200 UTC on May 12, 2004

AZZ033>035-122200- (UGC)
 /O.EXT.KTWC.DU.Y.0003.000000T0000Z-040512T2200Z/ (P-VTEC)

Explanation: Only one P-VTEC string is needed to change (extend or contract) the valid time of an event. A CON (Continue) string is not needed for the original zones since the EXT, by definition, includes an extension of that original time. The only way to determine how the valid time has changed is to compare the P-VTEC string from the original (or previous) Advisory with the same ETN (of 3) with the P-VTEC string from this product. Since the Advisory event has already begun, the beginning event time is encoded as all zeros in the P-VTEC string.

c. Extend Event in Both Area and Time (EXB) Example.

Scenario: Add zones to and extend Event Ending Time of a Heavy Snow Warning
 Issuing Office: WFO Boise ID (KBOI)
 Current time: 1200 UTC on March 16, 2004
 Event (Product): Heavy Snow Warning (WSW)
 Warning originally valid for: Idaho Zones 1 thru 5
 Area being added to warning: Idaho Zones 6 thru 8
 Product expiration time: 1800 UTC on March 16, 2004
 Event Tracking Number: 4th Heavy Snow Warning of the year issued by KBOI
 Expected (actual) Event Beginning and Ending times of the
 Original Warning: 0600 UTC and 1200 UTC on March 16, 2004
 Extended Warning: 0600 UTC and 1800 UTC on March 16, 2004

(segment 1 of 2 within WSW product - new area in warning)
 IDZ006>008-161800- (UGC)
 /O.EXB.KBOI.HS.W.0004.000000T0000Z-040316T1800Z/ (P-VTEC)

(segment 2 of 2 within WSW product - area included in previous issuance)
 IDZ001>005-161800- (UGC)
 /O.EXT.KBOI.HS.W.0004.000000T0000Z-040316T1800Z/ (P-VTEC)

Explanation: Two segments are used, one with the EXP action code for the newly issued area, and another with the EXT action code for the continued area (with the updated beginning and/or ending time). Since the Warning conditions have already begun, the Event Beginning Date/Time Group is coded with zeros in both segments. Both segments maintain the same ETN (of 4) as the original product segment. If another follow-up product is issued, and the entire Warning area is being continued with no other time changes, the entire area will appear in one segment with the CON action code.

3.3 Severe Thunderstorm/Tornado Watch Products. P-VTEC coding will appear in two Severe Thunderstorm/Tornado Watch Products: the national Watch Outline Update Message (WOU) issued by the SPC; and the local Watch County Notification (WCN) issued by WFOs with forecast/warning area of responsibility included in the WOU product. The P-VTEC string used in a WOU and all WCNs in one convective watch will share the same ETN, Phenomenon

and Significance Level, and Beginning and Ending Event Times (except that once the watch begins, any follow-up WCNs would encode their Beginning Event Time as all zeros). The WOU will use the Storm Prediction Center's ID (KWNS), while each WCN will use the station ID of the issuing WFO.

See NWSI 10-512, National Severe Weather Products Specification, and NWSI 10-511, WFO Severe Weather Products Specification, for comprehensive details on the WOU and WCN, respectively.

3.3.1 Watch Outline Update (WOU) Product. Following is an example of a WOU issued by SPC. Note the ETN is 5. This ETN will be used by all affected WFOs in their WCN products.

Scenario: Initial Tornado Watch issuance by SPC

Issuing Office: Storm Prediction Center (KWNS)

Current time: 1125 UTC on February 5, 2004

Event (Product): Tornado Watch (WOU)

Watch valid for: Louisiana Parishes 1, 3, 5, 7, 9, 11, 19, 23, 25, 29, 33, 37, 39, 41, 43, 45, 47, 53, 55, 59, 63, 65, 77, 79, 91, 93, 95, 97, 99, 101, 105, 107, 113, 117, 121 and 125; Mississippi Counties 1, 5, 21, 29, 31, 37, 49, 63, 65, 77, 85, 89, 91, 101, 113, 121, 123, 127, 129, 147, 149 and 157; Texas Counties 245 and 361; and Gulf of Mexico Marine Zones 450, 475, and 530

Product expiration time: 1800 UTC on February 5, 2004

Event Tracking Number: 5th Watch of the year issued by the SPC (this one for Tornado)

Expected Event Beginning and Ending times of the watch: 1140 UTC and 1800 UTC on February 5, 2004

(segment 1 of 4 within WOU product - Louisiana parishes in watch)

LAC001-003-005-007-009-011-019-023-025-029-033-037-039-041-043-045-047-053-055-059-063-065-077-079-091-093-095-097-099-101-105-107-113-117-121-125-051800- (UGC)
/O.NEW.KWNS.TO.A.0005.040205T1140Z-040205T1800Z/ (P-VTEC)

(segment 2 of 4 within WOU product - Mississippi counties in watch)

MSC001-005-021-029-031-037-049-063-065-077-085-089-091-101-113-121-123-127-129-147-149-157-051800- (UGC)
/O.NEW.KWNS.TO.A.0005.040205T1140Z-040205T1800Z/ (P-VTEC)

(segment 3 of 4 within WOU product - Texas counties in watch)

TXC245-361-051800- (UGC)
/O.NEW.KWNS.TO.A.0005.040205T1140Z-040205T1800Z/ (P-VTEC)

(segment 4 of 4 within WOU product - Marine zones in watch)

GMZ450-475-530-051800- (UGC)
/O.NEW.KWNS.TO.A.0005.040205T1140Z-040205T1800Z/ (P-VTEC)

Explanation: Each segment in the WOU product uses the same ETN (of 5), and each is coded as NEW (from the P-VTEC strings). Subsequent WCN products issued by any of the WFOs impacted by the watch (see section 3.3.2) will use the same ETN (of 5), as well as the same phenomenon (TO) and significance level (A).

3.3.2 Watch County Notification (WCN) Product. The WCN product issued by affected WFOs will handle all aspects for their respective forecast/warning area of responsibility (issuance, clearing counties, continuing counties, canceling, expiration) of Severe Thunderstorm Watch or Tornado Watch issuances by the SPC.

In WCN products, the SPC WOU watch number will be used as the ETN. This allows WCN products from adjacent WFOs to have the same ETN for the same watch.

Following is an example of a WCN product, an initial issuance of a Tornado Watch product by WFO Lake Charles Louisiana. An additional WCN example which illustrates the clearing of a portion of a Severe Thunderstorm Watch is in Appendix C. For information on other variations of the WCN product, such as “Clearing remaining counties from a watch,” “Second watch issued while first watch remains in effect,” “Extending a watch’s expiration time for selected counties,” see NWSI 10-511.

Example - WCN Product for Initial Issuance of a Tornado Watch

Scenario: Initial WCN issuance (see Section 3.3.1 for the associated WOU from the SPC)

Issuing Office: WFO Lake Charles LA (KLCH)

Current time: 1135 UTC on February 5, 2004

Event (Product): Tornado Watch (WCN)

Watch valid for: Louisiana Parishes 1, 3, 9, 11, 19, 23, 39, 45, 53, 55, 79, 97, 99, 101, and 113; Texas Counties 245 and 361; and Gulf of Mexico Marine Zones 450 and 475

Product expiration time: 1800 UTC on February 5, 2004

Event Tracking Number: 5th Watch of the year issued by the SPC (this one for Tornado)

Expected Event Beginning and Ending times of the watch: 1140 UTC and 1800 UTC on February 5, 2004

LAC001-003-009-011-019-023-039-045-053-055-079-097-
 099-101-113-TXC245-361-GMZ450-475-051800- (UGC)
 /O.NEW.KLCH.TO.A.0005.040205T1140Z-040205T1800Z/ (P-VTEC)

Explanation: The P-VTEC string of this initial WCN product uses the same ETN, phenomenon, significance level, and beginning and ending times as the associated SPC WOU product (from the P-VTEC string), although it contains only the counties and marine zones in the WFO Lake Charles forecast area that are included in the watch (in the UGC string).

3.4 **Severe Weather Statement (SVS) Product.** The SVS product is used to provide follow-up information on a Tornado Warning or Severe Thunderstorm Warning. The SVS uses the phenomenon, significance, and ETN of the original warning.

Example - Initial Tornado Warning and Follow-up SVS

Product 1

Scenario: Initial Warning issuance

Issuing Office: WFO Binghamton NY (KBGM)

Current time: 1730 UTC on April 16, 2004

Event (Product): Tornado Warning (TOR)

Warning valid for: New York County 17

Product expiration time: 1815 UTC on April 16, 2004

Event Tracking Number: 3rd Tornado Warning of the year issued by KBGM

Expected or actual Event Beginning and Ending times of the Warning: 1730 UTC and 1815 UTC on April 16, 2004

NYC017-161815- (UGC)
 /O.NEW.KBGM.TO.W.0003.040416T1730Z-040416T1815Z/ (P-VTEC)

Explanation: The phenomenon, significance, ETN and event ending time from this warning will be used in any follow-up Severe Weather Statement issued concerning this warning.

Product 2

Scenario: Follow-up Statement

Issuing Office: WFO Binghamton NY (KBGM)

Current time: 1750 UTC on April 16, 2004

Event (Product): Tornado Warning (SVS)

Warning valid for: New York County 17

Product expiration time: 1815 UTC on April 16, 2004

Event Tracking Number: 3rd Tornado Warning of the year issued by KBGM

Expected or actual Event Beginning and Ending times of the Warning: 1730 UTC and 1815 UTC on April 16, 2004

NYC017-161815-

/O.CON.KBGM.TO.W.0003.000000T0000Z-040416T1815Z/

(UGC)

(P-VTEC)

Explanation: The follow-up Severe Weather Statement uses the same phenomenon (TO), significance (W), ETN (3), and event ending time (1815 UTC) as the original warning.

3.5 Combined Severe Thunderstorm and Flash Flood Warning (FFW). Since this product contains hydrologic information and H-VTEC coding, it is discussed in Section 5.3.

3.6 Marine and Coastal Weather Products. The following subsections provide illustration and interpretation for various marine products. Note that two sequences of complete marine and coastal products are found in Appendix C, section 2.d. These sequences show the flow of events within a particular weather/marine system, e.g., from watch to warning to statement (to provide follow-up information, and/or to cancel the event or to let it expire).

3.6.1 Routine Marine Forecast Products. There are four routine marine forecast products that contain W/W/A information and hence P-VTEC codes. They are the Coastal Waters Forecast (CWF), the Offshore Waters Forecast (OFF), the Great Lakes Open Lake Forecast (GLF), and the Great Lakes Nearshore Forecast (NSH). For each of these products, a P-VTEC string(s) is used to cover only the first three 12-hour forecast periods (or parts thereof), even if the first three forecast periods do not include watches, warnings, or advisories. See NWSI 10-310, Coastal Marine Forecast Services; 10-311, Offshore, NAVTEX, and High Seas Marine Forecast Services; and 10-312, Great Lakes Marine Services, for information on these routine marine products.

- a. ROU action code. For time periods without a W/W/A in effect, an action code of ROU, a phenomena code of MA, and a significance code of F will be used. The ETN will be set to all zeros (0000). Here are two examples illustrating use of the ROU in routine marine forecasts.

Example (1) - Nearshore Forecast (NSH) Product During a Time Period Without a W/W/A

Scenario: Routine Marine Forecast issuance with no W/W/As through the third forecast period

Issuing Office: WFO North Central Lower Michigan (KAPX)
Current time: 1530 UTC on December 22, 2004
Event (Product): None (NSH)
Forecast valid for: Lake Huron Marine Zones 347 and 348
Product expiration time: 2130 UTC on December 22, 2004
Event Tracking Number: Zero, as no W/W/As are in effect through the third 12-hour period of the forecast
Expected or actual Event Beginning and Ending times of the Forecast: 1530 UTC on December 22, 2004 and 2300 UTC on December 23,2004

LHZ347-348-122130- (UGC)
/O.ROU.KAPX.MA.F.0000.041222T1530Z-041223T2300Z/ (P-VTEC)

Explanation: Since there are no W/W/As in effect through the end of the third forecast period (2300Z on December 23rd), the ROU action coding is used in the single P-VTEC string. The ETN for a ROU action code is always set to zero (0000).

Example (2) - CWF Product With a W/W/A During Only a Portion of the First Three Forecast Periods

Scenario: Routine Marine Forecast issuance with W/W/A during part of the first three forecast periods

Issuing Office: WFO San Diego CA (KSGX)
Current time: 1030 UTC on December 15, 2004
Event (Product): Gale Warning (CWF)
Forecast valid for: Eastern North Pacific Marine Zone 750
Product expiration time: 2230 UTC on December 15, 2004
Event Tracking Number: 5th Gale Warning of the year issued by KSGX
Expected or actual Event Beginning and Ending times of the Gales: 0700 UTC on December 15 and 0400 UTC on December 16, 2004

PZZ750-152230- (UGC)
/O.CON.KSGX.GL.W.0005.000000T0000Z-041216T0400Z/ (P-VTEC 1)
/O.ROU.KSGX.MA.F.0000.041216T0400Z-041217T0200Z/ (P-VTEC 2)

Explanation: After the Gale Warning conditions end at 0400 UTC on December 16th (from P-VTEC string 1), no W/W/As are in effect through the end of the third forecast period (0200 UTC on December 17th), so the ROU action code is used (from P-VTEC string 2).

- b. Adding the New Third Period to the P-VTEC coding. P-VTEC coding in routine marine forecast products is limited to the first three 12-hour forecast periods (or parts thereof). For routine morning issuances and later updates, this means through the “Tomorrow” period, and for routine afternoon issuances and later updates, through the “Tomorrow night” period. Even if the VTEC event is expected to continue beyond the third forecast period, the last P-VTEC string included will have an event ending time corresponding to the end of the third forecast period.

With the next routine forecast issuance, if an event that is already included in the VTEC coding continues into the “new” third period of the forecast, either the EXT or EXB action code will be used, depending on whether the area of the event is expanded (EXB) or remains the same (EXT).

If an event will begin in the new third period of the forecast, the NEW action code is used.

Example - CWF with Small Craft Advisory that will begin in the new third period

Product 1

Scenario: Previous routine forecast issuance with current Small Craft Advisory ending

Issuing Office: WFO Portland/Gray ME (KGYX)

Current time: 2100 UTC on March 13, 2004

Event (Product): Small Craft Advisory (CWF)

Forecast valid for: Northwestern North Atlantic Marine Zone 150

Product expiration time: 0900 UTC on March 14, 2004

Event Tracking Numbers: 12th Small Craft Advisory of the year issued by KGYX

Expected or actual Event Beginning and Ending times of the Advisory: 1400 UTC on March 13 and 0800 UTC on March 14, 2004

ANZ150-140900- (UGC)
 /O.CON.KGYX.SC.Y.0012.000000T0000Z-040314T0800Z/ (P-VTEC 1)
 /O.ROU.KGYX.MA.F.0000.040314T0800Z-040315T1100Z/ (P-VTEC 2)

Explanation: At the routine afternoon issuance (2100 UTC March 13, 2004), WFO Portland/Gray ME had continued their Small Craft Advisory, which was still in effect until 0800 UTC (P-VTEC string 1). No other W/W/As were in effect through the first three forecast periods. The event ending time for the ROU (P-VTEC string 2) was 1100 UTC on March 15, at the end of the third period of the forecast.

Product 2

Scenario: Next routine forecast issuance with New Small Craft Advisory

Issuing Office: WFO Portland/Gray ME (KGYX)

Current time: 0900 UTC on March 14, 2004

Event (Product): Small Craft Advisory (CWF)

Forecast valid for: Northwestern North Atlantic Marine Zone 150

Product expiration time: 2100 UTC on March 14, 2004

Event Tracking Numbers: 13th Small Craft Advisory of the year issued by KGYX

Expected Event Beginning and Ending times of the Advisory: 1400 UTC on March 15 and 0400 UTC on March 16, 2004

ANZ150-142100- (UGC)
 /O.ROU.KGYX.MA.F.0000.040314T0900Z-040315T1400Z/ (P-VTEC 1)
 /O.NEW.KGYX.SC.Y.0013.040315T1400Z-040315T2300Z/ (P-VTEC 2)

Explanation: At the next routine issuance (0900 UTC March 14, 2004), WFO Portland/Gray ME has added a new Small Craft Advisory valid during the new third period of the forecast (1400 UTC to 2300 UTC on March 15 - in P-VTEC string 2). Even though the Small Craft conditions are expected to continue beyond 2300 UTC on March 15, that portion of the forecast is beyond the current third 12-hour period and thus is not encoded in a P-VTEC string of the current forecast.

- c. Storm Prediction Center (SPC) Watches in Routine Marine Forecasts. When the SPC issues Severe Thunderstorm or Tornado Watches that include marine forecast areas, the watches are headlined in the routine marine forecasts (except

for the OFF product which does not include headlines for severe weather watches) and a P-VTEC string is added to the affected forecast segment(s). The information for the P-VTEC string will come from the SPC watch, including the ETN and the beginning and ending event times.

Example - CWF Product with a Tornado Watch issued by the SPC

Scenario: Routine Marine Forecast updated because of new Watch

Issuing Office: WFO Miami FL (KMFL)

Current time: 1700 UTC on May 27, 2004

Event (Product): Tornado Watch (CWF)

Forecast valid for: Western North Atlantic Marine Zones 650, 651, 670, and 671

Product expiration time: 2030 UTC on May 27, 2004

Event Tracking Numbers: 392nd Watch of the year issued by the SPC (this one for Tornado)

Expected or actual Event Beginning and Ending times of the Watch: 1700 UTC and 2300 UTC on May 27, 2004

AMZ650-651-670-671-272030- (UGC)
/O.NEW.KMFL.TO.A.0392.040527T1700Z-040527T2300Z/ (P-VTEC 1)
/O.ROU.KMFL.MA.F.0000.040527T2300Z-040528T2200Z/ (P-VTEC 2)

Explanation: As with the examples in section 3.3.2, a severe weather watch issued by the SPC will maintain the ETN from the original SPC watch product (WOU) (in P-VTEC string 1). After the watch expires at 2300 UTC, no other W/W/As are in effect during the first three forecast periods, so the ROU code is used (in P-VTEC string 2).

- d. **Special Marine Warning (SMW) Headline in Routine Marine Forecasts.** In very unusual cases, with families of cold air funnel type waterspouts over an area for several hours, longer term (several hour) SMWs may be issued, and SMW headlines (and P-VTEC string) added to routine marine forecasts. The ETNs of the P-VTEC string of these longer term SMW products should be the same as the ETN of the P-VTEC string of the Marine Warning (MA.W) event included in the routine marine forecast. See NWSI 10-313, Special Marine Warnings, for more information.

Example - Open Lake Forecast (GLF) Product with a Special Marine Warning included

Scenario: Long-term Special Marine Warning in effect

Issuing Office: WFO Buffalo NY (KBUF)

Current time: 1700 UTC on November 17, 2004

Events (Product): Special Marine and Gale Warnings (GLF)

Forecast valid for: Lake Ontario Zone 60

Product expiration time: 2000 UTC on November 17, 2004

Event Tracking Number: 10th Gale Warning of the year issued by KBUF

Expected or actual Event Beginning and Ending times of the

Special Marine Warning: 1500 UTC and 2200 UTC on November 18, 2004

Gale Warning: 1700 UTC on November 18 and 0900 UTC on November 19, 2004

LOZ060-112000-	(UGC)
/O.CON.KBUF.MA.W.0012.000000T0000Z-041117T2200Z/	(P-VTEC 1)
/O.ROU.KBUF.MA.F.0000.041117T2200Z-041118T1700Z/	(P-VTEC 2)
/O.CON.KBUF.GL.W.0010.041118T1700Z-041118T2300Z/	(P-VTEC 3)

Explanation: A long-term Special Marine Warning (12th of the year) continues until 2200 UTC on the 17th (from P-VTEC string 1). The routine marine forecast (no W/W/As) was in effect from 2200 UTC on the 17th to 1700 UTC on the 18th (from P-VTEC string 2). A Gale Warning (which had been issued with the last routine forecast - the 10th of the year) is in effect from 1700 UTC until 0900 UTC on the 19th, well beyond the end of the third period for the forecast (2300 UTC on the 18th), which is the time encoded in P-VTEC string 3.

3.6.2 Event-Driven Marine and Coastal Products. The event-driven marine and coastal products which contain W/W/A information and P-VTEC coding (Coastal Flood Watch/Warning [CFW], Lakeshore Flood Watch/Warning [CFW], Special Marine Warning [SMW], and any Marine Weather Statement [MWS] issued as a follow-up to an SMW) follow the same rules as other event-driven products which contain VTEC coding. Some examples are given in Appendix C Section 2. See NWSI 10-313; 10-314, Marine Weather Statements; and 10-320, Coastal/Lakeshore Flood Services, for additional information on event-driven marine products.

3.6.3 VTEC Coding for Tropical Cyclones. Until the tropical cyclone VTEC string is operational (see section 3.7), no marine product will carry a tropical cyclone VTEC string. The CWF and OFF products will however include tropical cyclone headlines.

3.7 Tropical Cyclone Product for VTEC (TCV). Until a marine tropical cyclone string is operational, the only product to use the tropical cyclone VTEC will be the TCV. The TCV provides VTEC strings for tropical storm and hurricane watch/warnings only for the Atlantic basin, including the Caribbean and Gulf of Mexico. The TCV will also include the UGC for the appropriate coastal public zones, marine zones (CWF), and the respective latitudes and longitudes for the break points that bracket the watches/warnings.

Implementation plans for the proposed new TCV product include an experimental phase for the 2005 tropical cyclone season and, if successful, to become operational in 2006. A Service Change Notice will announce the implementation date at least 120 days in advance. Updates to NWSI 10-601, Tropical Cyclone Products, and to the VTEC Web page on the Internet (<http://www.nws.noaa.gov/os/vtec/>) will contain additional information regarding format of the TCV product and examples of VTEC strings.

4. Hydrologic H-VTEC Format. The specialized H-VTEC string in hydrologic products occurs only in conjunction with, and immediately after, the P-VTEC string. The H-VTEC only follows a P-VTEC that has a Phenomena Code of FL for Flood or FF for Flash Flood. For Flood Warnings (FLW) and follow-up Flood Statements (FLS) at specific river forecast points, and for Flash Flood Warnings where the information is known, the H-VTEC specifies the flood severity; immediate cause; timing of flood beginning, crest, and end; and how the flood compares to the flood of record. For Flood Watches (FFA), Areal Flood Warnings (FLW), Flash Flood Warnings where the information is not known, and Flood Statement products issued as Flood Advisories (FLS), H-VTEC string will have an entry for immediate cause (IC) but default entries of zeros or letter Os for the remaining elements.

In all hydrologic products, the coding of the P-VTEC string will follow the rules in Sections 2. and 3.

4.1 Generic Structure of H-VTEC Elements.

/s.ic.yymmddThhnnZ_B.yymmddThhnnZ_C.yymmddThhnnZ_E.fr/

The “s,” “ic,” and “fr” describe properties of the flood event and the yymmddThhnnZ_B.yymmddThhmmZ_C.yymmddThhmmZ_E provides the timing in UTC.

<u>Event Group</u>	<u>Date/Time Group</u>
s - Flood Severity	yy - Year
ic - Immediate Cause	mm - Month
fr - Flood Record	dd - Day
	T - Fixed Time Indicator
	hh - Hour in UTC
	nn - Minute in UTC
	Z_B - Fixed UTC Flood <u>Beginning</u> Date/Time Indicator
	Z_C - Fixed UTC Flood <u>Crest</u> Date/Time Indicator
	Z_E - Fixed UTC Flood <u>Ending</u> Date/Time Indicator

Notes:

- (1) The “T” in the Date/Time Groups is a fixed Time Indicator, with the following “hh” and “nn” being the hours and minutes in UTC, respectively.
- (2) The Z_B, Z_C, and Z_E are the generic fixed UTC indicators for the flood beginning, crest, and ending times. Note that the subscripts are not used in any actual VTEC strings in examples.
- (3) The forward slash (‘/’) and period (‘.’) in the format are delimiters that separate fields for ease in decoding.

4.2 H-VTEC Element Definitions/Explanations.

4.2.1 **s (Flood Severity).** Identifies the severity of the flood (for main stem rivers). For Flood Watches, Areal Flood Warnings, and for Flash Flood Warnings where there are no observations and/or forecasts for specific locations in the warning area, this element is coded as 0 (zero). See Appendix B for Flood Severity codes.

4.2.2 **ic (Immediate Cause).** Identifies the immediate cause of the flood. See Appendix B for Immediate Cause codes.

4.2.3 **yymmddThhnnZ_B.yymmddThhnnZ_C.yymmddThhnnZ_E (Flood Timing).** These groups, respectively, identify the actual (or forecast) beginning, crest, and end of the flooding at the forecast point by year, month, day, hour, and minute in UTC. For Flood Watches, Flood Statement products issued as Flood Advisories, Areal Flood Warning events, and for Flash Flood Warning events where there are no observations and/or forecasts for specific locations in the warning area, these groups are coded with zeros (000000T0000Z).

4.2.4 **fr (Flood Record Status).** Identifies how the flood compares to the flood of record. For Flood Watches, Areal Flood Warnings, and for Flash Flood Warnings where there are no observations and/or forecasts for specific locations in the warning area, this element is coded as OO (two letter Os). See Appendix B for the Flood Record Status codes.

4.2.5 **H-VTEC Flood Beginning Time versus P-VTEC Event Beginning Time.** In Flood Warnings for forecast points, the H-VTEC Flood Beginning Time reflects the time that the forecast point is expected to reach (or actually did reach) flood stage while the P-VTEC Event Beginning Time reflects the time when the Flood Warning event begins. These two times, when not encoded with zeros, are generally the same, except when flooding begins before an initial Flood Warning is issued. In that case, the H-VTEC Flood Beginning Time will be encoded with the time flooding began (in the past) and the P-VTEC Event Beginning Time will be encoded with the time the warning is issued (the present time).

4.2.6 **H-VTEC Flood Ending Time versus P-VTEC Event Ending Time.** In Flood Warnings for forecast points, the H-VTEC Flood Ending Time reflects the time that the forecast point is expected to fall below (or actually fell below) flood stage, while the P-VTEC Event Ending Time reflects the time when the Flood Warning event is expected to end. These times are generally the same, except when flood warnings are canceled before the most recently forecast ending time. In that case, the H-VTEC Flood Ending Time will be encoded with the time the flooding actually ended (i.e., the forecast point fell below flood stage), while the P-VTEC Event Ending Time will retain the time it had in the most recent product or segment issuance.

4.2.7 **Example of a Full H-VTEC string (with associated UGC and P-VTEC strings).**

Scenario: Initial issuance of a Point Flood Warning

Issuing Office: WFO Des Moines IA (KDMX)

Current time: 1530 UTC on May 9, 2003

Event (Product): Flood Warning (FLW)

Immediate Cause: Excessive Rainfall

Warning valid for: Iowa County 153

Product expiration time: 0300 UTC on May 10, 2003

Event Tracking Numbers: 13th Flood Warning of the year issued by KDMX

Expected Flood Severity: Minor

Record Flood Expected: No

Expected Event beginning, crest, and ending times: 2100 UTC on May 9, 0300 UTC on May 10, and 0900 UTC on May 10, 2003

IAC153-100300- (UGC)
 /O.NEW.KDMX.FL.W.0013.030509T2100Z-030510T0900Z/ (P-VTEC)
 /1.ER.030509T2100Z.030510T0300Z.030510T0900Z.NO/ (H-VTEC)

Explanation: WFO Des Moines, IA (KDMX - in P-VTEC) issued a new (NEW - in P-VTEC) operational (O - in P-VTEC) FLW product for Iowa County 153 (IAC153 - in UGC), for its 13th (0013 - in P-VTEC) Flood Warning (FL.W - in P-VTEC) of the calendar year. The flooding is expected to begin at 2100 UTC on May 9, 2003 (030509T2100Z - in P-VTEC and H-VTEC) and end at 0900 UTC on May 10, 2003 (030510T0900Z - in P-VTEC and H-VTEC), with a crest at 0300 UTC on May 10, 2003 (030510T0300Z - in H-VTEC). The flooding is a result of excessive rainfall (ER - in H-VTEC), is expected to be minor (1 - in H-VTEC), and should not approach a record flood (NO - in H-VTEC). This Flood Warning product will expire at 0300 UTC on May 10th (100300 - in UGC). Note that the event beginning and ending times are

the same in the P-VTEC and H-VTEC strings. However, had the event already begun, the event beginning time would have been encoded as zeros in just the P-VTEC string.

5. Special H-VTEC Rules, Applications and Interpretations. This section explains unique applications of H-VTEC in specific products and/or situations.

5.1 Flood Statement (FLS) and Flash Flood Statement (FFS) Products issued as Follow-ups to Warnings. One of the uses of the FLS is to provide follow-up information on Flood Warnings. The FFS is used to provide follow-up information on Flash Flood Warnings. When used in this manner, the FLS and FFS use the phenomenon, significance, and ETN of the original warning or watch.

Example - Initial Flood Warning with a Follow-up FLS

Product 1

Scenario: Initial issuance of an Areal Flood Warning

Issuing Office: WFO Anchorage (PAFC)
 Current time: 0815 UTC on March 20, 2005
 Event (Product): Flood Warning (FLW)
 Immediate Cause: Rain and Snow Melt
 Warning valid for: Alaska Zone 161
 Product expiration time: 2000 UTC on March 20, 2005
 Event Tracking Numbers: 11th Flood Warning of the year issued by PAFC
 Expected Flood Severity: Not coded
 Record Flood Expected: Not coded
 Expected Event beginning, crest, and ending times: 1000 UTC on March 20, 2005, not coded, and 0800 UTC on March 21, 2005

AKZ161-202000- (UGC)
 /O.NEW.PAFC.FL.W.0011.050320T1000Z-050321T0800Z/ (P-VTEC)
 /O.RS.000000T0000Z.000000T0000Z.000000T0000Z.OO/ (H-VTEC)

Explanation: The Event Phenomenon and Significance (FL.W - in P-VTEC) and the ETN (0011 - in P-VTEC) will be carried in follow-up statements (issued as FLS products) to this warning (which was issued as an FLW product). Since this is an Areal Flood Warning, most of the H-VTEC string is coded with zeros (or letter Os), except for the Immediate Cause (RS - for Rain and Snow Melt). Zone codes are used in Flood Warning products issued in Alaska (see NWSI 10-922 for more information).

Product 2

Scenario: Follow-up Flood Statement

Issuing Office: WFO Anchorage (PAFC)
 Current time: 1900 UTC on March 20, 2005
 Event (Product): Flood Warning (FLS)
 Immediate Cause: Rain and Snow Melt
 Warning valid for: Alaska Zone 161
 Product expiration time: 0900 UTC on March 21, 2005
 Event Tracking Numbers: 11th Flood Warning of the year issued by PAFC
 Expected Flood Severity: Not coded
 Record Flood Expected: Not coded
 Expected Event beginning, crest, and ending times: 1000 UTC on March 20, 2005, not coded, and 0800 UTC on March 21, 2005

AKZ161-210900- (UGC)
 /O.CON.PAFC.FL.W.0011.000000T0000Z-050321T0800Z/ (P-VTEC)
 /O.RS.000000T0000Z.000000T0000Z.000000T0000Z.OO/ (H-VTEC)

Explanation: This follow-up Flood Statement maintains the same ETN and Event Phenomenon and Significance as the original Warning. The only changes to the VTEC strings are to change the action code from NEW to CON and encode the Event Beginning Date/Time (in the P-VTEC) as zeros, since that time has passed (and the flooding has begun).

5.2 Flood Statement (FLS) Product issued as a Flood Advisory. The Flood Statement product (FLS) is also used to issue Flood Advisories. These provide information on elevated river/stream flows or ponding of water in urban or other areas, when such events warrant notification of the public in a product less urgent than a warning. Flood Advisories use the P-VTEC event phenomenon of FL with a significance level of Y. While actual Event Beginning and Ending Times are encoded in the P-VTEC string of a Flood Advisory, all the times in the H-VTEC string are coded as zeros (since Flood Warning criteria are not expected). More information on Flood Statements issued as Advisories can be found in NWSI 10-922.

Example - Flood Statement Product issued for Urban and Small Stream Flooding

Scenario: Initial issuance of a Flood Advisory

Issuing Office: WFO Jacksonville FL (KJAX)

Current time: 1527 UTC on July 5, 2004

Event (Product): Flood Advisory for Urban and Small Stream Flooding (FLS)

Immediate Cause: Excessive Rainfall

Advisory valid for: Florida Counties 1 and 83

Product expiration time: 1700 UTC on July 5, 2004

Event Tracking Numbers: 8th Flood Advisory of the year issued by KJAX

Expected Flood Severity: None

Record Flood Expected: Not coded

Expected Event beginning, crest, and ending times: 1527 UTC on July 5, 2004, not coded, and 1700 UTC on July 5, 2004

FLC001-083-051700- (UGC)
 /O.NEW.KJAX.FL.Y.0008.040705T1527Z-040705T1700Z/ (P-VTEC)
 /N.ER.000000T0000Z.000000T0000Z.000000T0000Z.OO/ (H-VTEC)

Explanation: The beginning and ending event times are encoded into the P-VTEC string to denote the times that the Advisory event (in this case ponding of water in urban areas and minor flooding in poor drainage areas) begin and end. Since Flood Warning criteria are not expected to occur, all the times in the H-VTEC string of an Advisory are coded as zeros. Likewise, the H-VTEC Flood Severity is coded as N (for none) and the Flood Record Status is coded as OO (two letter Os) since it is an areal product.

5.3 Combined Severe Thunderstorm and Flash Flood Warning (FFW). The Combined Severe Thunderstorm and Flash Flood Warning may be issued in situations when thunderstorms produce large hail and/or damaging wind as well as flood-producing rains. This product requires the use of two P-VTEC strings, one for the Flash Flooding (with an associated H-VTEC string), and one for the Severe Thunderstorm. For more information on this product, refer to NWSI 10-922. An example of this product is given in Appendix C, Section 3.b.

APPENDIX A - Listing of P-VTEC Elements

Generic P-VTEC Structure

/k.aaa.cccc.pp.s.####.yymmddThhnnZ_B-yymmddThhnnZ_E/

Fixed identifier (k)

O	Operational product	E	Experimental product
T	Test product	X	Experimental VTEC in an operational product

ACTIONS (aaa)

NEW	New Event	CAN	Event Canceled
CON	Event Continued	UPG	Event Upgraded
EXT	Event extended (Time)	EXP	Event Expired
EXA	Event extended (Area)	COR	Corrected
EXB	Event Extended (Both Time and Area)	ROU	Routine

OFFICE ID (cccc)

Standard four-letter identifier indicating the NWS office with the primary responsibility for the affected area.

PHENOMENA (pp) codes grouped by hazard type

BZ	Blizzard	FL	Flood
WS	Winter Storm	FF	Flash Flood
WW	Winter Weather	SV	Severe Thunderstorm
SN	Snow	TO	Tornado
HS	Heavy Snow	FW	Fire Weather
LE	Lake Effect Snow	RH	Radiological Hazard
BS	Blowing/Drifting Snow	VO	Volcano
SB	Snow and Blowing Snow	AF	Volcanic Ashfall
LB	Lake Effect Snow and Blowing Snow	AS	Air Stagnation
IP	Sleet	AV	Avalanche
HP	Heavy Sleet	TS	Tsunami
ZR	Freezing Rain	MA	Marine
IS	Ice Storm	SC	Small Craft
FZ	Freeze	GL	Gale
ZF	Freezing Fog	SR	Storm
FR	Frost	HF	Hurricane Force Wind
WC	Wind Chill	TR	Tropical Storm
EC	Extreme Cold	HU	Hurricane
WI	Wind	TY	Typhoon
HW	High Wind	TI	Inland Tropical Storm Wind
LW	Lake Wind	HI	Inland Hurricane Wind
FG	Dense Fog	LS	Lakeshore Flood
SM	Dense Smoke	CF	Coastal Flood
HT	Heat	UP	Ice Accretion
EH	Excessive Heat	LO	Low Water
DU	Blowing Dust	SU	High Surf
DS	Dust Storm		

PHENOMENA (pp) codes in alphabetical order

AF	Volcanic Ashfall	LE	Lake Effect Snow
AS	Air Stagnation	LO	Low Water
AV	Avalanche	LS	Lakeshore Flood
BS	Blowing/Drifting Snow	LW	Lake Wind
BZ	Blizzard	MA	Marine
CF	Coastal Flood	RH	Radiological Hazard
DS	Dust Storm	SB	Snow and Blowing Snow
DU	Blowing Dust	SC	Small Craft
EC	Extreme Cold	SM	Dense Smoke
EH	Excessive Heat	SN	Snow
FF	Flash Flood	SR	Storm
FG	Dense Fog	SU	High Surf
FL	Flood	SV	Severe Thunderstorm
FR	Frost	TI	Inland Tropical Storm Wind
FW	Fire Weather	TO	Tornado
FZ	Freeze	TR	Tropical Storm
GL	Gale	TS	Tsunami
HF	Hurricane Force Wind	TY	Typhoon
HI	Inland Hurricane Wind	UP	Ice Accretion
HP	Heavy Sleet	VO	Volcano
HS	Heavy Snow	WC	Wind Chill
HT	Heat	WI	Wind
HU	Hurricane	WS	Winter Storm
HW	High Wind	WW	Winter Weather
IP	Sleet	ZF	Freezing Fog
IS	Ice Storm	ZR	Freezing Rain
LB	Lake Effect Snow and Blowing Snow		

Note: Additional codes will be added as needed for future text products.

SIGNIFICANCE (s)

W	Warning	O	Outlook
A	Watch	F	Forecast
Y	Advisory	N	Synopsis
S	Statement		

EVENT TRACKING NUMBER - ETN (####)

A four-digit number assigned to keep track of event during its lifetime. ETNs are assigned sequentially each year by each WFO for each combination of unique event phenomenon and significance. Certain convective watch redefining products issued by WFOs use the same ETN as the originating national watch product. (See section 3.3)

EVENT BEGINNING AND ENDING DATE/TIME GROUPS (yyymmddThhnnZ_B - yyymmddThhnnZ_E)

yy	Year	hh	hour
mm	Month	nn	Minute
dd	Date	Z _B	Place holder - beginning time
T	Place holder	Z _E	Place holder - ending time

APPENDIX B - Listing of H-VTEC Elements

Generic H-VTEC Structure

`/s.ic.yymmddThhnnZB.yymmddThhnnZC.yymmddThhnnZE.fr/`

Flood Severity (s)

- N None
 - 0 for Flood Watches, Areal Flood Warnings, and for Flash Flood Warnings where no hydrologic observations and/or forecasts for specific locations in the warning area
- The following codes are used for Flood Warnings, Flood Statements, Flash Flood Warnings, and Flash Flood Statements in which hydrologic observations and forecasts are provided for specific forecast points
- 1 Minor
 - 2 Moderate
 - 3 Major
 - U Unknown

Immediate Cause (ic)

- ER Excessive Rainfall
- SM Snow melt
- RS Rain and Snow melt
- DM Dam or Levee Failure
- GO Glacier-Dammed Lake Outburst
- IJ Ice Jam
- IC Rain and/or Snow melt and/or Ice Jam
- UU Unknown

Flood Timing (yymmddThhnnZ_B.yymmddThhnnZ_C.yymmddThhnnZ_E)

- yy Year
- mm Month
- dd Date
- T Place holder
- hh hour
- nn Minute
- Z_B Place holder - beginning time
- Z_C Place holder - crest time
- Z_E Place holder - ending time

Flood Record Status (fr)

- OO for Flood Watches, Areal Flood Warnings, and for Flash Flood Warnings where record status is not defined for specific locations in the warning area
- NO A record flood is not expected
- NR Near record or record flood expected
- UU Flood without a period of record to compare

Note: Additional codes will be added as needed for future text products.

APPENDIX C - Examples and Interpretations

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1. P-VTEC Examples and Interpretations. Following are examples of P-VTEC strings and interpretations (including the preceding UGC string that defines the affected geographic area and product expiration time) for (a) single event within one segment, (b) multiple events within one segment, (c) change to an event, and (d) full event sequence.

a. Single Event.

Example (1) - New Dense Fog Advisory

Scenario: Initial issuance

Issuing Office: WFO Wakefield VA (KAKQ)

Current time: 0700 UTC on December 26, 2004

Event (Product): Dense Fog Advisory (NPW)

Advisory valid for: Virginia Zones 88 thru 98

Product expiration time: 1300 UTC on December 26, 2004

Event Tracking Number: 9th Dense Fog Advisory of the year issued by KAKQ

Expected or actual Event Beginning and Ending times of the Advisory: 0700 UTC and 1400 UTC on December 26, 2004

VAZ088>098-261300-

(UGC)

/O.NEW.KAKQ.FG.Y.0009.041226T0700Z-041226T1400Z/

(P-VTEC)

Explanation: WFO Wakefield, VA, issued an NPW product on December 26, 2004, for its 9th Dense Fog Advisory event, valid from 0700 UTC and 1400 UTC on the 26th (P-VTEC string), for VA zones 88 through 98 (from the UGC string).

Example (2) - Cancel a Blizzard Watch

Scenario: Watch Cancellation

Issuing Office: WFO Bismarck ND (KBIS)

Current time: 1800 UTC on January 22, 2004

Event (Product): Blizzard Watch (WSW)

Watch valid for: North Dakota Zones 2 thru 5, 10 thru 13, and 18 thru 23

Product expiration time: 1900 UTC on January 22, 2004

Event Tracking Number: 2nd Blizzard Watch of the year issued by KBIS

Expected or actual Event Beginning and Ending times of the Watch: 0700 UTC and 2000 UTC on January 22, 2004

NDZ002>005-010>013-018>023-221900- (UGC)
/O.CAN.KBIS.BZ.A.0002.000000T0000Z-040122T2000Z/ (P-VTEC)

Explanation: At 1800 UTC on January 22, 2004, WFO Bismarck canceled a Blizzard Watch that was to have remained in effect until 2000 UTC that day.

Example (3) - Test Excessive Heat Warning

Scenario: Initial Issuance of a Test Heat Warning

Issuing Office: WFO Jackson, MS (KJAN)

Current time: 1400 UTC on April 8, 2004

Event (Product): Test Excessive Heat Warning (NPW)

Test Warning valid for: Mississippi Zone 49

Product expiration time: 1445 UTC on April 8, 2004

Event Tracking Number: 2nd test Excessive Heat Warning of the year issued by KJAN

Expected Event Beginning and Ending times of the Test Warning: 1415 UTC and 1445 UTC on April 8, 2004

MSZ049-081445- (UGC)
/T.NEW.KJAN.EH.W.0002.040408T1415Z-040408T1445Z/ (P-VTEC)

Explanation: This is the second time an Excessive Heat Warning (test or operational) has been issued by WFO Jackson this year. Both the event and product expire at 1445 UTC.

b. **Multiple Events.**

Example - New Dust Storm Warning/Continued High Wind Warning

Scenario: Adding a Dust Storm Warning to a High Wind Warning

Issuing Office: WFO Phoenix, AZ (KPSR)

Current time: 1730 UTC on November 12, 2004

Events (Product): Dust Storm and High Wind Warnings (NPW)

Warning valid for: Arizona Zones 22, 23, 27 and 28

Product expiration time: 2330 UTC on November 12, 2004

Event Tracking Numbers: 5th Dust Storm Warning and 9th High Wind Warning of the year issued by KPSR

Expected or actual Event Beginning and Ending times of the

Dust Storm Warning: 1730 UTC on November 12 and 0300 UTC on November 13, 2004

High Wind Warning: 1400 UTC on November 12 and 2100 UTC on November 13, 2004

AZZ022-023-027-028-122330- (UGC)
 /O.NEW.KPSR.DS.W.0005.041112T1730Z-041113T0300Z/ (P-VTEC 1)
 /O.CON.KPSR.HW.W.0009.000000T0000Z-041113T2100Z/ (P-VTEC 2)

Explanation: The NEW Dust Storm Warning joins the CONTinued High Wind Warning in this NPW product from WFO Phoenix. Since the High Wind Warning was already in effect, its Z_B time is set to all zeros (in P-VTEC string 2), while the NEW Dust Storm Warning has a Z_B set to the current (issuance) time (in P-VTEC string 1), since the Dust Storm Warning event will begin when this product is issued.

c. Change to an Event.

Example (1) - Upgrade part of a Winter Storm Watch to a Heavy Snow Warning

Scenario: Upgrading part of a Winter Storm Watch to a Heavy Snow Warning, Continue the rest of the Watch

Issuing Office: WFO Amarillo, TX (KAMA)
 Current time: 2200 UTC on December 17, 2004
 Events (Product): Winter Storm Watch and Heavy Snow Warning (WSW)
 Watch originally valid for: Texas Zones 1 thru 20
 Watch upgraded to warning for: Texas Zone 1 thru 10
 Product expiration time: 0400 UTC on December 18, 2004
 Event Tracking Numbers: 11th Winter Storm Watch and 7th Heavy Snow Warning issued by KAMA
 Expected or actual Event Beginning and Ending times of the
 Watch: 1400 UTC on December 17 and 0800 UTC on December 18, 2004
 Warning: 2200 UTC on December 17 and 0800 UTC on December 18, 2004

(segment 1 of 2 within WSW product - upgraded part of watch to warning)
 TXZ001>010-180400- (UGC)
 /O.UPG.KAMA.WS.A.0011.000000T0000Z-041218T0800Z/ (P-VTEC 1)
 /O.NEW.KAMA.HS.W.0007.041217T2200Z-041218T0800Z/ (P-VTEC 2)

(segment 2 of 2 within WSW product - continued watch)
 TXZ011>020-180400- (UGC)
 /O.CON.KAMA.WS.A.0011.000000T0000Z-041218T0800Z/ (P-VTEC)

Explanation: Even if all the Winter Storm Watch counties had been in just one segment of the previous WSW product, at least two segments are now required; one for the NEW Warning and UPGraded Watch, and one for the CONTinued Watch. Two P-VTEC strings are required in the first segment, the first to show that the Winter Storm Watch is being upgraded, and the second to show that it has been upgraded to a new Heavy Snow Warning.

Example (2) - Cancel part of a Winter Storm Warning, downgrade part of a Warning to Snow Advisory, extend a Warning into a new area

Scenario: Multiple segments in Follow-up Winter Storm Warning
 Issuing Office: WFO Glasgow MT (KGGW)
 Current time: 1600 UTC on March 23, 2004
 Events (Product): Winter Storm Warning and Snow Advisory (WSW)
 Warning originally valid for: Montana Zones 16 thru 25 and 59 thru 62
 Warning now extended into: Montana Zones 26 and 27
 Warning now canceled for: Montana Zones 59 and 61

Warning now downgraded to Snow Advisory for: Montana Zones 16 thru 24, 60 and 62
Product expiration time for the
 Canceled segment: 1630 UTC on March 23, 2004
 Rest of the segments: 2200 UTC on March 23, 2004
Event Tracking Numbers: 4th Winter Storm Warning and 8th Snow Advisory of the year issued by
 KGGW
Expected or actual Event Beginning and Ending times of the
 Original Warning: 1000 UTC and 2200 UTC on March 23, 2004
 Extended Warning: 1000 UTC and 2200 UTC on March 23, 2004
 New Advisory: 1600 UTC and 2200 UTC on March 23, 2004

(segment 1 of 4 within WSW product - cancel part of warning)
MTZ059>061-231630- (UGC)
/O.CAN.KGGW.WS.W.0004.000000T0000Z-040323T2200Z/ (P-VTEC)

(segment 2 of 4 within WSW product - downgrade part of warning to advisory)
MTZ016>024-060-062-232200- (UGC)
/O.CAN.KGGW.WS.W.0004.000000T0000Z-040323T2200Z/ (P-VTEC 1)
/O.NEW.KGGW.SN.Y.0008.040323T1600Z-040323T2200Z/ (P-VTEC 2)

(segment 3 of 4 within WSW product - extend warning into new area)
MTZ026>027-232200- (UGC)
/O.EXA.KGGW.WS.W.0004.000000T0000Z-040323T2200Z/ (P-VTEC)

(segment 4 of 4 within WSW product - continued warning)
MTZ025-232200- (UGC)
/O.CON.KGGW.WS.W.0004.000000T0000Z-040323T2200Z/ (P-VTEC)

Explanation: The three separate actions on the Winter Storm Warning (Cancel, Downgrade to Advisory, and Extend and Continue) require at least three separate segments. All the segments reference the same Winter Storm Warning ETN, and since the Warning was already occurring, the event beginning time in all the Warning P-VTEC strings (except the NEW) is set to zeros.

Example (3) - Extend Part of Event in Area and Upgrade Rest of Area

Scenario: Upgrade part of High Wind Watch to Warning, and expand area of remaining Watch
Issuing Office: WFO Cleveland OH (KCLE)
Current time: 1200 UTC on April 14, 2004
Events (Product): High Wind Watch and High Wind Warning (NPW)
Watch originally valid for: Ohio Zones 1 thru 5
Area being added to watch: Ohio Zones 6 thru 10
Watch upgraded to warning for: Ohio Zones 1 thru 5
Product expiration time: 1800 UTC on April 14, 2004
Event Tracking Numbers: 5th High Wind Watch of the year and 4th High Wind Warning of the year
 issued by KCLE
Expected or actual Event Beginning and Ending times of the
 Original High Wind Watch: 1200 UTC on April 14 and 0600 UTC on April 15, 2004
 Expanded High Wind Watch: 1200 UTC on April 14 and 0600 UTC on April 15, 2004
 High Wind Warning: 1200 UTC on April 14 and 0600 UTC on April 15, 2004

(segment 1 of 2 within NPW product - upgrade watch to warning)
OHZ001>005-141800- (UGC)
/O.UPG.KCLE.HW.A.0005.000000T0000Z-040415T0600Z/ (P-VTEC 1)
/O.NEW.KCLE.HW.W.0004.040414T1200Z-040415T0600Z/ (P-VTEC 2)

(segment 2 of 2 within NPW product - extend watch into new area)

OHZ006>010-141800- (UGC)
/O.EXA.KCLE.HW.A.0005.000000T0000Z-040415T0600Z/ (P-VTEC)

Explanation: Two segments are used in the NPW product, one for the upgrade of the High Wind Watch to a High Wind Warning (segment 1), and the other for extending the area of the watch to five new counties (segment 2). Even though the entire original watch area is being upgraded to warning and the expanded watch area is all new, the same watch ETN (of 5) is used for the expanded area since it is the same meteorological event. Since the Watch event has already begun, the beginning event time for the watch is encoded as all zeros in both segments. The beginning event time for the warning in segment 1 is specifically encoded with the current time, since it is a NEW event beginning now.

Example (4) - Clearing a portion of a Severe Thunderstorm Watch Area

Scenario: Follow-up Statement to clear zones from Severe Thunderstorm Watch

Issuing Office: WFO Shreveport LA (KSHV)

Current time: 2030 UTC on May 26, 2004

Event (Product): Severe Thunderstorm Watch (WCN)

Watch originally valid for: Arkansas Counties 27, 57, 61, 73, 81, 91, 99, 133 and 139; Louisiana Parishes 13, 15, 17, 27, 31, 81 and 119; Texas Counties 37, 63, 67, 183, 203, 315, 343, 365 and 459

Watch being canceled for: Arkansas Counties 61, 81 and 133

Product expiration time for the

Canceled segment: 2030 UTC on May 26, 2004

Continued segment: 0100 UTC on May 27, 2004

Event Tracking Number: 1002nd Watch of the year issued by the Storm Prediction Center (this one being for Severe Thunderstorm)

Expected or actual Event Beginning and Ending times of the Watch: 1800 UTC on May 26 and 0100 UTC on May 27, 2004

(segment 1 of 2 within WCN product - cancel part of watch)

ARC061-081-133-262030- (UGC)
/O.CAN.KSHV.SV.A.1002.000000T0000Z-040527T0100Z/ (P-VTEC)

(segment 2 of 2 within WCN product - continue remainder of watch)

ARC027-057-073-091-099-139-LAC013-015-017-027- (UGC)
031-081-119-TXC037-063-067-183-203-315-343-365- (P-VTEC)
459-270100-
/O.CON.KSHV.SV.A.1002.000000T0000Z-040527T0100Z/

Explanation: There are two segments, the first to cancel (clear) the watch from three counties, and the second to continue the watch for the rest of the counties.

Example (5) - Correct the County List in a Winter Weather W/W/A

Product 1

Scenario: Freezing Rain Advisory issued for a group of zones

Issuing Office: WFO Peachtree City, GA (KFFC)

Current time: 0900 UTC on January 26, 2004

Events (Product): Freezing Rain Advisory (WSW)

Advisory valid for: Georgia Zones 8, 9, 14 thru 16, 21 thru 25, 27, 32 thru 39, 44 thru 51, and 54 thru 60

Product expiration time: 1400 UTC on January 26, 2004
Event Tracking Numbers: 3rd Freezing Rain Advisory of the year issued by KFFC
Expected or actual Event Beginning and Ending times of the Advisory: 0900 UTC and 1400 UTC
on January 26, 2004

GAZ008-009-014>016-021>025-027-032>039-044>051-
054>060-261400- (UGC)
/O.NEW.KFFC.ZR.A.0003.040126T0900Z-040126T1400Z/ (P-VTEC)

Explanation: WFO Peachtree City has issued a Freezing Rain Advisory for a group of counties in Georgia.

Product 2

Scenario: Correcting the Advisory to remove four zones inadvertently included

Issuing Office: WFO Peachtree City, GA (KFFC)

Current time: 0910 UTC on January 26, 2004

Events (Product): Freezing Rain Advisory (WSW)

Advisory originally valid for: Georgia Zones 8, 9, 14 thru 16, 21 thru 25, 27, 32 thru 39, 44 thru 51, and 54 thru 60

Advisory canceled for: Georgia 56, and 58 through 60

Product expiration time for the

Canceled segment: 0945 UTC on January 26, 2004

Continued segment: 1400 UTC on January 26, 2004

Event Tracking Numbers: 3rd Freezing Rain Advisory of the year issued by KFFC

Expected or actual Event Beginning and Ending times of the Advisory: 0900 UTC and 1400 UTC
on January 26, 2004

(segment 1 of 2 within WSW product - canceled part of advisory)

GAZ056-058>060-260945- (UGC)
/O.CAN.KFFC.ZR.A.0003.000000T0000Z-040126T1400Z/ (P-VTEC)

(segment 2 of 2 within WSW product - continued rest of advisory)

GAZ008-009-014>016-021>025-027-032>039-044>051-
054>055-057-261400- (UGC)
/O.CON.KFFC.ZR.A.0003.000000T0000Z-040126T1400Z/ (P-VTEC)

Explanation: Shortly after the Advisory was issued, it was discovered that four counties had been inadvertently included. For such errors in these Winter Weather W/W/A products, the WSW is reissued with two segments, one that cancels the advisory in the inadvertently added counties, and one that continues the rest of the advisory. Other than the different P-VTEC action codes used (CAN in the canceled segment and CON in the continued segment) and the zeros in the Event Beginning Date/Time Group, the rest of the P-VTEC strings remain the same as in the original Advisory. The product expiration time in the first (CAN) segment has been shortened to ensure that while the cancellation is properly disseminated on NOAA Weather Radio and other systems, it does not need to be valid for the entire five hour expected duration of the Advisory.

Example (6) - Correct the County List in a Short Duration Warning

Product 1

Scenario: Severe Thunderstorm Warning issued for two counties

Issuing Office: WFO Birmingham, AL (KBMX)

Current time: 0135 UTC on April 8, 2004

Events (Product): Severe Thunderstorm Warning (SVR)

Warning valid for: Alabama Counties 21 and 37
Product expiration time: 0230 UTC on April 8, 2004
Event Tracking Numbers: 23rd Severe Thunderstorm Warning of the year issued by KBMX
Expected or actual Event Beginning and Ending times of the Warning: 0135 UTC and 0230 UTC
on April 8, 2004

ALC021-037-080230- (UGC)
/O.COR.KBMX.SV.W.0023.040408T0135Z-040408T0230Z/ (P-VTEC)

Explanation: WFO Birmingham has issued a Severe Thunderstorm Warning for two counties in Alabama.

Product 2

Scenario: Correcting the Warning to remove a county inadvertently included

Issuing Office: WFO Birmingham, AL (KBMX)
Current time: 0142 UTC on April 8, 2004
Events (Product): Severe Thunderstorm Warning (SVR)
Warning originally valid for: Alabama Counties 21 and 37
Warning now valid for: Alabama County 21
Product expiration time: 0230 UTC on April 8, 2004
Event Tracking Numbers: 23rd Severe Thunderstorm Warning of the year issued by KBMX
Expected or actual Event Beginning and Ending times of the Warning: 0135 UTC and 0230 UTC
on April 8, 2004

ALC021-080230- (UGC)
/O.COR.KBMX.SV.W.0023.040408T0135Z-040408T0230Z/ (P-VTEC)

Explanation: Alabama County 37 was inadvertently included in the Severe Thunderstorm Warning. For such errors in short duration warnings, a corrected Warning is issued using the COR P-VTEC action code. All the other elements of the P-VTEC string remain the same as the original Warning, including the ETN of 0023. By comparing the UGC strings of the original and corrected warnings, customers can tell that County 37 was removed.

d. Full Event Sequence.

Example - Winter Storm situation, from watch to warning and advisory to eventual cancellation, including the follow-up statements.

Product 1

Scenario: Initial Watch issuance

Issuing Office: WFO Mount Holly NJ (KPHI)
Current time: 1005 UTC on March 15, 2004
Event (Product): Winter Storm Watch (WSW)
Watch being issued for: New Jersey Zone 1 and Pennsylvania Zones 54 and 55
Product expiration time: 1700 UTC on March 15, 2004
Event Tracking Number: 8th Winter Storm Watch of the year issued by KPHI
Expected Event Beginning and Ending times of the Watch: 1200 UTC on March 16 and 0100 UTC on March 17, 2004

NJZ001-PAZ054-055-151700- (UGC)
/O.NEW.KPHI.WS.A.0008.040316T1200Z-040317T0100Z/ (P-VTEC)

Explanation: WFO Mount Holly NJ issued a new Winter Storm Watch, their 8th of the year.

Product 2

Scenario: Follow-up Statement for Watch

Issuing Office: WFO Mount Holly NJ (KPHI)

Current time: 1600 UTC on March 15, 2004

Event (Product): Winter Storm Watch (WSW)

Watch continued for: New Jersey Zone 1 and Pennsylvania Zones 54 and 55

Product expiration time: 2300 UTC on March 15, 2004

Event Tracking Number: 8th Winter Storm Watch of the year issued by KPHI

Expected Event Beginning and Ending times of the Watch: 1200 UTC on March 16 and 0100 UTC on March 17, 2004

NJZ001-PAZ054-055-152300-

(UGC)

/O.CON.KPHI.WS.A.0008.040316T1200Z-040317T0100Z/

(P-VTEC)

Explanation: Six hours later, a continuation statement is issued. There were no changes in event area or time.

Product 3

Scenario: Upgrade Watch to Warning, Add a New Warning area, Issue New Advisory

Issuing Office: WFO Mount Holly NJ (KPHI)

Current time: 2030 UTC on March 15, 2004

Events (Product): Heavy Snow Warning and Snow Advisory (WSW)

Watch being upgraded to Warning for: New Jersey Zone 1; Pennsylvania Zones 54 and 55

New Warning being issued for: New Jersey Zones 7 and 8; Pennsylvania Zones 60 thru 62

New Advisory being issued for: New Jersey Zones 9, 10, 12 and 15; Pennsylvania Zones 67 thru 69

Product expiration time: 0300 UTC on March 16, 2004

Event Tracking Numbers: 8th Winter Storm Watch, 10th and 11th Heavy Snow Warnings and 14th Snow Advisory of the year issued by KPHI

Expected Event Beginning and Ending times of the

Upgraded Warning: 1200 UTC on March 16 and 0100 UTC on March 17, 2004

New Warning: 1200 UTC on March 16 and 0100 UTC on March 17, 2004

New Advisory: 1200 UTC and 2300 UTC on March 16, 2004

(segment 1 of 3 within WSW product - upgrade initial watch to warning)

NJZ001-PAZ054-055-160300-

(UGC)

/O.UPG.KPHI.WS.A.0008.040316T1200Z-040317T0100Z/

(P-VTEC 1)

/O.NEW.KPHI.HS.W.0010.040316T1200Z-040317T0100Z/

(P-VTEC 2)

(segment 2 of 3 within WSW product - new warning segment with separate ETN)

NJZ007-008-PAZ060>062-160300-

(UGC)

/O.NEW.KPHI.HS.W.0011.040316T1200Z-040317T0100Z/

(P-VTEC)

(segment 3 of 3 within WSW product - new advisory)

NJZ009-010-012-015-PAZ067>069-160300-

(UGC)

/O.NEW.KPHI.SN.Y.0014.040316T1200Z-040316T2300Z/

(P-VTEC)

Explanation: The Winter Storm Watch has been Upgraded to a Warning, and a Warning and an Advisory have also been issued for adjacent areas that were not under the Watch. There are two Warning segments (because of differences in expected accumulation), with different Heavy Snow Warning ETNs, even though they have the same event beginning and ending times.

Product 4

Scenario: Follow-Up Statement for Warning and Advisory

Issuing Office: WFO Mount Holly NJ (KPHI)

Current time: 0215 UTC on March 16, 2004

Events (Product): Heavy Snow Warning and Snow Advisory (WSW)

Warning continued for: New Jersey Zones 1, 7, 8; Pennsylvania Zones 54, 55, and 60 thru 62

Advisory continued for: New Jersey Zones 9, 10, 12 and 15; Pennsylvania Zones 67 thru 69

Product expiration time: 1100 UTC on March 16, 2004

Event Tracking Numbers: 10th and 11th Heavy Snow Warnings and 14th Snow Advisory of the year issued by KPHI

Expected Event Beginning and Ending times of the

Warning Segments: 1200 UTC on March 16 and 0100 UTC on March 17, 2004

Advisory: 1200 UTC and 2300 UTC on March 16, 2004

(segment 1 of 3 within WSW product - continued warning)

NJZ001-PAZ054-055-161100-

(UGC)

/O.CON.KPHI.HS.W.0010.040316T1200Z-040317T0100Z/

(P-VTEC)

(segment 2 of 3 within WSW product - continued warning)

NJZ007-008-PAZ060>062-161100-

(UGC)

/O.CON.KPHI.HS.W.0011.040316T1200Z-040317T0100Z/

(P-VTEC)

(segment 3 of 3 within WSW product - continued warning)

NJZ009-010-012-015-PAZ067>069-161100-

(UGC)

/O.CON.KPHI.SN.Y.0014.040316T1200Z-040316T2300Z/

(P-VTEC)

Explanation: About six hours later, a continuation statement is issued. There were no changes in event areas or times.

Product 5

Scenario: Follow-Up Statement for Warning and Advisory

Issuing Office: WFO Mount Holly NJ (KPHI)

Current time: 0950 UTC on March 16, 2004

Events (Product): Heavy Snow Warning and Snow Advisory (WSW)

Warning continued for: New Jersey Zones 1, 7, 8; Pennsylvania Zones 54, 55, and 60 thru 62

Advisory continued for: New Jersey Zones 9, 10, 12 and 15; Pennsylvania Zones 67 thru 69

Product expiration time: 1700 UTC on March 16, 2004

Event Tracking Numbers: 10th and 11th Heavy Snow Warning and 14th Snow Advisory of the year issued by KPHI

Expected Event Beginning and Ending times of the

Warning Segments: 1200 UTC on March 16 and 0100 UTC on March 17, 2004

Advisory: 1200 UTC on March 16 and 0100 UTC on March 17, 2004

(segment 1 of 3 within WSW product - continued warning)

NJZ001-PAZ054-055-161700-

(UGC)

/O.CON.KPHI.HS.W.0010.040316T1200Z-040317T0100Z/

(P-VTEC)

(segment 2 of 3 within WSW product - continued warning)

NJZ007-008-PAZ060>062-161700-

(UGC)

/O.CON.KPHI.HS.W.0011.040316T1200Z-040317T0100Z/

(P-VTEC)

(segment 3 of 3 within WSW product - extended advisory)

NJZ009-010-012-015-PAZ067>069-161700-

(UGC)

/O.EXT.KPHI.SN.Y.0014.040316T1200Z-040317T0100Z/

(P-VTEC)

Explanation: Another continuation statement is issued in the early morning of the 16th, with the only change being to extend the Advisory ending time two hours.

Product 6

Scenario: Corrected Follow-Up Statement for Warning and Advisory, Extending Event times

Issuing Office: WFO Mount Holly NJ (KPHI)

Current time: 1000 UTC on March 16, 2004

Events (Product): Heavy Snow Warning and Snow Advisory (WSW)

Warning continued for: New Jersey Zones 1, 7, 8; Pennsylvania Zones 54, 55, and 60 thru 62

Advisory continued for: New Jersey Zones 9, 10, 12 and 15; Pennsylvania Zones 67 thru 69

Product expiration time: 1700 UTC on March 16, 2004

Event Tracking Numbers: 10th and 11th Heavy Snow Warnings and 14th Snow Advisory of the year issued by KPHI

Expected Event Beginning and Ending times of the

Warning Segments: 1200 UTC on March 16 and 0500 UTC on March 17, 2004

Advisory: 1200 UTC on March 16 and 0500 UTC on March 17, 2004

(segment 1 of 3 within WSW product - corrected warning to extend event ending time)

NJZ001-PAZ054-055-161700- (UGC)

/O.EXT.KPHI.HS.W.0010.040316T1200Z-040317T0500Z/ (P-VTEC)

(segment 2 of 3 within WSW product - corrected warning to extend event ending time)

NJZ007-008-PAZ060>062-161700- (UGC)

/O.EXT.KPHI.HS.W.0011.040316T1200Z-040317T0500Z/ (P-VTEC)

(segment 3 of 3 within WSW product - corrected advisory to extend event ending time)

NJZ009-010-012-015-PAZ067>069-161700- (UGC)

/O.EXT.KPHI.SN.Y.0014.040316T1200Z-040317T0500Z/ (P-VTEC)

Explanation: Ten minutes later, a corrected WSW is issued to extend the Event Ending Time from 0100 UTC to 0500 UTC on the 17th. The correction was related to P-VTEC coding, so the P-VTEC strings are encoded with a single EXT action code (for Extend Time) rather than a COR action code (for Correction). Had the correction been for a typographical or grammatical error in the text, the P-VTEC strings of the corrected segment(s) would have used the COR action code.

Product 7

Scenario: Follow-Up Statement for Warning and Advisory, Issue A New Advisory

Issuing Office: WFO Mount Holly NJ (KPHI)

Current time: 1435 UTC on March 16, 2004

Events (Product): Heavy Snow Warning and Snow Advisory (WSW)

Warning continued for: New Jersey Zones 1, 7, 8; Pennsylvania Zones 54, 55, and 60 thru 62

Advisory continued for: New Jersey Zones 9, 10, 12 and 15; Pennsylvania Zones 67 thru 69

New Advisory being issued for: Delaware Zone 1; Maryland Zone 8; New Jersey Zones 13, 14, 16 thru 20, 26 and 27; Pennsylvania Zones 70 and 71

Product expiration time for the

New Advisory: 1700 UTC on March 16, 2004

Rest of the Segments: 2200 UTC on March 16, 2004

Event Tracking Numbers: 10th and 11th Heavy Snow Warnings and 14th and 15th Snow Advisories of the year issued by KPHI

Expected or actual Event Beginning and Ending times of the

Warning Segments: 1200 UTC on March 16 and 0500 UTC on March 17, 2004

Continued Advisory: 1200 UTC on March 16 and 0500 UTC on March 17, 2004

New Advisory: 1400 UTC and 1700 UTC on March 16, 2004

(segment 1 of 4 within WSW product - continued warning)
 NJZ001-PAZ054-055-162200- (UGC)
 /O.CON.KPHI.HS.W.0010.000000T0000Z-040317T0500Z/ (P-VTEC)

(segment 2 of 4 within WSW product - continued warning)
 NJZ007-008-PAZ060>062-162200- (UGC)
 /O.CON.KPHI.HS.W.0011.000000T0000Z-040317T0500Z/ (P-VTEC)

(segment 3 of 4 within WSW product - new advisory)
 DEZ001-MDZ008-NJZ013-014-016>020-026-027- (UGC)
 PAZ070-071-161700- (P-VTEC)
 /O.NEW.KPHI.SN.Y.0015.040316T1435Z-040316T1700Z/

(segment 4 of 4 within WSW product - continued warning)
 NJZ009-010-012-015-PAZ067>069-162200- (UGC)
 /O.CON.KPHI.SN.Y.0014.000000T0000Z-040317T0500Z/ (P-VTEC)

Explanation: The three segments from the previous product are continued in this product, although now that the Event Beginning Time for them (1200 UTC) has passed, the Event Beginning Date/Time Group is encoded as zeros in those P-VTEC strings. A fourth segment (segment 3 of 4) has been added for a New Advisory, with a new ETN.

Product 8

Scenario: Follow-up Statement for Warning and Advisory, Cancel Part of Advisory, Extend Part of Advisory

Issuing Office: WFO Mount Holly NJ (KPHI)
 Current time: 1725 UTC on March 16, 2004
 Events (Product): Heavy Snow Warning and Snow Advisory (WSW)
 Warning continued for: New Jersey Zones 1, 7, 8; Pennsylvania Zones 54, 55, and 60 thru 62
 Advisory continued for: New Jersey Zones 9, 10, 12, and 15; Pennsylvania Zones 67 thru 69
 Advisory expired for: Delaware Zone 1; Maryland Zone 8; New Jersey Zones 16 thru 20, 26 and 27; Pennsylvania Zones 70 and 71
 Advisory extended for: New Jersey Zones 13 and 14
 Product expiration time for the
 Expired segment: 1800 UTC on March 16, 2004
 Rest of the segments: 2300 UTC on March 16, 2004
 Event Tracking Numbers: 10th and 11th Heavy Snow Warnings and 14th, 15th and 16th Snow Advisories of the year issued by KPHI
 Expected or actual Event Beginning and Ending times of the
 Warning Segments: 1200 UTC on March 16 and 0500 UTC on March 17, 2004
 Continued Advisory: 1200 UTC on March 16 and 0500 UTC on March 17, 2004
 Expired Advisory: 1435 UTC and 1700 UTC on March 16, 2004
 Extended Advisory: 1725 UTC and 2300 UTC on March 16, 2004

(segment 1 of 5 within WSW product - expired advisory)
 DEZ001-MDZ008-NJZ016>020-026-027-PAZ070-071-161800- (UGC)
 /O.EXP.KPHI.SN.Y.0015.000000T0000Z-040316T1700Z/ (P-VTEC)

(segment 2 of 5 within WSW product - continued warning)
 NJZ001-PAZ054-055-162300- (UGC)
 /O.CON.KPHI.HS.W.0010.000000T0000Z-040317T0500Z/ (P-VTEC)

(segment 3 of 5 within WSW product - continued warning)
 NJZ007-008-PAZ060>062-162300- (UGC)
 /O.CON.KPHI.HS.W.0011.000000T0000Z-040317T0500Z/ (P-VTEC)

(segment 4 of 5 within WSW product - new [extended] advisory)
 NJZ013-014-162300- (UGC)
 /O.NEW.KPHI.SN.Y.0016.040316T1725Z-040316T2300Z/ (P-VTEC)

(segment 5 of 5 within WSW product - continued advisory)
 NJZ009-010-012-015-PAZ067>069-162300- (UGC)
 /O.CON.KPHI.SN.Y.0014.000000T0000Z-040317T0500Z/ (P-VTEC)

Explanation: A portion of the advisory that expired at 1700 UTC is being extended in time until 2300 UTC (for two zones). That normally would be done in two segments (one for the canceled [CAN] portion and the other for the extended [EXT] portion). But, since the product was not issued until after the Event Ending Time of 1700 UTC, the Advisory ETN of 15 can no longer be used and a NEW ETN of 16 must be issued for remaining portion of the Advisory.

Product 9

Scenario: Follow-up Statement for Warning and Advisory, Cancel Part of Advisory, Expand Area of Advisory

Issuing Office: WFO Mount Holly NJ (KPHI)

Current time: 2000 UTC on March 16, 2004

Events (Product): Heavy Snow Warning and Snow Advisory (WSW)

Warning continued for: New Jersey Zones 1, 7, 8; Pennsylvania Zones 54, 55, and 60 thru 62

Advisory continued for: New Jersey Zones 9, 10, 12, 13 and 15; Pennsylvania Zones 67 thru 69

Advisory expanded into: Delaware Zone 1; Maryland Zone 8; New Jersey Zones 16 thru 19;
 Pennsylvania Zones 70 and 71

Advisory canceled for: New Jersey Zone 14

Product expiration time for the

Canceled segment: 2100 UTC on March 16, 2004

Rest of the segments: 0500 UTC on March 17, 2004

Event Tracking Numbers: 10th and 11th Heavy Snow Warnings and 14th and 16th Snow Advisories of the year issued by KPHI

Expected or actual Event Beginning and Ending times of the

Warning Segments: 1200 UTC on March 16 and 0500 UTC on March 17, 2004

Continued Advisory: 1200 UTC on March 16 and 0500 UTC on March 17, 2004

Canceled Advisory: 1725 UTC and 2000 UTC on March 16, 2004

Expanded Advisory: 1725 UTC on March 16 and 0500 UTC on March 17, 2004

(segment 1 of 6 within WSW product - canceled part of advisory)
 NJZ014-162100- (UGC)
 /O.CAN.KPHI.SN.Y.0016.000000T0000Z-040316T2300Z/ (P-VTEC)

(segment 2 of 6 within WSW product - continued warning)
 NJZ001-PAZ054-055-170500- (UGC)
 /O.CON.KPHI.HS.W.0010.000000T0000Z-040317T0500Z/ (P-VTEC)

(segment 3 of 6 within WSW product - continued warning)
 NJZ007-008-PAZ060>062-170500- (UGC)
 /O.CON.KPHI.HS.W.0011.000000T0000Z-040317T0500Z/ (P-VTEC)

(segment 4 of 6 within WSW product - extend advisory into new area)
 DEZ001-MDZ008-NJZ016>019-PAZ070-071-170500- (UGC)
 /O.EXA.KPHI.SN.Y.0016.000000T0000Z-040317T0500Z/ (P-VTEC)

(segment 5 of 6 within WSW product - continued advisory)
 NJZ013-170500- (UGC)
 /O.CON.KPHI.SN.Y.0016.000000T0000Z-040317T0500Z/ (P-VTEC)

(segment 6 of 6 within WSW product - continued advisory)
 NJZ009-010-012-015-PAZ067>069-170500- (UGC)
 /O.CON.KPHI.SN.Y.0014.000000T0000Z-040317T0500Z/ (P-VTEC)

Explanation: The Advisory area is being changed again. The original Advisory area (first issued in Product 3) is being continued, but the Advisory that was extended in Product 8 is being expanded in area (EXA action code), while one of the two zones that had been in the ETN 16 Advisory is being canceled. The Warning segments remain unchanged in event area and time.

Product 10

Scenario: Cancel Warning and Advisory

Issuing Office: WFO Mount Holly NJ (KPHI)

Current time: 0215 UTC on March 17, 2004

Events (Product): Heavy Snow Warning and Snow Advisory (WSW)

Warning canceled for: New Jersey Zones 1, 7, 8; Pennsylvania Zones 54, 55, and 60 thru 62

Advisory canceled for: Delaware Zone 1; Maryland Zone 8; New Jersey Zones 9, 10, 12, 13, 15 thru 19; Pennsylvania Zones 67 thru 71

Product expiration time: 0330 UTC on March 16, 2004

Event Tracking Numbers: 10th and 11th Heavy Snow Warnings and 14th and 16th Snow Advisories of the year issued by KPHI

Expected or actual Event Beginning and Ending times of the

Warning Segments: 1200 UTC on March 16 and 0215 UTC on March 17, 2004

Continued Advisory: 1200 UTC on March 16 and 0215 UTC on March 17, 2004

Canceled Advisory: 1725 UTC on March 16 and 0215 UTC on March 17, 2004

(segment 1 of 4 within WSW product - canceled warning)
 NJZ001-PAZ054-055-170330- (UGC)
 /O.CAN.KPHI.HS.W.0010.000000T0000Z-040317T0500Z/ (P-VTEC)

(segment 2 of 4 within WSW product - canceled warning)
 NJZ007-008-PAZ060>062-170330- (UGC)
 /O.CAN.KPHI.HS.W.0011.000000T0000Z-040317T0500Z/ (P-VTEC)

(segment 3 of 4 within WSW product - canceled advisory)
 NJZ009-010-012-015-PAZ067>069-170330- (UGC)
 /O.CAN.KPHI.SN.Y.0014.000000T0000Z-040317T0500Z/ (P-VTEC)

(segment 4 of 4 within WSW product - canceled advisory)
 DEZ001-MDZ008-NJZ013-016>019-PAZ070-071-170330- (UGC)
 /O.CAN.KPHI.SN.Y.0016.000000T0000Z-040317T0500Z/ (P-VTEC)

Explanation: The precipitation has ended, and all Warnings and Advisories are being canceled. The Event Ending Time from the previous product is maintained in the P-VTEC strings, even though the event is being canceled immediately upon issuance of this WSW. Note that the two segments in the previous Product (4 and 5) from the ETN 16 Advisory (which had been expanded in area) are put back together into one segment (4) in this product, since the action being taken on all of them is the same.

2. Marine and Coastal P-VTEC Examples and Interpretations. Following are examples of marine and coastal products that are used either solely for non-routine events (W/W/A) or as a combination of routine and non-routine events (including the preceding UGC string that defines the affected geographic area and product expiration time), for (a) single event within one

segment, (b) multiple events within one segment, (c) change to an event, and (d) full event sequence.

a. Single Event.

Example (1) - Coastal Waters Forecast (CWF) Product

Scenario: Routine issuance with a Continued Gale Warning

Issuing Office: WFO San Diego CA (KSGX)

Current time: 1030 UTC on December 15, 2004

Event (Product): Gale Warning (CWF)

Forecast valid for: Western North Pacific Marine zone 750

Product expiration time: 2230 UTC on December 15, 2004

Event Tracking Number: 5th Gale Warning of the year issued by KSGX

Expected or actual Event Beginning and Ending times of the Gales: 0700 UTC on December 15, 2004 and 0400 UTC on December 16, 2004

PZZ750-152230- (UGC)
 /O.CON.KSGX.GL.W.0005.000000T0000Z-041216T0400Z/ (P-VTEC 1)
 /O.ROU.KSGX.MA.F.0000.041216T0400Z-041217T0200Z/ (P-VTEC 2)

Explanation: As with all Marine forecast products, the P-VTEC strings in the product are valid through the first three forecast periods. When a W/W/A is not in effect, the Routine (ROU) action code is used, with a Phenomenon code of "MA," a Significance of "F," and an ETN of zero.

Example (2) - High Surf Advisory (CFW) Product

Scenario: Follow-up Statement

Issuing Office: WFO Guam GU (PGUM)

Current time: 0200 UTC on March 31, 2004

Event (Product): High Surf Advisory (CFW)

Advisory valid for: Western Pacific Ocean Marine Zones 151 thru 154

Product expiration time: 0200 UTC on April 1, 2004

Event Tracking Number: 6th High Surf Advisory of the year issued by PGUM

Expected or actual Event Beginning and Ending times of the Advisory: 0200 UTC on March 30, 2004 and 0200 UTC on April 2, 2004

PMZ151-152-153-154-010200- (UGC)
 /O.CON.PGUM.SU.Y.0006.000000T0000Z-040402T0200Z/ (P-VTEC)

Explanation: This event-driven product has a P-VTEC string covering the expected length of the event. This is a follow-up statement, so the CON (continue) Action Code is used. Since the event has already begun, the Event Beginning Date/Time Group is encoded as zeros.

Example (3) - Offshore Waters Forecast (OFF) Product

Scenario: Routine Marine forecast with New Storm Warning

Issuing Office: WFO Juneau AK (PAJK)

Current time: 1130 UTC on March 8, 2004

Event (Product): Storm Warning (OFF)

Forecast valid for: North Pacific Zone 310

Product expiration time: 0200 UTC on March 9, 2004

Event Tracking Number: 3rd Storm Warning of the year issued by PAJK

Expected Event Beginning and Ending times of the Warning: 0100 UTC on March 9 and 1200 UTC on March 10, 2004

PKZ310-090200- (UGC)
/O.ROU.PAJK.MA.F.0000.040308T1130Z-040309T0100Z/ (P-VTEC 1)
/O.NEW.PAJK.SR.W.0003.040309T0100Z-040310T0200Z/ (P-VTEC 2)

Explanation: This routine forecast has P-VTEC strings valid through the first three forecast periods, even if a W/W/A event extends beyond the third period.

b. Multiple Events.

Example - Small Craft Advisory and Severe Thunderstorm Watch

Scenario: Updated Coastal Waters forecast (with Small Craft Advisory) for New Severe Thunderstorm Watch

Issuing Office: WFO Caribou ME (KCAR)

Current time: 1900 UTC on July 13, 2005

Events (Product): Severe Thunderstorm Watch and Small Craft Advisory (CWF)

Forecast valid for: Northwestern North Atlantic Marine Zone 050

Product expiration time: 2100 UTC on July 13, 2005

Event Tracking Numbers: 643rd Watch of the year issued by the Storm Prediction Center (this one for Severe Thunderstorm) and the 49th Small Craft Advisory of the year issued by KCAR

Expected or actual Event Beginning and Ending times of the

Severe Thunderstorm Watch: 1900 UTC and 2300 UTC on July 13, 2005

Small Craft Advisory: 1700 UTC on July 13 and 0200 UTC on July 14, 2005

ANZ050-132100- (UGC)
/O.NEW.KCAR.SV.A.0643.050713T1900Z-050713T2300Z/ (P-VTEC 1)
/O.CON.KCAR.SC.Y.0049.000000T0000Z-050714T0200Z/ (P-VTEC 2)
/O.ROU.KCAR.MA.F.0000.050714T0200Z-050714T2200Z/ (P-VTEC 3)

Explanation: A Small Craft Advisory had already been in effect (P-VTEC string 2), and a new Severe Thunderstorm Watch has been issued by the SPC (P-VTEC string 1). Since the Small Craft Advisory had been valid before this issuance, its beginning event time is set to zeros. After the Small Craft Advisory ends at 0200 UTC, no other W/W/As are expected through the first three periods of the forecast (through 2200 UTC on July 14th).

c. Change to an Event.

Example (1) - Coastal Flood Warning Product

Scenario: Adding County to an existing Coastal Flood Warning

Issuing Office: WFO Tallahassee FL (KTAE)

Current time: 0600 UTC on July 24, 2004

Event (Product): Coastal Flood Warning (CFW)

Warning originally valid for: Florida Zone 34

Area being added to product: Florida Zone 28

Product expiration time: 1400 UTC on July 24, 2004

Event Tracking Number: 11th Coastal Flood Warning of the year issued by KTAE

Expected Event Beginning and Ending times of the Warning: 0700 UTC and 1400 UTC on July 24, 2004

(segment 1 of 2 within CFW product - extend area of warning)
FLZ028-241400- (UGC)
/O.EXA.KTAE.CF.W.0011.040724T0700Z-040724T1400Z/ (P-VTEC)

(segment 2 of 2 within CFW product - continued warning)
FLZ034-241400- (UGC)
/O.CON.KTAE.CF.W.0011.040724T0700Z-040724T1400Z/ (P-VTEC)

Explanation: This event-driven product has a P-VTEC string covering the expected length of the event. Two segments are used, one with the EXA action code for the newly added area, and one with the CON action code for the area being continued. Since the Warning conditions are expected to begin after the product issuance, the Event beginning times are explicitly coded in both P-VTEC strings. Both segments maintain the same ETN (of 11) as the original product segment. If another follow-up product is issued, and the entire warning area is being continued, the entire area will appear in one segment with the CON action code.

Example (2) - Small Craft Advisory through the end of old third period with a Gale Warning beginning in the new third period

Product 1

Scenario: Previous routine forecast issuance with new Small Craft Advisory in the new third period

Issuing Office: WFO Wilmington, NC (KILM)
Current time: 0900 UTC on January 9, 2005
Event (Product): Small Craft Advisory (CWF)
Forecast valid for: Western North Atlantic Marine Zones 254 and 256
Product expiration time: 2100 UTC on January 9, 2005
Event Tracking Numbers: 3rd Small Craft Advisory of the year issued by KILM
Expected or actual Event Beginning and Ending times of the Advisory: 0900 UTC on January 10 and 0900 UTC on January 11, 2004

AMZ254-256-092100- (UGC)
/O.ROU.KILM.MA.F.0000.050109T0900Z-050110T0900Z/ (P-VTEC 1)
/O.NEW.KILM.SC.Y.0003.050110T0900Z-050110T2300Z/ (P-VTEC 2)

Explanation: At the routine early morning issuance (0900 UTC January 9, 2005), WFO Wilmington NC issued a new Small Craft Advisory (P-VTEC string 2), which would be in effect from 0900 UTC through 2300 UTC on January 10. Even if the Small Craft conditions were included in the text of previous forecasts, this was the first time that they appeared in the first three 12-hour periods and were mentioned in the P-VTEC. Since the new third period ends at 2300 UTC on January 10, that was the event ending time for the Small Craft Advisory encoded (in P-VTEC string 2), even though the Small Craft conditions were expected to continue beyond 2300 UTC.

Product 2

Scenario: Next routine forecast issuance with a new Gale Warning in the new third period

Issuing Office: WFO Wilmington, NC (KILM)
Current time: 2100 UTC on January 9, 2005
Events (Product): Small Craft Advisory and Gale Warning (CWF)
Forecast valid for: Western North Atlantic Marine Zones 254 and 256
Product expiration time: 0900 UTC on January 10, 2005
Event Tracking Numbers: 3rd Small Craft Advisory and 1st Gale Warning of the year issued by KILM

Expected Event Beginning and Ending times of the
Small Craft Advisory: 0900 UTC on January 10 and 0600 UTC on January 11, 2004
Gale Warning: 0600 UTC on January 11 and 2100 UTC on January 12, 2004

AMZ254-256-100900- (UGC)
/O.ROU.KILM.MA.F.0000.050109T2100Z-050110T0900Z/ (P-VTEC 1)
/O.EXT.KILM.SC.Y.0003.050110T0900Z-050111T0600Z/ (P-VTEC 2)
/O.NEW.KILM.GL.W.0001.050111T0600Z-050111T1100Z/ (P-VTEC 3)

Explanation: At the next routine issuance (2100 UTC January 9, 2005), WFO Wilmington NC continued the previous Small Craft Advisory, but has extended it (EXT) into the new third period of the forecast (P-VTEC string 2). In addition, Gale conditions are now expected to develop at 0600 UTC on January 11, so a NEW Gale Warning has been added. Although the Gale conditions are expected to continue beyond the end of the third period of the new forecast, the P-VTEC event ending time (string 3) is set to the end of the third period (1100 UTC on January 11).

d. Full Event Sequence.

Example (1) - Special Marine Warning and follow-up Marine Weather Statements, including two possible conclusions (Cancel or Expire)

Product 1

Scenario: Initial Warning issuance

Issuing Office: WFO Chicago IL (KLOT)

Current time: 2204 UTC on July 23, 2004

Event (Product): Special Marine Warning (SMW)

Warning issued for: Lake Michigan Zones 740 and 766

Product expiration time: 2300 UTC on July 23, 2004

Event Tracking Number: 34th Special Marine Warning of the year issued by KLOT

Expected or actual Event Beginning and Ending times of the Warning: 2204 UTC and 2300 UTC
on July 23, 2004

LMZ740-766-232300- (UGC)
/O.NEW.KLOT.MA.W.0034.040723T2204Z-040723T2300Z/ (P-VTEC)

Explanation: A new Special Marine Warning is issued by WFO Chicago. Since it is a short duration product, the product expiration and event ending times are the same.

Product 2

Scenario: Follow-up statement

Issuing Office: WFO Chicago IL (KLOT)

Current time: 2230 UTC on July 23, 2004

Event (Product): Special Marine Warning (MWS)

Warning continued for: Lake Michigan Zones 740 and 766

Product expiration time: 2300 UTC on July 23, 2004

Event Tracking Number: 34th Special Marine Warning of the year issued by KLOT

Expected or actual Event Beginning and Ending times of the Warning: 2204 UTC and 2300 UTC
on July 23, 2004

LMZ740-766-232300- (UGC)
/O.CON.KLOT.MA.W.0034.000000T0000Z-040723T2300Z/ (P-VTEC)

Explanation: In this follow-up statement to the original Special Marine Warning, the same UGC and P-VTEC parameters are used as in the original SMW except for the beginning event time and the action code (now CONTinued), even though this product is issued as a Marine Weather Statement (MWS). The beginning event time is coded as zeros in the P-VTEC string, as the warning was valid (i.e., in effect) before this MWS was issued.

Product 3a

Scenario: Warning is canceled

Issuing Office: WFO Chicago IL (KLOT)

Current time: 2235 UTC on July 23, 2004

Event (Product): Special Marine Warning (MWS)

Warning canceled for: Lake Michigan Zones 740 and 766

Product expiration time: 2300 UTC on July 23, 2004

Event Tracking Number: 34th Special Marine Warning of the year issued by KLOT

Expected or actual Event Beginning and Ending times of the Warning: 2204 UTC and 2300 UTC on July 23, 2004

LMZ740-766-232300- (UGC)
/O.CAN.KLOT.MA.W.0034.000000T0000Z-040723T2300Z/ (P-VTEC)

Explanation: If the Warning is canceled before it would have ended (i.e., before the event ending time is reached), the CAN action code is used in the P-VTEC string. Even though the warning has been canceled, the original ending event time (2300 UTC on July 23, 2004) is encoded in the P-VTEC string. The remainder of the UGC and P-VTEC coding remains unchanged from the previous message.

Product 3b

Scenario: Warning expires

Issuing Office: WFO Chicago IL (KLOT)

Current time: 2300 UTC on July 23, 2004

Event (Product): Special Marine Warning (MWS)

Warning expired for: Lake Michigan Zones 740 and 766

Product expiration time: 2315 UTC on July 23, 2004

Event Tracking Number: 34th Special Marine Warning of the year issued by KLOT

Expected or actual Event Beginning and Ending times of the Warning: 2204 UTC and 2300 UTC on July 23, 2004

LMZ740-766-232315- (UGC)
/O.EXP.KLOT.MA.W.0034.000000T0000Z-040723T2300Z/ (P-VTEC)

Explanation: If the Warning was allowed to expire, and an Expiration message is issued, the same P-VTEC coding is used as in the previous cases, except with an action code of EXP. The product expiration time (in the UGC string) is changed to a later time, to allow dissemination of the product via NOAA Weather Radio and other outlets.

Example (2) - Coastal Flood situation, from watch to warning to follow-up statements, including two possible conclusions (Cancel or Expire)

Product 1

Scenario: Initial Watch Issuance

Issuing Office: WFO Buffalo NY (KBUF)

Current time: 2040 UTC on March 9, 2004
Event (Product): Lakeshore Flood Watch (CFW)
Watch issued for: New York Zone 10
Product expiration time: 1000 UTC on March 10, 2004
Event Tracking Number: 7th Lakeshore Flood Watch of the year issued by KBUF
Expected or actual Event Beginning and Ending times of the Watch: 2040 UTC March 9 and 1000 UTC on March 10, 2004

NYZ010-101000- (UGC)
/O.NEW.KBUF.LS.A.0007.040309T2040Z-040310T1000Z/ (P-VTEC)

Explanation: A new Lakeshore Flood Watch has been issued by WFO Buffalo.

Product 2

Scenario: Watch is Upgraded to Warning
Issuing Office: WFO Buffalo NY (KBUF)
Current time: 0240 UTC on March 10, 2004
Event (Product): Lakeshore Flood Warning (CFW)
Watch upgraded to a warning for: New York Zone 10
Product expiration time: 1000 UTC on March 10, 2004
Event Tracking Numbers: 7th Lakeshore Flood Watch and 9th Lakeshore Flood Warning of the year issued by KBUF
Expected or actual Event Beginning and Ending times of the
Watch: 2040 UTC March 9 and 1000 UTC on March 10, 2004
Warning: 0240 UTC and 1000 UTC on March 10, 2004

NYZ010-101000- (UGC)
/O.UPG.KBUF.LS.A.0007.000000T0000Z-040310T1000Z/ (P-VTEC 1)
/O.NEW.KBUF.LS.W.0009.040310T0240Z-040310T1000Z/ (P-VTEC 2)

Explanation: The Lakeshore Flood Watch was upgraded to a Warning. This requires two P-VTEC strings: the first to indicate that the Watch is being upgraded, and the second to indicate that it is being upgraded to a Lakeshore Flood Warning. Since the beginning event time of the Watch has already occurred (2040 UTC on March 9, 2004), it is encoded as zeros in P-VTEC string 1.

Product 3

Scenario: Follow-up Statement
Issuing Office: WFO Buffalo NY (KBUF)
Current time: 0540 UTC on March 10, 2004
Event (Product): Lakeshore Flood Warning (CFW)
Warning continued for: New York Zone 10
Product expiration time: 1000 UTC on March 10, 2004
Event Tracking Numbers: 9th Lakeshore Flood Warning of the year issued by KBUF
Expected or actual Event Beginning and Ending times of the Warning: 0240 UTC and 1000 UTC on March 10, 2004

NYZ010-101000- (UGC)
/O.CON.KBUF.LS.W.0009.000000T0000Z-040310T1000Z/ (P-VTEC)

Explanation: In this follow-up statement to the original Lakeshore Flood Warning, the same UGC and P-VTEC parameters are used for the Warning event, except for the beginning event time (now as coded as zeros) and the action code (which is now CONTinued).

Product 4a

Scenario: Warning is canceled

Issuing Office: WFO Buffalo NY (KBUF)

Current time: 0740 UTC on March 10, 2004

Event (Product): Lakeshore Flood Warning (CFW)

Warning canceled for: New York Zone 10

Product expiration time: 0810 UTC on March 10, 2004

Event Tracking Numbers: 9th Lakeshore Flood Warning of the year issued by KBUF

Expected or actual Event Beginning and Ending times of the Warning: 0240 UTC and 1000 UTC on March 10, 2004

NYZ010-100810- (UGC)
/O.CAN.KBUF.LS.W.0009.000000T0000Z-040310T1000Z/ (P-VTEC)

Explanation: If the Warning is canceled before it would have ended (i.e., before the event ending time is reached), the CAN action code is used in the P-VTEC string. Even though the warning has been canceled, the original ending event time (1000 UTC on July 23, 2004) is encoded in the P-VTEC string. However, the product expiration time in the UGC coding has been changed. In this long-duration event, the canceled product needs to be broadcast via NOAA Weather Radio and other outlets, but the product expiration time is well before the original time of 1000 UTC.

Product 4b

Scenario: Warning expires

Issuing Office: WFO Buffalo NY (KBUF)

Current time: 1000 UTC on March 10, 2004

Event (Product): Lakeshore Flood Warning (CFW)

Warning expired for: New York Zone 10

Product expiration time: 1030 UTC on March 10, 2004

Event Tracking Numbers: 9th Lakeshore Flood Warning of the year issued by KBUF

Expected or actual Event Beginning and Ending times of the Warning: 0240 UTC and 1000 UTC on March 10, 2004

NYZ010-101030- (UGC)
/O.EXP.KBUF.LS.W.0009.000000T0000Z-040310T1000Z/ (P-VTEC)

Explanation: If the Warning was allowed to expire, and an Expiration message is issued, the same P-VTEC coding is used as in the previous cases, except with an action code of EXP. The product expiration time (in the UGC string) is changed to a later time, to allow dissemination of the product via NOAA Weather Radio and other outlets.

Example (3) - Routine Marine Forecasts, showing beginning and ending of Small Craft Advisory, Gale Warning, and Storm Warning events

Product 1

Scenario: No marine warnings or advisories

Issuing Office: WFO Fairbanks AK (PAFG)

Current time: 0000 UTC on June 12, 2005

Event (Product): None (CWF)

Forecast valid for: North Pacific Marine Zone 295

Product expiration time: 1400 UTC on June 12, 2005

Event Tracking Number: Zero, as no W/W/As are in effect through the third 12-hour period of the forecast

Expected or actual Event Beginning and Ending times of the Forecast: 0000 UTC on June 12 and 1400 UTC on June 13, 2005

PZZ295-121400- (UGC)
/O.ROU.PAFG.MA.F.0000.050612T0000Z-050613T1400Z/ (P-VTEC)

Explanation: As with all Marine forecast products, the P-VTEC string in the product is valid through the first three forecast periods. Since there are no W/W/As in effect through that time, the Routine (ROU) action code is used, with a Phenomenon code of "MA," a Significance of "F," and an ETN of zero.

Product 2

Scenario: Small Craft Advisory raised

Issuing Office: WFO Fairbanks AK (PAFG)

Current time: 1200 UTC on June 12, 2005

Event (Product): Small Craft Advisory (CWF)

Forecast valid for: North Pacific Marine Zone 295

Product expiration time: 0200 UTC on June 13, 2005

Event Tracking Number: 30th Small Craft Advisory of the year issued by PAFG

Expected or actual Event Beginning and Ending times of the Small Craft: 1200 UTC on June 12 and 1400 UTC on June 13, 2005

PZZ295-130200- (UGC)
/O.NEW.PAFG.SC.Y.0030.050612T1200Z-050613T1400Z/ (P-VTEC 1)
/O.ROU.PAFG.MA.F.0000.050613T1400Z-050614T0200Z/ (P-VTEC 2)

Explanation: With the next routine forecast, a new Small Craft Advisory is raised, effective at the time of issuance, and continuing through the second forecast period. There are no W/W/As in effect in the third period, so the ROU action code is used there.

Product 3

Scenario: Small Craft Advisory canceled

Issuing Office: WFO Fairbanks AK (PAFG)

Current time: 0000 UTC on June 13, 2005

Event (Product): None (CWF)

Forecast valid for: North Pacific Marine Zone 295

Product expiration time: 1400 UTC on June 13, 2005

Event Tracking Number: Zero, as no W/W/As are in effect through the third 12-hour period of the forecast

Expected or actual Event Beginning and Ending times of the Forecast: 0000 UTC on June 13 and 1400 UTC on June 14, 2005

PZZ295-131400- (UGC)
/O.CAN.PAFG.SC.Y.0030.000000T0000Z-050613T1400Z/ (P-VTEC 1)
/O.ROU.PAFG.MA.F.0000.050613T0000Z-050614T1400Z/ (P-VTEC 2)

Explanation: With the next routine forecast, winds and/or seas have diminished below Small Craft criteria, so the Advisory is canceled. The ROU action code is in effect through all three forecast periods.

Product 4

Scenario: Small Craft Advisory raised in the second period

Issuing Office: WFO Fairbanks AK (PAFG)

Current time: 1200 UTC on June 13, 2005

Event (Product): Small Craft Advisory (CWF)

Forecast valid for: North Pacific Marine Zone 295

Product expiration time: 0200 UTC on June 14, 2005

Event Tracking Number: 31st Small Craft Advisory of the year issued by PAFG

Expected Event Beginning and Ending times of the Small Craft: 0800 UTC and 1400 UTC on June 14, 2005

PZZ295-140200- (UGC)
/O.ROU.PAFG.MA.F.0000.050613T1200Z-050614T0800Z/ (P-VTEC 1)
/O.NEW.PAFG.SC.Y.0031.050614T0800Z-050614T1400Z/ (P-VTEC 2)
/O.ROU.PAFG.MA.F.0000.050614T1400Z-050615T0200Z/ (P-VTEC 3)

Explanation: At the next routine forecast issuance, a new Small Craft Advisory is raised for a portion of the second forecast period. The ROU action code is used to cover the period before and after the Small Craft Advisory, through the end of the third forecast period, but with the EXT action code.

Product 5

Scenario: Small Craft Advisory time shifted back

Issuing Office: WFO Fairbanks AK (PAFG)

Current time: 0000 UTC on June 14, 2005

Event (Product): Small Craft Advisory (CWF)

Forecast valid for: North Pacific Marine Zone 295

Product expiration time: 1400 UTC on June 14, 2005

Event Tracking Number: 31st Small Craft Advisory of the year issued by PAFG

Expected Event Beginning and Ending times of the Small Craft: 0800 UTC and 1400 UTC on June 15, 2005

PZZ295-141400- (UGC)
/O.ROU.PAFG.MA.F.0000.050614T0000Z-050615T0800Z/ (P-VTEC 1)
/O.EXT.PAFG.SC.Y.0031.050615T0800Z-050615T1400Z/ (P-VTEC 2)

Explanation: At the next routine forecast issuance, the time of the upcoming Small Craft Advisory is shifted back 24 hours, to the second half of the new third forecast period. The same Small Craft ETN is used as in the previous forecast issuance.

Product 6

Scenario: Small Craft Advisory time shifted forward, and Gale and Storm Warning headlines are added

Issuing Office: WFO Fairbanks AK (PAFG)

Current time: 1200 UTC on June 14, 2005

Events (Product): Small Craft Advisory, and Gale and Storm Warnings (CWF)

Forecast valid for: North Pacific Marine Zone 295

Product expiration time: 0200 UTC on June 15, 2005

Event Tracking Number: 31st Small Craft Advisory, 17th Gale Warning, and 5th Storm Warning of the year issued by PAFG

Expected or actual Event Beginning and Ending times of the Small Craft: 1200 UTC on June 14 and 0800 UTC on June 15, 2005

Gale: 0800 UTC and 1400 UTC on June 15, 2005
Storm: 1400 UTC on June 15 and 0200 UTC on June 16, 2005

PZZ295-150200- (UGC)
/O.EXT.PAFG.SC.Y.0031.050614T1200Z-050615T0800Z/ (P-VTEC 1)
/O.NEW.PAFG.GL.W.0017.050615T0800Z-050615T1400Z/ (P-VTEC 2)
/O.NEW.PAFG.SR.W.0005.050615T1400Z-050616T0200Z/ (P-VTEC 3)

Explanation: At the next routine forecast issuance, the Small Craft conditions are beginning, and new Gale and Storm Warnings are issued for the second and third periods, respectively. The Small Craft P-VTEC string has an EXT action code, since the beginning time was advanced to the present (issuance) time, and the Gale and Storm P-VTEC strings are both NEW.

Product 7

Scenario: Storm Warning canceled
Issuing Office: WFO Fairbanks AK (PAFG)
Current time: 0000 UTC on June 15, 2005
Events (Product): Small Craft Advisory and Gale Warning (CWF)
Forecast valid for: North Pacific Marine Zone 295
Product expiration time: 1400 UTC on June 15, 2005
Event Tracking Number: 31st Small Craft Advisory and 17th Gale Warning of the year issued by PAFG
Expected or actual Event Beginning and Ending times of the
Small Craft: 1200 UTC on June 14 and 0800 UTC on June 15, 2005
Gale: 0800 UTC on June 15 and 1400 UTC on June 16, 2005

PZZ295-151400- (UGC)
/O.CON.PAFG.SC.Y.0031.000000T0000Z-050615T0800Z/ (P-VTEC 1)
/O.EXT.PAFG.GL.W.0017.050615T0800Z-050616T1400Z/ (P-VTEC 2)
/O.CAN.PAFG.SR.W.0005.050615T1400Z-050616T0200Z/ (P-VTEC 3)

Explanation: At the next routine forecast issuance, the Storm Warning headline is dropped, with Gale conditions now expected through that period and through the new third period of the forecast. Hence the EXT action code with the Gale to extend its valid time, and the CAN action code with the canceled Storm Warning.

Product 8

Scenario: Storm Warning raised again
Issuing Office: WFO Fairbanks AK (PAFG)
Current time: 1200 UTC on June 15, 2005
Events (Product): Gale and Storm Warnings, and Small Craft Advisory (CWF)
Forecast valid for: North Pacific Marine Zone 295
Product expiration time: 0200 UTC on June 16, 2005
Event Tracking Number: 17th and 18th Gale Warnings, 6th Storm Warning, and 32nd Small Craft Advisory of the year issued by PAFG
Expected or actual Event Beginning and Ending times of the
Continued Gale (ETN 17): 1200 UTC and 2000 UTC on June 15, 2005
Storm: 2000 UTC on June 15 and 1400 UTC on June 16, 2005
New Gale (ETN 18): 1400 UTC and 2000 UTC on June 16, 2005
Small Craft: 2000 UTC on June 16 and 0800 UTC on June 18, 2005

PZZ295-160200- (UGC)
 /O.EXT.PAFG.GL.W.0017.000000T0000Z-050615T2000Z/ (P-VTEC 1)
 /O.NEW.PAFG.SR.W.0006.050615T2000Z-050616T1400Z/ (P-VTEC 2)
 /O.NEW.PAFG.GL.W.0018.050616T1400Z-050616T2000Z/ (P-VTEC 3)
 /O.NEW.PAFG.SC.Y.0032.050616T2000Z-050617T0200Z/ (P-VTEC 4)

Explanation: At the next routine forecast issuance, the Storm Warning headline is reintroduced to the forecast, but since the previous one (in Product 6) had been canceled, this one gets a new ETN. Likewise, the Gale conditions that occur after the Storm conditions end gets a different ETN than the Gale Warning that occurs before the Storm. A new Small Craft Advisory is included at the end of the third forecast period, and while those conditions are expected to last for a few days, the VTEC coding ends at the end of the third forecast period.

Product 9

Scenario: No changes, except for some shifts in beginning and ending times

Issuing Office: WFO Fairbanks AK (PAFG)

Current time: 0000 UTC on June 16, 2005

Events (Product): Gale and Storm Warnings, and Small Craft Advisory (CWF)

Forecast valid for: North Pacific Marine Zone 295

Product expiration time: 1400 UTC on June 16, 2005

Event Tracking Number: 18th Gale Warning, 6th Storm Warning, and 32nd Small Craft Advisory of the year issued by PAFG

Expected or actual Event Beginning and Ending times of the

Storm: 2000 UTC on June 15 and 0800 UTC on June 16, 2005

Gale: 0800 UTC on June 16 and 0200 UTC on June 17, 2005

Small Craft: 0200 UTC on June 17 and 1400 UTC on June 18, 2005

PZZ295-161400- (UGC)
 /O.EXT.PAFG.SR.W.0006.000000T0000Z-050616T0800Z/ (P-VTEC 1)
 /O.EXT.PAFG.GL.W.0018.050616T0800Z-050617T0200Z/ (P-VTEC 2)
 /O.EXT.PAFG.SC.Y.0032.050617T0200Z-050617T1400Z/ (P-VTEC 3)

Explanation: At the next routine forecast issuance, the three continuing headlines remain, but the beginning and ending times are shifted a bit. Hence the three EXT action codes. The Gale Warning at the beginning of the previous forecast (ETN 17) was scheduled to end before this product was issued, hence it is not mentioned here. The Event Beginning Time of the Storm Warning is coded as zeros since it has begun (and was forecast to begin) before this product was issued.

Product 10

Scenario: Just Small Craft Advisory remains

Issuing Office: WFO Fairbanks AK (PAFG)

Current time: 1200 UTC on June 16, 2005

Event (Product): Small Craft Advisory (CWF)

Forecast valid for: North Pacific Marine Zone 295

Product expiration time: 0200 UTC on June 17, 2005

Event Tracking Number: 32nd Small Craft Advisory of the year issued by PAFG

Expected or actual Event Beginning and Ending times of the Small Craft: 1200 UTC on June 16 and 0200 UTC on June 18, 2005

PZZ295-170200- (UGC)
 /O.CAN.PAFG.GL.W.0018.000000T0000Z-050617T0200Z/ (P-VTEC 1)
 /O.EXT.PAFG.SC.Y.0032.050616T1200Z-050618T0200Z/ (P-VTEC 2)

Explanation: At the next routine forecast issuance, the Storm Warning has already ended (and was forecast to end before this product issuance), so it is not mentioned here. The Gale conditions have also ended, but since (in the previous forecast) they were expected to continue until 0200 UTC on the 17th, a P-VTEC string must be included with the CAN action code. Both the beginning and (effective) ending times of the Small Craft Advisory have been extended.

Product 11

Scenario: Small Craft Advisory ending time moved forward

Issuing Office: WFO Fairbanks AK (PAFG)
 Current time: 0000 UTC on June 17, 2005
 Event (Product): Small Craft Advisory (CWF)
 Forecast valid for: North Pacific Marine Zone 295
 Product expiration time: 1400 UTC on June 17, 2005
 Event Tracking Number: 32nd Small Craft Advisory of the year issued by PAFG
 Expected or actual Event Beginning and Ending times of the Small Craft: 1200 UTC on June 16 and 1400 UTC on June 17, 2005

PZZ295-170200- (UGC)
 /O.EXT.PAFG.SC.Y.0032.000000T0000Z-050617T1400Z/ (P-VTEC 1)
 /O.ROU.PAFG.MA.F.0000.050617T1400Z-050618T1400Z/ (P-VTEC 2)

Explanation: At the next routine forecast issuance, the ending time of the Small Craft Advisory has been moved up 12 hours, so the ROU action code makes its first appearance in the forecast in three days.

Product 12

Scenario: Small Craft Advisory canceled

Issuing Office: WFO Fairbanks AK (PAFG)
 Current time: 1200 UTC on June 17, 2005
 Event (Product): Small Craft Advisory (CWF)
 Forecast valid for: North Pacific Marine Zone 295
 Product expiration time: 0200 UTC on June 18, 2005
 Event Tracking Number: 32nd Small Craft Advisory of the year issued by PAFG
 Expected or actual Event Beginning and Ending times of the Small Craft: 1200 UTC on June 16 and 1400 UTC on June 17, 2005

PZZ295-171400- (UGC)
 /O.CAN.PAFG.SC.Y.0032.000000T0000Z-050617T1400Z/ (P-VTEC 1)
 /O.ROU.PAFG.MA.F.0000.050617T1400Z-050619T0200Z/ (P-VTEC 2)

Explanation: At the next routine forecast issuance, the Small Craft conditions have ended, although it was a few hours before they were scheduled to end (1200 UTC instead of 1400 UTC). Hence it must be canceled, with the ROU action code used for the rest of the forecast period.

3. P-VTEC and H-VTEC Examples and Interpretations. Following are examples with interpretations of certain hydrologic products using P-VTEC and H-VTEC strings (including the preceding UGC string that defines the affected geographic area and product expiration time).

a. Single Event.

Example (1) - Areal Flood Warning (FLW)

Scenario: Initial Warning issuance

Issuing Office: WFO Spokane WA (KOTX)

Current time: 1803 UTC on June 6, 2004

Event (Product): Flood Warning (FLW)

Warning valid for: Washington County 51

Product expiration time: 0100 UTC on June 7, 2004

Event Tracking Numbers: 1st Flood Warning of the year issued by KOTX

Expected or actual Event Beginning and Ending times of the Warning: 1803 UTC June 6, 2004 and 0100 UTC on June 7, 2004

```

WAC051-070100- (UGC)
/O.NEW.KOTX.FL.W.0001.040606T1803Z-040607T0100Z/ (P-VTEC)
/O.ER.000000T0000Z.000000T0000Z.000000T0000Z.OO/ (H-VTEC)
    
```

Explanation: WFO Spokane, WA issued its 1st Flood Warning (product and event the same) of the year on June 6, 2004, valid from 1803 UTC and 0100 UTC on the 7th (from the P-VTEC string), for the Pend Oreille River in Pend Oreille County (from the UGC string). The flood elements (as is typical) were not known for this widespread areal flood, except that the cause of flooding, excessive rainfall (ER - from the H-VTEC string), was known to have occurred above the dam.

Example (2) - Point Flood Warnings (FLW)

Scenario: Initial Warning issuance

Issuing Office: WFO Sioux Falls SD (KFSD)

Current time: 1205 UTC on December 14, 2004

Event (Product): Flood Warning (FLW)

Immediate Cause: Excessive Rainfall

Product expiration time: 0005 UTC on December 15, 2004

Segment 1

Warning valid for: Big Sioux River near Brookings (South Dakota Counties 11 and 101)

Event Tracking Number: 7th Flood Warning of the year issued by KFSD

Expected Flood Severity: Moderate

Expected Event beginning, crest, and ending times of the Warning: 1600 UTC on December 16, 1600 UTC on December 18, and 1200 UTC on December 19, 2004

Segment 2

Warning valid for: Big Sioux River near Dell Rapids (South Dakota County 099)

Event Tracking Number: 8th Flood Warning of the year issued by KFSD

Expected Flood Severity: Major

Expected Event beginning, crest, and ending times of the Warning: 0400 UTC on December 17, 1700 UTC on December 18, and 0200 UTC on December 20, 2004

Segment 3

Warning valid for: Big Sioux River at Akron (Iowa County 149 and South Dakota County 127)

Event Tracking Number: 9th Flood Warning of the year issued by KFSD

Expected Flood Severity: Moderate

Expected Event beginning, crest, and ending times of the Warning: 0400 UTC on December 17, 1900 UTC on December 18, and 1200 UTC on December 20, 2004

(segment 1 of 3 within FLW product - new warning for the Big Sioux near Brookings)
 SDC011-101-150005- (UGC)
 /O.NEW.KFSD.FL.W.0007.041216T1600Z-041219T1200Z/ (P-VTEC)
 /2.ER.041216T1600Z.041218T1600Z.041219T1200Z.NO/ (H-VTEC)

(segment 2 of 3 within FLW product - new warning for the Big Sioux near Dell Rapids)
 SDC099-150005- (UGC)
 /O.NEW.KFSD.FL.W.0008.041217T0400Z-041220T0200Z/ (P-VTEC)
 /3.ER.041217T0400Z.041218T1700Z.041220T0200Z.NO/ (H-VTEC)

(segment 3 of 3 within FLW product - new warning for the Big Sioux at Akron)
 IAC149-SDC127-150005- (UGC)
 /O.NEW.KFSD.FL.W.0009.041217T0400Z-041220T1200Z/ (P-VTEC)
 /2.ER.041217T0400Z.041218T1900Z.041220T1200Z.NO/ (H-VTEC)

Explanation: This new Flood Warning product from WFO Sioux Falls has been issued for three forecast points on the Big Sioux River. Each forecast point is in a separate segment, and each forecast point is given a different ETN (of 7, 8 and 9). The event beginning and ending times for each forecast point are the times when the river at that point is expected to reach flood stage and then fall below flood stage, respectively. In this case, the beginning and ending event times in each P-VTEC string will be the same as the beginning and ending event times in the corresponding H-VTEC string. The product expiration time (from the UGC strings) is the same in all three segments, and denotes the time by which an updated product will be issued. Note that for this long duration event, the product expiration time occurs nearly 40 hours before the flooding is expected to begin in the first (furthest upstream) segment (from the P-VTEC and H-VTEC strings). The Flood Severity (first element in the H-VTEC strings), is Moderate (2) for the first and third segments, and Major (3) for the second segment. The flooding was caused by Excessive Rainfall (ER - in the H-VTEC string).

Example (3) - Flood Statement (FLS)

Scenario: Flood Warnings have Expired
 Issuing Office: WFO Quad Cities IA IL (KDVN)
 Current time: 1535 UTC on May 3, 2004
 Event (Product): Flood Warning (FLS)
 Immediate Cause: Excessive Rainfall
 Product expiration time: 1635 UTC on May 3, 2004

Segment 1

Warning valid for: Mississippi River near Gladstone (Iowa County 89 and Illinois County 25)
 Event Tracking Number: 9th Flood Warning of the year issued by KDVN
 Expected Flood Severity: Minor
 Expected or actual Event beginning, crest, and ending times of the Warning: 2000 UTC on April 26, 1100 UTC on April 30, and 1300 UTC on May 3, 2004

Segment 2

Warning valid for: Mississippi River at Burlington (Iowa County 099 and Illinois County 34)
 Event Tracking Number: 10th Flood Warning of the year issued by KDVN
 Expected Flood Severity: Minor
 Expected or actual Event beginning, crest, and ending times of the Warning: 2000 UTC on April 26, 2300 UTC on April 29, and 1535 UTC on May 3, 2004

(segment 1 of 2 within FLS product - warning canceled for the Mississippi near Gladstone)
 IAZ089-ILZ025-031635- (UGC)
 /O.EXP.KDVN.FL.W.0009.000000T0000Z-040503T1300Z/ (P-VTEC)
 /1.ER.040426T2000Z.040430T1100Z.040503T1300Z.NO/ (H-VTEC)

(segment 2 of 2 within FLS product - warning canceled for the Mississippi at Burlington)
 IAZ099-ILZ034-031635- (UGC)
 /O.EXP.KDVN.FL.W.0010.000000T0000Z-040503T1535Z/ (P-VTEC)
 /1.ER.040426T2000Z.040429T2300Z.040503T1535Z.NO/ (H-VTEC)

Explanation: This Flood Statement product from WFO Quad Cities has been issued for two forecast points on the Mississippi River. Each forecast point is in a separate segment, and each forecast point has a different ETN (of 9 and 10). Since the flood warnings were in effect until their event ending times, the P-VTEC EXP (Expired) action code is used. This is a final message, informing that the flood warnings are no longer in effect. The event beginning times in each P-VTEC string has been set to zeros, since the flooding began at both points back on April 26th (in the H-VTEC codes). The event ending times used in the previous product are used in the P-VTEC and H-VTEC strings in both segments. The product expiration time (from the UGC strings) is the same in both segments, and allows for dissemination via NOAA Weather Radio and other outlets. The Flood Severity (first element in the H-VTEC strings), is Minor (1) for both segments. The flooding was caused by Excessive Rainfall (ER - in the H-VTEC string). The time that the river crested at each forecast point is the second (middle) time string in the H-VTEC string.

b. Multiple Events.

Example - Combined Severe Thunderstorm and Flash Flood Warning

Scenario: Initial Combined Warning issuance

Issuing Office: WFO Tucson AZ (KTWC)

Current time: 1835 UTC on August 13, 2005

Events (Product): Combined Severe Thunderstorm and Flash Flood Warning (FFW)

Warning valid for: Arizona County 19

Product expiration time: 2000 UTC on August 13, 2005

Event Tracking Numbers: 35th Flash Flood Warning of the year and 42nd Severe Thunderstorm Warning of the year issued by KTWC

Expected Event beginning, crest, and ending times of the Flash Flood Warning: 1835 UTC on August 13, 2005, not coded, and 2000 UTC on August 13, 2005

Expected or actual Event Beginning and Ending times of the Severe Thunderstorm Warning: 1835 UTC and 1900 UTC on August 13, 2005

AZC019-132000- (UGC)
 /O.NEW.KTWC.FF.W.0035.020813T1835Z-020813T2000Z/ (P-VTEC 1)
 /O.ER.000000T0000Z.000000T0000Z.000000T0000Z.OO/ (H-VTEC)
 /O.NEW.KTWC.SV.W.0042.020813T1835Z-020813T1900Z/ (P-VTEC 2)

Explanation: This Combined Severe Thunderstorm/Flash Flood Warning has three VTEC strings, a P-VTEC and H-VTEC string associated with the Flash Flood, and a single P-VTEC string associated with the Severe Thunderstorm. Although the beginning and ending times of the Flash Flood are encoded in the first P-VTEC string, all the times in the corresponding H-VTEC string (event beginning, crest, and event ending) are encoded as zeros, as this is an areal Flash Flood event without a forecast point to derive a crest time or flood severity.

c. Change to an Event.

Example - Expired Severe Thunderstorm portion of combined Severe Thunderstorm and Flash Flood Warning (follow-up statement from section b).

Scenario: Follow-up statement - Severe Thunderstorm expired, Flash Flood continued

Issuing Office: WFO Tucson AZ (KTWC)

Current time: 1900 UTC on August 13, 2005

Events (Product): Combined Severe Thunderstorm and Flash Flood Warning (FFS)

Warning valid for: Arizona County 19

Product expiration time: 2000 UTC on August 13, 2005

Event Tracking Numbers: 35th Flash Flood Warning of the year and 42nd Severe Thunderstorm Warning of the year issued by KTWC

Expected Event beginning, crest, and ending times of the Flash Flood Warning: 1835 UTC on August 13, 2005, not coded, and 2000 UTC on August 13, 2005

Expected or actual Event Beginning and Ending times of the Severe Thunderstorm Warning: 1835 UTC and 1900 UTC on August 13, 2005

```
AZC019-132000- (UGC)
/O.CON.KTWC.FF.W.0035.000000T0000Z-020813T2000Z/ (P-VTEC 1)
/O.ER.000000T0000Z.000000T0000Z.000000T0000Z.OO/ (H-VTEC)
/O.EXP.KTWC.SV.W.0042.000000T0000Z-020813T1900Z/ (P-VTEC 2)
```

Explanation: The follow-up statement for the Combined warning is issued as a Flash Flood Statement (FFS). The Severe Thunderstorm portion of the Warning has expired (EXP). The Flash Flood Warning is being continued (CON). Because both events have begun, the event beginning time in both P-VTEC strings is set to zeros.

d. Full Event Sequence.

Example - Flooding situation, from watch to advisory and warnings to eventual cancellation and expiration, including the follow-up statements.

Product 1

Scenario: New Flood Watch is Issued

Issuing Office: WFO Baltimore MD/Washington DC (KLWX)

Current time: 0830 UTC on April 13, 2005

Event (Product): Flood Watch (FFA)

Immediate Cause: Excessive Rainfall

Watch valid for: Maryland Zones 2 thru 7, 9 thru 11, 13, and 14; Virginia Zones 27, 28, 30, 31, 41, 42, and 53 thru 55; West Virginia Zones 48 thru 53, and 55; and District of Columbia Zone 1

Product expiration time: 2100 UTC on April 13, 2005

Event Tracking Number: 10th Flood Watch of the year issued by KLWX

Expected Flood Severity: None coded

Expected or actual Event beginning, crest, and ending times of the Watch: 2200 UTC on April 13, 2005, not coded, 1000 UTC on April 14, 2005

```
MDZ002>007-009>011-013-014-VAZ027-028-030-031-
041-042-053>055-WVZ048>053-055-DCZ001-132100- (UGC)
/O.NEW.KLWX.FL.A.0010.050413T2200Z-050413T1000Z/ (P-VTEC)
/O.ER.000000T0000Z.000000T0000Z.000000T0000Z.OO/ (H-VTEC)
```

Explanation: This new Flood Watch from WFO Baltimore/Washington has been issued for Tonight (2200 UTC to 1000 UTC) for a number of zones in their forecast area. The beginning and ending event times in the P-VTEC string correspond to the beginning and ending times of the Watch. Because this is a Flood Watch, the only H-VTEC element not coded with letter Os or zeros is the Immediate Cause, which is ER for Excessive Rainfall.

Product 2

Scenario: Follow-up Watch Statement

Issuing Office: WFO Baltimore MD/Washington DC (KLWX)

Current time: 2000 UTC on April 13, 2005

Event (Product): Flood Watch (FFA)

Immediate Cause: Excessive Rainfall

Watch continued for: Maryland Zones 2 thru 7, 9 thru 11, 13, and 14; Virginia Zones 27, 28, 30, 31, 41, 42, and 53 thru 55; West Virginia Zones 48 thru 53, and 55; and District of Columbia Zone 1

Product expiration time: 0900 UTC on April 14, 2005

Event Tracking Number: 10th Flood Watch of the year issued by KLWX

Expected Flood Severity: None given

Expected or actual Event beginning, crest, and ending times of the Watch: 2200 UTC on April 13, 2005, not coded, 2200 UTC on April 14, 2005

MDZ002>007-009>011-013-014-VAZ027-028-030-031-
041-042-053>055-WVZ048>053-055-DCZ001-140900- (UGC)
/O.EXT.KLWX.FL.A.0010.050413T2200Z-050414T2200Z/ (P-VTEC)
/O.ER.000000T0000Z.000000T0000Z.000000T0000Z.OO/ (H-VTEC)

Explanation: The Flood Watch has been extended through the Tomorrow period (until 2200 UTC on April 14th). With the exception of the EXT action code and new Event Ending time, the VTEC strings remain the same in as the original watch.

Product 3

Scenario: New Flood Advisory (issued as a Flood Statement Product)

Issuing Office: WFO Baltimore MD/Washington DC (KLWX)

Current time: 0300 UTC on April 14, 2005

Event (Product): Flood Advisory (FFS)

Immediate Cause: Excessive Rainfall

Segment 1

Advisory valid for: Potomac River at Little Falls (Maryland County 31, Virginia County 59)

Segment expiration time: 0800 UTC on April 14, 2005

Event Tracking Number: 16th Flood Advisory of the year issued by KLWX

Expected Flood Severity: None

Expected or actual Event beginning, crest, and ending times of the Advisory: 0400 UTC on April 14, 2005, not coded, 0800 UTC on April 14, 2005

Segment 2

Advisory valid for: Tidal Potomac River at Wisconsin Avenue (Maryland County 31, Virginia County 13 and 510 [an Independent City], and the District of Columbia [County 1])

Segment expiration time: 0900 UTC on April 14, 2005

Event Tracking Number: 17th Flood Advisory of the year issued by KLWX

Expected Flood Severity: None

Expected or actual Event beginning, crest, and ending times of the Advisory: 0300 UTC on April 13, 2005, not coded, 0900 UTC on April 14, 2005

(segment 1 of 2 within FLS product - new advisory for the Potomac River at Little Falls)
MDC031-VAC059-140800- (UGC)
/O.NEW.KLWX.FL.Y.0016.050414T0400Z-050414T0800Z/ (P-VTEC)
/O.ER.000000T0000Z.000000T0000Z.000000T0000Z.OO/ (H-VTEC)

(segment 2 of 2 within FLS product - new advisory for the Tidal Potomac River at Wisconsin Ave)
MDC031-VAC013-510-DCC001-140900- (UGC)
/O.NEW.KLWX.FL.Y.0017.050414T0300Z-050414T0900Z/ (P-VTEC)
/O.ER.000000T0000Z.000000T0000Z.000000T0000Z.OO/ (H-VTEC)

Explanation: A new Flood Advisory (issued as a Flood Statement product) has been issued for rapid but below flood stage stream level rises at two points within the Flood Watch area. Each forecast point is given a different ETN (independent of the Flood Watch ETN), and each forecast point has its own Event Beginning and Ending Times. The only H-VTEC element coded in this Advisory is the Immediate Cause, which is ER for Excessive Rainfall.

Product 4

Scenario: Follow-up Watch Statement - Cancel part and Continue the rest

Issuing Office: WFO Baltimore MD/Washington DC (KLWX)

Current time: 0830 UTC on April 14, 2005

Event (Product): Flood Watch (FFA)

Immediate Cause: Excessive Rainfall

Watch canceled for: Maryland Zones 2 and 3; Virginia Zones 27, 28, 30, 31; and West Virginia Zones 48 thru 53, and 55;

Watch continued for: Maryland Zones 4 thru 7, 9 thru 11, 13, and 14; Virginia Zones 41, 42, and 53 thru 55; and District of Columbia Zone 1

Product expiration time for the

 Canceled portion: 1000 UTC on April 14, 2005

 Continued portion: 2200 UTC on April 14, 2005

Event Tracking Number: 10th Flood Watch of the year issued by KLWX

Expected Flood Severity: None given

Expected or actual Event beginning, crest, and ending times of the Watch: 2200 UTC on April 13, 2005, not coded, 2200 UTC on April 14, 2005

(segment 1 of 2 within FFA product - canceled portion of watch)
MDZ002-003-VAZ027-028-030-031-WVZ048>053-055-141000- (UGC)
/O.CAN.KLWX.FL.A.0010.000000T0000Z-050414T2200Z/ (P-VTEC)
/O.ER.000000T0000Z.000000T0000Z.000000T0000Z.OO/ (H-VTEC)

(segment 2 of 2 within FFA product - Continued rest of watch)
MDZ004>007-009>011-013-014-VAZ041-042-053>055-
DCZ001-142200- (UGC)
/O.CON.KLWX.FL.A.0010.000000T0000Z-050414T2200Z/ (P-VTEC)
/O.ER.000000T0000Z.000000T0000Z.000000T0000Z.OO/ (H-VTEC)

Explanation: A portion of the Flood Watch has been canceled, while the rest of the watch was continued with the same expected Event Ending Time of 2200 UTC on the 14th. Since the watch was valid beginning at 2200 UTC on the 13th, the Event Beginning Time in both segments has been coded as zeros.

Product 5

Scenario: New Flood Warning is Issued

Issuing Office: WFO Baltimore MD/Washington DC (KLWX)

Current time: 1100 UTC on April 14, 2005

Event (Product): Flood Warning (FLW)
Immediate Cause: Excessive Rainfall
Watch valid for: The Monocacy River at Frederick MD (Maryland County 21)
Product expiration time: 1700 UTC on April 14, 2005
Event Tracking Number: 20th Flood Warning of the year issued by KLWX
Expected Flood Severity: Minor
Expected or actual Event beginning, crest, and ending times of the Warning: 1200 UTC, 1600 UTC, and 2000 UTC on April 14, 2005

MDC021-141700- (UGC)
/O.NEW.KLWX.FL.W.0020.050414T1200Z-050414T2000Z/ (P-VTEC)
/1.ER.050414T1200Z.050414T1600Z.050414T2000Z.NO/ (H-VTEC)

Explanation: A new Point Flood Warning has been issued. The ETN for this Flood Warning event is independent of the one used for the Flood Watch, which remains in effect. The beginning and ending event times in the P-VTEC string correspond to when the river stage is expected to rise above and fall below flood stage. These times, along with the expected crest time, are also encoded in the H-VTEC string. Because there are both historic and forecast stages for this site, all the H-VTEC elements have been filled in with actual data.

Product 6

Scenario: A Second Flood Warning is Issued
Issuing Office: WFO Baltimore MD/Washington DC (KLWX)
Current time: 1300 UTC on April 14, 2005
Event (Product): Flood Warning (FLW)
Immediate Cause: Excessive Rainfall
Watch valid for: The Potomac River at Shepherdstown (Maryland County 43; and West Virginia County 37)
Product expiration time: 2000 UTC on April 14, 2005
Event Tracking Number: 21st Flood Warning of the year issued by KLWX
Expected Flood Severity: Minor
Expected or actual Event beginning, crest, and ending times of the Warning: 1500 UTC, 1900 UTC, and 2200 UTC on April 14, 2005

MDC043-WVC037-142000- (UGC)
/O.NEW.KLWX.FL.W.0021.050414T1500Z-050414T2200Z/ (P-VTEC)
/1.ER.050414T1500Z.050414T1900Z.050414T2200Z.NO/ (H-VTEC)

Explanation: A second new Point Flood Warning has been issued, with the next Flood Warning ETN used. The remainder of the P-VTEC and H-VTEC coding is similar to the first Warning, but uses the historic and forecast data for this site.

Product 7

Scenario: Cancel remainder of Watch
Issuing Office: WFO Baltimore MD/Washington DC (KLWX)
Current time: 1600 UTC on April 14, 2005
Event (Product): Flood Watch (FFA)
Immediate Cause: Excessive Rainfall
Watch canceled for: Maryland Zones 4 thru 7, 9 thru 11, 13, and 14; Virginia Zones 41, 42, and 53 thru 55; and District of Columbia Zone 1
Product expiration time: 1700 UTC on April 14, 2005
Event Tracking Number: 10th Flood Watch of the year issued by KLWX
Expected Flood Severity: None given

Expected or actual Event beginning, crest, and ending times of the Watch: 2200 UTC on April 13, 2005, not coded, 2200 UTC on April 14, 2005

MDZ004>007-009>011-013-014-VAZ041-042-053>055-
 DCZ001-141700- (UGC)
 /O.CAN.KLWX.FL.A.0010.000000T0000Z-050414T2200Z/ (P-VTEC)
 /O.ER.000000T0000Z.000000T0000Z.000000T0000Z.OO/ (H-VTEC)

Explanation: The remainder of the Flood Watch is canceled, even though the Flood Warnings remain in effect, as no additional flooding is expected. The previous Event Ending Time of 2200 UTC is still used, although the CAN action code implies that the watch is canceled immediately when the product is issued. The Product Expiration Time (in the UGC) is set an hour in the future to allow the cancellation message to be disseminated over NOAA Weather Radio and other outlets.

Product 8

Scenario: Cancel first Flood Warning

Issuing Office: WFO Baltimore MD/Washington DC (KLWX)

Current time: 1800 UTC on April 14, 2005

Event (Product): Flood Warning (FLS)

Immediate Cause: Excessive Rainfall

Watch canceled for: The Monocacy River at Frederick MD (Maryland County 21)

Product expiration time: 1900 UTC on April 14, 2005

Event Tracking Number: 20th Flood Warning of the year issued by KLWX

Expected Flood Severity: Minor

Expected (or actual) Event beginning, crest, and ending times of the Warning: 1200 UTC, 1600 UTC (1530 UTC), and 2000 UTC (1745 UTC) on April 14, 2005

MDC021-141900- (UGC)
 /O.CAN.KLWX.FL.W.0020.000000T0000Z-050414T2000Z/ (P-VTEC)
 /1.ER.050414T1200Z.050414T1530Z.050414T1745Z.NO/ (H-VTEC)

Explanation: The first Flood Warning (for the Monocacy River at Frederick) is canceled two hours before the most recent Event Ending Time, as the gauge fell below flood stage at 1745 UTC. While that same Event Ending Time (of 2000 UTC) remains in the P-VTEC string, the actual Flood Ending Time (of 1745 UTC) is encoded in the H-VTEC string. The other H-VTEC times remain coded with non-zero values, although the Flood Crest time has been changed from the previous forecast of 1600 UTC to 1530 UTC, when the crest actually occurred.

Product 9

Scenario: Second Flood Warning is Extended in Time

Issuing Office: WFO Baltimore MD/Washington DC (KLWX)

Current time: 1900 UTC on April 14, 2005

Event (Product): Flood Warning (FLW)

Immediate Cause: Excessive Rainfall

Watch extended for: The Potomac River at Shepherdstown (Maryland County 43; and West Virginia County 37)

Product expiration time: 2300 UTC on April 14, 2005

Event Tracking Number: 21st Flood Warning of the year issued by KLWX

Expected Flood Severity: Minor

Expected or actual Event beginning, crest, and ending times of the Warning: 1500 UTC, 1930 UTC, and 2300 UTC on April 14, 2005

MDC043-WVC037-142300- (UGC)
/O.EXT.KLWX.FL.W.0021.000000T0000Z-050414T2300Z/ (P-VTEC)
/1.ER.050414T1500Z.050414T1930Z.050414T2300Z.NO/ (H-VTEC)

Explanation: The second Flood Warning (for the Potomac River at Shepherdstown) has been extended an hour to 2300 UTC. The P-VTEC and H-VTEC coding in this follow-up product is similar to that of the previous product, and the Flood Crest time in the H-VTEC string has been replaced with an updated forecast of 1930 UTC.

Product 10

Scenario: Second Flood Warning has Expired

Issuing Office: WFO Baltimore MD/Washington DC (KLWX)

Current time: 2300 UTC on April 14, 2005

Event (Product): Flood Warning (FLS)

Immediate Cause: Excessive Rainfall

Watch expired for: The Potomac River at Shepherdstown (Maryland County 43; and West Virginia County 37)

Product expiration time: 2330 UTC on April 14, 2005

Event Tracking Number: 21st Flood Warning of the year issued by KLWX

Expected Flood Severity: Minor

Expected or actual Event beginning, crest, and ending times of the Warning: 1500 UTC, 1930 UTC, and 2300 UTC on April 14, 2005

MDC043-WVC037-142330- (UGC)
/O.CAN.KLWX.FL.W.0021.000000T0000Z-050414T2300Z/ (P-VTEC)
/1.ER.050414T1500Z.050414T1930Z.050414T2300Z.NO/ (H-VTEC)

Explanation: The Flood Warning for the Potomac River at Shepherdstown expired at 2300 UTC, and this final follow-up statement indicates that the Flooding has ended. As with all expiration messages, the Product Expiration Time extends beyond the Ending Time of the event to allow for dissemination of the product over NOAA Weather Radio and other outlets.