All Fields marked with * are mandatory.

Change Request #:	**34**
Assigned OGC Document #:	**09-186**
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Document Name/Version:	*Geography Markup Language (GML) Encoding Standard / 3.2.1
OGC Project Document:	*07-036

If this is a revision of a previous submission and you have a Change Request Number, then check here: ☐
Enter the CR number here:
Enter the Revsion Number that you are revising here:

Title:	*TimePosition and ISO 8601
Source:	*NGA/NCGIS
Work item code:	
Category:	* B (Addition of feature)

Reason for change: *

In GML 3.2.1 the simple type gml:TimePositionUnion is a union of XML Schema simple types which instantiate the subtypes for temporal position described in ISO 19108. These are:

Calendar and clock forms that support the representation of time in systems based on years, months, days, hours, minutes and seconds, in a notation following ISO 8601, are assembled as follows:

ISO 8601:2004 Clause 4.1.2 specifies the Calendar Date and its representations with reduced accuracy (i.e., YYYY-MM and YYYY). gml:CalDate is designed to support their encoding.

ISO 8601:2004 Clause 4.1.3 specifies the Ordinal Date, which is

composed from the calendar year and the calendar day of the year (YYYY-DDD).

ISO 8601:2004 Clause 4.1.4 specifies the Week Date, which is composed from the calendar year, the calendar week and the calendar day of the week (YYYY-Www-D). Clause 4.1.4.3 specifies a Week Date representation with reduced accuracy that omits the day of the week component (YYYY-Www).

The ISO 8601:2004 Ordinal Date and Week Date with reduced accuracy are commonly used in certain communities (for example, aviation) but are not currently supported by gml:TimePositionUnion. It is valuable to enhance gml:TimePositionUnion to accommodate representations of these sibling date-representations from ISO 8601:2004.

Summary of change:

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Extend gml:TimePositionUnion as follows:

Define gml:OrdDate comparable to xsd:date as follows:

The •lexical space• of gml:OrdDate consists of finite-length sequences of characters of the form: '-'? yyyy '-' ddd, where:

- '-'? yyyy is a four-or-more digit optionally negative-signed numeral that represents the year; if more than four digits, leading zeros are prohibited, and '0000' is prohibited (note that a plus sign is not permitted);
- the '-' is a separator between parts of the date;
- the ddd is a three-digit numeral that represents the calendar day of the year where the first calendar day of any calendar year is represented by '001' and subsequent calendar days are numbered in ascending sequence.

Define gml:WeekDate comparable to xsd:date as follows:

The •lexical space• of gml:WeekDate consists of finite-length sequences of characters of the form: '-'? yyyy '-W' ww ('-' d)?, where:

- '-'? yyyy is a four-or-more digit optionally negative-signed numeral that represents the year; if more than four digits, leading zeros are prohibited, and '0000' is prohibited (note that a plus sign is not permitted);
- the '-W' is a separator indicating that week-of-year follows;
- the ww is a two-digit numeral that represents the calendar week of the year where the first calendar week of any calendar year is represented by '01' and subsequent calendar weeks are numbered in ascending sequence;
- the '-' d (if present) is a one-digit numeral that represents the calendar day of the week where Monday shall be identified as calendar day '1' of any calendar week, and subsequent calendar days of the same calendar week shall be numbered in ascending sequence to Sunday (calendar day '7').

Consequences if not approved:

If not approved, GML will continue to support only a subset of the three Date Representations specified by ISO 8601:2004. Lack of support for Ordinal Date and Week Date in GML 3.2.1 unnecessarily limits the application of its temporal model in certain communities since this shortcoming of GML 3.2.1 can not be overcome through extension without violating GML conformance rules.

Clauses affected:	* 14.2.2.7 TimePositionType, timePosition
Additional Documents affected:	None
Supporting Documentation:	None
Comments:	None at the present time.
Status:	Assigned
Disposition:	Reffered