

D 2.3.6: Quality Annex B

Instructions for providing discovery metadata for the ELF

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Change Summary

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0.3	13/06/2014	Kai Koistinen	Baseline
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0.6	28/01/2015	Kai Koistinen	Formatting text into ELF template and add chapter 2.6
1.0	20/01/2015	Anja Hopfstock	Final editorial changes

References

Ref.	Title/Version/Publication Date/Author
[1]	INSPIRE Metadata Technical Guidelines, available at http://inspire.ec.europa.eu/documents/Metadata/MD_IR_and_ISO_20131029.pdf
[2]	ELF Glossary http://www.elfproject.eu/documentation/glossary

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I Introduction

ELF data comprises of geospatial reference data in accordance with one or more ELF specifications and made available through ELF [2]. The data is usually provided by European NMCAs. ELF data is delivered via ELF services - WMS/WMTS services for raster data and WFS services for vector data. To make it possible to search, compare and access ELF data and services, for example with ELF Geo Product Finder, these data and services have to be described with metadata. The aim of this document is to give instructions on what ELF metadata should include and how it should be delivered to the ELF platform manager.

European NMCAs have already produced metadata for their INSPIRE datasets and services. ELF metadata should fulfill the requirements of INSPIRE but ELF has also some additional requirements for metadata that should be added to INSPIRE metadata if not already available. These requirements are:

- Metadata language (ch 2.1): Metadata should be available at least in English.
- Conformity (ch 2.2): Conformity to ELF data specification should be indicated in metadata.
- Data currency - Last revision date (ch 2.3): The last dataset revision date should be indicated in metadata.
- Level of detail - Scale (ch 2.4): The level of detail of the data (scale) should be indicated in metadata.
- Data quality evaluations (ch 2.5): If the quality of the data has been evaluated the results of these evaluations should be indicated in metadata.
- Resource locator - URL of the ELF service (ch 2.6): Dataset metadata should contain a link to the ELF service that delivers the data.

Chapter 2 gives a more detailed guidance on how to technically implement these requirements.

Chapter 3 explains how to deliver the metadata to the ELF platform manager. Chapter 4 contains a full XML example of ELF dataset metadata.

2 Technical guidelines on implementing ELF metadata requirements

The guidance on implementing INSPIRE metadata is given in INSPIRE Metadata Technical Guidelines document [1]. This chapter gives the guidance on how to add the additional ELF metadata elements to INSPIRE metadata.

Metadata language requirement applies to both ELF datasets and services. Other requirements apply only to ELF datasets.

2.1 Metadata language

NOTICE: This requirement applies also to ELF service metadata!

INSPIRE metadata is typically available in one or more national languages of the country that the data is from. ELF makes datasets available from different European countries via a common framework. The users of this kind of framework have different mother languages and therefore ELF dataset metadata should be provided in a language or languages that all users can understand.

In ELF English has been chosen as a common language for all metadata. INSPIRE doesn't set any language requirements on metadata but for ELF metadata should be available at least in English.

English can be the primary or secondary language of the metadata. ISO19139 provides a mechanism for presenting metadata in multiple languages in a single metadata document. This mechanism should be used if the metadata is available in two or more languages. See INSPIRE Metadata Technical Guidance [1] Annex A.6 "ISO 19139 and multilingual metadata" for further information.

If English is not the primary language of the metadata document it should be defined as an alternative language in <gmd:locale> element:

```
<gmd:locale xmlns:fn="http://www.w3.org/2005/xpath-functions" xmlns:xs="http://www.w3.org/2001/XMLSchema"
xmlns:gco="http://www.isotc211.org/2005/gco" xmlns:gml="http://www.opengis.net/gml" xmlns:srv="http://www.isotc211.org/2005/srv">
  <gmd:PT_Locale id="EN">
    <gmd:languageCode>
      <gmd:LanguageCode codeList="http://www.loc.gov/standards/iso639-2/" codeListValue="eng">English</gmd:LanguageCode>
    </gmd:languageCode>
    <gmd:characterEncoding>
      <gmd:MD_CharacterSetCode codeList="http://www.isotc211.org/2005/resources/codeList.xml#MD_CharacterSetCode"
codeListValue="UTF-8">UTF 8</gmd:MD_CharacterSetCode>
    </gmd:characterEncoding>
  </gmd:PT_Locale>
</gmd:locale>
```

Translations are presented in <gmd:PT_FreeText> element. For example organization name:

```
<gmd:organisationName xsi:type="gmd:PT_FreeText_PropertyType">
  <gco:CharacterString>Maanmittauslaitos</gco:CharacterString>
  <gmd:PT_FreeText xmlns:fn="http://www.w3.org/2005/xpath-functions" xmlns:xs="http://www.w3.org/2001/XMLSchema"
xmlns:srv="http://www.isotc211.org/2005/srv">
    <gmd:textGroup>
      <gmd:LocalisedCharacterString locale="#EN">National Land Survey of Finland</gmd:LocalisedCharacterString>
    </gmd:textGroup>
  </gmd:PT_FreeText>
</gmd:organisationName>
```

2.2 Conformity

INSPIRE Metadata Guidelines [1] chapter 2.8 explains how the INSPIRE conformity should be indicated in metadata. Datasets that are conformant to ELF are also INSPIRE conformant. However, ELF data specifications include some additional requirements compared to INSPIRE data specifications. Therefore, if the same dataset is used to produce both ELF and INSPIRE data the metadata of this dataset should indicate the conformity to both ELF and INSPIRE data specifications. Anyway, ELF dataset metadata should indicate the conformity to ELF data specifications.

ISO 19139 provides <DQ_ConformanceResult> element for reporting about the evaluation of the conformity of the dataset against a given specification. At least specification name, reference date, explanation and degree of conformity information should be given:

- Specification name is the name of ELF data specification, for example ELF <LoD> <theme> where LoD is either Master LoD0,1,2 / Regional / Global and theme should indicate an ELF theme.
- Reference date is the publication date of the ELF specification in question.
- Explanation field should explain how well the source national data conforms to the ELF data specification. This can be presented as free text or a http link to an online report or matching table document.
- Degree of conformity should be “true” if data is conformant to the specification. Otherwise “false”.

Example of <DQ_ConformanceResult> for ELF:

```
<gmd:DQ_DomainConsistency>
  <gmd:result>
    <gmd:DQ_ConformanceResult>
      <gmd:specification>
        <gmd:CI_Citation>
          <gmd:title xsi:type="gmd:PT_FreeText_PropertyType">
            <gco:CharacterString>ELF BU</gco:CharacterString>
          </gmd:title>
          <gmd:date>
            <gmd:CI_Date>
              <gmd:date>
                <gco>Date>2014-01-07</gco>Date>
              </gmd:date>
              <gmd:dateType>
                <gmd:CI_DateTypeCode codeListValue="publication"
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/Codelist/ML_gmxCodeLists.xml#CI_DateTypeCode"/>
              </gmd:dateType>
            </gmd:CI_Date>
          </gmd:date>
        </gmd:CI_Citation>
      </gmd:specification>
      <gmd:explanation xsi:type="gmd:PT_FreeText_PropertyType">
        <gco:CharacterString>Aineisto on ELF BU tietotuotemäärittelyn mukainen. Vastaavuustaulukko:
http://linktomatchingtable</gco:CharacterString>
        <gmd:PT_FreeText>
          <gmd:textGroup>
            <gmd:LocalisedCharacterString locale="#EN">Dataset is conformant to ELF BU data specification.
Matching table: http://linktomatchingtable</gmd:LocalisedCharacterString>
          </gmd:textGroup>
        </gmd:PT_FreeText>
      </gmd:explanation>
      <gmd:pass>
        <gco:Boolean>true</gco:Boolean>
      </gmd:pass>
    </gmd:DQ_ConformanceResult>
  </gmd:result>
</gmd:DQ_DomainConsistency>
```

2.3 Data currency - Last revision date

INSPIRE metadata requires at least one temporal reference chosen from one of these four categories

- temporal extent
- date of publication
- date of last revision
- date of creation

INSPIRE Metadata Technical Guidelines [1, ch 2.6] recommends that in case of spatial data set, at least the last revision should be reported. ELF is more demanding in this case and requires the last revision date or update frequency information to be available in metadata for all ELF datasets.

Example of presenting last revision date in ELF metadata:

```

    <gmd:date>
      <gmd:CI_Date>
        <gmd:date>
          <gco:Date>2014-05-10</gco:Date>
        </gmd:date>
        <gmd:dateType>
          <gmd:CI_DateTypeCode codeListValue="revision"
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/Codelist/ML_gmxCod
eCode"/>
        </gmd:dateType>
      </gmd:CI_Date>
    </gmd:date>

```

Using date of last revision as temporal reference is problematic if the dataset is revised very frequently but the metadata updates are more occasional. An alternative solution is to present the data update frequency information in addition to the temporal reference (which in this case is other than date of last revision). ISO 19139 provides <gmd:maintenanceAndUpdateFrequency> element for presenting the update frequency information:

```

    <gmd:resourceMaintenance>
      <gmd:MD_MaintenanceInformation>
        <gmd:maintenanceAndUpdateFrequency>
          <gmd:MD_MaintenanceFrequencyCode
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/codelist/
gmxCod
eCode"/>
          </gmd:maintenanceAndUpdateFrequency>
        </gmd:MD_MaintenanceInformation>
      </gmd:resourceMaintenance>

```

Frequency value must be chosen from the following values:

- **continual**: data is repeatedly and frequently updated
- **daily**: data is updated each day
- **weekly**: data is updated on a weekly basis
- **fortnightly**: data is updated every two weeks
- **monthly**: data is updated each month
- **quarterly**: data is updated every three months
- **biannually**: data is updated twice each year
- **annually**: data is updated every year
- **asNeeded**: data is updated as deemed necessary
- **irregular**: data is updated in intervals that are uneven in duration
- **notPlanned**: there are no plans to update the data
- **unknown**: frequency of maintenance for the data is not known

2.4 Level of detail - Scale

INSPIRE Metadata Technical Guidelines [1, ch 2.7.2] requires that spatial resolution information has to be available for all the datasets **that it can be specified**. That means it is not mandatory in all cases. Spatial resolution information should be available for all ELF datasets and therefore it has to be reported in the metadata.

Spatial resolution refers to the level of detail of the data set. It shall be expressed as a set of zero to many resolution distances (typically for gridded data and imagery-derived products) or equivalent scales (typically for maps or map-derived products). ELF data belongs to maps and map-derived products and therefore equivalent scale information should be presented in the metadata.

Example of presenting equivalent scale information in ELF metadata:

```
<gmd:spatialResolution>
  <gmd:MD_Resolution>
    <gmd:equivalentScale>
      <gmd:MD_RepresentativeFraction>
        <gmd:denominator>
          <gco:Integer>500000</gco:Integer>
        </gmd:denominator>
      </gmd:MD_RepresentativeFraction>
    </gmd:equivalentScale>
  </gmd:MD_Resolution>
</gmd:spatialResolution>
```

2.5 Data quality evaluations

The only mandatory dataset quality evaluation element that should be included in INSPIRE and ELF metadata is the report about dataset conformity (see chapter 2.2). If additional dataset quality evaluations have been done the results of these evaluations should be reported in the ELF metadata. ELF is also going to provide tools for evaluating the quality of ELF datasets. The results of these quality evaluations should be reported in the ELF metadata.

ISO 19139 provides mechanisms for reporting the following ISO 19157 quality elements:

- Absolute external positional accuracy
- Accuracy of time measurement
- Completeness commission
- Completeness omission
- Conceptual consistency
- Domain consistency
- Format consistency
- Gridded data positional accuracy
- Non quantitative attribute accuracy
- Quantitative attribute accuracy
- Relative internal positional accuracy
- Temporal consistency
- Temporal validity
- Thematic classification correctness
- Topological consistency

Only some of the above will be evaluated by the ELF tools.

Chapter 2.2 contains an example of reporting domain consistency. All other quality elements are reported in the same manner containing at least the following information:

- Name of the specification against which the quality evaluation has been done.
- Reference date of the specification.

- Explanation of the quality evaluation result. May contain links to possible quality evaluation reports.
- Degree of conformity. Should be “true” if data is conformant to the specification. Otherwise “false”.

It is still unclear if the ELF quality evaluation tools can automatically update metadata with the quality evaluation results. If automatic update is not technically possible it has to be done manually by the data provider.

TBD: How to include ELF quality evaluation results in the metadata?

2.6 Resource locator - URL of the ELF service

In INSPIRE [1, ch 2.2.4] dataset and service metadata must contain a link to additional information about the dataset and/or to the service that delivers the data. All ELF data is provided via standard WM(T)S and/or WFS services and therefore ELF metadata should contain at least references to these service URLs. For example if dataset A is delivered via the ELF service B at `http://securedserviceURL/WFS?` the metadata describing A should contain the URL address of B in the resource locator element.

Example of presenting service URL in ELF metadata:

```
<gmd:distributionInfo>
  <gmd:MD_Distribution>
    <gmd:transferOptions>
      <gmd:MD_DigitalTransferOptions>
        <gmd:onLine>
          <gmd:CI_OnlineResource>
            <gmd:linkage>
              <gmd:URL>http://securedserviceURL/WFS?</gmd:URL>
            </gmd:linkage>
            <gmd:name>
              <gco:CharacterString>ELF BU Suomi WFS</gco:CharacterString>
            <gmd:PT_FreeText>
              <gmd:textGroup>
                <gmd:LocalisedCharacterString locale="#EN">ELF BU Finland
WFS</gmd:LocalisedCharacterString>
              </gmd:textGroup>
            </gmd:PT_FreeText>
          </gmd:name>
        </gmd:CI_OnlineResource>
      </gmd:onLine>
    </gmd:MD_DigitalTransferOptions>
  </gmd:transferOptions>
</gmd:MD_Distribution>
</gmd:distributionInfo>
```

A centralized service security and user management is used in ELF. This management system gives every service a secured URL address that should be the one that at least is included in the ELF metadata. If you don't know the secured URL of your service you can request it by email from the ELF platform manager.

3 Delivering metadata to the ELF platform manager

ELF metadata can be delivered by

- a) Harvesting from (the national INSPIRE geoportal or other catalog service) CSW API, OR
- b) Sending the metadata as a valid ISO 19139 XML file to the platform manager.

Option a) is recommended for all the NMCAs. Other data producers (EuroGeographics etc.) may use option b) if they don't have their own geoportals (with CSW support).

Every organization choosing option a) has to deliver their national geoportal CSW interface URL and the uuid file identifiers of each ELF dataset and service metadata documents to the ELF platform manager. This can be done using for example the following template:

If you don't provide data for some of the ELF data leave the corresponding row empty.

Country: [country]

National geoportal CSW interface URL: [CSW URL]

ELF data	Dataset metadata file identifier (UUID)	Service metadata file identifier (UUID)
ELF <LoD> AD	[file uuid]	[file uuid]
ELF <LoD> AU	[file uuid]	[file uuid]
ELF <LoD> BU	[file uuid]	[file uuid]
ELF <LoD> CP	[file uuid]	[file uuid]
ELF <LoD> HY	[file uuid]	[file uuid]
ELF <LoD> GN	[file uuid]	[file uuid]
ELF <LoD> TN	[file uuid]	[file uuid]
ELF <LoD> EL	[file uuid]	[file uuid]
ELF <LoD> LC	[file uuid]	[file uuid]
ELF <LoD> SR	[file uuid]	[file uuid]
ELF <LoD> PS	[file uuid]	[file uuid]
ELF <LoD> SU		
ELF <LoD> SR		

4 ELF dataset metadata full XML example

```

<?xml version="1.0" encoding="UTF-8"?>
<gmd:MD_Metadata xmlns:gts="http://www.isotc211.org/2005/gts" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:gmd="http://www.isotc211.org/2005/gmd" xmlns:gco="http://www.isotc211.org/2005/gco" xmlns:gml="http://www.opengis.net/gml"
xsi:schemaLocation="http://www.isotc211.org/2005/gmd ../../../../web/geonetwork/xml/schemas/iso19139/schema.xsd">
  <gmd:fileIdentifier xmlns:xlink="http://www.w3.org/1999/xlink" xmlns:srv="http://www.isotc211.org/2005/srv"
xmlns:gmx="http://www.isotc211.org/2005/gmx">
    <gco:CharacterString>900936bb-3758-49c3-8f54-cff412a2b84e</gco:CharacterString>
  </gmd:fileIdentifier>
  <gmd:language>
    <gco:CharacterString>fin</gco:CharacterString>
  </gmd:language>
  <gmd:hierarchyLevel>
    <gmd:MD_ScopeCode codeListValue="dataset"
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/Codelist/ML_gmxCodeLists.xml#MD_Scope
Code"/>
  </gmd:hierarchyLevel>
  <gmd:hierarchyLevelName>
    <gco:CharacterString>Aineisto</gco:CharacterString>
  </gmd:hierarchyLevelName>
  <gmd:contact>
    <gmd:CI_ResponsibleParty>
      <gmd:organisationName xsi:type="gmd:PT_FreeText_PropertyType">
        <gco:CharacterString>Organisaatio</gco:CharacterString>
        <gmd:PT_FreeText>
          <gmd:textGroup>
            <gmd:LocalisedCharacterString locale="#EN">Organisation Name</gmd:LocalisedCharacterString>
          </gmd:textGroup>
        </gmd:PT_FreeText>
      </gmd:organisationName>
      <gmd:contactInfo>
        <gmd:CI_Contact>
          <gmd:address>
            <gmd:CI_Address>
              <gmd:electronicMailAddress xsi:type="gmd:PT_FreeText_PropertyType">
                <gco:CharacterString>organisation.name@organisation.com</gco:CharacterString>
                <gmd:PT_FreeText>
                  <gmd:textGroup>
                    <gmd:LocalisedCharacterString
locale="#EN">organisation.name@organisation.com</gmd:LocalisedCharacterString>
                  </gmd:textGroup>
                </gmd:PT_FreeText>
              </gmd:electronicMailAddress>
            </gmd:CI_Address>
          </gmd:address>
        </gmd:CI_Contact>
      </gmd:contactInfo>
      <gmd:role>
        <gmd:CI_RoleCode codeListValue="pointOfContact"
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/Codelist/ML_gmxCodeLists.xml#CI_RoleCod
e"/>
      </gmd:role>
    </gmd:CI_ResponsibleParty>
  </gmd:contact>
  <gmd:dateStamp>
    <gco:DateTime xmlns:xlink="http://www.w3.org/1999/xlink" xmlns:srv="http://www.isotc211.org/2005/srv"
xmlns:gmx="http://www.isotc211.org/2005/gmx">2014-09-25T09:09:37</gco:DateTime>
  </gmd:dateStamp>
  <gmd:locale>
    <gmd:PT_Locale xmlns:xlink="http://www.w3.org/1999/xlink" xmlns:srv="http://www.isotc211.org/2005/srv"
xmlns:gmx="http://www.isotc211.org/2005/gmx" id="EN">
      <gmd:languageCode>
        <gmd:LanguageCode codeList="" codeListValue="eng"/>
      </gmd:languageCode>
      <gmd:characterEncoding>
        <gmd:MD_CharacterSetCode codeList="" codeListValue="">
      </gmd:characterEncoding>
    </gmd:PT_Locale>
  </gmd:locale>
  <gmd:referenceSystemInfo>

```

```

<gmd:MD_ReferenceSystem>
  <gmd:referenceSystemIdentifier>
    <gmd:RS_Identifier>
      <gmd:code>
        <gco:CharacterString>http://www.opengis.net/def/crs/EPSSG/0/3035</gco:CharacterString>
      </gmd:code>
    </gmd:RS_Identifier>
  </gmd:referenceSystemIdentifier>
</gmd:MD_ReferenceSystem>
</gmd:referenceSystemInfo>
<gmd:identificationInfo>
  <gmd:MD_DataIdentification>
    <gmd:citation>
      <gmd:CI_Citation>
        <gmd:title xsi:type="gmd:PT_FreeText_PropertyType">
          <gco:CharacterString>ELF metatietoesimerkki</gco:CharacterString>
          <gmd:PT_FreeText>
            <gmd:textGroup>
              <gmd:LocalisedCharacterString locale="#EN">ELF metadata sample</gmd:LocalisedCharacterString>
            </gmd:textGroup>
          </gmd:PT_FreeText>
        </gmd:title>
        <gmd:date>
          <gmd:CI_Date>
            <gmd:date>
              <gco:Date>2014-05-10</gco:Date>
            </gmd:date>
            <gmd:dateType>
              <gmd:CI_DateTypeCode codeListValue="revision"
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/Codelist/ML_gmxCodellists.xml#CI_DateTypeCode"/>
            </gmd:dateType>
          </gmd:CI_Date>
        </gmd:date>
      </gmd:CI_Citation>
      <gmd:date>
        <gmd:CI_Date>
          <gmd:date>
            <gco:Date>1999-09-01</gco:Date>
          </gmd:date>
          <gmd:dateType>
            <gmd:CI_DateTypeCode
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/Codelist/ML_gmxCodellists.xml#CI_DateTypeCode" codeListValue="creation"/>
          </gmd:dateType>
        </gmd:CI_Date>
      </gmd:date>
    </gmd:identificationInfo>
    <gmd:RS_Identifier>
      <gmd:code>
        <gco:CharacterString>nationalID</gco:CharacterString>
      </gmd:code>
      <gmd:codeSpace>
        <gco:CharacterString>IDnamespace</gco:CharacterString>
      </gmd:codeSpace>
    </gmd:RS_Identifier>
  </gmd:identificationInfo>
  <gmd:CI_Citation>
    <gmd:citation>
      <gmd:abstract xsi:type="gmd:PT_FreeText_PropertyType">
        <gco:CharacterString>Tiivistelmä...</gco:CharacterString>
        <gmd:PT_FreeText>
          <gmd:textGroup>
            <gmd:LocalisedCharacterString locale="#EN">This is a brief narrative summary of the content of the resource. The
abstract provides a clear
and concise statement that enables the reader to understand the content of the data or
service</gmd:LocalisedCharacterString>
          </gmd:textGroup>
        </gmd:PT_FreeText>
      </gmd:abstract>
    </gmd:citation>
    <gmd:pointOfContact>
      <gmd:CI_ResponsibleParty>
        <gmd:organisationName xsi:type="gmd:PT_FreeText_PropertyType">
          <gco:CharacterString>Organisaatio</gco:CharacterString>
        </gmd:organisationName>
      </gmd:CI_ResponsibleParty>
    </gmd:pointOfContact>
  </gmd:MD_DataIdentification>
</gmd:identificationInfo>

```

```

    <gmd:PT_FreeText>
      <gmd:textGroup>
        <gmd:LocalisedCharacterString locale="#EN">Organisation Name</gmd:LocalisedCharacterString>
      </gmd:textGroup>
    </gmd:PT_FreeText>
  </gmd:organisationName>
  <gmd:contactInfo>
    <gmd:CI_Contact>
      <gmd:address>
        <gmd:CI_Address>
          <gmd:electronicMailAddress xsi:type="gmd:PT_FreeText_PropertyType">
            <gco:CharacterString>organisation.name@organisation.com</gco:CharacterString>
          <gmd:PT_FreeText>
            <gmd:textGroup>
              <gmd:LocalisedCharacterString
locale="#EN">organisation.name@organisation.com</gmd:LocalisedCharacterString>
            </gmd:textGroup>
          </gmd:PT_FreeText>
        </gmd:electronicMailAddress>
      </gmd:CI_Address>
    </gmd:address>
  </gmd:CI_Contact>
</gmd:contactInfo>
<gmd:role>
  <gmd:CI_RoleCode codeListValue="owner"
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/Codelist/ML_gmxCodelists.xml#CI_RoleCod
e"/>
</gmd:role>
</gmd:CI_ResponsibleParty>
</gmd:pointOfContact>
<gmd:descriptiveKeywords>
  <gmd:MD_Keywords>
    <gmd:keyword xsi:type="gmd:PT_FreeText_PropertyType">
      <gco:CharacterString>avainsana</gco:CharacterString>
    <gmd:PT_FreeText>
      <gmd:textGroup>
        <gmd:LocalisedCharacterString locale="#EN">keyword</gmd:LocalisedCharacterString>
      </gmd:textGroup>
    </gmd:PT_FreeText>
  </gmd:keyword>
</gmd:type>
  <gmd:MD_KeywordTypeCode codeListValue="theme"
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/Codelist/ML_gmxCodelists.xml#MD_Keywo
rdTypeCode"/>
</gmd:type>
<gmd:thesaurusName>
  <gmd:CI_Citation>
    <gmd:title xsi:type="gmd:PT_FreeText_PropertyType">
      <gco:CharacterString>oma sanasto</gco:CharacterString>
    <gmd:PT_FreeText>
      <gmd:textGroup>
        <gmd:LocalisedCharacterString locale="#EN">vocabulary name</gmd:LocalisedCharacterString>
      </gmd:textGroup>
    </gmd:PT_FreeText>
  </gmd:title>
  <gmd:date>
    <gmd:CI_Date>
      <gmd:date>
        <gco:Date>2010-02-05</gco:Date>
      </gmd:date>
    <gmd:dateType>
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CH 2.6

CH 2.2

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