



Guide to Schematron Rules and Patterns

ERM Schematron Guide

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Chapter 1 - Introduction

1.1 - Purpose

This is an informative supplement for ERM. This guide is generated from the ERM Schematron rules and provides a consolidated reference for the business rules of this specification.

1.2 - Overview

Chapter 2 is a listing of all the numbered rules in ERM. For each rule, there is a rule description, a code description, and a code block with the Schematron rule.

Chapter 3 is a listing of abstract patterns used in ERM. The abstract patterns may be used in numbered rules or provided as reference for use in rules developed by users of ERM. Each abstract pattern has a code description and a code block with the abstract Schematron pattern.

Chapter 4 is a listing of the master ISM Schematron file with all of the imports of rules and patterns. Many of the rules and patterns listed in Chapters 3 and 4 rely on functions and variables defined in the master file.

Chapter 5 is a listing of rules that have been deleted.

1.3 - Schematron

The business rules for ERM are encoded using ISO Schematron. Schematron is a rule-based validation language that uses XML Path Language to make assertions about an XML document.

ERM uses the XSLT 2.0 implementation of Schematron by Rick Jelliffe (2010-04-14) as its reference implementation. The only available identifying descriptors for this implementation are the implementer's name and date of release. This implementation may be found at the following URL: <http://code.google.com/p/schematron/>.



Important

The Schematron rules in this specification use XSLT 2.0 query binding.

1.4 - Conformance

This guide is informative. The Schematron rules listed here are normative in the sense that they convey criteria that a document **MUST** adhere to, exactly as English may be used to convey normative criteria. It is not necessary for implementers to use the specific Schematron encoding in this specification. Implementers **MAY** use any encodings, tools, or languages desired to implement validation schemes for conformance to this specification. However, to conform to the specification, validation schemes **MUST** match the behavior of the reference Schematron implementation. That is, a validator **MUST** find a document valid *if and only if* the reference Schematron implementation would find the document valid according to ERM's Schematron rules.

Chapter 2 - Rules

All of the numbered Rules for ERM are listed in this section. These rules may depend on patterns defined in the Abstract Patterns section or on variables defined in the Schematron Schema section.

Rules identifiers are all of the format ERM-ID-XXXXX, with rule files named ERM_ID_XXXXX.sch. Any other heading indicates a supporting file that may influence a rule but is not actually a numbered rule.

2.1 - ../Rules/ERM_ID_00001.sch

Rule Description

[ERM_ID_00001][Error] All attributes in the ERM namespace MUST contain a non-whitespace value.

Code Description

Make sure any attribute in the ERM namespace has a value if it is present.

Schematron Code

```
<?ICEA pattern?>
<!-- Notices - Distribution Notice:
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-->
<sch:pattern id="ERM-ID-00001">
    <sch:rule context="*[@erm:*)>
        <sch:assert flag="error"
                    test="every $attribute in @erm:* satisfies normalize-space(string($attribute))">[ERM_ID_00001][Error] All attributes in the ERM namespace MUST contain a non-
whitespace value.</sch:assert>
    </sch:rule>
</sch:pattern>
```

2.2 - ../Rules/ERM_ID_00002.sch

Rule Description

[ERM_ID_00002][Error] Every element in the ERM namespace must have a non-whitespace value.

Code Description

Make sure any element in the ERM namespace has a value if it is present.

Schematron Code

```
<?ICEA pattern?>
<!-- Notices - Distribution Notice:
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-->
<sch:pattern id="ERM-ID-00002">
    <sch:rule context="erm:*">
        <sch:assert flag="error" test="normalize-space(string(.))">[ERM_ID_00002][Error] Every element in the ERM namespace must have a non-whitespace value.</sch:assert>
    </sch:rule>
</sch:pattern>
```

2.3 - ../Rules/ERM_ID_00003.sch

Rule Description

[ERM_ID_00003][Error] The attribute recordControl must be used if reviewIndicator is [true].

Code Description

Records having completed a review against the Agency Record Control Schedule require the assigned Agency Record Control Schedule identifier be specified.

Schematron Code

```
<?ICEA pattern?>
<!-- Notices - Distribution Notice:
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-->
<sch:pattern id="ERM-ID-00003">
    <sch:rule context="erm:*[@erm:reviewIndicator='true']">
        <sch:assert flag="error" test="@erm:recordControl">[ERM_ID_00003][Error] The attribute recordControl must be used if reviewIndicator is [true].</sch:assert>
    </sch:rule>
</sch:pattern>
```

2.4 - ../Rules/ERM_ID_00004.sch

Rule Description

[ERM_ID_00004][Error] The attribute dateEligible must be present if reviewIndicator is [true].

Code Description

Records having completed a review against the Agency Record Control Schedule require the date the record is eligible for disposition.

Schematron Code

```
<?ICEA pattern?>
<!-- Notices - Distribution Notice:
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-->
<sch:pattern id="ERM-ID-00004">
  <sch:rule context="erm:*[@erm:reviewIndicator='true']">
    <sch:assert flag="error" test="@erm:dateEligible">[ERM_ID_00004][Error] The attribute dateEligible must be present if reviewIndicator is [true].</sch:assert>
  </sch:rule>
</sch:pattern>
```

2.5 - ../Rules/ERM_ID_00005.sch

Rule Description

[ERM_ID_00005][Error] The attribute dateApplied must be used if appliedBy is present.

Code Description

Records identifying the individual that performed disposition of the record require the date of disposition be specified.

Schematron Code

```
<?ICEA pattern?>
<!-- Notices - Distribution Notice:
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-->
<sch:pattern id="ERM-ID-00005">
    <sch:rule context="@erm:appliedBy">
        <sch:assert flag="error" test="@erm:dateApplied">[ERM_ID_00005][Error] The attribute dateApplied must be used if appliedBy is present.</sch:assert>
    </sch:rule>
</sch:pattern>
```

2.6 - ../Rules/ERM_ID_00006.sch

Rule Description

[ERM_ID_00006][Error] The attribute appliedBy must be used if dateApplied is present.

Code Description

Records identifying the date of disposition of the record require the individual that performed disposition be specified.

Schematron Code

```
<?ICEA pattern?>
<!-- Notices - Distribution Notice:
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-->
<sch:pattern id="ERM-ID-00006">
    <sch:rule context="erm:*[@erm:dateApplied]">
        <sch:assert flag="error" test="@erm:appliedBy">[ERM_ID_00006][Error] The attribute appliedBy must be used if dateApplied is present.</sch:assert>
    </sch:rule>
</sch:pattern>
```

Chapter 3 - Abstract Patterns

There are no Abstract Patterns currently defined for ERM.

Chapter 4 - Schematron Schema

The top level Schematron file for ERM is in this section. This file imports all of the others and also defines many global variables they are all dependent on.

4.1 - ../ERM_XML.sch

Schematron Code

```
<?ICEA master?>
<!-- Notices - Distribution Notice:
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-->
<sch:schema queryBinding="xslt2">
    <sch:ns uri="http://www.w3.org/1999/xlink" prefix="xlink"/>
    <sch:ns uri="http://www.w3.org/2001/XMLSchema" prefix="xs"/>
    <sch:ns uri="http://www.w3.org/1999/XSL/Transform" prefix="xsl"/>
    <sch:ns uri="urn:us:gov:ic:erm" prefix="erm"/>
    <sch:ns uri="urn:us:gov:ic:edh" prefix="edh"/>
    <sch:ns uri="urn:us:gov:ic:ism" prefix="ism"/>
    <sch:ns uri="urn:us:gov:ic:arh" prefix="arh"/>
    <sch:ns uri="urn:us:gov:ic:tdf" prefix="tdf"/>
    <!-- *****--><!-- (U) ERM ID Rules --><!-- *****--><!--(U) -->
<sch:include href="../Rules/ERM_ID_00001.sch"/>
    <sch:include href="../Rules/ERM_ID_00002.sch"/>
    <sch:include href="../Rules/ERM_ID_00003.sch"/>
    <sch:include href="../Rules/ERM_ID_00004.sch"/>
    <sch:include href="../Rules/ERM_ID_00005.sch"/>
    <sch:include href="../Rules/ERM_ID_00006.sch"/>
</sch:schema>
```

Chapter 5 - Removed Rules

There are no rules that have been removed for ERM.