

ISO/IEC JTC 1/SC 32/WG 02 N 0204

Date: 1999-12-14

REPLACES: --

ISO/IEC JTC 1/SC 32/WG 02 Data Management and Interchange - Metadata

DOCUMENT TYPE	National Body Contribution
TITLE	UML Metamodel for 11179-3 dated 1999-12-13
SOURCE	US - Douglas Mann
PROJECT NUMBER	14.17.04.00.00
STATUS	This incorporates many of the issues. For discussion at Santa Fe
REFERENCES	
ACTION ID.	FYI
REQUESTED ACTION	
DUE DATE	
Number of Pages	11
LANGUAGE USED	English
DISTRIBUTION	SC 32/WG 02

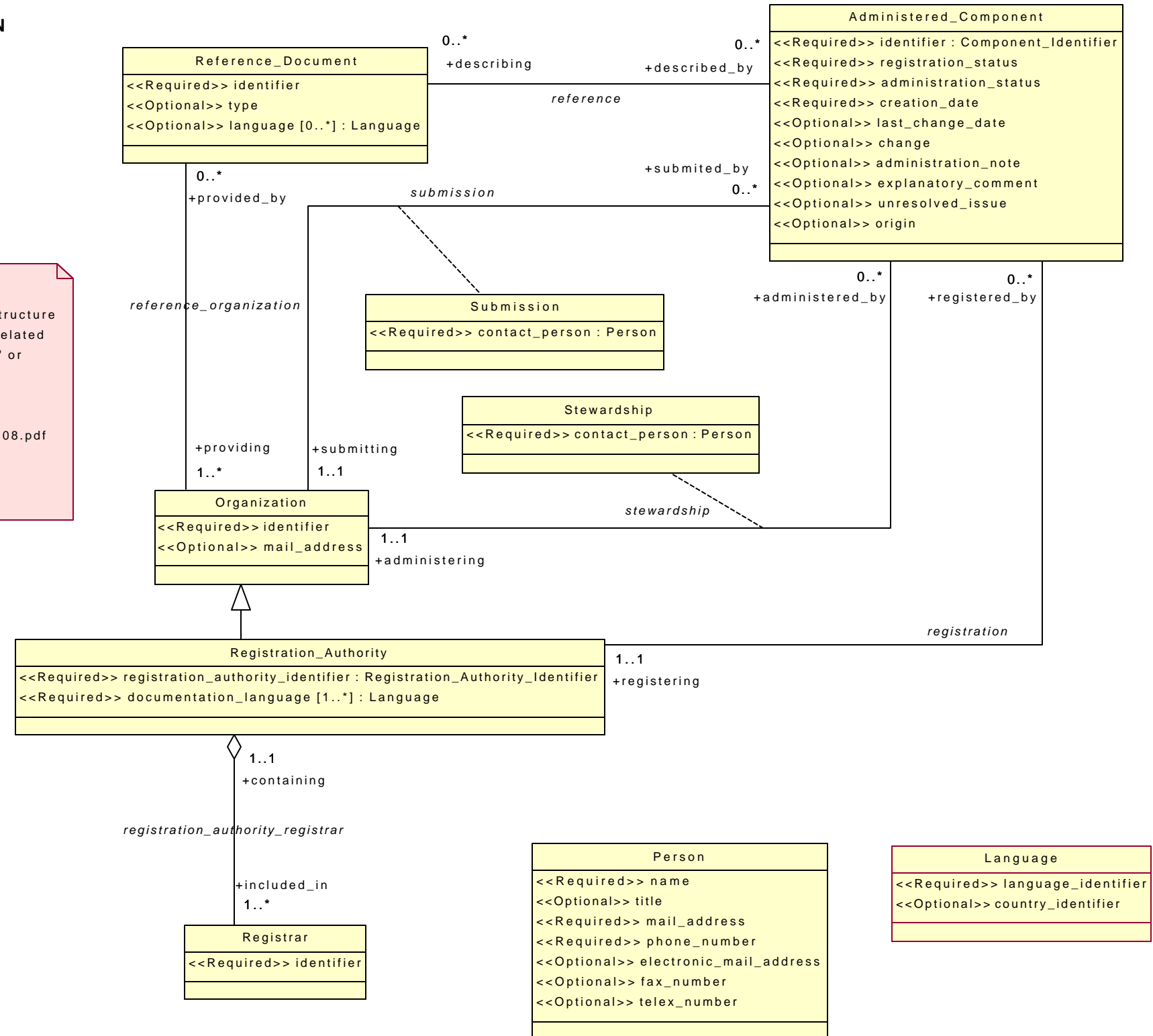
PAGE 2
ADMINISTRATION REGION

1999-12-13

Proposal for Comments
11179-3 Revision
DD Mann

NOTE:
This model represents the logical structure of a registry for data elements and related components that are in a "recorded" or higher registration status.

For UML v1.3 documentation see:
<ftp://ftp.omg.org/pub/docs/ad/99-06-08.pdf>



PAGE 3
NAMING AND IDENTIFICATION REGION

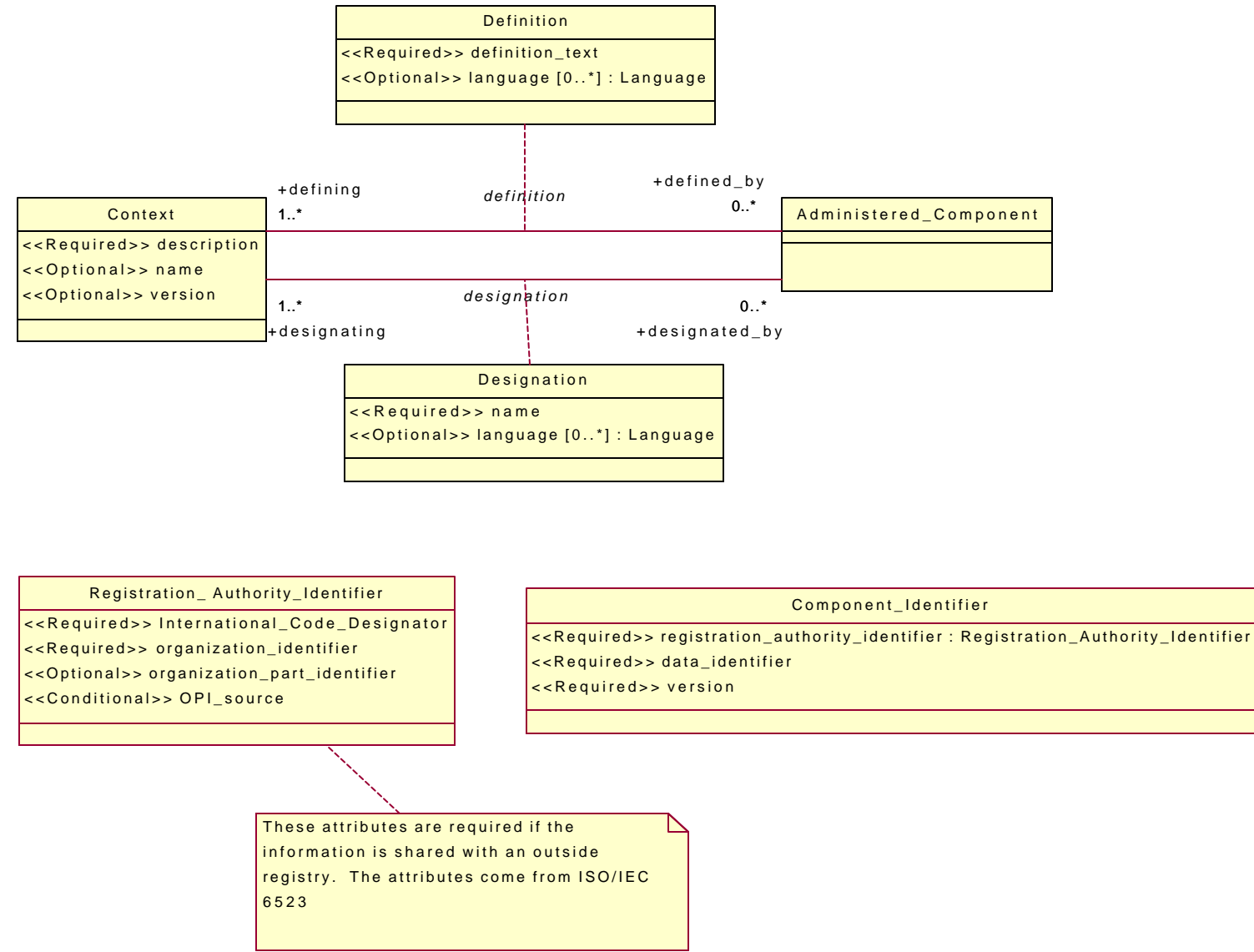
1999-12-13

Proposal for Comments
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PAGE 4
CLASSIFICATION REGION

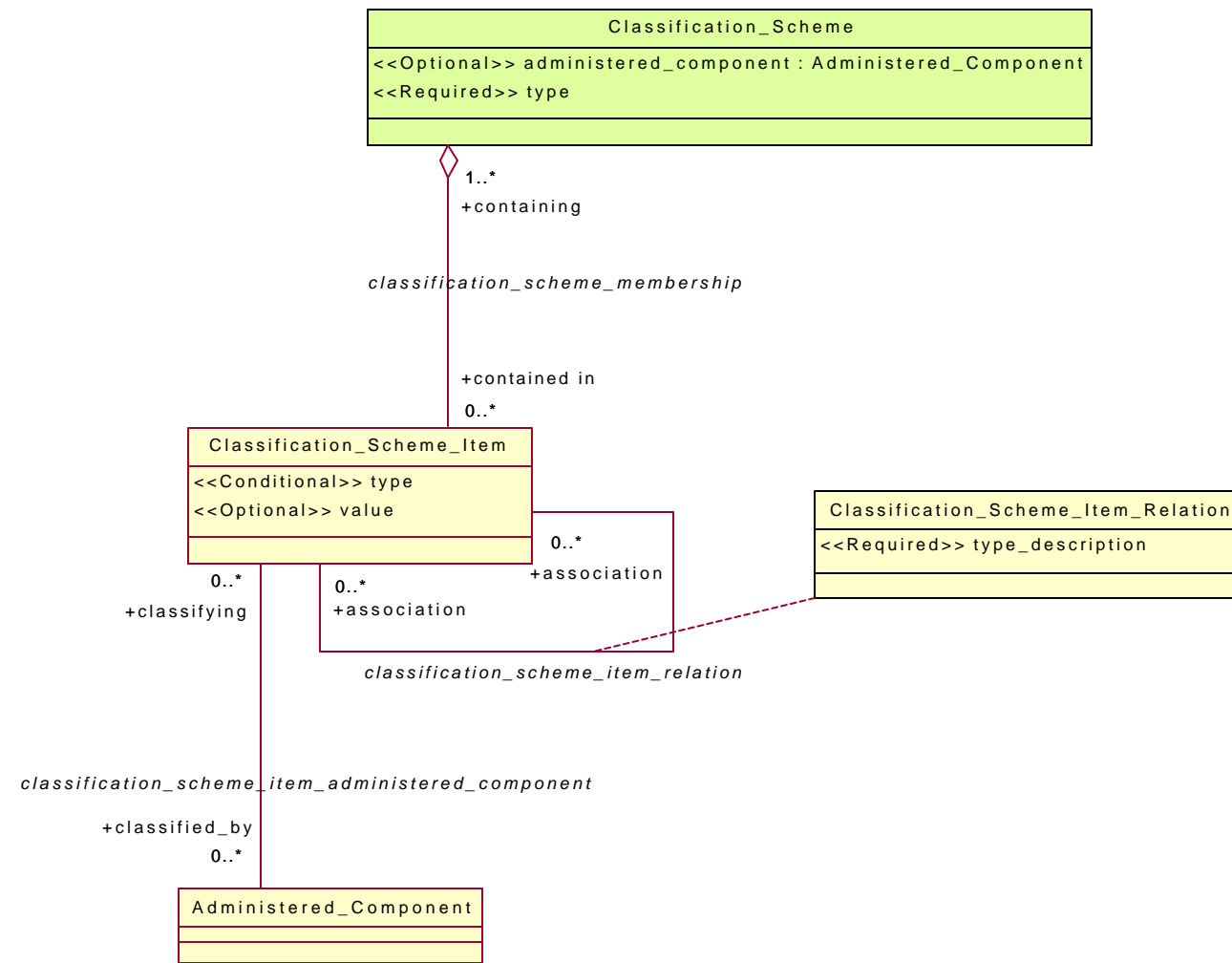
1999-12-13

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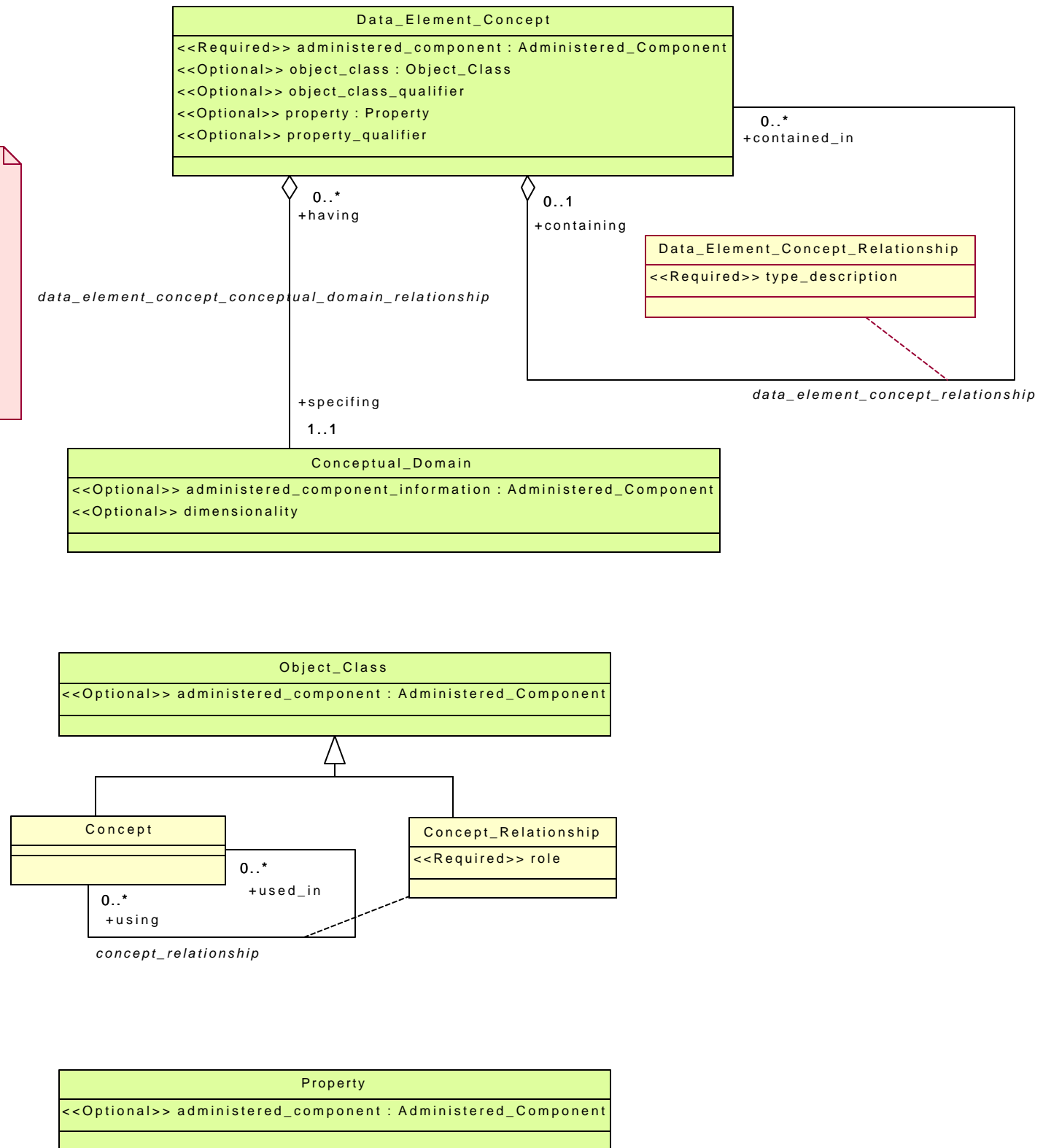


PAGE 5
DATA ELEMENT CONCEPT REGION

1999-12-13

Proposal for Comments
 11179-3 Revision
 DD Mann

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PAGE 6
CONCEPTUAL DOMAIN -
VALUE DOMAIN REGION

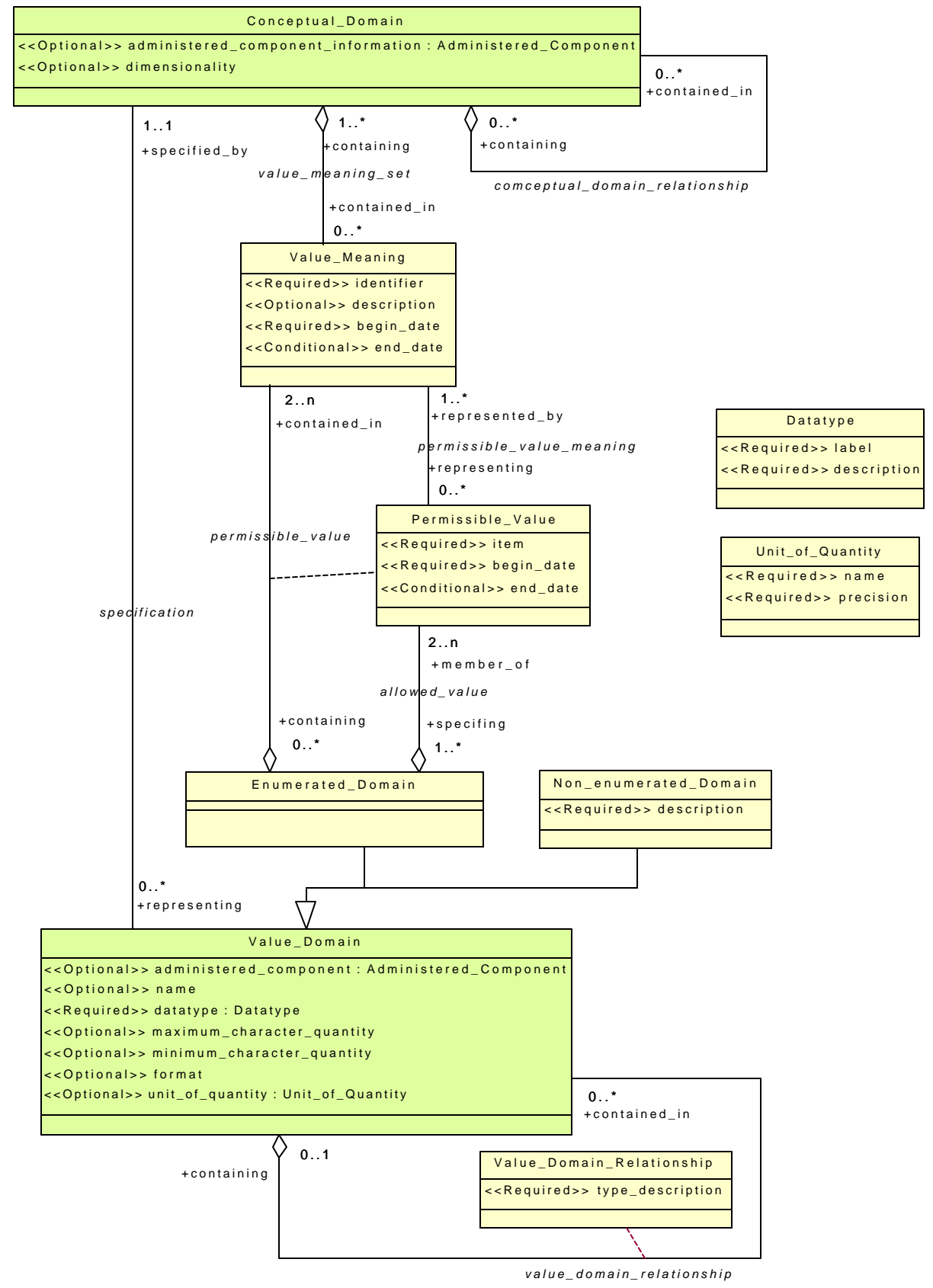
1999-12-13

Proposal for Comments
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PAGE 7
DATA ELEMENT

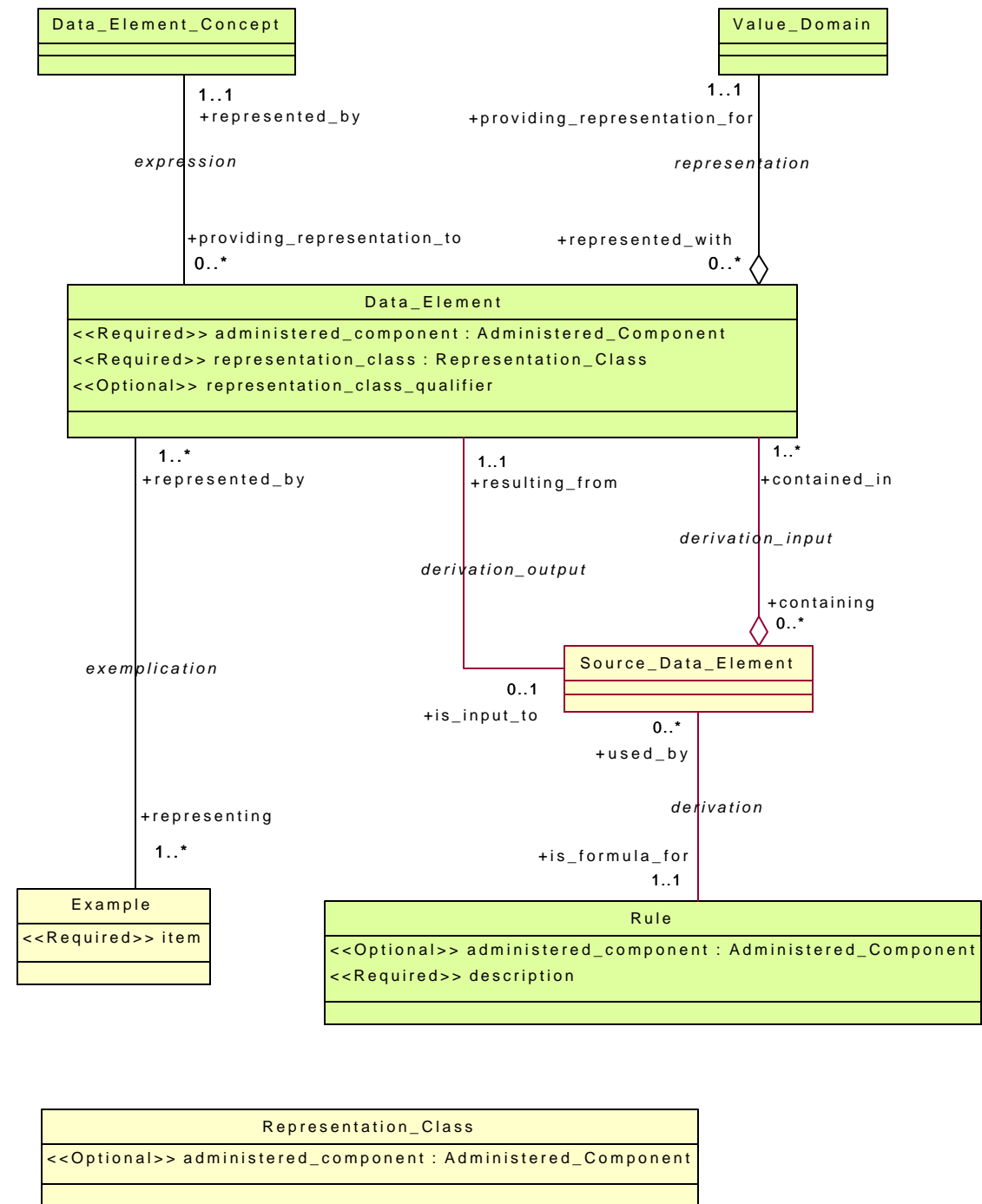
1999-12-13

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PAGE 8
CHANGES
1999-12-13

CHANGES
19990825

1. [Issue 35] Added "Dimensionality" to Conceptual Domain as determined at meeting 19990624.
2. ***** Added optional attribute of "Classified component to Classification Scheme, Conceptual Domain, Value Domain, Object Class, Property, Representation Class, Rule, Data Element, & Data Element Concept so that any of them may be classified. This was again modified on 19991013 (point 3)
3. changed the cardinality of Value meaning to enumerated domain to 0..n to allow registration of conceptual domain without value domain
4. changed the cardinality of Value meaning to permissible value to 0..n to allow registration of conceptual domain without value domain
5. [Issue 29] [Issue 25] added class registration authority identifier and placed attributes from component identifier into it and removed them from component identifier as per Canada C0054
6. [Issue 29] changed Identifier in Registration Authority to "Registration_Authority_Identifier"
7. [Issue 24] moved creation date, change, note, unresolved issue, and origin from Administration Record to Component Registration Authority per Canada C0053
8. [Issue 24] renamed Administration Record to Administered Component
9. added identifier to Administered Component
10. Changed cardinality between Classified Component and Classification Scheme so a Classification Scheme may have a Classified Component since user may only want to register a Scheme and not the content.
11. [Issue 3] eliminated the subtyping of Classified Component and made Classified Component an optional attribute of things that may be classified
12. [Issue 3] added optional classified component to representation class, rule, and data element
13. [Issue 33] delete character set from value domain
14. [Issue 3] add Classified Component to value domain and conceptual domain
15. [Issue 3] Added optional Classified Component to Object class, property, data element concept
16. Changed the cardinality between Classified Component and Classification Scheme so that a scheme does not require the presence of a component. This allows registration of schemes.

CHANGES
19990831

1. Changed terms
code set >> allowed value [relationship]
XXXXX - identification >> XXXXX -
administered_component_information where XXXXX is any potential administered item
2. [Issue 31] Changed terms of objectified relationships
from to
component_responsible-organization >> steward
component_submitting_organization >> submitter
submission > submitter
value_domain_association > value_domain_relationship
component_classification_association > link
data_element_concept_association >>
data_element_concept_relationship
component_definition >> definition
component_name >> designation
code_set_meaning >> permissible_value
concept_application_association >> concept_relationship
3. [Issue 32] changed cardinality on Registration Authority to Administered Component from "many to many" to "one to many" and therefore moved the objectified relationship attributes to administered component.
4. [Issue 36] added explanatory_comment to administered component
5. changed note to administrative_note in administered component
6. made change optional in administered component (was conditional)
7. [Issue 24] made Administration Identification and Administration Record > Administered Component as per 1999-06-25 meeting with Canada

CHANGES
19991013

1. [Issue 50] Changed classification area to match 11179-2 with classified item
2. [Issue 48] Added Language as an object class with attributes language id and country id.
3. [Issue 39] Made Classified Component an attribute in Administered Component removing it from DE, DEC, CD, VD, Rule, Property, and OC
4. [Issue 46] Added language to Definition and Designation and removed it from Context
5. [Issue 45] Added language to Reference Document
6. [Issue 44] added languages to Registration Authority
7. [Issue 40] Changed object class "Link" to "Classification_Scheme_Item_Relation"
8. [Issue 54] Changed the cardinality in Derivation_Input to '0..*' from Data_Element to Input_Set

CHANGES
19991213

1. [Issue 58] Removed Classified_Component and replaced with Administered component with 0..* & 0..* of the relationship with Classification_Scheme_Item
2. [Issue xx] Reversed the roles in the relationship between Classified_Component and Classification_Scheme_Item
3. [Issue 39] Removed classified_item from Representation_Class (page 6). This was missed on the changes of 19991013
4. [Issue 34] Made Max Char size optional
5. [Issue 59, 60, xx] revised the terms and definitions as per WG1N0xxx

**PAGE 9
ISSUES**

1999-12-13

**ISSUE
ENUMERATED DOMAINS**

Value meaning to EnumDomain may be circular and it needs a constraint. Note the PV is the constraint on the relationship.

A ValueMeaning cardinality with Enumerated Domain should be 0 to many

The cardinality in PV is also incorrect as a VM must have a ED

CONCEPTUAL DOMAINS

What are the mandatory attributes for a CD?

Does this relate to a conceptual datatype of ISO 11404?

What about the dimensionality. Should this be added here?

**ISSUE
VALUE DOMAIN ASSOCIATION**

Is this association needed?

Where would this be used?

This may be an alternative way of implementing a registry. Can one enumerated CD be used for two VDs where the VD uses only a subset of the meanings? Or should two CD be specified?

**ISSUE
RULE**

See the IEEE ITS Data Registry Functional Design for relationships between data elements

See Ross atomic chart

See UML list from NIH

**ISSUE
GENERAL**

1. What is the minimum set of items that is required for minimum conformance?
2. What levels of conformance are required?
3. Need to determine levels of compliance for metadata interchange.
4. Need to note the cardinality is shown for the recorded level enforcement. It does not need to be enforced at the draft level.
5. Need to show a constraint that the VD to CD relationships cannot be circular to cause separate mappings
6. Does application data require the same minimum core set of attributes and cardinality as well formed data?
7. What terms? well formed, application etc.
8. Should the ISO 1087 notion on concept system replace the term of classification scheme?

**PAGE 10
ISSUE LIST**

1999-12-13

NOTE:

The adjoining list summarizes the issues that have been implemented in this version of the metamodel.

Some issues do not relate to the metamodel but to the text in the standard.

ISSUES Checklist for metamodel

1. impl-19990831
2. impl--** may need to be reversed
3. impl-19990825 superceded by I-39
4. impl
5. impl & mod per I-25
6. impl-- superceded by I-32
7. impl
- 8.
- 9-01. impl
- 9-02. impl
- 9-03. impl
- 9-04. impl
- 9-05. impl
- 9-06. impl-- reversed by I-33
- 9-07. impl
- 9-08. impl
- 9-09. impl
- 9-10. impl
- 10-1.
- 10-2.
- 11.
- 12.
- 13-1. n/a
- 13-2. n/a
- 13-3. n/a
- 14.
- 15.
- 16-1.
- 16-2. impl
- 17.
18. impl per I-44
19. impl
20. n/a
- 21.
- 22.
23. impl-19991013 -- superceded by I-39
24. impl-19990831 --superceded by I-32
25. impl-19990825
26. impl
- 27.
- 28.n/a
29. impl-19990825 --recinded
- 30.
31. impl-19990831
32. impl-19990831
33. impl-19990825
34. impl-19991213
35. impl-19990825
36. impl-19990831
- 37.
- 38.
39. impl-19991013 -- supreceded by I-50
40. impl-19991013
- 41.
42. n/a
43. impl-19991013
44. impl-19991013
45. impl-19991013

ISSUES Checklist part 2

46. impl-19991013
47. n/a
48. impl-19991013
- 49.
50. impl-19991013
51. n/a
52. n/a
- 53.
54. impl-19991013
55. impl-
- 56.
- 57.
58. impl-19991213
59. impl-19991213
60. impl-19991213