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Industrial automation systems and integration — Integration of life-cycle data for oil and gas production facilities — Issues log for Part 2: Data model

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ABSTRACT:

This document lists the issues that have been raised during the development of ISO/CD 15926-2.

KEYWORDS:

industrial data, oil and gas, facility, life-cycle, overview, issues log

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Comments to reader:

This document lists the issues that have been raised during industry and ISO committee reviews of ISO 15926-2.

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Industrial automation systems and integration — Integration of life-cycle data for oil and gas production facilities — Issues log for Part 2: Data model

1 Introduction

This document lists issues that have arisen during the development of ISO 15926-2. Issues have been collected from three sources:

a) industry reviews of working drafts of the part;

b) reviews of working drafts within ISO TC184/SC4/WG3 T20 “Process plant” and T21 “Oil and gas”;

c) the ISO 15926 development team, indicated as PCA.

The following information is noted for each issue.

a) Issue identification number.

b) Status of the issue (open or closed).

c) The organization submitting the issue.

d) Disposition of the issue at the start of the ISO 15926-2 Committee Draft ballot (under review, accepted or rejected).

e) The document to which the issue applies.The referenced documnets are listed in 2. below.

f) Clause, paragraph, figure or table to which the issue applies.

g) Class of issue (major or minor, and technical or editorial).

h) Description of issue (with rationale).

i) Examples of the issue, where given.

j) Solution proposed by the submitter, where available.

k) Resolution, if any.

2 Document history

Issues are noted with respect to the following working documents

— WD1, issued 1998-04-28, WG3 N722;

— DraftV1.0, issued 1999-02-18, internal project document;

— WD2 , issued 1999-02-26, WG3 N782.

3 Issues

Issue:	4	*Status:*	Closed
Source:	PCA	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	General
Class:	minor editorial		

Description of issue:

The following words are miss spelt: organisation, probalistic, associativety, invaraible

Example:

Proposed solution:

Correct words to be: organization, probabilistic, associativity, invariable.

Resolution:

As proposed solution

Issue:	5	*Status:*	Closed
Source:	PCA	*Disposition:*	Accepted
Against:	DraftV1.0	*Clause:*	7.1
Class:	major technical		

Description of issue:

The supertype rule of classification is defined by default to be ANDOR. ONEOF is intended.

Example:

Proposed solution:

Define supertype rule for classification to be ONEOF

Resolution:

As proposed solution

Issue: 6 *Status:* Closed

Source: PCA *Disposition:* Accepted

Against: DraftV1.0 *Clause:*

Class: major technical

Description of issue:

The supertype rule of Class_of_encoded_information is defined by default to be ANDOR, ONEOF is intended.

Example:

Proposed solution:

Define the supertype rule of Class_of_encoded_information to be ONEOF.

Resolution:

As proposed solution

Issue: 7 *Status:* resolved

Source: PCA *Disposition:*

Against: DraftV1.0 *Clause:*

Class: major technical

Description of issue:

The supertype rule of Classification_of_encoded_information is defined by default to be ANDOR, ONEOF is intended.

Example:

Proposed solution:

Define the supertype rule of Classification_of_encoded_information to be ONEOF.

Resolution:

As proposed solution

Issue: 8 *Status:* Closed

Source: PCA *Disposition:* Accepted

Against: DraftV1.0 *Clause:* 57.2

Class: major technical

Description of issue:

The supertype rule of Description_of_object_by_encoded_information is defined by default to be ANDOR, ONEOF is intended.

Example:

Proposed solution:

Define the supertype rule of Description_of_object_by_encoded_information to be ONEOF.

Resolution:

As proposed solution.

Issue: 9 *Status:* Closed

Source: Intergraph *Disposition:* Accepted

Against: DraftV1.0 *Clause:* 44.1

Class: minor editorial

Description of issue:

The referenced name common_topologic_sequence_aspect_of_of_physical_object contains two ofs.

Example:

Proposed solution:

Redefine name to be common_topologic_sequence_aspect_of_physical_object.

Resolution:

As proposed solution

Issue: 10 *Status:* Closed

Source: Intergraph *Disposition:* Accepted

Against: DraftV1.0 *Clause:* Fig 13.

Class: minor editorial

Description of issue:

The subtypes of possessed_association are ommitted from Diagram 13, only a line stub being shown.

Example:

Proposed solution:

Add note to diagram stating that all references to the subtypes are not diagrammed.

Resolution:

As proposed

Issue:	11	*Status:*	Closed
Source:	Intergraph	*Disposition:*	Accepted
Against:	DraftV1.0	*Clause:*	Fig 14.
Class:	minor editorial		

Description of issue:

The subtypes of common_association are not shown on diagram 14.

Example:

Proposed solution:

Add note to diagram 14 stating the omission.

Resolution:

As proposed.

Issue:	12	*Status:*	Closed
Source:	PCA	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	General
Class:	major editorial		

Description of issue:

Much greater rigor is needed in formulating the definitions of entity data types. I believe that it is a mistake to assume that the name of an entity data is synonymous with a "real world" object or concept.

Definitions must conform to ISO/SC4 requirements.

Example:

For example, the wording of the very first entity data type definition is wrong: the second sentence uses the word 'must' which is deprecated by ISO (see ID3:1997, Annex E).

"An application_object shall be either an individual or a class". I think that this is wrong, as it implies that a requirement is being applied to the entity data type.

Proposed solution:

In the case of an entity data type that is part of a type hierarchy:

The <entity data type name> entity data type is a type of <supertype name> that represents ...

Definitions should be simply factual: "An application_object is either an individual or a class."

Include the following wording in Part 2:

In this International Standard the same English language words may be used to refer to an object in the real world or to a concept, and as the name of an EXPRESS data type that represents this object or concept. The following typographical convention is used to distinguish between these. If a word or phrase occurs in the same typeface as narrative text, the referent is the object or concept. If the word or phrase occurs in a bold typeface, the referent is the EXPRESS data type. Names of EXPRESS schemas also occur in a bold typeface. The name of an EXPRESS data type may be used to refer to the data type itself, or to an instance of the data type. The distinction between these uses is normally clear from the context. If there is a likelihood of ambiguity, the phrase "entity data type" or "instance(s) of" is included in the text.

See also ISO 10241 for defining terminology and Bernt Wenzels powerpoint slides.

Resolution:

Edit definitions to comply with ISO guidelines. Make clear in the introduction the meaning of A <entity type name> means an instance of the entity data type.

Issue:	13	*Status:*	Closed
Source:	PCA	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	General
Class:	major editorial		

Description of issue:

In all cases, names of entity data types referenced should be lower case, include the underscores present in the actual definition, and should be bold

Example:

Proposed solution:

Bold entity names in all textual descriptions. Remove Caps from entity names.

Resolution:

As proposed solution

Issue:	14	*Status:*	Open
Source:	PCA	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	All Figures.
Class:	minor editorial		

Description of issue:

The EXPRESS-G diagrams have too much white space. The extent of the included graphic should be no greater than the actual diagram.

Example:

Proposed solution:

Crop diagrams.

Resolution:

Issue:	15	*Status:*	Closed
Source:	PCA	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	General
Class:	minor editorial		

Description of issue:

In the EXPRESS code, tabs and variable margins shouldn't be used - all layout should be done using spaces. See clause 8 of the SC4 Supplementary Directives (QC N093, on the PDT Solutions website) for EXPRESS layout requirements.

Example:

Proposed solution:

Replace use of tabs with spaces in RTF generation.

Resolution:

SC4 guidelines changed. Tabs and indents now accepted. Review layout for compliance

Issue:	16	*Status:*	Closed
Source:	PCA	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	General
Class:	major editorial		

Description of issue:

Layout of examples is incorrect. Examples are all set in a smaller typeface (9pt in the current stylesheet) and are introduced by the word "EXAMPLE" (upper case). If there is more than one example in a section then examples are numbered. The text of the example starts with an upper case letter (the example consists of one or more proper sentences) and is separated from the "EXAMPLE n" either by <space> <emdash> <space> (old ID3/SD requirement) or a <tab> (new ID3/SD).

Example:

Proposed solution:

Transfer examples from description fields to Example field. Number by hand.

Resolution:

As proposed resolution

Issue:	17	*Status:*	Closed
Source:	PCA	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	General
Class:	major editorial		

Description of issue:

The form of attribute definitions is incorrect. The definition should be a phrase, not a sentence.

Example:

For example, in 7.1.1:

exchange_identifier: the STRING that identifies the application_object and that supports the consolidation of data about the application object contained in multiple data exchanges.

Proposed solution:

Reword all attribute descriptions

Resolution:

As proposed solution.

Issue:	18	*Status:*	Closed
Source:	PCA	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	7.
Class:	minor editorial		

Description of issue:

The clause title of clause 7 is wrong: Supplementary Directives state:

"The title of each requirements clause shall be the schema name without the "schema" suffix, with underscores replaced by spaces, and with the initial character in upper case"

So, the title of 7 should be "Oil and gas production facilities"

Example:

Proposed solution:

Change title of 7.

Resolution:

As proposed solution

Issue:	19	*Status:*	Closed
Source:	PCA	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	Index
Class:	minor editorial		

Description of issue:

Some index entry tags are attached in the wrong place or are unnecessarily duplicated.

Example:

Proposed solution:

Resolution:

Note added explaining entries

Issue:	20	*Status:*	Closed
Source:	PCA	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	Diagrams
Class:	minor editorial		

Description of issue:

EXPRESS-G diagram captions are incorrect

Example:

Proposed solution:

Figure <n> - EXPRESS-G diagram of the oil_and_gas_production_facilities_schema (x of y)

Resolution:

As proposed.

Issue:	21	*Status:*	Closed
Source:	PCA	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	General
Class:	minor editorial		

Description of issue:

Each entity data type definition should include a note referencing the EXPRESS-G diagram on which the entity data type appears.

Example:

Proposed solution:

Add note of the form ' NOTE (n) See Figure <x> for a graphical presentation of this entity data type using the EXPRESS-G notation.' for every entity definition, prior to Express spec line.

Resolution:

As proposed

Issue:	22	*Status:*	Closed
Source:	PCA	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	7.
Class:	minor editorial		

Description of issue:

There should be a NOTE at the start of clause 7, as follows:

NOTE (n) Figures 1-69 correspond to the EXPRESS schema specified in this part of ISO 15926. The diagrams use the EXPRESS-G graphical notation for the EXPRESS language. EXPRESS-G is defined in annex D of ISO 1030311.

Example:

Proposed solution:

Add note.

Resolution:

As proposed

Issue:	23	*Status:*	Closed
Source:	PCA	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	7.5.3
Class:	minor editorial		

Description of issue:

Text, including examples, should not make any reference to trade names, etc.

Example:

EXAMPLE 2 in 7.5.3 refers to a recognizable airline code.

Proposed solution:

Remove trade names.

Resolution:

As proposed.

Issue:	24	*Status:*	Closed
Source:	PCA	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	General
Class:	minor editorial		

Description of issue:

There are some cases where a diagram has been inserted between the END_ENTITY; declaration and the comment delimiter (* This is incorrect, as the diagram then becomes part of the EXPRESS code.

Example:

Proposed solution:

Correct tool process.

Resolution:

As proposed

Issue:	25	*Status:*	Open
Source:	PCA	*Disposition:*	Accepted
Against:	DraftV1.0	*Clause:*	13.1
Class:	major technical		

Description of issue:

If, in ENTITY composition_of_possessed_characteristic, there is no significance in the LIST order of the part attribute, why is this is LIST at all? Should it not be a BAG? Similarly, why is derivation_of_possessed_characteristic.source a LIST rather than a BAG?

Example:

Proposed solution:

Resolution:

Issue:	26	*Status:*	Closed
Source:	PCA	*Disposition:*	Accepted

Against: ISO15926-2 WD2 *Clause:* EXPRESS presentation

Class: minor editorial

Description of issue:

Spaces should be inserted between SUBTYPE OF and ONEOF and the following left parentheses, i.e., "SUBTYPE OF (" and "ONEOF (".

Example:

Proposed solution:

Insert spaces as described.

Resolution:

As proposed

Issue: 27 *Status:* Open

Source: PCA *Disposition:* Accepted

Against: ISO15926-2 WD2 *Clause:* General

Class: minor editorial

Description of issue:

TYPEs should be documented separately from ENTITY declarations.

Example:

Proposed solution:

Move the three SELECT types to a separate subclause before the first UOF, so:

7.1 Oil and gas production facilities TYPE declarations

7.2 Application object

7.2.1 application_object

...

7.3 Next UOF ...

Construct type diagram at start of model schema.

Resolution:

This is a STEP convention.

Issue:	28	*Status:*	Closed
Source:	PCA	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	
Class:	minor technical		

Description of issue:

ENTITY place_of_residence_of_organization should be ENTITY place_of_business_of_organization. Organizations don't reside, people do.

Example:

Proposed solution:

Change entity name to place_of_business_of_organization.

Resolution:

Entity type removed. Covered by role_in_life_of_physical_object.

Issue:	29	*Status:*	Closed
Source:	PCA	*Disposition:*	Rejected
Against:	ISO15926-2 WD2	*Clause:*	7.59.5
Class:	minor technical		

Description of issue:

It would be more precise to define a type called positive_number:

```
TYPE positive_number = NUMBER;
WHERE
  WR1: SELF > 0.0;
END_TYPE;
```

and to use this as the domain of the attributes delta_minus and delta_plus.

Example:

Proposed solution:

Resolution:

Reject. Specification is intended to exclude where clauses.

Issue:	30	*Status:*	Closed
Source:	PCA	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	7.63.1
Class:	major technical		

Description of issue:

GMT and UTC are *not* the same! The domains of year, month and day should be defined types whose ranges are constrained. The offsets from GMT are *not* optional!!

A detailed comparison with the latest Part 41 is in order here, plus issues that will be raised in the Part 41 2nd edition DIS ballot.

Example:

Proposed solution:

Resolution:

Point in time values may indicate a time scale, allowing the time zone of a time to be indicated.

Issue:	31	*Status:*	Closed
Source:	PCA	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	EXPRESS-G diagrams
Class:	minor editorial		

Description of issue:

There are cases in the EXPRESS-G diagrams where a role name is superimposed on the relationship line. The role name needs to be adjacent to, but *not* touching or overlapping, the line that it is labelling.

Example:

Proposed solution:

Edit diagram layouts to remove offending layout.

Resolution:

As proposed.

Issue:	32	*Status:*	Closed
Source:	PCA	*Disposition:*	Rejected
Against:	ISO15926-2 WD2	*Clause:*	Index
Class:	minor editorial		

Description of issue:

The Index does not conform to Supplementary Directives requirements. For each entity data type in the schema, there should be one index entry corresponding to the type declaration and one corresponding to the EXPRESS-G diagram on which it appears (not those on which its referenced).

Example:

Proposed solution:

Resolution:

Reject. Current index is regarded as more useful than that imagined by the ISO supplementary directives.

Issue:	33	*Status:*	Open
Source:	Intergraph	*Disposition:*	Accepted
Against:	DraftV1.0	*Clause:*	59.5
Class:	minor technical		

Description of issue:

The model for range by tolerance is deficient because frequently the tolerance is expresses as a % (you will find this all over the Norsok datasheets). It needs to be extended with the additional two relationships "ratio plus" and "ratio minus". The population of this ratio needs to be clearly defined, as it could logically be .05 or 1.05. Clearly .05 fits best with normal business practice. The fact that it is a % is, of course, just a display setting (5% instead of .05).

Example:

Proposed solution:

Define additional entity type to define range by percentage tolerance.

Resolution:

Issue:	43	*Status:*	Closed
Source:	ISO WG3 T21	*Disposition:*	Accepted

Against: ISO15926-2 WD2 *Clause:* figure 1, 7.1.2

Class: minor technical

Description of issue:

Classification_of_class and classification_of_individual are shown as ANDOR subtypes of classification.

Example:

Proposed solution:

These should be ONEOF.

Resolution:

As proposed.

Issue: 44 *Status:* Closed

Source: ISO WG3 T21 *Disposition:* Accepted

Against: ISO15926-2 WD2 *Clause:* figure 1, 7.1.1

Class: minor technical

Description of issue:

The name application_object is inapproriate. This term has a a well defined meaning in ISO 10303 that does not correspond to the semantics of the entity data type in ISO 15926-2. The name "thing" in previous models is preferred.

Example:

Proposed solution:

Rename application object to be "thing".

Resolution:

Leave as application_object as in AP221 drafts.

Issue: 45 *Status:* Open

Source: ISO WG3 T21 *Disposition:* Accepted

Against: ISO15926-2 WD2 *Clause:* figure 1, 7.1.1

Class: major technical

Description of issue:

The exchange_identifier mechanism is too weak to support requirements - there is also a need to specify population constraints with respect to the instantiation of the model for a particular exchange or set of exchanges

Example:

Proposed solution:

Resolution:

Issue:	46	*Status:*	Open
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	figure 1, 7.1.1
Class:	minor technical		

Description of issue:

The OPTIONAL nature of application_object.exchange_identifier is incorrect with respect to the EXPRESS language. The current model states that every application_object has an exchange_identifier, whose value need not be stated. The intent is that application_objects have an exchange_identifier only when required, i.e., in exchange.

Example:

Proposed solution:

Resolution:

Issue:	47	*Status:*	Closed
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	figure 1, 7.2.1, figure 3, 7.3.7
Class:	major technical		

Description of issue:

What is the clear distinction between individual and class? E.g., is the design of a mass-produced manufactured part a class, and the design for a one-off item an individual?

Example:

Proposed solution:

Resolution:

Improve definition of individual. The conformance information of a design is a class, however many are produced.

Issue:	48	*Status:*	Closed
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	general
Class:	major editorial		

Description of issue:

There is a need for additional examples - these need to illustrate a broad range of usages of the model.

Example:

Proposed solution:

Resolution:

1. Add discusion into principles section, prior to the model.
2. Include some detailed worked usage examples.

Issue:	49	*Status:*	Closed
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	general
Class:	major editorial		

Description of issue:

The model contains very general entity data types (individual, class) and very specific entity data types. The model would be clearer if these were documented separately.

Example:

Proposed solution:

Resolution:

Include descriptions of principle model concepts in prior section.

Issue:	50	*Status:*	Closed
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	figure 2, 7.2.5
Class:	major technical		

Description of issue:

Why is specialization_of_class a subtype of common_association?

Example:

Proposed solution:

Resolution:

It was thought to be classes of classification associations -but no longer Remove it as a subtype of common association. Make it a subtype of application_object.

Issue:	51	*Status:*	Open
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	figure 2, 7.2.4
Class:	minor technical		

Description of issue:

The modelling of custody_of_class_definition is inappropriate - this should be an association between the data that records a class and an organization.

Example:

Proposed solution:

Resolution:

Issue:	52	*Status:*	Closed

Source: ISO WG3 T21 *Disposition:* Rejected

Against: ISO15926-2 WD2 *Clause:* figure 3, 7.3.8, 7.3.9

Class: major editorial

Description of issue:

Examples are needed to clarify the difference between single_individual and plural_individual

Example:

Proposed solution:

Resolution:

Reject. There 6 examples of single and plural individuals.

Issue: 53 *Status:* Open

Source: ISO WG3 T21 *Disposition:* Accepted

Against: ISO15926-2 WD2 *Clause:* general

Class: major editorial

Description of issue:

Not every possible instance of the model is necessarily meaningful and/or useful. The model should document those instance combinations that are not valid. This issue was noted from discussion of the multiple subtype "legs" of individual.

Example:

Proposed solution:

List know invalid type combinations as part of the definition of the supertype.

Resolution:

Issue: 54 *Status:* Closed

Source: ISO WG3 T21 *Disposition:* Accepted

Against: ISO15926-2 WD2 *Clause:* 7.55, figure 58, 7.57, figure 60

Class: major technical

Description of issue:

The model for information and encoded_information is subject to change - issues have arisen from the harmonization work with AP221 (these are not yet documented separately but are present as differences between the January and March versions of AP221 - the latter are not currently available outside the AP221 team).

This covers issues 55 and 86. See discussion in minutes of the 1999-03-23/25 workshop.

Example:

Proposed solution:

Include new treatment of encoded_information from latest AP221

Resolution:

Define possessed_encoded_information and class_of_encoded information, possessed_encoded_information being a possessed_aspect.

Issue:	55	*Status:*	Closed
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	figure 4, 7.3.5
Class:	minor technical		

Description of issue:

The creation of subtypes of essential_classification_of_individual seems to be arbitrary, both in the selection of that which is classified, and the lack of equivalent subtypes of incidental_classification.

Example:

Proposed solution:

Define two subtype trees: essential or incidental; and types of classification.

Resolution:

As proposed.

Issue:	56	*Status:*	Closed
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	figure 5, 7.4.4
Class:	minor technical		

Description of issue:

Class of whole individual may not be useful: its only useful instantiation (as a class whose members are whole_individuals) is the same as the whole_individual entity data type.

Example:

Proposed solution:

Remove.

Resolution:

As proposed.

Issue:	57	*Status:*	Open
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	general
Class:	major technical		

Description of issue:

The use of ABSTRACT as a constraint on supertypes is inconsistent - most of these are included for AP221 in the belief that it makes mapping to the STEP IRs easier.

Example:

Proposed solution:

ABSTRACT means the entity type membership is defined by its specializations. Review and remove where this is not the case. Identify list of ABSTRACT types for review.

Resolution:

Issue:	58	*Status:*	Closed
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	figure 5, 7.4.7
Class:	major technical		

Description of issue:

What is the possessor of a composition association?

Example:

Proposed solution:

Remove the mandatory attribute possessed_aspect.possessor.

Resolution:

The relationship type possession_of_aspect defined as an entity type. Allows an aspect to be possessed by several things. Foe example a temperature may be possessed by an object and by a state of the object.

Issue:	59	*Status:*	Open
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	figure 6, 7.5.3
Class:	minor technical		

Description of issue:

Are predicted, required, planned and actual the only "lifecycle" aspects? Could this not be modelled more flexibly in reference data?

Example:

Proposed solution:

The lifecycle entity types are classes of aspects. Need examples of other requirements.

Resolution:

Issue:	60	*Status:*	Open
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	figure 7, 7.6.2
Class:	minor technical		

Description of issue:

There is no possessed_identification_aspect that corresponds to common_possession_of_identifcation_aspect.

Example:

Proposed solution:

Resolution:

Possessed_identification_aspect added as a subtype of possessed_asepct.

Issue:	61	*Status:*	Open
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	figure 8, 7.7.5
Class:	minor technical		

Description of issue:

The relationships of purpose_of_possessed_aspect are incorrectly named. The intent is that the aspect has a purpose with respect to the activity. (This is a problem with a number of similar associations).

Example:

Proposed solution:

What should they be named?

Resolution:

Issue:	62	*Status:*	Closed
Source:	ISO WG3 T21	*Disposition:*	Rejected
Against:	ISO15926-2 WD2	*Clause:*	figure 33, 7.31
Class:	major technical		

Description of issue:

The relationship between activities and their inputs, outputs, etc., is missing as a "core" concept in the model.

Example:

Proposed solution:

Resolution:

Reject. Involvement association is this relationship.

Issue:	63	*Status:*	Open
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	figure 8, 7.7.4
Class:	minor technical		

Description of issue:

It is not clear that exception_of_possessed_aspect_from_composition is the best way to model the requirement: the general requirement is for set subtraction

Example:

Proposed solution:

Define model for differences between sets.

Resolution:

Issue:	64	*Status:*	Closed
Source:	ISO WG3 T21	*Disposition:*	Rejected
Against:	ISO15926-2 WD2	*Clause:*	figure 39, 7.37.1
Class:	minor technical		

Description of issue:

The name "composition_of_decomposition_aspect_of_physical_object" is apparently contradictory.

Example:

Proposed solution:

Resolution:

Reject. Name is ok.

Issue:	65	*Status:*	Closed
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	figure 9, 7.7.2

Class: minor technical

Description of issue:

Are all the subtypes of composition_of_possessed_aspect as presented in the model?

Example:

Proposed solution:

No

Resolution:

No change.

Issue:	66	*Status:*	Open
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	figure 10, 7.8.1, 7.8.5
Class:	major technical		

Description of issue:

What is the relationship/dependency between qualified_aspect and aspect_qualifier?

Example:

Proposed solution:

Resolution:

Entity type qualified_aspect and aspect_qualifier removed.

Issue:	67	*Status:*	Open
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	figure 10, 7.8.5
Class:	major technical		

Description of issue:

There is a mismatch between the textual definition of qualified_aspect and its EXPRESS specification. The intended use of

the specialization association to relate qualified_aspect to other subtypes of class_of_aspect is not stated.

Example:

Proposed solution:

One possible solution is to remove the ONE OF constraint amongst concept_of_aspect, common_aspect, and qualified_aspect. General solution is to investigate the valid instantiation and see if a different structure can eliminate the non-useful/non-meaningful combinations that exist in the current model.

Resolution:

The entity type qualified_aspect and its qualified subtypes are removed.

Issue:	68	*Status:*	Closed
Source:	ISO WG3 T21	*Disposition:*	Rejected
Against:	ISO15926-2 WD2	*Clause:*	figure 10, 7.8.3
Class:	minor technical		

Description of issue:

Common_aspect and its subtypes could be renamed quantified_aspect, etc.

Example:

Proposed solution:

Rename common_aspect quantified aspect.

Resolution:

Reject. Only sometimes. Examples where this is untrue are for common associations, where the notion of quantity seems inappropriate.

Issue:	69	*Status:*	Closed
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	figure 12, 7.5.3
Class:	minor technical		

Description of issue:

The subtypes of fulfillment of possesed aspect are not exhaustive (e.g., fulfillment of predicted by required). These subtypes could be removed and supported in the reference data library.

Example:

Proposed solution:

Remove subtypes of fulfilment association, allowing any combination of lifecycle types as fullfilled and fullfiler.

Resolution:

As proposed.

Issue:	70	*Status:*	Closed
Source:	ISO WG3 T21	*Disposition:*	Rejected
Against:	ISO15926-2 WD2	*Clause:*	figure 13, 7.11.3
Class:	minor technical		

Description of issue:

Clarification is needed with respect to making statements of "unknown" associations, such as "I do not know whether this pipe and this pump are connected".

Example:

Proposed solution:

Instantiation of possessed_association without denying, asserting or probablistic may have this semantic.

Resolution:

Reject. Knowing is a relationship between information and a person or organisation. Requirement is not sufficiently important to include.

Issue:	71	*Status:*	Open
Source:	ISO WG3 T21	*Disposition:*	Under review
Against:	ISO15926-2 WD2	*Clause:*	figure 14, 7.12.3
Class:	major technical		

Description of issue:

There is no means to extend the defined subtypes of common association through reference data: common association has no relationships that can be constrained.

Example:

Proposed solution:

Resolution:

This may not be desirable.

Issue:	72	*Status:*	Open
Source:	ISO WG3 T21	*Disposition:*	Under review
Against:	ISO15926-2 WD2	*Clause:*	figure 14, 7.12.3, figure 63,
Class:	minor technical		

Description of issue:

numeric_range_by_bounds allows floating point numbers (so a range of 0.5..0.7 for the cardinality is possible). There is no way of representing "many" in numeric_range_by_bounds

Example:

Proposed solution:

Resolution:

Issue:	73	*Status:*	Closed
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	figure 14, 7.12.3
Class:	minor technical		

Description of issue:

The meaning of the associativity attribute of common_association is unclear, especially when its value is FALSE.

The use of cardinality data for specialization of class is unclear.

Example:

Proposed solution:

Resolution:

Associativity attribute removed. Specialization_of_class redefined so as not to be a common_association.

Issue:	74	*Status:*	Closed
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	figure 15, 7.13.9, figure 20,
Class:	minor technical		

Description of issue:

The distinction between possessed property and possessed spatial aspect is not clear. For example, a gasket may have an uncompressed thickness of 5mm and a compressed thickness of 2mm. Using the ISO 10303 (STEP) paradigm, this information would be presented as a physical_object (product) with two possessed shape properties - compressed and uncompressed - each of which is described by a thickness, one of which would be represented by the value/unit 2mm, the other by the value/unit 5mm. It would interesting to see how this same information maps to the data model in figure 15.

Example:

Proposed solution:

Resolution:

The compressed shape and uncompressed shapes are instances of possessed_shape, both possessed by the object. Each shape may have a possessed_property of the class thickness, of values 2mm and 5mm respectively.

Issue:	75	*Status:*	Open
Source:	ISO WG3 T21	*Disposition:*	Under review
Against:	ISO15926-2 WD2	*Clause:*	figure 15, 7.13.8
Class:	minor technical		

Description of issue:

Possessed_phase is meaningful only the period of time in which the phase is possessed is stated.

Example:

Proposed solution:

Resolution:

Issue:	76	*Status:*	Open

Source: ISO WG3 T21 *Disposition:* Accepted

Against: ISO15926-2 WD2 *Clause:* figure 15, 7.13.1

Class: major technical

Description of issue:

The concept of the dependency of one characteristic on one or more other characteristics is missing from the model.

Example:

Proposed solution:

Resolution:

Entity type compound_characteristic defined allowing dependent components of a characteristic to be stated.

Issue: 77 *Status:* Open

Source: ISO WG3 T21 *Disposition:* Accepted

Against: ISO15926-2 WD2 *Clause:* 7.53.2

Class: major editorial

Description of issue:

The definition of organization needs to be clarified.

Example:

Proposed solution:

Resolution:

Issue: 78 *Status:* Open

Source: ISO WG3 T21 *Disposition:* Accepted

Against: ISO15926-2 WD2 *Clause:* figure 37, 7.35.8

Class: minor technical

Description of issue:

The definition of physical_feature needs to be clarified. It seems to be different from the design or manufacturing features as represented by several STEP APs (AP209, AP214, AP224, etc.). Examples to be considered: a hill to be levelled, moulded flange vs. welded flange vs. screwed flange.

Example:

Proposed solution:

Resolution:

Issue:	79	*Status:*	Closed
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	general
Class:	major editorial		

Description of issue:

A description of the common patterns that exist in the model (e.g., common/concept/qualified, composition/decomposition) would be useful to readers of the document.

Example:

Proposed solution:

Add fundamental principles and assumptions section, prior to the model definition.

Resolution:

As proposed.

Issue:	80	*Status:*	Open
Source:	ISO WG3 T21	*Disposition:*	Under review
Against:	ISO15926-2 WD2	*Clause:*	figure 41, 7.39.3, 7.39.4
Class:	minor technical		

Description of issue:

The distinction between logical and physical connections needs to be clarified.

Example:

Proposed solution:

Resolution:

Issue:	81	*Status:*	Open
Source:	ISO WG3 T21	*Disposition:*	Under review
Against:	ISO15926-2 WD2	*Clause:*	figure 3, 7.3.1, figure 37, 7.35
Class:	major technical		

Description of issue:

How is possible to indicate that a part in an assembly plays a particular functional role. (see - attachment C to the minutes of the 1999-03-23/25 workshop).

Example:

Proposed solution:

Define the role as a functional_physical_object that is a functional part of the physical_object.

Resolution:

Issue:	82	*Status:*	Open
Source:	ISO WG3 T21	*Disposition:*	Under review
Against:	ISO15926-2 WD2	*Clause:*	figure 44, 7.41.2
Class:	minor technical		

Description of issue:

How can segregation_of_physical_object be quantified?

Example:

Proposed solution:

One possible solution is by creating possessed_aspect(s) of the association. Example needed.

Resolution:

Issue:	83	*Status:*	Open
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	figure 46, 7.43.3
Class:	minor technical		

Description of issue:

The name of the entity data type topological_sequence_of_physical_object is misleading - the requirement satisfied seems to be simple one of ordering. There is no place to include a direction which is necessary for true topological networks.

Example:

Proposed solution:

Rename order_of_physical_object, or linear_sequence_of_physical_object

Resolution:

Issue:	84	*Status:*	Open
Source:	ISO WG3 T21	*Disposition:*	Under review
Against:	ISO15926-2 WD2	*Clause:*	figure 44, 7.41.2, figure 48,
Class:	minor technical		

Description of issue:

What is the distinction between segregation and protection?

Example:

Proposed solution:

Resolution:

Issue:	85	*Status:*	Open
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	figure 49, 7.46
Class:	minor technical		

Description of issue:

There is no means to relate an individual physical_object to the class of physical_object whose members can play the role of protector.

Example:

Proposed solution:

Resolution:

Issue:	86	*Status:*	Open
Source:	ISO WG3 T21	*Disposition:*	Under review
Against:	ISO15926-2 WD2	*Clause:*	figure 50, 7.47.1
Class:	minor technical		

Description of issue:

The name "redundancy_of_physical_object" is misleading - this means that one item is a stand-by for another. Does this just cover the "emergency" case, or does it include allowance for future capacity?

Example:

Proposed solution:

1. Change name to is standby_ 2. Make this a subtype of alternative_ (or represent it as such in reference data) 3. Keep name as it is, and add a clause 3 definition of the term "redundant", equivalent to definition 4 in the Concise Oxford Dictionary, 9th edition.

Resolution:

Issue:	87	*Status:*	Open
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	figure 54, 7.51

Class: minor technical

Description of issue:

Is it intended that routes may have more than one start and more than one end?

Example:

Proposed solution:

Resolution:

Issue:	88	*Status:*	Open
Source:	ISO WG3 T21	*Disposition:*	Under review
Against:	ISO15926-2 WD2	*Clause:*	figure 54, figure 55
Class:	minor technical		

Description of issue:

The model for routing appears to overlap with that for logical connection - these two parts of the model should be more fully integrated. The requirement is to be able to aggregate connections and to associated a physical connection (or aggregation) as the implementation of a logical connection.

Example:

Proposed solution:

Resolution:

Issue:	89	*Status:*	Closed
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	figure 56, 7.54.5
Class:	minor technical		

Description of issue:

ENTITY place_of_residence_of_organization should be ENTITY place_of_business_of_organization . Organizations don't reside, people do.

Example:

Proposed solution:

Rename to place_of_business_of_organization.

Resolution:

ENTITY place_of_residence_of_organization removed from model. Role_in_life_of_physical_object to be used instead, with residence or office or headquarters as roles.

Issue:	90	*Status:*	Closed
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	figure 56, 7.54.6
Class:	minor technical		

Description of issue:

The entity data type representation_of_person is redundant with assignment_of_person: the intended semantics are that person B can play the role played by person A.

Example:

Proposed solution:

Delete this entity data type

Resolution:

As proposed.

Issue:	91	*Status:*	Closed
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	figure 57, 7.54.1
Class:	minor technical		

Description of issue:

assignment_of_person.assigner should be assigned to, and should be of type organization only.

Example:

Proposed solution:

Resolution:

Assignment of person removed from data model. Roles of person recoded by role_in_life_of_physical_object.

Issue:	92	*Status:*	Closed
Source:	ISO WG3 T21	*Disposition:*	Rejected
Against:	ISO15926-2 WD2	*Clause:*	figure 57, 7.54.2
Class:	minor technical		

Description of issue:

employment_of_person.employer should be of type organization

Example:

Proposed solution:

Resolution:

Rejected.

Issue:	93	*Status:*	Closed
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	figure 57, 7.54
Class:	major technical		

Description of issue:

There is no obvious way to represent the role(s) that can be played by a person. Is functional_physical_object AND person intended to satisfy this requirement?

Example:

Proposed solution:

Resolution:

Person is a physical object. Functional_physical_object define functional continuity of physical_objects

Issue:	94	*Status:*	Closed
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	general
Class:	major technical		

Description of issue:

There needs to be a clear distinction between information and aspect.

Example:

Proposed solution:

Resolution:

Information modelled is a type of aspect, possessed_information and class_of_information are distinguished. Information is an aspect of of something used to express meaning.

Issue:	95	*Status:*	Open
Source:	ISO WG3 T21	*Disposition:*	Under review
Against:	ISO15926-2 WD2	*Clause:*	figure 59, 7.56
Class:	minor technical		

Description of issue:

There is a missing association between class of information and individual

Example:

Proposed solution:

Resolution:

Issue:	96	*Status:*	Open
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	figure 62

Class: major technical

Description of issue:

There are a number of places in the model that reference encoded_information directly. For consistency these should reference information.

Example:

Proposed solution:

See issue #12.

Resolution:

Information and encoded information remodelled. Some references to encoded information have been removed.

Issue:	97	*Status:*	Open
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	figures 66, 67, 7.63

Class: minor technical

Description of issue:

There is redundancy in the entity data types encoded_date_time, encoded_calendar_date, and encoded_clock_time.

Example:

Proposed solution:

These parts of the model could be restructured as encoded_date_or_time, with two ANDOR subtypes encode_date and encoded_time. If is required that at least a time component or a date component is present, then a constraint of the form: WR1: SIZEOF (TYPEOF (SELF) *

['OIL_AND_GAS_PRODUCTION_FACILITIES_SCHEMA.ENCODED_DATE',

'OIL_AND_GAS_PRODUCTION_FACILITIES_SCHEMA.ENCODED_TIME']) >= 1;

Resolution:

Only date_time construct retained.

Issue:	98	*Status:*	Open
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	figures 30, 58, 60, 7.55.1,

Class: minor technical

Description of issue:

It is possible to describe something by information or encoded_information, but it is possible only to identify something by encoded information.

Example:

Proposed solution:

Correct this inconsistency. Introducting an indentifying_aspect as in AP221 may be the solution.

Resolution:

Information and encoded_information rationalised.

Issue:	99	*Status:*	Open
Source:	ISO WG3 T21	*Disposition:*	Under review
Against:	ISO15926-2 WD2	*Clause:*	figure 62, 7.58.3
Class:	minor technical		

Description of issue:

What are the requirements to model the internal structure of encoded textual information?

Example:

Proposed solution:

Include examples showing the intended usage of this part of the model.

Resolution:

Issue:	100	*Status:*	Closed
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	figure 58, 7.55, figures 60, 61,
Class:	major technical		

Description of issue:

The relationship between information and encoded_information, and their intended usage, need to be clarified.

Example:

Proposed solution:

See also issues #12 and #55.

Resolution:

Information and encoded_information rationalised.

Issue:	101	*Status:*	Open
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	figure 63, 7.59.5
Class:	minor technical		

Description of issue:

numeric_range_by_tolerance does not support deltas expressed by ratios/percentages.

Example:

Proposed solution:

Resolution:

Issue:	102	*Status:*	Open
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	figure 63, 7.59.5
Class:	minor technical		

Description of issue:

Use of the term 'tolerance' is misleading.

Example:

Proposed solution:

rename this entity type numeric_range_about_pivot.

Resolution:

As proposed.

Issue:	103	*Status:*	Closed
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	figure 65, 7.62
Class:	minor technical		

Description of issue:

The encoded_placement model is incomplete.

Example:

Proposed solution:

Supporting information to represent co-ordinate systems and units of measure is required. This part of the model also needs to be related to that for relative_placement.

Resolution:

Co-ordinate locations defined by possessed_location_in_space and class_of_location_in_space.

Issue:	104	*Status:*	Open
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	figures 66, 67, 7.63
Class:	minor technical		

Description of issue:

The date/time model is insufficient.

Example:

Proposed solution:

Remodel, taking into consideration the contents of the harmonized model, the STEP Part 41 date/time schema, and ISO 8601.

Resolution:

Date/time remodelled as point_in_time_value.

Issue:	105	*Status:*	active
Source:	ISO WG3 T21	*Disposition:*	
Against:	ISO15926-2 WD2	*Clause:*	figure 68, 7.64
Class:	minor technical		

Description of issue:

The concept of information is missing from the 'information carrier' usages of physical_object.

Example:

Proposed solution:

Resolution:

Issue:	106	*Status:*	Open
Source:	ISO WG3 T21	*Disposition:*	Under review
Against:	ISO15926-2 WD2	*Clause:*	general
Class:	major technical		

Description of issue:

Clarify entity type or in reference data, e.g., associations (the model includes some very specialized entity data types that should really be standard instances in the library.

Example:

Proposed solution:

See discussion in minutes of the 1999-03-23/25 workshop.

Resolution:

Issue:	107	*Status:*	Open
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	general
Class:	major technical		

Description of issue:

Improvement of characteristic/property (common/concept/qualified) model.

Example:

Proposed solution:

See discussion in minutes of the 1999-03-23/25 workshop.

Resolution:

Qualified entity types removed. Characteristic value entity types introduced to replace scale associations and mathematical object.

Issue:	108	*Status:*	Open
Source:	ISO WG3 T21	*Disposition:*	Under review
Against:	ISO15926-2 WD2	*Clause:*	figure 15, 7.13.1, 7.13.2
Class:	minor technical		

Description of issue:

The rationale for the use of LIST aggregations in derivation_of_possessed_characteristic.source and composition_of_possessed_characteristic.part is uncertain.

Example:

Proposed solution:

These can be replaced by single-valued relationships, coupled with the use of composition associations

Resolution:

LIST removed from composition of characteristic, but retained for derivation pending clarification of intended use.

Issue:	109	*Status:*	Open
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	figure 16, 7.14
Class:	minor technical		

Description of issue:

The terms "intersection", "union" etc. may be preferable to "overlap", "inside", etc.

Example:

Proposed solution:

Resolution:

Issue:	110	*Status:*	Open
Source:	ISO WG3 T21	*Disposition:*	Under review
Against:	ISO15926-2 WD2	*Clause:*	figure 16, 7.14
Class:	minor technical		

Description of issue:

The concept of comparison may be more general than stated, I.e., it may be valid for other things apart from possessed characteristics.

Example:

Proposed solution:

Resolution:

Issue:	111	*Status:*	Open
Source:	ISO WG3 T21	*Disposition:*	Under review
Against:	ISO15926-2 WD2	*Clause:*	figure 19, 7.16
Class:	minor technical		

Description of issue:

The model for properties, scales and units of measure needs examples - with actual populations of the model - to illustrate its intended usage. The explanation needs to show how a single instance (set) for a common property with one or more associated numeric values/units of measure can be shared by many different possessed properties.

Example:

Proposed solution:

Give examples of use of property model - Fundamental concepts and assumptions?

Resolution:

Issue:	112	*Status:*	Closed
Source:	ISO WG3 T21	*Disposition:*	Rejected
Against:	ISO15926-2 WD2	*Clause:*	figure 19, 7.16.5
Class:	minor technical		

Description of issue:

common_property should be renamed measurement

Example:

Proposed solution:

Resolution:

Reject. Common_property need not be measured.

Issue:	113	*Status:*	Open
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	figure 19, 7.13.1, 7.16
Class:	major technical		

Description of issue:

The concept of dimensions for measures is missing from the model.

Example:

Proposed solution:

This should be added to the model as a specialization of composition_of_possessed_characteristic (see issue #34)

Resolution:

Dimesnion modelled as concept_of_property_value.

Issue: 114 *Status:* Open

Source: ISO WG3 T21 *Disposition:* Under review

Against: ISO15926-2 WD2 *Clause:* figure 19, 7.16

Class: minor technical

Description of issue:

Why is there a "new" model for measures, etc., rather than a re-expression of the STEP (Part 41) measures_schema.

Example:

Proposed solution:

Resolution:

Issue: 115 *Status:* Open

Source: ISO WG3 T21 *Disposition:* Accepted

Against: ISO15926-2 WD2 *Clause:* figure 20, 7.17.8, 7.17.9

Class: minor technical

Description of issue:

There is not a clear distinction between possessed_spatial_aspect and possessed_shape. The latter appears to duplicate other concepts in the model.

Example:

Proposed solution:

Resolution:

Issue: 116 *Status:* Open

Source: ISO WG3 T21 *Disposition:* Under review

Against: ISO15926-2 WD2 *Clause:* figure 20, 7.17

Class: minor technical

Description of issue:

There are number of missing concepts in this part of the model, particularly in the area of topology.

Example:

Proposed solution:

Resolution:

Issue: 117 *Status:* Open

Source: ISO WG3 T21 *Disposition:* Under review

Against: ISO15926-2 WD2 *Clause:* figure 20, 7.17

Class: minor technical

Description of issue:

Why is there a "new" model for geometry, etc., rather than a re-expression of the STEP (Part 42) geometry_schema and topology_schema.

Example:

Proposed solution:

It should be possible to incorporate STEP geometry descriptions as recognized types of binary object.

Resolution:

Issue: 118 *Status:* Open

Source: ISO WG3 T21 *Disposition:* Under review

Against: ISO15926-2 WD2 *Clause:* figure 26, 7.23.4

Class: minor technical

Description of issue:

The utility of the possessed_temporal_aspect_of_state entity data type is not clear.

Example:

Proposed solution:

Resolution:

Issue:	119	*Status:*	Closed
Source:	ISO WG3 T21	*Disposition:*	Rejected
Against:	ISO15926-2 WD2	*Clause:*	figure 23, 7.20
Class:	minor technical		

Description of issue:

There is no apparent means in the model to represent the idea of a period of two months.

Example:

Proposed solution:

Resolution:

Reject. Periods of two month is a common_period_of_time. Its members are all periods that span precisely any two successive months.

Issue:	120	*Status:*	Closed
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	figure 24, 7.21.2, 7.21.3
Class:	minor technical		

Description of issue:

It is not clear whether there are useful instantiations of concept_of_count, other than 'count' itself. Also noted that 'dozen', 'gross' may be examples of common_count.

Example:

Proposed solution:

Resolution:

Count removed from model. Seen as type of property with units of measure which may be ones, tens, dozen, gross, kilo-bytes.

Issue:	121	*Status:*	Closed
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	figure 23, 7.23.3
Class:	major editorial		

Description of issue:

The definition and examples for possessed_state need to make it clear that this entity data type plays the role of whole in composition associations in which the parts are other possessed aspects.

Example:

Proposed solution:

Revise definition and examples.

Resolution:

As proposed.

Issue:	122	*Status:*	Closed
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	figure 26, 7.23
Class:	minor technical		

Description of issue:

What is the difference between a state and other aspects or compound characteristics?

Example:

Proposed solution:

Resolution:

State may include connections, and compositions as well as characteristics.

Issue:	123	*Status:*	Closed
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	figure 28, 7.25
Class:	minor technical		

Description of issue:

There is no possessed_mathematical_object corresponding to class_of_mathematical_object

Example:

Proposed solution:

Resolution:

Mathematical object removed from model. Uses of numbers or classes of numbers modelled by direct attributes.

Issue:	124	*Status:*	Closed
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	figure 28, 7.25
Class:	major technical		

Description of issue:

Work on extending and refining the part of the model that deals with mathematical objects needs to be harmonized with that on ISO 10303-50 (mathematical representation schema) and ISO 13584-20 (expressions schema).

Example:

Proposed solution:

Resolution:

Mathematical object removed from model. Uses of numbers or classes of numbers modelled by direct attributes.

Issue:	125	*Status:*	Closed
Source:	ISO WG3 T21	*Disposition:*	Rejected
Against:	ISO15926-2 WD2	*Clause:*	figure 29, 7.26.4

Class: minor technical

Description of issue:

A constraint (WHERE rule that calls a FUNCTION) should be added to possessed_end_effect to prevent cyclic instantiations.

Example:

Proposed solution:

Add:

FUNCTION acyclic_possessed_event_effect (event_effect: possessed_event_effect) : BOOLEAN;

-- function body to be specified

END_FUNCTION;

Resolution:

Rejected. Where clauses and EXPRESS functions are excluded from the specification.

Issue: 126 *Status:* Closed

Source: ISO WG3 T21 *Disposition:* Accepted

Against: ISO15926-2 WD2 *Clause:* figure 30, 7.27.2

Class: minor technical

Description of issue:

The name of the entity data type registration_of_identification_with_organisation should be registration_of_identification_with_organization (with a 'z'). This should be taken into consideration when aligning the model with the March 1 AP221 update.

Example:

Proposed solution:

Spell organization.

Resolution:

As proposed.

Issue: 127 *Status:* Closed

Source: ISO WG3 T21 *Disposition:* Accepted

Against: ISO15926-2 WD2 *Clause:* figure 30, 7.27

Class: major technical

Description of issue:

The concept of possessed_identification_aspect (as in AP221) should be added to the model

Example:

Proposed solution:

Resolution:

Done.

Issue: 128 *Status:* Open

Source: ISO WG3 T21 *Disposition:* Under review

Against: ISO15926-2 WD2 *Clause:* 7.28

Class: minor technical

Description of issue:

There is no requirement for additions or extensions to the model to represent PLIB class identifications - this should be addressed in a informative annex that illustrates how PLIB BSUs are represented in the model.

Example:

Proposed solution:

Resolution:

Issue: 129 *Status:* Open

Source: ISO WG3 T21 *Disposition:* Under review

Against: ISO15926-2 WD2 *Clause:* figure 31, 7.29.3

Class: minor technical

Description of issue:

The succession_association_between_objects requires a context - this specifies the role for which the succession is specified or is valid. The same issue applies to version and alternative.

Example:

Proposed solution:

Resolution:

Issue:	130	*Status:*	Open
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	figure 33, 7.31.2
Class:	major editorial		

Description of issue:

The word 'role' is overloaded in the names of classification_of_involvement_by_role and class_of_role.

Example:

Proposed solution:

Change classification_of_involvement_by_role to classification_of_involvement, change class_of_role to class_of_involvement

Resolution:

Class_of_role removed. Classification_of_involvement_by_role removed. Roles restricted to those that can be modelled as functional_physical_objects. Involvement in activities restricted to physical_objects.

Issue:	131	*Status:*	Closed
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	7.31.4
Class:	major editorial		

Description of issue:

Examples here need to make it clear that although the same natural language name be be used as the class of something, the role of something, and the activity that something is involved in, these are separate concepts and need to be modelled correctly for completeness. Ideally example(s) should be found that use different natural language names. There is a more general issue here about the need for the class_of_involvement.

Example:

Proposed solution:

Resolution:

See Issue 130.

Issue:	132	*Status:*	Open
Source:	ISO WG3 T21	*Disposition:*	Under review
Against:	ISO15926-2 WD2	*Clause:*	figure 33, 7.31
Class:	minor technical		

Description of issue:

The role that is played by something in an activity is dependent on a context.

Example:

Proposed solution:

Resolution:

Issue:	133	*Status:*	Open
Source:	ISO WG3 T21	*Disposition:*	Under review
Against:	ISO15926-2 WD2	*Clause:*	figure 33, 7.31.5
Class:	major technical		

Description of issue:

There is no mechanism to specify successions of activities (in the temporal_aspect model) such as start-start, end-end dependencies. This may also be addressed by event_effect (or a generalization of it).

Example:

Proposed solution:

Use comparison associations between possessed_temporal aspects.

Resolution:

Issue:	134	*Status:*	Closed
Source:	ISO WG3 T21	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	figure 34, 7.32
Class:	major technical		

Description of issue:

The entity data types common_involvement_in_activity and involvement_of_individual_in_member_of_class_of_activity (present in the harmonized model) are missing.

Example:

Proposed solution:

Add these entity data types to the model.

Resolution:

As proposed.

Issue:	135	*Status:*	Open
Source:	Intergraph	*Disposition:*	Accepted
Against:	DraftV1.0	*Clause:*	General
Class:	major technical		

Description of issue:

Pleae explain the mechanism in Version1 for identifying the data to be shared across data sets. Currently the only mechanism I see is the context on identification, but not all the data involved carries an identifier. Ed. How are sets of data/information defined?

Example:

Proposed solution:

Resolution:

Entities common_information and common_inclusion_in_information are defined for this purpose.

Issue:	136	*Status:*	Closed
Source:	Aker Marine	*Disposition:*	Accepted
Against:	SnapE	*Clause:*	Characteristics
Class:	major technical		

Description of issue:

The attached example illustrates that the POSC/Caesar data model has been open for alternative interpretations. The example was first made based on Snapshot C/D and then translated to Snapshot E. The example shows that there are at least three different ways to store the weight of some item according to POSC/Caesar. These are:

1. Reuse or not reuse a quantity information content
2. Attach a property by possession of by class membership

The important point is that the standard is explicit and gives no room for such interpretations. If not it is no standard.

Hopefully this has been solved in the current data model.

Example:

Proposed solution:

Resolution:

Introduction of possessed and classes of characteristic removes the ambiguity 1. Class is used for common values.

Assigning a property by possession or by class membership are equivalent. Implementations should have this behaviour.

Issue:	137	*Status:*	Closed
Source:	PCA	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	General
Class:	minor editorial		

Description of issue:

The format of the attribute definition text is incorrect wrt ISO directives.

Example:

Proposed solution:

possessor: the individual that possesses the aspect. The Aspect_possessed_by_individual must be possessed by one and only one individual.

"possessor" should be bolded.

Resolution:

As proposed.

Issue:	138	*Status:*	Closed
Source:	PCA	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	Diagrams
Class:	minor editorial		

Description of issue:

The page reference to symbol line connectors should not have a circle symbols.

Example:

See diagram 1. Reference to classification_of_class

Proposed solution:

Remove circles from diagram notation of reference to symbols.

Resolution:

As proposed.

Issue:	139	*Status:*	Closed
Source:	PCA	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	Cover page
Class:	minor editorial		

Description of issue:

Some required information is missing from the cover page.

Example:

Proposed solution:

Add: year of publication; working group WG3, N number, copyright manager ANSI and the purpose of WD2 (pre CD review).

Resolution:

As proposed

Issue:	140	*Status:*	Closed
Source:	PCA	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	Table of contents
Class:	minor editorial		

Description of issue:

The table of contents does not comply with ISO directives

Example:

Proposed solution:

Remove page break between list of figures and index entry. List of figures should be entitled Figures.

Resolution:

Issue:	141	*Status:*	Closed
Source:	PCA	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	Introduction
Class:	minor editorial		

Description of issue:

Definitions are required for the terms: oil and gas production facility, conceptual data model, data model, implementation, shared data base, reference data.

Example:

Proposed solution:

Include in Part 1.

Resolution:

As proposed.

Issue:	142	*Status:*	Closed
Source:	PCA	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	Scope
Class:	major editorial		

Description of issue:

The scope statement uses specialist EPISTLE model terms and as such does not describe scope in a way that is can be related to the information that the engineering activities use.

Example:

Proposed solution:

Re write scope statement to identify the types of information that the model covers. The list can be taken from the original RFC. Include diagrams and examples as notes to make them informative.

Include a list of out of scope information, to delineate the boundary.

Resolution:

As proposed.

Issue:	143	*Status:*	Open
Source:	PCA	*Disposition:*	Under review
Against:	ISO15926-2 WD2	*Clause:*	Normative references
Class:	minor editorial		

Description of issue:

The reference to ISO/IEC8824/1 should specify the particular subclauses that are applicable

Example:

Proposed solution:

Refer to subclauses.

Resolution:

As proposed.

Issue:	144	*Status:*	Closed
Source:	PCA	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	Definitions
Class:	minor editorial		

Description of issue:

The title of the definitions section should be "Terms and definitions", and definitions are missing.

Example:

Proposed solution:

Change title add definitions for the terms: oil and gas production facility, conceptual data model, data model, implementation, shared data base, reference data in Part 1.

Resolution:

As proposed

Issue:	145	*Status:*	Open
Source:	PCA	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	Examples
Class:	major editorial		

Description of issue:

Some examples are missing (indicated by ??)

Example:

Proposed solution:

Add examples so that all entity types have examples.

Resolution:

Issue:	146	*Status:*	Open
Source:	PCA	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	7.

Class: minor editorial

Description of issue:

The "END_SCHEMA statement is wrong.

Example:

Proposed solution:

Add -- schema name to "END_SCHEMA" statement.

Resolution:

Issue:	147	*Status:*	Closed
Source:	PCA	*Disposition:*	Accepted
Against:	DraftV1.0	*Clause:*	EXPRESS
Class:	major technical		

Description of issue:

There is one EXPRESS error. Invalid redeclaration in common_functional_part_of_physical_object.

Example:

Proposed solution:

Resolution:

CD model has no known EXPRESS language syntax errors.

Issue:	148	*Status:*	Open
Source:	PCA	*Disposition:*	Accepted
Against:	ISO15926-2 WD2	*Clause:*	General
Class:	major editorial		

Description of issue:

There is no summary of information requirements, characteristics of the model nor its potential application.

Example:

Proposed solution:

Add new section "Fundamental concepts and assumptions", and decribe information scope in Scope section.

Add usage examples in Annex as time permits.

Resolution:

As proposed.

Issue:	149	*Status:*	Closed
Source:	ISO WG3 T21	*Disposition:*	Rejected
Against:	DraftV1.0	*Clause:*	3. Figure D.3
Class:	major technical		

Description of issue:

Activity, physical_object and information should be subtypes of whole_individual only and Whole_individual made ABSTRACT.

Class_of_activity, class_of_physical_object and class_of_information should be made subtypes of class_of_whole_individual only.

Example:

Proposed solution:

Resolution:

Physical_object and possessed aspect are not mutually exclusive. A time slice of a physical object is both an asepct and a physical object.

Information becomes an aspect or class only.

Issue:	183	*Status:*	Open
Source:	DNV	*Disposition:*	Under review
Against:	DraftV1.0	*Clause:*	

Class: major technical

Description of issue:

I am using version 1 on the OREDA standard ISO 14224.To model what I want to do, it seems that I need:

1: - Class of functional physical object

2: A couple of associations

- common_functional_part_of_functional_physical_object
- common_installation_of_physical_object_for_functional_part_of_role_in_whole

Enclosed a slide showing the example.

Example:

Proposed solution:

Resolution:

Issue:	184	*Status:*	Open
Source:	Intergraph	*Disposition:*	Under review
Against:	DraftV1.0	*Clause:*	
Class:	major technical		

Description of issue:

I would like to propose that relationships between materialised_physical_objects should only be allowed via functional_physical_objects. In other words, if I have an assembly or other "connected" group of materialised_physical_objects, they would each have an installation relationship to a functional_physical_object and the connectivity or other assembly-type relationships would always be between the functional_physical_objects.

I believe this to be an accurate reflection of the reality, in that the connectivity is a function of the design and remains with the design while specific physical components are cycled through the design. It also solves the problem of whether two flanges are physically connected or whether each is connected to the gasket/bolt set which joins them. The reality is that both views are valid and it depends on the conceptual level at which the joint is viewed. Layers of conceptual reality should correctly be modelled with functional objects and not reflected as modelling conventions for physical components.

Another way to look at this is that the "installation" relationship and the separation of physical and functional components exist primarily to allow the cycling of physical components through a design. To facilitate this, the design (including its connectivity aspects) and the simple existence of a physical component servicing it need to be reliably separated.

Example:

Proposed solution:

Relationships between materialised_physical_objects should only be allowed via functional_physical_objects.

Resolution:

Issue:	185	*Status:*	Open
Source:	DNV	*Disposition:*	Under review
Against:	DraftV1.0	*Clause:*	39. Diagram 41.
Class:	major technical		

Description of issue:

"Commen_logical_connection_of_physical_object" exist if the connected physical objects are able to effect each other by the transfer of energy, matter or force. But there is nothing that tells the direction of transfer of energy...

Eks

"Cooling system" is connected to a "coolant" by an input and an output connection.

"Start system" are connected to "power" to get energy as input

"control and monitoring" are connected to "remote instrumentation" by input and output cables for sending or receiving signals.

Need to describe the direction of flow, in pipes and cables etc.

Example:

Proposed solution:

Resolution: