Paper for Consideration by the Transfer Standard Maintenance and Applications Development Working Group (TSMAD)

S58 Testing Producing Excessive Warnings

Submitted by:	Canada
Executive Summary:	Certain S58 tests are testing for optional encodings and producing warnings when that encoding is not present. Excessive warnings that users must be instructed to ignore are problematic in that one has to justify to personnel why it's ok to ignore some warnings where others need to be addressed. As well, the excessive warnings could obscure more relevant warnings that should be addressed.
	As an example, test 1682 the collection object test seems to treat the UOCs statement that collection objects "should" be used to encode the link or association between objects like a "must" and issues warnings accordingly. Yet only the Traffic Separation collection is mandatory.
Related Documents:	UOC3.1, S58
Related Projects:	

Introduction / Background

When the S57 standard was conceived collection objects where thought to provide added value in demonstrating the linkage or association between certain objects.

It was originally conceived that these collection could be created for various situations, however the only case where by a collection was deemed mandatory was for traffic separation schemes to tie all the relevant parts together.

The UOC3.1 states the following for C_AGGR and C_ASSO:

> **C_AGGR** objects should be used to encode the link between objects that are functionally related and which together form a higher level entity. For example, a navigation line, a recommended track and the defining navigational aids should be linked using a **C_AGGR** object to form a range system.

> **C_ASSO** objects should be used to encode the association between two or more objects. The association does not create any higher level entity. For example, a wreck should be associated with the buoy that marks it.

In both cases these are optional encodings.

Yet the S58 check 1682 reports a warning for every potential optional encoding of a C_AGGR and C_ASSO.

The output from this check is extensive and adds a level of confusion to the producer when encountering such a long list of messages.

> Warning Level: WARNING
> Message: Check that any RECTRC or NAVLNE object belongs to a C_AGGR collection object, except for RECTRC objects with a value of (2) for CATTRK, which may exist as isolated objects.
> Reference: S-58 Test 1682. Conformity to: 10.1.2

Number of Objects: 39
 (Select All)

```
CA 0000310811 30000  NAVLNE
CA 0000310833 30000  NAVLNE
CA 0000310844 30000  NAVLNE
CA 0000311203 30000  RECTRC
CA 0000311212 30000  NAVLNE
CA 0000311418 30000  RECTRC
CA 0000311579 30000  RECTRC
CA 0001365650 30000  NAVLNE
CA 0001365652 30000  NAVLNE
CA 0001365671 30000  NAVLNE
CA 0001365673 30000  NAVLNE
CA 0001365787 30000  RECTRC
CA 0001365857 30000  NAVLNE
CA 0001365856 30000  NAVLNE
CA 0001349759 30000  RECTRC
CA 0001365706 30000  NAVLNE
CA 0001365709 30000  RECTRC
CA 0001365846 30000  NAVLNE
CA 0001365767 30000  NAVLNE
CA 0001365768 30000  NAVLNE
CA 0001482742 30000  NAVLNE
CA 0001482741 30000  NAVLNE
CA 0001482745 30000  RECTRC
CA 0001365788 30000  RECTRC
CA 0001365819 30000  NAVLNE
CA 0001365649 30000  NAVLNE
CA 0001365655 30000  RECTRC
CA 0001520637 30000  NAVLNE
CA 0001520639 30000  RECTRC
CA 0001365675 30000  RECTRC
CA 0001365672 30000  NAVLNE
CA 0001365653 30000  RECTRC
CA 0001365651 30000  NAVLNE
CA 0001365712 30000  NAVLNE
CA 0001520641 30000  RECTRC
CA 0001520642 30000  NAVLNE
CA 0001365820 30000  NAVLNE
CA 0001535874 30000  NAVLNE
CA 0001535876 30000  RECTRC
```

Analysis/Discussion/Conclusions

It seems excessive to produce warnings for optional encodings. The excessive numbers of warnings are confusing to the producer and require constant reinforcement of the reasons behind why a producer can ignore some warnings and ignore others.

In the case of collections, these are being completely overhauled into named collections for S100. The named collections will for the most part be optional. For those optional collections it is not foreseen that S58 warnings will be generated, therefore there is no reason to generate warnings on optional collections now.

Recommendations
1. It is recommended that the S58 test 1682 stop issuing warnings for optional encoding of non-mandatory C_AGGR and C_ASSO objects.

2. It is recommended that TSMAD consider halting the issuance of S58 warnings for any optional encodings to further reduce the clutter associated with excessive warnings currently generated by S58 for which the majority of HOs ignore the generated output.

Justification and Impacts
Excessive warnings only server to confuse the producer and provide no added value.

Action Required of TSMAD
TSMAD is invited to endorse recommendation 1
TSMAD is invited to endorse recommendation 2