S-101PT5-04.4 Validation Checks for S-101

S-101 PT Chair Thomas RICHARDSON

S-101PT 5 Sept 2020

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BACKGROUND

- Validation Checks were not included in S-101 1.0.0, however they are required in order to produce data which conforms to the specification and to support development of validation tools

- Denmark has conducted a review of the S-58 checks and this began to adapt the checks and group them into S-100 general checks and S-101 specific checks

- At S-100WG 5 a sub group was established to progress this work and utilise the work completed by Denmark

MEMBERSHIP AND WORKFLOW

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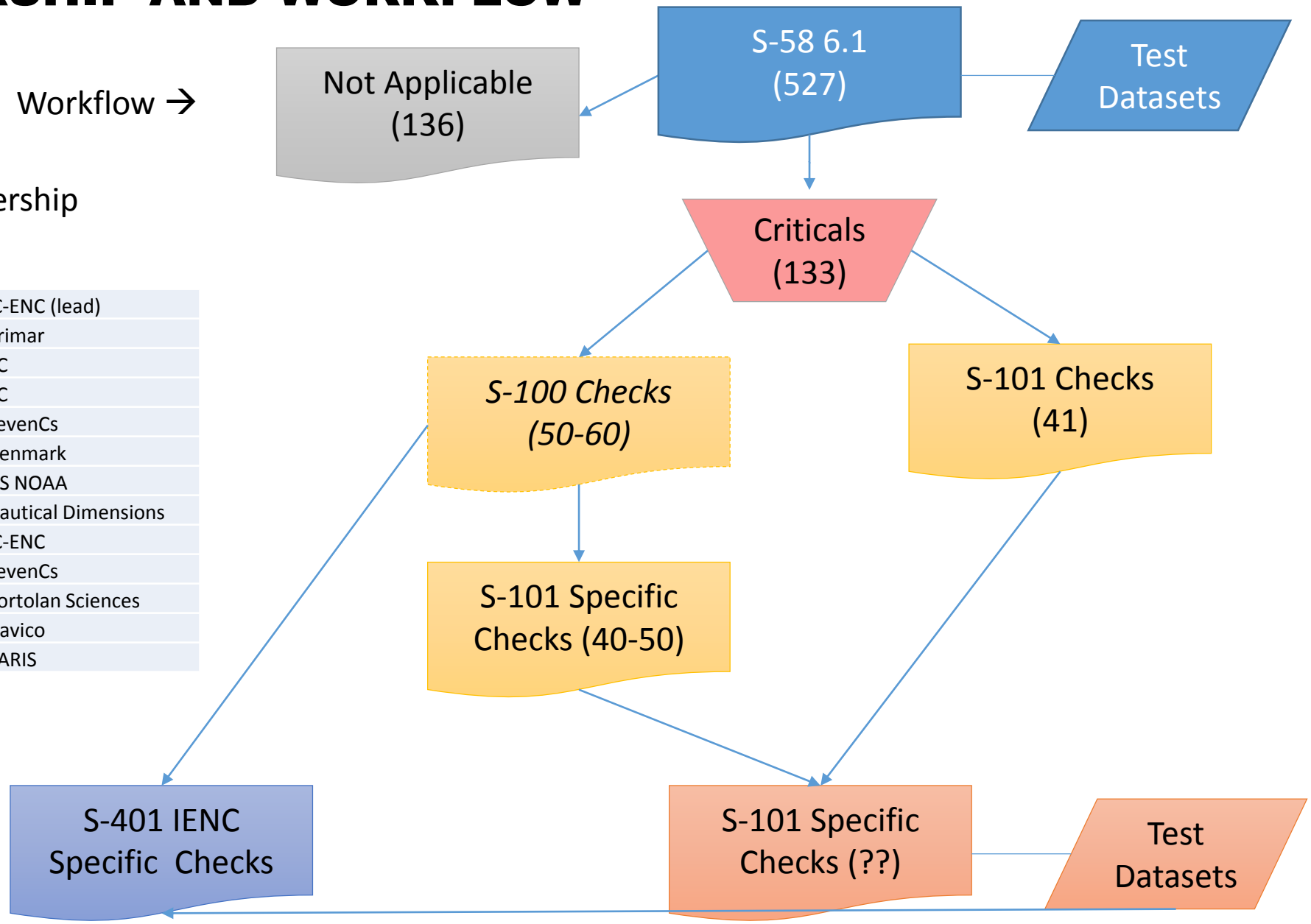
Workflow →

Membership

Tom Richardson	IC-ENC (lead)
Tonje Mevatne	Primar
Ed Kuwalek	IIC
Jonathan Pritchard	IIC
Holger Bothien	SevenCs
Bruno Cardoso	Denmark
Julia Powell	US NOAA
Frank Hippman	Nautical Dimensions
Su Marks	IC-ENC
Friedhelm Moggert-Kaegeler	SevenCs
Raphael Maylankar	Portolan Sciences
Inga Fjellanger	Navico
Hugh Astle	CARIS



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CURRENT ACTIVITY

So far the group has;

- Reviewed all S-58 checks based on the work from Denmark to categorise checks into S-100 general checks and S-101 specific
- Identified a large number of checks that will not be required
- Drafted an initial set of S-100 template checks
- Conducted a review cycle of this work (Almost Complete)

EXAMPLE

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Existing S-58 check;

- 502 - If the cell file size is greater than 5 Megabytes.

S-100 Template Check (S-100 as many products may have a file size constraint)

- If the dataset file size is greater than the value specified in the DPS. (S-100 11-13)

S-101 Specific Check

- If the dataset file size is greater than 10 MB. (S-101 4.5.4)

PROPOSED WAY FORWARDS

By the end of 2020

- Draft the S-101 checks
- Complete the S-100 template checks needed for S-101 and draft the S-101 specific checks
- Agree the check syntax and layout so that an initial draft set of checks can be prepared for review

Longer Term

- Repeat the process for all Errors and Warnings
- Develop test datasets leveraging those produced for S-58
- Continually improve the checks as experience is gained (including S-58 consistency)

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SUMMARY

- Since S-100WG5 this sub group has made some good initial progress
- By limiting the work to Critical checks only it is realistic to have an initial set of checks for S-101 1.1.0
- Due S-100 constructs like the Feature Catalogue S-101 validation checks should be fewer in number and less complex than those defined in S-58
- The approach taken will ease maintenance and allow reuse of the template checks by different S-10x specifications

S-100 Generic Validation Checks

Draft 0.3 20200720

Pa	Check ID	S-100 Refere	Short Name	Detailed Description	Replaces S-58 Check	DQ Theme	Rationale/Requirement
4	S100_4a_001	4a	InvalidAgencyCode	If the producer agency code is not a value present in the XXX register.	1518a	Domain Consistency	If a defined listing of valid producer codes is established values must be from that list. Need to consider the point in time as the list may change.
4	S100_4a_002	4a	CatalogStructure	If the structue and content of the CATALOG.XML file is invalid.	1017~~-20b~~	Metadata Consistency	Schema validation and schematrons required to support this check. Specific to exchange set transfer.
4	S100_4a_003	4a	MissingSupportFile	Check that each support file included in the SupportFileDiscovery Metadata is present in the fileLocation specified.	1011	Completeness	
4	S100_4a_004	4a	DigitalSignatures	If the digital signature values are not present and valid in the DatasetDiscoveryMetadata or SupportFileDiscoveryMetadata.	1016	Format Consistency	Valid probably needs to be specified somehow.
4	S100_4a_005	4a	InvalidDatasetName	If the filename of the dataset does not conform to the DPS.	531	Format Consistency	
4	S100_4a_006	4a	InvalidSupportFilename	If the filename of any support file provided in the exchange set does not conform to the DPS.	1015	Format Consistency	
4	S100_4a_007	4a	MissingCatalogFile	If the CATALOG.XML file is not present.	1012	Metadata Consistency	Specific to exchange set transfer.
4	S100_4a_008	4a	CatalogDatasetInconsistent	If any of the same values listed in the CATALOG.XML and present in the ISO 8211 are not identical.	531	Metadata Consistency	Table of ISO 8211 fields and metadata elements is DPS specific e.g. Dataset Title (DSTL) must match Resource Title.
5	S100_5_001	5-A	ProhibitedObject	For each object which is present in the dataset but not present in the S-XXX Feature Catalogue.	504, 545	Domain Consistency	Datasets must only contain the objects listed in the FC (feature and information types). Also need check for update consistency and how codes are defined in the dataset.
5	S100_5_002	5-A	ProhibitedGeometry	For each object which is present in the dataset which references a geometry which is not permitted in the S-XXX Feature Catalogue. (includes no geometry)	12, 20a, 1797	Conceptual Consistency	Feature types must only have the permitted geometric primitives. (noGeometry is a valid option for this check)
5	S100_5_003	5-A	ProhibitedAttribute	For each attribute present in the dataset which is not present in the S-XXX FC.	511, 546, 547, 1567+various	Conceptual Consistency	Attributes present in the dataset must be present in the FC, includes simple and complex.
5	S100_5_004	5-A	InvalidAttributeBinding	For each attribute binding which is either not present in the S-XXX FC or does not conform to the multiplicity of the attribute binding.	8, 507, 547, 1679	Domain Consistency	Objects present in the dataset must only have attributes permitted in the Feature Catalogue. Also must only have the permitted multiplicity of attribute instances.

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OUTCOMES

- Some good progress has been made on drafting these checks and a methodology for completing an initial draft set has emerged
- The S-101PT is invited to note the way forward proposed and its initial scope to support S-101 1.1.0
- The sub-group invites the S-101PT to endorse the continuation of this work