**Paper for Consideration by TSMAD27**

# Establishing parameters for multiple dataCoverages in S-101

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| ***Submitted by:*** | TSMAD Vice Chair |
| ***Executive Summary:*** | At TSMAD 26 it was proposed to restrict the use of dataCoverage to only one per dataset. However, there was no consensus achieved and this paper presents an alternative solution to establish strict parameters on how multiple dataCoverages can be used in S-101 |
| ***Related Documents:*** | S-101<br>TSMAD26 10.4A<br>TSMAD26 Action #12 |
| ***Related Projects:*** | N/A |

## Introduction / Background

At TSMAD 26 the United States submitted a proposal to eliminate the use of multiple dataCoverages within an S-101 dataset. The idea behind this paper was to simply the loading and unloading strategy for S-101 data. It would also reduce the potential for inconsistencies in different implementations of this strategy. However, at TSMAD 26, consensus was not achieved and a small group was asked to revisit the proposal and provide some clear examples and scenarios of what should be tested in the S-101 test bed.

In revisiting the paper, it was determined that instead of eliminating multiple dataCoverages within an S-101 dataset that S-101 should set some clear parameters as to what types of multiple dataCoverages may be acceptable and what types would not be acceptable. This would enable a more structured test approach.

## Analysis/Discussion

One of the key decisions that was made for S-101 was to eliminate the concept of usage bands, however there is still a mandatory element in S-101 metadata for cataloguing purposes. The element is specificUsage and is defined as follows:

> 1. Port Entry – A dataset containing data required for navigating the approaches to ports for navigating within ports, harbours, bays, rivers and canals, for anchorages as an aid to berthing or any combination of the above.
> 2. Transit – A dataset containing data required for navigating along the coastline either inshore or offshore navigating oceans, approaching coasts route planning or any combination of the above.
> 3. Overview – A dataset containing data required: for Ocean Crossing route planning

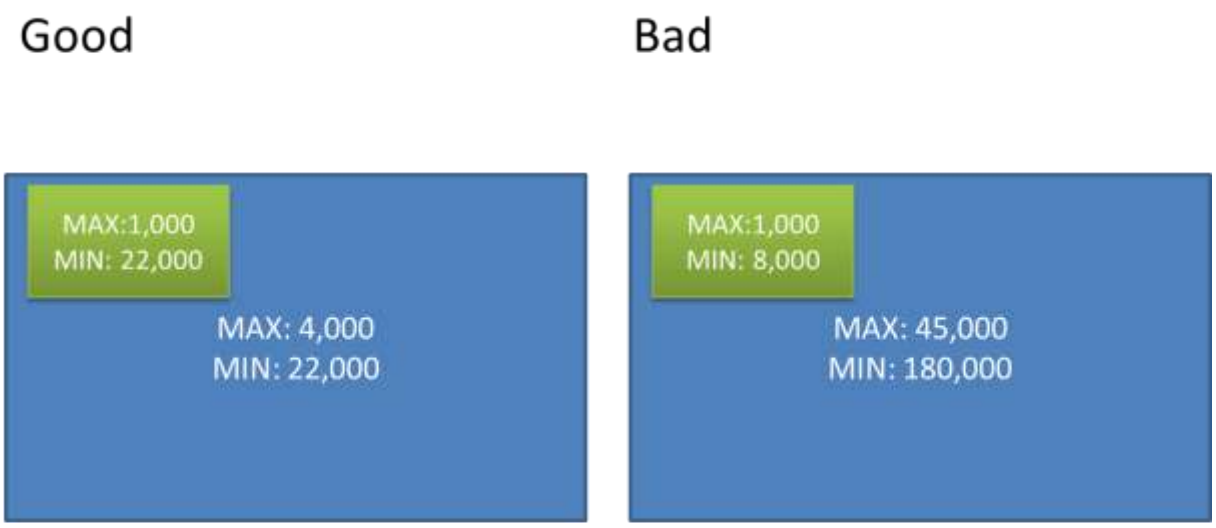
While this is there for general cataloguing purposes there is still no association with scale band ranges and nor is there currently any attempt to assign scale band ranges to specificUsuage. This means that TSMAD will still need to come up with mandatory specifications for dealing with multiple dataCoverages within a dataset.

This paper proposes that the following be added to S-101:

1. Datasets that are classified with a specificUsage as “Overview” must only have a single dataCoverage.
2. The following rules apply for datasets that are classified with a specificUsage of “Port Entry” and “Transit”
    a. The number of dataCoverage features in a dataset must not exceed three
    b. Multiple dataCoverages within a single dataset must be restrained so that all the data in the dataset remains within that same usage. E.g. a port entry usage cannot be a dataCoverage feature in a transit usage.
    c. The minimum display scale value must be the same for all dataCoverage features within a dataset.

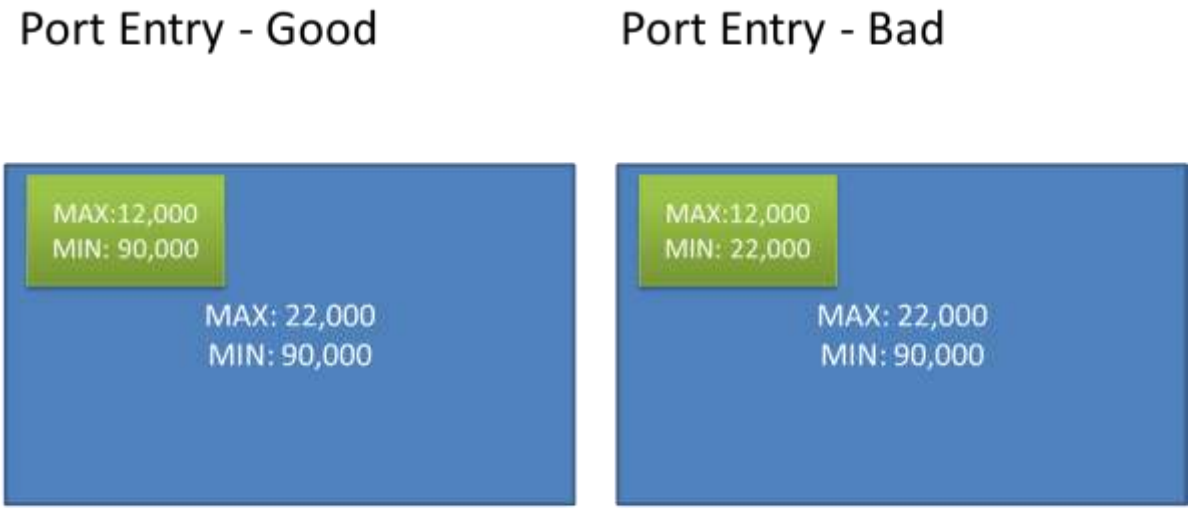
The following scenarios depict how these rules should work.

Scenario 1:




The above bad scenario shows an example of multiple dataCoverages extending beyond the “Port Entry” specificUsuage. The good scenario shows that both dataCoverages fall within the port entry usage and comply to the rules stated above.

Scenario 2:




The above scenario depicts how the rules should work for datasets classified as “Port Entry”. While the bad scenario keeps both dataCoverages within the same usage it fails the rules because it does not set the minimum display scales for both dataCoverages to the same value.

Scenario 3:


**Conclusions**
Judging from past experience, TSMAD recognizes that there needs to be more specification in how to set multiple dataCoverages and this proposal attempts to find the happy medium between having a single dataCoverage per dataset to the current lack of specification in S-57.

**Recommendations**
It is recommended that TSMAD discuss the draft specifications as proposed above and approve the basic wording for S-101, while noting that this will be part of the test scenarios for the S-100 test bed.

**Action Required of TSMAD**
The TSMAD is invited to:

a. endorse the draft specifications for multiple dataCoverages in S-101
b. agree to their inclusion in S-101