CSDR Validation

Enhanced DCARC Validation Process and Trends

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Agenda

- DCARC Validation Process Overview
- Common CCDR Errors
- Using Automated CCDR Checks
- Common SRDR Errors
- CADE Automated Validation

DCARC Validation Process Overview

Reporting entity submits report(s) to the CADE system

- Automatic email is generated to notify reviewers and submitters that the report has been submitted
- The report is placed in the DCARC's queue for review

DCARC and CWIPT review report(s)

- Reviewers ensure that the report(s) are submitted in the correct format, align with the requirements in the DID, have no mathematical errors, and align with CSDR plan

DCARC compiles feedback and sends to reporting entity

- The DCARC sends a Validation Error Report to the author listed in the CSDR report(s) and the report submitted that contains all errors
- Program Office and Service Cost Center are cc'd on the email
- Reporting entity is asked to submit updated report(s) 1 week after receiving Validation Error Report

Reporting entity resubmits report

- Reporting entity makes corrections outlined in Validation Error Report and resubmits to the same submission event in CADE
- Reporting entity may contact the DCARC for clarification on any comments in the Validation Error Report

DCARC finalizes report

- Reports are accepted when all Validation Error Report comments are addressed
- Reports are rejected if a reporting entity does not respond to the DCARC and fails to resubmit the corrects by the requested resubmission deadline OR if the reporting entity requires more than two additional weeks to make corrections

Common Errors "Mini Study"

- The DCARC examined the comments returned to reporting entities in a sample of Validation Error Reports created between September 2021 and October 2022

- **The sample contained:**
  - 489 Legacy 1921 Series Reports
  - 137 Cost and Hour Reports (FlexFiles)
  - 58 Software Resources Data Reporting (SRDR Deliverables)

- Cleaned/normalized data and counted frequency of each standard error comment provided to reporting entities
  - Determined "Top 20" most common comments for each report type
  - Cross-referenced CADE/cPet Automated Validation rules (available on the CADE Public Website: https://cade.osd.mil/tools/csdr-tools) to determine which of the "Top 20" are provided to industry prior to submission in CADE

CADE automated checks capture 47% of the Top 20 errors returned to reporting entities for Legacy 1921 reports and 65% for FlexFile reports

Common Contractor Cost Data Reporting (CCDR) Errors

Legacy 1921

CADE/cPet automated check alerts submitter to error prior to submission

Common Contractor Cost Data Reporting (CCDR) Errors

Legacy 1921-1 and 1921-5

CADE/cPet automated check alerts submitter to error prior to submission

Common Contractor Cost Data Reporting (CCDR) Errors

Cost and Hour Report (FlexFile) & Quantity Data Report

CADE/cPet automated check alerts submitter of error prior to submission

CADE/cPet automated check may occur at higher level than data is reported in the FlexFile

Using CADE Automated CCDR Checks

- **IN cPET (1921):** Upload the 1921, -1, -2, or -5, right click, and click “Validate Submission”

Using CADE Automated CCDR Checks

- **IN cPET (FlexFile):** Click “Validate FlexFile & Quantity Report” under the “Tools” menu

	B	C	D	E
	10/25/2022 9:58:24 AM			
	Contract Award_flexfile.zip			
	Attachment 04 - CSDR Plan (Z-99-C1(R2)).cplan.xml			
	Rule Description	**Importance**	**Validation Result**	**Error Count**
10 FlexFile Internal	Summary cost records must be included for all Orders/Lots.	Major	Pass	0
11 FlexFile Internal	Reported summary cost values must match calculated summary cost values.	Major	Pass	0
12 FlexFile Internal	Reporting calendar must not exceed contractual period of performance.	Major	Pass	0
13 FlexFile Internal	Reporting periods must be between 20 and 40 days in length.	Major	Pass	0
14 FlexFile Internal	Units/Sublots must have valid unit number ranges.	Major	Pass	0
15 FlexFile Internal	Unit/Sublot unit number ranges for a given End Item must not overlap.	Major	Fail	24
16 FlexFile vs Plan	Each reported Order/Lot must be identified in the CSDR Plan.	Major	Pass	0
17 FlexFile vs Plan	Each reported End Item must be identified in the CSDR Plan.	Major	Pass	0
18 FlexFile vs Plan	Each reported WBS Element must be identified in the CSDR Plan.	Major	Pass	0
19 FlexFile vs Plan	Each WBS Element indicated in the CSDR Plan must be included.	Major	Pass	0
20 FlexFile vs Plan	WBS parent elements must match those identified in the CSDR Plan.	Major	Pass	0
21 Quantity Internal	At least two Units/Sublots must be reported for each pair of Order/Lot and End Item indicated in the CSDR Plan.	Major	Fail	3
22 Quantity Internal	Production Sequence Segments must have valid unit number ranges.	Major	Pass	0
23 Quantity vs Plan	Production Sequence Segment unit number ranges for a given End Item must not overlap.	Major	Pass	0
24 Quantity vs Plan	Each reported Order/Lot must be identified in the CSDR Plan.	Major	Pass	0
25 Quantity vs Plan	Each reported End Item must be identified in the CSDR Plan.	Major	Pass	0
26 Quantity vs Plan	Each reported WBS Element must be identified in the CSDR Plan.	Major	Pass	0
27 Quantity vs Plan	Each WBS Element indicated in the CSDR Plan must be included.	Major	Fail	32
28 Quantity vs Plan	WBS parent elements must match those identified in the CSDR Plan.	Major	Pass	0
29 Quantity vs Plan	At least one Production Sequence Segment must be reported for each pair of Order/Lot and End Item indicated in the CSDR Plan.	Major	Fail	12

Using CADE Automated CCDR Checks

- **IN CADE:** After validating a report, click “Validation Errors” to see FlexFile-specific errors (FlexFiles only). Click on the “CCDR Report Name” to see all Major and Minor errors (FlexFiles and Legacy 1921 reports).

Validate: Review Results

Export CCDR Report Data

Flex File	FF Excel Template	FF Pivot Data	Quantity Data Report	Q Excel Template	Validation Errors	File(s) Current	Date Generated
Sample File_FF.zip			Sample File_Q.zip		4/0		5/31/2022 9:58:03 AM

CCDR Report Name	Major Error Count	Minor Error Count
Lot 1	39	22
Lot 2	39	22
Lot 3	39	22
Lot 4	39	10
Lot 5	39	10

Using CADE Automated CCDR Checks

- **IN CADE:** Click the “Major Errors” and “Minor Errors” tabs see all errors that CADE has identified
  - Review the Minor Errors – if the data is accurate, provide a Remark in the Remarks section (1921 Series) or WBS Element Remarks or Summary Remarks Section (FlexFile)

Major Errors (39) | Minor Errors (22) | History | View Reports

There are Minor Errors that may require attention. These errors will not prevent submission of the reports, but may require additional attention or an explanation in the Remarks Section.

Please see the below descriptions that identify each minor error. If you have any questions, please contact April Morgan, Peter Hippchen at . If you are not the preparer of this report, please hit the "Email Validation Error Report" button below and send the results to the preparer of the report.

Export Validation Error Report To Excel | Email Validation Error Report

1 2 3

Category	Location	Description	Details	Error Magnitude
1921 vs Contract Plan	WBS Element Code 1.0	WBS Element Name on 1921 does not match WBS Element Name on Contract Plan.		
1921 vs Contract Plan	WBS Element Code 1.1	WBS Element Name on 1921 does not match WBS Element Name on Contract Plan.		
1921 vs Contract Plan	WBS Element Code 1.2	WBS Element Name on 1921 does not match WBS Element Name on Contract Plan.		
1921 vs Contract Plan	WBS Element Code 1.3	WBS Element Name on 1921 does not match WBS Element Name on Contract Plan.		
1921 vs Contract Plan	WBS Element Code 1.3.1	WBS Element Name on 1921 does not match WBS Element Name on Contract Plan.		
1921 vs Contract Plan	WBS Element Code 1.3.2	WBS Element Name on 1921 does not match WBS Element Name on Contract Plan.		
1921 vs Contract Plan	WBS Element Code 1.3.3	WBS Element Name on 1921 does not match WBS Element Name on Contract Plan.		
1921 vs Contract Plan	WBS Element Code 1.4	WBS Element Name on 1921 does not match WBS Element Name on Contract Plan.		
1921 vs Contract Plan	WBS Element Code 1.5	WBS Element Name on 1921 does not match WBS Element Name on Contract Plan.		
1921 Internal	WBS Element Code 1.1.4.1	To Date figure is greater than At Completion figure.	Columns: Total To Date Cost: $k 1,621,643.6 At Completion Cost: --	1621643.6

1 2 3

You can also export all Major and Minor errors to Excel and/or email them automatically to your DCARC Analyst if you have questions.

If the report preparer has a CADE account, you can email the errors to that individual too.

Other Common Errors Of Note

- **Legacy 1921-series report not submitted in XML**
  - **To resolve:** Use cPet Desktop (available on CADE Public Website) or cPet Web (available within CADE Portal, no download necessary) to convert Excel files to XML prior to submitting

- **Submission Number is incorrect**
  - **To resolve:** Ensure that Submission Number and Resubmission Number align with data displayed in CADE. Submission Number can be found within the CSDR plan or in CADE (Contract Details page, “Submission Info” tab of any in-progress submission). Resubmission Number is only visible within CADE and should only be 1 or greater if the submission has been formally rejected.

- **Costs reported for WBS Elements that are defined as "not applicable" in the CWBS Dictionary *or* Definitions reported but no costs are reported**
  - **To resolve:** Ensure that the CWBS Dictionary aligns with the cost data reported. If a definition is provided for an element, the DCARC expects to see non-zero costs at completion. If the dictionary indicates that an element is not applicable, the DCARC does not expect to see costs at completion.
  - **Note:** The common Minor Error “Required reporting element from 1921 reports zero cost for Total At Completion” is most often resolved by ensuring the CWBS Dictionary and cost data align.

CADE Automated Validations & Common Errors

Software Resources Data Reporting

- Most common SRDR errors relate to:
  - **Leaving sections blank with no comments to clarify**
  - **Not using the UGG-C or UCC-SC**

- CADE/cPet currently have some automated validation capabilities
  - **Ensure that Releases, CSCIs, and WBS Elements reported align with CSDR plan**
  - **Check metadata against the CSDR plan**

Additional SRDR Automated Validation checks are coming to CADE. The DCARC plans to continue research into common issues with SRDR deliverables in order to enhance our guidance and reference materials.

CADE Automated Validation

CADE Automated Validation

- The Cost Assessment Data Enterprise (CADE) is an Office of the Secretary of Defense Cost Assessment and Program Evaluation (OSD CAPE) initiative to increase analyst productivity and effectiveness for government analysts by collecting, organizing and displaying data in an integrated single web-based application, improving data quality, reporting compliance and source data transparency. This session will cover the current status of CADE Automated Validation, and future plans for additional Automated Validations.

- Overview:
  - Legacy CCDR (1921 Series) Automated Validation
  - FlexFile/Quantity Automated Validation
  - SRDR Automated Validation
  - Future SRDR Automated Validation

Automated Validation Overview

- CADE's CSDR-SR Application leverages machine-readable formats to perform Automated Validation checks during submission process
  - Automated Validation is performed in conjunction with DCARC/CWIPT hand-review
  - Full list of validation rules: https://cade.osd.mil/content/cade/files/csdr/cPet/CSDR%20Automated%20Validation.xlsx

- cPet Desktop/Web Applications:
  - Unified Code Base with CADE CSDR Submit-Review
  - Industry Data Preparers have access to all automated validations prior to CADE Submission via cPet
  - Multiple features within cPet Desktop to aid users in the creation and validation of CSDR Reports

- Key cPet Functions:
  - Create 1921 Series, FF/Q, SRDR Excel Templates (.XLS) from CSDR Plan
  - Validate 1921 Series, FF/Q, SRDR submissions against CSDR Plan
  - Conversions utilities – convert FlexFile XLS template to JSON, 1921 Series XLS to XML,
  - Additional Features
    - Generation of FlexFile Pivot "reviewer files,"
    - Generation of SRDR Dimensional Exports

Levels of FlexFile Validation

Prior to Submission

1. DEI/FFS		2. FlexFile Validation Checklist		3. 1921 Series Check	
Does my FlexFile adhere to the file format specification?		Does my FlexFile data align with my approved CSDR plan?		Can the FlexFile pass a 1921 Series Validation?	
Initial step performed to identify errors related to structuring your data into the data model format (JSON) correctly		Validation checks relevant to the FlexFile. Checks both FlexFile Internal and FlexFile against the plan.		FlexFile converted to 1921 (Broken out by Order/Lot), then validated	
cPET	**CSDR-SR**	**cPET**	**CSDR-SR**	**cPET**	**CSDR-SR**
X		X	X	X	X

CSDR-SR Submission

To submit, FF/Q must:

1. Be in JSON File Format
2. Pass FF Validation Checklist
3. Pass 1921 Series check

CSDR-SR Review

4. DCARC/Program Office Hand Review	
Additional validations by DCARC and the Program Office	
Additional validations performed during submission review (May result in Rejection)	
cPET	**CSDR-SR**
	X

SRDR Automated Validation – Future Validations (Sample)

- Additional SRDR Validation Rules are currently in development.
- Future Automated Validation Rules Types:
  - SRDR vs Plan leveraging the SRDR Supplement
  - Internal Document checks

Color	Rule
	Required
	Required, Multi-Select
	Required, Single Select
	Required, vs Plan Validation
	Conditional Check

UNCLASSIFIED

Security Classification

SOFTWARE RESOURCES DATA REPORTING
FORMAT 1 - SOFTWARE DEVELOPMENT REPORT

OMB Control Number xxxx-xxxx
Expiration Date: MM/DD/YYYY

The public reporting burden for this collection of information, 0704-0188, is estimated to average 16 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. **PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE ABOVE ORGANIZATION.**

PART 1 - SOFTWARE DEVELOPMENT TECHNICAL DATA, RELEASE LEVEL

Release ID	Release Name	Release Start Date (YYYYMMDD)	Release End Date (YYYYMMDD)	Release Completed?
				Yes / No

Software Requirements Count Definition

External Interface Requirements Count Definition

Hours Per Staff Month	Hours Per Staff Month Computed?	Total Labor Hours (if hours per staff month computed)	Total Staff (if hours per staff month computed)
	Yes / No		

Product Quality Reporting Definition

SOFTWARE PROCESS MATURITY

Rating	Certification Date (YYYYMMDD)	Lead Evaluator	Evaluator Affiliation

CONTRACTOR-DEFINED SOFTWARE DEVELOPMENT ACTIVITIES

ID	Name	Definition	ISO 12207 processes included (check all that apply)						
			SW RA	SW AD	SW DD	SW CON	SW I	SW QT	SW SP

Common Heading | Part 1, Release Level | Part 1, Release-CSCI Level | Part 2

Questions?

CADESupport@tecolote.com

Backup

FlexFile Validation Checklist

- All FlexFile & Quantity Submissions must pass Validation checklist *and* 1921 Series Validation prior to CSDR-SR Submission

Please Note: At this time FlexFile and Quantity validation rules are preliminary, and are mainly focused on compliance with the DD2794 CSDR Plan. The rules will be expanded in the future.

Category	Description	Importance	Display Order
FlexFile Internal	Summary cost records must be included for all Orders/Lots.	Major	1
FlexFile Internal	Reported summary cost values must match calculated summary cost values.	Major	2
FlexFile Internal	Reporting calendar must not exceed contractual period of performance.	Major	3
FlexFile Internal	Reporting periods must be between 20 and 40 days in length.	Major	4
FlexFile Internal	Units/Sublots must have valid unit number ranges.	Major	5
FlexFile Internal	Unit/Sublot unit number ranges for a given End Item must not overlap.	Major	6
FlexFile vs Plan	Each reported Order/Lot must be identified in the CSDR Plan.	Major	1
FlexFile vs Plan	Each reported End Item must be identified in the CSDR Plan.	Major	2
FlexFile vs Plan	Each reported WBS Element must be identified in the CSDR Plan.	Major	3
FlexFile vs Plan	Each WBS Element indicated in the CSDR Plan must be included.	Major	4
FlexFile vs Plan	WBS parent elements must match those identified in the CSDR Plan.	Major	5
FlexFile vs Plan	At least two Units/Sublots must be reported for each pair of Order/Lot and End Item indicated in the CSDR Plan.	Major	6
Quantity Internal	Production Sequence Segments must have valid unit number ranges.	Major	1
Quantity Internal	Production Sequence Segment unit number ranges for a given End Item must not overlap.	Major	2
Quantity vs Plan	Each reported Order/Lot must be identified in the CSDR Plan.	Major	1
Quantity vs Plan	Each reported End Item must be identified in the CSDR Plan.	Major	2
Quantity vs Plan	Each reported WBS Element must be identified in the CSDR Plan.	Major	3
Quantity vs Plan	Each WBS Element indicated in the CSDR Plan must be included.	Major	4
Quantity vs Plan	WBS parent elements must match those identified in the CSDR Plan.	Major	5
Quantity vs Plan	At least one Production Sequence Segment must be reported for each pair of Order/Lot and End Item indicated in the CSDR Plan.	Major	6

SRDR Automated Validation - Current

- SRDR Automated Validation functionality is currently active in CSDR-SR*, but not required for submission

Please Note: At this time SRDR validation errors are preliminary, and are mainly focused on compliance with the DD2794 CSDR Plan. The errors will be expanded in the future.

Category	Severity	Description	Display Order
SRDR DEV versus Contract Plan	Minor: Remarks Required	Metadata on SRDR DEV does not match metadata on Contract Plan.	1
SRDR DEV versus Contract Plan	Major	Blank Submission Number found for SRDR DEV.	2
SRDR DEV versus Contract Plan	Major	Submission event for SRDR DEV not found on Contract Plan.	3
SRDR DEV versus Contract Plan	Minor	Report As Of Date on SRDR DEV does not match Submission As Of Date on Contract Plan.	4
SRDR DEV versus Contract Plan	Major	Blank Release ID found for release from SRDR DEV.	5
SRDR DEV versus Contract Plan	Major	Redundant data provided for release from SRDR DEV.	6
SRDR DEV versus Contract Plan	Major	Release from SRDR DEV not found on Contract Plan.	7
SRDR DEV versus Contract Plan	Major	Required release omitted from SRDR DEV.	8
SRDR DEV versus Contract Plan	Minor	Release Name on SRDR DEV does not match Release Name on Contract Plan.	9
SRDR DEV versus Contract Plan	Major	Blank Release ID found for release-CSCI from SRDR DEV.	10
SRDR DEV versus Contract Plan	Major	Blank CSCI ID found for release-CSCI from SRDR DEV.	11
SRDR DEV versus Contract Plan	Major	Blank WBS Element Code found for release-CSCI from SRDR DEV.	12
SRDR DEV versus Contract Plan	Major	Redundant data provided for release-CSCI from SRDR DEV.	13
SRDR DEV versus Contract Plan	Major	Release-CSCI from SRDR DEV not found on Contract Plan.	14
SRDR DEV versus Contract Plan	Major	Required release-CSCI omitted from SRDR DEV.	15
SRDR DEV versus Contract Plan	Minor	Release Name on SRDR DEV does not match Release Name on Contract Plan.	16
SRDR DEV versus Contract Plan	Minor	CSCI Name on SRDR DEV does not match CSCI Name on Contract Plan.	17
SRDR DEV versus Contract Plan	Major	WBS Element Code on SRDR DEV does not match WBS Element Code on Contract Plan.	18
SRDR DEV versus Contract Plan	Minor	WBS Element Name on SRDR DEV does not match WBS Element Name on Contract Plan.	19
SRDR MX versus Contract Plan	Minor: Remarks Required	Metadata on SRDR MX does not match metadata on Contract Plan.	1
SRDR MX versus Contract Plan	Major	Blank Submission Number found for SRDR MX.	2
SRDR MX versus Contract Plan	Major	Submission event for SRDR MX not found on Contract Plan.	3
SRDR MX versus Contract Plan	Minor	Report As Of Date on SRDR MX does not match Submission As Of Date on Contract Plan.	4
SRDR MX versus Contract Plan	Major	Blank Release ID found for release from SRDR MX.	5

Note: *SRDR Validation will only work for SRDRs using XML, Machine Readable Excel Templates Currently available on CADE Public Site.*