

C•CERT+

CCDR FlexFile

Working with LARGE Actual Cost Hour Data Tables

Working with a large Actual Cost Hour Data Table

With the Implementation of the CCDR Cost and Hour FlexFile in May 2019 came the elimination of the Legacy 1921, 1921-1, 1921-2 and 1921-5 Excel and XML file submittal.

With the FlexFile, the CDRL Submittal is now a set of up to 20 JSON files, depending on the DD 2794 Plan requirements.

Each FlexFile is a Program Database in and of itself. This means each submitted FlexFile is always required to have the Full Program Actuals To Date (ATD) and Forecast At Complete (FAC) from the inception to completion.

While this is not necessarily different from the Legacy 1921 and 1921-1 Excel reports, there is one JSON table that is an exception:

- **Actual Cost Hour Data**

The Actual Cost Hour Data table specifications require the reported Actuals to be by **Contractor Accounting Period** identified by:

- Contractor “Account” (e.g. Control Account or Work Package or Charge Number, etc.)
 - Each Account has additional required data Attributes (e.g. Recurring/Non-Recurring, CLIN, DD 2794 WBS)
- Contractor “Functional Category” (e.g. Resource, Activity Type)
 - Each Functional Category has an additional required data Attribute – type of Government Standard Category
- Indirect Cost are required to be identified separately, on a separate record, from their Direct Cost base
 - Overhead at a minimum has this requirement. G&A and FCCM also has this requirement if Actuals are being reported at those levels

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Remember, each FlexFile submittal is a Program Database in and of itself.

The above Actual Data identified is required for every submittal, from Inception to Date.

- This means, for example, if each FlexFile Reporting Event were in 12-month increments, and there are 10 Required Reporting Events – the last submission would be 120 periods of Actual data at the level of detail identified above.

In some cases, the level of detail required to report identified by the DD 2794 Plan, along with the Actual Cost Hour Data JSON specification requirements alone, can result in a very large Actual Cost Hour Data JSON table of over 1M records – greater than what can be loaded into a single Excel Worksheet (1,048,576 rows) 🤪

JSON = Java Script Object Notation.

A JSON file is not necessarily represented in Human Readable Format.

SO, THE QUESTION IS: If a JSON Actual Cost Hour Data table created results in over 1,048,576 records and JSON is not Human Readable format – meaning one cannot necessarily open this JSON file in say Notepad for data analysis – and the file is too big to translate to an Excel formatted file - how does one view this data for analysis prior to submittal?

THE ANSWER IS: 

Working with a large Actual Cost Hour Data Table

One option C**CERT+* provides to Analyze a large Actual Cost Hour Data table is:

- After JSON creation, use the “Import JSON” functionality and import all JSON created tables back into C**CERT+*
 - The C**CERT+* grids have no data size limitation
 - Each JSON table is presented in it’s own grid
 - While this provides local capabilities to Analyze the data, in most cases you will want to share the data with the Program Management team for review and using Excel is normally the most popular way to do this



Is there a way to reduce the size of an Actual Cost Hour Data table, but still include all the Account data and Account Attribute fields to review and analyze in an Excel Worksheet?

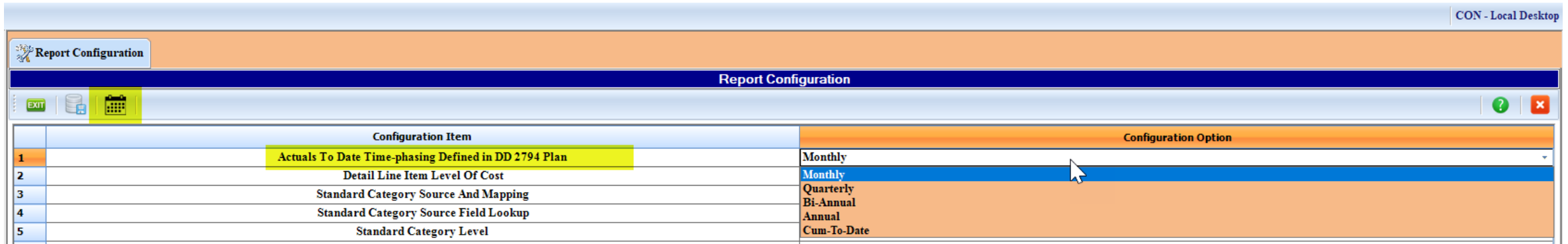
If you have C**CERT+* - we suggest experimenting with the Report Configuration Time-phasing Options:


- Monthly (default)
- Quarterly
- Bi-Annual
- Annual
- Cum-To-Date



One of the options in the C*CERT+ Report Configuration module is: **Actuals To Date Time-phasing Defined in the DD 2794 Plan**

This option was implemented, anticipating a potential DD 2794 Plan in the future which may request a different Actual Data Time-phasing bucket other than the default of “Monthly”.



A different selection, other than Monthly, in the Actuals To Date Time-phasing Defined in the DD 2794 Plan row, along with the “Calculate FlexFile Periods” option  results in the reduction of the number of Actual Cost Hour Data table records while maintaining each individual Accounts data and associated Attribute fields – and summing the Hours and Dollars into the selected Time-phasing buckets to also maintain the overall Actual Cost Hour Data table reported costs.

EXAMPLE: Number of ACH Table Record Results

Time-phasing Configuration	Records Result
Monthly	1,216,975 (greater than 1,048,576 Excel row limitation)
Quarterly (3-month buckets)	513,128
B-Annual (6-month buckets)	308,705
Annual (12-month buckets)	246,730
Cum-To-Date (equivalent to Legacy 1921)	144,936



Reproducible, Reliable and Sustainable CCDR Reporting

Example of an Actual Cost Hour Data table, “re-time-phased” to Cum-To-Date and then converted to Excel.

Monthly periods were removed, but all costs were summed up and all Account data and Attribute data are visible for analysis.



	A	B	C	D	E	F	G	H	I	J	K	L	M	AM	AN
1	OrderOrLotID	CLIN_ID	EndItemID	WBSElementID	AccountID	NonrecurringOrRecurringID	FunctionalCategoryID	FunctionalOverheadCategoryID	StandardCategoryID	DetailedStandardCategoryID	UnitOrSublotID	AllocationMethodID	ReportingPeriodID	Value_Dollars	Value_Hours
2	1	0001	RADAR 5	1.1.8	RADAR 10~X.02.02.02.2	NONRECURRING	COM	Not Applicable		FACILITIES_CAPITAL_COST_OF_MONEY			1	7,677.6500	0.0000
3	1	0001	RADAR 5	1.1.8	RADAR 10~X.02.02.02.2	NONRECURRING	ENG LAB OH	Not Applicable		ENGINEERING_LABOR_OVERHEAD			1	1,191,001.9000	0.0000
4	1	0001	RADAR 5	1.1.8	RADAR 10~X.02.02.02.2	NONRECURRING	G&A	Not Applicable		GENERAL_AND_ADMINISTRATIVE			1	287,765.4000	0.0000
5	1	0001	RADAR 5	1.1.8	RADAR 10~X.02.02.02.2	NONRECURRING	IWA	Not Applicable		INTERCOMPANY_WORK_ORDERS			1	9,448.4300	0.0000
6	1	0001	RADAR 5	1.1.8	RADAR 10~X.02.02.02.2	NONRECURRING	IWA G&A	Not Applicable		GENERAL_AND_ADMINISTRATIVE			1	710.4200	0.0000
7	1	0001	RADAR 5	1.1.8	RADAR 10~X.02.02.02.2	NONRECURRING	MATERIAL	MATERIAL OH		PURCHASED_PARTS			1	0.0400	0.0000
8	1	0001	RADAR 5	1.1.8	RADAR 10~X.02.02.02.2	NONRECURRING	MFG LAB OH	Not Applicable		MANUFACTURING_OPERATIONS_LABOR_OVERHEAD			1	4,383.3000	0.0000
9	1	0001	RADAR 5	1.1.8	RADAR 10~X.02.02.02.2	NONRECURRING	ODC	Not Applicable		OTHER_DIRECT_NON_LABOR			1	52.6300	0.0000
10	1	0001	RADAR 5	1.1.8	RADAR 10~X.02.02.02.2	NONRECURRING	TRAVEL	Not Applicable		OTHER_DIRECT_NON_LABOR			1	1.6300	0.0000
11	1	0001	RADAR 5	1.1.8	RADAR 10~X.02.02.02.2	NONRECURRING	ZZ030A	ENG LAB OH		DIRECT_PROGRAM_MANAGEMENT_LABOR			1	0.0100	0.0000
12	1	0001	RADAR 5	1.1.8	RADAR 10~X.02.02.02.2	NONRECURRING	ZZ030J	ENG LAB OH		DIRECT_PROGRAM_MANAGEMENT_LABOR			1	0.0100	0.0000
13	1	0001	RADAR 5	1.1.8	RADAR 10~X.02.02.02.2	NONRECURRING	ZZ2000	ENG LAB OH		DIRECT_ENGINEERING_LABOR			1	1,954.6600	30.7460
14	1	0001	RADAR 5	1.1.8	RADAR 10~X.02.02.02.2	NONRECURRING	ZZ2001	ENG LAB OH		DIRECT_ENGINEERING_LABOR			1	8,070.0600	162.1510
15	1	0001	RADAR 5	1.1.8	RADAR 10~X.02.02.02.2	NONRECURRING	ZZ2003	ENG LAB OH		DIRECT_ENGINEERING_LABOR			1	36.4700	0.5220
16	1	0001	RADAR 5	1.1.8	RADAR 10~X.02.02.02.2	NONRECURRING	ZZ2005	ENG LAB OH		DIRECT_ENGINEERING_LABOR			1	1.1900	0.0280
17	1	0001	RADAR 5	1.1.8	RADAR 10~X.02.02.02.2	NONRECURRING	ZZ2100	ENG LAB OH		DIRECT_MANUFACTURING_SUPPORT_LABOR			1	0.2400	0.0050
18	1	0001	RADAR 5	1.1.8	RADAR 10~X.02.02.02.2	NONRECURRING	ZZ2111	ENG LAB OH		DIRECT_MANUFACTURING_SUPPORT_LABOR			1	0.0100	0.0000
19	1	0001	RADAR 5	1.1.8	RADAR 10~X.02.02.02.2	NONRECURRING	ZZ2121	ENG LAB OH		DIRECT_MANUFACTURING_OTHER_LABOR			1	23.4100	0.4670
20	1	0001	RADAR 5	1.1.8	RADAR 10~X.02.02.02.2	NONRECURRING	ZZ2122	ENG LAB OH		DIRECT_MANUFACTURING_OTHER_LABOR			1	1,243.1700	25.0000
21	1	0001	RADAR 5	1.1.8	RADAR 10~X.02.02.02.2	NONRECURRING	ZZ2135	ENG LAB OH		DIRECT_MANUFACTURING_OTHER_LABOR			1	24.2900	0.4730
22	1	0001	RADAR 5	1.1.8	RADAR 10~X.02.02.02.2	NONRECURRING	ZZ2177	ENG LAB OH		DIRECT_MANUFACTURING_TOUCH_LABOR			1	61.6100	2.1000
23	1	0001	RADAR 5	1.1.8	RADAR 10~X.02.02.02.2	NONRECURRING	ZZ2206	ENG LAB OH		DIRECT_ENGINEERING_LABOR			1	3.6100	0.0750
24	1	0001	RADAR 5	1.1.8	RADAR 10~X.02.02.02.2	NONRECURRING	ZZ22T9	ENG LAB OH		DIRECT_MANUFACTURING_TOUCH_LABOR			1	1.4100	0.0320

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