



RTC Confidence



Chrono™

Moneyball for Project Management

Powered by: **RTC Monte Carlo X™**

Chrono™ Training Reference Guide

Version 3.3 – November 2024

Chrono™ Training Reference Guide

IMS (Integrated Master Schedule)

SRA (Schedule Risk Analysis)

ES (Earned Schedule)

EVM (Earned Value Management)



Chrono™

Moneyball for Project Management

Chrono™ MS, SRA, ES & EVM Training



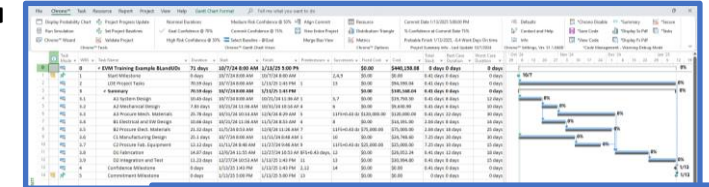
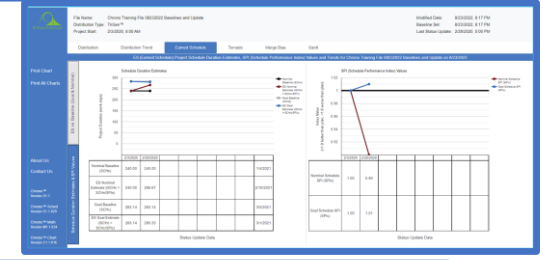
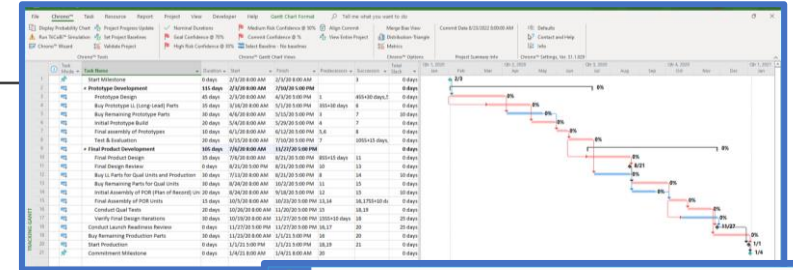
Agenda

SECTION 1

- The Two Template Files
- Running the First Template File Downloaded with Chrono™
- Creating an IMS (Integrated Master Schedule) with Chrono™
- Performing an SRA (Schedule Risk Analysis) with Chrono™
- Performing ESM (Earned Schedule Management) with Chrono™

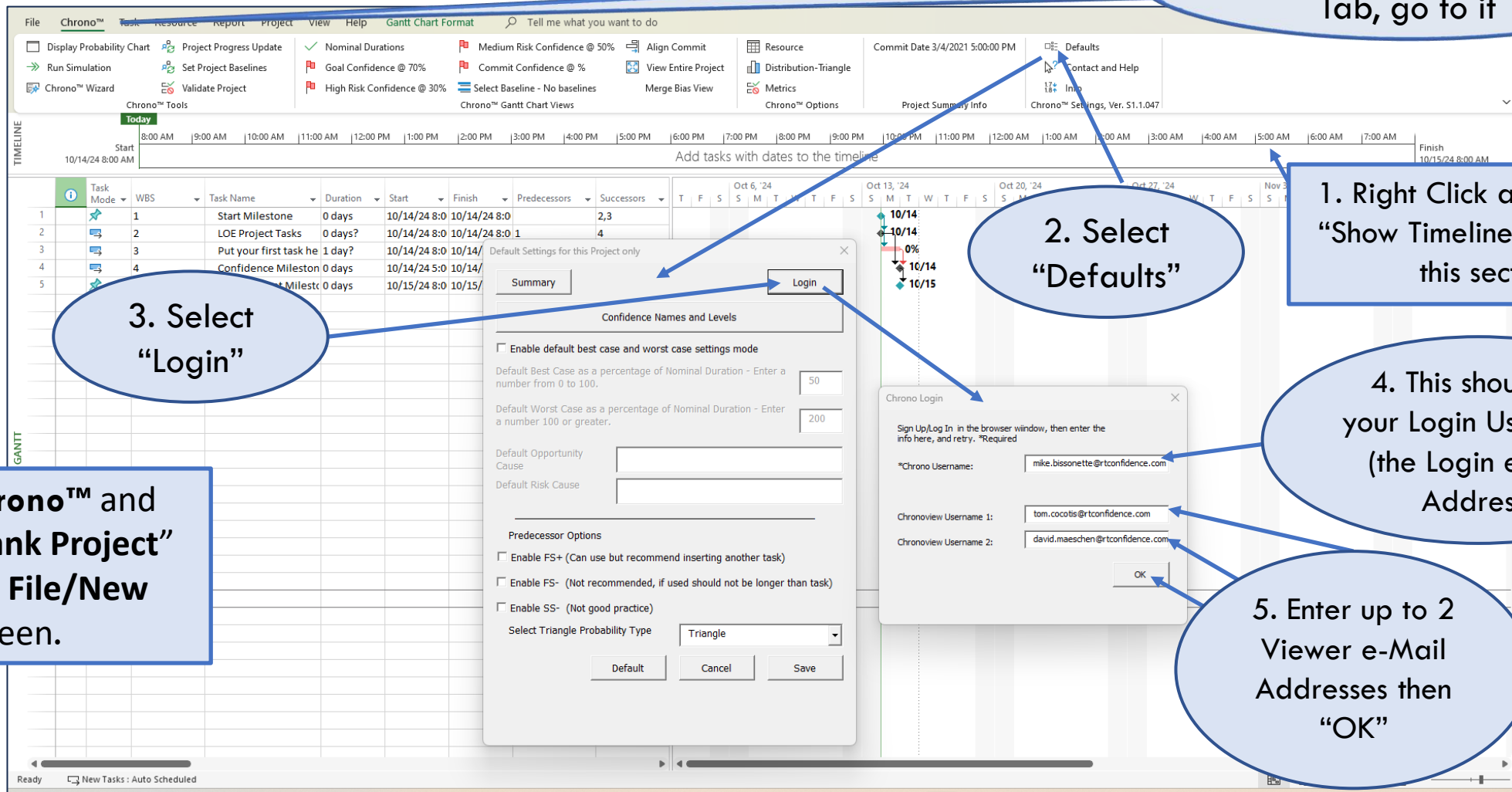
SECTION 2

- Running the Second Template File Downloaded with Chrono™
- Creating an EVM-Ready IMS with Chrono™
- Performing EVM (Earned Value Management) with Chrono™
- Inputting Actual Costs for EVM



After Chrono™ is Downloaded Setting Viewer Access in Chrono™

If not in the Chrono™ Tab, go to it



2. Select "Defaults"

1. Right Click and Deselect "Show Timeline" to remove this section.

3. Select "Login"

4. This should be your Login Username (the Login e-Mail Address)

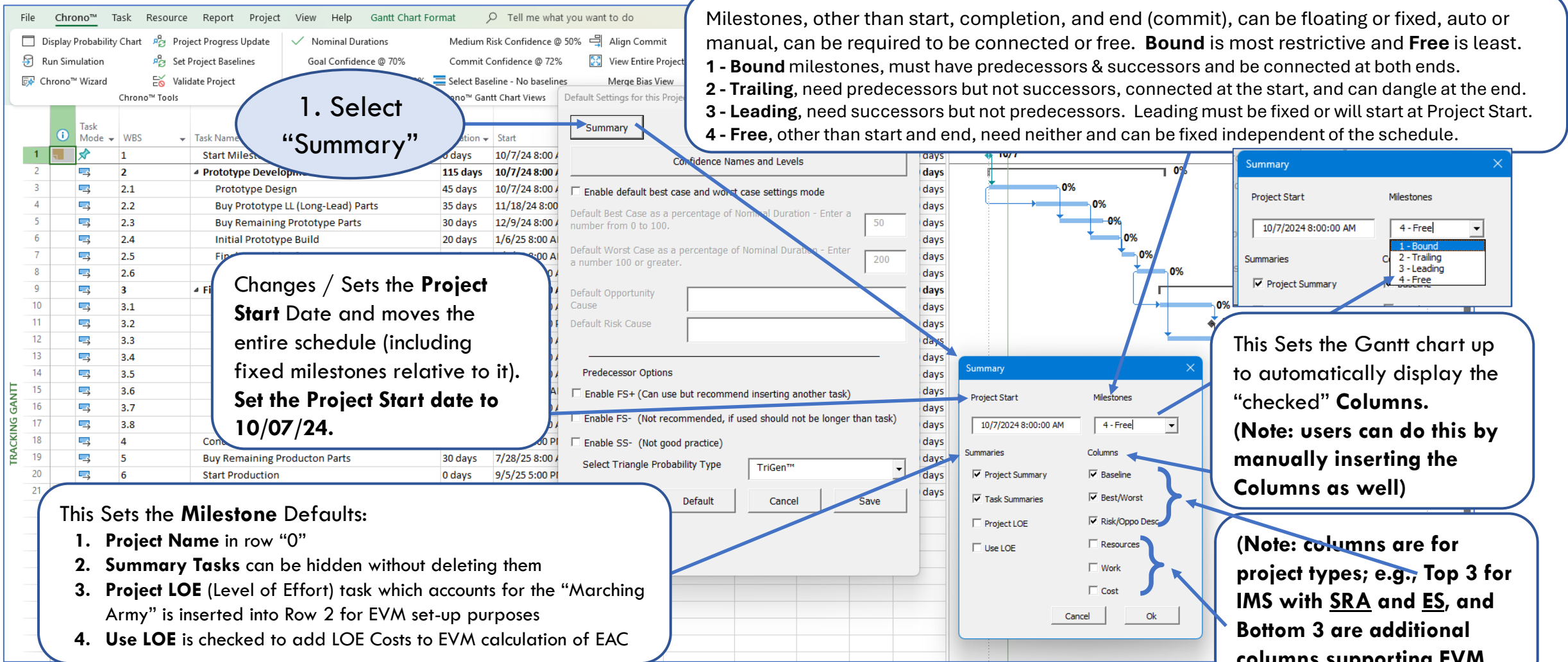
5. Enter up to 2 Viewer e-Mail Addresses then "OK"

Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors	Successors
1	1	Start Milestone	0 days	10/14/24 8:00 AM	10/14/24 8:00 AM		2,3
2	2	LOE Project Tasks	0 days?	10/14/24 8:00 AM	10/14/24 8:00 AM	1	4
3	3	Put your first task here	1 day?	10/14/24 8:00 AM	10/14/24 8:00 AM		
4	4	Confidence Milestone	0 days	10/14/24 5:00 AM	10/14/24 5:00 AM		
5	5	Confidence Milestone	0 days	10/15/24 8:00 AM	10/15/24 8:00 AM		

Open Chrono™ and Select "Blank Project" from the File/New screen.

More on Chrono™ Defaults

“Summary” Viewer in Chrono™ Defaults



1. Select “Summary”

Changes / Sets the **Project Start Date** and moves the entire schedule (including fixed milestones relative to it). **Set the Project Start date to 10/07/24.**

This Sets the **Milestone Defaults**:

1. **Project Name** in row “0”
2. **Summary Tasks** can be hidden without deleting them
3. **Project LOE** (Level of Effort) task which accounts for the “Marching Army” is inserted into Row 2 for EVM set-up purposes
4. **Use LOE** is checked to add LOE Costs to EVM calculation of EAC

Milestones, other than start, completion, and end (commit), can be floating or fixed, auto or manual, can be required to be connected or free. **Bound** is most restrictive and **Free** is least.

- 1 - **Bound** milestones, must have predecessors & successors and be connected at both ends.
- 2 - **Trailing**, need predecessors but not successors, connected at the start, and can dangle at the end.
- 3 - **Leading**, need successors but not predecessors. Leading must be fixed or will start at Project Start.
- 4 - **Free**, other than start and end, need neither and can be fixed independent of the schedule.

This Sets the Gantt chart up to automatically display the “checked” **Columns**. (Note: users can do this by manually inserting the **Columns** as well)

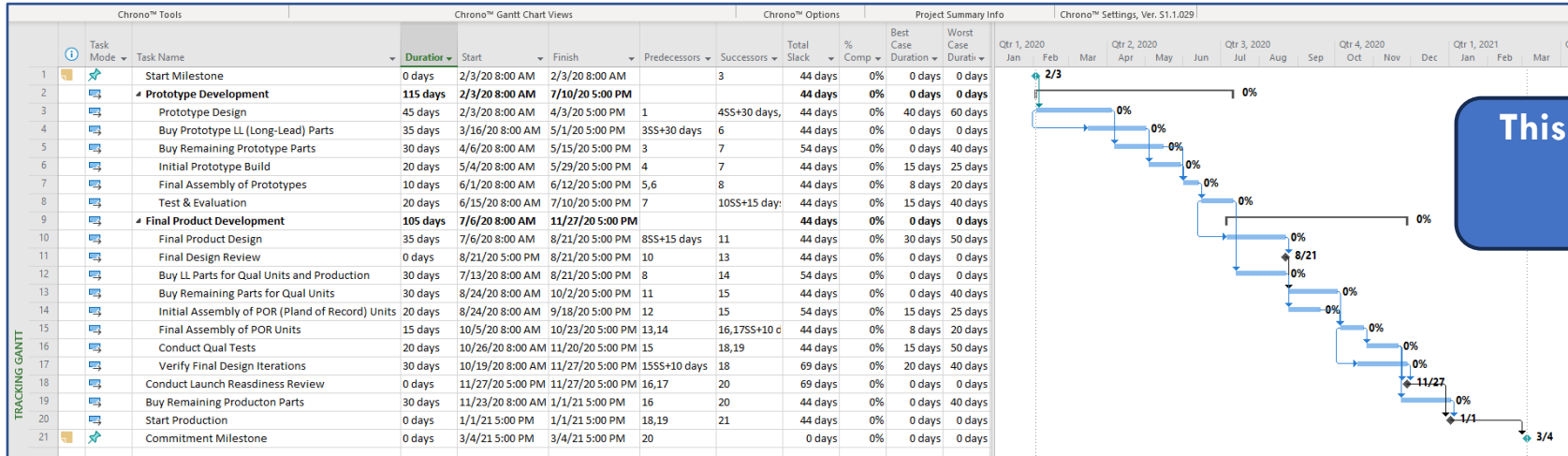
(Note: columns are for project types; e.g., Top 3 for IMS with SRA and ES, and Bottom 3 are additional columns supporting EVM.)

After Chrono™ is Downloaded

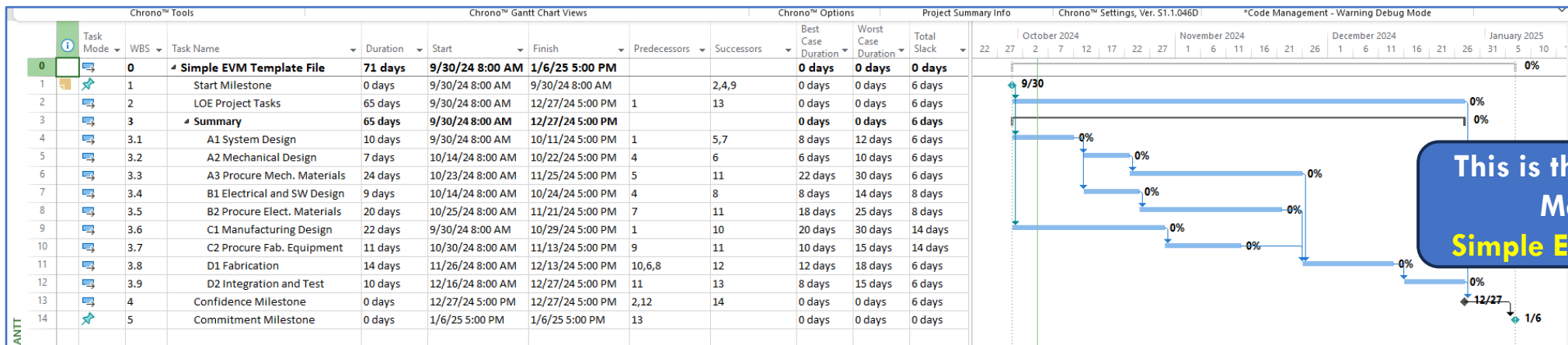


Download These Files – We Create them During this Training

There are 2 Completed IMS Templates Available (one for Basic IMS and one for EVM)



This is the Basic IMS (Integrated Project Schedule)
ChronoTraining.mpt



This is the EVM (Earned Value Management) IMS
Simple EVM Template File.mpt

After Chrono™ is Downloaded



Select: **Documents\RTConfidence\ChronoTraining.mpt**

This is a Completed IMS ready for SRA. Save_As and then follow the below Instructions

1. Select "Validate Project"

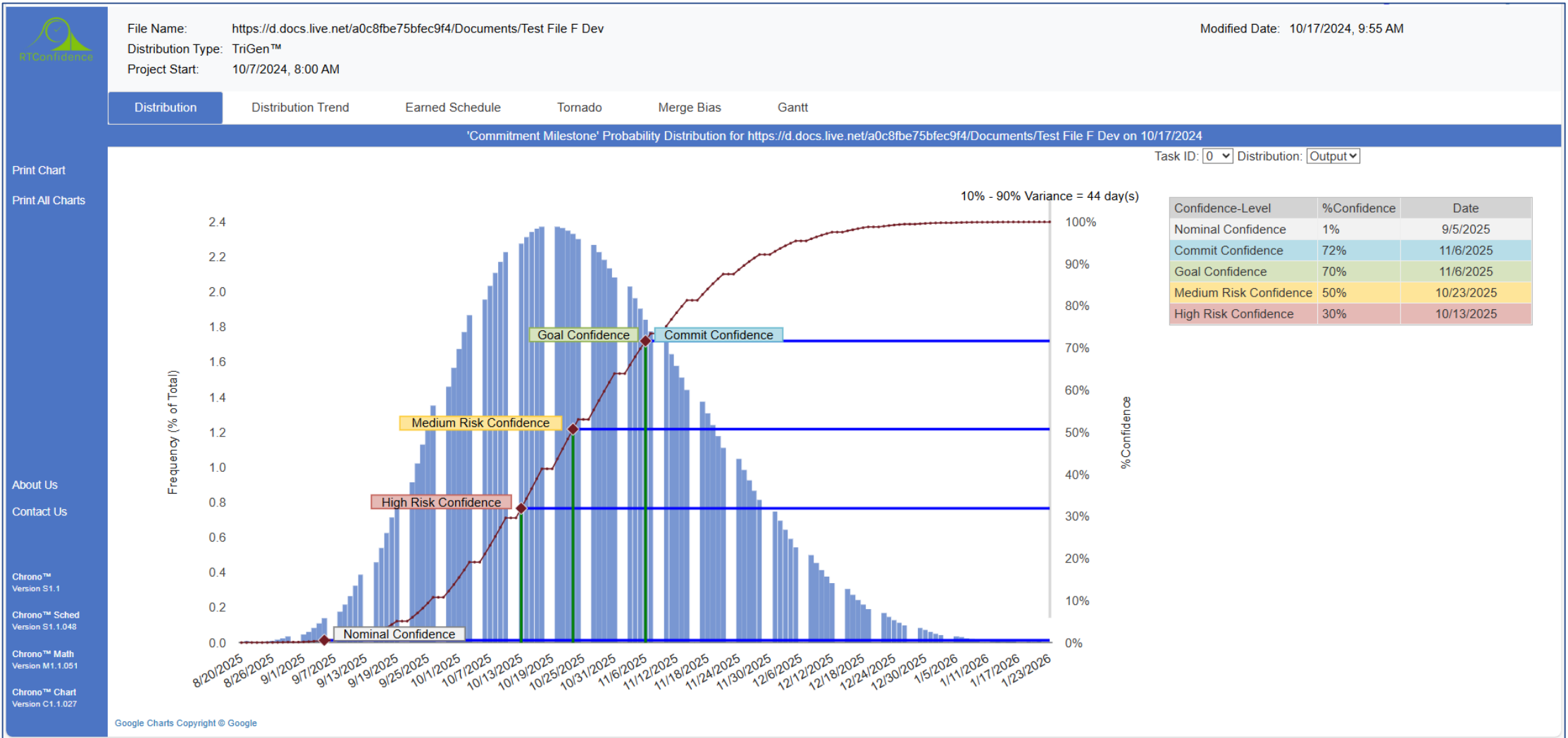
2. Select "Run Simulation" and this will first bring you to the Login screen (Use your Download Input and remember your new PW) then you will go to the Browser Simulation Output

Chrono™ opens by default. This is the completed IMS we will create in Section 1. You should follow the numbered instructions.

Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack	% Comp	Best Case Duration
1		Start Milestone	0 days	2/3/20 8:00 AM	2/3/20 8:00 AM		3	44 days	0%	0 days
2	2	Prototype Development	115 days	2/3/20 8:00 AM	7/10/20 5:00 PM			44 days	0%	0 days
3	2.1	Prototype Design	45 days	2/3/20 8:00 AM	4/3/20 5:00 PM	1	4SS+30 days, 6	44 days	0%	40 days
4	2.2	Buy Prototype LL (Long-Lead) Parts	35 days	3/16/20 8:00 AM	5/1/20 5:00 PM	3SS+30 days	7	44 days	0%	0 days
5	2.3	Buy Remaining Prototype Parts	30 days	4/6/20 8:00 AM	5/15/20 5:00 PM	3	7	54 days	0%	0 days
6	2.4	Initial Prototype Build	20 days	5/4/20 8:00 AM	5/29/20 5:00 PM	4	7	44 days	0%	15 days
7	2.5	Final Assembly of Prototypes	10 days	6/1/20 8:00 AM	6/12/20 5:00 PM	5,6	8	44 days	0%	8 days
8	2.6	Test & Evaluation	20 days	6/15/20 8:00 AM	7/10/20 5:00 PM	7	10SS+15 day, 11	44 days	0%	8 days
9	3	Final Product Development	105 days	7/6/20 8:00 AM	11/27/20 5:00 PM			44 days	0%	0 days
10	3.1	Final Product Design	35 days	7/6/20 8:00 AM	8/21/20 5:00 PM	8SS+15 days	11	44 days	0%	0 days
11	3.2	Final Design Review	0 days	8/21/20 5:00 PM	8/21/20 5:00 PM	10	13	44 days	0%	0 days
12	3.3	Buy LL Parts for Qual Units and Production	0 days	8/21/20 5:00 PM	8/21/20 5:00 PM	8	14	54 days	0%	0 days
13	3.4	Buy Remaining Parts for Production	0 days	8/21/20 5:00 PM	8/21/20 5:00 PM	10	15	44 days	0%	0 days
14	3.5	Initial Assembly	0 days	8/21/20 5:00 PM	8/21/20 5:00 PM	10	16	54 days	0%	15 days
15	3.6	Final Assembly	0 days	8/21/20 5:00 PM	8/21/20 5:00 PM	10	17	44 days	0%	8 days
16	3.7	Final Product	0 days	8/21/20 5:00 PM	8/21/20 5:00 PM	10	18	44 days	0%	15 days
17	3.8	Final Product	0 days	8/21/20 5:00 PM	8/21/20 5:00 PM	10	19	44 days	0%	20 days
18	4	Final Product	0 days	8/21/20 5:00 PM	8/21/20 5:00 PM	10	20	44 days	0%	20 days
19	5	Final Product	0 days	8/21/20 5:00 PM	8/21/20 5:00 PM	10	21	44 days	0%	20 days
20	6	Final Product	0 days	8/21/20 5:00 PM	8/21/20 5:00 PM	10	22	44 days	0%	20 days
21	7	Final Product	0 days	8/21/20 5:00 PM	8/21/20 5:00 PM	10	23	44 days	0%	20 days

ChronoTraining.mpt

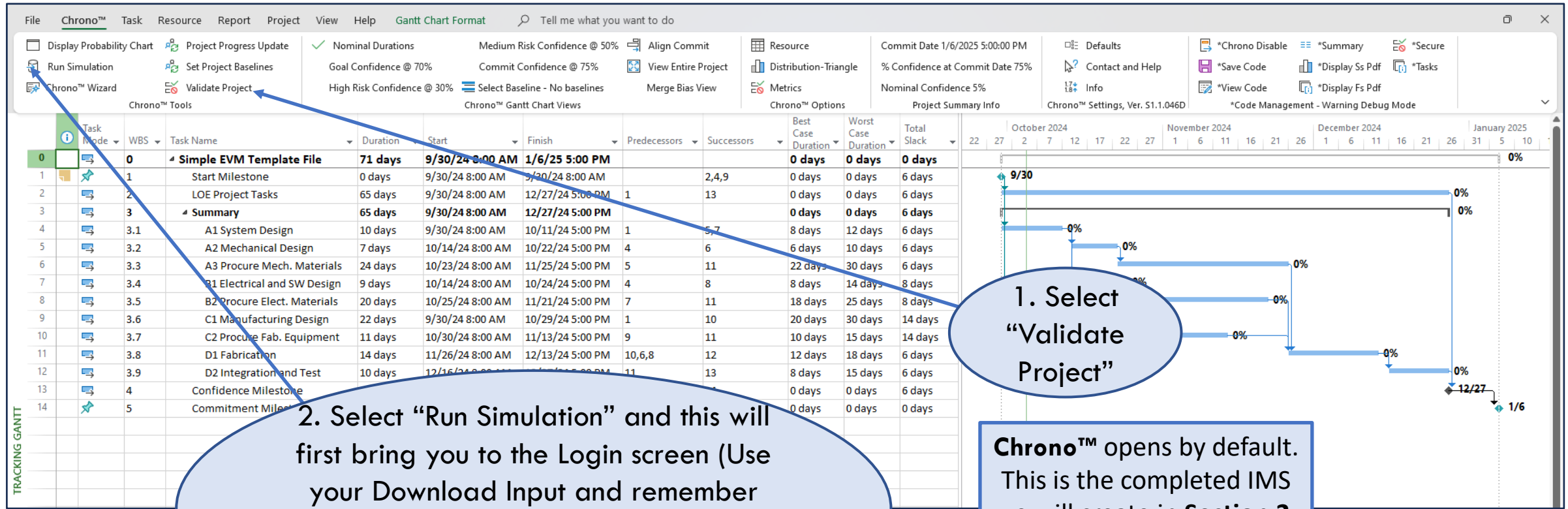
Simulation Output



After Chrono™ is Downloaded

Select: **\Documents\RTConfidence\Simple EVM Template File.mpt**

This is a Completed IMS ready for EVM. Save_As and then follow the below Instructions



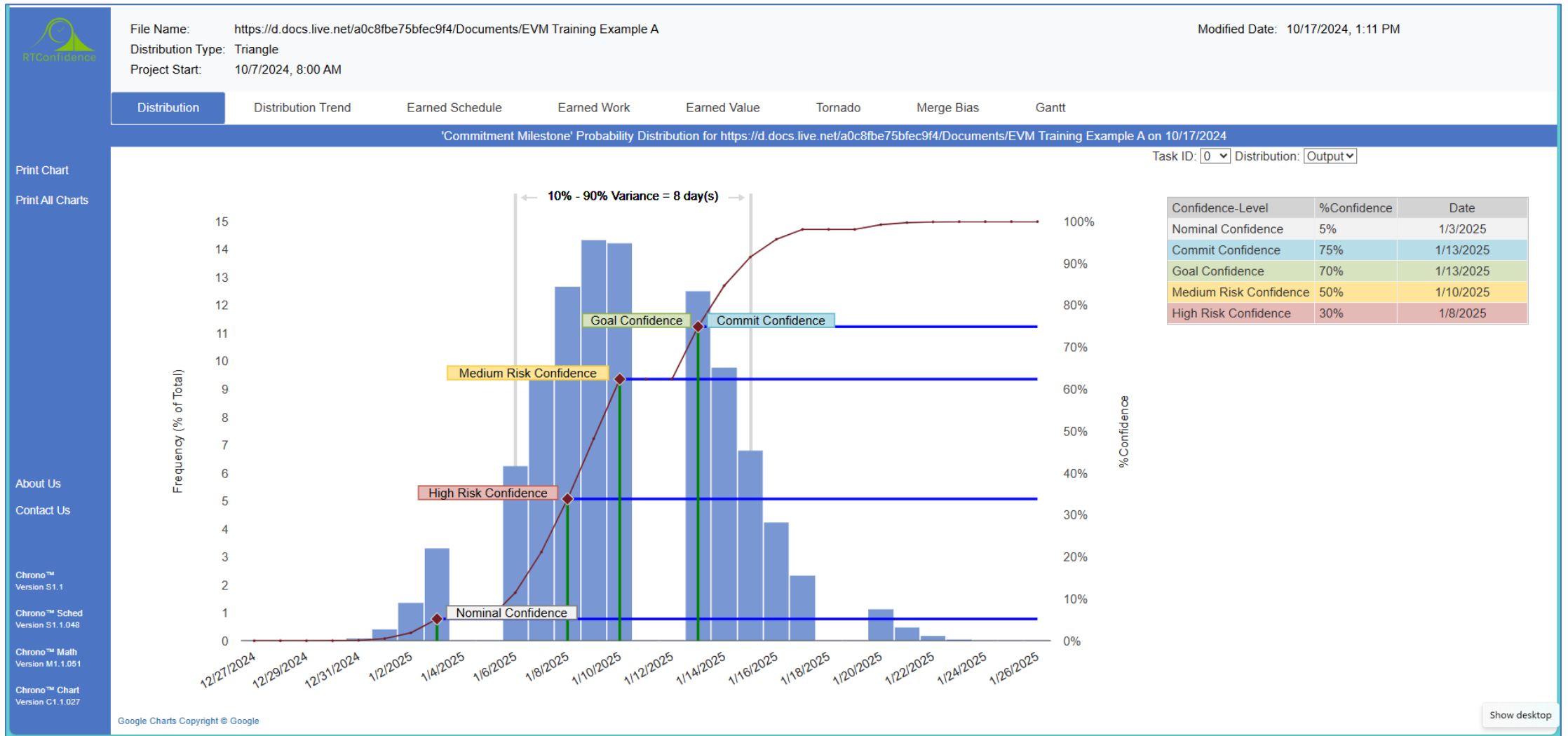
2. Select "Run Simulation" and this will first bring you to the Login screen (Use your Download Input and remember your new PW) then you will go to the Browser Simulation Output shown on next chart.

1. Select "Validate Project"

Chrono™ opens by default. This is the completed IMS we will create in Section 2. You should follow the numbered instructions.

Simple EVM Template File.mpt

Simulation Output



Section 1

The IMS (Integrated Master Schedule)

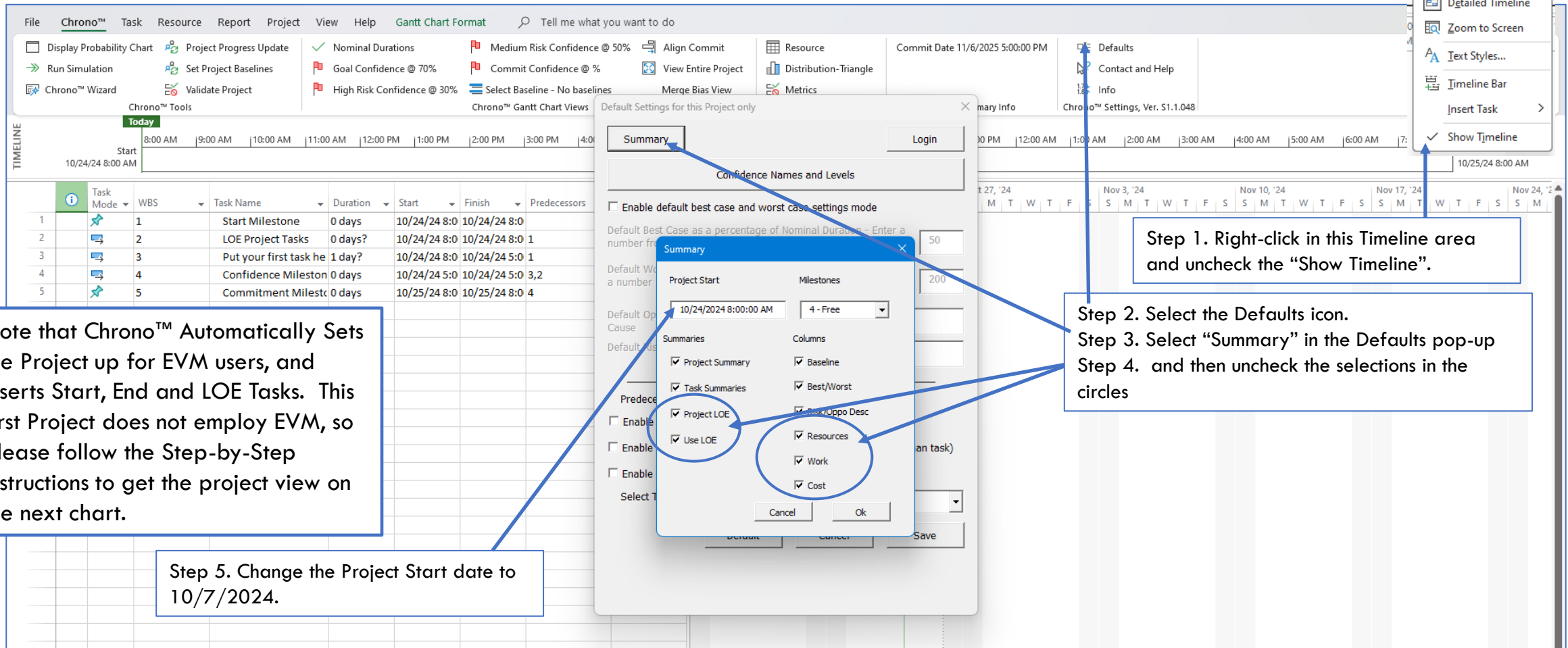
Example of Creating an IMS

CHRONO™ TRAINING REFERENCE GUIDE

Creating an IMS – Example

Sample Project Set-up

Open **Chrono™** and Select “**Blank Project**” from the **File:New** screen.



Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors
1	1	Start Milestone	0 days	10/24/24 8:00 AM	10/24/24 8:00 AM	
2	2	LOE Project Tasks	0 days?	10/24/24 8:00 AM	10/24/24 8:00 AM	1
3	3	Put your first task here	1 day?	10/24/24 8:00 AM	10/24/24 5:00 PM	1
4	4	Confidence Milestone	0 days	10/24/24 5:00 PM	10/24/24 5:00 PM	3,2
5	5	Commitment Milestone	0 days	10/25/24 8:00 AM	10/25/24 8:00 AM	4

Summary

Project Start: 10/24/2024 8:00:00 AM

Milestones: 4 - Free

Summaries:

- Project Summary
- Task Summaries
- Project LOE
- Use LOE

Columns:

- Baseline
- Best/Worst
- Task Oppo Desc
- Resources
- Work
- Cost

Defaults

- Show Timeline

Note that Chrono™ Automatically Sets the Project up for EVM users, and Inserts Start, End and LOE Tasks. This first Project does not employ EVM, so please follow the Step-by-Step instructions to get the project view on the next chart.

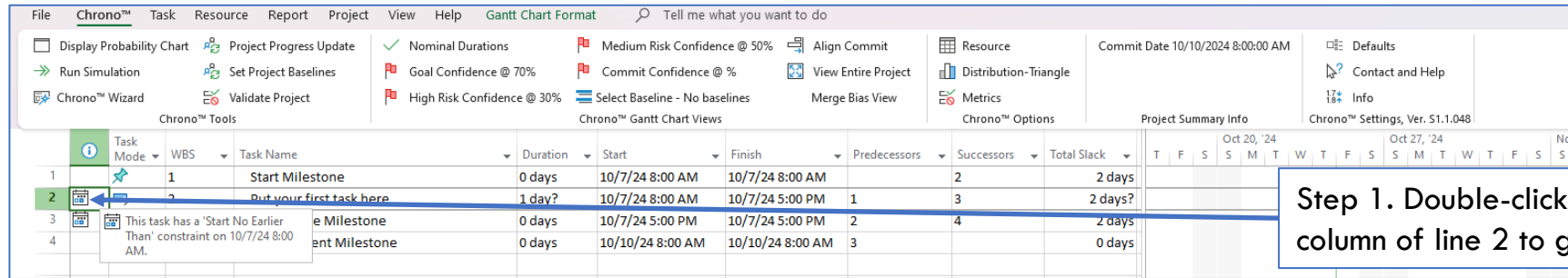
Step 5. Change the Project Start date to 10/7/2024.

Step 1. Right-click in this Timeline area and uncheck the “Show Timeline”.

Step 2. Select the Defaults icon.
Step 3. Select “Summary” in the Defaults pop-up
Step 4. and then uncheck the selections in the circles

Creating an IMS – Example

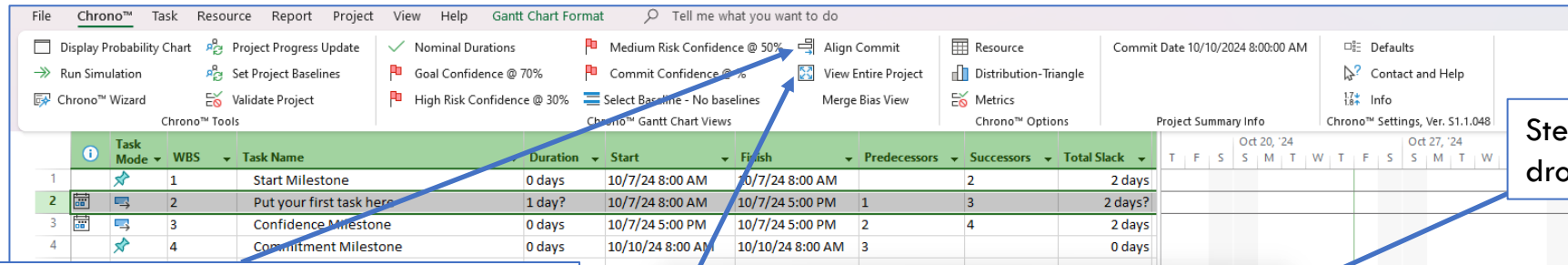
Sample Project Set-up from Scratch



Task ID	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack
1	Start Milestone	0 days	10/7/24 8:00 AM	10/7/24 8:00 AM		2	2 days
2	Put your first task here	1 day?	10/7/24 8:00 AM	10/7/24 5:00 PM	1	3	2 days?
3	Confidence Milestone	0 days	10/7/24 5:00 PM	10/7/24 5:00 PM	2	4	2 days
4	Commitment Milestone	0 days	10/10/24 8:00 AM	10/10/24 8:00 AM	3		0 days

View A

Step 1. Double-click on the “information” column of line 2 to get the below chart



View B

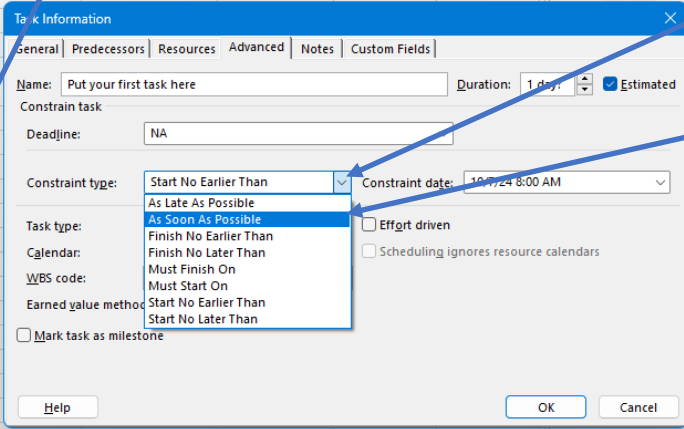
Step 2. Select **Constraint Type** drop-down.

Step 5. Select **Align Commit** to align the Manually Scheduled “Commitment Milestone” with the Auto Scheduled “Confidence Milestone” and select “Yes” to align to the of day.

Step 3. “Select **As Soon As Possible**”, then OK

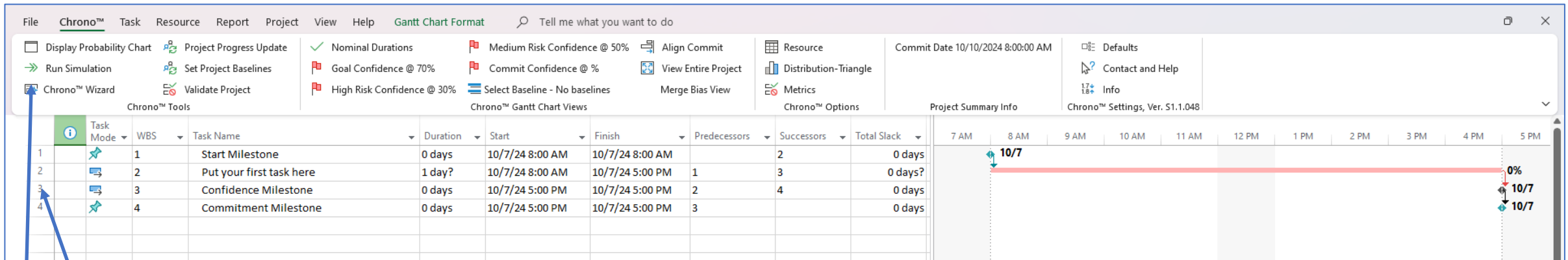
Step 6. Select **View Entire Project** to see the full Gantt chart width Start to Finish, as seen in next chart.

Step 4. Do the same for Task 3



Creating an IMS – Example

Sample Project Set-up



Step 1. Select the first cell in the 3rd row and drag it down 14 more rows. Then right-click and select “**Insert Task**” from the drop-down menu.

Step 2. Starting at Row 2, enter the **Task Names** highlighted in green on the next chart (between the **Start Milestone** and **Commitment Milestone**). Hint: you can “cut and paste” to add the task names quicker.

Step 3. Start the **Chrono™ Wizard** and per its instructions enter the information highlighted in grey on the next chart (note that the Wizard asks for “Nominal in days” – which is “Duration” in the table). When done, select “Exit Wizard Save Changes”. Then select **View Entire Project** again.

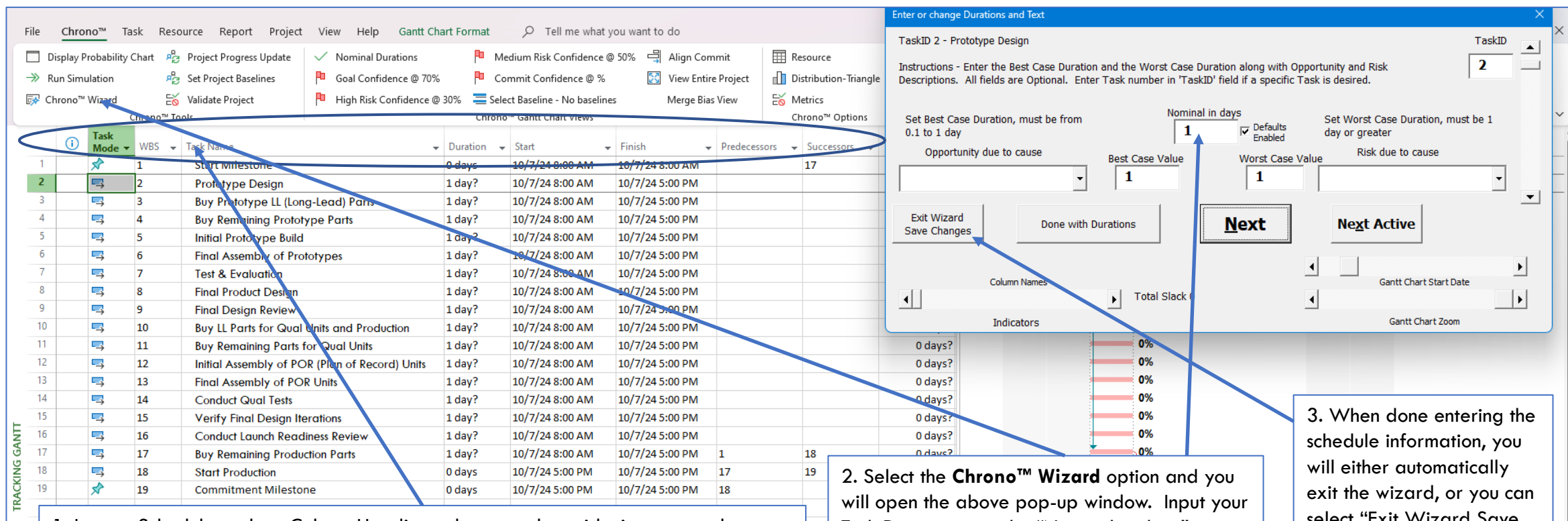
Creating an IMS – Example

Task Information

Task ID	Task Name	Duration	Predecessors	Successors
1	Start Milestone	0 days		2
2	Prototype Design	45 days	1	3SS+30 days,4
3	Buy Prototype LL (Long-Lead) Parts	35 days	2SS+30 days	5
4	Buy Remaining Prototype Parts	30 days	2	6
5	Initial Prototype Build	20 days	3	6
6	Final Assembly of Prototypes	10 days	4,5	7
7	Test & Evaluation	20 days	6	8SS+15 days,10
8	Final Product Design	35 days	7SS+15 days	9
9	Final Design Review	0 days	8	11
10	Buy LL Parts for Qual Units and Production	30 days	7	12
11	Buy Remaining Parts for Qual Units	30 days	9	13
12	Initial Assembly of POR (Plan of Record) Units	20 days	10	13
13	Final Assembly of POR Units	15 days	11,12	14,15SS+10 days
14	Conduct Qual Tests	20 days	13	16,17
15	Verify Final Design Iterations	30 days	13SS+10 days	16
16	Conduct Launch Readiness Review	0 days	14,15	18
17	Buy Remaining Production Parts	30 days	14	18
18	Start Production	0 days	16,17	19
19	Commitment Milestone	0 days	18	

After typing in the Task Names, enter the information under Duration and Predecessors via the “Chrono™ Wizard” – see next Chart

Creating an IMS – Example Using the “Chrono™ Wizard”



1. Inspect Schedule to show Column Headings above – takes widening some columns..

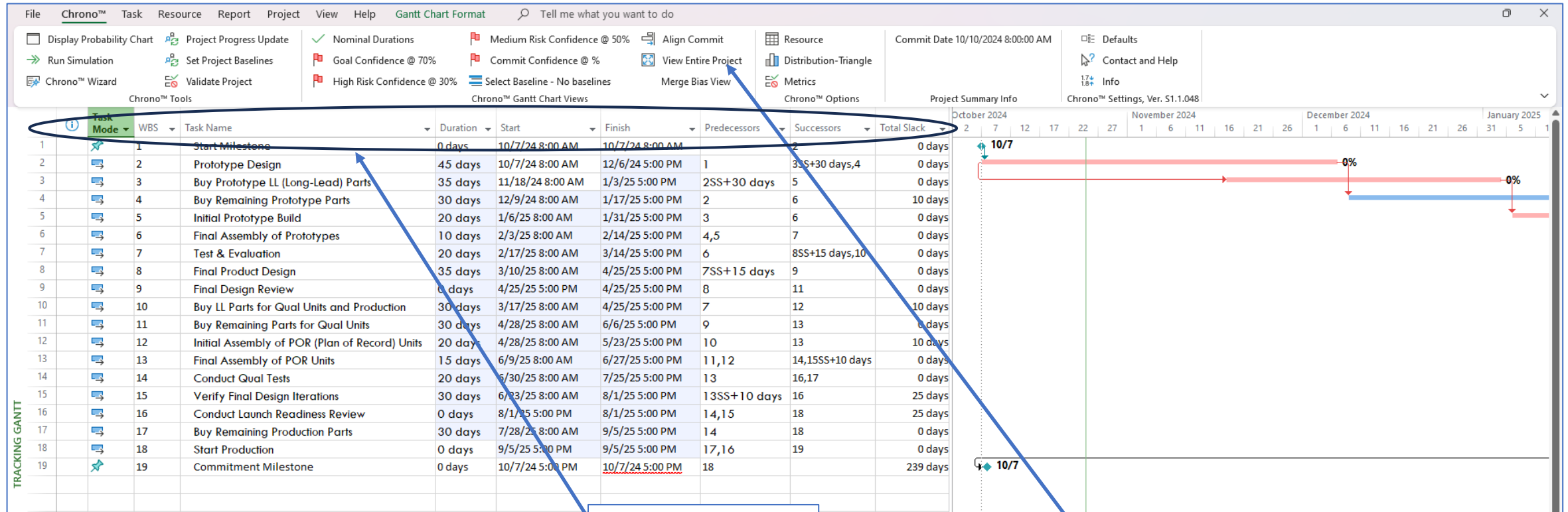
Note that columns can be hidden or shown by right-clicking the column headers. They are never deleted, just hidden or shown, and can be shown multiple times, and in any column.

2. Select the **Chrono™ Wizard** option and you will open the above pop-up window. Input your Task Durations into the “Nominal in days” window. Then click on “**Next**” to go to the next task. When done entering **Durations** you will be directed to a similar screen to enter **Predecessors** and/or **Successors**.

3. When done entering the schedule information, you will either automatically exit the wizard, or you can select “Exit Wizard Save Changes”.

Creating an IMS – Example

Interim Result with Predecessors and Successors

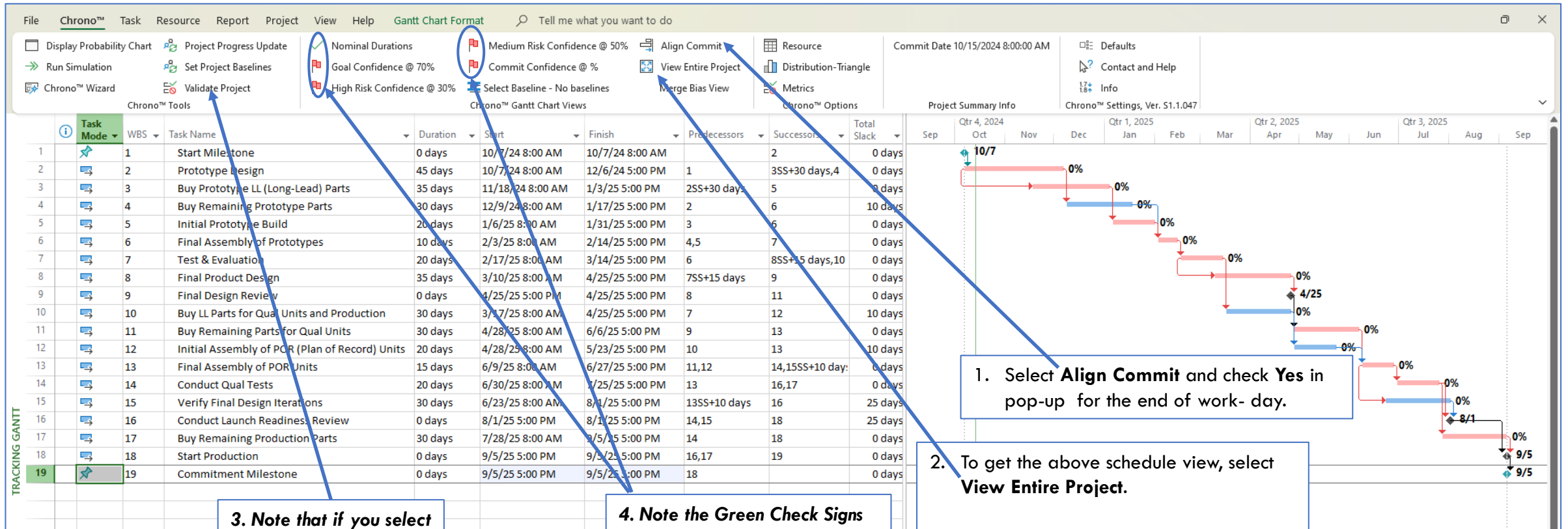


1. You may need to expand some of the data columns to see the complete set of data shown above. Check for accuracy.

2. Select View Entire Project, and you will get the Output shown on the next chart

Creating an IMS – Example

Interim Result with Predecessors and Successors



3. Note that if you select **Validate Project** it will let you know if there are any structural issues.

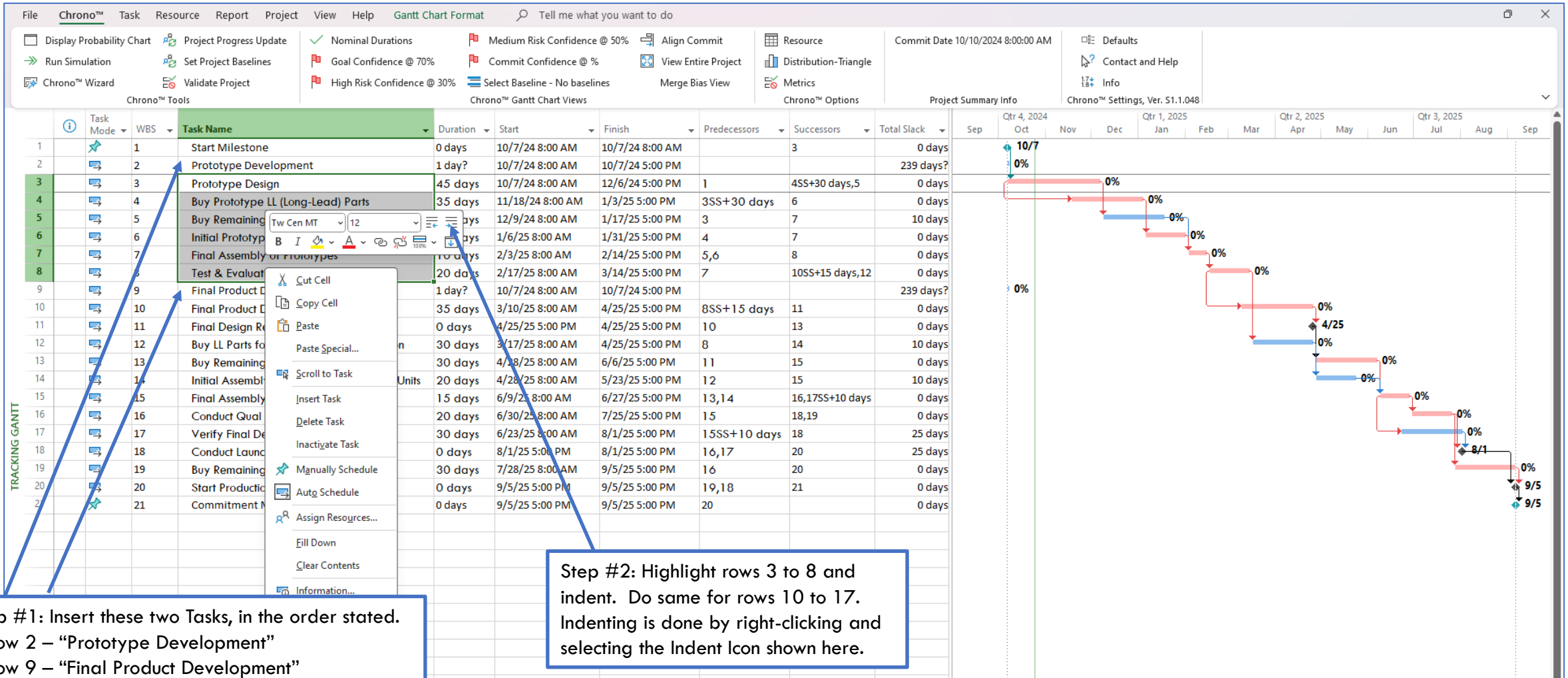
4. Note the **Green Check Signs and Red Flags** – these change to reflect the currency of the Simulation (Red Flag means “not Current”) – this is OK for now.

1. Select **Align Commit** and check **Yes** in pop-up for the end of work-day.

2. To get the above schedule view, select **View Entire Project**.
Check to see if all the information is the same in all the columns.

Creating an IMS – Example

Interim Result with Only Summary Tasks to be Added



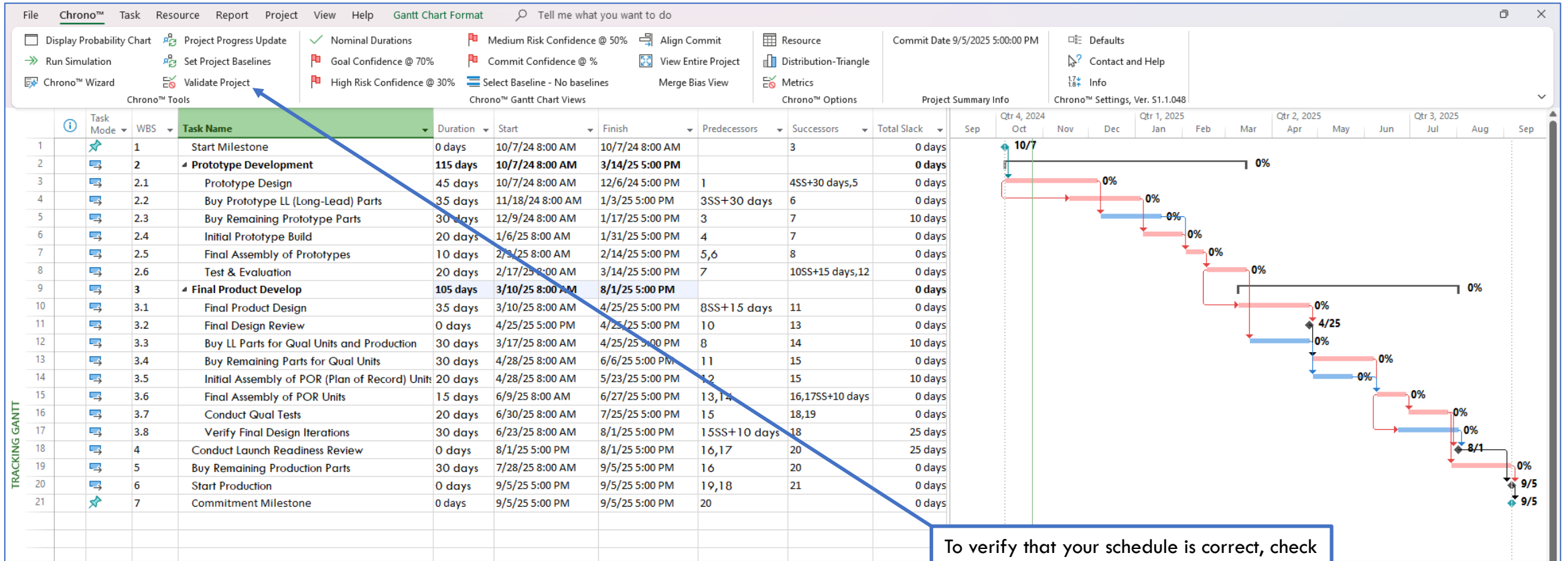
Step #1: Insert these two Tasks, in the order stated.
In row 2 – “Prototype Development”
In row 9 – “Final Product Development”

Step #2: Highlight rows 3 to 8 and indent. Do same for rows 10 to 17. Indenting is done by right-clicking and selecting the Indent icon shown here.

Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack
1	1	Start Milestone	0 days	10/7/24 8:00 AM	10/7/24 8:00 AM		3	0 days
2	2	Prototype Development	1 day?	10/7/24 8:00 AM	10/7/24 5:00 PM			239 days?
3	3	Prototype Design	45 days	10/7/24 8:00 AM	12/6/24 5:00 PM	1	4SS+30 days,5	0 days
4	4	Buy Prototype LL (Long-Lead) Parts	35 days	11/18/24 8:00 AM	1/3/25 5:00 PM	3SS+30 days	6	0 days
5	5	Buy Remaining	12 days	12/9/24 8:00 AM	1/17/25 5:00 PM	3	7	10 days
6	6	Initial Prototyp	10 days	1/6/25 8:00 AM	1/31/25 5:00 PM	4	7	0 days
7	7	Final Assembly of Prototypes	10 days	2/3/25 8:00 AM	2/14/25 5:00 PM	5,6	8	0 days
8	8	Test & Evaluat	20 days	2/17/25 8:00 AM	3/14/25 5:00 PM	7	10SS+15 days,12	0 days
9	9	Final Product D	1 day?	10/7/24 8:00 AM	10/7/24 5:00 PM			239 days?
10	10	Final Product D	35 days	3/10/25 8:00 AM	4/25/25 5:00 PM	8SS+15 days	11	0 days
11	11	Final Design R	0 days	4/25/25 5:00 PM	4/25/25 5:00 PM		10	0 days
12	12	Buy LL Parts fo	30 days	3/17/25 8:00 AM	4/25/25 5:00 PM	8	14	10 days
13	13	Buy Remaining	30 days	4/18/25 8:00 AM	6/6/25 5:00 PM	11	15	0 days
14	14	Initial Assembl	20 days	4/28/25 8:00 AM	5/23/25 5:00 PM	12	15	10 days
15	15	Final Assembly	15 days	6/9/25 8:00 AM	6/27/25 5:00 PM	13,14	16,17SS+10 days	0 days
16	16	Conduct Qual	20 days	6/30/25 8:00 AM	7/25/25 5:00 PM	15	18,19	0 days
17	17	Verify Final De	30 days	6/23/25 8:00 AM	8/1/25 5:00 PM	15SS+10 days	18	25 days
18	18	Conduct Launc	0 days	8/1/25 5:00 PM	8/1/25 5:00 PM	16,17	20	25 days
19	19	Buy Remaining	30 days	7/28/25 8:00 AM	9/5/25 5:00 PM	16	20	0 days
20	20	Start Producti	0 days	9/5/25 5:00 PM	9/5/25 5:00 PM	19,18	21	0 days
21	21	Commitment M	0 days	9/5/25 5:00 PM	9/5/25 5:00 PM	20		0 days

Creating an IMS – Example

Final IMS



To verify that your schedule is correct, check all the entries and then select “Validate Project” – if a brief message pops up that says “**Validate Project Passed**” you are good to go.

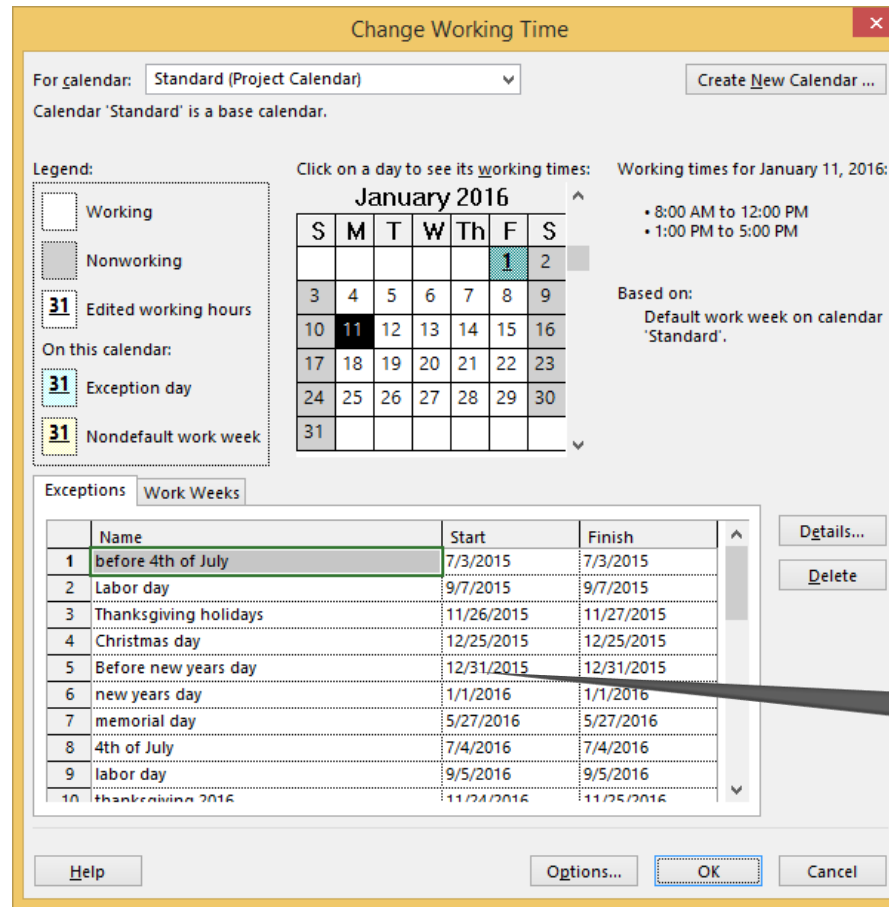
Project Calendar Considerations

Changing the Calendar is the Only non-Chrono™ Function

Below is an example for customizing the calendar

Notes:

1. Even though this example does not require Calendar changes, in real life all non-work-days (i.e., Holidays) should be entered into the “Standard Project Calendar”.
2. To set an IMS up for SRA and ES processing only ONE Calendar can be used. The Chrono™ default is the “Standard (Project Calendar)”.



Change Working Time

For calendar: Standard (Project Calendar) Create New Calendar ...

Calendar 'Standard' is a base calendar.

Legend:

- Working
- Nonworking
- Edited working hours
- Exception day
- Nondefault work week

Click on a day to see its working times: Working times for January 11, 2016:

- 8:00 AM to 12:00 PM
- 1:00 PM to 5:00 PM

Based on: Default work week on calendar 'Standard'.

Exceptions | Work Weeks

	Name	Start	Finish
1	before 4th of July	7/3/2015	7/3/2015
2	Labor day	9/7/2015	9/7/2015
3	Thanksgiving holidays	11/26/2015	11/27/2015
4	Christmas day	12/25/2015	12/25/2015
5	Before new years day	12/31/2015	12/31/2015
6	new years day	1/1/2016	1/1/2016
7	memorial day	5/27/2016	5/27/2016
8	4th of July	7/4/2016	7/4/2016
9	labor day	9/5/2016	9/5/2016
10	thanksgiving 2016	11/24/2016	11/25/2016

Buttons: Help, Options..., OK, Cancel

To get to this screen, Select the “Project” tab and then “Change Working Time”.

Additional Org. Calendar Info.

Assessing IMS 14-Point Metrics

This Training IMS Meets Chrono™ Metrics



Step #1: Select Metrics and this Pop-up Assessment Table appears

Project Metrics

Project 1: Nominal	5% Limits
Links	1 / 22
Tasks	0 / 14
1 Logic	0 / 14
2 Leads	0 / 22
3 Lags	3 / 22 *
4 Links	3 / 22 *
5 H Constraints	0 / 14
6 High Float	0 / 14
7 Negative Float	0 / 14
8 High Duration	1 / 14 *
9 Invalid Dates	0 / 14
10 Resources	0 / 14
11 Missed Tasks	0 / 0
12 Critical Path	0 / 1
13 CPLI	240 / 240
14 BEI	0 / 0
* Fail	

Step #2: Select OK, then notice the File in the task information cell – double-click it to see the saved Metrics table in the Notes

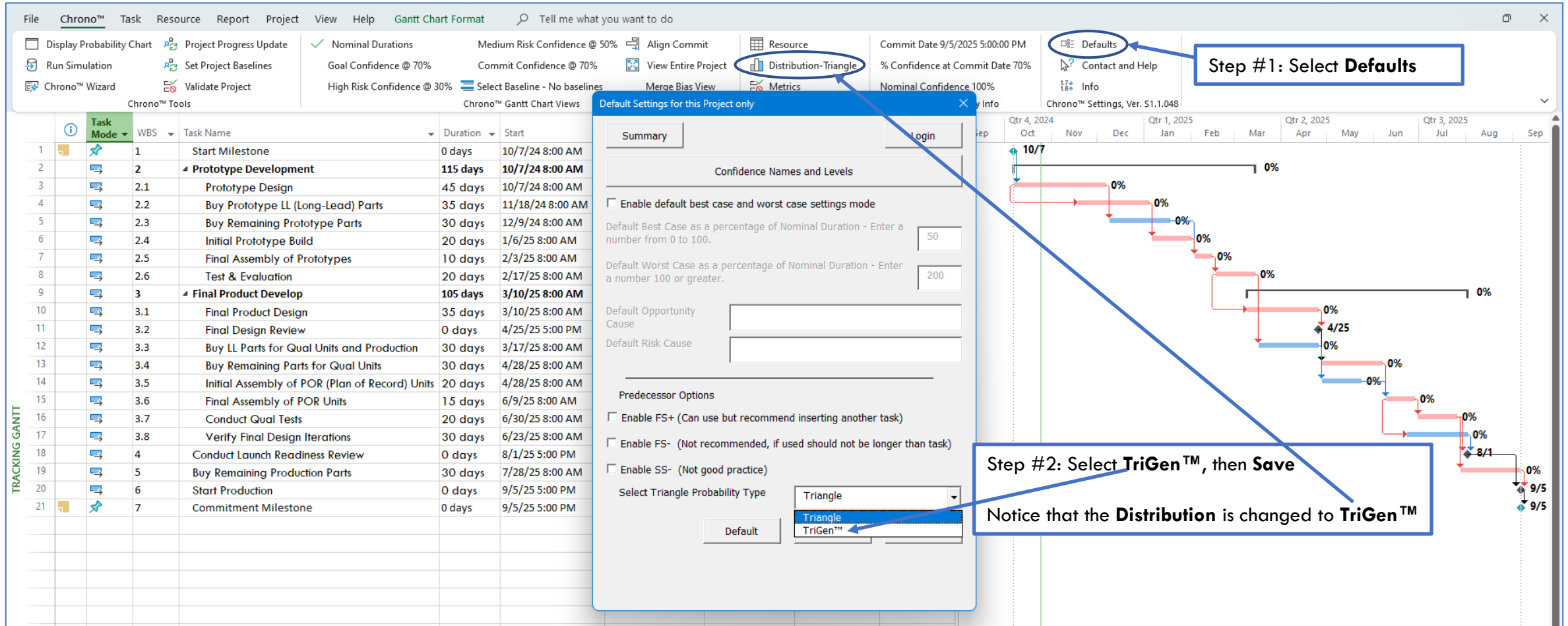
SRA (Schedule Risk Analysis) Training

Example of Performing SRA

CHRONO™ TRAINING REFERENCE GUIDE

Performing SRA – Example

Changing Defaults



Step #1: Select Defaults

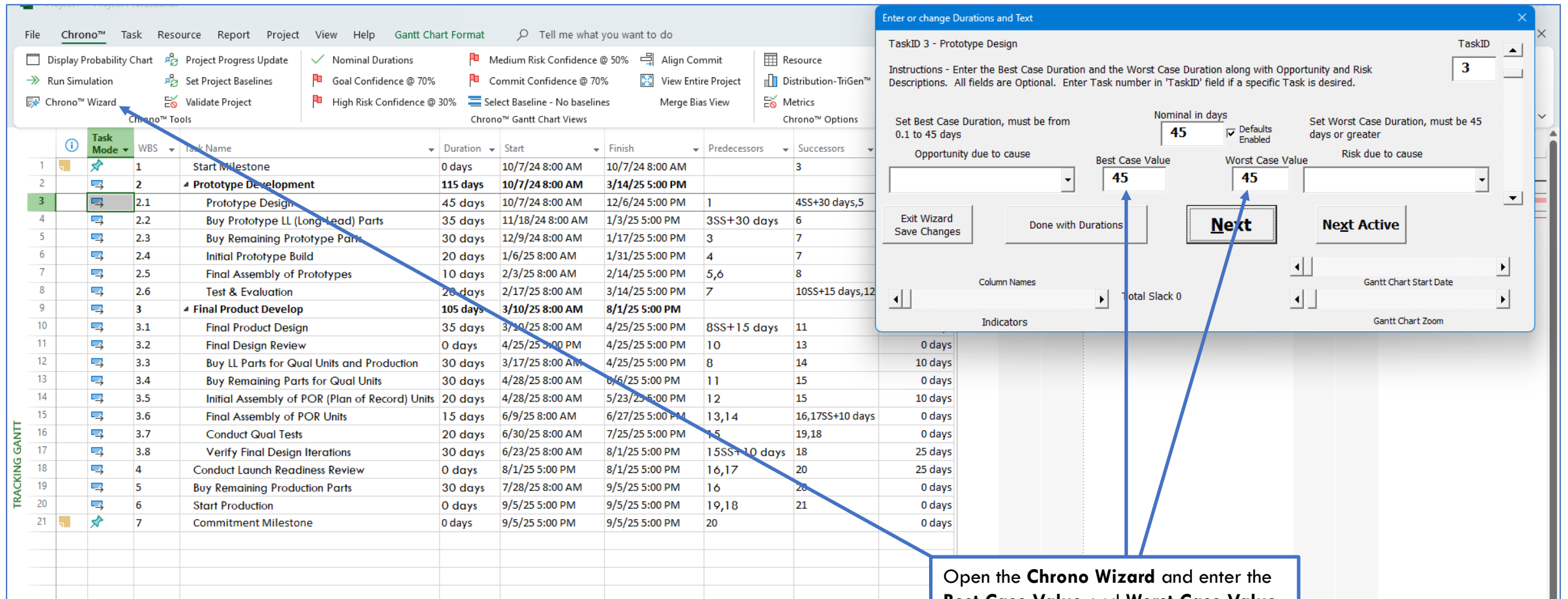
Step #2: Select TriGen™, then Save

Notice that the **Distribution** is changed to **TriGen™**

Task Mode	WBS	Task Name	Duration	Start
	1	Start Milestone	0 days	10/7/24 8:00 AM
	2	Prototype Development	115 days	10/7/24 8:00 AM
	2.1	Prototype Design	45 days	10/7/24 8:00 AM
	2.2	Buy Prototype LL (Long-Lead) Parts	35 days	11/18/24 8:00 AM
	2.3	Buy Remaining Prototype Parts	30 days	12/9/24 8:00 AM
	2.4	Initial Prototype Build	20 days	1/6/25 8:00 AM
	2.5	Final Assembly of Prototypes	10 days	2/3/25 8:00 AM
	2.6	Test & Evaluation	20 days	2/17/25 8:00 AM
	3	Final Product Develop	105 days	3/10/25 8:00 AM
	3.1	Final Product Design	35 days	3/10/25 8:00 AM
	3.2	Final Design Review	0 days	4/25/25 5:00 PM
	3.3	Buy LL Parts for Qual Units and Production	30 days	3/17/25 8:00 AM
	3.4	Buy Remaining Parts for Qual Units	30 days	4/28/25 8:00 AM
	3.5	Initial Assembly of POR (Plan of Record) Units	20 days	4/28/25 8:00 AM
	3.6	Final Assembly of POR Units	15 days	6/9/25 8:00 AM
	3.7	Conduct Qual Tests	20 days	6/30/25 8:00 AM
	3.8	Verify Final Design Iterations	30 days	6/23/25 8:00 AM
	4	Conduct Launch Readiness Review	0 days	8/1/25 5:00 PM
	5	Buy Remaining Production Parts	30 days	7/28/25 8:00 AM
	6	Start Production	0 days	9/5/25 5:00 PM
	7	Commitment Milestone	0 days	9/5/25 5:00 PM

Schedule Risk Analysis – Example

Setting up IMS for SRA (Schedule Risk Analysis)



The screenshot displays the Chrono software interface. The main window shows a Gantt chart with a task list. The 'TaskID 3 - Prototype Design' dialog is open, showing the configuration for this task. The 'Best Case Value' and 'Worst Case Value' are both set to 45 days. The 'Next' button is highlighted with a callout box.

WBS	Task Name	Duration	Start	Finish	Predecessors	Successors
1	Start Milestone	0 days	10/7/24 8:00 AM	10/7/24 8:00 AM		3
2	Prototype Development	115 days	10/7/24 8:00 AM	3/14/25 5:00 PM		
2.1	Prototype Design	45 days	10/7/24 8:00 AM	12/6/24 5:00 PM	1	4SS+30 days,5
2.2	Buy Prototype LL (Long Lead) Parts	35 days	11/18/24 8:00 AM	1/3/25 5:00 PM	3SS+30 days	6
2.3	Buy Remaining Prototype Parts	30 days	12/9/24 8:00 AM	1/17/25 5:00 PM	3	7
2.4	Initial Prototype Build	20 days	1/6/25 8:00 AM	1/31/25 5:00 PM	4	7
2.5	Final Assembly of Prototypes	10 days	2/3/25 8:00 AM	2/14/25 5:00 PM	5,6	8
2.6	Test & Evaluation	20 days	2/17/25 8:00 AM	3/14/25 5:00 PM	7	10SS+15 days,12
3	Final Product Develop	105 days	3/10/25 8:00 AM	8/1/25 5:00 PM		
3.1	Final Product Design	35 days	3/10/25 8:00 AM	4/25/25 5:00 PM	8SS+15 days	11
3.2	Final Design Review	0 days	4/25/25 5:00 PM	4/25/25 5:00 PM	10	13
3.3	Buy LL Parts for Qual Units and Production	30 days	3/17/25 8:00 AM	4/25/25 5:00 PM	8	14
3.4	Buy Remaining Parts for Qual Units	30 days	4/28/25 8:00 AM	6/6/25 5:00 PM	11	15
3.5	Initial Assembly of POR (Plan of Record) Units	20 days	4/28/25 8:00 AM	5/23/25 5:00 PM	12	15
3.6	Final Assembly of POR Units	15 days	6/9/25 8:00 AM	6/27/25 5:00 PM	13,14	16,17SS+10 days
3.7	Conduct Qual Tests	20 days	6/30/25 8:00 AM	7/25/25 5:00 PM	15	19,18
3.8	Verify Final Design Iterations	30 days	6/23/25 8:00 AM	8/1/25 5:00 PM	15SS+10 days	18
4	Conduct Launch Readiness Review	0 days	8/1/25 5:00 PM	8/1/25 5:00 PM	16,17	20
5	Buy Remaining Production Parts	30 days	7/28/25 8:00 AM	9/5/25 5:00 PM	16	20
6	Start Production	0 days	9/5/25 5:00 PM	9/5/25 5:00 PM	19,18	21
7	Commitment Milestone	0 days	9/5/25 5:00 PM	9/5/25 5:00 PM	20	

Open the **Chrono Wizard** and enter the **Best-Case Value** and **Worst-Case Value** durations as shown on the next chart.

Overall Project SRA Set-up

Example 3-Point Duration Estimates

Task ID	Task Name	3-Point Durations		
		BC	Nominal	WC
1	Start Milestone		0 days	
2	Prototype Development		115 days	
3	Prototype Design	40 days	45 days	60 days
4	Buy Prototype LL (Long-Lead) Parts	35 days	35 days	35 days
5	Buy Remaining Prototype Parts	30 days	30 days	40 days
6	Initial Prototype Build	15 days	20 days	25 days
7	Final Assembly of Prototypes	8 days	10 days	20 days
8	Test & Evaluation	15 days	20 days	40 days
9	Final Product Development		105 days	
10	Final Product Design	30 days	35 days	50 days
11	Final Design Review		0 days	
12	Buy LL Parts for Qual Units and Production	30 days	30 days	30 days
13	Buy Remaining Parts for Qual Units	30 days	30 days	40 days
14	Initial Assembly of POR (Plan of Record) Units	15 days	20 days	25 days
15	Final Assembly of POR Units	8 days	15 days	20 days
16	Conduct Qual Tests	15 days	20 days	50 days
17	Verify Final Design Iterations	20 days	30 days	40 days
18	Conduct Launch Readiness Review		0 days	
19	Buy Remaining Production Parts	30 days	30 days	40 days
20	Start Production		0 days	
21	Commitment Milestone		0 days	

Note that after you enter the numbers you will see that whenever the **Best-Case** and/or **Worst-Case** Durations are equal to the Nominal **Duration** Microsoft Project inserts a “0 days” Duration.

Once done, select “**Exit Wizard Save Changes**” and the **Chrono Wizard** runs the Validation routine automatically. If all is well you will see a message “**Setup Wizard – Passed**” – if not, you will be assisted in making the necessary corrections.

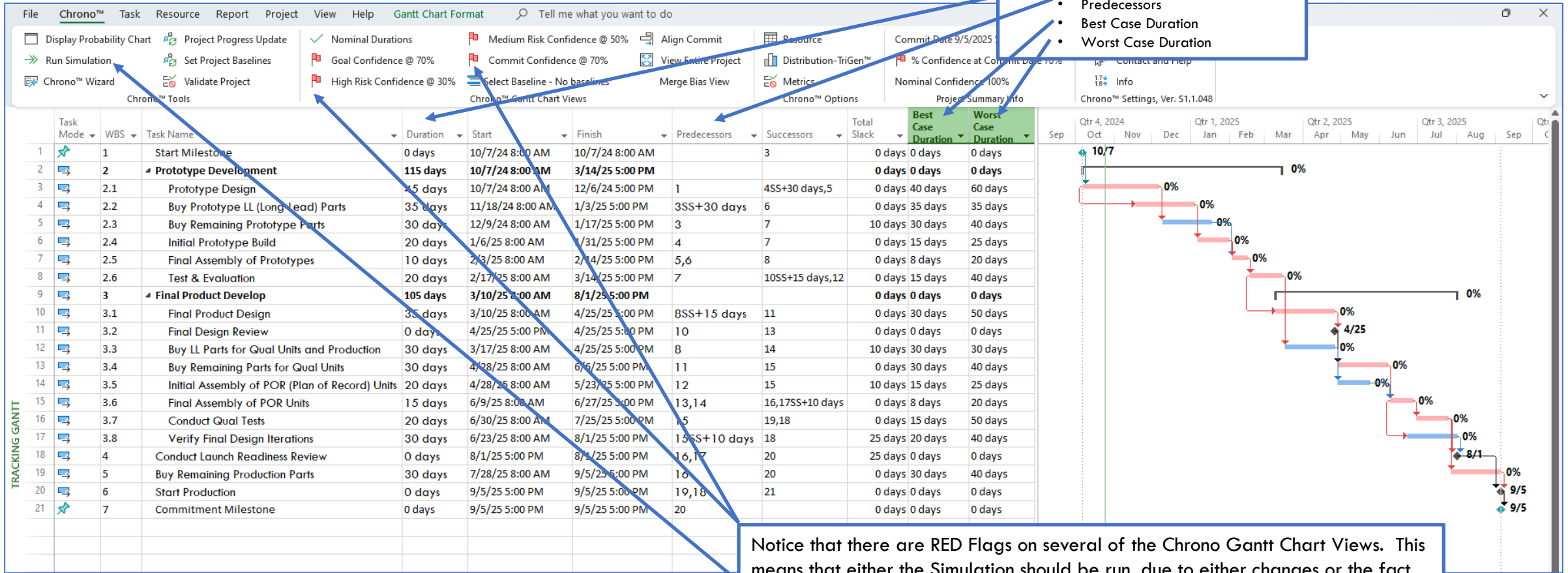
You may have to resize your Gantt view again to see the additional columns of data shown on the next chart. If so, select “View Entire Project”

Performing SRA is Easy & Fast

Ready to Run the Simulation

Double-check:
 1. Durations of Summary Tasks
 2. Column entries for:

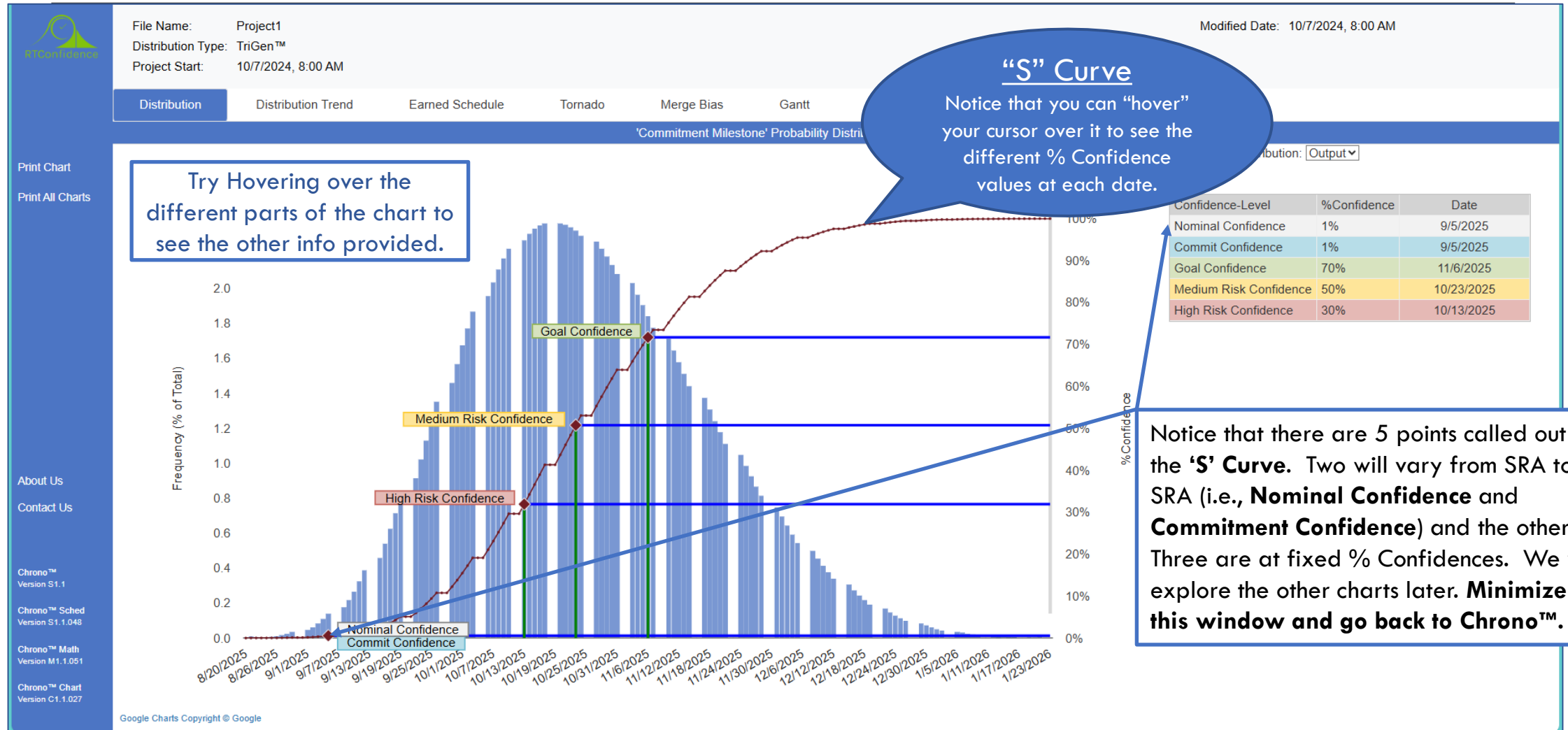
- Duration
- Predecessors
- Best Case Duration
- Worst Case Duration



Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack	Best Case Duration	Worst Case Duration
1	1	Start Milestone	0 days	10/7/24 8:00 AM	10/7/24 8:00 AM		3	0 days 0 days	0 days	0 days
2	2	Prototype Development	115 days	10/7/24 8:00 AM	3/14/25 5:00 PM			0 days 0 days	0 days	0 days
3	2.1	Prototype Design	15 days	10/7/24 8:00 AM	12/6/24 5:00 PM	1	4SS+30 days,5	0 days 40 days	40 days	60 days
4	2.2	Buy Prototype LL (Long Lead) Parts	35 days	11/18/24 8:00 AM	1/3/25 5:00 PM	3SS+30 days	6	0 days 35 days	35 days	35 days
5	2.3	Buy Remaining Prototype Parts	30 days	12/9/24 8:00 AM	1/17/25 5:00 PM	3	7	10 days 30 days	40 days	40 days
6	2.4	Initial Prototype Build	20 days	1/6/25 8:00 AM	1/31/25 5:00 PM	4	7	0 days 15 days	25 days	25 days
7	2.5	Final Assembly of Prototypes	10 days	2/3/25 8:00 AM	2/14/25 5:00 PM	5,6	8	0 days 8 days	20 days	20 days
8	2.6	Test & Evaluation	20 days	2/17/25 8:00 AM	3/14/25 5:00 PM	7	10SS+15 days,12	0 days 15 days	40 days	40 days
9	3	Final Product Develop	105 days	3/10/25 8:00 AM	8/1/25 5:00 PM			0 days 0 days	0 days	0 days
10	3.1	Final Product Design	35 days	3/10/25 8:00 AM	4/25/25 5:00 PM	8SS+15 days	11	0 days 30 days	50 days	50 days
11	3.2	Final Design Review	0 days	4/25/25 5:00 PM	4/25/25 5:00 PM	10	13	0 days 0 days	0 days	0 days
12	3.3	Buy LL Parts for Qual Units and Production	30 days	3/17/25 8:00 AM	4/25/25 5:00 PM	8	14	10 days 30 days	30 days	30 days
13	3.4	Buy Remaining Parts for Qual Units	30 days	4/28/25 8:00 AM	6/6/25 5:00 PM	11	15	0 days 30 days	40 days	40 days
14	3.5	Initial Assembly of POR (Plan of Record) Units	20 days	4/28/25 8:00 AM	5/23/25 5:00 PM	12	15	10 days 15 days	25 days	25 days
15	3.6	Final Assembly of POR Units	15 days	6/9/25 8:00 AM	6/27/25 5:00 PM	13,14	16,17SS+10 days	0 days 8 days	20 days	20 days
16	3.7	Conduct Qual Tests	20 days	6/30/25 8:00 AM	7/25/25 5:00 PM	15	19,18	0 days 15 days	50 days	50 days
17	3.8	Verify Final Design Iterations	30 days	6/23/25 8:00 AM	8/1/25 5:00 PM	15SS+10 days	18	25 days 20 days	40 days	40 days
18	4	Conduct Launch Readiness Review	0 days	8/1/25 5:00 PM	8/1/25 5:00 PM	16,17	20	25 days 0 days	0 days	0 days
19	5	Buy Remaining Production Parts	30 days	7/28/25 8:00 AM	9/5/25 5:00 PM	18	20	0 days 30 days	40 days	40 days
20	6	Start Production	0 days	9/5/25 5:00 PM	9/5/25 5:00 PM	19,18	21	0 days 0 days	0 days	0 days
21	7	Commitment Milestone	0 days	9/5/25 5:00 PM	9/5/25 5:00 PM	20		0 days 0 days	0 days	0 days

Notice that there are RED Flags on several of the Chrono Gantt Chart Views. This means that either the Simulation should be run, due to either changes or the fact that it has never been run yet. Select **Run Simulation**. When the pop-up appears saying "Simulation Complete, Display Probability Chart?" Select **"Yes"**

Chrono™ SRA Tool Results – Example Simulation Output (Cloud Processed)



SRA Info is Sent Back to Chrono™



Chrono™ Produces Additional Gantt Chart Data

Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack	Best Case Duration	Worst Case Duration
1	1	Start Milestone	0 days	10/7/24 8:00 AM	10/7/24 8:00 AM		3	0 days	0 days	0 days
2	2	Prototype Development	134.98 days	10/7/24 8:00 AM	4/11/25 4:50 PM			0 days	0 days	0 days
3	2.1	Prototype Design	53.18 days	10/7/24 8:00 AM	12/19/24 9:26 AM	1	4SS+30 days,5	0 days	40 days	60 days
4	2.2	Buy Prototype LL (Long-Lead) Parts	35 days	11/18/24 8:00 AM	1/3/25 5:00 PM	3SS+30 days	6	1.39 days	35 days	35 days
5	2.3	Buy Remaining Prototype Parts	35.25 days	12/19/24 9:26 AM	2/6/25 11:26 AM	3	7FS+1.9 days	0 days	30 days	40 days
6	2.4	Initial Prototype Build	22.04 days	1/6/25 8:00 AM	2/5/25 8:19 AM	4	7FS+1.9 days	1.39 days	15 days	25 days
7	2.5	Final Assembly of Prototype	14.97 days	2/10/25 10:38 AM	3/3/25 10:24 AM	5FS+1.9 days,6	8	0 days	8 days	20 days
8	2.6	Test & Evaluation	29.68 days	3/3/25 10:24 AM	4/11/25 4:50 PM	7	10SS+15 days,12	0 days	15 days	40 days
9	3	Final Product Develop	127.54 days	3/24/25 10:24 AM	9/17/25 3:43 PM			0 days	0 days	0 days
10	3.1	Final Product Design	41.19 days	3/24/25 10:24 AM	5/20/25 11:55 AM	8SS+1.5 days	11	0 days	30 days	50 days
11	3.2	Final Design Review	0 days	5/20/25 11:55 AM						
12	3.3	Buy LL Parts for Qual Units and Production	30 days	4/11/25 4:50 PM						
13	3.4	Buy Remaining Parts for Qual Units	35.16 days	5/20/25 11:55 AM						
14	3.5	Initial Assembly of POR (Plan of Record) Units	20.3 days	5/23/25 4:50 PM						
15	3.6	Final Assembly of POR Units	14.68 days	7/10/25 11:55 AM						
16	3.7	Conduct Qual Tests	34.76 days	7/31/25 8:30 AM						
17	3.8	Verify Final Design Iterations	31.41 days	7/24/25 11:55 AM						
18	4	Conduct Launch Readiness Review	0 days	9/23/25 10:00 AM						
19	5	Buy Remaining Production Parts	35.05 days	9/17/25 3:43 PM						
20	6	Start Production	0 days	11/6/25 9:00 AM						
21	7	Commitment Milestone	0 days	9/5/25 5:00 PM						

Task Information

General | Predecessors | Resources | Advanced | Notes | Custom Fields

Name: Start Milestone Duration: 0 days Estimated

Notes:

<https://dashboard.rtconfidence.com/coeus/result?sess=17509036706466863844>

Select "Goal Confidence", then "View Entire Project" and you will see this result – The Gantt Chart for the 70% Confident Project Schedule.

Note the "folder" symbol in the Information column. The URL for the Distribution Output on the previous page is automatically put here (in the "Notes" section of "Task Information" and updated every time the Simulation is run.

Now we will Align Commit milestone to the 70% Start Production milestone (Align to end of day) – note, we could make this Milestone any date desired, and the time on that date should be the end of the work-day – default is 5:00 PM.

SRA Info is Sent Back to Chrono™



Chrono™ Produces Additional Gantt Chart Data

File Chrono™ Task Resource Report Project View Help Gantt Chart Format Tell me what you want to do

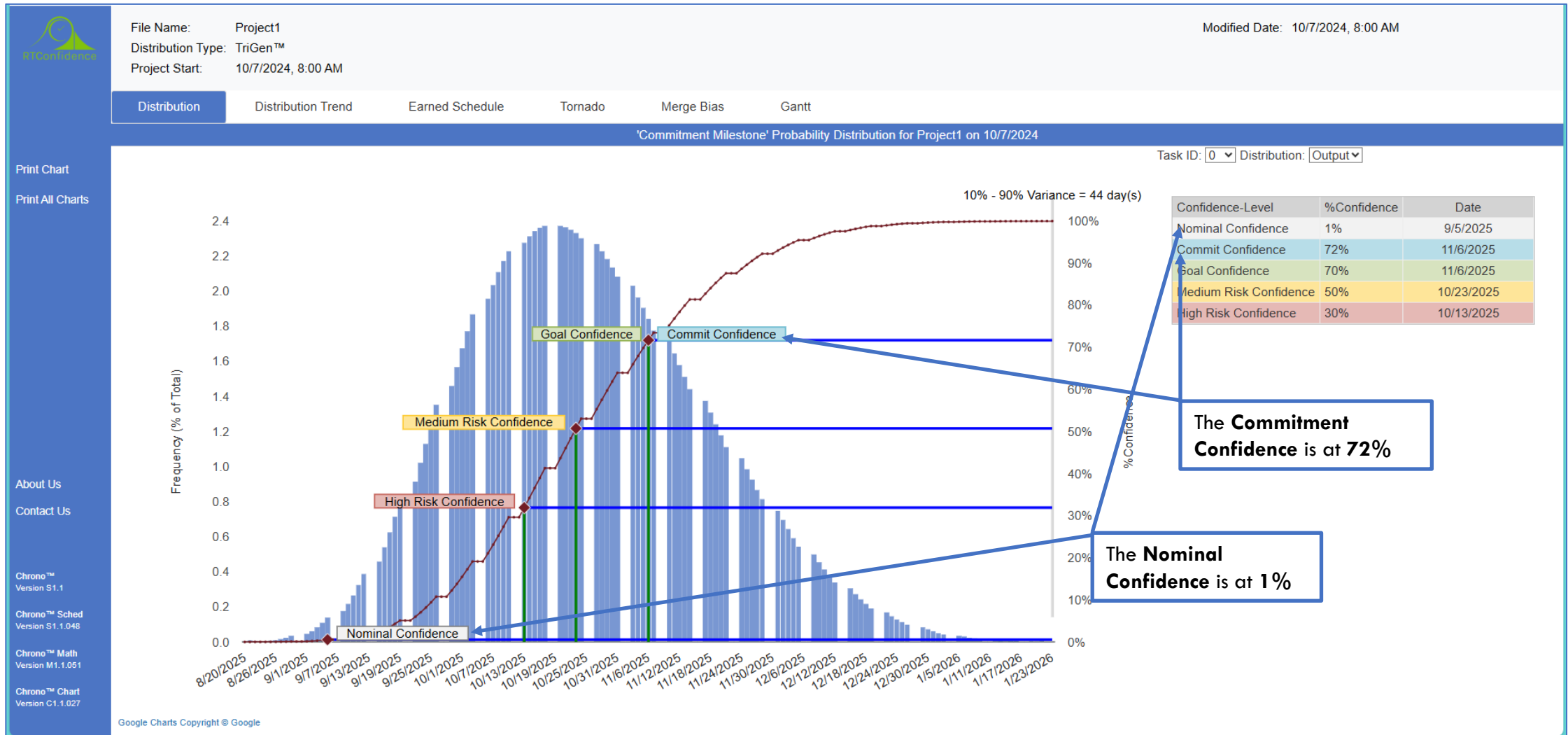
Display Probability Chart Project Progress Update Nominal Durations Medium Risk Confidence @ 50% Align Commit Resource Commit Date 11/6/25 5:00 PM
 Run Simulation Set Project Baselines Goal Confidence @ 70% Commit Confidence @ 1% View Entire Project Distribution-TriGen™ % Confidence at Commit Date 1%
 Chrono™ Wizard Validate Project High Risk Confidence @ 30% Select Baseline - No baselines Merge Bias View Metrics Probable Finish 11/6/2025, 43.1 Work Days Late
 Chrono™ Tools Chrono™ Gantt Chart Views Chrono™ Options Project Summary Info Chrono™ Settings, Ver. 51.1.048

Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack	Best Case Duration	Worst Case Duration
1		Start Milestone	0 days	10/7/24 8:00 AM	10/7/24 8:00 AM		3	0.86 days	0 days	0 days
2		Prototype Development	134.98 days	10/7/24 8:00 AM	4/11/25 4:50 PM			0.86 days	0 days	0 days
3	2.1	Prototype Design	53.18 days	10/7/24 8:00 AM	12/19/24 9:26 AM	1	4SS+30 days,5	0.86 days	40 days	60 days
4	2.2	Buy Prototype LL (Long-Lead) Parts	35 days	11/18/24 8:00 AM	1/3/25 5:00 PM	3SS+30 days	6	2.25 days	35 days	35 days
5	2.3	Buy Remaining Prototype Parts	35.25 days	12/19/24 9:26 AM	2/6/25 11:26 AM	3	7FS+1.9 days	0.86 days	30 days	40 days
6	2.4	Initial Prototype Build	22.04 days	1/6/25 8:00 AM	2/5/25 8:19 AM	4	7FS+1.9 days	2.25 days	15 days	25 days
7	2.5	Final Assembly of Prototypes	14.97 days	2/10/25 10:38 AM	3/3/25 10:24 AM	5FS+1.9 days,6	8	0.86 days	8 days	20 days
8	2.6	Test & Evaluation	29.68 days	3/3/25 10:24 AM	4/11/25 4:50 PM	7	10SS+15 days,12	0.86 days	15 days	40 days
9	3	Final Product Develop	127.54 days	3/24/25 10:24 AM	9/17/25 3:43 PM			0.86 days	0 days	0 days
10	3.1	Final Product Design	41.19 days	3/24/25 10:24 AM	5/20/25 11:55 AM	8SS+15 days	11	0.86 days	30 days	50 days
11	3.2	Final Design Review	0 days	5/20/25 11:55 AM	5/20/25 11:55 AM	10	13	0.86 days	0 days	0 days
12	3.3	Buy LL Parts for Qual Units and Production	30 days	4/11/25 4:50 PM	5/23/25 4:50 PM	8	14	12.23 days	30 days	30 days
13	3.4	Buy Remaining Parts for Qual Units	35.16 days	5/20/25 11:55 AM	7/8/25 2:12 PM	11	15FS+1.75 days	0.86 days	30 days	40 days
14	3.5	Initial Assembly of POR (Plan of Record) Units	20.3 days	5/23/25 4:50 PM	6/23/25 10:14 AM	12	15FS+1.75 days	12.23 days	15 days	25 days
15	3.6	Final Assembly of POR Units	14.68 days	7/10/25 11:12 AM	7/31/25 8:38 AM	13FS+1.75 day	16,17SS+10 days	0.86 days	8 days	20 days
16	3.7	Conduct Qual Tests	34.76 days	7/31/25 8:38 AM	9/17/25 3:43 PM	15	19,18FS+3.45 day	0.86 days	15 days	50 days
17	3.8	Verify Final Design Iterations	31.41 days	7/24/25 11:12 AM	9/5/25 3:29 PM	15SS+10 days	18FS+3.45 days	40.49 days	20 days	40 days
18	4	Conduct Launch Readiness Review	0 days	9/23/25 10:19 AM	9/23/25 10:19 AM	16FS+3.45 day	20FS+0.25 days	32.46 days	0 days	0 days
19	5	Buy Remaining Production Parts	35.05 days	9/17/25 3:43 PM	11/5/25 4:07 PM	16	20FS+0.25 days	0.86 days	30 days	40 days
20	6	Start Production	0 days	11/6/25 9:07 AM	11/6/25 9:07 AM	19FS+0.25 day	21	0.86 days	0 days	0 days
21	7	Commitment Milestone	0 days	11/6/25 5:00 PM	11/6/25 5:00 PM	20		0 days	0 days	0 days

Notice that after Aligning the **Commitment Milestone** to the **“Goal Confidence” Start Production** milestone the Red Flags re-appear – for you have changed the schedule and the Simulation Output is no longer valid.

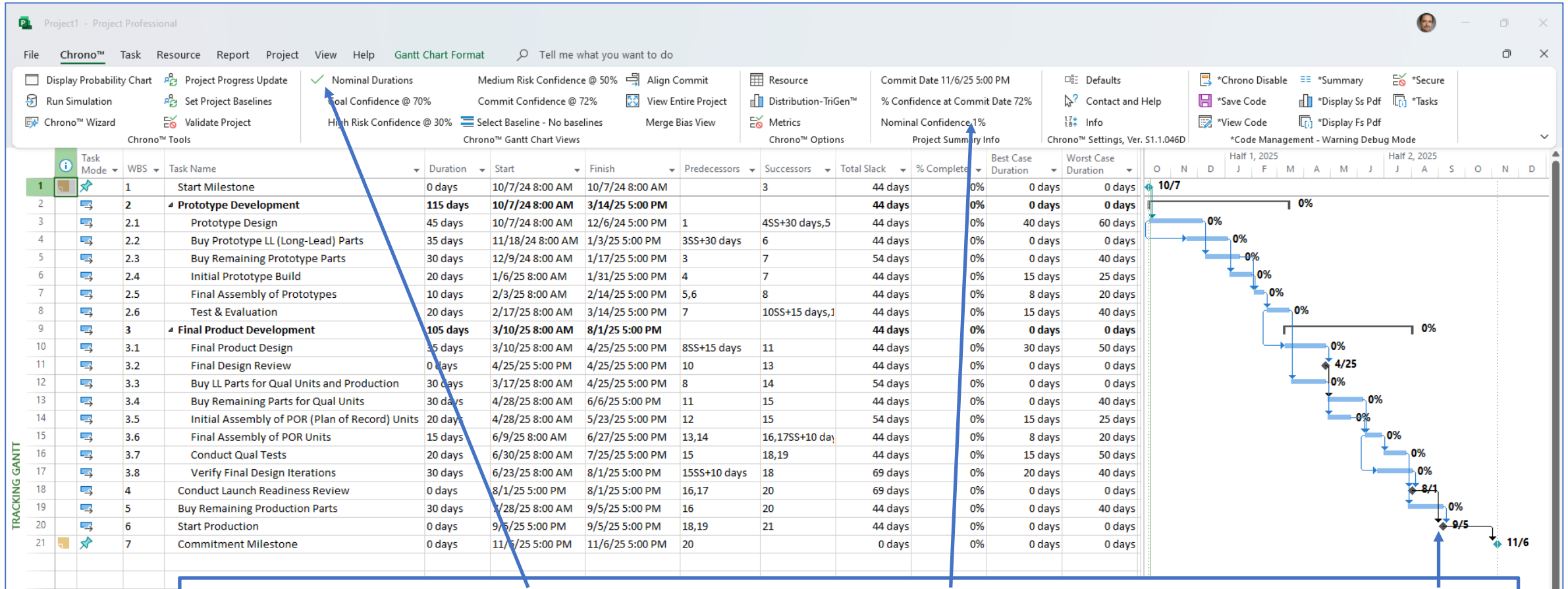
A re-run of the **Simulation** provides the same distribution, but the Commit Milestone is repositioned as shown on the next chart.

SRA is Easy and Fast with Chrono™ Simulation Output – “Distribution” Chart



SRA Info is Sent Back to Chrono™

The Post-Simulation Nominal Gantt Chart

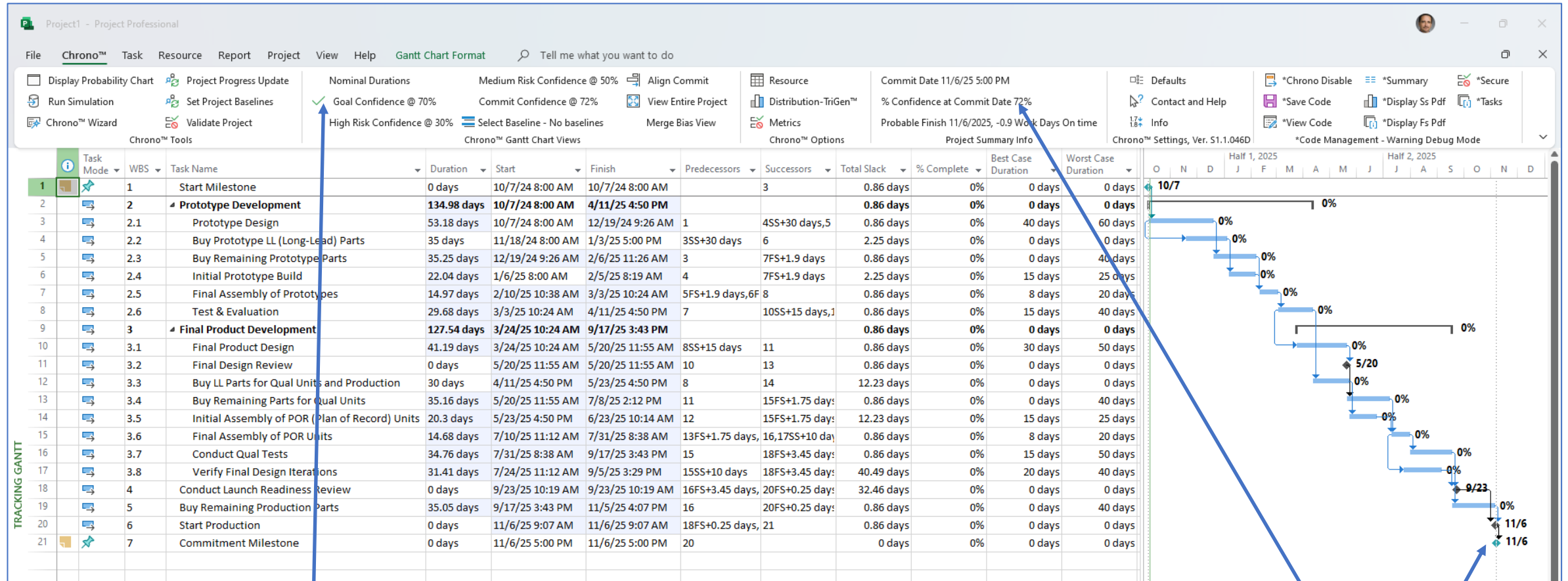


The green check-mark shows the **Nominal** Gantt is currently being displayed and has a **1%** Chance of meeting the CP (Critical Path) completion date.

SRA Helps Establish Commitments



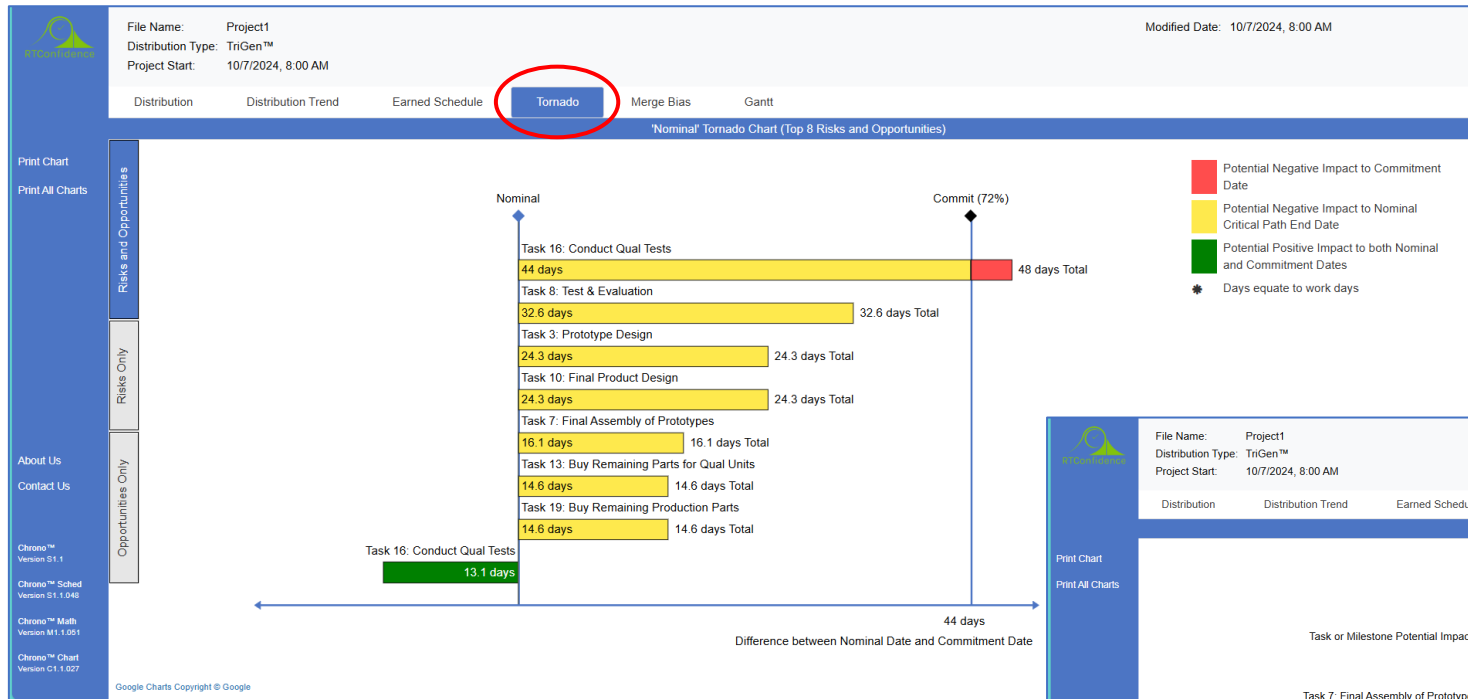
Post-Simulation Commit Confidence Gantt Chart



When you click on the Goal Confidence Gantt (or the **Commit Confidence Gantt**) you will see this result, and Chrono™ tells you what the % Confidence is (**72% here**) of meeting the commitment completion date.

Chrono™ SRA Outputs

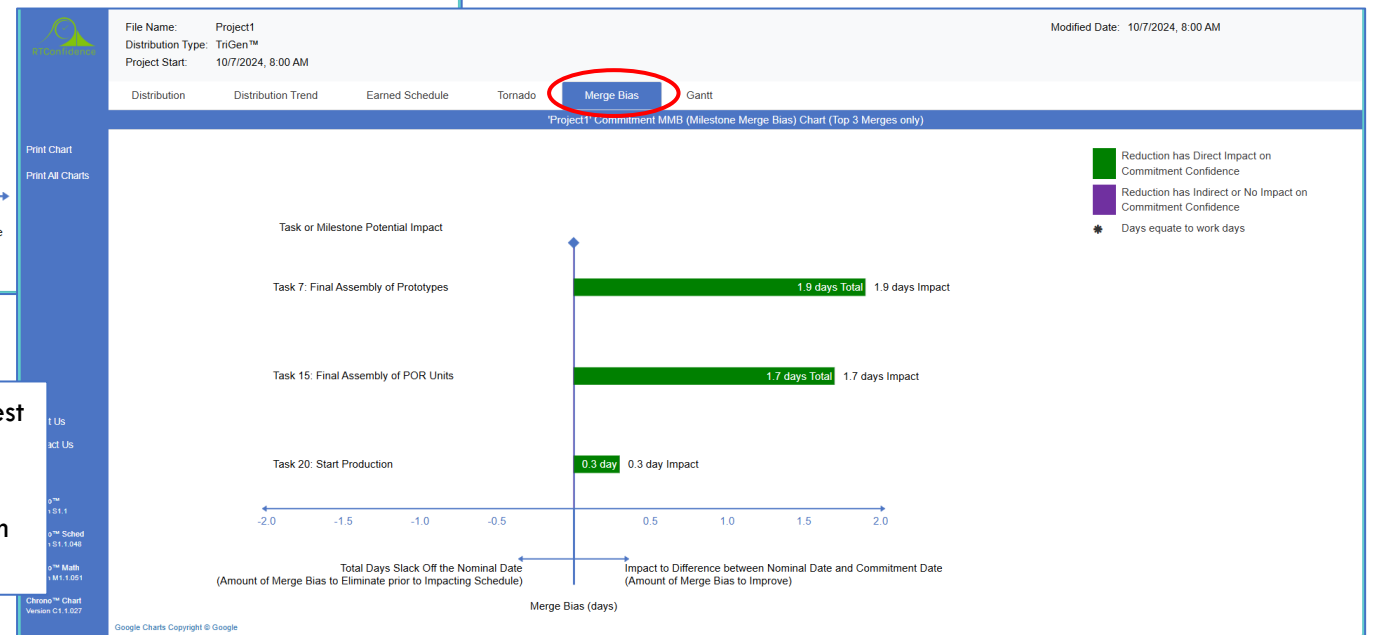
“Tornado” & “Merge Bias” Charts



A “Tornado” chart provides you with the highest priority schedule Risks and Opportunities to potentially address, if necessary, to improve your schedule. The top item is that which impacts the schedule the most, and subsequent items are the next layer of schedule risk to address if necessary.

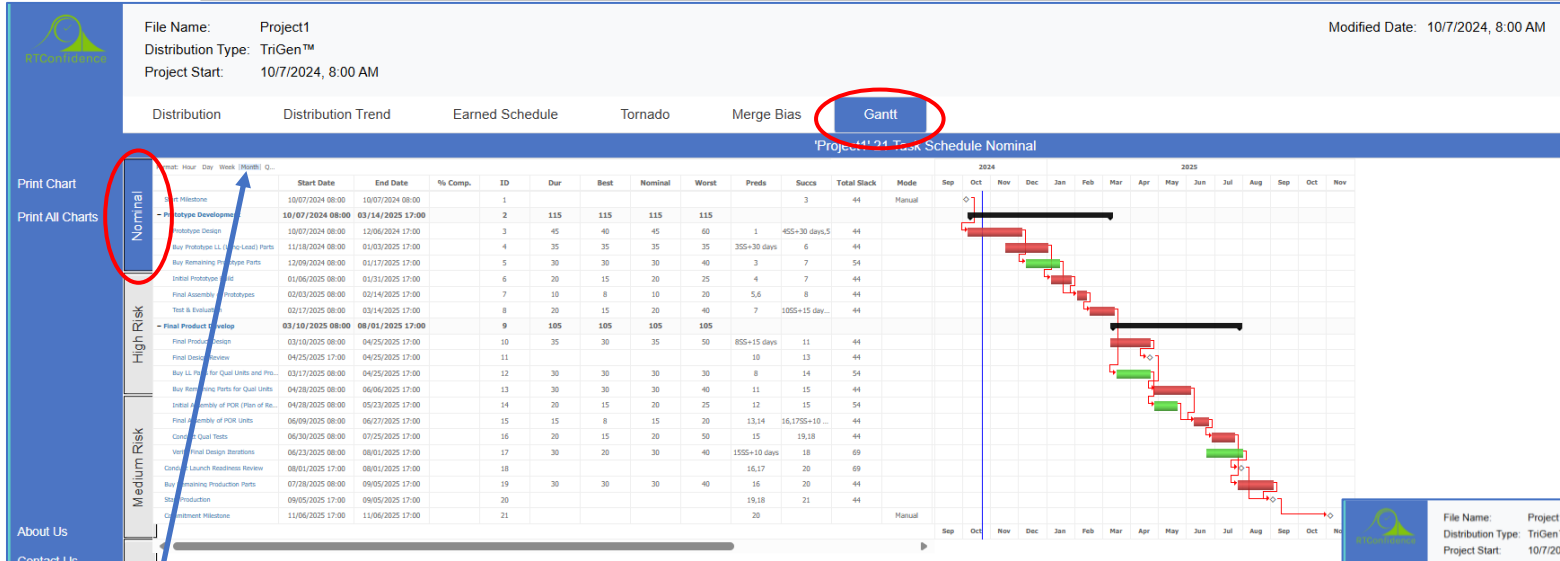
- The risks in Red are those which would show up on the **Commitment Confidence** Risk Matrix.
- The Yellow are those which would show up on the **Nominal Confidence** Risk Matrix.

A “Merge Bias” chart provides you with the highest priority Merge Paths (where two or more task outputs feed a common task input) to address, if necessary, to improve your schedule. The top item is that which impacts the schedule the most.



Chrono™ SRA Outputs

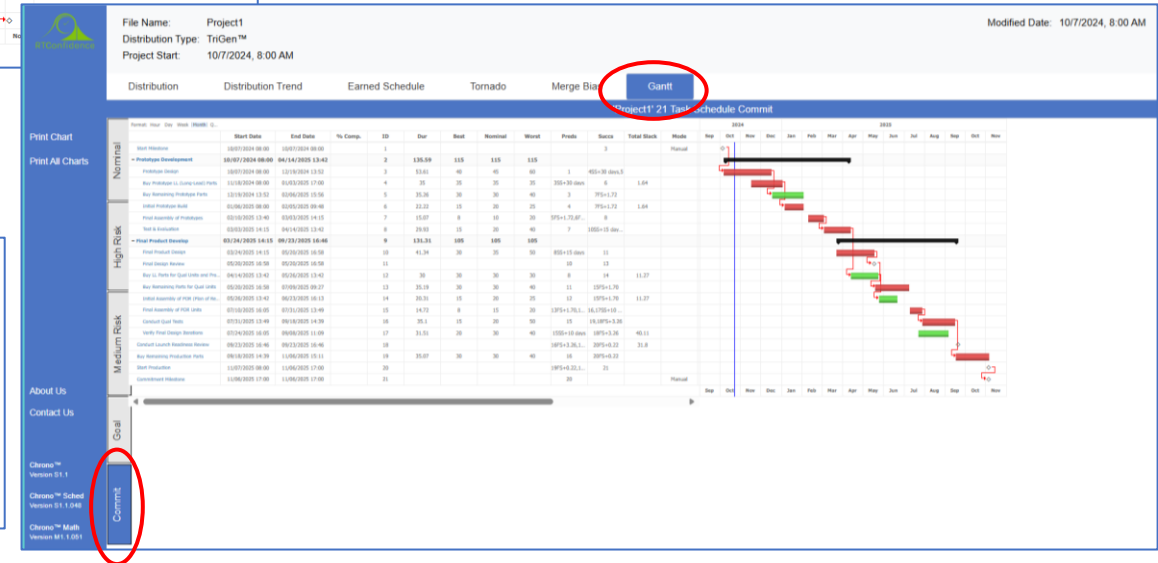
Gantt Charts – Nominal (Target) & Commitment



The **Nominal** Gantt chart (to the left) provides you with all the critical schedule data relative to the team's "Target" – based on the Single-Point estimates provided.

1. To get the entire Gantt chart in view you need to select the **Months** division – the default is **Weeks**.

The **Commit** Gantt chart (below) provides you with all the critical schedule data relative to the team's "Commitment" – based on the Goal % Confidence (which in this case is 70%).

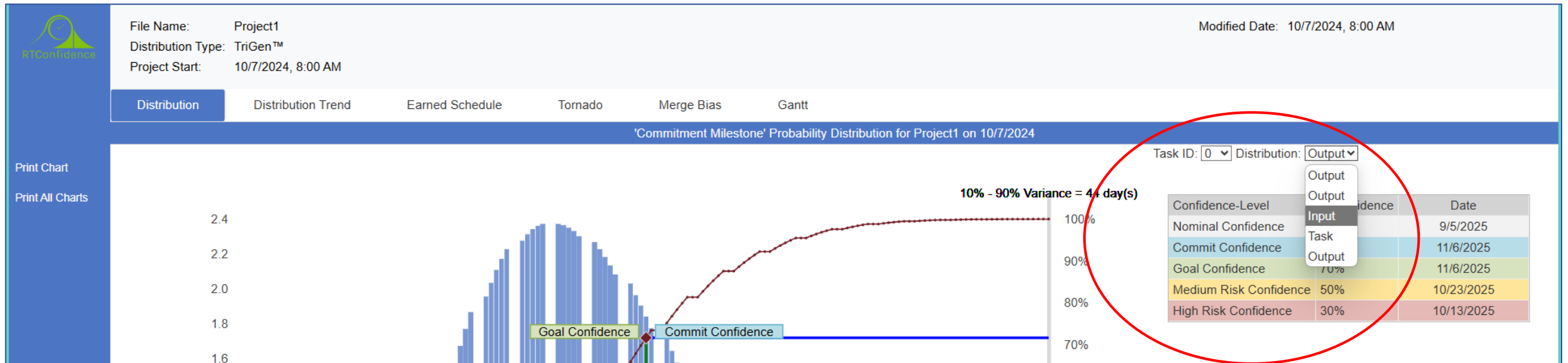


Schedule Development Process

Final Chrono™ Note



- ❑ The Distribution Chart Shows only the Result for the Last IMS Milestone
- ❑ Other Task Milestones can be Viewed via the Drop-down Menu Selections:
 - Task ID: #
 - Distribution: Output, Input or Task (Input + Task = Output)
 - Try this for Task #7
 - Select Task #0 Distribution “Output” to get back to the Completion Milestone Chart



ES (Earned Schedule) Training

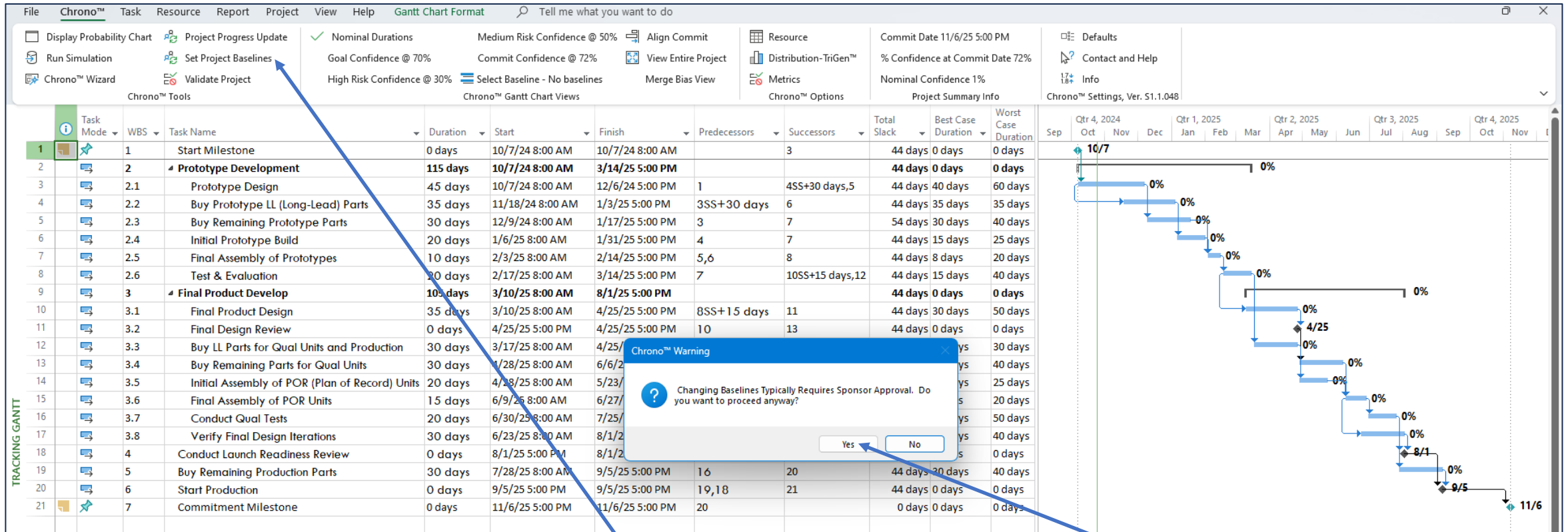
Example of Performing ES

CHRONO™ TRAINING REFERENCE GUIDE

Baselines and Schedule Updates

Establishing Project Baselines

If you haven't already done so – SAVE then SAVE_AS New File Name



The screenshot shows the Chrono software interface. The 'Chrono Tools' section is visible, with 'Set Project Baselines' highlighted. A warning pop-up is displayed over the task table, asking for confirmation to proceed with changing baselines.

Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack	Best Case Duration	Worst Case Duration
1		Start Milestone	0 days	10/7/24 8:00 AM	10/7/24 8:00 AM		3	44 days	0 days	0 days
2		Prototype Development	115 days	10/7/24 8:00 AM	3/14/25 5:00 PM			44 days	0 days	0 days
3	2.1	Prototype Design	45 days	10/7/24 8:00 AM	12/6/24 5:00 PM	1	4SS+30 days,5	44 days	40 days	60 days
4	2.2	Buy Prototype LL (Long-Lead) Parts	35 days	11/18/24 8:00 AM	1/3/25 5:00 PM	3SS+30 days	6	44 days	35 days	35 days
5	2.3	Buy Remaining Prototype Parts	30 days	12/9/24 8:00 AM	1/17/25 5:00 PM	3	7	54 days	30 days	40 days
6	2.4	Initial Prototype Build	20 days	1/6/25 8:00 AM	1/31/25 5:00 PM	4	7	44 days	15 days	25 days
7	2.5	Final Assembly of Prototypes	10 days	2/3/25 8:00 AM	2/14/25 5:00 PM	5,6	8	44 days	8 days	20 days
8	2.6	Test & Evaluation	30 days	2/17/25 8:00 AM	3/14/25 5:00 PM	7	10SS+15 days,12	44 days	15 days	40 days
9	3	Final Product Develop	105 days	3/10/25 8:00 AM	8/1/25 5:00 PM			44 days	0 days	0 days
10	3.1	Final Product Design	35 days	3/10/25 8:00 AM	4/25/25 5:00 PM	8SS+1.5 days	11	44 days	30 days	50 days
11	3.2	Final Design Review	0 days	4/25/25 5:00 PM	4/25/25 5:00 PM	10	13	44 days	0 days	0 days
12	3.3	Buy LL Parts for Qual Units and Production	30 days	3/17/25 8:00 AM	4/25/25 5:00 PM			44 days	30 days	30 days
13	3.4	Buy Remaining Parts for Qual Units	30 days	4/1/25 8:00 AM	6/6/25 5:00 PM			44 days	30 days	40 days
14	3.5	Initial Assembly of POR (Plan of Record) Units	20 days	4/23/25 8:00 AM	5/23/25 5:00 PM			44 days	30 days	25 days
15	3.6	Final Assembly of POR Units	15 days	6/9/25 8:00 AM	6/27/25 5:00 PM			44 days	30 days	20 days
16	3.7	Conduct Qual Tests	20 days	6/30/25 8:00 AM	7/25/25 5:00 PM			44 days	30 days	50 days
17	3.8	Verify Final Design Iterations	30 days	6/23/25 8:00 AM	8/1/25 5:00 PM			44 days	30 days	40 days
18	4	Conduct Launch Readiness Review	0 days	8/1/25 5:00 PM	8/1/25 5:00 PM			44 days	30 days	0 days
19	5	Buy Remaining Production Parts	30 days	7/28/25 8:00 AM	9/5/25 5:00 PM	16	20	44 days	30 days	40 days
20	6	Start Production	0 days	9/5/25 5:00 PM	9/5/25 5:00 PM	19,18	21	44 days	0 days	0 days
21	7	Commitment Milestone	0 days	11/6/25 5:00 PM	11/6/25 5:00 PM	20		0 days	0 days	0 days

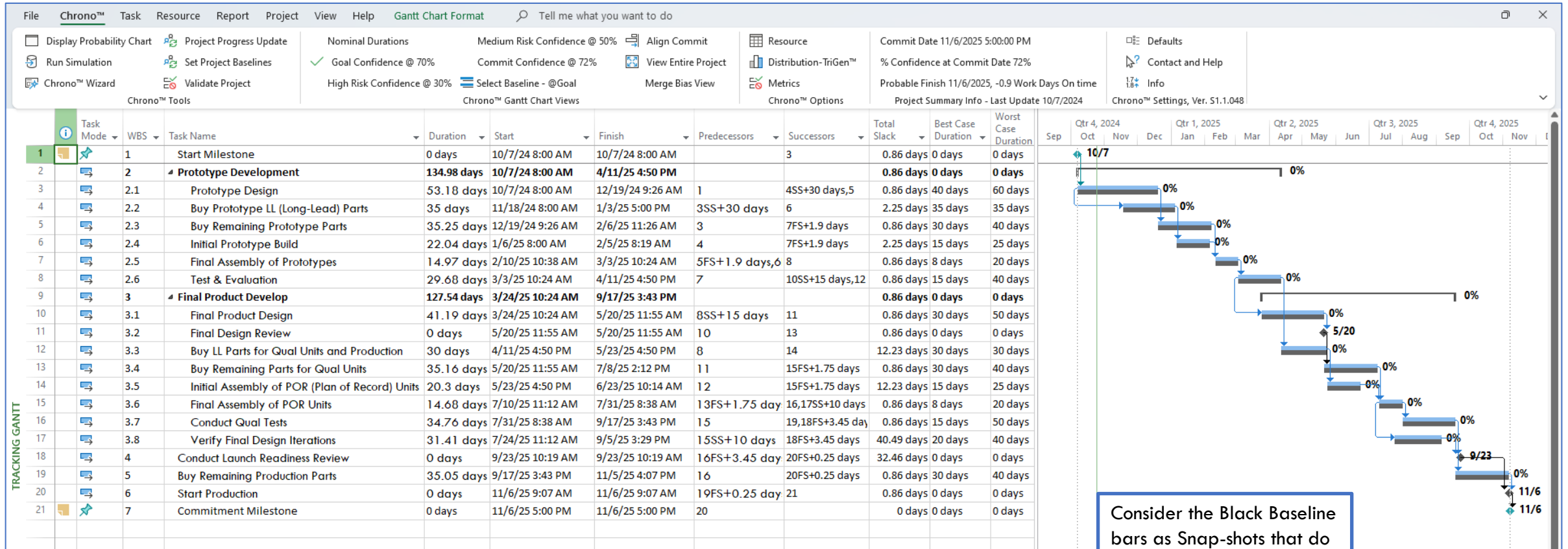
Step #1. SAVE the File, and then SAVE AS another File name – always a safe thing to do. Then Run the Simulation again and verify the same results.

Step #2. In the New File, Select “Set Project Baselines” in the Chrono Tools Section.

Step #3. Select “Yes” when this Pop-up appears. Chrono will automatically save a back-up of this file as “<file name>_000”

Establishing Baselines

The Baseline Goal Gantt (i.e., Commit Schedule)



Consider the Black Baseline bars as Snap-shots that do not change, even after updating the schedule.

Establishing Baselines

The Baseline Nominal Gantt (i.e., Target Schedule)



File Chrono™ Task Resource Report Project View Help Gantt Chart Format Tell me what you want to do

Display Probability Chart Project Progress Update Nominal Durations Medium Risk Confidence @ 50% Align Commit Resource Commit Date 11/6/2025 5:00:00 PM Defaults
 Run Simulation Set Project Baselines Goal Confidence @ 70% Commit Confidence @ 72% View Entire Project Distribution-TriGen™ % Confidence at Commit Date 72% Contact and Help
 Chrono™ Wizard Validate Project High Risk Confidence @ 30% Select Baseline - @Nominal Merge Bias View Metrics Nominal Confidence 1% Info
 Chrono™ Tools Chrono™ Gantt Chart Views Chrono™ Options Project Summary Info - Last Update 10/7/2024 Chrono™ Settings, Ver. 51.1.048

Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack	Best Case Duration	Worst Case Duration
1		Start Milestone	0 days	10/7/24 8:00 AM	10/7/24 8:00 AM		3	44 days	0 days	0 days
2		▶ Prototype Development	115 days	10/7/24 8:00 AM	3/14/25 5:00 PM			44 days	0 days	0 days
3	2.1	Prototype Design	45 days	10/7/24 8:00 AM	12/6/24 5:00 PM	1	4SS+30 days,5	44 days	40 days	60 days
4	2.2	Buy Prototype LL (Long-Lead) Parts	35 days	11/18/24 8:00 AM	1/3/25 5:00 PM	3SS+30 days	6	44 days	35 days	35 days
5	2.3	Buy Remaining Prototype Parts	30 days	12/9/24 8:00 AM	1/17/25 5:00 PM	3	7	54 days	30 days	40 days
6	2.4	Initial Prototype Build	20 days	1/6/25 8:00 AM	1/31/25 5:00 PM	4	7	44 days	15 days	25 days
7	2.5	Final Assembly of Prototypes	10 days	2/3/25 8:00 AM	2/14/25 5:00 PM	5,6	8	44 days	8 days	20 days
8	2.6	Test & Evaluation	20 days	2/17/25 8:00 AM	3/14/25 5:00 PM	7	10SS+15 days,12	44 days	15 days	40 days
9	3	▶ Final Product Develop	105 days	3/10/25 8:00 AM	8/1/25 5:00 PM			44 days	0 days	0 days
10	3.1	Final Product Design	35 days	3/10/25 8:00 AM	4/25/25 5:00 PM	8SS+15 days	11	44 days	30 days	50 days
11	3.2	Final Design Review	0 days	4/25/25 5:00 PM	4/25/25 5:00 PM	10	13	44 days	0 days	0 days
12	3.3	Buy LL Parts for Qual Units and Production	30 days	3/17/25 8:00 AM	4/25/25 5:00 PM	8	14	54 days	30 days	30 days
13	3.4	Buy Remaining Parts for Qual Units	30 days	4/28/25 8:00 AM	6/6/25 5:00 PM	11	15	44 days	30 days	40 days
14	3.5	Initial Assembly of POR (Plan of Record) Units	20 days	4/28/25 8:00 AM	5/23/25 5:00 PM	12	15	54 days	15 days	25 days
15	3.6	Final Assembly of POR Units	15 days	6/9/25 8:00 AM	6/27/25 5:00 PM	13,14	16,17SS+10 days	44 days	8 days	20 days
16	3.7	Conduct Qual Tests	20 days	6/30/25 8:00 AM	7/25/25 5:00 PM	15	19,18	44 days	15 days	50 days
17	3.8	Verify Final Design Iterations	30 days	6/23/25 8:00 AM	8/1/25 5:00 PM	15SS+10 days	18	69 days	20 days	40 days
18	4	Conduct Launch Readiness Review	0 days	8/1/25 5:00 PM	8/1/25 5:00 PM	16,17	20	69 days	0 days	0 days
19	5	Buy Remaining Production Parts	30 days	7/28/25 8:00 AM	9/5/25 5:00 PM	16	20	44 days	30 days	40 days
20	6	Start Production	0 days	9/5/25 5:00 PM	9/5/25 5:00 PM	19,18	21	44 days	0 days	0 days
21	7	Commitment Milestone	0 days	11/6/25 5:00 PM	11/6/25 5:00 PM	20		0 days	0 days	0 days

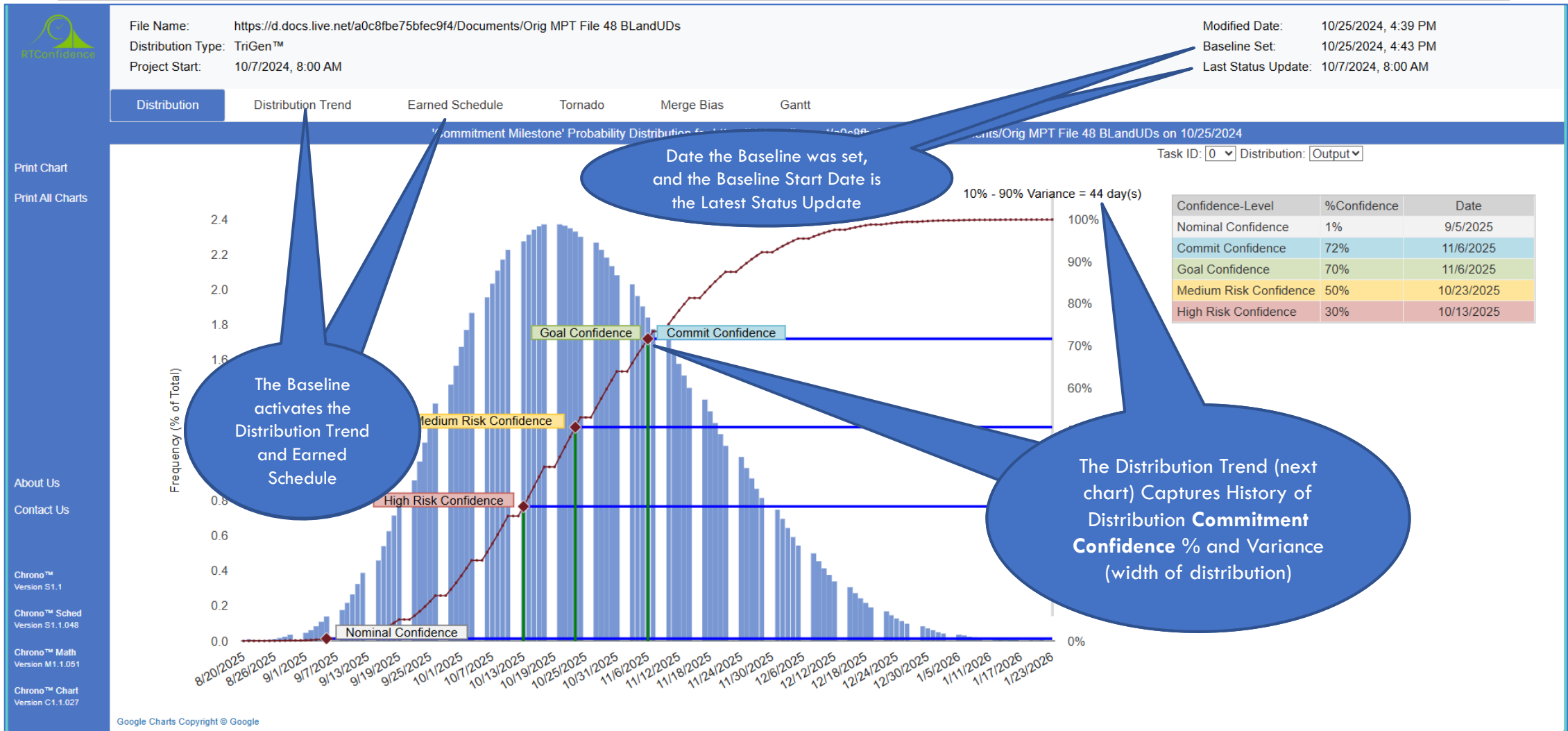
TRACKING GANTT

Select the "Nominal Durations" Gantt to view this Critical Path schedule -- which is considered a good "Target" for the Team to Work toward Achieving.

Baselines are auto-Saved and a replica of the file is put into the same folder

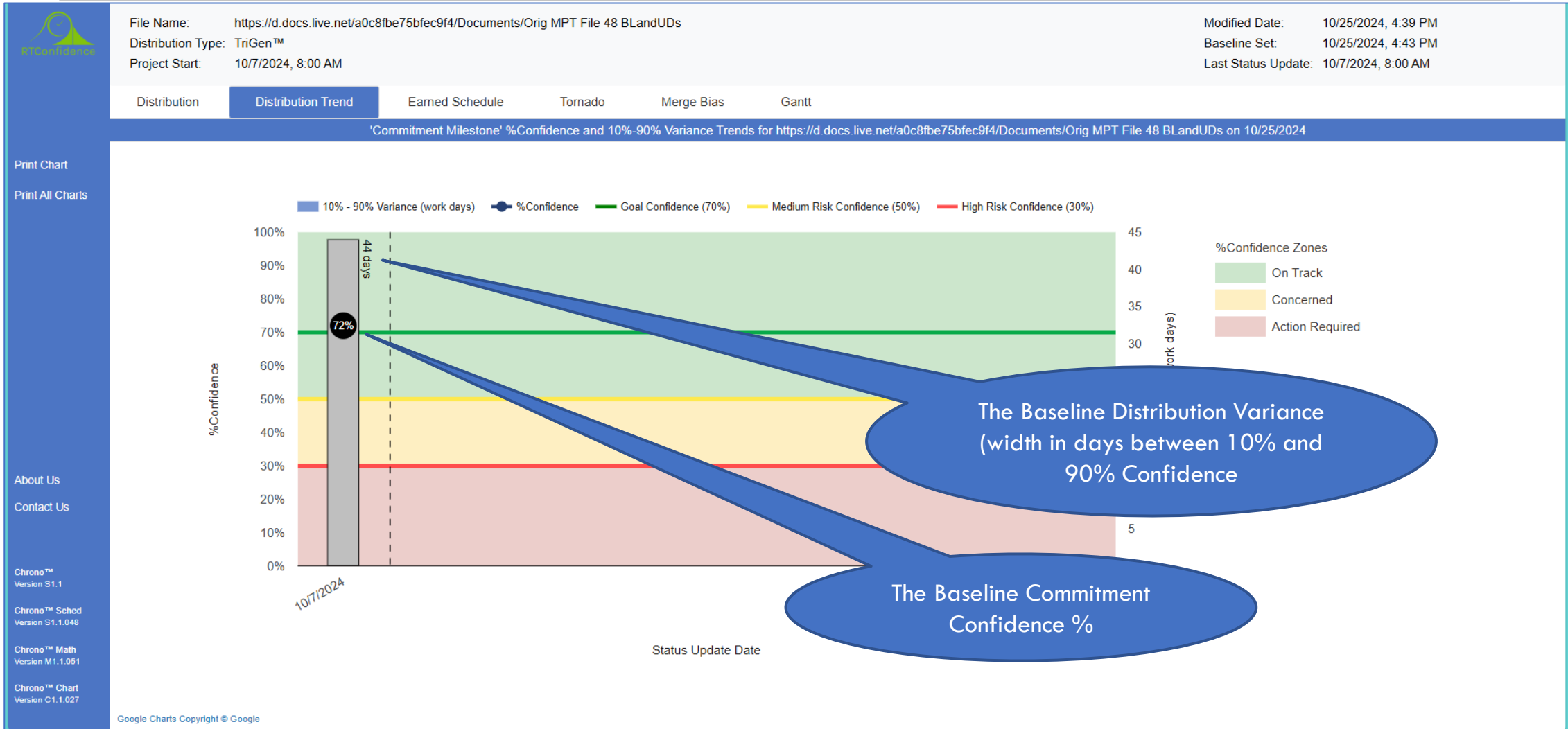
SRA Simulation Output Display

Result of Setting the Project Baseline



SRA Simulation Output Display

Result of Setting the Project Baseline



SRA Simulation Output Display

ES Metrics Set Up – will Automatically Calculate

File Name: <https://d.docs.live.net/a0c8fbe75bfec9f4/Documents/Orig MPT File 48 BLandUDs>
 Distribution Type: TriGen™
 Project Start: 10/7/2024, 8:00 AM

Modified Date: 10/25/2024, 4:39 PM
 Baseline Set: 10/25/2024, 4:43 PM
 Last Status Update: 10/7/2024, 8:00 AM

Distribution
Distribution Trend
Earned Schedule
Tornado

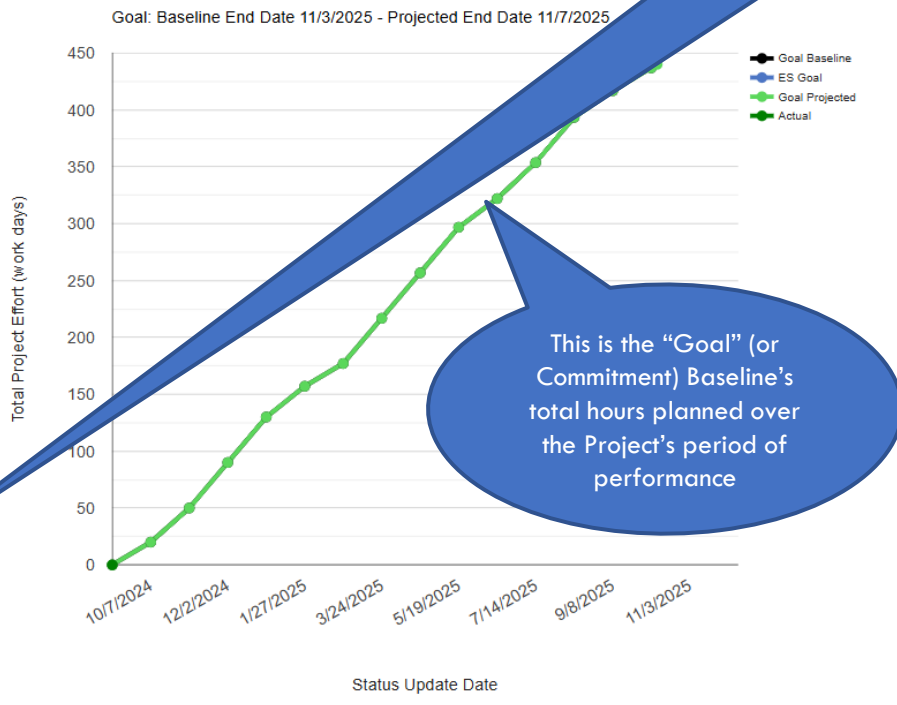
Goal and Nominal ES Baseline and Proj...

[https://d.docs.live.net/a0c8fbe75bfec9f4/Documents/Orig MPT File 48 BLandUDs](#)

Print Chart

Print All Charts

ES vs. Baseline (Goal & Nominal)



Goal: Baseline End Date 11/3/2025 - Projected End Date 11/7/2025

This is the "Goal" (or Commitment) Baseline's total hours planned over the Project's period of performance

Schedule Duration Estimates & SPI Values



Nominal: Baseline End Date 8/11/2025 - Projected End Date 9/8/2025

This is the "Nominal" (or Critical Path) Baseline's total hours planned over the Project's period of performance

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Version S1.1

Chrono™ Sched
Version S1.1.048

Chrono™ Math
Version M1.1.051

Chrono™ Chart
Version C1.1.027

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SRA Simulation Output Display

ES Metrics Set Up – will Automatically Calculate

File Name: <https://d.docs.live.net/a0c8fbe75bfec9f4/Documents/Orig MPT File 48 BLandUDs>
 Distribution Type: TriGen™
 Project Start: 10/7/2024, 8:00 AM

Modified Date: 10/25/2024, 4:39 PM
 Baseline Set: 10/25/2024, 4:43 PM
 Last Status Update: 10/7/2024, 8:00 AM

Distribution Distribution Trend **Earned Schedule** Tornado

SPIs for Nominal and Goal Baselines are Calculated (<1 behind, =1 on schedule, >1 ahead) - They start at 1.0

ES (Earned Schedule) Project Schedule Duration Estimates, SPI (Schedule Performance Index) Values and <https://d.docs.live.net/a0c8fbe75bfec9f4/Documents/Orig MPT File 48 BLandUDs> on 10/25/2024

Print Chart
Print All Charts

ES vs. Baseline (Goal & Nominal)

Schedule Duration Estimates & SPI Values

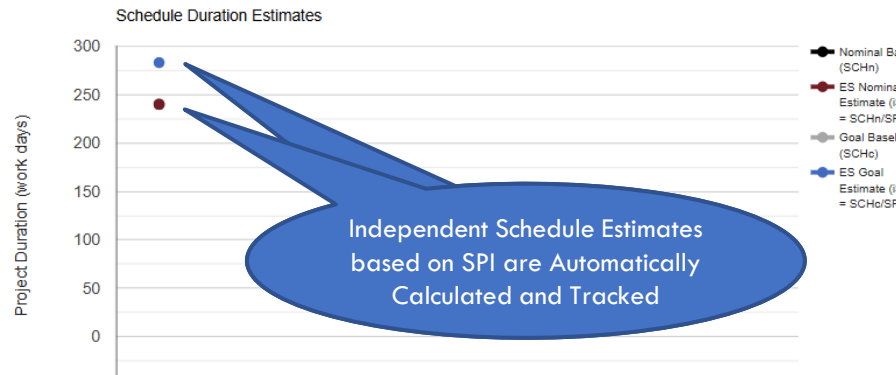
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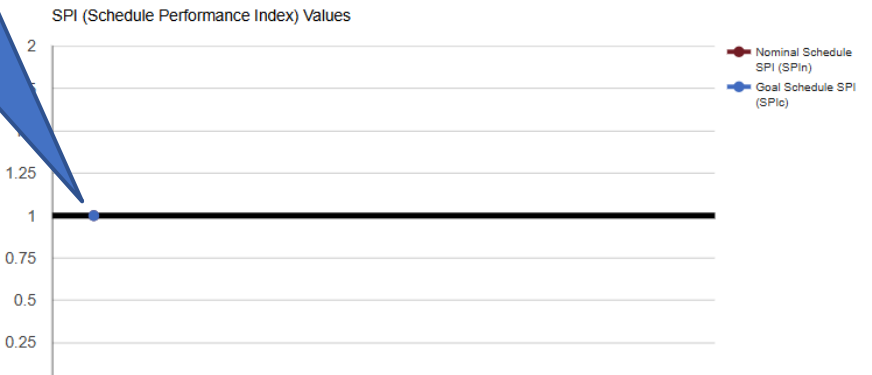
Chrono™ Math
Version M1.1.051

Chrono™ Chart
Version C1.1.027



	10/7/2024								
Nominal Baseline (SCHn)	240.00								9/8/2025
ES Nominal Estimate (iSCHn = SCHn/SPIin)	240.00								9/8/2025
Goal Baseline (SCHc)	283.14								11/7/2025
ES Goal Estimate (iSCHc = SCHc/SPIc)	283.14								11/7/2025

Status Update Date



	10/7/2024								
Nominal Schedule SPI (SPIin)	1.00								
Goal Schedule SPI (SPIc)	1.00								

Status Update Date

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Project Progress Update #1



Scenario Explanation (reiterated on next charts)

1. Project was Baselined to Start on October 14, 2024 (a Monday)
2. The Project Started as Planned
3. The First of the Monthly Project Progress Updates represents progress made up to 5pm Friday (11/15/2024)
4. Task 3 (Prototype Design) was the only Task worked on during that period
5. The design was more difficult than originally estimated and its completion is now expected to be delayed by 1 week (5 work-days)
 - Remaining Task (#3) Duration is now expected to be 20 more work-days
 - Must Change remaining work-days from 15 to 20, with BC=28 and WC=35
6. It is also determined by the Project Team that the “Buy Prototype LL (Long-Lead) Parts” Task (#4) will take an extra two more weeks (10 work-days) longer as well, due to Added Design Complexity
 - This Task has not begun, but we can make the Change to the Duration
 - Increase Task 4 by 10 work-days (from 35 to 45), with BC=0 and WC=0

Chrono™ Project Progress Updating Using the Project Progress Update Wizard



Project Progress Update

Baseline: 10/25/2024 4:43:00 PM

Status Date: 11/15/2024 5:00:00 PM

Task Update: Never Updated

Project Update: 10/7/2024 8:00:00 AM

1. Set Status Date

2. Update Tasks

3. Preview

4. Publish

Exit

Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack	Best Case Duration	Worst Case Duration	
1		Start Milestone	0 days	10/7/24 8:00 AM	10/7/24 8:00 AM		3	44 days	0 days	0 days	
2		Prototype Development	115 days	10/7/24 8:00 AM	3/14/25 5:00 PM			44 days	0 days	0 days	
3	2.1	Prototype Design	45 days	10/7/24 8:00 AM	12/6/24 5:00 PM	1	4SS+30 days,5	44 days	40 days	60 days	
4	2.2	Buy Prototype LL (Long Lead) Parts	35 days	11/18/24 8:00 AM	1/3/25 5:00 PM	3SS+30 days	6	44 days	35 days	35 days	
5	2.3	Buy Remaining Prototype Parts	30 days	12/9/24 8:00 AM	1/17/25 5:00 PM	3	7	54 days	30 days	40 days	
6	2.4	Initial Prototype Build	20 days	1/6/25 8:00 AM	1/31/25 5:00 PM	4	7	44 days	15 days	25 days	
7	2.5	Final Assembly of Prototypes	10 days	2/3/25 8:00 AM	2/14/25 5:00 PM	5,6	8	44 days	8 days	20 days	
8	2.6	Test & Evaluation	20 days	2/17/25 8:00 AM	3/14/25 5:00 PM	7	10SS+15 days,12	44 days	15 days	40 days	
9	3	Final Product Develop	105 days	3/10/25 8:00 AM	8/1/25 5:00 PM			44 days	0 days	0 days	
10	3.1	Final Product Design	35 days	3/10/25 8:00 AM	4/25/25 5:00 PM	8SS+15 days	11	44 days	30 days	50 days	
11	3.2	Final Design Review	0 days	4/25/25 5:00 PM	4/25/25 5:00 PM		10	44 days	0 days	0 days	
12	3.3	Buy LL Parts for Qual Units and Production	30 days	3/17/25 8:00 AM	4/25/25 5:00 PM		8	54 days	30 days	30 days	
13	3.4	Buy Remaining Parts for Qual Units	30 days	4/28/25 8:00 AM	6/6/25 5:00 PM		11	44 days	30 days	40 days	
14	3.5	Initial Assembly of POR (Plan of Record) Units	20 days	4/28/25 8:00 AM	5/23/25 5:00 PM		12	54 days	15 days	25 days	
15	3.6	Final Assembly of POR Units	15 day	6/9/25 8:00 AM	6/27/25 5:00 PM		13,14	16,17SS+10 days	44 days	8 days	20 days
16	3.7	Conduct Qual Tests	20 days	6/30/25 8:00 AM	7/25/25 5:00 PM		15	44 days	15 days	50 days	
17	3.8	Verify Final Design Iterations	30 days	6/23/25 8:00 AM	8/1/25 5:00 PM		15SS+10 days	18	69 days	20 days	40 days
18	4	Conduct Launch Readiness Review	0 days	8/1/25 5:00 PM	8/1/25 5:00 PM		16,17	20	69 days	0 days	0 days
19	5	Buy Remaining Production Parts	30 days	7/28/25 8:00 AM	9/5/25 5:00 PM		16	44 days	30 days	40 days	
20	6	Start Production	0 days	9/5/25 5:00 PM	9/5/25 5:00 PM		19,18	21	44 days	0 days	0 days
21	7	Commitment Milestone	0 days	11/6/25 5:00 PM	11/6/25 5:00 PM		20		0 days	0 days	0 days

Update No. 1:

1. Launch **Project Progress Update** wizard, change status date to 11/15/2024 5:00 PM, and select **1. Set Status Date**
2. Then select **2. Update Tasks** and follow instructions on next chart.

Chrono™ Project Progress Updating

The Project Update Wizard Keeps you Honest



The screenshot displays the Chrono software interface with a Gantt chart and two dialog boxes. The Gantt chart shows a project schedule with tasks such as 'Start Milestone', 'Prototype Development', and 'Final Product Develop'. The 'Update Task % Complete OR Units Complete OR Remaining Duration OR Closure Date' dialog box is open for 'TaskID 3 - Prototype Design', showing a remaining duration of 20 days and a closure date of 12/13/2024 5:00:00 PM. The 'Enter Best Case and Worst Case' dialog box is also open, showing a best case value of 17.78 and a worst case value of 26.67. Blue arrows point from the text in the 'Update No. 1' box to the corresponding fields in the dialog boxes.

Update No. 1 (continued):

1. Change the Remaining Duration in TaskID 3 from 15 to 20 days (i.e., add 5 days to the TaskID 3 remaining duration) and then Next (this lets you see the % Complete and the projected end date for the task (Note: you have the option to input either “Remaining Duration”, “Closure Date”, “% Complete” or the combination of “Total Units” and “Units Complete”. Selecting “Next” will let you see all of these as they will be adjusted. Selecting Next again moves you to the next step (see pop-up).
2. Change the 3-pt (BC = 18 and WC = 25), then select **Accept Changes**

Chrono™ Project Progress Updating

The Project Update Wizard Keeps you Honest



The screenshot displays the Chrono software interface. The main window shows a Gantt chart with tasks listed in a table. A 'Project Progress Update' dialog box is open, showing the current baseline and status date, and a 'Warning - Accept Change?' dialog box is also open, asking for confirmation to proceed with updates. A blue box highlights the 'Preview' button in the update wizard and the 'Yes' button in the warning dialog.

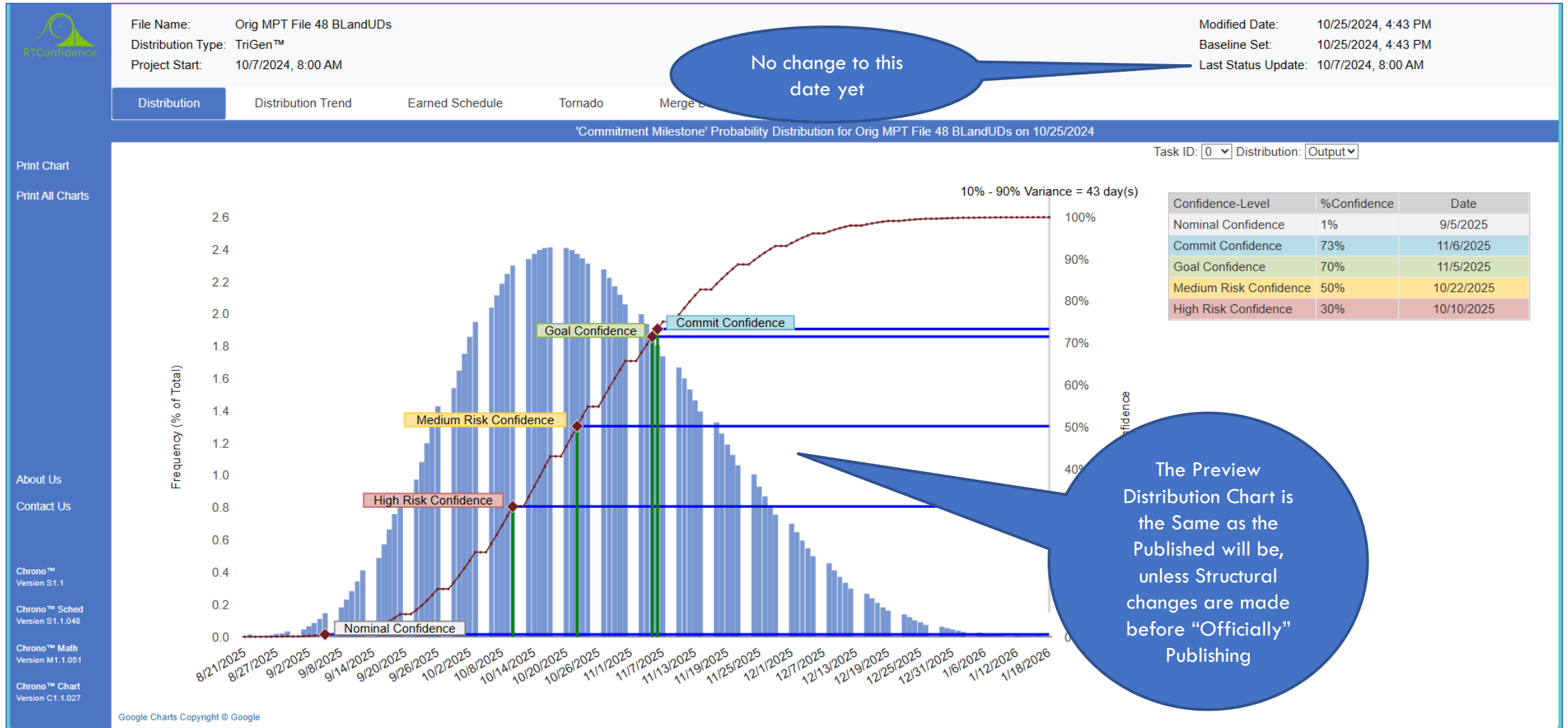
Task ID	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack	Best Case Duration	Worst Case Duration
1	Start Milestone	0 days	10/7/24 8:00 AM	10/7/24 8:00 AM		3	44 days 0 days	0 days	0 days
2	Prototype Development	115 days	10/7/24 8:00 AM	3/14/25 5:00 PM			44 days 0 days	0 days	0 days
3	Prototype Design	50 days	10/7/24 8:00 AM	12/13/24 5:00 PM	1	4SS+30 days,5	44 days 45 days	62.5 day	
4	Buy Prototype LL (Long-Lead) Parts	35 days	11/18/24 8:00 AM	1/3/25 5:00 PM	3SS+30 days	6	44 days 35 days	35 days	
5	Buy Remaining Prototype Parts	30 days	12/16/24 8:00 AM	1/24/25 5:00 PM	3	7	49 days 30 days	40 days	
6	Initial Prototype Build	20 days	1/6/25 8:00 AM	1/31/25 5:00 PM	4	7	44 days 15 days	25 days	
7	Final Assembly of Prototypes	10 days	2/3/25 8:00 AM	2/14/25 5:00 PM	5,6	8	44 days 8 days	20 days	
8	Test & Evaluation	20 days	2/17/25 8:00 AM	3/14/25 5:00 PM	7	10SS+15 days,12	44 days 15 days	40 days	
9	Final Product Develop	105 days	3/10/25 8:00 AM	8/1/25 5:00 PM			44 days 0 days	0 days	0 days
10	Final Product Design	35 days	3/10/25 8:00 AM	4/25/25 5:00 PM	8SS+15 days	11	44 days 30 days	50 days	
11	Final Design Review	0 days	4/25/25 5:00 PM	4/25/25 5:00 PM					0 days
12	Buy LL Parts for Qual Units and Production	30 days	3/17/25 8:00 AM	4/25/25 5:00 PM				20 days	
13	Buy Remaining Parts for Qual Units	30 days	4/28/25 8:00 AM	6/6/25 5:00 PM				40 days	
14	Initial Assembly of POR (Plan of Record) Units	20 days	4/28/25 8:00 AM	5/23/25 5:00 PM				25 days	
15	Final Assembly of POR Units	15 days	6/9/25 8:00 AM	6/27/25 5:00 PM				20 days	
16	Conduct Qual Tests	20 days	6/30/25 8:00 AM	7/25/25 5:00 PM				50 days	
17	Verify Final Design Iterations	30 days	6/23/25 8:00 AM	8/1/25 5:00 PM				40 days	
18	Conduct Launch Readiness Review	0 days	8/1/25 5:00 PM	8/1/25 5:00 PM				0 days	
19	Buy Remaining Production Parts	30 days	7/28/25 8:00 AM	9/5/25 5:00 PM				40 days	
20	Start Production	0 days	9/5/25 5:00 PM	9/5/25 5:00 PM	19,18	21	44 days 0 days	0 days	0 days
21	Commitment Milestone	0 days	11/6/25 5:00 PM	11/6/25 5:00 PM	20		0 days 0 days	0 days	0 days

Update No. 1 (continued):

1. Then select **3. Preview**
2. Select **Yes** in the dialog box that pops up
3. The Simulation will automatically run (view output on next chart)

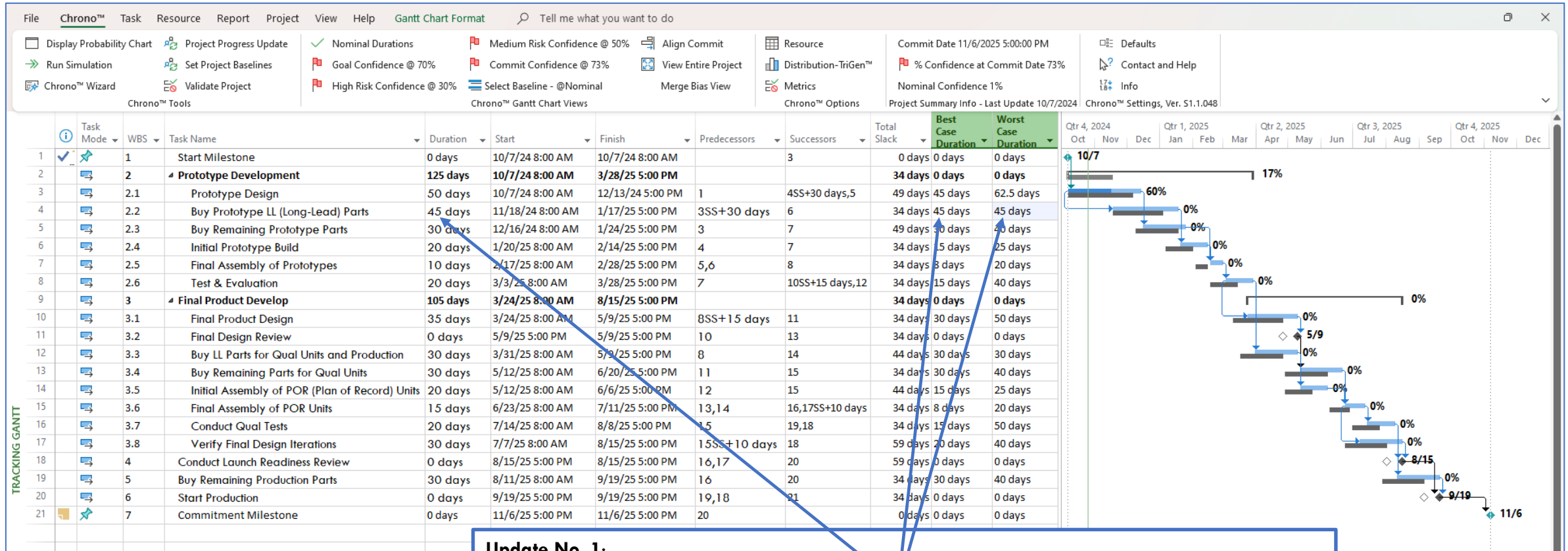
SRA Simulation Output – Update #1

Result of “Previewing” the Update



Chrono™ Project Progress Updating

Adjusting Future Tasks after Preview, before Publishing

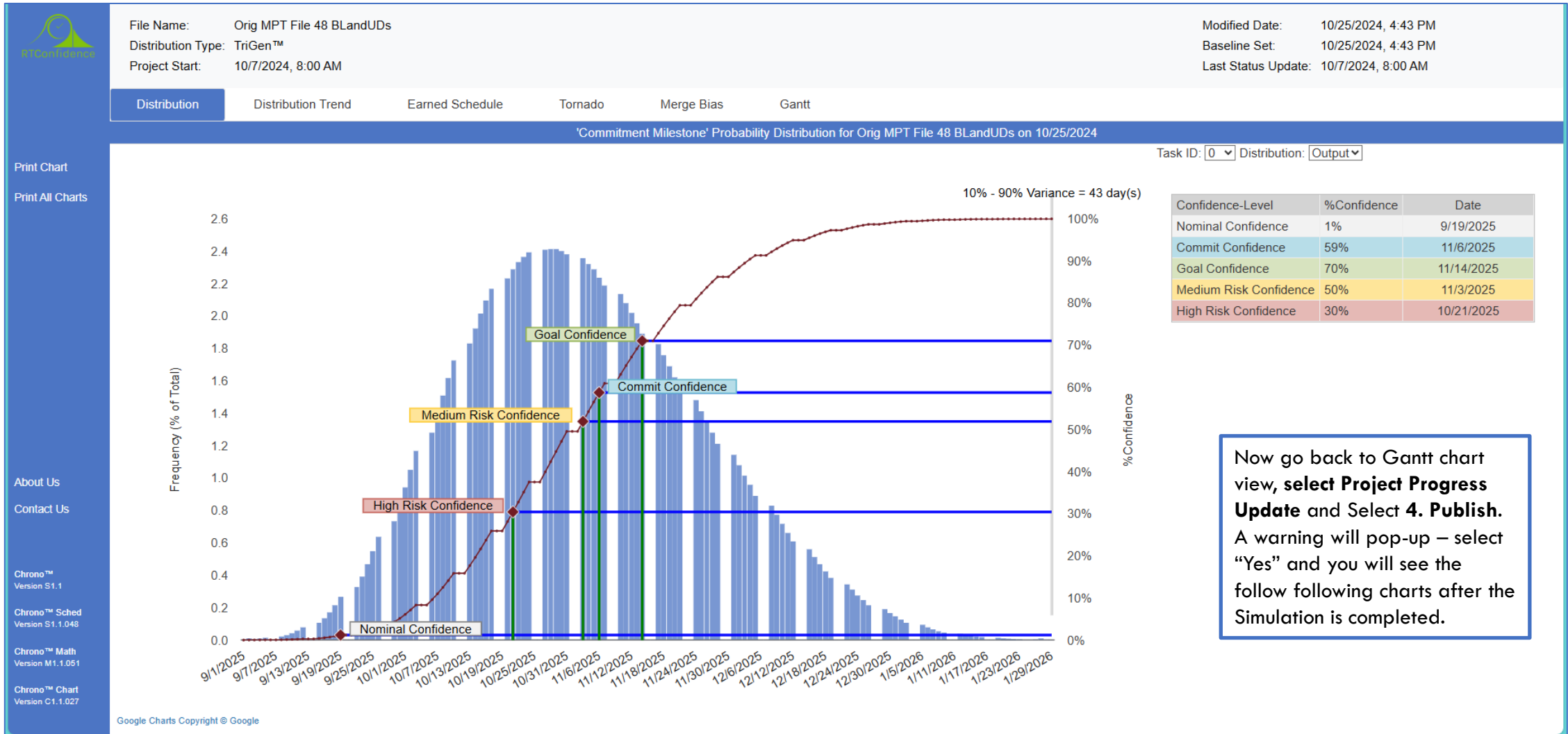



Update No. 1:

1. Go to Task ID 4 **Duration** and change it to 45 days (then your chart should match this one).
2. Change Best-Case to 45 and Worst-Case to 45.
3. Run the Simulation and inspect the Outputs – next chart. No changes to Distribution Trend or ES Charts are made yet.

SRA Simulation Output – Update #1

Result of Second Preview – after last change



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Chrono™ Project Progress Updating

Publishing the 1st Project Progress Update



The screenshot shows the Chrono software interface with a Gantt chart on the left and a 'Project Progress Update' dialog box on the right. The dialog box contains the following information:

- Baseline: 10/25/2024 4:43:00 PM
- Status Date: 11/15/2024 5:00:00 PM
- Task Update: 11/15/2024 5:00:00 PM
- Project Update: 10/7/2024 8:00:00 AM

The dialog box has four buttons: 1. Set Status Date, 2. Update Tasks, 3. Preview, and 4. Publish. A blue arrow points from the '4. Publish' button to a callout box. Another blue arrow points from the 'Project Progress Update' button in the top menu to the '4. Publish' button.

A 'Warning - Accept Change?' dialog box is also visible, with the following text:

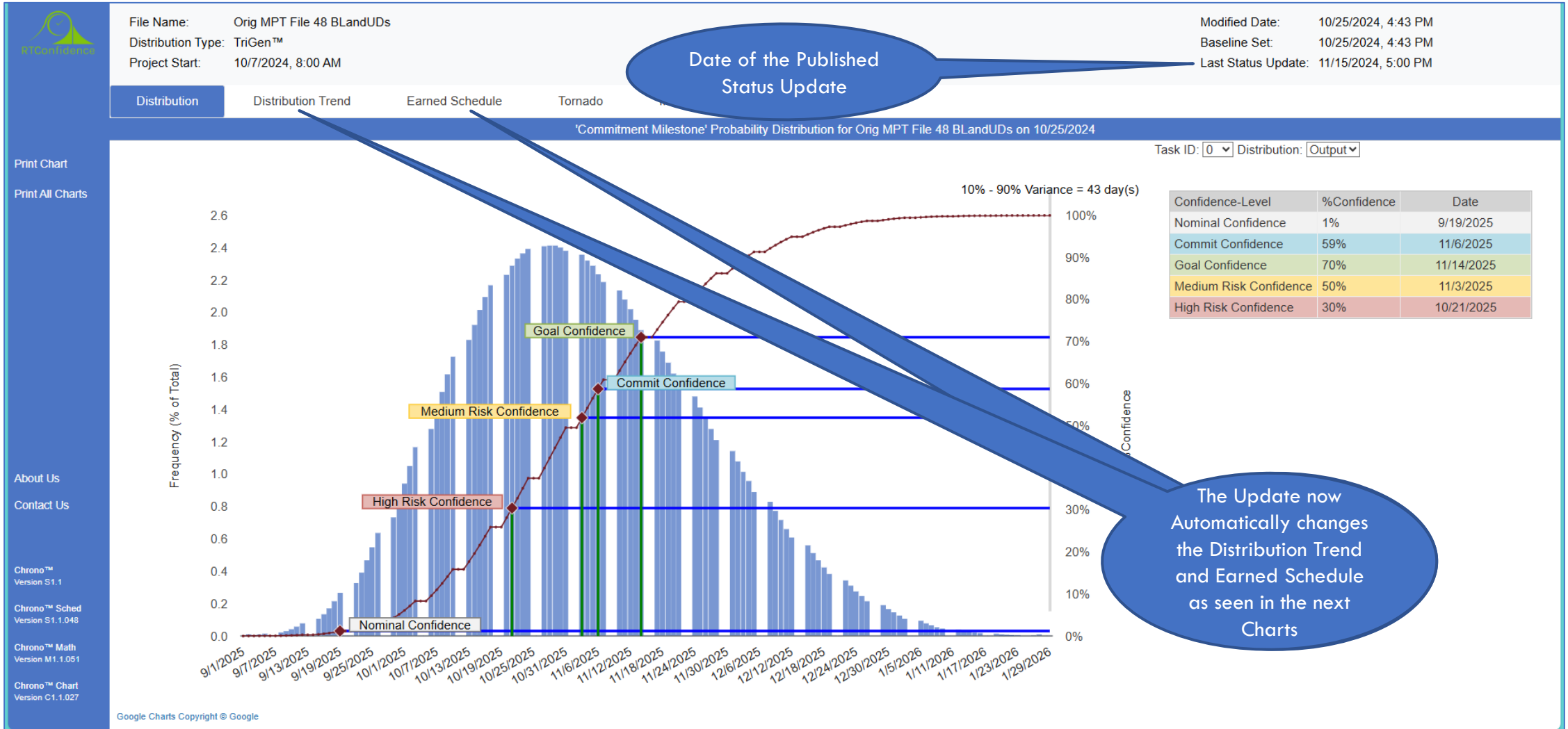
Warning - Accept Change?
Publish Update?
The changes made up to this point will be locked in and the Project Progress Update will be officially Published (including updates to Distribution Trend and ES data) - also please note that a SAVE AS does not retain the Distribution Trend and ES data associated with this File name. Proceed?

The dialog box has 'Yes' and 'No' buttons. A blue arrow points from the 'Yes' button to the callout box.

- Update No. 1:**
1. Go back to **Project Progress Update**
 2. Select **4. Publish**
 3. Select **Yes** when the pop-up appears. The simulation will run, and Chrono will automatically save a back-up file named "<file name>_001"

SRA Simulation Output – Update #1

Result of Officially Publishing the Update



SRA Simulation Output – Update #1

Result of Officially Publishing the Update



SRA Simulation Output – Update #1

Result of Officially Publishing the Update



SRA Simulation Output – Update #1

Result of Officially Publishing the Update



File Name: Orig MPT File 48 BlandUDs
 Distribution Type: TriGen™
 Project Start: 10/7/2024, 8:00 AM

Modified Date: 10/25/2024, 4:43 PM
 Baseline Set: 10/25/2024, 4:43 PM
 Last Status Update: 11/15/2024, 5:00 PM

Distribution
Distribution Trend
Earned Schedule
Tornado
Merge Bias
Gantt

ES (Earned Schedule) Project Schedule Duration Estimates, SPI (Schedule Performance Index) Values and Trends for Orig MPT File 48 BlandUDs on 10/25/2024

Schedule Duration Estimates

	10/7/2024	11/15/2024					
Nominal Baseline (SCHn)	240.00	240.00					9/8/2025
ES Nominal Estimate (iSCHn = SCHn/SPIin)	240.00	266.67					10/15/20...
Goal Baseline (SCHc)	283.14	283.14					11/7/2025
ES Goal Estimate (iSCHc = SCHc/SPIc)	283.14	280.33					11/3/2025

Status Update Date

SPI (Schedule Performance Index) Values

	10/7/2024	11/15/2024					
Nominal Schedule SPI (SPIin)	1.00	0.90					
Goal Schedule SPI (SPIc)	1.00	1.01					

Status Update Date

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Chrono™ Project Progress Updating



The Updated Commit Confidence Gantt View

File Chrono™ Task Resource Report Project View Help Gantt Chart Format Tell me what you want to do

Display Probability Chart Project Progress Update Nominal Durations Medium Risk Confidence @ 50% Align Commit

Run Simulation Set Project Baselines Goal Confidence @ 70% Commit Confidence @ 59% View Entire Project

Chrono™ Wizard Validate Project High Risk Confidence @ 30% Select Baseline - @Goal Merge Bias View

Resource Distribution-TriGen™ Commit Date 11/6/2025 5:00:00 PM

% Confidence at Commit Date 59% Defaults

Probable Finish 11/6/2025, 0.0 Work Days On time Contact and Help

Project Summary Info - Last Update 11/15/2024 Info

Chrono™ Settings, Ver. S1.1.048

Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack	Best Case Duration	Worst Case Duration
1		Start Milestone	0 days	10/7/24 8:00 AM	10/7/24 8:00 AM		3	0 days	0 days	0 days
2		Prototype Development	137.77 days	10/7/24 8:00 AM	4/16/25 3:10 PM			0 days	0 days	0 days
3	2.1	Prototype Design	51.68 days	10/7/24 8:00 AM	12/17/24 2:26 PM	1	4SS+30 days,5	8.96 days	45 days	62.5 days
4	2.2	Buy Prototype LL (Long-Lead) Parts	45 days	11/18/24 8:00 AM	1/17/25 5:00 PM	3SS+30 days	6	0 days	45 days	45 days
5	2.3	Buy Remaining Prototype Parts	35.18 days	12/17/24 2:26 PM	2/4/25 3:53 PM	3	7FS+0.11 days	8.96 days	30 days	40 days
6	2.4	Initial Prototype Build	20.82 days	1/20/25 8:00 AM	2/17/25 3:34 PM	4	7FS+0.11 days	0 days	15 days	25 days
7	2.5	Final Assembly of Prototypes	14.02 days	2/17/25 4:26 PM	3/7/25 4:36 PM	5FS+0.11 days, 8	8	0 days	8 days	20 days
8	2.6	Test & Evaluation	27.82 days	3/7/25 4:36 PM	4/16/25 3:10 PM	7	10SS+15 days,12	0 days	15 days	40 days
9	3	Final Product Develop	123.68 days	3/28/25 4:36 PM	9/18/25 2:02 PM			0 days	0 days	0 days
10	3.1	Final Product Design	40 days	3/28/25 4:36 PM	5/23/25 4:36 PM	8SS+1.5 days	11	0 days	30 days	50 days
11	3.2	Final Design Review	0 days	5/23/25 4:36 PM	5/23/25 4:36 PM	10	13	0 days	0 days	0 days
12	3.3	Buy LL Parts for Qual Units and Production	30 days	4/16/25 3:10 PM	5/28/25 3:10 PM	8	14	11.99 days	30 days	30 days
13	3.4	Buy Remaining Parts for Qual Units	35.02 days	5/23/25 4:36 PM	7/11/25 4:46 PM	11	15FS+1.8 days	0 days	30 days	40 days
14	3.5	Initial Assembly of POR (Plan of Record) Units	20.21 days	5/28/25 3:10 PM	6/25/25 4:50 PM	12	15FS+1.8 days	11.99 days	15 days	25 days
15	3.6	Final Assembly of POR Units	14.43 days	7/15/25 3:10 PM	8/5/25 9:36 AM	13FS+1.8 days,	16,17SS+10 days	0 days	8 days	20 days
16	3.7	Conduct Qual Tests	32.43 days	8/5/25 9:36 AM	9/18/25 2:02 PM	15	19,18FS+4.55 day	0 days	15 days	50 days
17	3.8	Verify Final Design Iterations	30.7 days	7/29/25 3:10 PM	9/10/25 11:46 AM	15SS+10 days	18FS+4.55 days	36.59 days	20 days	40 days
18	4	Conduct Launch Readiness Review	0 days	9/25/25 9:26 AM	9/25/25 9:26 AM	16FS+4.55 day	20FS+0.39 days	30.43 days	0 days	0 days
19	5	Buy Remaining Production Parts	34.98 days	9/18/25 2:02 PM	11/6/25 1:53 PM	16	20FS+0.39 days	0 days	30 days	40 days
20	6	Start Production	0 days	11/6/25 5:00 PM	11/6/25 5:00 PM	19FS+0.39 day	21	0 days	0 days	0 days
21	7	Commitment Milestone	0 days	11/6/25 5:00 PM	11/6/25 5:00 PM	20		0 days	0 days	0 days

TRACKING GANTT

Qtr 4, 2024 Oct Nov Dec

Qtr 1, 2025 Jan Feb Mar

Qtr 2, 2025 Apr May Jun

Qtr 3, 2025 Jul Aug Sep

Qtr 4, 2025 Oct Nov Dec

Updates are auto-Saved and a replica of the file is put into the same folder

Chrono™ Project Progress Updating



The Updated Nominal Confidence Gantt View

File Chrono™ Task Resource Report Project View Help Gantt Chart Format Tell me what you want to do

Display Probability Chart Project Progress Update Nominal Durations Medium Risk Confidence @ 50% Align Commit Resource Commit Date 11/6/2025 5:00:00 PM Defaults
Run Simulation Set Project Baselines Goal Confidence @ 70% Commit Confidence @ 59% View Entire Project Distribution-TriGen™ % Confidence at Commit Date 59% Contact and Help
Chrono™ Wizard Validate Project High Risk Confidence @ 30% Select Baseline - @Nominal Merge Bias View Metrics Nominal Confidence 1% Info

Chrono™ Tools
Chrono™ Gantt Chart Views
Chrono™ Options
Project Summary Info - Last Update 11/15/2024
Chrono™ Settings, Ver. 51.1.048

Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack	Best Case Duration	Worst Case Duration
1		Start Milestone	0 days	10/7/24 8:00 AM	10/7/24 8:00 AM		3	0 days	0 days	0 days
2		Prototype Development	125 days	10/7/24 8:00 AM	3/28/25 5:00 PM			34 days	0 days	0 days
3	2.1	Prototype Design	50 days	10/7/24 8:00 AM	12/13/24 5:00 PM	1	4SS+30 days,5	49 days	45 days	62.5 days
4	2.2	Buy Prototype LL (Long-Lead) Parts	45 days	11/18/24 8:00 AM	1/17/25 5:00 PM	3SS+30 days	6	34 days	45 days	45 days
5	2.3	Buy Remaining Prototype Parts	30 days	12/16/24 8:00 AM	1/24/25 5:00 PM	3	7	49 days	30 days	40 days
6	2.4	Initial Prototype Build	20 days	1/20/25 8:00 AM	2/14/25 5:00 PM	4	7	34 days	15 days	25 days
7	2.5	Final Assembly of Prototypes	10 days	2/17/25 8:00 AM	2/28/25 5:00 PM	5,6	8	34 days	8 days	20 days
8	2.6	Test & Evaluation	20 days	3/3/25 8:00 AM	3/28/25 5:00 PM	7	10SS+15 days,12	34 days	15 days	40 days
9		Final Product Develop	105 days	3/24/25 8:00 AM	8/15/25 5:00 PM			34 days	0 days	0 days
10	3.1	Final Product Design	35 days	3/24/25 8:00 AM	5/9/25 5:00 PM	8SS+15 days	11	34 days	30 days	50 days
11	3.2	Final Design Review	0 days	5/9/25 5:00 PM	5/9/25 5:00 PM	10	13	34 days	0 days	0 days
12	3.3	Buy LL Parts for Qual Units and Production	30 days	3/31/25 8:00 AM	5/9/25 5:00 PM	8	14	44 days	30 days	30 days
13	3.4	Buy Remaining Parts for Qual Units	30 days	5/12/25 8:00 AM	6/20/25 5:00 PM	11	15	34 days	30 days	40 days
14	3.5	Initial Assembly of POR (Plan of Record) Units	20 days	5/12/25 8:00 AM	6/6/25 5:00 PM	12	15	44 days	15 days	25 days
15	3.6	Final Assembly of POR Units	15 days	6/23/25 8:00 AM	7/11/25 5:00 PM	13,14	16,17SS+10 days	34 days	8 days	20 days
16	3.7	Conduct Qual Tests	20 days	7/14/25 8:00 AM	8/8/25 5:00 PM	15	19,18	34 days	15 days	50 days
17	3.8	Verify Final Design Iterations	30 days	7/7/25 8:00 AM	8/15/25 5:00 PM	15SS+10 days	18	59 days	20 days	40 days
18	4	Conduct Launch Readiness Review	0 days	8/15/25 5:00 PM	8/15/25 5:00 PM	16,17	20	59 days	0 days	0 days
19	5	Buy Remaining Production Parts	30 days	8/11/25 8:00 AM	9/19/25 5:00 PM	16	20	34 days	30 days	40 days
20	6	Start Production	0 days	9/19/25 5:00 PM	9/19/25 5:00 PM	19,18	21	34 days	0 days	0 days
21		Commitment Milestone	0 days	11/6/25 5:00 PM	11/6/25 5:00 PM	20		0 days	0 days	0 days

Updates are auto-Saved and a replica of the file is put into the same folder

Chrono™ Project Progress Updating

The Updated Commit Confidence Gantt View

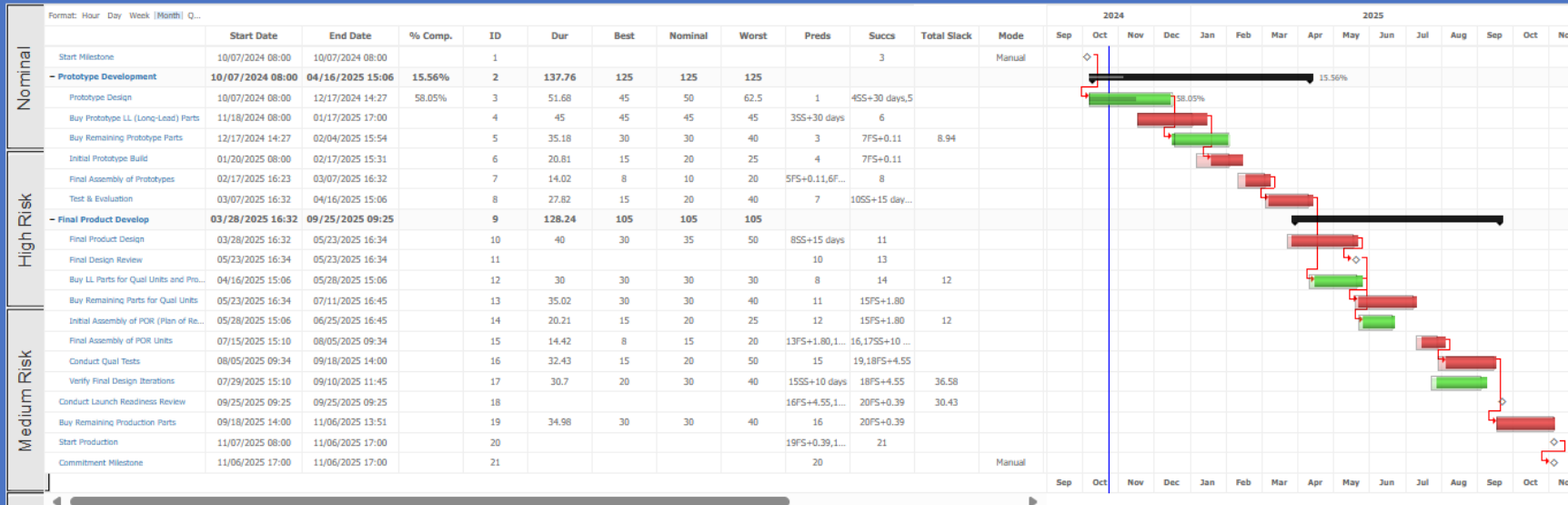


File Name: Orig MPT File 48 BlandUDs
 Distribution Type: TriGen™
 Project Start: 10/7/2024, 8:00 AM

Modified Date: 10/25/2024, 4:43 PM
 Baseline Set: 10/25/2024, 4:43 PM
 Last Status Update: 11/15/2024, 5:00 PM

Distribution Distribution Trend Earned Schedule Tornado Merge Bias **Gantt**

'Orig MPT File 48 BlandUDs' 21 Task Schedule Commit



This Gantt chart of the updated Commitment Schedule (enables viewers to see Gantt detail without having Microsoft Project).

Also, note that it can be shown against the Nominal Baseline or Goal Baseline. Here it is against the Goal baseline (which is appropriate). You have to select the Goal Gantt before selecting the Commit Gantt to see this result.

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 Version S1.1.048
 Chrono™ Math
 Version M1.1.051

Chrono™ Project Progress Updating

The Updated Nominal Confidence Gantt View

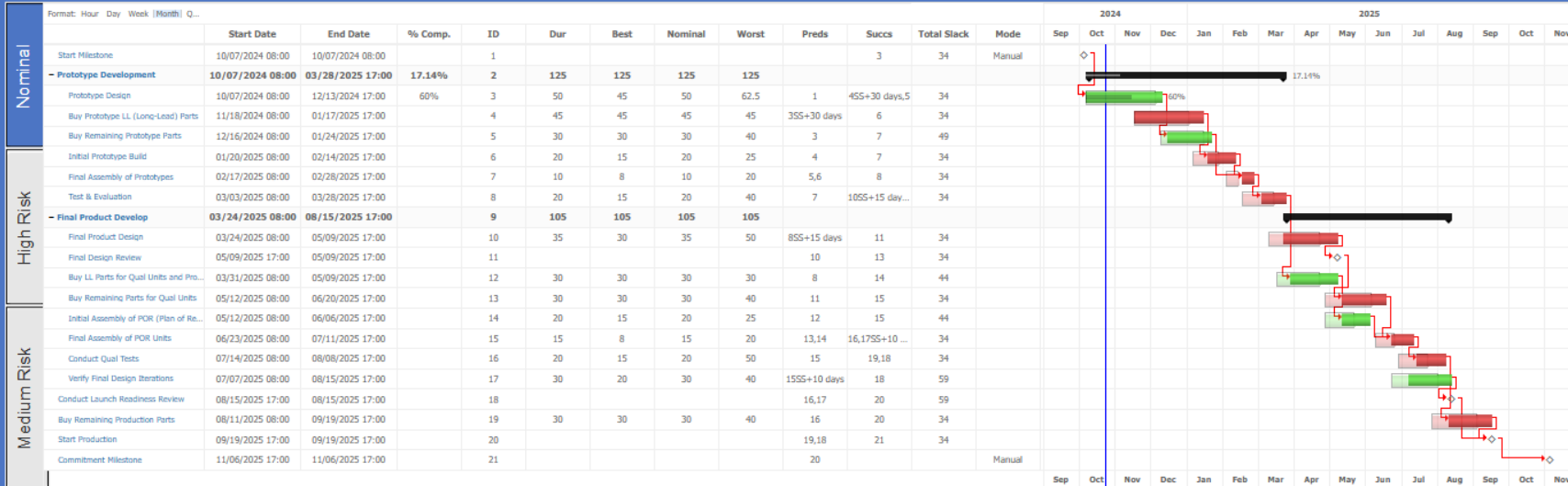


File Name: Orig MPT File 48 BlandUDs
 Distribution Type: TriGen™
 Project Start: 10/7/2024, 8:00 AM

Modified Date: 10/25/2024, 4:43 PM
 Baseline Set: 10/25/2024, 4:43 PM
 Last Status Update: 11/15/2024, 5:00 PM

- Distribution
- Distribution Trend
- Earned Schedule
- Tornado
- Merge Bias
- Gantt**

'Orig MPT File 48 BlandUDs' 21 Task Schedule Nominal



Print Chart
 Print All Charts

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Chrono™
 Version S1.1

Chrono™ Sched
 Version S1.1.048

Chrono™ Math
 Version M1.1.051

This Gantt chart of the updated Commitment Schedule (enables viewers to see Gantt detail without having Microsoft Project).

Section 2

EVM (Earned Value Management) Training

Setting Up and EVM Project

Baselining and Updating an EVM Project

Inputting Actual Costs for an EVM Project

CHRONO™ TRAINING REFERENCE GUIDE

Creating an EVM-Ready IMS

Template File for Simple EVM Project Demo



File Chrono™ Task Resource Report Project View Help Gantt Chart Format Tell me what you want to do

Display Probability Chart
 Project Progress Update
 Nominal Durations
 Medium Risk Confidence @ 50%
 Align Commit
 Resource
 Commit Date 1/6/25 5:00 PM
 Defaults
 Run Simulation
 Set Project Baselines
 Goal Confidence @ 70%
 Commit Confidence @ 75%
 View Entire Project
 Distribution-Triangle
 % Confidence at Commit Date 75%
 Contact and Help
 Chrono™ Wizard
 Validate Project
 High Risk Confidence @ 30%
 Select Baseline - No baselines
 Merge Bias View
 Metrics
 Nominal Confidence 5%
 Info
 Chrono™ Tools
 Chrono™ Gantt Chart Views
 Chrono™ Options
 Project Summary Info
 Chrono™ Settings, Ver. S11.1.048

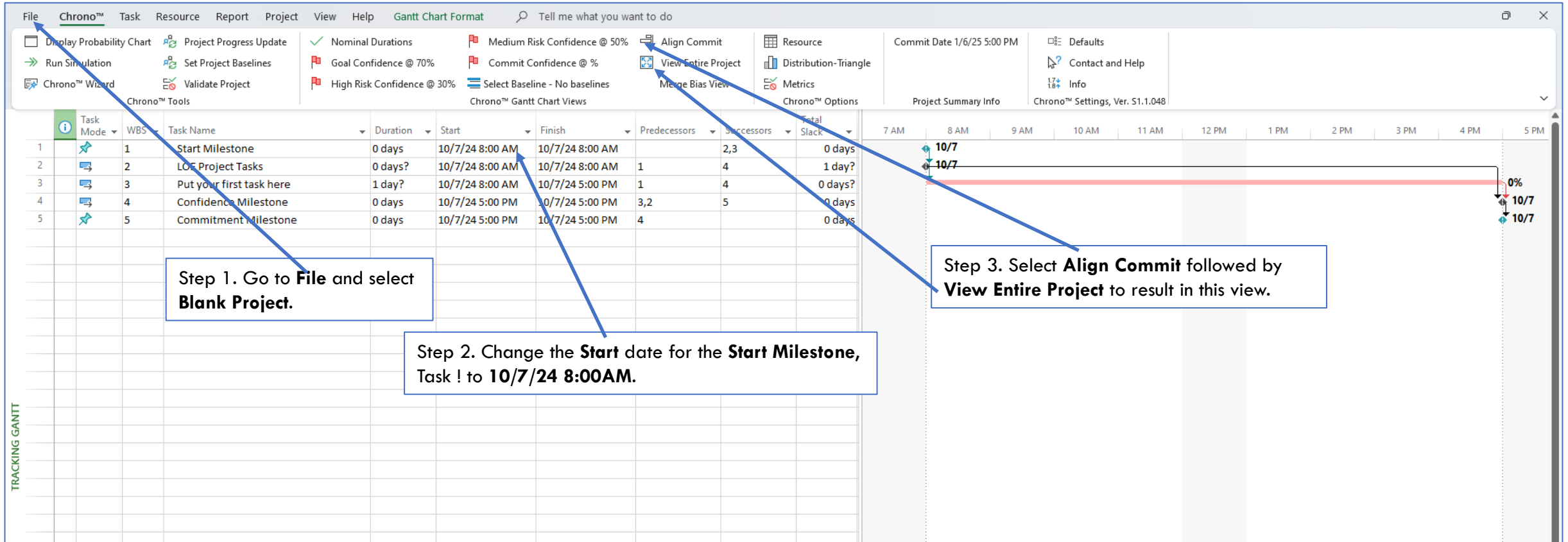
Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors	Successors	Best Case	Worst Case	Total Slack	% Complete	Actual Cost	Fixed Cost	Cost
0	0	Simple EVM Template File	71 days	9/30/24 8:00 AM	1/6/25 5:00 PM			0 days	0 days	0 days	0%	\$0.00	\$0.00	\$420,580.00
1	1	Start Milestone	0 days	9/30/24 8:00 AM	9/30/24 8:00 AM		2,4,9	0 days	0 days	6 days	0%	\$0.00	\$0.00	\$0.00
2	2	LOE Project Tasks	65 days	9/30/24 8:00 AM	12/27/24 5:00 PM	1	13	0 days	0 days	6 days	0%	\$0.00	\$0.00	\$87,100.00
3	3	Summary	65 days	9/30/24 8:00 AM	12/27/24 5:00 PM			0 days	0 days	6 days	0%	\$0.00	\$0.00	\$333,480.00
4	3.1	A1 System Design	10 days	9/30/24 8:00 AM	10/11/24 5:00 PM	1	5,7	8 days	12 days	6 days	0%	\$0.00	\$0.00	\$18,900.00
5	3.2	A2 Mechanical Design	7 days	10/14/24 8:00 AM	10/22/24 5:00 PM	4	6	6 days	10 days	6 days	0%	\$0.00	\$0.00	\$8,610.00
6	3.3	A3 Procure Mech. Materials	24 days	10/23/24 8:00 AM	11/25/24 5:00 PM	5	11	22 days	30 days	6 days	0%	\$0.00	\$120,000.00	\$120,000.00
7	3.4	B1 Electrical and SW Design	9 days	10/14/24 8:00 AM	10/24/24 5:00 PM	4	8	8 days	14 days	8 days	0%	\$0.00	\$0.00	\$12,150.00
8	3.5	B2 Procure Elect. Materials	20 days	10/25/24 8:00 AM	11/21/24 5:00 PM	7	11	18 days	25 days	8 days	0%	\$0.00	\$75,000.00	\$75,000.00
9	3.6	C1 Manufacturing Design	22 days	9/30/24 8:00 AM	10/29/24 5:00 PM	1	10	20 days	30 days	14 days	0%	\$0.00	\$0.00	\$21,692.00
10	3.7	C2 Procure Fab. Equipment	11 days	10/30/24 8:00 AM	11/13/24 5:00 PM	9	11	10 days	15 days	14 days	0%	\$0.00	\$25,000.00	\$25,000.00
11	3.8	D1 Fabrication	14 days	11/26/24 8:00 AM	12/13/24 5:00 PM	10,6,8	12	12 days	18 days	6 days	0%	\$0.00	\$0.00	\$24,528.00
12	3.9	D2 Integration and Test	10 days	12/16/24 8:00 AM	12/27/24 5:00 PM	11	13	8 days	15 days	6 days	0%	\$0.00	\$0.00	\$27,600.00
13	4	Confidence Milestone	0 days	12/27/24 5:00 PM	12/27/24 5:00 PM	2,12	14	0 days	0 days	6 days	0%	\$0.00	\$0.00	\$0.00
14	5	Commitment Milestone	0 days	1/6/25 5:00 PM	1/6/25 5:00 PM	13		0 days	0 days	0 days	0%	\$0.00	\$0.00	\$0.00

TRACKING GANTT

We are going to first re-Create this Template File to Demonstrate How to set up a Project having EVM Requirements.
 Then we will Baseline and Update the Project Several Times to demonstrate the power of “Probabilistic” Earned Value Management.

Creating an EVM-Ready IMS

New File Set-up for Simple EVM Project (1 of 2)



The screenshot shows the Chrono software interface with a Gantt chart and a task list. The task list is as follows:

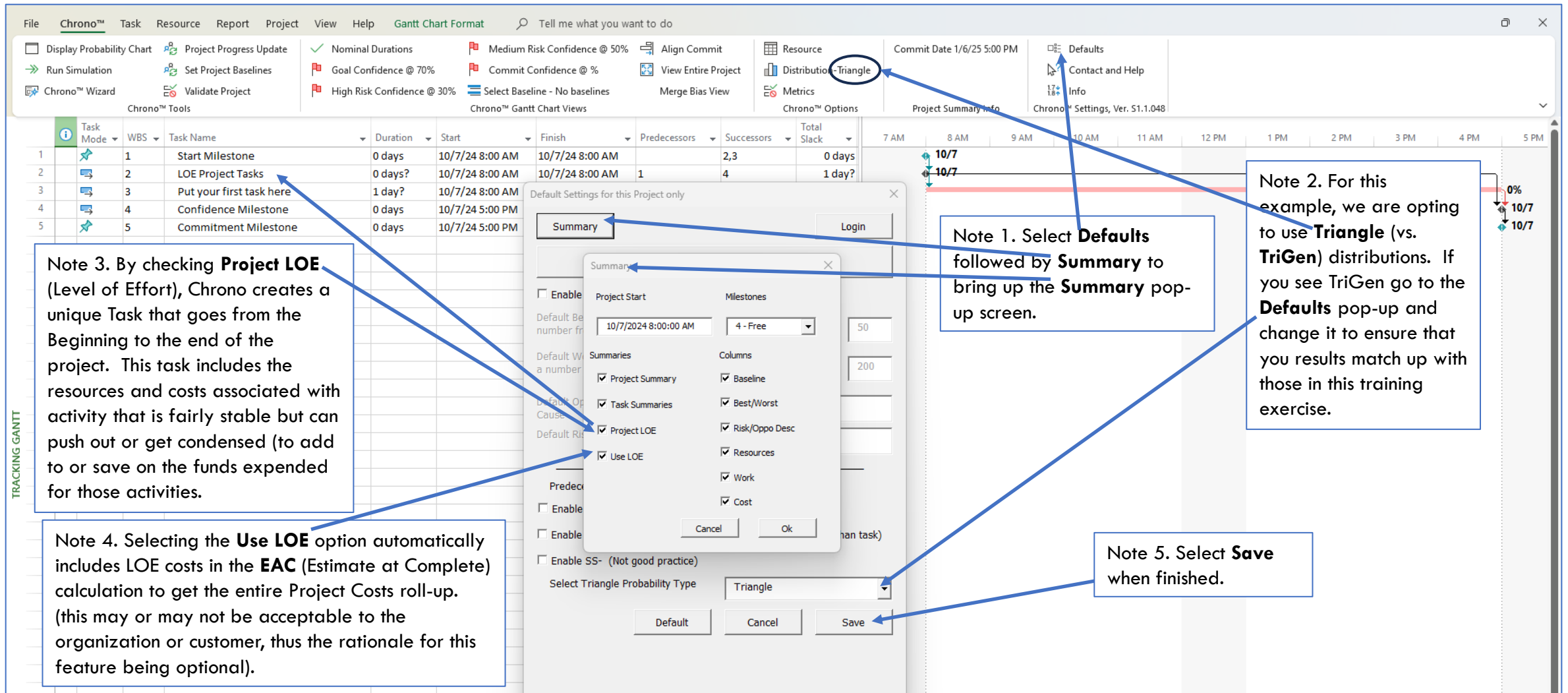
Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors	Successors	Slack
1	1	Start Milestone	0 days	10/7/24 8:00 AM	10/7/24 8:00 AM		2,3	0 days
2	2	LOE Project Tasks	0 days?	10/7/24 8:00 AM	10/7/24 8:00 AM	1	4	1 day?
3	3	Put your first task here	1 day?	10/7/24 8:00 AM	10/7/24 5:00 PM	1	4	0 days?
4	4	Confidence Milestone	0 days	10/7/24 5:00 PM	10/7/24 5:00 PM	3,2	5	0 days
5	5	Commitment Milestone	0 days	10/7/24 5:00 PM	10/7/24 5:00 PM	4		0 days

Three callout boxes provide instructions:

- Step 1. Go to **File** and select **Blank Project**.
- Step 2. Change the **Start** date for the **Start Milestone**, Task 1 to **10/7/24 8:00AM**.
- Step 3. Select **Align Commit** followed by **View Entire Project** to result in this view.

Creating an EVM-Ready IMS

New File Set-up for Simple EVM Project (2 of 2)

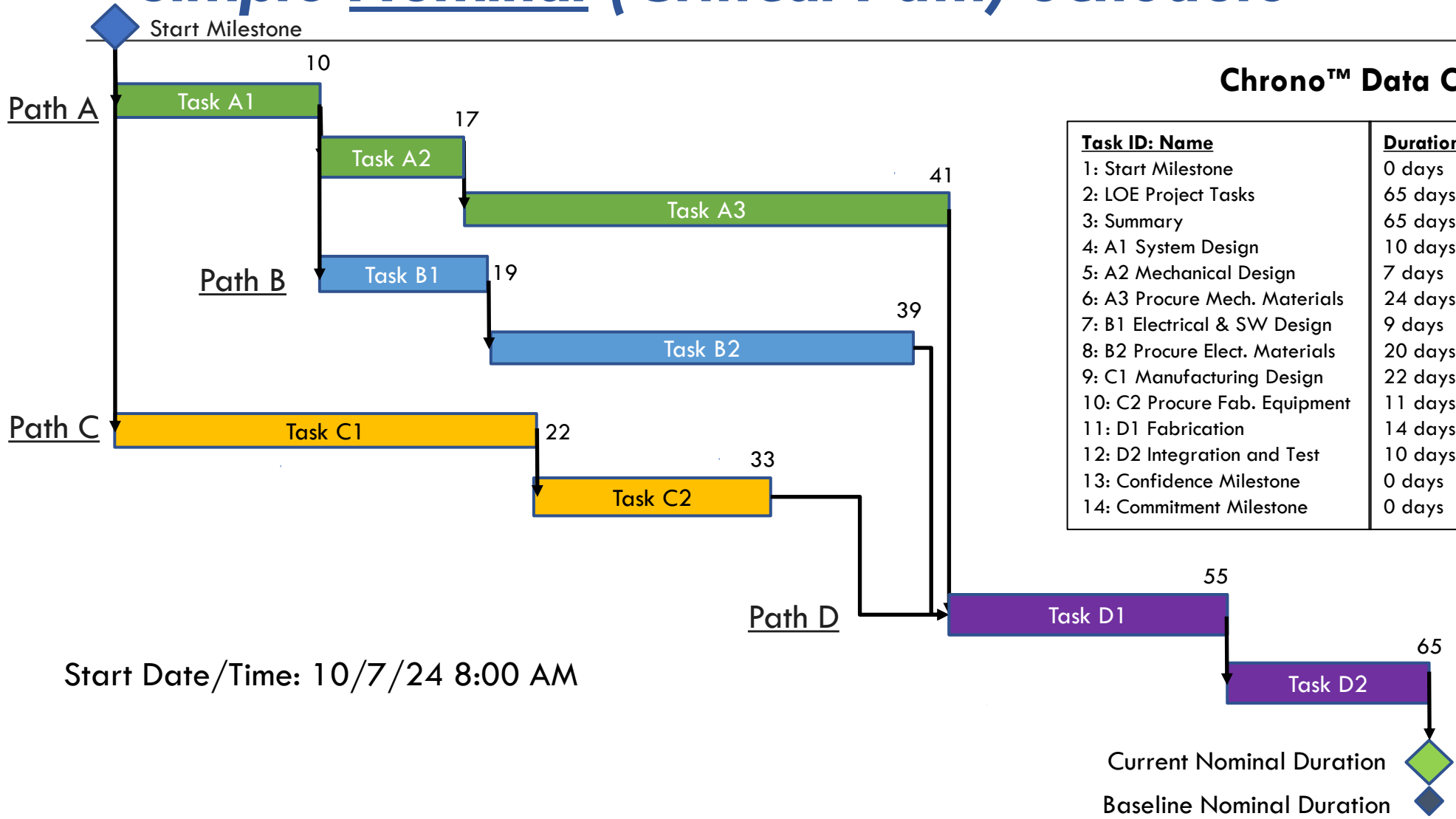


The screenshot displays the Chrono software interface. The main window shows a Gantt chart with tasks: Start Milestone, LOE Project Tasks, Put your first task here, Confidence Milestone, and Commitment Milestone. A 'Summary' pop-up window is open, showing settings for Project Start, Milestones, Summaries, and Columns. A 'Defaults' pop-up window is also visible, with the 'Triangle' probability type selected. Five callout boxes provide instructions:

- Note 1:** Select **Defaults** followed by **Summary** to bring up the **Summary** pop-up screen.
- Note 2:** For this example, we are opting to use **Triangle** (vs. **TriGen**) distributions. If you see **TriGen** go to the **Defaults** pop-up and change it to ensure that your results match up with those in this training exercise.
- Note 3:** By checking **Project LOE** (Level of Effort), Chrono creates a unique Task that goes from the Beginning to the end of the project. This task includes the resources and costs associated with activity that is fairly stable but can push out or get condensed (to add to or save on the funds expended for those activities).
- Note 4:** Selecting the **Use LOE** option automatically includes LOE costs in the **EAC** (Estimate at Complete) calculation to get the entire Project Costs roll-up. (this may or may not be acceptable to the organization or customer, thus the rationale for this feature being optional).
- Note 5:** Select **Save** when finished.

Creating an EVM-Ready IMS

Simple Nominal (Critical Path) Schedule

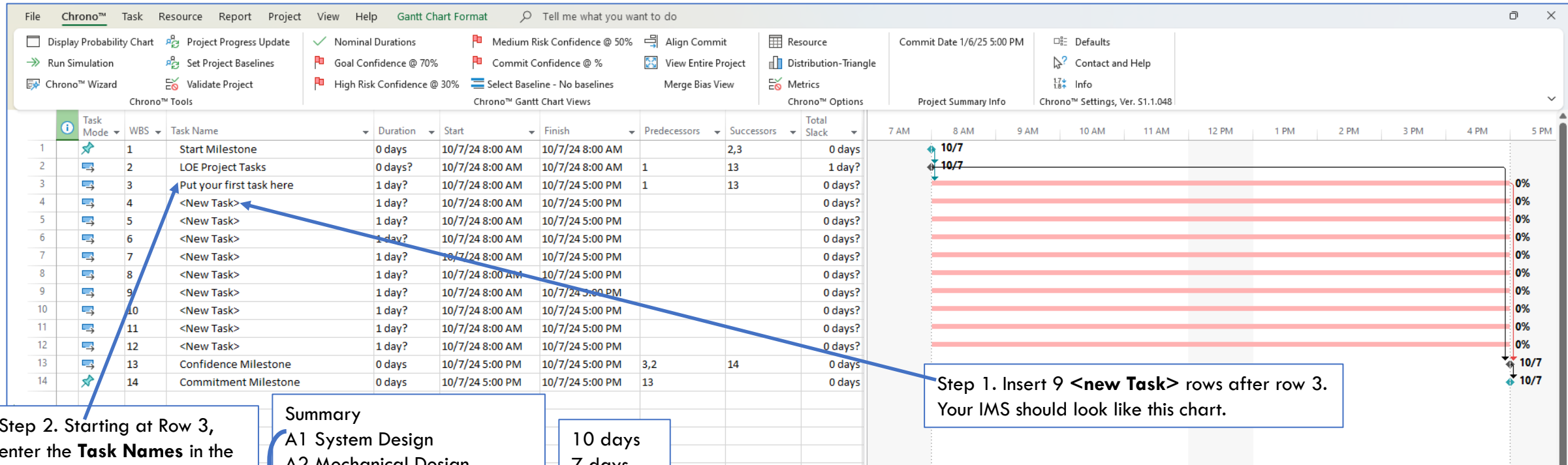


Chrono™ Data Columns

Task ID: Name	Duration
1: Start Milestone	0 days
2: LOE Project Tasks	65 days (automatically inserted)
3: Summary	65 days (automatically inserted)
4: A1 System Design	10 days
5: A2 Mechanical Design	7 days
6: A3 Procure Mech. Materials	24 days
7: B1 Electrical & SW Design	9 days
8: B2 Procure Elect. Materials	20 days
9: C1 Manufacturing Design	22 days
10: C2 Procure Fab. Equipment	11 days
11: D1 Fabrication	14 days
12: D2 Integration and Test	10 days
13: Confidence Milestone	0 days
14: Commitment Milestone	0 days

Creating an EVM-Ready IMS

EVM Project Set-up – Chart #1



Step 2. Starting at Row 3, enter the **Task Names** in the chart at the right (between the **LOE Project Tasks** milestone and **Commitment Milestone**).

Step 3. Indent these Tasks between **Summary** and Confidence Milestone.

- Summary
- A1 System Design
 - A2 Mechanical Design
 - A3 Procure Mech. Materials
 - B1 Electrical and SW Design
 - B2 Procure Elect. Materials
 - C1 Manufacturing Design
 - C2 Procure Fab. Equipment
 - D1 Fabrication
 - D2 Integration and Test

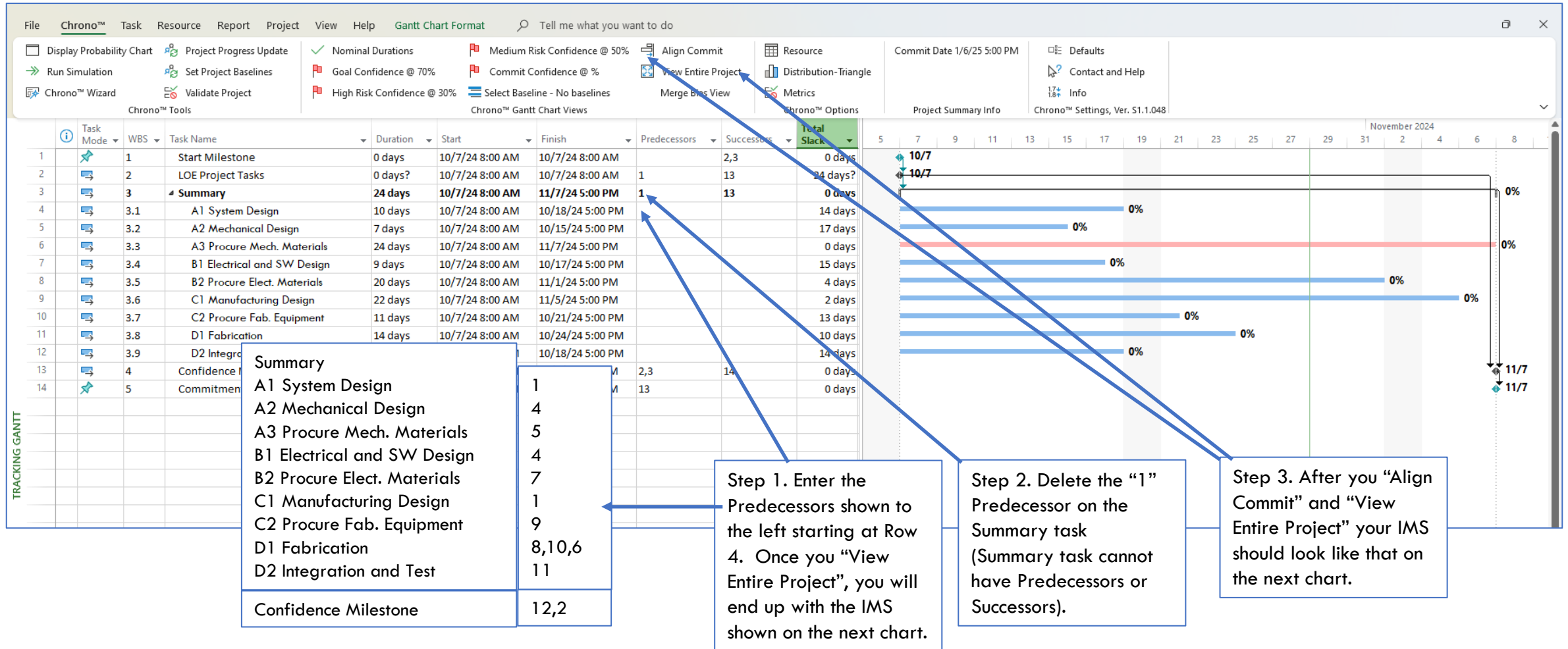
- 10 days
- 7 days
- 24 days
- 9 days
- 20 days
- 22 days
- 11 days
- 14 days
- 10 days

Step 1. Insert 9 <new Task> rows after row 3. Your IMS should look like this chart.

Step 4. Enter the durations shown here starting at Row 4. Once you "View Entire Project", you will end up with the IMS shown on the next chart.

Creating an EVM-Ready IMS

EVM Project Set-up – Chart #2



Chrono™ Tools

- Display Probability Chart
- Project Progress Update
- Nominal Durations
- Medium Risk Confidence @ 50%
- Align Commit
- Resource
- Commit Date 1/6/25 5:00 PM
- Defaults
- Run Simulation
- Set Project Baselines
- Goal Confidence @ 70%
- Commit Confidence @ %
- View Entire Project
- Distribution-Triangle
- Contact and Help
- Chrono™ Wizard
- Validate Project
- High Risk Confidence @ 30%
- Select Baseline - No baselines
- Merge Bias View
- Metrics
- Info

Chrono™ Gantt Chart Views

Chrono™ Options

Project Summary Info

Chrono™ Settings, Ver. S1.1.048

Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack
1	1	Start Milestone	0 days	10/7/24 8:00 AM	10/7/24 8:00 AM		2,3	0 days
2	2	LOE Project Tasks	0 days?	10/7/24 8:00 AM	10/7/24 8:00 AM	1	13	24 days?
3	3	Summary	24 days	10/7/24 8:00 AM	11/7/24 5:00 PM	1	13	0 days
4	3.1	A1 System Design	10 days	10/7/24 8:00 AM	10/18/24 5:00 PM			14 days
5	3.2	A2 Mechanical Design	7 days	10/7/24 8:00 AM	10/15/24 5:00 PM			17 days
6	3.3	A3 Procure Mech. Materials	24 days	10/7/24 8:00 AM	11/7/24 5:00 PM			0 days
7	3.4	B1 Electrical and SW Design	9 days	10/7/24 8:00 AM	10/17/24 5:00 PM			15 days
8	3.5	B2 Procure Elect. Materials	20 days	10/7/24 8:00 AM	11/1/24 5:00 PM			4 days
9	3.6	C1 Manufacturing Design	22 days	10/7/24 8:00 AM	11/5/24 5:00 PM			2 days
10	3.7	C2 Procure Fab. Equipment	11 days	10/7/24 8:00 AM	10/21/24 5:00 PM			13 days
11	3.8	D1 Fabrication	14 days	10/7/24 8:00 AM	10/24/24 5:00 PM			10 days
12	3.9	D2 Integration and Test			10/18/24 5:00 PM			14 days
13	4	Confidence Milestone				2,3	14	0 days
14	5	Commitment Milestone				13		0 days

Summary

A1 System Design	1
A2 Mechanical Design	4
A3 Procure Mech. Materials	5
B1 Electrical and SW Design	4
B2 Procure Elect. Materials	7
C1 Manufacturing Design	1
C2 Procure Fab. Equipment	9
D1 Fabrication	8,10,6
D2 Integration and Test	11
Confidence Milestone	12,2

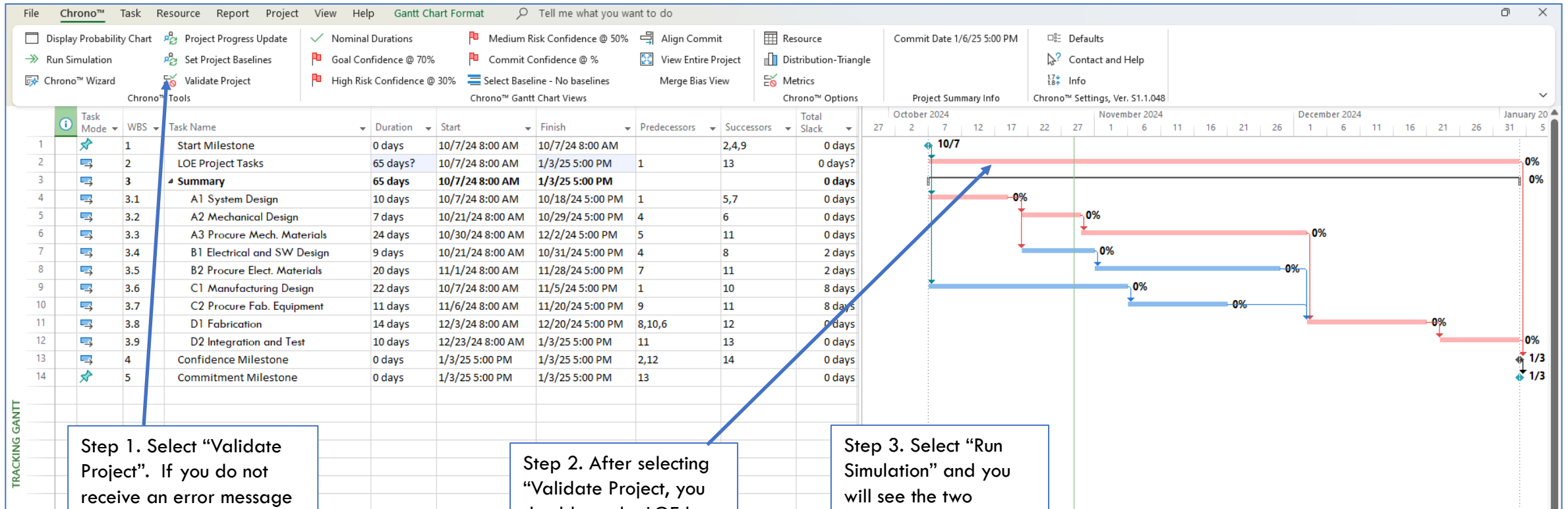
Step 1. Enter the Predecessors shown to the left starting at Row 4. Once you “View Entire Project”, you will end up with the IMS shown on the next chart.

Step 2. Delete the “1” Predecessor on the Summary task (Summary task cannot have Predecessors or Successors).

Step 3. After you “Align Commit” and “View Entire Project” your IMS should look like that on the next chart.

Creating an EVM-Ready IMS

EVM Project Set-up – Chart #3



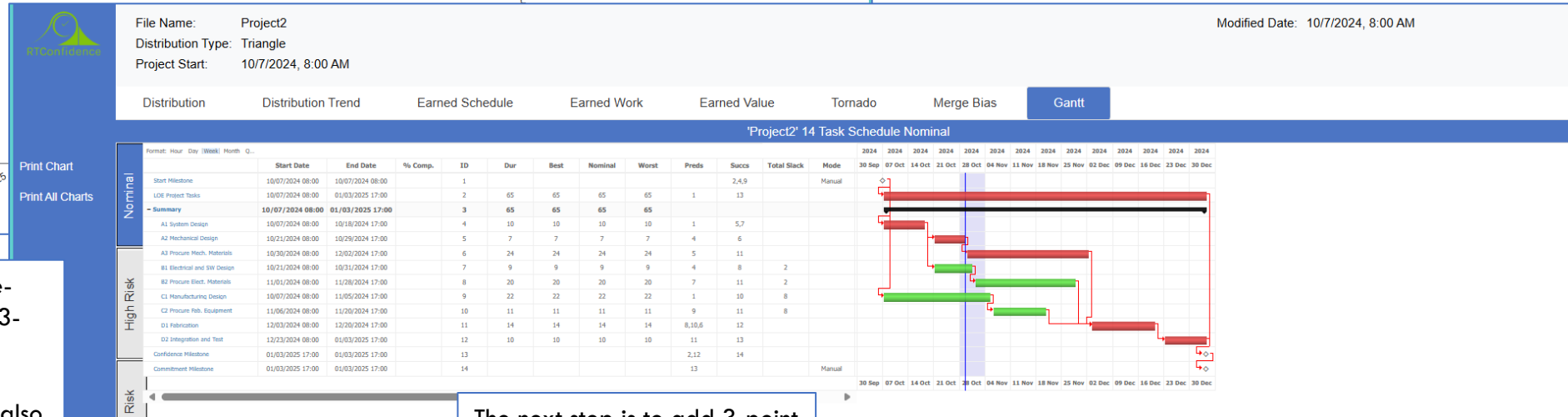
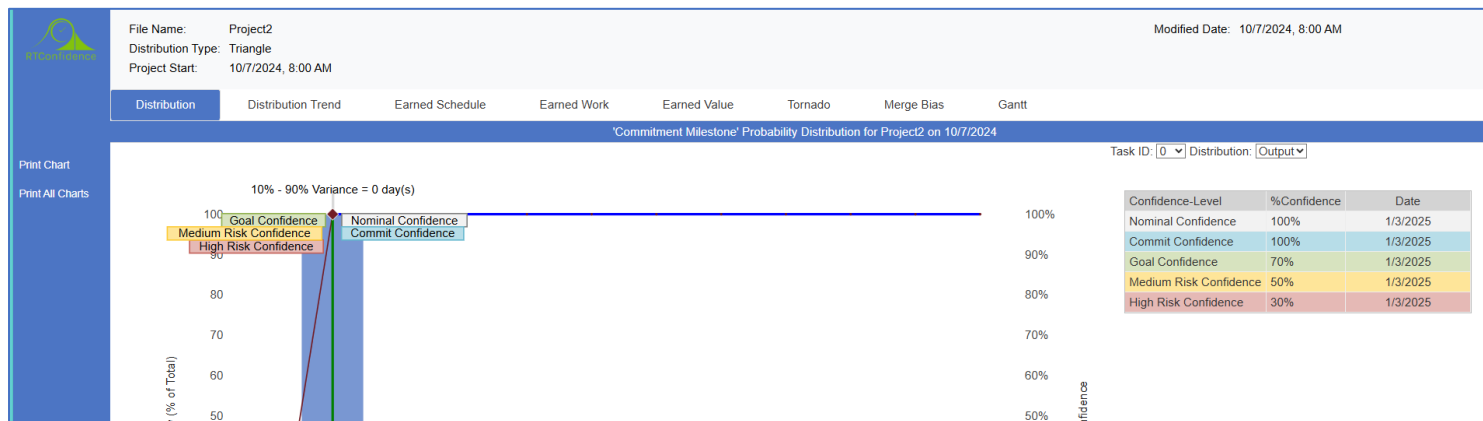
Step 1. Select “Validate Project”. If you do not receive an error message you are okay to proceed. If you receive an error message, the “Chrono Wizard” will assist you in fixing the issue(s).

Step 2. After selecting “Validate Project, you should see the LOE bar shown here.

Step 3. Select “Run Simulation” and you will see the two outputs shown on the following chart

Creating an EVM-Ready IMS

EVM Project Set-up – Chart #4

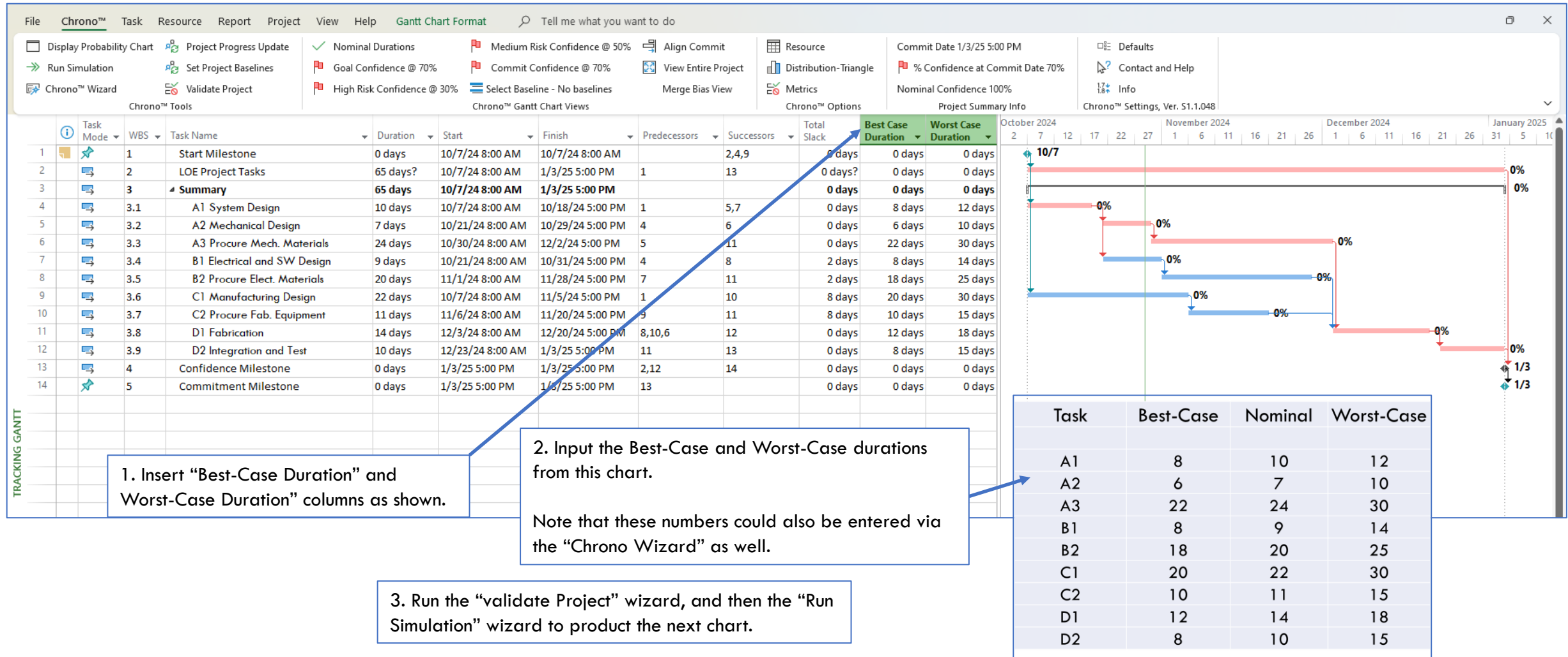


Since we have only entered single-point estimates for durations (not 3-pt. estimates) we get a single end date at 100% confidence level – which we know is unrealistic. We also get the IMS as shown in the PPT file.

The next step is to add 3-point estimates to all risky tasks.

Creating an EVM-Ready IMS

EVM Project Set-up – Chart #5



1. Insert “Best-Case Duration” and “Worst-Case Duration” columns as shown.

2. Input the Best-Case and Worst-Case durations from this chart.

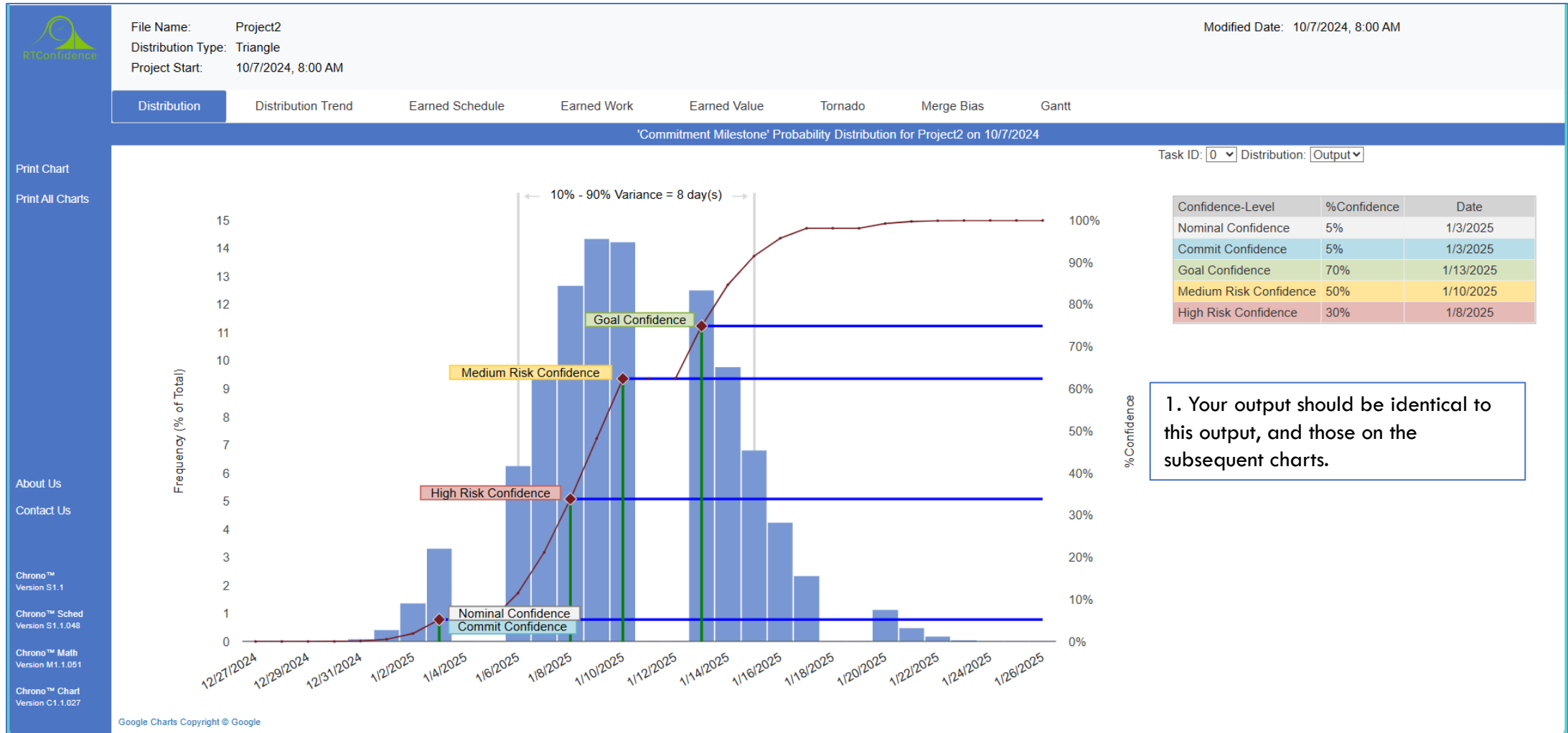
Note that these numbers could also be entered via the “Chrono Wizard” as well.

3. Run the “validate Project” wizard, and then the “Run Simulation” wizard to product the next chart.

Task	Best-Case	Nominal	Worst-Case
A1	8	10	12
A2	6	7	10
A3	22	24	30
B1	8	9	14
B2	18	20	25
C1	20	22	30
C2	10	11	15
D1	12	14	18
D2	8	10	15

Creating an EVM-Ready IMS

EVM Project Set-up – Chart #6a

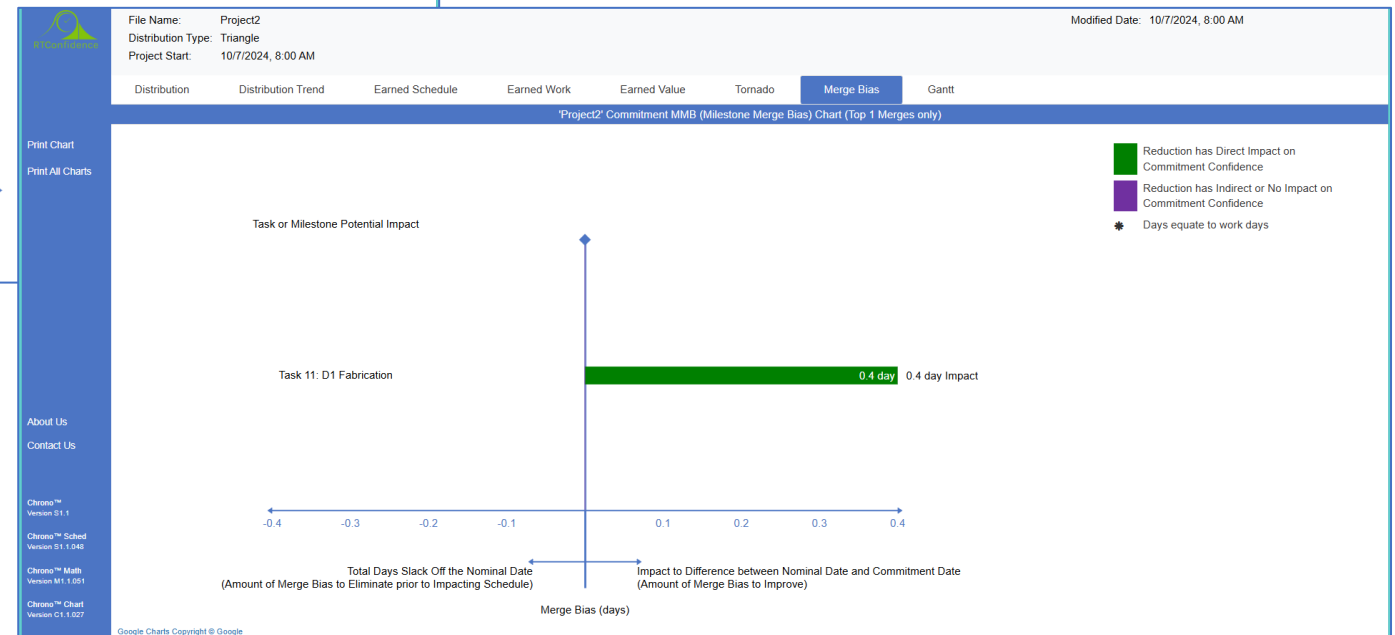


Creating an EVM-Ready IMS

EVM Project Set-up – Chart #6b

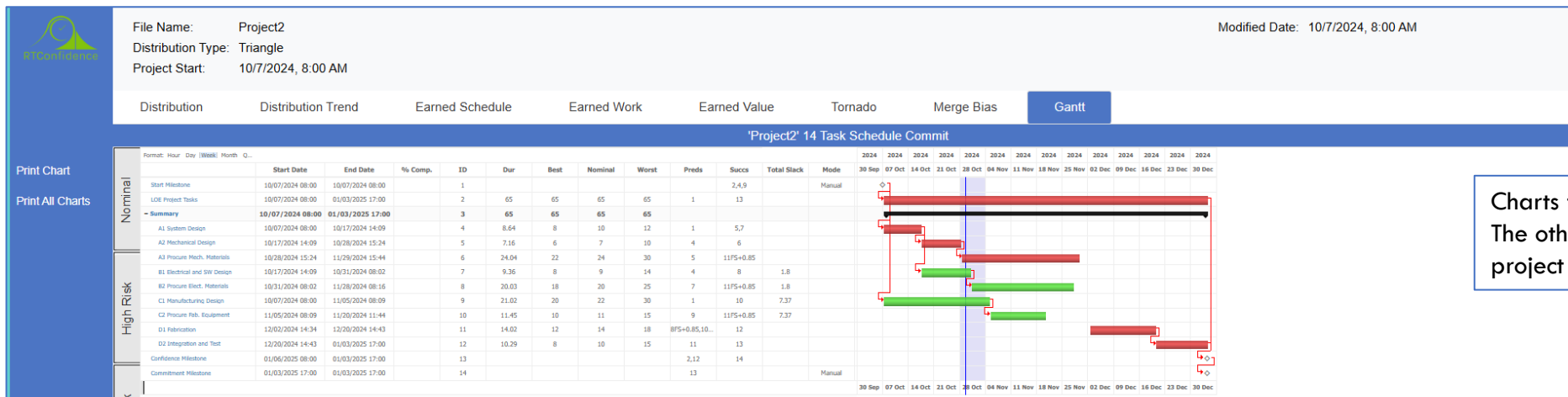


Charts from various active tabs.
Some of the other tabs will have no data until the project is Baselined and Updated.

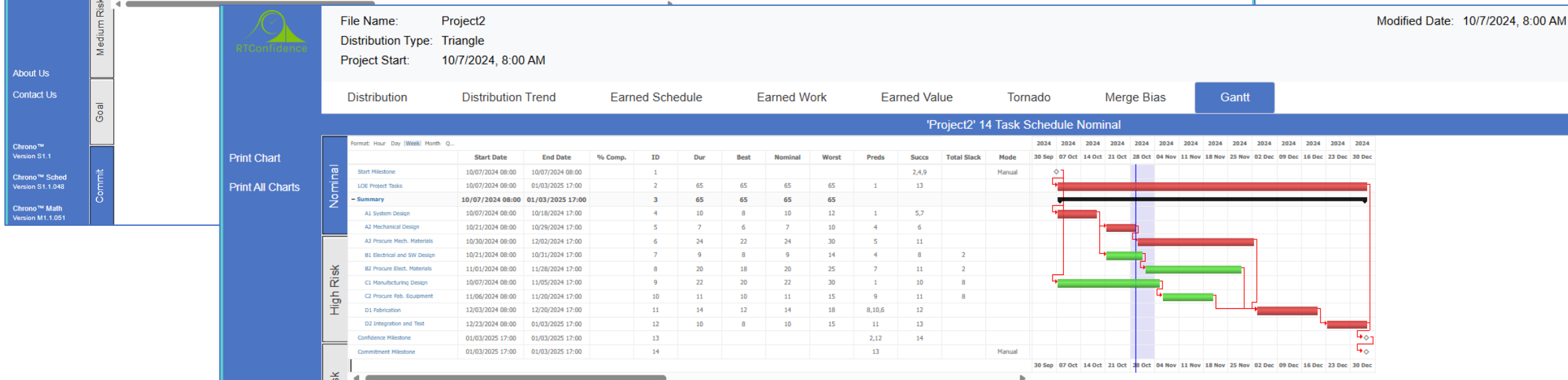


Creating an EVM-Ready IMS

EVM Project Set-up – Chart #6c



Charts from the various active tabs.
 The other tabs have no data until the project is Baselined and Updated.



Creating an EVM-Ready IMS

Set-up for Adding Resources & Costs – Step 1



The screenshot shows the Chrono software interface with the Resource Sheet table. The table has columns for Resource Name, Type, Material, Initials, Group, Max., Std. Rate, Ovt., Cost/Use, Accrue, Base, Code, and Add New Column. The table contains 26 rows of resources, including PM, Admin Spt, Finance Spt, Contracts Spt, Eng1-6, Proc, Mfg1-6, Test1-4, QA, and ODC1-4. Blue arrows and numbers 1, 2, 3, and 4 point to specific elements: 1 points to the 'Resource' tab in the top menu; 2 points to the 'Type' column; 3 points to the 'Initials' column; and 4 points to the 'Resource' tab again. A text box on the right contains the following instructions:

To set up the IMS for Costs, we must do the following:

1. Select “Resource” tab
2. Fill in the Information shown (note that you cannot allocate more than 100% of the Units reliably with MS Project – therefore, if you have several engineers, and others as in this example) it is best that you list the maximum number that can be assigned to open tasks.
3. Note that each Resource Name and Initials should be unique (we will change the default initials at the next step)
4. We are not finished yet (going to change the initials and provide “Std. Rate”), but we will Select “Resource” tab again to exit this view.

Note that MS Project is “finicky” at times. Sometimes it does not react as expected when mistakes are made in this table or the one on then next chart. At times, if you run into a problem, it might be best to insert a new line and delete the old one – versus trying to fix the issue on that line. Note the ODC (Other Direct Costs) are averaged for duration of task to get to the total for the Control Account.

Creating an EVM-Ready IMS

Set-up for Adding Resources & Costs – Step 2



The screenshot shows the Chrono software interface with a 'Resource Sheet' table. The table has columns for Resource Name, Type, Material, Initials, Group, Max., Std. Rate, Ovt., Cost/Use, Accrue, Base, Code, and Add New Column. The table lists resources from PM to ODC4. Annotations 1, 2, 3, and 4 are present: 1 points to the 'Initials' column, 2 points to the 'Resource Name' column, 3 points to the 'Ovt.' column, and 4 points to the 'Resource' tab in the top navigation bar.

	Resource Name	Type	Material	Initials	Group	Max.	Std. Rate	Ovt.	Cost/Use	Accrue	Base	Code	Add New Column
1	PM	Work		PM		100%	\$75.00/hr	\$0.00/hr	\$0.00	Prorated	Standard		
2	Admin Spt	Work		A		100%	\$25.00/hr	\$0.00/hr	\$0.00	Prorated	Standard		
3	Finance Spt	Work		F		100%	\$40.00/hr	\$0.00/hr	\$0.00	Prorated	Standard		
4	Contracts Spt	Work		C		100%	\$75.00/hr	\$0.00/hr	\$0.00	Prorated	Standard		
5	Eng1	Work		E1		100%	\$55.00/hr	\$0.00/hr	\$0.00	Prorated	Standard		
6	Eng2	Work		E2		100%	\$55.00/hr	\$0.00/hr	\$0.00	Prorated	Standard		
7	Eng3	Work		E3		100%	\$55.00/hr	\$0.00/hr	\$0.00	Prorated	Standard		
8	Eng4	Work		E4		100%	\$55.00/hr	\$0.00/hr	\$0.00	Prorated	Standard		
9	Eng5	Work		E5		100%	\$55.00/hr	\$0.00/hr	\$0.00	Prorated	Standard		
10	Eng6	Work		E6		100%	\$55.00/hr	\$0.00/hr	\$0.00	Prorated	Standard		
11	Proc	Work		P		100%	\$30.00/hr	\$0.00/hr	\$0.00	Prorated	Standard		
12	Mfg1	Work		M1		100%	\$35.00/hr	\$0.00/hr	\$0.00	Prorated	Standard		
13	Mfg2	Work		M2		100%	\$35.00/hr	\$0.00/hr	\$0.00	Prorated	Standard		
14	Mfg3	Work		M3		100%	\$35.00/hr	\$0.00/hr	\$0.00	Prorated	Standard		
15	Mfg4	Work		M4		100%	\$35.00/hr	\$0.00/hr	\$0.00	Prorated	Standard		
16	Mfg5	Work		M5		100%	\$35.00/hr	\$0.00/hr	\$0.00	Prorated	Standard		
17	Mfg6	Work		M6		100%	\$35.00/hr	\$0.00/hr	\$0.00	Prorated	Standard		
18	Test1	Work		T1		100%	\$45.00/hr	\$0.00/hr	\$0.00	Prorated	Standard		
19	Test2	Work		T2		100%	\$45.00/hr	\$0.00/hr	\$0.00	Prorated	Standard		
20	Test3	Work		T3		100%	\$45.00/hr	\$0.00/hr	\$0.00	Prorated	Standard		
21	Test4	Work		T4		100%	\$45.00/hr	\$0.00/hr	\$0.00	Prorated	Standard		
22	QA	Work		Q		100%	\$35.00/hr	\$0.00/hr	\$0.00	Prorated	Standard		
23	ODC1	Work		O1		100%	\$100.00/hr	\$0.00/hr	\$0.00	Prorated	Standard		
24	ODC2	Work		O2		100%	\$50.00/hr	\$0.00/hr	\$0.00	Prorated	Standard		
25	ODC3	Work		O3		100%	\$20.00/hr	\$0.00/hr	\$0.00	Prorated	Standard		
26	ODC4	Work		O4		100%	\$25.00/hr	\$0.00/hr	\$0.00	Prorated	Standard		

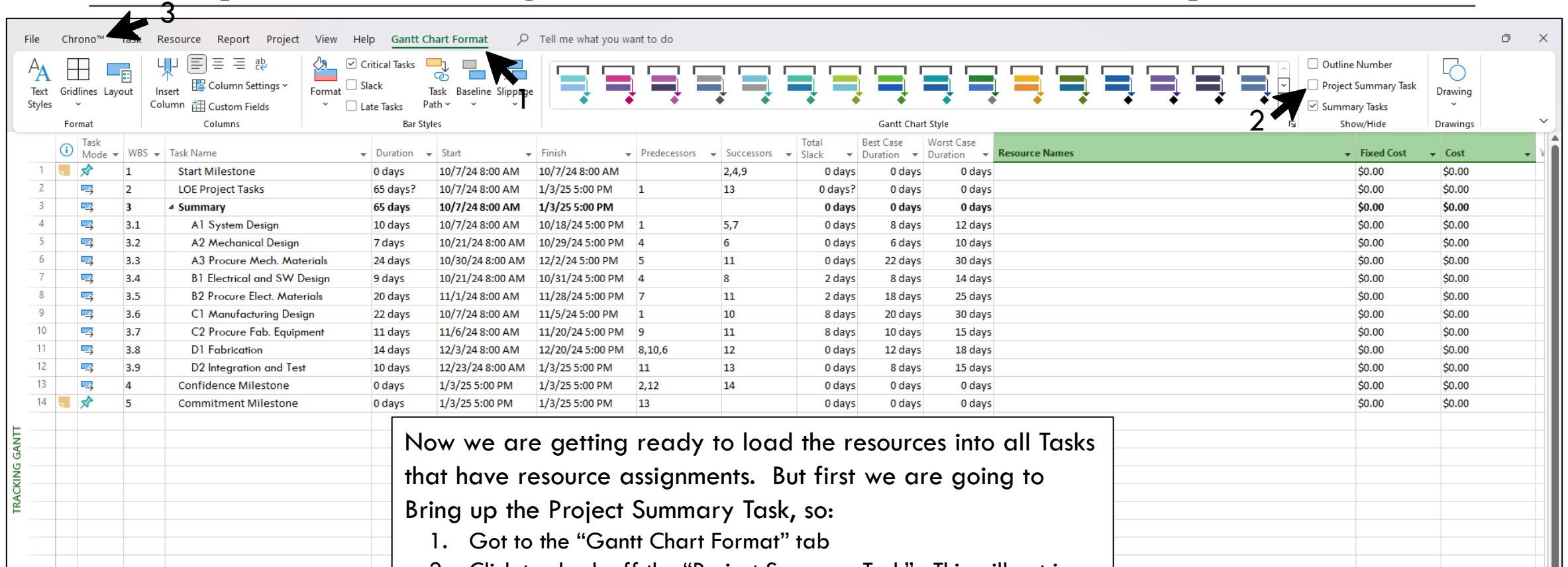
To set up the IMS for Costs, we must do the following:

1. Note that each Resource Name and Initials should be unique (we need to change initials as shown).
2. The last 4 initials are for ODC (Other Direct Costs) for tasks with those expenses – their rates are determined by the total amount divided by number of planned hours for that task so that they can vary over time.
3. The hourly work rates should be fully burdened based on Company process. That way you have them rolled up separately.
4. We are not finished yet (going to provide “Std. Rate” in another view, so we will now Select “Resource” tab again to exit this view).

Note that MS Project is “finicky” at times. Sometimes it does not react as expected when mistakes are made in this table or the one on then next chart. At times, if you run into a problem, it might be best to insert a new line and delete the old one – versus trying to fix the issue on that line. Note the ODC (Other Direct Costs) are averaged for duration of task to get to the total for the Control Account.

Creating an EVM-Ready IMS

Set-up for Adding Resources & Costs – Step 3



Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack	Best Case Duration	Worst Case Duration	Resource Names	Fixed Cost	Cost
1	1	Start Milestone	0 days	10/7/24 8:00 AM	10/7/24 8:00 AM		2,4,9	0 days	0 days	0 days		\$0.00	\$0.00
2	2	LOE Project Tasks	65 days?	10/7/24 8:00 AM	1/3/25 5:00 PM	1	13	0 days?	0 days	0 days		\$0.00	\$0.00
3	3	Summary	65 days	10/7/24 8:00 AM	1/3/25 5:00 PM			0 days	0 days	0 days		\$0.00	\$0.00
4	3.1	A1 System Design	10 days	10/7/24 8:00 AM	10/18/24 5:00 PM	1	5,7	0 days	8 days	12 days		\$0.00	\$0.00
5	3.2	A2 Mechanical Design	7 days	10/21/24 8:00 AM	10/29/24 5:00 PM	4	6	0 days	6 days	10 days		\$0.00	\$0.00
6	3.3	A3 Procure Mech. Materials	24 days	10/30/24 8:00 AM	12/2/24 5:00 PM	5	11	0 days	22 days	30 days		\$0.00	\$0.00
7	3.4	B1 Electrical and SW Design	9 days	10/21/24 8:00 AM	10/31/24 5:00 PM	4	8	2 days	8 days	14 days		\$0.00	\$0.00
8	3.5	B2 Procure Elect. Materials	20 days	11/1/24 8:00 AM	11/28/24 5:00 PM	7	11	2 days	18 days	25 days		\$0.00	\$0.00
9	3.6	C1 Manufacturing Design	22 days	10/7/24 8:00 AM	11/5/24 5:00 PM	1	10	8 days	20 days	30 days		\$0.00	\$0.00
10	3.7	C2 Procure Fab. Equipment	11 days	11/6/24 8:00 AM	11/20/24 5:00 PM	9	11	8 days	10 days	15 days		\$0.00	\$0.00
11	3.8	D1 Fabrication	14 days	12/3/24 8:00 AM	12/20/24 5:00 PM	8,10,6	12	0 days	12 days	18 days		\$0.00	\$0.00
12	3.9	D2 Integration and Test	10 days	12/23/24 8:00 AM	1/3/25 5:00 PM	11	13	0 days	8 days	15 days		\$0.00	\$0.00
13	4	Confidence Milestone	0 days	1/3/25 5:00 PM	1/3/25 5:00 PM	2,12	14	0 days	0 days	0 days		\$0.00	\$0.00
14	5	Commitment Milestone	0 days	1/3/25 5:00 PM	1/3/25 5:00 PM	13		0 days	0 days	0 days		\$0.00	\$0.00

Now we are getting ready to load the resources into all Tasks that have resource assignments. But first we are going to Bring up the Project Summary Task, so:

1. Got to the “Gantt Chart Format” tab
2. Click to check off the “Project Summary Task”. This will put in Task 0 with the name of the File displayed. If you would like to rename this file, you can Save_As a different name.
3. Select “Chrono™” to return to the IMS

Creating an EVM-Ready IMS

Set-up for Adding Resources & Costs – Step 4



Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack	Best Case Duration	Worst Case Duration	Resource Names	Fixed Cost	Cost
0	0	Project2	65 days?	10/7/24 8:00 AM	1/3/25 5:00 PM			0 days?	0 days	0 days		\$0.00	\$0.00
1	1	Start Milestone	0 days	10/7/24 8:00 AM	10/7/24 8:00 AM		2,4,9	0 days	0 days	0 days		\$0.00	\$0.00
2	2	LOE Project Tasks	65 days?	10/7/24 8:00 AM	1/3/25 5:00 PM	1	13	0 days?	0 days	0 days		\$0.00	\$0.00
3	3	Summary	65 days	10/7/24 8:00 AM	1/3/25 5:00 PM			0 days	0 days	0 days		\$0.00	\$0.00
4	3.1	A1 System Design	10 days	10/7/24 8:00 AM	10/18/24 5:00 PM	1	5,7	0 days	8 days	12 days		\$0.00	\$0.00
5	3.2	A2 Mechanical Design	7 days	10/21/24 8:00 AM	10/29/24 5:00 PM	4	6	0 days	6 days	10 days		\$0.00	\$0.00
6	3.3	A3 Procure Mech. Materials	24 days	10/30/24 8:00 AM	12/2/24 5:00 PM	5	11	0 days	22 days	30 days		\$0.00	\$0.00
7	3.4	B1 Electrical and SW Design	9 days	10/21/24 8:00 AM	10/31/24 5:00 PM	4	8	2 days	8 days	14 days		\$0.00	\$0.00
8	3.5	B2 Procure Elect. Materials	20 days	11/1/24 8:00 AM	11/28/24 5:00 PM	7	11	2 days	18 days	25 days		\$0.00	\$0.00
9	3.6	C1 Manufacturing Design	22 days	10/7/24 8:00 AM	11/5/24 5:00 PM	1	10	8 days	20 days	30 days		\$0.00	\$0.00
10	3.7	C2 Procure Fab. Equipment	11 days	11/6/24 8:00 AM	11/20/24 5:00 PM	9	11	8 days	10 days	15 days		\$0.00	\$0.00
11	3.8	D1 Fabrication	14 days	12/3/24 8:00 AM	12/20/24 5:00 PM	8,10,6	12	0 days	12 days	18 days		\$0.00	\$0.00
12	3.9	D2 Integration and Test	10 days	12/23/24 8:00 AM	1/3/25 5:00 PM	11	13	0 days	8 days	15 days		\$0.00	\$0.00
13	4	Confidence Milestone	0 days	1/3/25 5:00 PM	1/3/25 5:00 PM	2,12	14	0 days	0 days	0 days		\$0.00	\$0.00
14	5	Commitment Milestone	0 days	1/3/25 5:00 PM	1/3/25 5:00 PM	13		0 days	0 days	0 days		\$0.00	\$0.00

Now we are getting ready to load the resources into all Tasks that have resource assignments.

1. If you have done so already, Insert the three new columns: “Resource Names”, “Fixed Cost”, and “Cost”, as shown.
2. You will then double-click on the “LOE Project Tasks” task name and go to the Task Information view shown on the next chart.

Creating an EVM-Ready IMS

Set-up for Adding Resources & Costs – Step 5



The screenshot shows the Chrono software interface. The main window displays a Gantt chart with a task list. The task list includes:

Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack	Best Case Duration	Worst Case Duration	Resource Names	Fixed Cost	Cost
0		Project2	65 days?	10/7/24 8:00 AM	1/3/25 5:00 PM			0 days?	0 days	0 days		\$0.00	\$0.00
1	1	Start Milestone	0 days	10/7/24 8:00 AM	10/7/24 8:00 AM		2,4,9	0 days	0 days	0 days		\$0.00	\$0.00
2	2	LOE Project Tasks	65 days?	10/7/24 8:00 AM	1/3/25 5:00 PM	1	13	0 days?	0 days	0 days		\$0.00	\$0.00
3	3	Summary	65 days	10/7/24 8:00 AM	1/3/25 5:00 PM			0 days	0 days	0 days		\$0.00	\$0.00
4	3.1	A1 System Design	10 days	10/7/24 8:00 AM	10/18/24 5:00 PM	1	5,7	0 days	8 days	12 days		\$0.00	\$0.00
5	3.2	A2 Mechanical Design	7 days	10/21/24 8:00 AM								\$0.00	\$0.00
6	3.3	A3 Procure Mech. Materials	24 days	10/30/24 8:00 AM								\$0.00	\$0.00
7	3.4	B1 Electrical and SW Design	9 days	10/21/24 8:00 AM								\$0.00	\$0.00
8	3.5	B2 Procure Elect. Materials	20 days	11/1/24 8:00 AM								\$0.00	\$0.00
9	3.6	C1 Manufacturing Design	22 days	10/7/24 8:00 AM								\$0.00	\$0.00
10	3.7	C2 Procure Fab. Equipment	11 days	11/6/24 8:00 AM								\$0.00	\$0.00
11	3.8	D1 Fabrication	14 days	12/3/24 8:00 AM								\$0.00	\$0.00
12	3.9	D2 Integration and Test	10 days	12/23/24 8:00 AM								\$0.00	\$0.00
13	4	Confidence Milestone	0 days	1/3/25 5:00 PM								\$0.00	\$0.00
14	5	Commitment Milestone	0 days	1/3/25 5:00 PM								\$0.00	\$0.00

The Task Information dialog box is open for the 'LOE Project Tasks' task. It shows the following information:

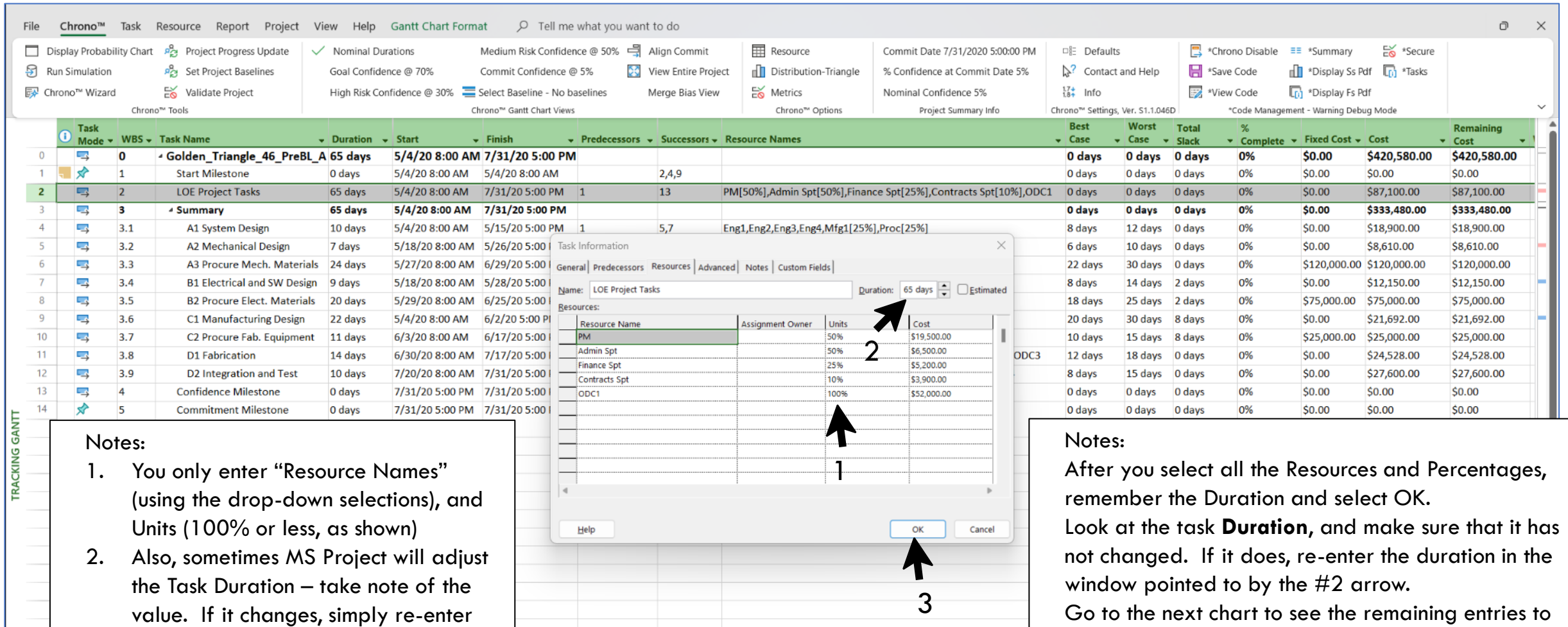
- Name: LOE Project Tasks
- Duration: 65 days? (Estimated)
- Resources: A list of resources including Admin Spt, Contracts Spt, Eng1-6, Finance Spt, Mfg1-6, ODC1-4, PM, Proc, QA, Test1-4.
- Assignment Owner: (Empty)
- Units: (Empty)
- Cost: (Empty)

Arrows and numbers 1 and 2 indicate the steps described in the text box:

1. Click on the "LOE Project Tasks" task name and get the Task Information view shown.
2. Click on the first Resource Name cell, then click the drop-down arrow to display the above information.

Creating an EVM-Ready IMS

Set-up for Adding Resources & Costs – Step 6



The screenshot shows the Chrono software interface. The main window displays a Gantt chart with tasks such as 'Golden_Triangle_46_PreBL_A', 'Start Milestone', 'LOE Project Tasks', and 'Summary'. A 'Task Information' dialog box is open, showing the 'Resources' tab for the 'LOE Project Tasks' task. The dialog box has a 'Duration' field set to 65 days. The 'Resources' table lists resources and their assignments:

Resource Name	Assignment Owner	Units	Cost
PM		50%	\$19,500.00
Admin Spt		50%	\$6,500.00
Finance Spt		25%	\$5,200.00
Contracts Spt		10%	\$3,900.00
ODC1		100%	\$2,000.00

Arrows in the image point to the 'Duration' field (labeled #1), the 'Resources' table (labeled #2), and the 'OK' button (labeled #3).

Notes:

1. You only enter “Resource Names” (using the drop-down selections), and Units (100% or less, as shown)
2. Also, sometimes MS Project will adjust the Task Duration – take note of the value. If it changes, simply re-enter into this box.

Notes:

After you select all the Resources and Percentages, remember the Duration and select OK. Look at the task **Duration**, and make sure that it has not changed. If it does, re-enter the duration in the window pointed to by the #2 arrow. Go to the next chart to see the remaining entries to key in.

Creating an EVM-Ready IMS

Set-up for Adding Resources & Costs – Step 7

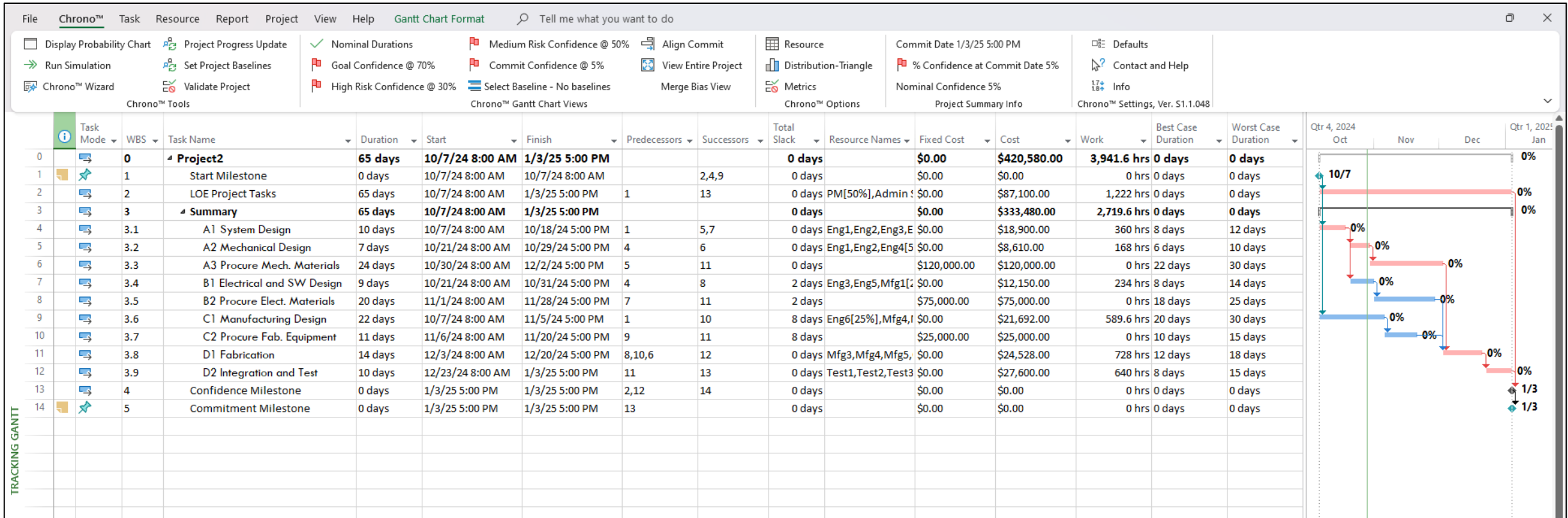


Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack	Resource Names	Fixed Cost	Cost
0	0	Project2	65 days	10/7/24 8:00 AM	1/3/25 5:00 PM			0 days		\$0.00	\$420,580.00
1	1	Start Milestone	0 days	10/7/24 8:00 AM	10/7/24 8:00 AM		2,4,9	0 days		\$0.00	\$0.00
2	2	LOE Project Tasks	65 days	10/7/24 8:00 AM	1/3/25 5:00 PM	1	13	0 days	PM[50%],Admin Spt[50%],Finance Spt[25%],Contracts Spt[10%],ODC1	\$0.00	\$87,100.00
3	3	Summary	65 days	10/7/24 8:00 AM	1/3/25 5:00 PM			0 days		\$0.00	\$333,480.00
4	3.1	A1 System Design	10 days	10/7/24 8:00 AM	10/18/24 5:00 PM	1	5,7	0 days	Eng1,Eng2,Eng3,Eng4,Mfg1[25%],Proc[25%]	\$0.00	\$18,900.00
5	3.2	A2 Mechanical Design	7 days	10/21/24 8:00 AM	10/29/24 5:00 PM	4	6	0 days	Eng1,Eng2,Eng4[50%],Mfg1[25%],Proc[25%]	\$0.00	\$8,610.00
6	3.3	A3 Procure Mech. Materials	24 days	10/30/24 8:00 AM	12/2/24 5:00 PM	5	11	0 days		\$120,000.00	\$120,000.00
7	3.4	B1 Electrical and SW Design	9 days	10/21/24 8:00 AM	10/31/24 5:00 PM	4	8	2 days	Eng3,Eng5,Mfg1[25%],ODC2	\$0.00	\$12,150.00
8	3.5	B2 Procure Elect. Materials	20 days	11/1/24 8:00 AM	11/28/24 5:00 PM	7	11	2 days		\$75,000.00	\$75,000.00
9	3.6	C1 Manufacturing Design	22 days	10/7/24 8:00 AM	11/5/24 5:00 PM	1	10	8 days	Eng6[25%],Mfg4,Mfg5,Mfg6,Test1[10%]	\$0.00	\$21,692.00
10	3.7	C2 Procure Fab. Equipment	11 days	11/6/24 8:00 AM	11/20/24 5:00 PM	9	11	8 days		\$25,000.00	\$25,000.00
11	3.8	D1 Fabrication	14 days	12/3/24 8:00 AM	12/20/24 5:00 PM	8,10,6	12	0 days	Mfg3,Mfg4,Mfg5,QA[10%],Test1[15%],Eng1[25%],Mfg2,Mfg6,ODC3	\$0.00	\$24,528.00
12	3.9	D2 Integration and Test	10 days	12/23/24 8:00 AM	1/3/25 5:00 PM	11	13	0 days	Test1,Test2,Test3,Test4[50%],QA[50%],Eng1,Eng2,Mfg1,ODC4	\$0.00	\$27,600.00
13	4	Confidence Milestone	0 days	1/3/25 5:00 PM	1/3/25 5:00 PM	2,12	14	0 days		\$0.00	\$0.00
14	5	Commitment Milestone	0 days	1/3/25 5:00 PM	1/3/25 5:00 PM	13		0 days		\$0.00	\$0.00

Now we go back to the normal view and check out the information just entered.

1. Insert “Resource Names”, “Fixed Cost” and “Cost” columns after the “Predecessors” column as shown.
2. If you did not already add the Fixed Costs, add them to Tasks 6, 8, and 10 – as shown.
3. Check the “Cost” column amounts – they should be as shown on this chart – if not exactly the same, check for errors and fix.
4. Notice that Total Project Costs (w/o Management Reserve or Undistributed Budget and Profit) will be shown in the “0” row (i.e., the “Project Summary Task” row – that is given the Project File Name).

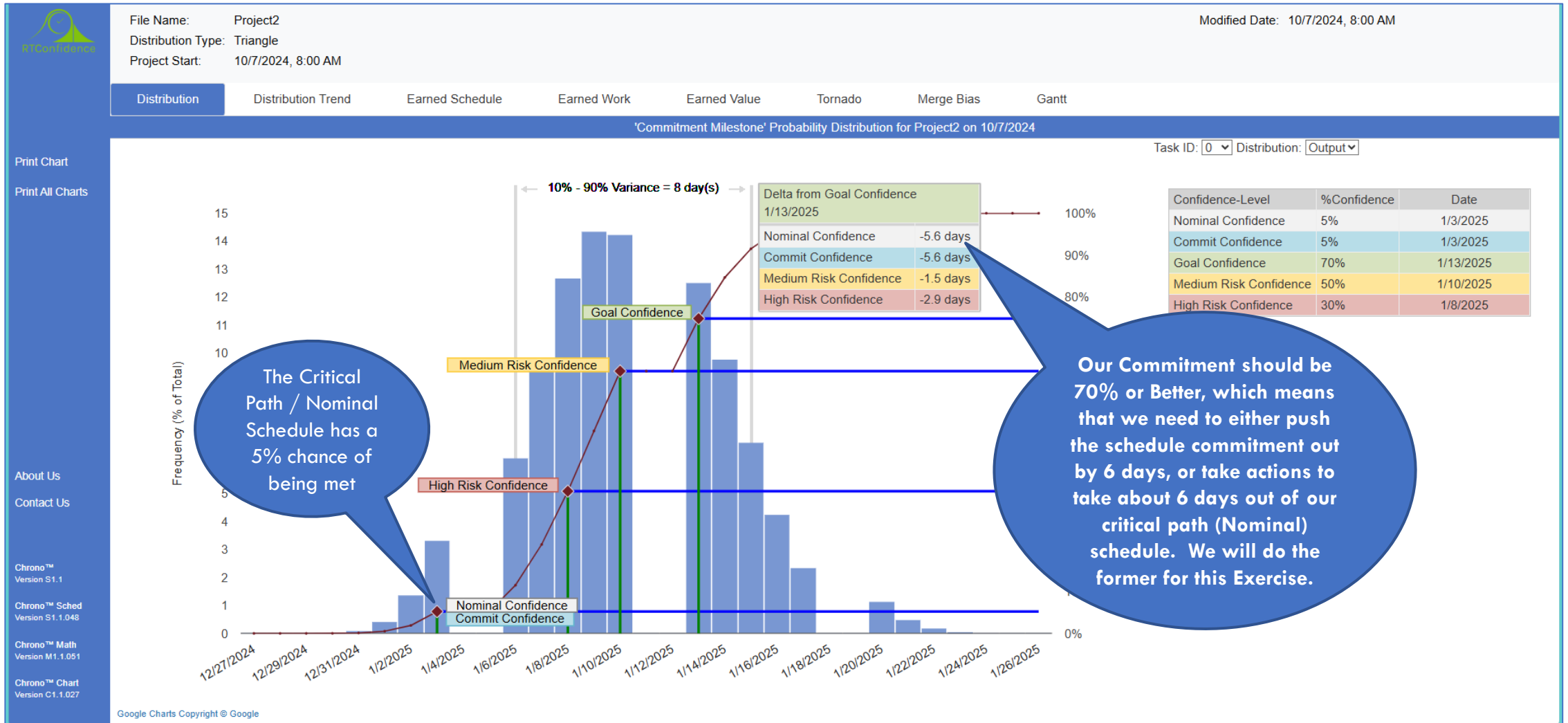
Set-up for Adding Resources & Costs Complete – Now for Risk Adjustments

Run the Simulation!

SRA Simulation Output Display

Result Shows Work to do Before Setting Project Baseline



Print Chart

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Chrono™
Version S1.1

Chrono™ Sched
Version S1.1.048

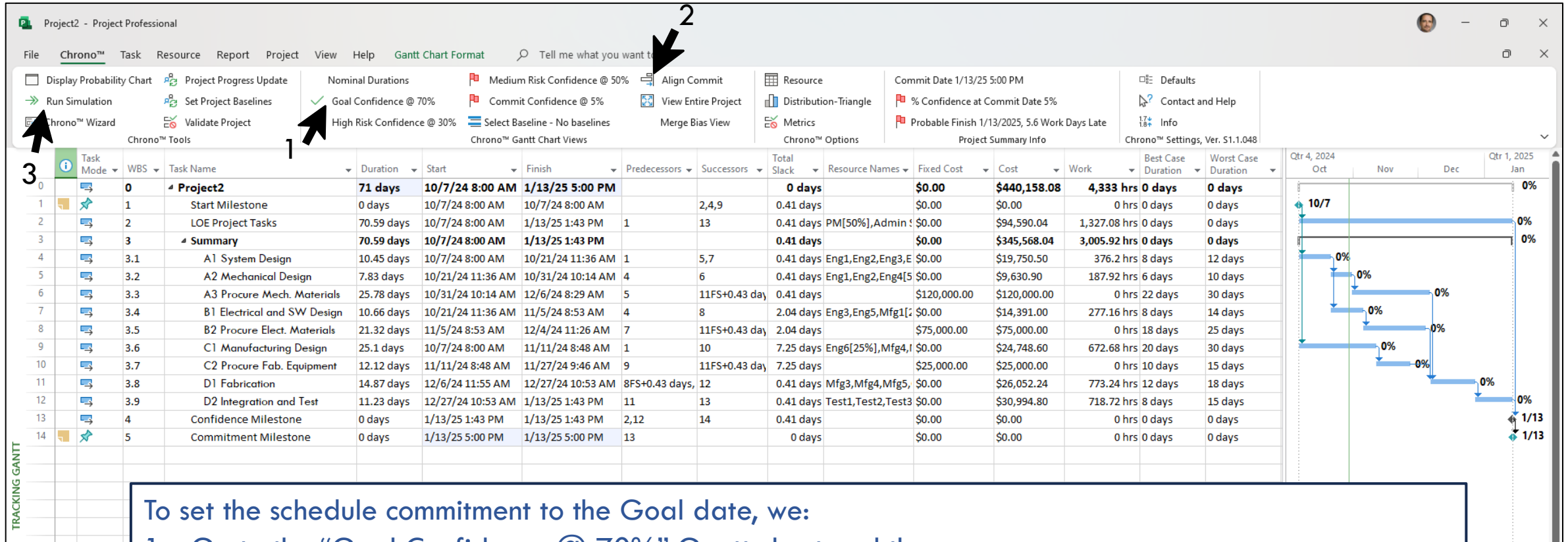
Chrono™ Math
Version M1.1.051

Chrono™ Chart
Version C1.1.027

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Set-up for Adding Resources & Costs

Complete – Now Ready for Risk Adjustments

The screenshot shows the Microsoft Project Professional interface. The 'Gantt Chart Format' ribbon is active. Three numbered arrows indicate the steps for setting up the commitment schedule:

- Arrow 1 points to the 'Goal Confidence @ 70%' checkbox in the 'Nominal Durations' group.
- Arrow 2 points to the 'Align Commit' button in the 'Nominal Durations' group.
- Arrow 3 points to the 'Run Simulation' button in the 'Chrono™ Wizard' group.

Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack	Resource Names	Fixed Cost	Cost	Work	Best Case Duration	Worst Case Duration
0	0	Project2	71 days	10/7/24 8:00 AM	1/13/25 5:00 PM			0 days		\$0.00	\$440,158.08	4,333 hrs	0 days	0 days
1	1	Start Milestone	0 days	10/7/24 8:00 AM	10/7/24 8:00 AM		2,4,9	0.41 days		\$0.00	\$0.00	0 hrs	0 days	0 days
2	2	LOE Project Tasks	70.59 days	10/7/24 8:00 AM	1/13/25 1:43 PM	1	13	0.41 days	PM[50%],Admin	\$0.00	\$94,590.04	1,327.08 hrs	0 days	0 days
3	3	Summary	70.59 days	10/7/24 8:00 AM	1/13/25 1:43 PM			0.41 days		\$0.00	\$345,568.04	3,005.92 hrs	0 days	0 days
4	3.1	A1 System Design	10.45 days	10/7/24 8:00 AM	10/21/24 11:36 AM	1	5,7	0.41 days	Eng1,Eng2,Eng3,E	\$0.00	\$19,750.50	376.2 hrs	8 days	12 days
5	3.2	A2 Mechanical Design	7.83 days	10/21/24 11:36 AM	10/31/24 10:14 AM	4	6	0.41 days	Eng1,Eng2,Eng4,5	\$0.00	\$9,630.90	187.92 hrs	6 days	10 days
6	3.3	A3 Procure Mech. Materials	25.78 days	10/31/24 10:14 AM	12/6/24 8:29 AM	5	11FS+0.43 day	0.41 days		\$120,000.00	\$120,000.00	0 hrs	22 days	30 days
7	3.4	B1 Electrical and SW Design	10.66 days	10/21/24 11:36 AM	11/5/24 8:53 AM	4	8	2.04 days	Eng3,Eng5,Mfg1[	\$0.00	\$14,391.00	277.16 hrs	8 days	14 days
8	3.5	B2 Procure Elect. Materials	21.32 days	11/5/24 8:53 AM	12/4/24 11:26 AM	7	11FS+0.43 day	2.04 days		\$75,000.00	\$75,000.00	0 hrs	18 days	25 days
9	3.6	C1 Manufacturing Design	25.1 days	10/7/24 8:00 AM	11/11/24 8:48 AM	1	10	7.25 days	Eng6[25%],Mfg4,I	\$0.00	\$24,748.60	672.68 hrs	20 days	30 days
10	3.7	C2 Procure Fab. Equipment	12.12 days	11/11/24 8:48 AM	11/27/24 9:46 AM	9	11FS+0.43 day	7.25 days		\$25,000.00	\$25,000.00	0 hrs	10 days	15 days
11	3.8	D1 Fabrication	14.87 days	12/6/24 11:55 AM	12/27/24 10:53 AM	8FS+0.43 days, 12		0.41 days	Mfg3,Mfg4,Mfg5,	\$0.00	\$26,052.24	773.24 hrs	12 days	18 days
12	3.9	D2 Integration and Test	11.23 days	12/27/24 10:53 AM	1/13/25 1:43 PM	11	13	0.41 days	Test1,Test2,Test3	\$0.00	\$30,994.80	718.72 hrs	8 days	15 days
13	4	Confidence Milestone	0 days	1/13/25 1:43 PM	1/13/25 1:43 PM	2,12	14	0.41 days		\$0.00	\$0.00	0 hrs	0 days	0 days
14	5	Commitment Milestone	0 days	1/13/25 5:00 PM	1/13/25 5:00 PM	13		0 days		\$0.00	\$0.00	0 hrs	0 days	0 days

To set the schedule commitment to the Goal date, we:

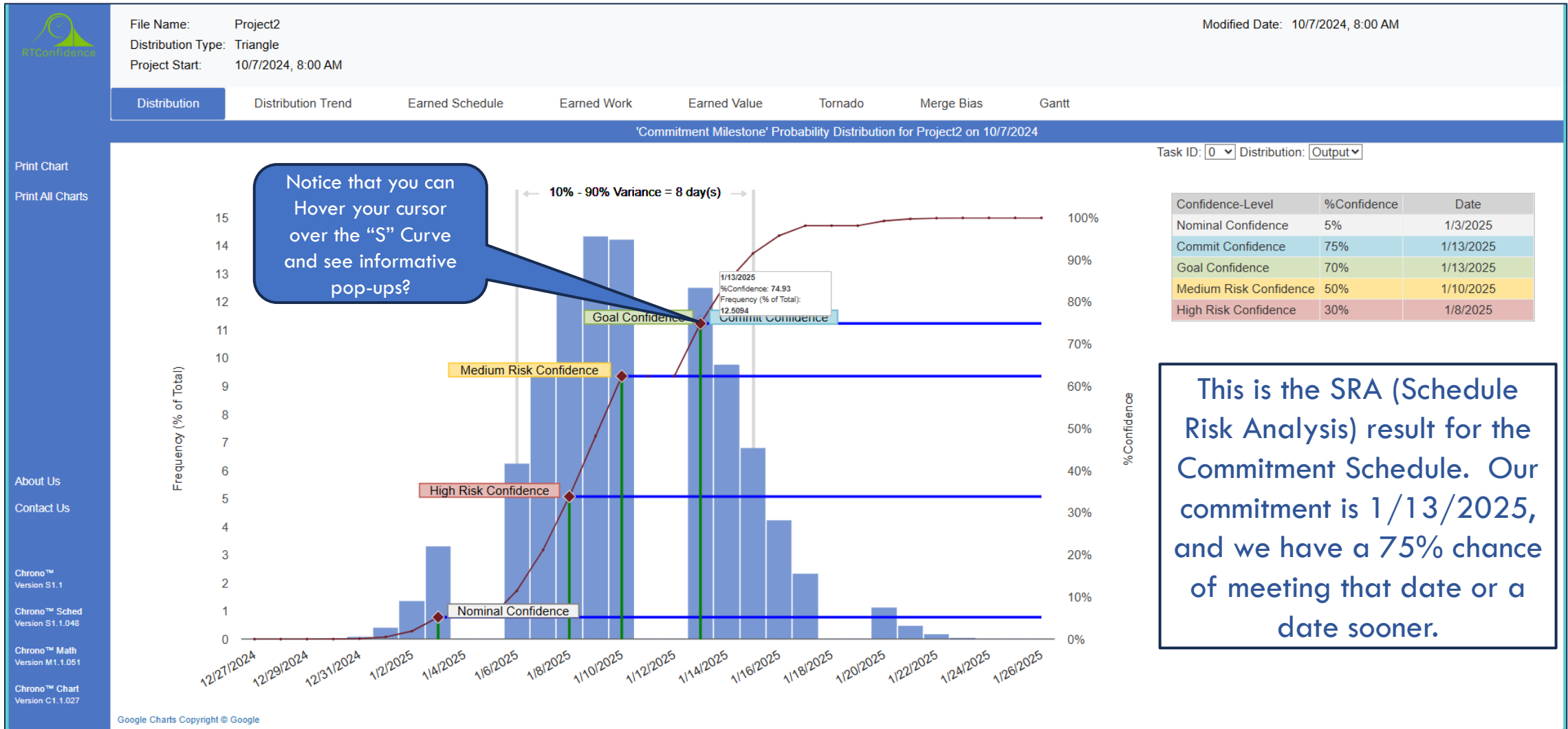
1. Go to the “Goal Confidence @ 70%” Gantt chart and then
2. “Align Commit” to the End of the Day.

(This enables us to use the Goal Confidence Gantt chart as the Baseline for the Commitment Schedule.)

3. “Run Simulation” and see the Results on the next chart.

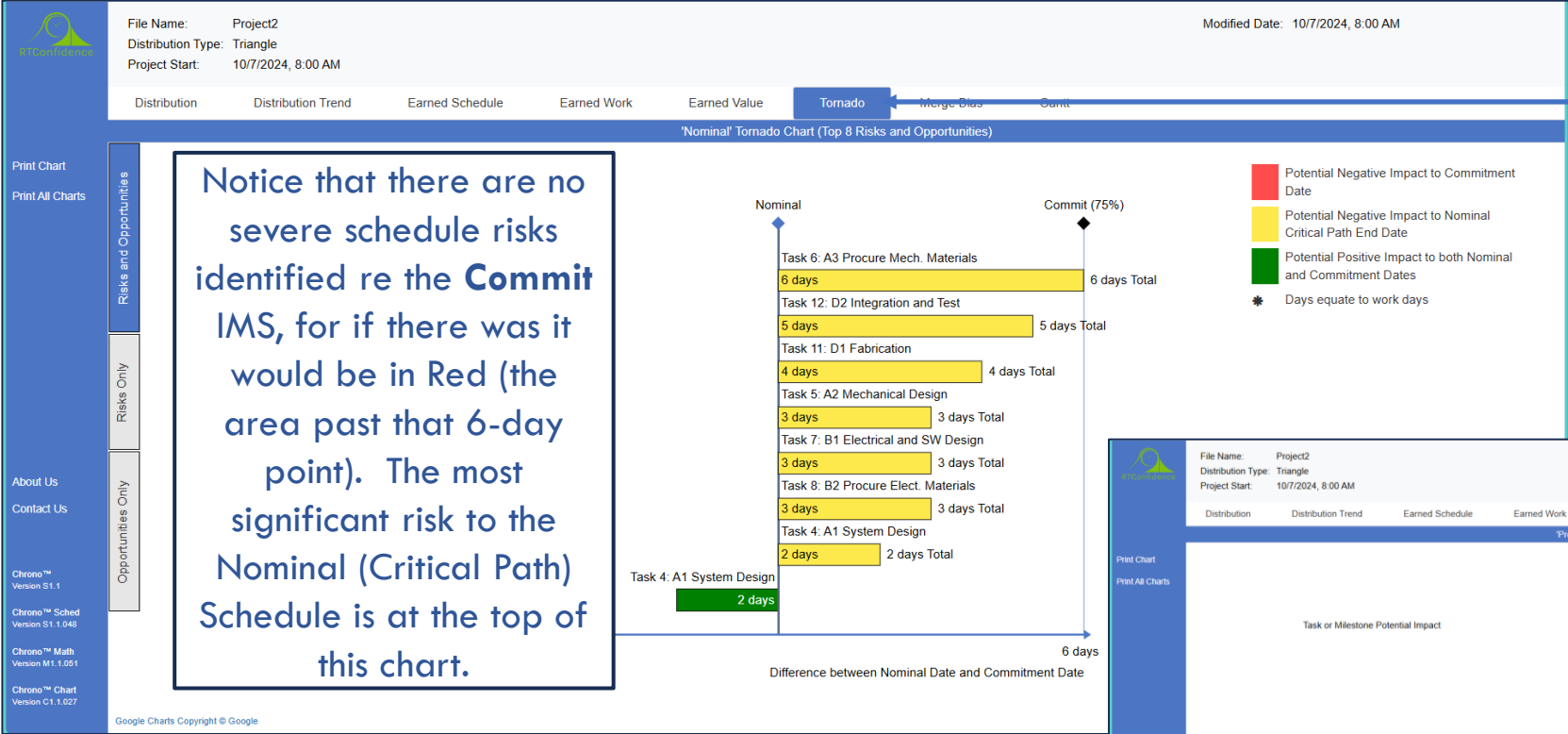
SRA Simulation Output Display

Result of Aligning the Goal & Commitment Schedules

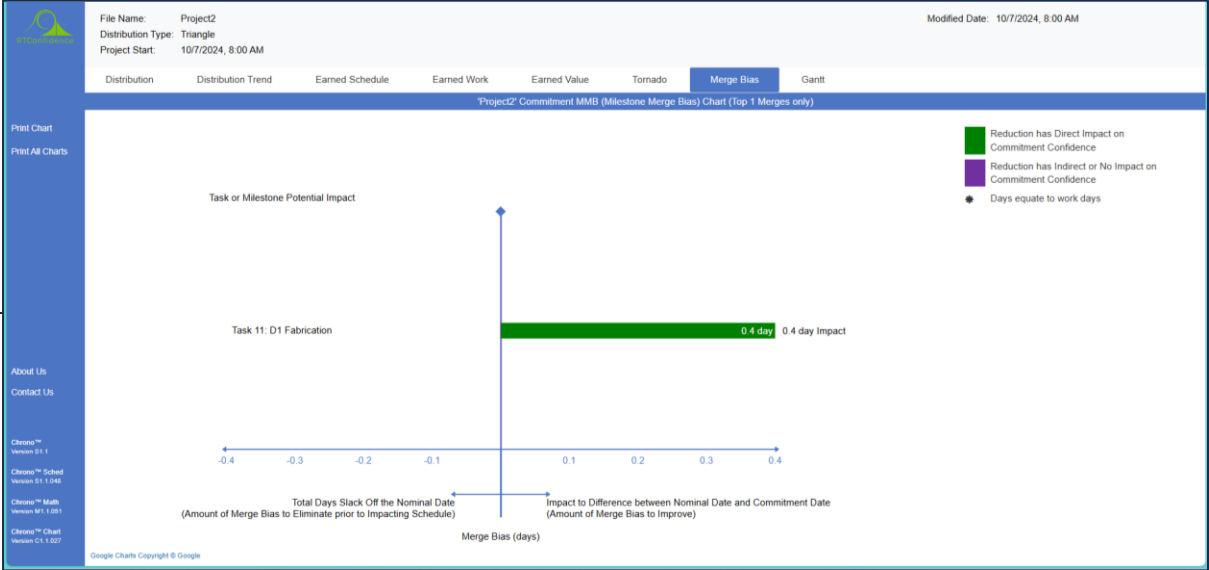


SRA Simulation Output Display

Result of Aligning the Goal and Commitment Schedules

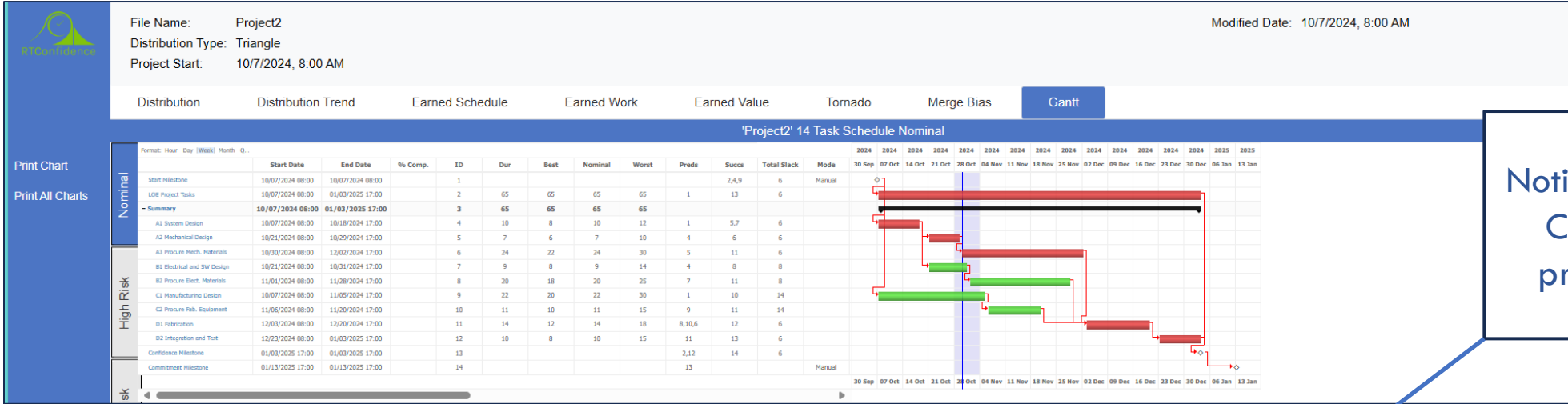


The **Tornado** and **Merge Bias** charts help determine where the schedule risk and opportunities are.



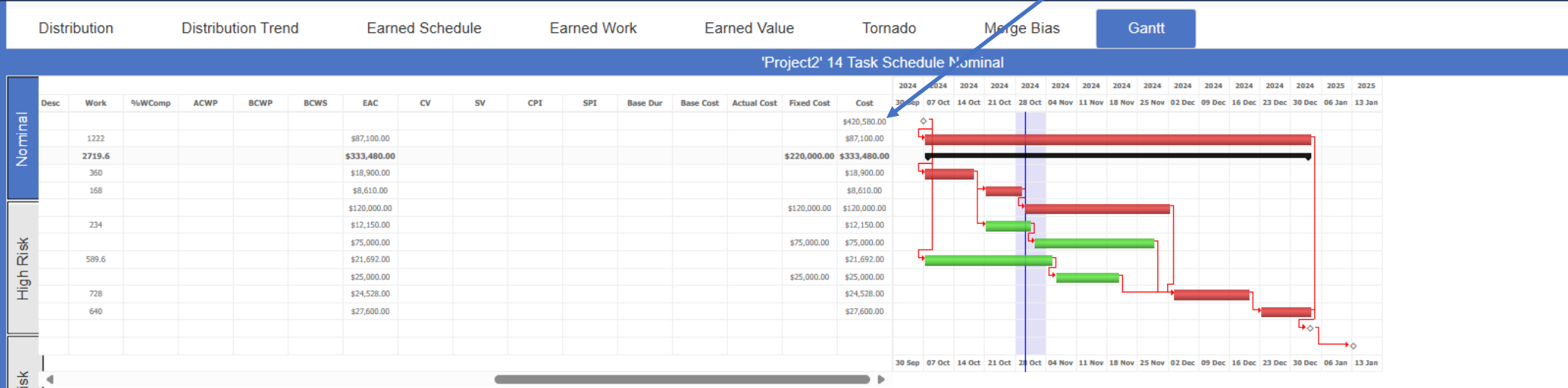
SRA Simulation Output Display

Goal The Nominal (i.e., Critical Path) Schedule & Costs



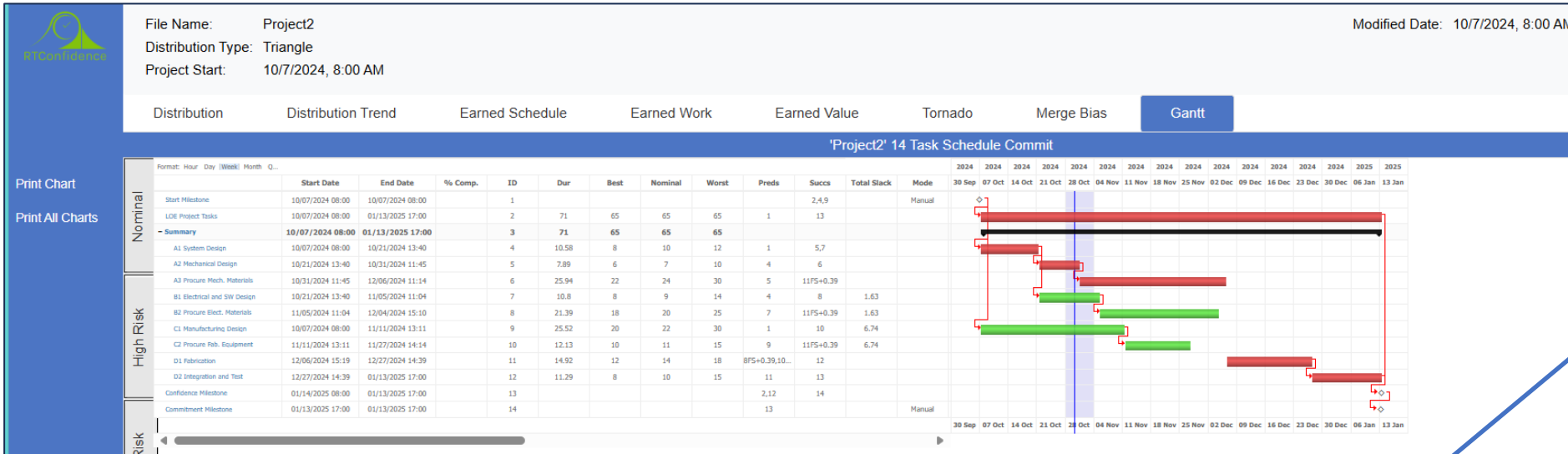
Notice that the Critical Path Cost projection for this project is \$420,580.00

This upper chart is what you see originally, and the lower chart is what you see when scroll over to the Right.



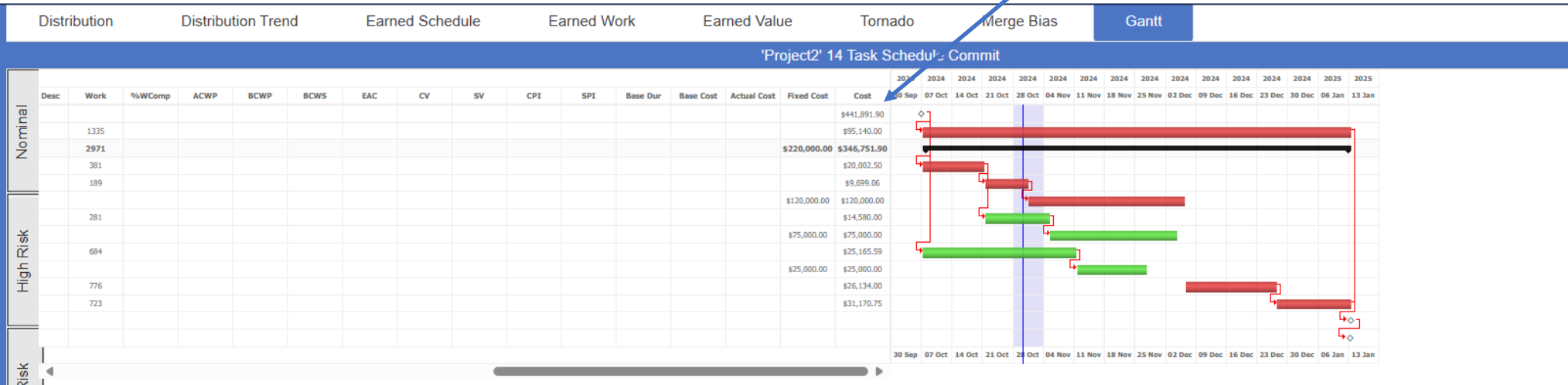
SRA Simulation Output Display

The Commitment Schedule & Projected Costs



Notice that the Commitment Cost projection for this project is \$441,891.90 (a \$21,311.90 difference)

This upper chart is what you see originally, and the lower chart is what you see when scroll over to the Right.



EVM (Earned Value Management) Training

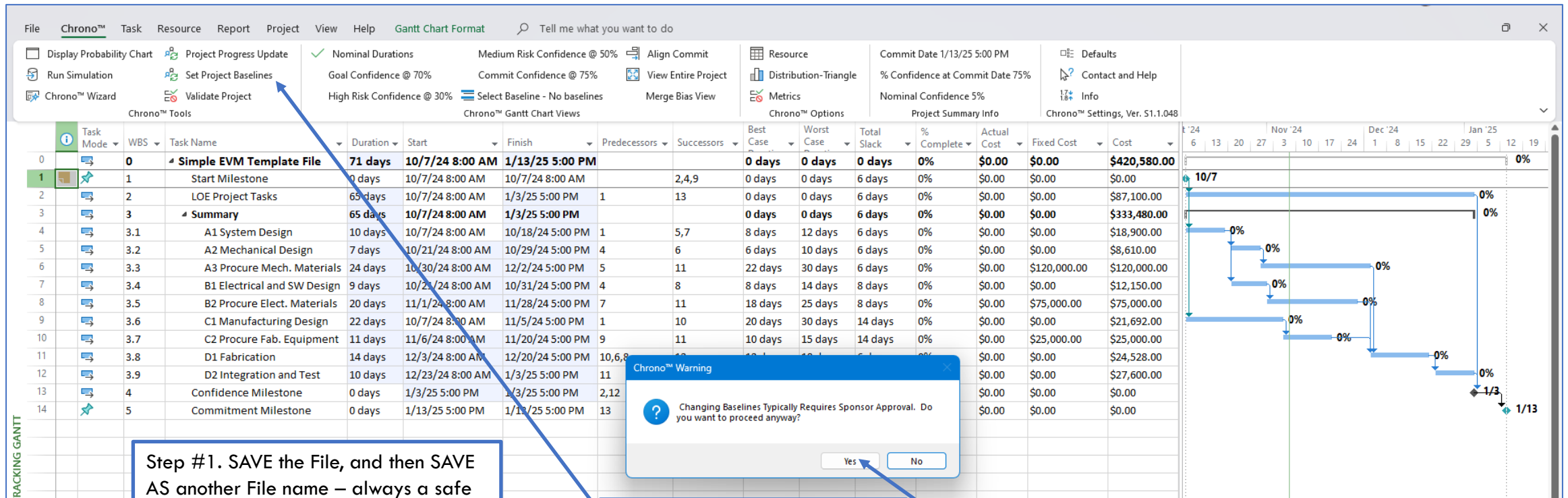
Performing EVM Baselineing and Updating with Chrono™

CHRONO™ TRAINING REFERENCE GUIDE

Baselines and Updates

Establishing the EVM Project Baselines

If you haven't already done so – SAVE then SAVE_AS New File Name



The screenshot displays the Chrono software interface. The main window shows a Gantt chart on the right and a task list on the left. The task list includes:

Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors	Successors	Best Case	Worst Case	Total Slack	% Complete	Actual Cost	Fixed Cost	Cost
0		Simple EVM Template File	71 days	10/7/24 8:00 AM	1/13/25 5:00 PM			0 days	0 days	0 days	0%	\$0.00	\$0.00	\$420,580.00
1	1	Start Milestone	0 days	10/7/24 8:00 AM	10/7/24 8:00 AM		2,4,9	0 days	0 days	6 days	0%	\$0.00	\$0.00	\$0.00
2	2	LOE Project Tasks	65 days	10/7/24 8:00 AM	1/3/25 5:00 PM	1	13	0 days	0 days	6 days	0%	\$0.00	\$0.00	\$87,100.00
3	3	Summary	65 days	10/7/24 8:00 AM	1/3/25 5:00 PM			0 days	0 days	6 days	0%	\$0.00	\$0.00	\$333,480.00
4	3.1	A1 System Design	10 days	10/7/24 8:00 AM	10/18/24 5:00 PM	1	5,7	8 days	12 days	6 days	0%	\$0.00	\$0.00	\$18,900.00
5	3.2	A2 Mechanical Design	7 days	10/21/24 8:00 AM	10/29/24 5:00 PM	4	6	6 days	10 days	6 days	0%	\$0.00	\$0.00	\$8,610.00
6	3.3	A3 Procure Mech. Materials	24 days	10/30/24 8:00 AM	12/2/24 5:00 PM	5	11	22 days	30 days	6 days	0%	\$0.00	\$120,000.00	\$120,000.00
7	3.4	B1 Electrical and SW Design	9 days	10/21/24 8:00 AM	10/31/24 5:00 PM	4	8	8 days	14 days	8 days	0%	\$0.00	\$0.00	\$12,150.00
8	3.5	B2 Procure Elect. Materials	20 days	11/1/24 8:00 AM	11/28/24 5:00 PM	7	11	18 days	25 days	8 days	0%	\$0.00	\$75,000.00	\$75,000.00
9	3.6	C1 Manufacturing Design	22 days	10/7/24 8:00 AM	11/5/24 5:00 PM	1	10	20 days	30 days	14 days	0%	\$0.00	\$0.00	\$21,692.00
10	3.7	C2 Procure Fab. Equipment	11 days	11/6/24 8:00 AM	11/20/24 5:00 PM	9	11	10 days	15 days	14 days	0%	\$0.00	\$25,000.00	\$25,000.00
11	3.8	D1 Fabrication	14 days	12/3/24 8:00 AM	12/20/24 5:00 PM	10,6,8	11	10 days	15 days	14 days	0%	\$0.00	\$0.00	\$24,528.00
12	3.9	D2 Integration and Test	10 days	12/23/24 8:00 AM	1/3/25 5:00 PM	11	11	10 days	15 days	14 days	0%	\$0.00	\$0.00	\$27,600.00
13	4	Confidence Milestone	0 days	1/3/25 5:00 PM	1/3/25 5:00 PM	2,12		0 days	0 days	0 days	0%	\$0.00	\$0.00	\$0.00
14	5	Commitment Milestone	0 days	1/13/25 5:00 PM	1/13/25 5:00 PM	13		0 days	0 days	0 days	0%	\$0.00	\$0.00	\$0.00

A warning dialog box is displayed in the center of the screen, titled "Chrono™ Warning". The message reads: "Changing Baselines Typically Requires Sponsor Approval. Do you want to proceed anyway?". There are "Yes" and "No" buttons at the bottom of the dialog.

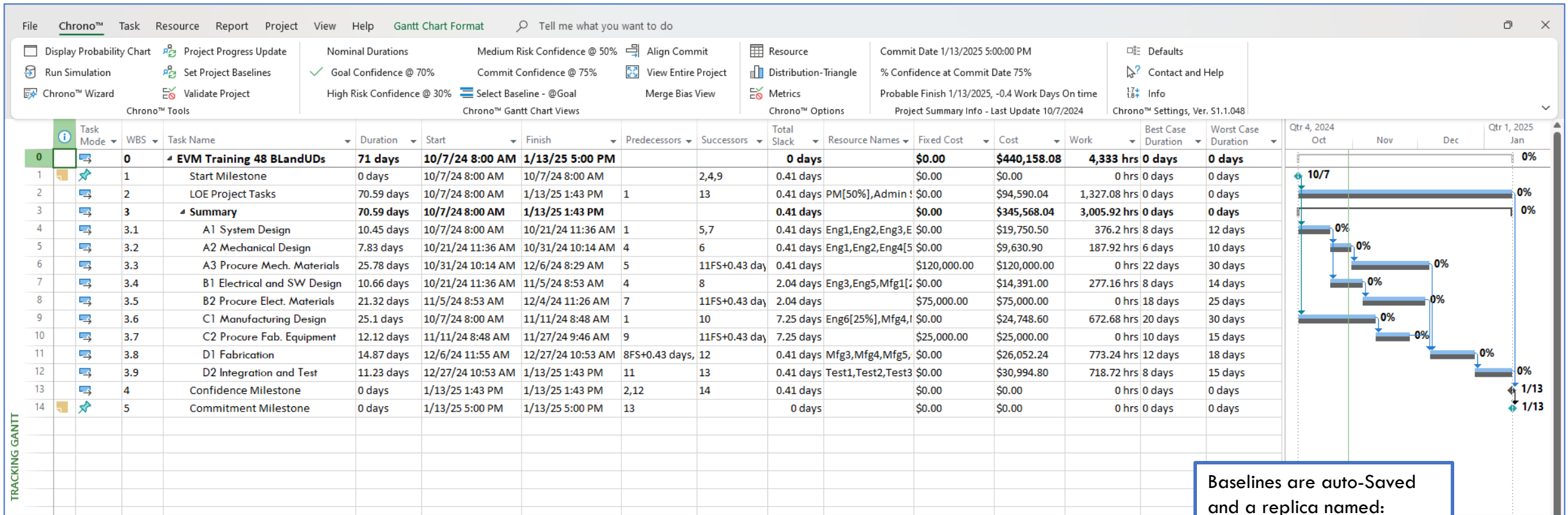
Step #1. SAVE the File, and then SAVE AS another File name – always a safe thing to do. Then Run the Simulation again and verify the same results.

Step #2. In the New File, Select “Set Project Baselines” in the Chrono Tools Section.

Step #3. Select “Yes” when this Pop-up appears.

Establishing Baselines

The Baseline Goal Gantt (i.e., Commit Schedule)

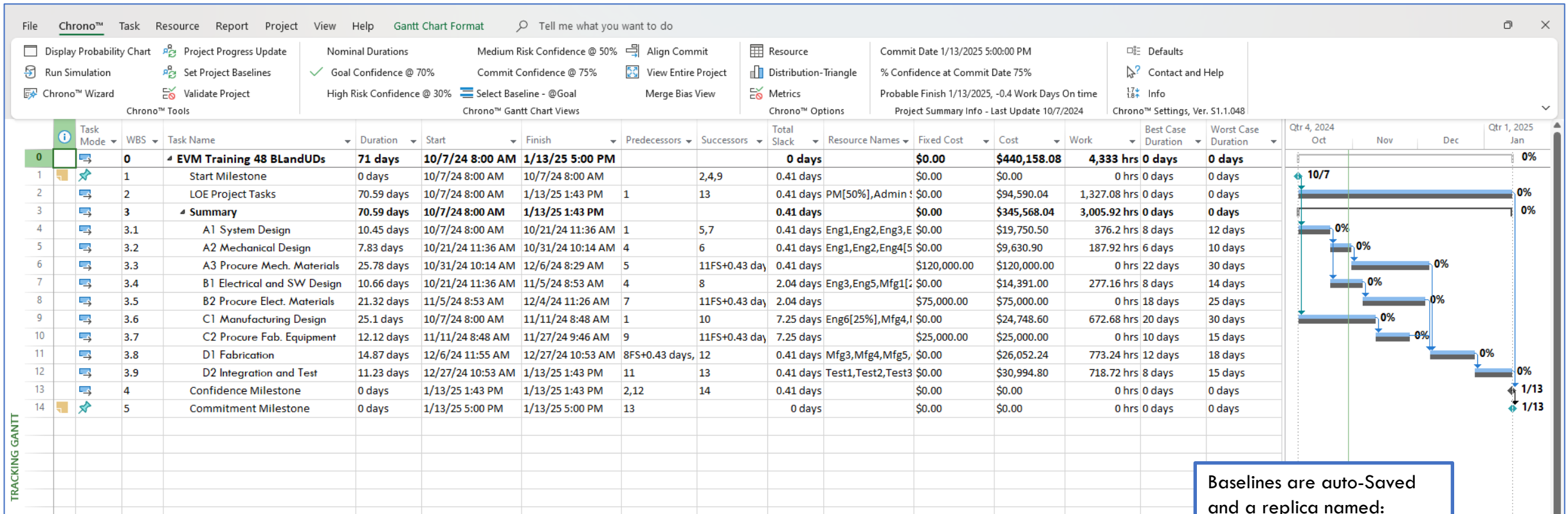


Consider the Black Baseline bars as Snap-shots that do not change, even after updating the schedule.

Baselines are auto-Saved and a replica named: **<file name>_000** of the file is put into the same folder.

Establishing Baselines

The Baseline Goal Gantt (i.e., Commit Schedule)

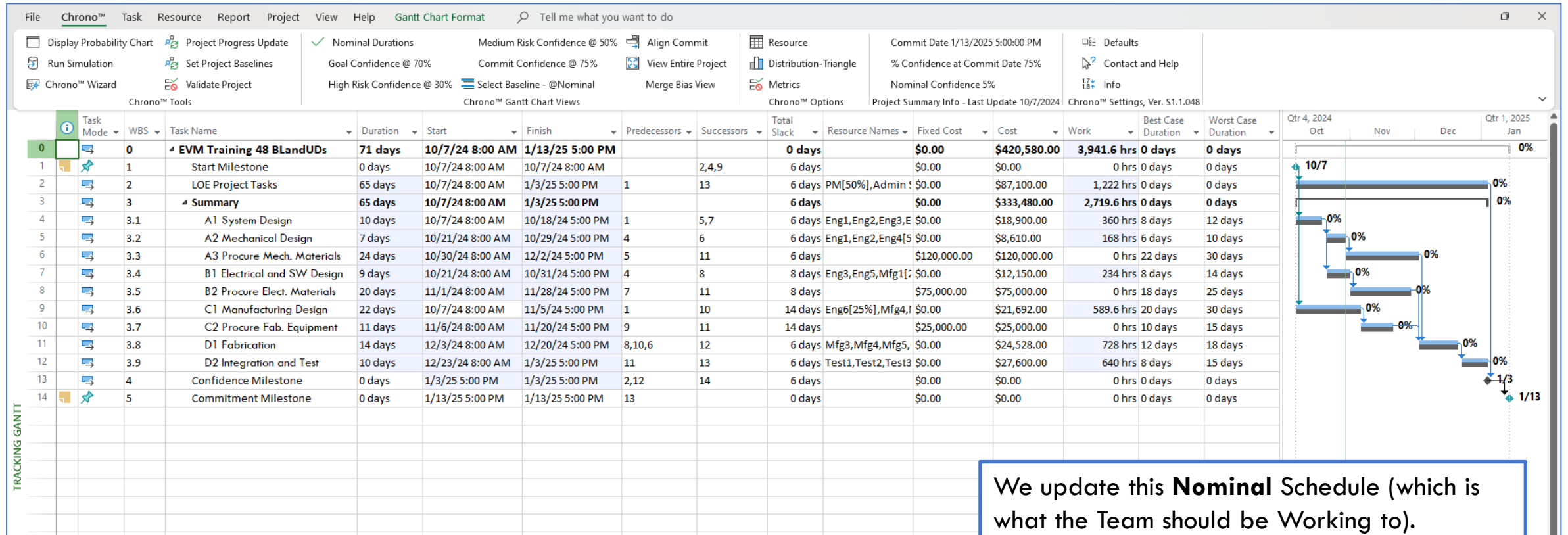


Consider the Black Baseline bars as Snap-shots that do not change, even after updating the schedule.

Baselines are auto-Saved and a replica named: **<file name>_000** of the file is put into the same folder.

Establishing Baselines

The Baseline Nominal Gantt (i.e., Target Schedule)



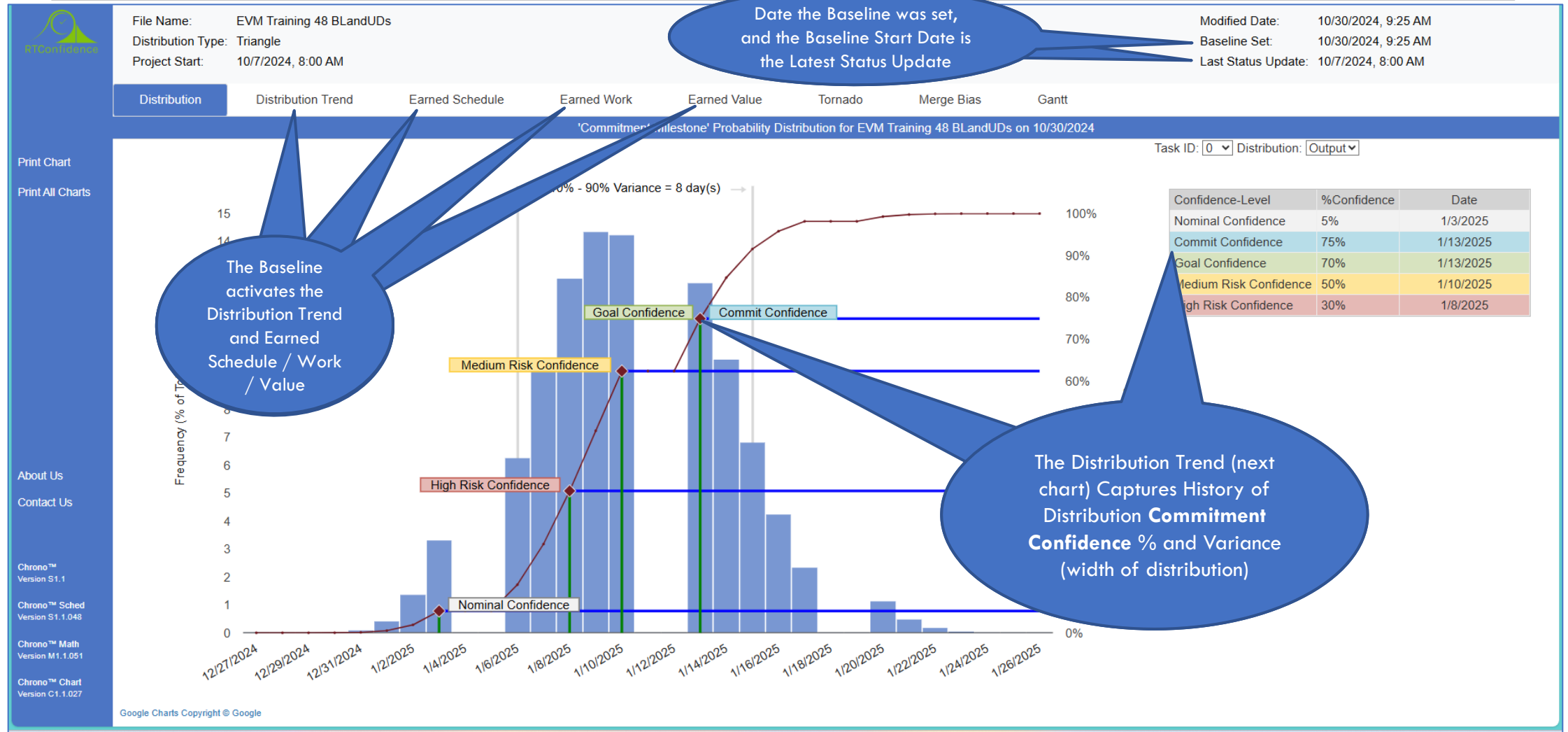
Select the “Nominal Durations” Gantt to view this Critical Path schedule -- which is considered a good “Target” for the Team to Work toward Achieving.

We update this **Nominal** Schedule (which is what the Team should be Working to).

However, we are most concerned about how we are performing to the **Commit** Schedule.

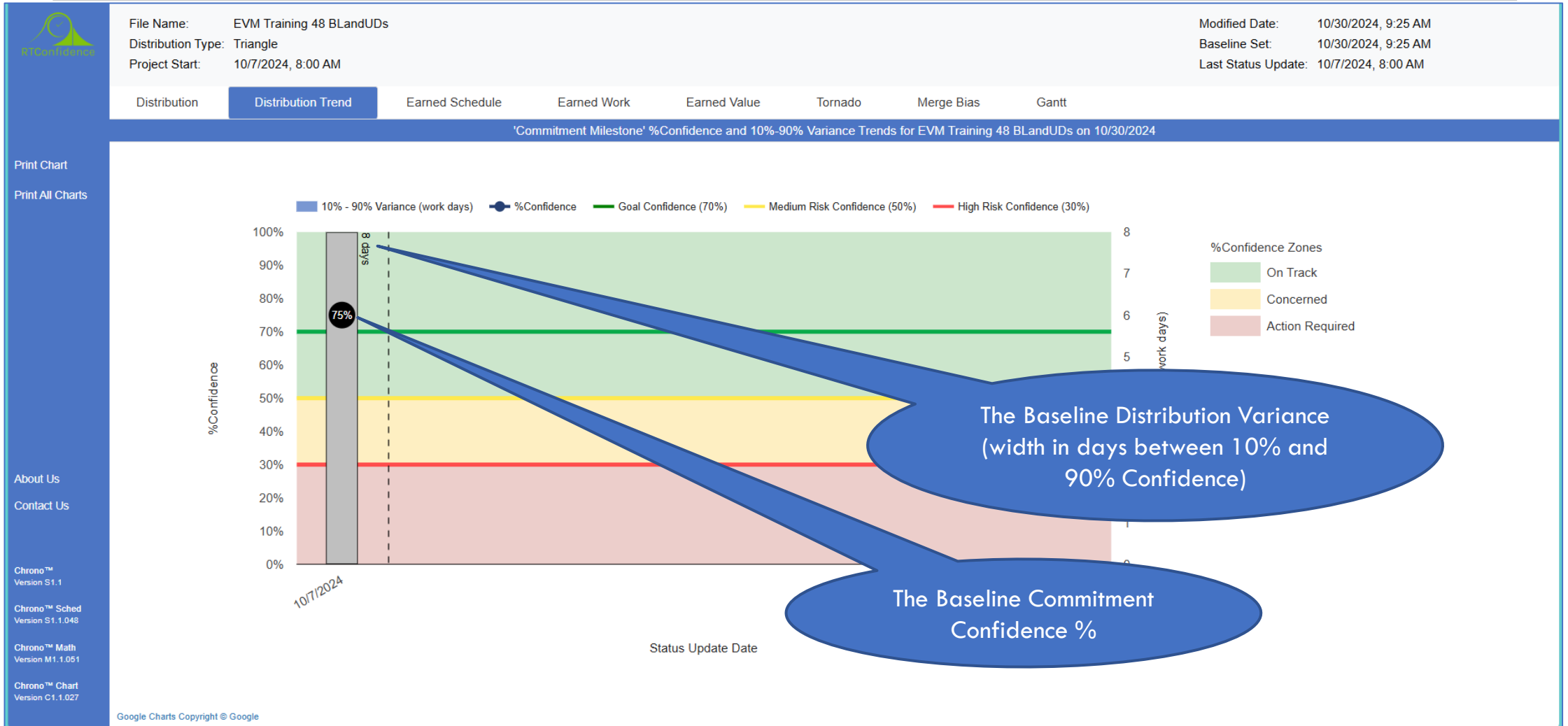
SRA Simulation Output Display

Result of Setting the Project Baseline



SRA Simulation Output Display

Result of Setting the Project Baseline



SRA Simulation Output Display

EVM Schedule Metrics – are Automatically Calculated




These charts are created from the data on the other EW Tab – select to get next chart

This is the "Goal" (or Commitment) Baseline's total hours planned over the Project's period of performance

This is the "Nominal" (or Critical Path) Baseline's total hours planned over the Project's period of performance

SRA Simulation Output Display

EVM Schedule Metrics – are Automatically Calculated



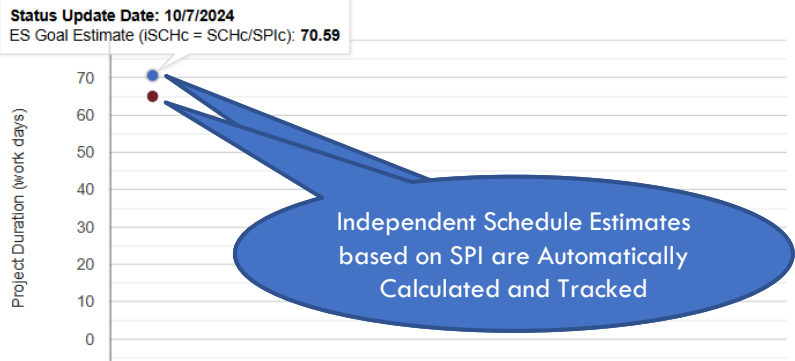
File Name: EVM Training 48 BLandUDs
 Distribution Type: Triangle
 Project Start: 10/7/2024, 8:00 AM

Modified Date: 10/30/2024, 9:25 AM
 Baseline Set: 10/30/2024, 9:25 AM
 Last Status Update: 10/7/2024, 8:00 AM

Distribution
Distribution Trend
Earned Schedule
Earned Work
Gantt

ES (Earned Schedule) Project Schedule Duration Estimates, SPI (Schedule Performance Index) Values and Trends for EVM Training 48 BLandUDs on 10/30/2024

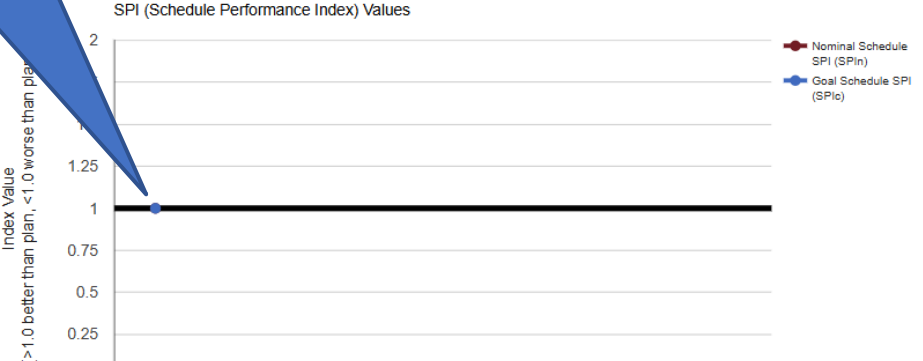
Status Update Date: 10/7/2024
 ES Goal Estimate (ISCHc = SCHc/SPIc): **70.59**



	10/7/2024								
Nominal Baseline (SCHn)	65.00								1/6/2025
ES Nominal Estimate (ISCHn = SCHn/SPIIn)	65.00								1/6/2025
Goal Baseline (SCHc)	70.59								1/13/2025
ES Goal Estimate (ISCHc = SCHc/SPIc)	70.59								1/13/2025

Status Update Date

SPI (Schedule Performance Index) Values



	10/7/2024								
Nominal Schedule SPI (SPIIn)	1.00								
Goal Schedule SPI (SPIC)	1.00								

Status Update Date

Print Chart | Print All Charts | About Us | Contact Us | Chrono™ Version S1.1 | Chrono™ Sched Version S1.1.048 | Chrono™ Math Version M1.1.051 | Chrono™ Chart Version C1.1.027

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SRA Simulation Output Display

EVM Cost Metrics – are Automatically Calculated



SRA Simulation Output Display

EVM Cost Metrics – are Automatically Calculated



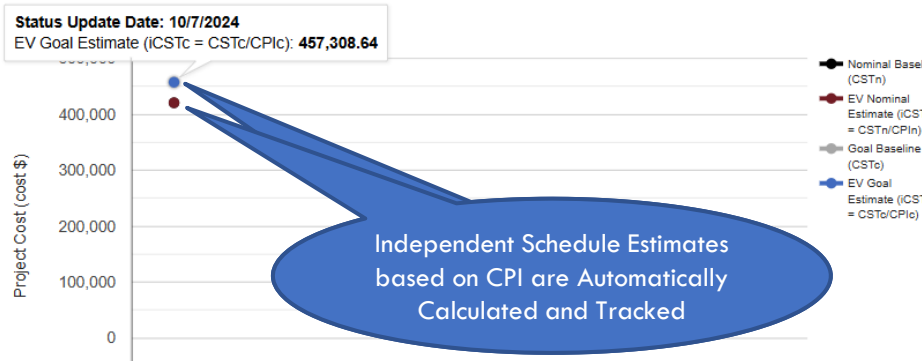
File Name: EVM Training 48 BLandUDs
 Distribution Type: Triangle
 Project Start: 10/7/2024, 8:00 AM

Modified Date: 10/30/2024, 9:25 AM
 Baseline Set: 10/30/2024, 9:25 AM
 Last Status Update: 10/7/2024, 8:00 AM

Distribution
Distribution Trend
Earned Schedule
Earned Work
Gantt

EV (Earned Value) Project Cost Estimates, CPI (Cost Performance Index) Trends for EVM Training 48 BLandUDs on 10/30/2024

Status Update Date: 10/7/2024
 EV Goal Estimate (ICSTc = CSTc/CPIc): **457,308.64**

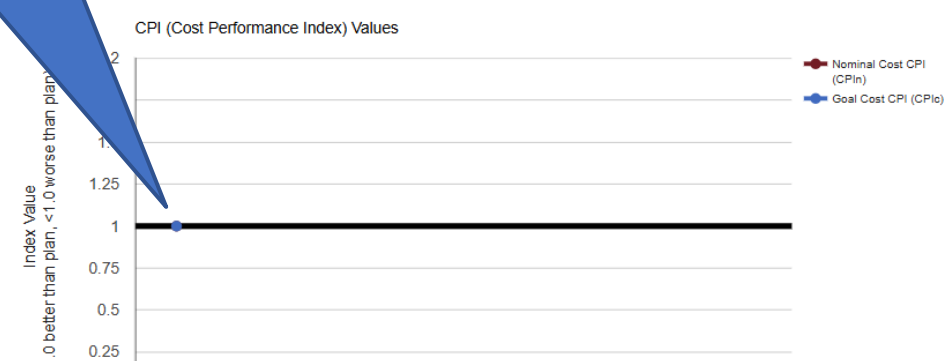


Independent Schedule Estimates based on CPI are Automatically Calculated and Tracked

	10/7/2024						
Nominal Baseline (CSTn)	\$420,580						1/6/2025
EV Nominal Estimate (ICSTn = CSTn/CPIn)	\$420,580						1/6/2025
Goal Baseline (CSTc)	\$457,309						1/13/2025
EV Goal Estimate (ICSTc = CSTc/CPIc)	\$457,309						1/13/2025

Status Update Date

CPI (Cost Performance Index) Values



	10/7/2024						
Nominal Cost CPI (CPIn)	1.00						
Goal Cost CPI (CPIc)	1.00						

Status Update Date

Print Chart | Print All Charts | About Us | Contact Us | Chrono™ Version S1.1 | Chrono™ Sched Version S1.1.048 | Chrono™ Math Version M1.1.051 | Chrono™ Chart Version C1.1.027

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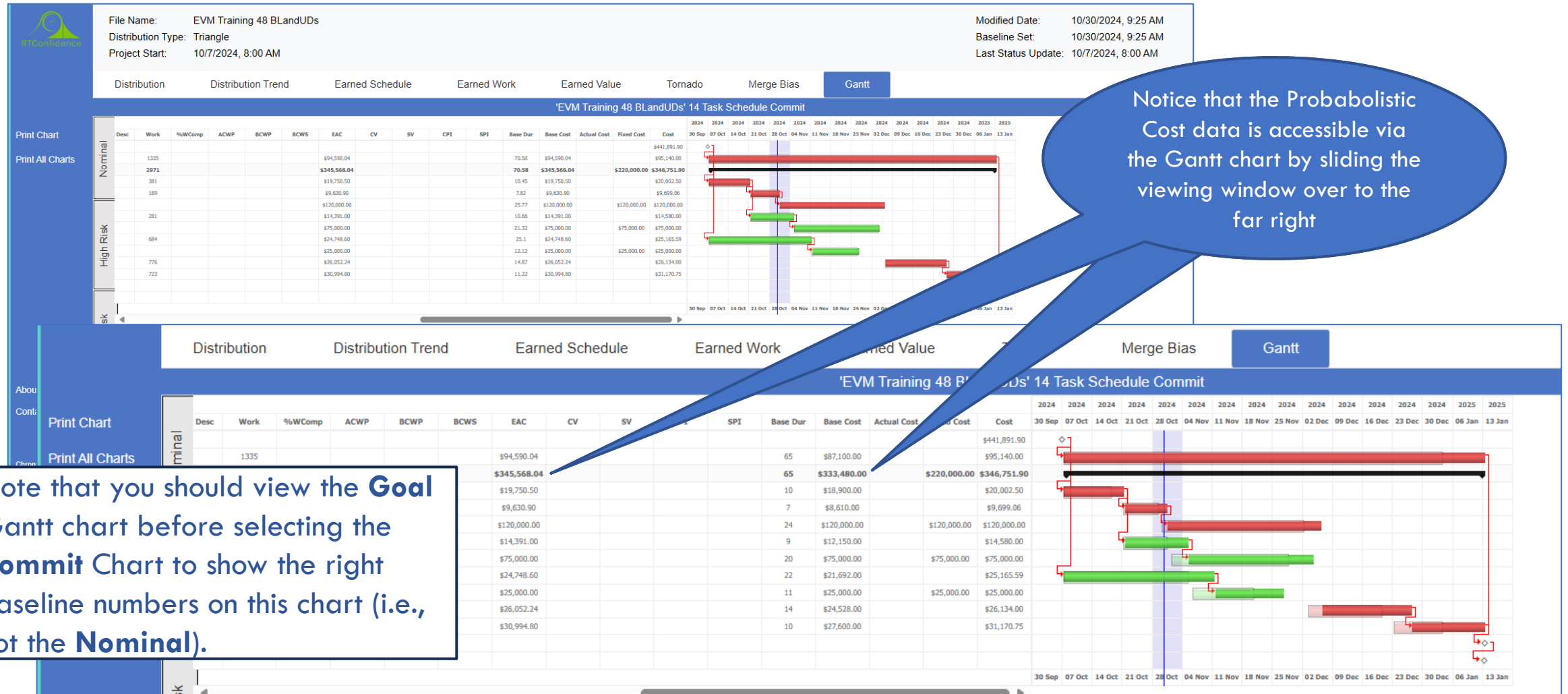
CPIs for Nominal and Goal Baselines are Calculated (<1 behind, =1 on schedule, >1 ahead) - They start at 1.0

Independent Schedule Estimates based on CPI are Automatically Calculated and Tracked

Index Value (>1.0 better than plan, <1.0 worse than plan)

Post Baseline Simulation Outputs

EVM Metrics – Commitment Plan



Post Baseline Simulation Outputs

EVM Metrics – Nominal Plan

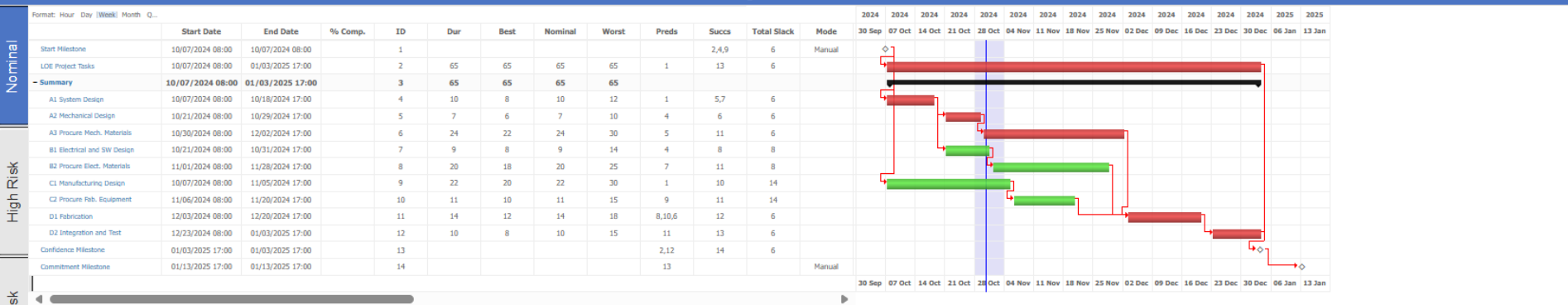


File Name: EVM Training 48 BLandUDs
 Distribution Type: Triangle
 Project Start: 10/7/2024, 8:00 AM

Modified Date: 10/30/2024, 9:25 AM
 Baseline Set: 10/30/2024, 9:25 AM
 Last Status Update: 10/7/2024, 8:00 AM

Distribution Distribution Trend Earned Schedule Earned Work Earned Value Tornado Merge Bias **Gantt**

'EVM Training 48 BLandUDs' 14 Task Schedule Nominal



Print Chart
Print All Charts

Nominal

High Risk

Medium Risk

About Us
Contact Us

Distribution Distribution Trend Earned Schedule Earned Work Earned Value Tornado Merge Bias **Gantt**

'EVM Training 48 BLandUDs' 14 Task Schedule Nominal



Nominal

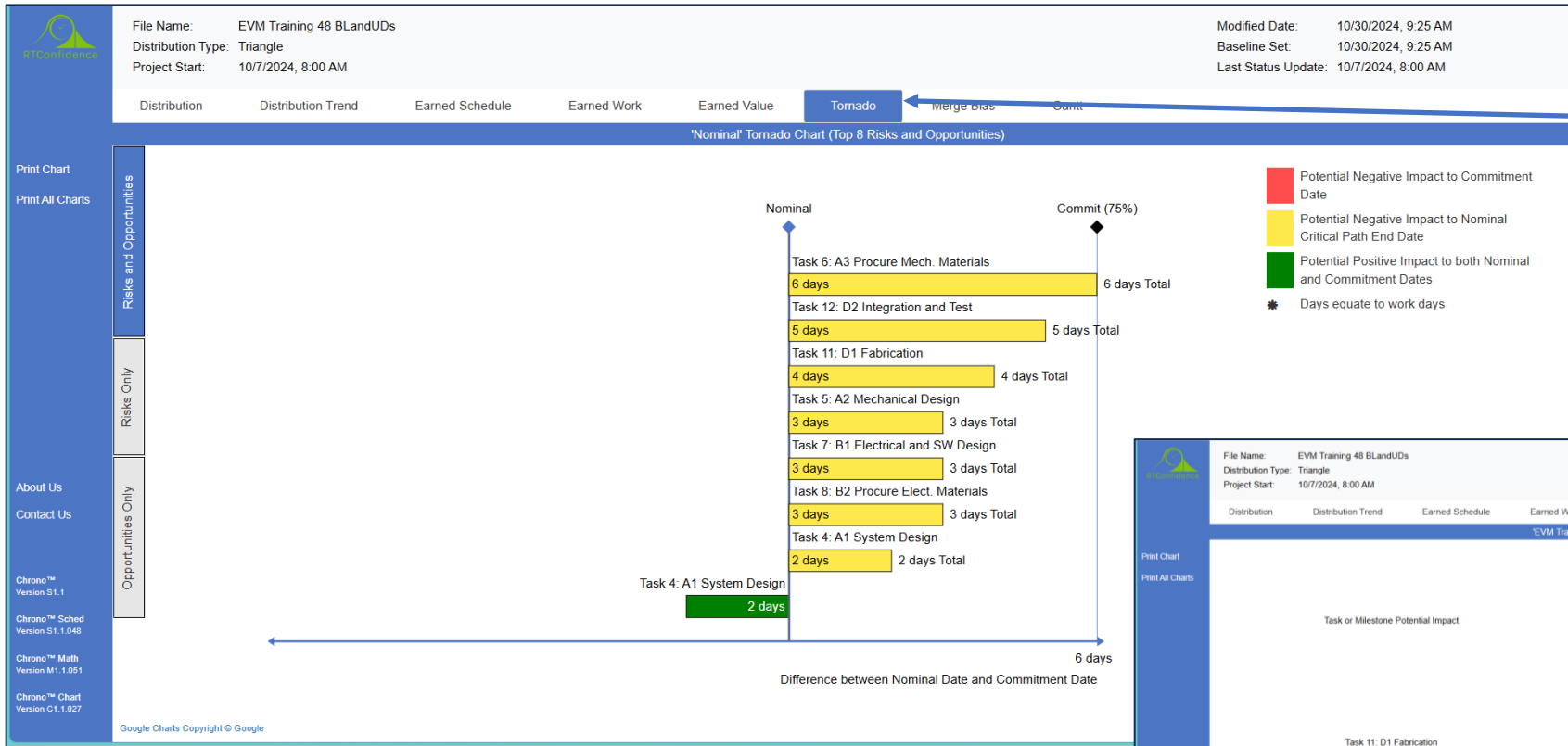
High Risk

sk

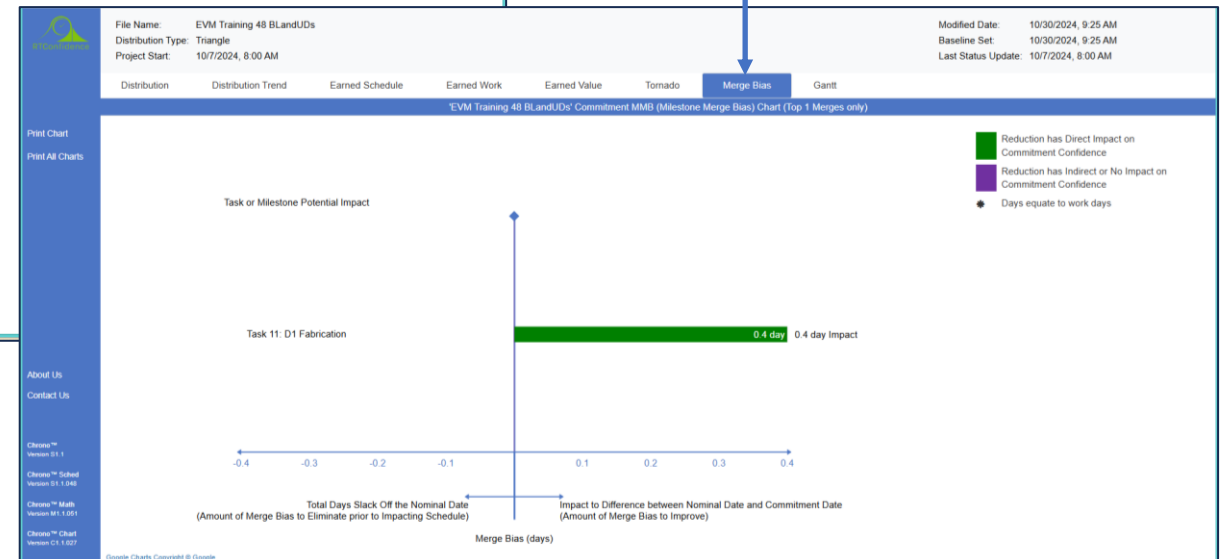
Print Chart
Print All Charts

Post Baseline Simulation Outputs

Tornado and Merge Bias Charts Prioritize Risks



The Tornado and Merge Bias charts help determine where the schedule risk and opportunities are.



Project Progress Update Reference

Scenario Explanation (First Update)



First Project Progress Update (Friday, 10/25/2024)

- 1) Task A1 (TaskID 4) pushed out 1 day (change Closure Date and Time to 10/21/2024 5:00PM), then Next, and Next.
- 2) Task A2 (TaskID 5) is on track with remaining Duration of 3 work days, Next, then Accept Changes to the revised Best Case and Worst Case duration Values (2.57 and 4.29 days from the Status Update date).
- 3) Task B1 (TaskID 7) is expected to push out 2 more days (Change Remaining Duration from 5 to 7), Next, then Next again and change BC and WC (BC = 6 and WC = 11), Accept Changes.
- 4) Task C1 (ID 9) in on track – Next, and Accept the BC and WC changes (BC = 6.36 and WC = 9.55), Accept Changes.
- 5) Select “3. Preview” and notice that the Commitment Confidence from the updated Distribution chart (below) has only gone down to 59%. This is acceptable to the team.
- 6) Select “4. Publish” and see the Update #1 ChronoView Outputs below.

Project Progress Update Reference

Status Update #1 Input 1



File Chrono™ Task Resource Report Project View Help Gantt Chart Format Tell me what you want to do

Display Probability Chart
 Project Progress Update
 Nominal Durations
 Medium Risk Confidence @ 50%
 Align Commit
 Resource
 Com

Run Simulation
 Set Project Baselines
 Goal Confidence @ 70%
 Commit Confidence @ 75%
 View Entire Project
 Distribution-Triangle
 %

Chrono™ Wizard
 Validate Project
 High Risk Confidence @ 30%
 Select Baseline - @Nominal
 Merge Bias View
 Metrics
 Project

Chrono™ Tools Chrono™ Gantt Chart Views Chrono™ Options

Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack	Resource Names
0	0	EVM Training 48 BlandUDs	71 days	10/7/24 8:00 AM	1/13/25 5:00 PM			0 days	
1	1	Start Milestone	0 days	10/7/24 8:00 AM	10/7/24 8:00 AM	2,4,9		6 days	
2	2	LOE Project Tasks	65 days	10/7/24 8:00 AM	1/3/25 5:00 PM	1	13	6 days	PM[50%],Admin
3	3	Summary	65 days	10/7/24 8:00 AM	1/3/25 5:00 PM			6 days	
4	3.1	A1 System Design	10 days	10/7/24 8:00 AM	10/18/24 5:00 PM	1	5,7	6 days	Eng1,Eng2,Eng3,E
5	3.2	A2 Mechanical Design	7 days	10/21/24 8:00 AM	10/29/24 5:00 PM	4	6	6 days	Eng1,Eng2,Eng4,5
6	3.3	A3 Procure Mech. Materials	24 days	10/30/24 8:00 AM	12/2/24 5:00 PM	5	11	6 days	
7	3.4	B1 Electrical and SW Design	9 days	10/21/24 8:00 AM	10/31/24 5:00 PM	4	8	8 days	Eng3,Eng5,Mfg1,2
8	3.5	B2 Procure Elect. Materials	20 days	11/1/24 8:00 AM	11/28/24 5:00 PM	7	11	8 days	
9	3.6	C1 Manufacturing Design	22 days	10/7/24 8:00 AM	11/5/24 5:00 PM	1	10	14 days	Eng6[25%],Mfg4,I
10	3.7	C2 Procure Fab. Equipment	11 days	11/6/24 8:00 AM	11/20/24 5:00 PM	9	11	14 days	
11	3.8	D1 Fabrication	14 days	12/3/24 8:00 AM	12/20/24 5:00 PM	8,10,6	12	6 days	Mfg3,Mfg4,Mfg5,
12	3.9	D2 Integration and Test	10 days	12/23/24 8:00 AM	1/3/25 5:00 PM	11	13	6 days	Test1,Test2,Test3
13	4	Confidence Milestone	0 days	1/3/25 5:00 PM	1/3/25 5:00 PM	2,12	14	6 days	
14	5	Commitment Milestone	0 days	1/13/25 5:00 PM	1/13/25 5:00 PM	13		0 days	

Update Task % Complete OR Units Complete OR Remaining Duration OR Closure Date

TaskID 4 - A1 System Design TaskID: 4

Instructions - Update Task % Complete or Units Complete of Total Units or Remaining Duration or Closure Date, (- past) for closed tasks, 0 for closing tasks on Status Date, or (+ future) for open tasks

% Complete: OR Units Complete: of OR

Remaining Duration relative to Status Date in days: OR Closure Date mm/dd/yy and optional time hh:mm:

Status Date: 10/25/2024 5:00:00 PM

Buttons: Preview, Reject, Best & Worst, Save and Exit, Done with Update, Next

Column Names, Indicators, Gantt Chart Start, Gantt Chart Zoom

Project Progress Update Reference

Status Update #1 Input 2



File Chrono™ Task Resource Report Project View Help Gantt Chart Format Tell me what you want to do

Display Probability Chart
 Project Progress Update
 Nominal Durations
 Medium Risk Confidence @ 50%
 Align Commit
 Resource
 Commit Date 1/13/2025 5:00:00 PM
 Defaults
 Run Simulation
 Set Project Baselines
 Goal Confidence @ 70%
 Commit Confidence @ 75%
 View Entire Project
 Distribution-Triangle
 % Confidence at Commit Date 75%
 Contact and Help
 Chrono™ Wizard
 Validate Project
 High Risk Confidence @ 30%
 Select Baseline - @Nominal
 Merge Bias View
 Metrics
 Nominal Confidence 5%
 Info
 Chrono™ Tools
 Chrono™ Gantt Chart Views
 Chrono™ Options
 Project Summary Info - Last Update 10/7/2024
 Chrono™ Settings, Ver. S1.1.048

Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack	Resource Names	Fixed Cost	Cost	Work	Best Case Duration	Worst Case Duration
0	0	EVM Training 48 BlandUDs	71 days	10/7/24 8:00 AM	1/13/25 5:00 PM			0 days		\$0.00	\$422,470.00	3,977.6 hrs	0 days	0 days
1	1	Start Milestone	0 days	10/7/24 8:00 AM	10/7/24 8:00 AM		2,4,9	5 days		\$0.00	\$0.00	0 hrs	0 days	0 days
2	2	LOE Project Tasks	65 days	10/7/24 8:00 AM	1/3/25 5:00 PM	1	13	6 days	PM[50%],Admin	\$0.00	\$87,100.00	1,222 hrs	0 days	0 days
3	3	Summary	66 days	10/7/24 8:00 AM	1/6/25 5:00 PM			5 days		\$0.00	\$335,370.00	2,755.6 hrs	0 days	0 days
4	3.1	A1 System Design	11 days	10/7/24 8:00 AM	10/21/24 5:00 PM	1	5,7	5 days	Eng1,Eng2,Eng3,E	\$0.00	\$20,790.00	396 hrs	8.8 days	13.2 days
5	3.2	A2 Mechanical Design	7 days	10/22/24 8:00 AM	10/30/24 5:00 PM	4	6	5 days	Eng1,Eng2,Eng4	\$0.00	\$8,610.00	168 hrs	6 days	10 days
6	3.3	A3 Procure Mech. Materials	24 days	10/31/24 8:00 AM	12/3/24 5:00 PM	5		0 hrs				22 days	30 days	
7	3.4	B1 Electrical and SW Design	9 days	10/22/24 8:00 AM	11/1/24 5:00 PM	4		234 hrs				8 days	14 days	
8	3.5	B2 Procure Elect. Materials	20 days	11/4/24 8:00 AM	11/29/24 5:00 PM	7		0 hrs				18 days	25 days	
9	3.6	C1 Manufacturing Design	22 days	10/7/24 8:00 AM	11/5/24 5:00 PM	1		589.6 hrs				20 days	30 days	
10	3.7	C2 Procure Fab. Equipment	11 days	11/6/24 8:00 AM	11/20/24 5:00 PM	9		0 hrs				10 days	15 days	
11	3.8	D1 Fabrication	14 days	12/4/24 8:00 AM	12/23/24 5:00 PM	8,10,		728 hrs				12 days	18 days	
12	3.9	D2 Integration and Test	10 days	12/24/24 8:00 AM	1/6/25 5:00 PM	11		640 hrs				8 days	15 days	
13	4	Confidence Milestone	0 days	1/6/25 5:00 PM	1/6/25 5:00 PM	2,12		0 hrs				0 days	0 days	
14	5	Commitment Milestone	0 days	1/13/25 5:00 PM	1/13/25 5:00 PM	13		0 hrs				0 days	0 days	

Update Task % Complete OR Units Complete OR Remaining Duration OR Closure Date

TaskID 5 - A2 Mechanical Design

Instructions - Update Task % Complete or Units Complete of Total Units or Remaining Duration or Closure Date, (- past) for closed tasks, 0 for closing tasks on Status Date, or (+ future) for open tasks

TaskID: 5

% Complete: 57.14 OR Units Complete: 57.14 of Total Units: 100 OR

Remaining Duration relative to Status Date in days: 3 OR Closure Date mm/dd/yy and optional time hh:mm: 10/30/2024 5:00:00 PM

Status Date: 10/25/2024 5:00:00 PM

Buttons: Preview, Reject, Best & Worst, Save and Exit, Done with Update, Next

Column Names, Indicators, Gantt Chart Start, Gantt Chart Zoom

Enter Best Case and Worst Case

Instructions - If desired, modify the Best Case Duration and/or the Worst Case Duration.

Status Date: 10/25/2024 5:00:00 PM

Nominal Duration 3 days. All durations relative to Status Date.

Best Case Value: 2.57 Worst Case Value: 4.29

Accept Changes

Project Progress Update Reference

Status Update #1 Input 3



File Chrono™ Task Resource Report Project View Help Gantt Chart Format Tell me what you want to do

Display Probability Chart Project Progress Update Nominal Durations Medium Risk Confidence @ 50% Align Commit Resource Commit Date 1/13/2025 5:00:00 PM Defaults

Run Simulation Set Project Baselines Goal Confidence @ 70% Commit Confidence @ 75% View Entire Project Distribution-Triangle % Confidence at Completion

Chrono™ Wizard Validate Project High Risk Confidence @ 30% Select Baseline - @Nominal Merge Bias View Metrics Chrono™ Options Project Summary Info - Last

Chrono™ Tools Chrono™ Gantt Chart Views

Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack	Resource Names	Fixed Cost
0	0	EVM Training 48 BlandUDs B	71 days	10/7/24 8:00 AM	1/13/25 5:00 PM			0 days		\$0.00
1	1	Start Milestone	0 days	10/7/24 8:00 AM	10/7/24 8:00 AM		2,4,9	5 days		\$0.00
2	2	LOE Project Tasks	65 days	10/7/24 8:00 AM	1/3/25 5:00 PM	1	13	6 days	PM[50%],Admin	\$0.00
3	3	Summary	66 days	10/7/24 8:00 AM	1/6/25 5:00 PM			5 days		\$0.00
4	3.1	A1 System Design	11 days	10/7/24 8:00 AM	10/21/24 5:00 PM	1	5,7	5 days	Eng1,Eng2,Eng3,E	\$0.00
5	3.2	A2 Mechanical Design	7 days	10/22/24 8:00 AM	10/30/24 5:00 PM	4	6	5 days	Eng1,Eng2,Eng4[5	\$0.00
6	3.3	A3 Procure Mech. Materials	24 days	10/31/24 8:00 AM	12/3/24 5:00 PM	5	11	5 days		\$120,000.00
7	3.4	B1 Electrical and SW Design	11 days	10/22/24 8:00 AM	11/5/24 5:00 PM	4	8	5 days	Eng3,Eng5,Mfg1[	\$0.00
8	3.5	B2 Procure Elect. Materials	20 days	11/6/24 8:00 AM	12/3/24 5:00 PM	7	11	5 days		\$75,000.00
9	3.6	C1 Manufacturing Design	22 days	10/7/24 8:00 AM	11/5/24 5:00 PM	1	10	14 days	Eng6[25%],Mfg4,1	\$0.00
10	3.7	C2 Procure Fab. Equipment	11 days	11/6/24 8:00 AM	11/20/24 5:00 PM	9	11	14 days		\$25,000.00
11	3.8	D1 Fabrication	14 days	12/4/24 8:00 AM	12/23/24 5:00 PM	8,10,6	12	5 days	Mfg3,Mfg4,Mfg5,	\$0.00
12	3.9	D2 Integration and Test	10 days	12/24/24 8:00 AM	1/6/25 5:00 PM	11	13	5 days	Test1,Test2,Test3	\$0.00
13	4	Confidence Milestone	0 days	1/6/25 5:00 PM	1/6/25 5:00 PM	2,12	14	5 days		\$0.00
14	5	Commitment Milestone	0 days	1/13/25 5:00 PM	1/13/25 5:00 PM	13		0 days		\$0.00

Update Task % Complete OR Units Complete OR Remaining Duration OR Closure Date

TaskID 7 - B1 Electrical and SW Design TaskID 7

Instructions - Update Task % Complete or Units Complete of Total Units or Remaining Duration or Closure Date, (- past) for closed tasks, 0 for closing tasks on Status Date, or (+ future) for open tasks

% Complete: 36.36 OR Units Complete: 36.36 of Total Units: 100 OR

Remaining Duration relative to Status Date in days: 7 OR Closure Date mm/dd/yy and optional time hh:mm: 11/5/2024 5:00:00 PM

Status Date: 10/25/2024 5:00:00 PM

Buttons: Preview, Reject, Best & Worst, Save and Exit, Done with Update, Next

Column Names, Gantt Chart Start, Indicators, Gantt Chart Zoom

Enter Best Case and Worst Case

Instructions - If desired, modify the Best Case Duration and/or the Worst Case Duration.

Status Date: 10/25/2024 5:00:00 PM

Nominal Duration 7 days. All durations relative to Status Date.

Best Case Value: 6 Worst Case Value: 11

Buttons: Reject Changes, Accept Changes

Project Progress Update Reference

Status Update #1 Input 4



File Chrono™ Task Resource Report Project View Help Gantt Chart Format Tell me what you want to do

Display Probability Chart
 Project Progress Update
 Nominal Durations
 Medium Risk Confidence @ 50%
 Align Commit
 Resource
 Commit Date 1/13/2025 5:00:00 PM
 Defaults

Run Simulation
 Set Project Baselines
 Goal Confidence @ 70%
 Commit Confidence @ 75%
 View Entire Project
 Distribution-Triangle
 % Confidence at Commit Date 75%
 Contact and Help

Chrono™ Wizard
 Validate Project
 High Risk Confidence @ 30%
 Select Baseline - @Nominal
 Merge Bias View
 Metrics
 Nominal Confidence 5%
 Info

Chrono™ Tools Chrono™ Gantt Chart Views Chrono™ Options Project Summary Info - Last Update 10/7/2024 Chrono™ Settings, Ver. S1.1.048

Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack	Resource Names	Fixed Cost	Cost	Work	Best Case Duration	Worst Case Duration	Sep	Qtr 4, 2024	Oct	Nov
0		4 EVM Training 48 BlandUDs	71 days	10/7/24 8:00 AM	1/13/25 5:00 PM					\$0.00	\$10.00	3,996.4 hrs	0 days	0 days				
1		1 Start Milestone	0 days	10/7/24 8:00 AM	10/7/24 8:00 AM							0 hrs	0 days	0 days				
2		2 LOE Project Tasks	66 days	10/7/24 8:00 AM	1/6/25 5:00 PM							1,240.8 hrs	0 days	0 days				
3		3 Summary	66 days	10/7/24 8:00 AM	1/6/25 5:00 PM							2,755.6 hrs	0 days	0 days				
4	3.1	A1 System Design	11 days	10/7/24 8:00 AM	10/21/24 5:00 PM							396 hrs	8.8 days	13.2 days				
5	3.2	A2 Mechanical Design	7 days	10/22/24 8:00 AM	10/30/24 5:00 PM							168 hrs	6 days	10.01 days				
6	3.3	A3 Procure Mech. Materials	24 days	10/31/24 8:00 AM	12/3/24 5:00 PM							0 hrs	22 days	30 days				
7	3.4	B1 Electrical and SW Design	9 days	10/22/24 8:00 AM	11/1/24 5:00 PM							234 hrs	9 days	14.4 days				
8	3.5	B2 Procure Elect. Materials	20 days	11/4/24 8:00 AM	11/29/24 5:00 PM							0 hrs	18 days	25 days				
9	3.6	C1 Manufacturing Design	22 days	10/7/24 8:00 AM	11/5/24 5:00 PM							589.6 hrs	20 days	30 days				
10	3.7	C2 Procure Fab. Equipment	11 days	11/6/24 8:00 AM	11/20/24 5:00 PM							0 hrs	10 days	15 days				
11	3.8	D1 Fabrication	14 days	12/4/24 8:00 AM	12/23/24 5:00 PM							728 hrs	12 days	18 days				
12	3.9	D2 Integration and Test	10 days	12/24/24 8:00 AM	1/6/25 5:00 PM							640 hrs	8 days	15 days				
13	4	Confidence Milestone	0 days	1/6/25 5:00 PM	1/6/25 5:00 PM							0 hrs	0 days	0 days				
14	5	Commitment Milestone	0 days	1/13/25 5:00 PM	1/13/25 5:00 PM							0 hrs	0 days	0 days				

Update Task % Complete OR Units Complete OR Remaining Duration OR Closure Date

TaskID 9 - C1 Manufacturing Design

Instructions - Update Task % Complete or Units Complete of Total Units or Remaining Duration or Closure Date, (- past) for closed tasks, 0 for closing tasks on Status Date, or (+ future) for open tasks

TaskID: 9

% Complete: 68.18 OR Units Complete: 68.18 of Total Units: 100

Remaining Duration relative to Status Date in days: 7 OR Closure Date mm/dd/yy and optional time hh:mm: 11/5/2024 5:00:00 PM

Status Date: 10/25/2024 5:00:00 PM

Buttons: Preview, Reject, Best & Worst, Save and Exit, Done with Update, Next

Column Names: [] Gantt Chart Start: [] Indicators: [] Gantt Chart Zoom: []

Enter Best Case and Worst Case

Instructions - If desired, modify the Best Case Duration and/or the Worst Case Duration.

Status Date: 10/25/2024 5:00:00 PM

Nominal Duration 7 days. All durations relative to Status Date.

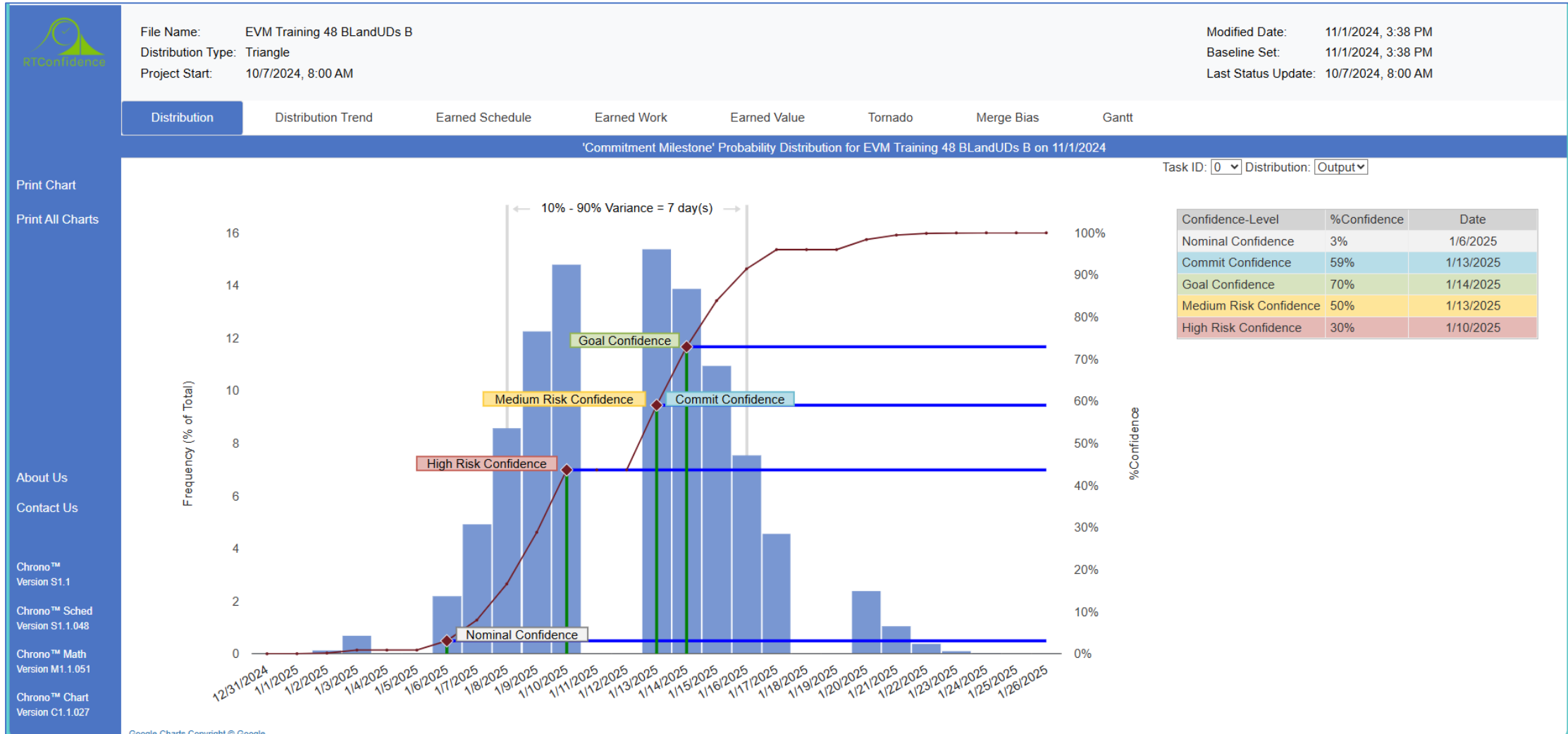
Best Case Value: 6.36 Worst Case Value: 9.55

Accept Changes

Project Progress Update Reference



Status Update #1 Previewed Chrono Distribution



Print Chart

Print All Charts

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Chrono™
Version S1.1

Chrono™ Sched
Version S1.1.048

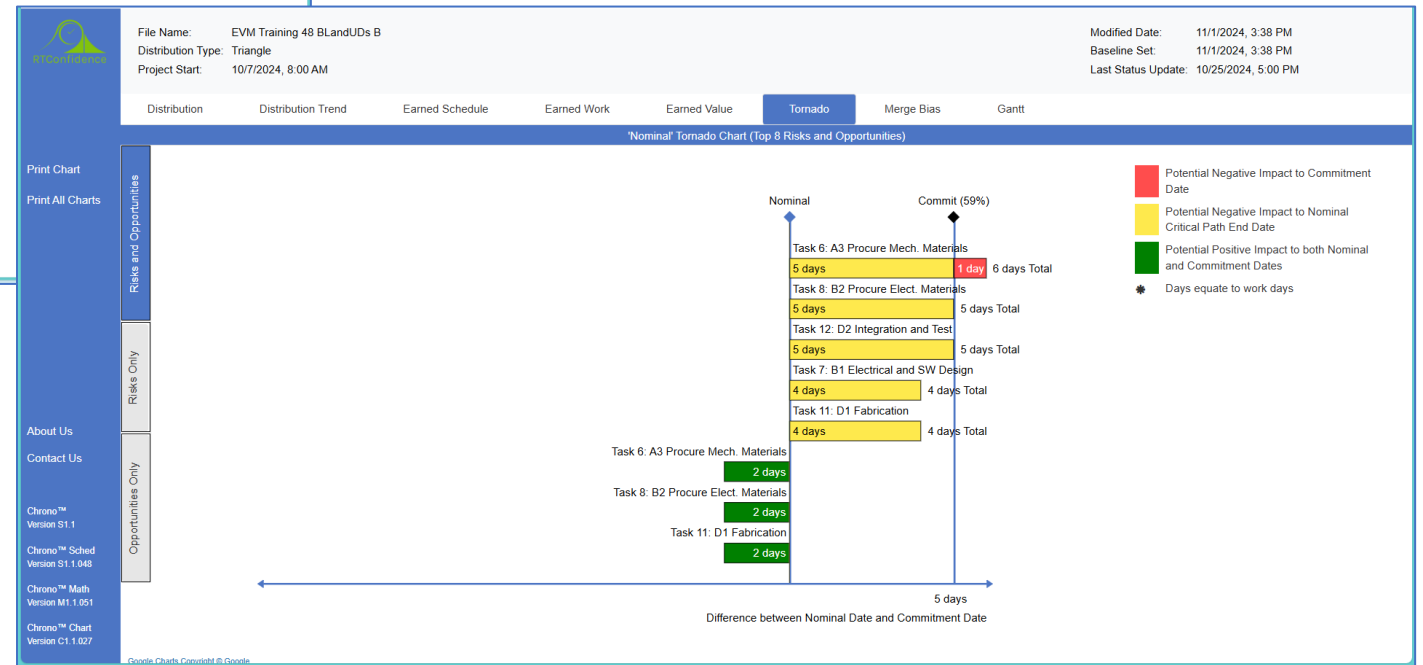
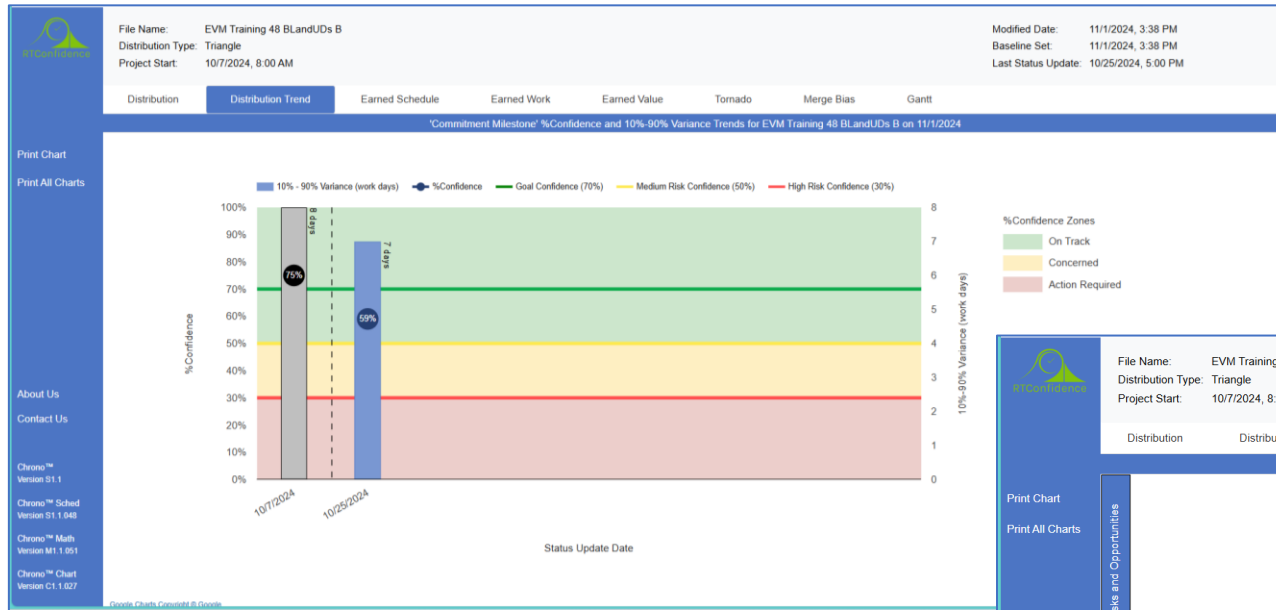
Chrono™ Math
Version M1.1.051

Chrono™ Chart
Version C1.1.027

Project Progress Update Reference



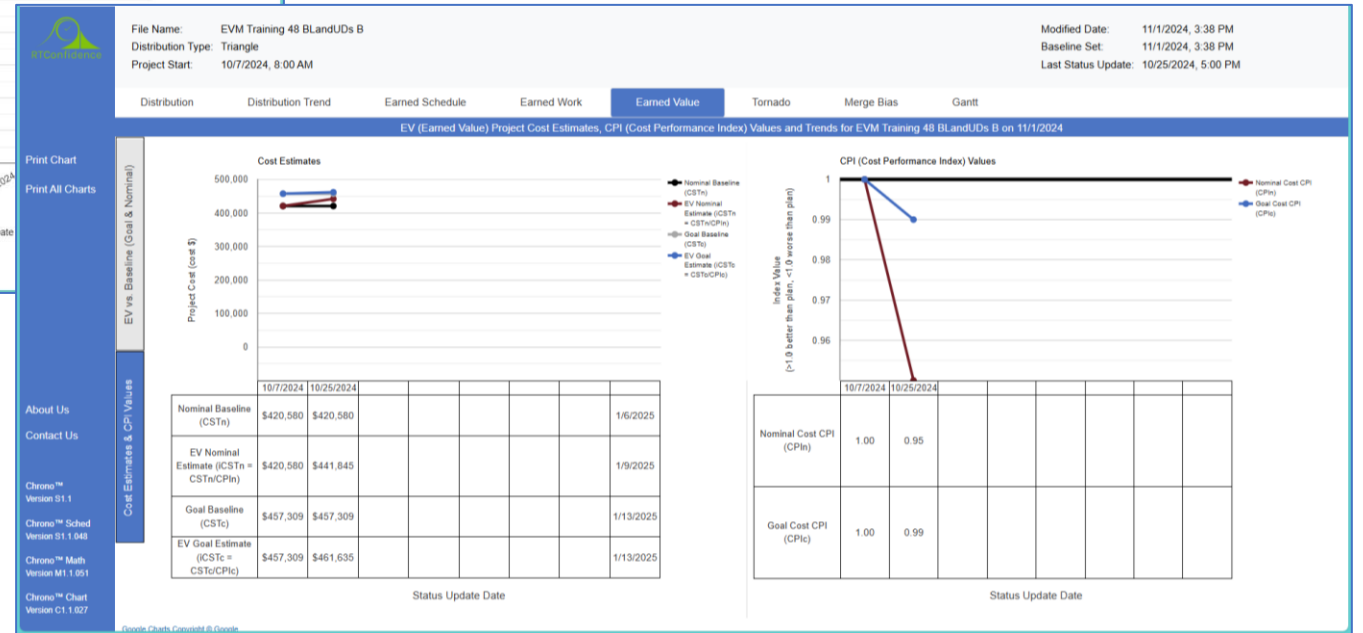
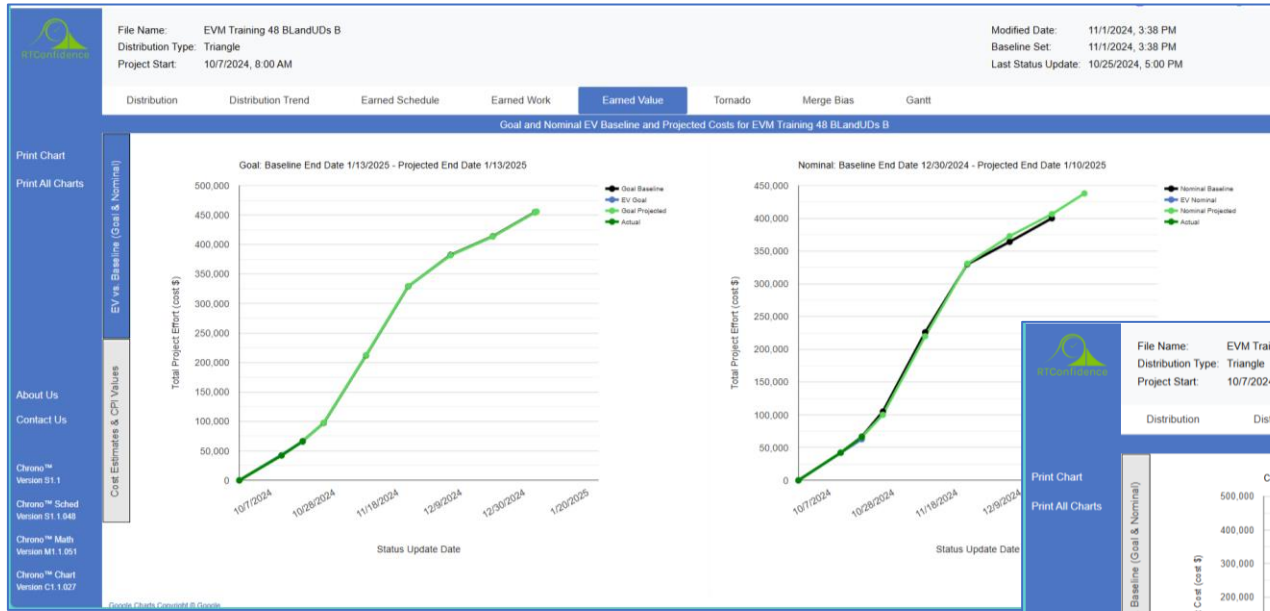
Status Update #1 Published Dist. Trend & Tornado Charts



Project Progress Update Reference



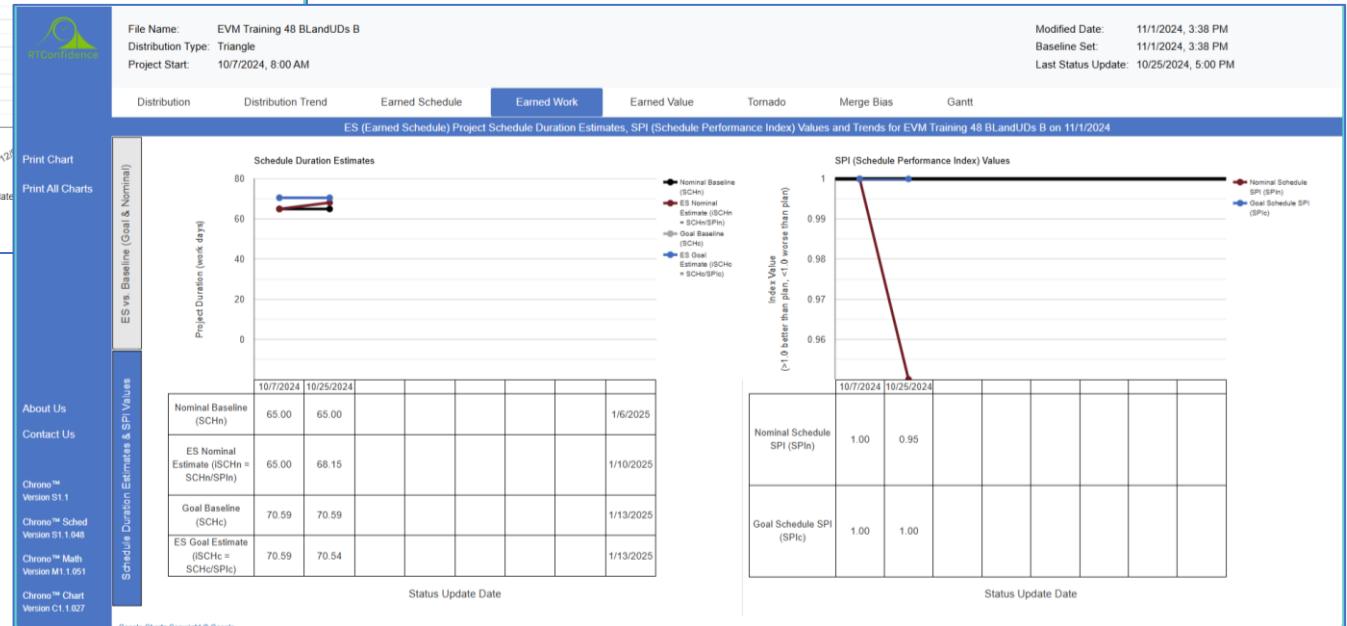
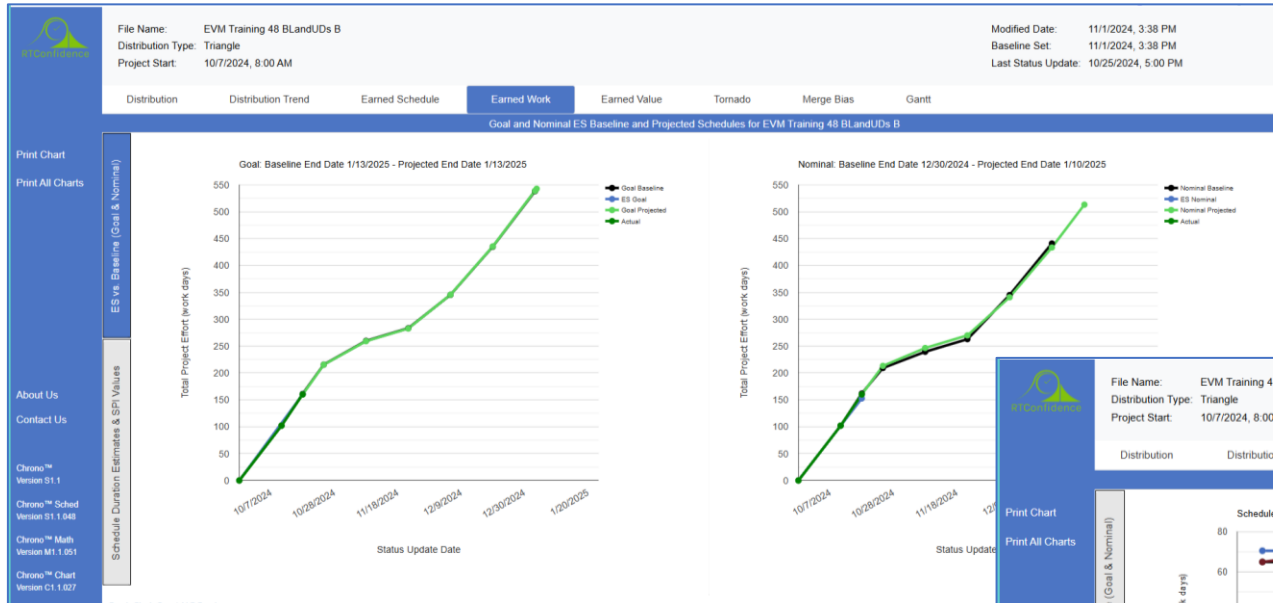
Status Update #1 Published Cost EV & CPI Charts



Project Progress Update Reference



Status Update #1 Published Schedule EW & SPI Charts



Project Progress Update Reference

Status Update #1 Published Commit Sch. & Cost Charts



File Name: EVM Training Gold PreBL retry
 Distribution Type: Triangle
 Project Start: 10/7/2024, 8:00 AM

Modified Date: 11/4/2024, 12:10 PM
 Baseline Set: 11/4/2024, 12:10 PM
 Last Status Update: 10/25/2024, 5:00 PM

Distribution Distribution Trend Earned Schedule Earned Work Earned Value Tornado Merge Bias **Gantt**

'EVM Training Gold PreBL retry' 14 Task Schedule Commit

Risk	Desc	Work	%WComp	ACWP	BCWP	BCWS	EAC	CV	SV	CPI	SPI	Base Dur	Base Cost	Actual Cost	Fixed Cost	Cost	Gantt Chart													
																	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2025	2025
Nominal	100		100													\$440,066.12	[Gantt bars for tasks 100, 1335, 3020, 396, 176]													
	1335		21.38	\$20,100.00	\$20,223.62	\$20,100.00	\$94,015.54	\$123.62	\$123.62	1.0061	1.0061	70.58	\$94,590.04	\$20,341.00		\$95,140.00	[Gantt bar for task 1335]													
	3020		32.97	\$45,794.26	\$41,393.80	\$46,590.00	\$388,178.59	-\$4,400.46	-\$5,196.20	0.8884	0.9039	70.58	\$345,568.04	\$45,794.00	\$220,000.00	\$344,926.12	[Gantt bar for task 3020]													
	396		100	\$20,790.00	\$19,750.50	\$18,900.00	\$20,790.00	-\$1,039.50	\$850.50	1.045	0.95	10.45	\$19,750.50	\$20,790.00		\$20,790.00	[Gantt bar for task 396]													
High Risk	176		54.43	\$4,907.70	\$5,242.47	\$6,150.00	\$10,056.02	\$334.77	-\$907.53	0.8524	1.0682	7.82	\$9,630.90	\$4,908.00		\$9,012.31	[Gantt bar for task 176]													
	315		32.7	\$5,346.00	\$4,705.89	\$6,750.00	\$19,239.43	-\$640.11	-\$2,044.11	0.6971	0.8802	10.66	\$14,391.00	\$5,346.00		\$16,346.25	[Gantt bar for task 315]													
	609		65.87	\$14,750.56	\$16,302.91	\$14,790.00	\$22,413.14	\$1,552.35	\$1,512.91	1.1022	1.1052	25.1	\$24,748.60	\$14,751.00		\$22,388.36	[Gantt bar for task 609]													
	766						\$25,000.00					12.12	\$25,000.00	\$25,000.00		\$25,000.00	[Gantt bar for task 766]													
	709						\$30,994.80					11.22	\$30,994.80	\$30,994.80		\$30,994.80	[Gantt bar for task 709]													

Distribution Distribution Trend Earned Schedule Earned Work Earned Value Tornado Merge Bias **Gantt**

'EVM Training Gold PreBL retry' 14 Task Schedule Commit

Risk	Format: Hour Day [Week] Month Q...	Start Date	End Date	% Comp.	ID	Dur	Best	Nominal	Worst	Preds	Sucess	Total Slack	Mode	Gantt Chart														
														2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2025	2025
Nominal	Start Milestone	10/07/2024 08:00	10/07/2024 08:00		1						2.49		Manual	[Gantt bar for Start Milestone]														
	LDE Project Tasks	10/07/2024 08:00	01/13/2025 17:00	21.38%	2	71	66	66	66	1	13		Manual	[Gantt bar for LDE Project Tasks]														
	Summary	10/07/2024 08:00	01/13/2025 17:00	24.25%	3	71	66	66	66					[Gantt bar for Summary]														
	A1 System Design	10/07/2024 08:00	10/21/2024 17:00	100%	4	11	8.8	11	13.2	1	5.7			[Gantt bar for A1 System Design]														
	A2 Mechanical Design	10/22/2024 08:00	10/31/2024 10:37	54.43%	5	7.33	6	7	10.01	4	6	0.48		[Gantt bar for A2 Mechanical Design]														
	A3 Procure Mech. Materials	10/31/2024 10:37	12/05/2024 15:30		6	25.49	22	24	30	5	11FS+0.89	0.48		[Gantt bar for A3 Procure Mech. Materials]														
	B1 Electrical and SW Design	10/22/2024 08:00	11/07/2024 08:52	32.7%	7	12.11	9.43	11	17.29	4	8			[Gantt bar for B1 Electrical and SW Design]														
	B2 Procure Elect. Materials	11/07/2024 08:52	12/06/2024 10:21		8	21.19	18	20	25	7	11FS+0.89			[Gantt bar for B2 Procure Elect. Materials]														
	C1 Manufacturing Design	10/07/2024 08:00	11/06/2024 14:39	65.88%	9	22.71	19.99	22	30.01	1	10	9.47		[Gantt bar for C1 Manufacturing Design]														
	C2 Procure Fab. Equipment	11/06/2024 14:39	11/22/2024 15:34		10	12.11	10	11	15	9	11FS+0.89	9.47		[Gantt bar for C2 Procure Fab. Equipment]														
	D1 Fabrication	12/09/2024 09:30	12/27/2024 16:23		11	14.74	12	14	18	8FS+0.89,10...		12		[Gantt bar for D1 Fabrication]														
	D2 Integration and Test	12/27/2024 16:23	01/13/2025 17:00		12	11.08	8	10	15	11	13			[Gantt bar for D2 Integration and Test]														
	Confidence Milestone	01/14/2025 08:00	01/13/2025 17:00		13							2.12	14	Manual	[Gantt bar for Confidence Milestone]													
	Commitment Milestone	01/13/2025 17:00	01/13/2025 17:00		14							13		Manual	[Gantt bar for Commitment Milestone]													

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Chrono™
Version S1.1

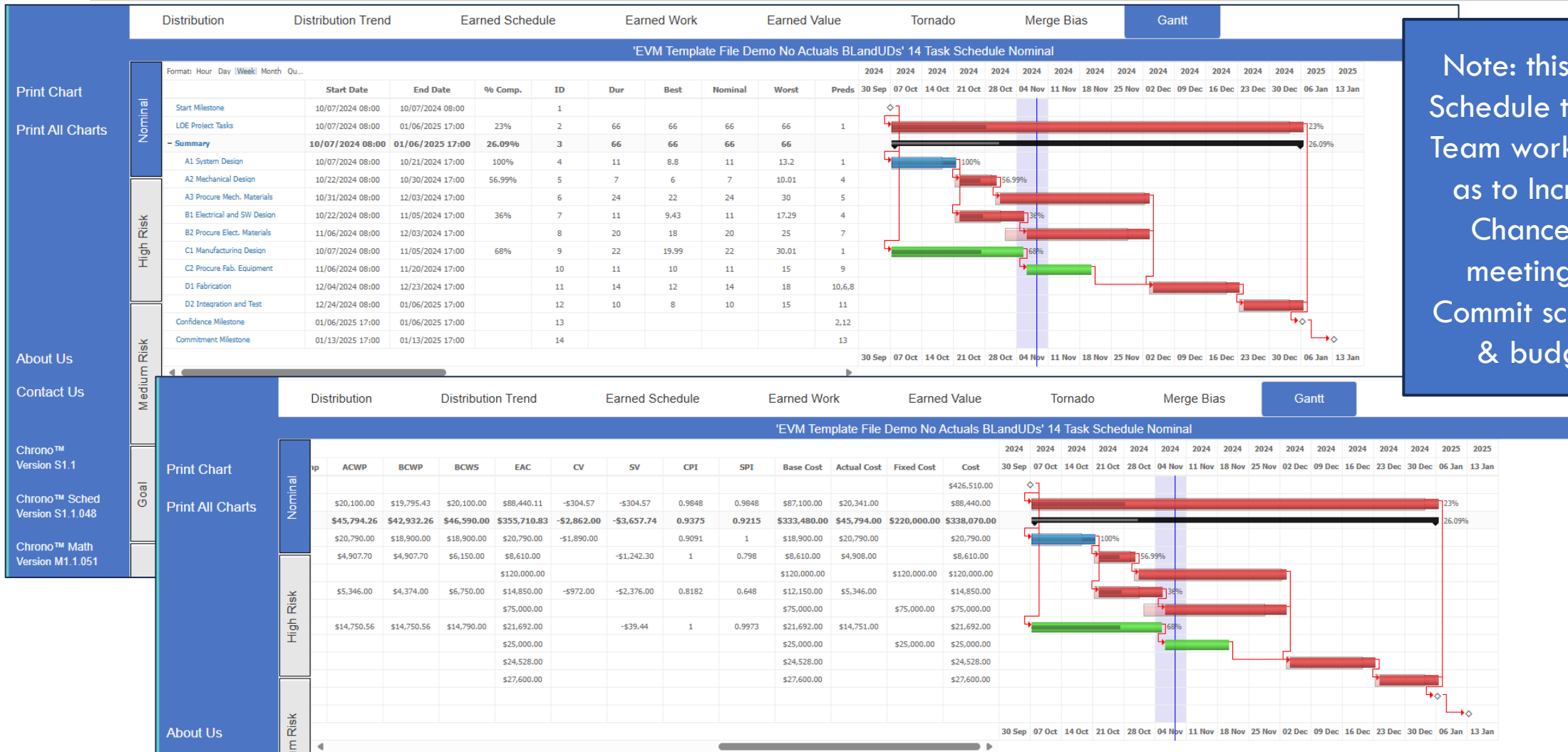
Chrono™ Sched
Version S1.1.048

Chrono™ Math
Version M1.1.051

Project Progress Update Reference



Status Update #1 Published Nominal Sch. & Cost Charts



Note: this is the Schedule that the Team works to so as to increase Chances of meeting the Commit schedule & budget.

Project Progress Update Reference

Scenario Explanation (Second Update)



Second Project Progress Update (Friday, 11/29/2024)

- 1) Task A2 (TaskID 5) completed as planned (on 10/30/2024), Next.
- 2) Task A3 (TaskID 6) is on track with remaining Duration of 2 work days, Next, then Accept Changes to the revised Best Case and Worst Case duration Values (1.83 and 2.5 days).
- 3) Task B1 (TaskID 7) Completed 1 day later than expected (Change Remaining Duration from -18 to -17), Next, then Next again.
- 4) Task B2 (Task ID 8) in on track with remaining Duration of 3 work days, Next, and make BC and WC changes (BC = 3 and WC = 4), Accept Changes.
- 5) Task C1 (Task ID 9) completed to schedule – Next.
- 6) Task C2 (Task ID 10) experienced some delays – completed a week late. Change -7 work-days to -2 work-days, then Next, and Next.
- 7) Select “3. Preview” and notice that the Commitment Confidence from the updated Distribution chart has changed to 84% due to the retiring of project risks. This is obviously acceptable to the team.
- 8) **Do not Select “4. Publish” until the cost changes in the next chart are made.**

Project Progress Update Reference

Status Update #2 Input 2



File Chrono™ Task Resource Report Project View Help Gantt Chart Format Tell me what you want to do

Display Probability Chart
 Project Progress Update
 Nominal Durations
 Medium Risk Confidence @ 50%
 Align Commit
 Resource
 Commit Date 1/13/2025 5:00:00 PM
 Defaults

Run Simulation
 Set Project Baselines
 Goal Confidence @ 70%
 Commit Confidence @ 58%
 View Entire Project
 Distribution-Triangle
 % Confidence at Commit Date 58%
 Contact and Help

Chrono™ Wizard
 Validate Project
 High Risk Confidence @ 30%
 Select Baseline - @Nominal
 Merge Bias View
 Metrics
 Nominal Confidence 3%
 Info

Chrono™ Tools Chrono™ Gantt Chart Views Chrono™ Options Project Summary Info - Last Update 10/25/2024 Chrono™ Settings, Ver. 51.1.048

Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors	Successors	Best Case	Worst Case	Total Slack	% Complete	Actual Cost	Fixed Cost	Cost
0	0	Simple EVM Template File	71 days	10/7/24 8:00 AM	1/13/25 5:00 PM			0 days	0 days	0 days	25%	\$66,135.46	\$0.00	\$426,510.00
1	1	Start Milestone	0 days	10/7/24 8:00 AM	10/7/24 8:00 AM		2,4,9	0 days	0 days	0 days	100%	\$0.00	\$0.00	\$0.00
2	2	LOE Project Tasks	66 days	10/7/24 8:00 AM	1/6/25 5:00 PM	1	13	0 days	0 days	5 days	23%	\$20,341.20	\$0.00	\$88,440.00
3	3	Summary	66 days	10/7/24 8:00 AM	1/6/25 5:00 PM			0 days	0 days	5 days	26%	\$45,704.26	\$0.00	\$38,070.00
4	3.1	A1 System Design	11 days	10/7/24 8:00 AM	10/21/24 5:00 PM	1	5,7	0 days	0 days	0 days	0%	0.00	0.00	0.00
5	3.2	A2 Mechanical Design	7 days	10/22/24 8:00 AM	10/30/24 5:00 PM	4	6	0 days	0 days	0 days	0%	0.00	0.00	0.00
6	3.3	A3 Procure Mech. Materials	24 days	10/31/24 8:00 AM	12/3/24 5:00 PM	5	11	0 days	0 days	0 days	91.67%	0.00	0.00	0.00
7	3.4	B1 Electrical and SW Design	11 days	10/22/24 8:00 AM	11/5/24 5:00 PM	4	8	0 days	0 days	0 days	0%	0.00	0.00	0.00
8	3.5	B2 Procure Elect. Materials	20 days	11/6/24 8:00 AM	12/3/24 5:00 PM	7	11	0 days	0 days	0 days	0%	0.00	0.00	0.00
9	3.6	C1 Manufacturing Design	22 days	10/7/24 8:00 AM	11/5/24 5:00 PM	1	10	0 days	0 days	0 days	0%	0.00	0.00	0.00
10	3.7	C2 Procure Fab. Equipment	11 days	11/6/24 8:00 AM	11/20/24 5:00 PM	9	11	0 days	0 days	0 days	0%	0.00	0.00	0.00
11	3.8	D1 Fabrication	14 days	12/4/24 8:00 AM	12/23/24 5:00 PM	10,6,8	12	0 days	0 days	0 days	0%	0.00	0.00	0.00
12	3.9	D2 Integration and Test	10 days	12/24/24 8:00 AM	1/6/25 5:00 PM	11	13	0 days	0 days	0 days	0%	0.00	0.00	0.00
13	4	Confidence Milestone	0 days	1/6/25 5:00 PM	1/6/25 5:00 PM	2,12	14	0 days	0 days	0 days	0%	0.00	0.00	0.00
14	5	Commitment Milestone	0 days	1/13/25 5:00 PM	1/13/25 5:00 PM	13		0 days	0 days	0 days	0%	0.00	0.00	0.00

TRACKING GANTT

Update Task % Complete OR Units Complete OR Remaining Duration OR Closure Date

TaskID 6 - A3 Procure Mech. Materials

Instructions - Update Task % Complete or Units Complete of Total Units or Remaining Duration or Closure Date, (- past) for closed tasks, 0 for closing tasks on Status Date, or (+ future) for open tasks

% Complete: OR Units Complete: of OR Total Units:

Remaining Duration relative to Status Date in days: OR Closure Date mm/dd/yy and optional time hh:mm:

Status Date: 11/29/2024 5:00:00 PM

Buttons: Preview, Reject, Best & Worst, Save and Exit, Done with Update, Next

Column Names, Indicators, Gantt Chart Start, Gantt Chart Zoom

Enter Best Case and Worst Case

Instructions - If desired, modify the Best Case Duration and/or the Worst Case Duration.

Status Date: 11/29/2024 5:00:00 PM

Nominal Duration 2 days. All durations relative to Status Date.

Best Case Value: Worst Case Value:

Accept Changes

Project Progress Update Reference

Status Update #2 Input 2



File Chrono™ Task Resource Report Project View Help Gantt Chart Format Tell me what you want to do

Display Probability Chart
 Project Progress Update
 Nominal Durations
 Medium Risk Confidence @ 50%
 Align Commit
 Run Simulation
 Set Project Baselines
 Goal Confidence @ 70%
 Commit Confidence @ 58%
 View Entire Project
 Chrono™ Wizard
 Validate Project
 High Risk Confidence @ 30%
 Select Baseline - @Nominal
 Merge Bias View

Chrono™ Tools Chrono™ Gantt Chart Views

Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors	Successors
0	0	EVM Training 48 BlandUDs B	71 days	10/7/24 8:00 AM	1/13/25 5:00 PM		
1	1	Start Milestone	0 days	10/7/24 8:00 AM	10/7/24 8:00 AM		2,4,9
2	2	LOE Project Tasks	66 days	10/7/24 8:00 AM	1/6/25 5:00 PM	1	13
3	3	Summary	67 days	10/7/24 8:00 AM	1/7/25 5:00 PM		
4	3.1	A1 System Design	11 days	10/7/24 8:00 AM	10/21/24 5:00 PM	1	5,7
5	3.2	A2 Mechanical Design	7 days	10/22/24 8:00 AM	10/30/24 5:00 PM	4	6
6	3.3	A3 Procure Mech. Materials	25 days	10/31/24 8:00 AM	12/4/24 5:00 PM	5	11
7	3.4	B1 Electrical and SW Design	11 days	10/22/24 8:00 AM	11/5/24 5:00 PM	4	8
8	3.5	B2 Procure Elect. Materials	20 days	11/6/24 8:00 AM	12/3/24 5:00 PM	7	11
9	3.6	C1 Manufacturing Design	22 days	10/7/24 8:00 AM	11/5/24 5:00 PM	1	10
10	3.7	C2 Procure Fab. Equipment	11 days	11/6/24 8:00 AM	11/20/24 5:00 PM	9	11
11	3.8	D1 Fabrication	14 days	12/5/24 8:00 AM	12/24/24 5:00 PM	8,10,6	12
12	3.9	D2 Integration and Test	10 days	12/25/24 8:00 AM	1/7/25 5:00 PM	11	13
13	4	Confidence Milestone	0 days	1/7/25 5:00 PM	1/7/25 5:00 PM	2,12	14
14	5	Commitment Milestone	0 days	1/13/25 5:00 PM	1/13/25 5:00 PM	13	

Update Task % Complete OR Units Complete OR Remaining Duration OR Closure Date

TaskID 6 - A3 Procure Mech. Materials TaskID 6

Instructions - Update Task % Complete or Units Complete of Total Units or Remaining Duration or Closure Date, (- past) for closed tasks, 0 for closing tasks on Status Date, or (+ future) for open tasks

% Complete: OR Units Complete: of OR Total Units

Remaining Duration relative to Status Date in days: OR Closure Date mm/dd/yyyy and optional time hh:mm:

Status Date: 11/29/2024 5:00:00 PM

Buttons: Preview, Reject, Best & Worst, Save and Exit, Done with Update, Next

Column Names, Indicators, Gantt Chart Start, Gantt Chart Zoom

Enter Best Case and Worst Case

Instructions - If desired, modify the Best Case Duration and/or the Worst Case Duration.

Status Date: 11/29/2024 5:00:00 PM

Nominal Duration 3 days. All durations relative to Status Date.

Best Case Value: Worst Case Value:

Buttons: Reject Changes, Accept Changes

Worst Case Duration

Qtr 4, 2024

Oct Nov Dec Qtr 1

0 days

0 days

0 days

13.2 days

10.01 days

31.25 days

17.29 days

25 days

30.01 days

15 days

18 days

15 days

0 days

0 days

0 days

Project Progress Update Reference

Status Update #2 Input 3



File Chrono™ Task Resource Report Project View Help Gantt Chart Format Tell me what you want to do

Display Probability Chart
 Project Progress Update
 Nominal Durations
 Medium Risk Confidence @ 50%
 Align Commit
 Resource
 Commit Date 1/13/2025 5:00:00 PM
 Defaults
 Run Simulation
 Set Project Baselines
 Goal Confidence @ 70%
 Commit Confidence @ 58%
 View Entire Project
 Distribution-Triangle
 % Confidence at Commit Date 58%
 Contact and Help
 Chrono™ Wizard
 Validate Project
 High Risk Confidence @ 30%
 Select Baseline - @Nominal
 Merge Bias View
 Metrics
 Nominal Confidence 3%
 Info
 Chrono™ Tools
 Chrono™ Gantt Chart Views
 Chrono™ Options
 Project Summary Info - Last Update 10/25/2024
 Chrono™ Settings, Ver. S1.1.048

Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors	Successors	Best Case	Worst Case	Total Slack	% Complete	Actual Cost	Fixed Cost	Cost
0		Simple EVM Template File	71 days	10/7/24 8:00 AM	1/13/25 5:00 PM			0 days	0 days	0 days	25%	\$66,135.46	\$0.00	\$426,510.00
1	1	Start Milestone	0 days	10/7/24 8:00 AM	10/7/24 8:00 AM		2,4,9	0 days	0 days	0 days	100%	\$0.00	\$0.00	\$0.00
2	2	LOE Project Tasks	66 days	10/7/24 8:00 AM	1/6/25 5:00 PM	1	13	0 days	0 days	5 days	23%	\$20,341.20	\$0.00	\$88,440.00
3	3	Summary	66 days	10/7/24 8:00 AM	1/6/25 5:00 PM			0 days	0 days	5 days	26%	\$45,704.26	\$0.00	\$338,070.00
4	3.1	A1 System Design	11 days	10/7/24 8:00 AM	10/21/24 5:00 PM	1	5,7	0 days	0 days	0 days	0%	\$0.00	\$0.00	\$0.00
5	3.2	A2 Mechanical Design	7 days	10/22/24 8:00 AM	10/30/24 5:00 PM	4	6	0 days	0 days	0 days	0%	\$0.00	\$0.00	\$0.00
6	3.3	A3 Procure Mech. Materials	24 days	10/31/24 8:00 AM	12/3/24 5:00 PM	5	11	0 days	0 days	0 days	0%	\$0.00	\$0.00	\$0.00
7	3.4	B1 Electrical and SW Design	11 days	10/22/24 8:00 AM	11/5/24 5:00 PM	4	8	0 days	0 days	0 days	0%	\$0.00	\$0.00	\$0.00
8	3.5	B2 Procure Elect. Materials	20 days	11/6/24 8:00 AM	12/3/24 5:00 PM	7	11	0 days	0 days	0 days	0%	\$0.00	\$0.00	\$0.00
9	3.6	C1 Manufacturing Design	22 days	10/7/24 8:00 AM	11/5/24 5:00 PM	1	10	0 days	0 days	0 days	0%	\$0.00	\$0.00	\$0.00
10	3.7	C2 Procure Fab. Equipment	11 days	11/6/24 8:00 AM	11/20/24 5:00 PM	9	11	0 days	0 days	0 days	0%	\$0.00	\$0.00	\$0.00
11	3.8	D1 Fabrication	14 days	12/4/24 8:00 AM	12/23/24 5:00 PM	10,6,8	12	0 days	0 days	0 days	0%	\$0.00	\$0.00	\$0.00
12	3.9	D2 Integration and Test	10 days	12/24/24 8:00 AM	1/6/25 5:00 PM	11	13	0 days	0 days	0 days	0%	\$0.00	\$0.00	\$0.00
13	4	Confidence Milestone	0 days	1/6/25 5:00 PM	1/6/25 5:00 PM	2,12	14	0 days	0 days	0 days	0%	\$0.00	\$0.00	\$0.00
14	5	Commitment Milestone	0 days	1/13/25 5:00 PM	1/13/25 5:00 PM	13		0 days	0 days	0 days	0%	\$0.00	\$0.00	\$0.00

TRACKING GANTT

Update Task % Complete OR Units Complete OR Remaining Duration OR Closure Date

TaskID 7 - B1 Electrical and SW Design

Instructions - Update Task % Complete or Units Complete of Total Units or Remaining Duration or Closure Date, (- past) for closed tasks, 0 for closing tasks on Status Date, or (+ future) for open tasks

% Complete Units Complete Total Units

100 OR 100 of 100 OR

Remaining Duration relative to Status Date in days Closure Date mm/dd/yy and optional time hh:mm

-17 OR 11/5/2024 5:00:00 PM

Status Date: 11/29/2024 5:00:00 PM

Preview Reject Best & Worst

Save and Exit Done with Update Next

Column Names Gantt Chart Start

Indicators Gantt Chart Zoom

Project Progress Update Reference

Status Update #2 Input 4



File Chrono™ Task Resource Report Project View Help Gantt Chart Format Tell me what you want to do

Display Probability Chart
 Project Progress Update
 Nominal Durations
 Medium Risk Confidence @ 50%
 Align Commit
 Run Simulation
 Set Project Baselines
 Goal Confidence @ 70%
 Commit Confidence @ 58%
 View Entire Project
 Chrono™ Wizard
 Validate Project
 High Risk Confidence @ 30%
 Select Baseline - @Nominal
 Merge Bias View

Resource
 Commit Date 1/13/2025 5:00:00 PM
 Defaults
 Distribution-Triangle
 % Confidence at Commit Date 58%
 Contact and Help
 Metrics
 Nominal Confidence 3%
 Info

Chrono™ Tools Chrono™ Gantt Chart Views Chrono™ Options Project Summary Info - Last Update 10/25/2024 Chrono™ Settings, Ver. S1.1.048

Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors	Successors	Best Case	Worst Case	Total Slack	% Complete	Actual Cost	Fixed Cost	Cost
0	0	Simple EVM Template File	71 days	10/7/24 8:00 AM	1/13/25 5:00 PM			0 days	0 days	0 days	25%	\$66,135.46	\$0.00	\$427,860.00
1	1	Start Milestone	0 days	10/7/24 8:00 AM	10/7/24 8:00 AM		2,4,9	0 days	0 days	0 days	100%	\$0.00	\$0.00	\$0.00
2	2	LOE Project Tasks	66 days	10/7/24 8:00 AM	1/6/25 5:00 PM	1	13	0 days	0 days	5 days	23%	\$20,341.20	\$0.00	\$88,440.00
3	3	Summary	67 days	10/7/24 8:00 AM	1/7/25 5:00 PM			0 days	0 days	4 days	26%	\$45,794.26	\$0.00	\$330,420.00
4	3.1	A1 System Design	11 days	10/7/24 8:00 AM	10/21/24 5:00 PM	1	5,7							
5	3.2	A2 Mechanical Design	7 days	10/22/24 8:00 AM	10/30/24 5:00 PM	4	6							
6	3.3	A3 Procure Mech. Materials	24 days	10/31/24 8:00 AM	12/3/24 5:00 PM	5	11							
7	3.4	B1 Electrical and SW Design	12 days	10/22/24 8:00 AM	11/6/24 5:00 PM	4	8							
8	3.5	B2 Procure Elect. Materials	20 days	11/7/24 8:00 AM	12/4/24 5:00 PM	7	11							
9	3.6	C1 Manufacturing Design	22 days	10/7/24 8:00 AM	11/5/24 5:00 PM	1	10							
10	3.7	C2 Procure Fab. Equipment	11 days	11/6/24 8:00 AM	11/20/24 5:00 PM	9	11							
11	3.8	D1 Fabrication	14 days	12/5/24 8:00 AM	12/24/24 5:00 PM	10,6,8	12							
12	3.9	D2 Integration and Test	10 days	12/25/24 8:00 AM	1/7/25 5:00 PM	11	13							
13	4	Confidence Milestone	0 days	1/7/25 5:00 PM	1/7/25 5:00 PM	2,12	14							
14	5	Commitment Milestone	0 days	1/13/25 5:00 PM	1/13/25 5:00 PM	13								

Update Task % Complete OR Units Complete OR Remaining Duration OR Closure Date

TaskID 8 - B2 Procure Elect. Materials TaskID 8

Instructions - Update Task % Complete or Units Complete of Total Units or Remaining Duration or Closure Date, (- past) for closed tasks, 0 for closing tasks on Status Date, or (+ future) for open tasks

% Complete: 85 OR Units Complete: 85 of Total Units: 100 OR

Remaining Duration relative to Status Date in days: 3 OR Closure Date mm/dd/yy and optional time hh:mm: 12/4/2024 5:00:00 PM

Status Date: 11/29/2024 5:00:00 PM

Buttons: Preview, Reject, Best & Worst, Save and Exit, Done with Update, Next

Column Names: [] Gantt Chart Start: []

Indicators: [] Gantt Chart Zoom: []

Enter Best Case and Worst Case

Instructions - If desired, modify the Best Case Duration and/or the Worst Case Duration.

Status Date: 11/29/2024 5:00:00 PM

Nominal Duration 3 days. All durations relative to Status Date.

Best Case Value: 3 Worst Case Value: 4

Buttons: Reject Changes, Accept Changes

Project Progress Update Reference

Status Update #2 Input 6



File Chrono™ Task Resource Report Project View Help Gantt Chart Format Tell me what you want to do

Display Probability Chart
 Project Progress Update
 Nominal Durations
 Medium Risk Confidence @ 50%
 Align Commit
 Resource
 Commit Date 1/13/2025 5:00:00 PM
 Defaults

Run Simulation
 Set Project Baselines
 Goal Confidence @ 70%
 Commit Confidence @ 58%
 View Entire Project
 Distribution-Triangle
 % Confidence at Commit Date 58%
 Contact and Help

Chrono™ Wizard
 Validate Project
 High Risk Confidence @ 30%
 Select Baseline - @Nominal
 Merge Bias View
 Metrics
 Nominal Confidence 3%
 Info

Chrono™ Tools Chrono™ Gantt Chart Views Project Summary Info - Last Update 10/25/2024 Chrono™ Settings, Ver. S1.1.048

Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors	Successors	Best Case	Worst Case	Total Slack	% Complete	Actual Cost	Fixed Cost	Cost
0		Simple EVM Template File	71 days	10/7/24 8:00 AM	1/13/25 5:00 PM			0 days	0 days	0 days	25%	\$66,135.46	\$0.00	\$427,860.00
1	1	Start Milestone	0 days	10/7/24 8:00 AM	10/7/24 8:00 AM		2,4,9	0 days	0 days	0 days	100%	\$0.00	\$0.00	\$0.00
2	2	LOE Project Tasks	66 days	10/7/24 8:00 AM	1/6/25 5:00 PM	1	13	0 days	0 days	5 days	23%	\$20,341.20	\$0.00	\$88,440.00
3	3	Summary	67 days	10/7/24 8:00 AM	1/7/25 5:00 PM			0 days	0 days	4 days	26%	\$45,704.26	\$0.00	\$339,420.00
4	3.1	A1 System Design	11 days	10/7/24 8:00 AM	10/21/24 5:00 PM	1	5,7	0 days	0 days	0 days	0%	\$0.00	\$0.00	\$0.00
5	3.2	A2 Mechanical Design	7 days	10/22/24 8:00 AM	10/30/24 5:00 PM	4	6	0 days	0 days	0 days	0%	\$0.00	\$0.00	\$0.00
6	3.3	A3 Procure Mech. Materials	24 days	10/31/24 8:00 AM	12/3/24 5:00 PM	5	11	0 days	0 days	0 days	0%	\$0.00	\$0.00	\$0.00
7	3.4	B1 Electrical and SW Design	12 days	10/22/24 8:00 AM	11/6/24 5:00 PM	4	8	0 days	0 days	0 days	0%	\$0.00	\$0.00	\$0.00
8	3.5	B2 Procure Elect. Materials	20 days	11/7/24 8:00 AM	12/4/24 5:00 PM	7	11	0 days	0 days	0 days	0%	\$0.00	\$0.00	\$0.00
9	3.6	C1 Manufacturing Design	22 days	10/7/24 8:00 AM	11/5/24 5:00 PM	1	10	0 days	0 days	0 days	0%	\$0.00	\$0.00	\$0.00
10	3.7	C2 Procure Fab. Equipment	11 days	11/6/24 8:00 AM	11/20/24 5:00 PM	9	11	0 days	0 days	0 days	0%	\$0.00	\$0.00	\$0.00
11	3.8	D1 Fabrication	14 days	12/5/24 8:00 AM	12/24/24 5:00 PM	10,6,8	12	0 days	0 days	0 days	0%	\$0.00	\$0.00	\$0.00
12	3.9	D2 Integration and Test	10 days	12/25/24 8:00 AM	1/7/25 5:00 PM	11	13	0 days	0 days	0 days	0%	\$0.00	\$0.00	\$0.00
13	4	Confidence Milestone	0 days	1/7/25 5:00 PM	1/7/25 5:00 PM	2,12	14	0 days	0 days	0 days	0%	\$0.00	\$0.00	\$0.00
14	5	Commitment Milestone	0 days	1/13/25 5:00 PM	1/13/25 5:00 PM	13		0 days	0 days	0 days	0%	\$0.00	\$0.00	\$0.00

Update Task % Complete OR Units Complete OR Remaining Duration OR Closure Date

TaskID 10 - C2 Procure Fab. Equipment TaskID: 10

Instructions - Update Task % Complete or Units Complete of Total Units or Remaining Duration or Closure Date, (- past) for closed tasks, 0 for closing tasks on Status Date, or (+ future) for open tasks

% Complete Units Complete Total Units

100 OR 100 of 100 OR 0%

Remaining Duration relative to Status Date in days Closure Date mm/dd/yy and optional time hh:mm

-2 OR 11/20/2024 5:00:00 PM

Status Date: 11/29/2024 5:00:00 PM

Preview Reject Best & Worst

Save and Exit Done with Update Next

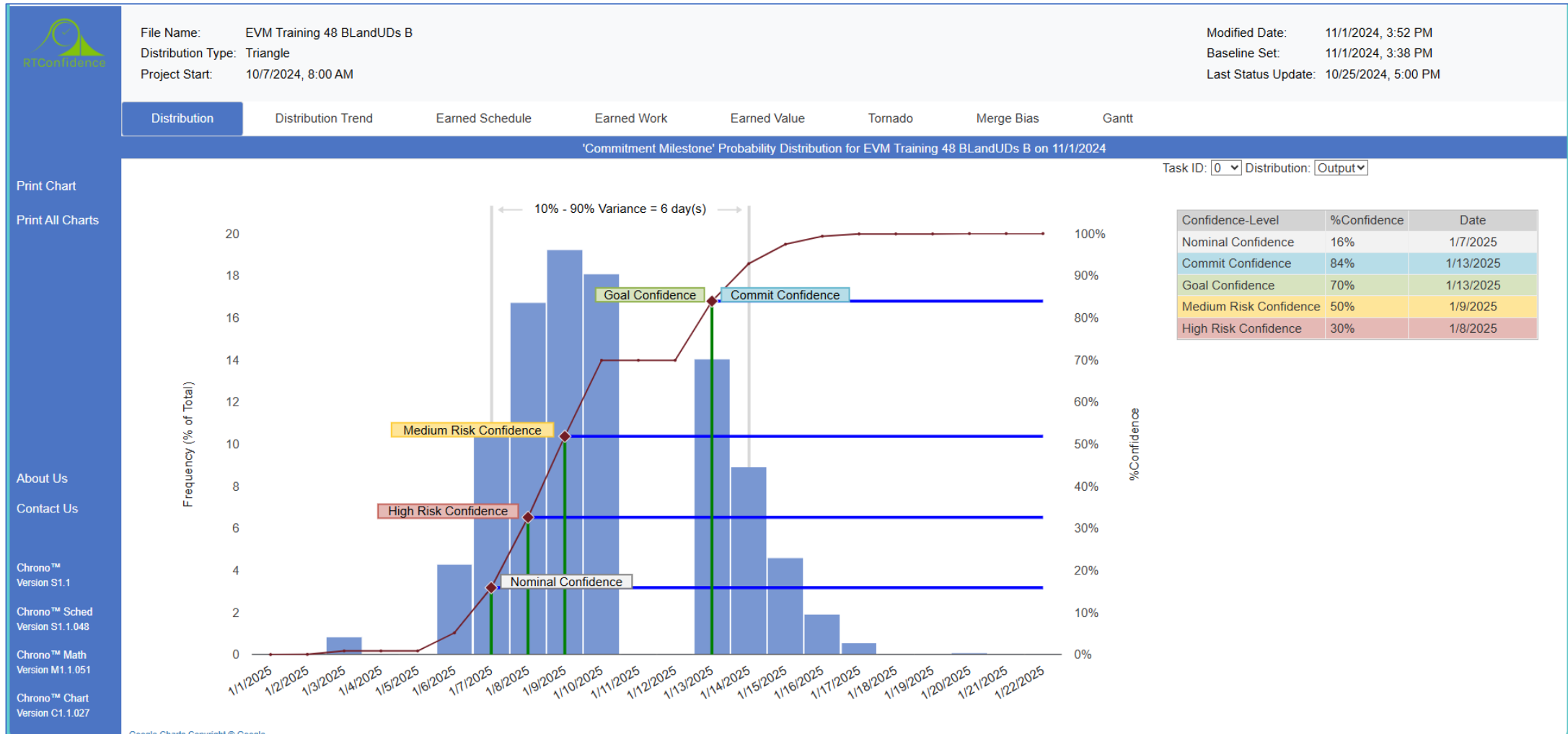
Column Names Gantt Chart Start

Indicators Gantt Chart Zoom

Project Progress Update Reference



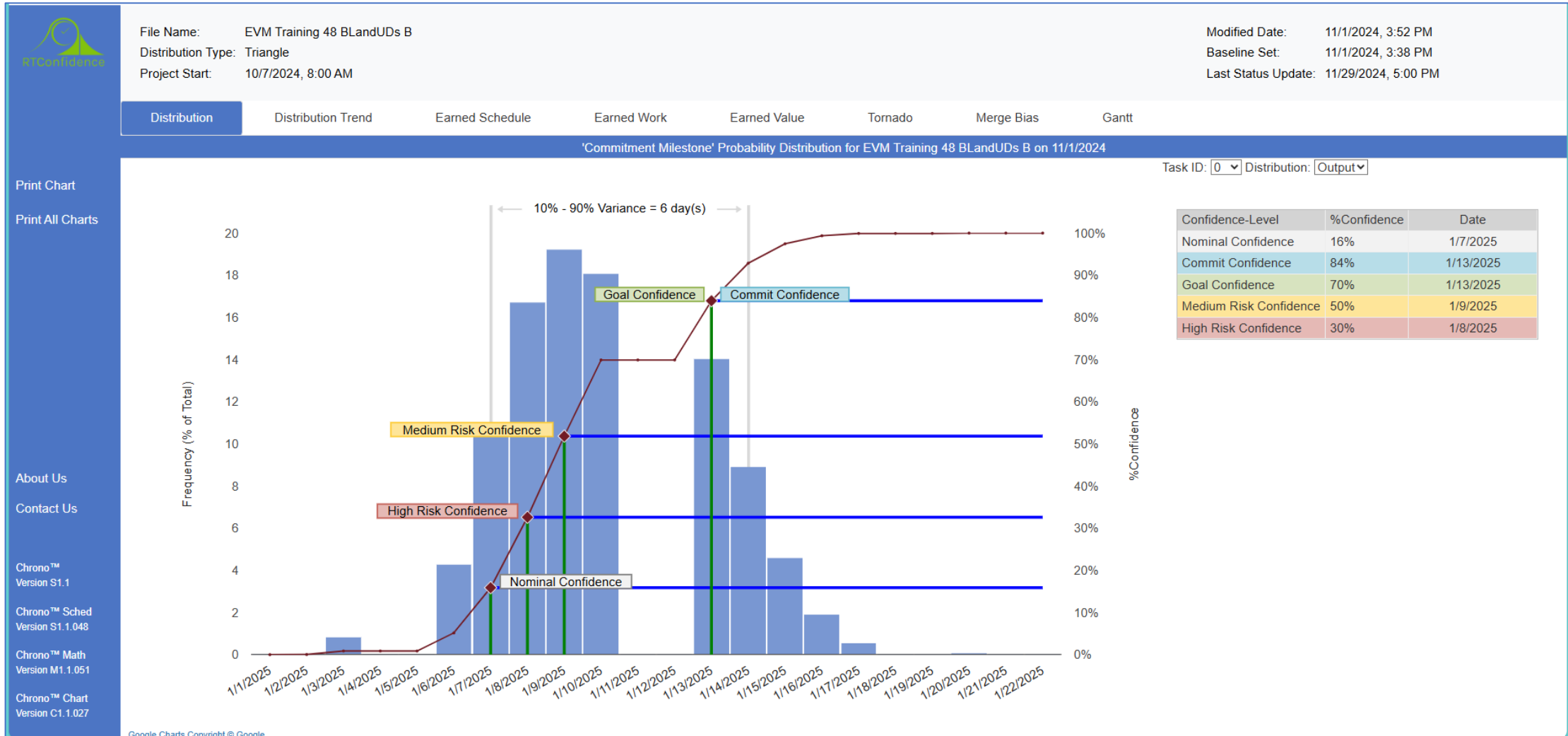
Status Update #2 Previewed Chrono Distribution



Project Progress Update Reference



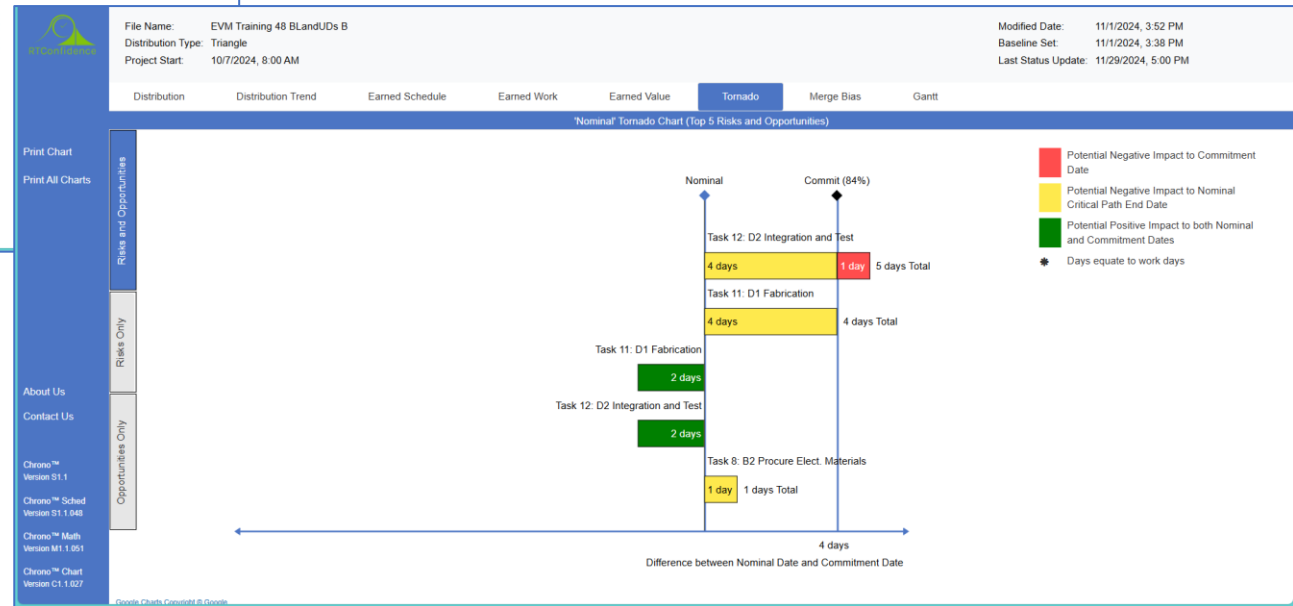
Status Update #2 Published Chrono Distribution



Project Progress Update Reference



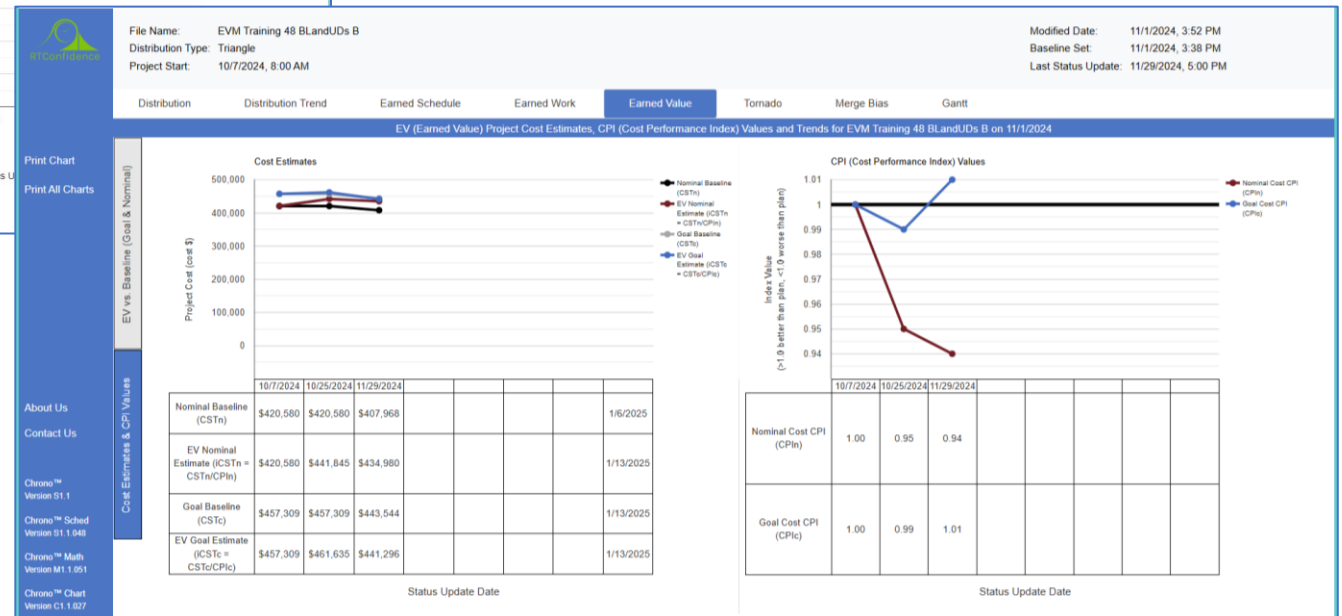
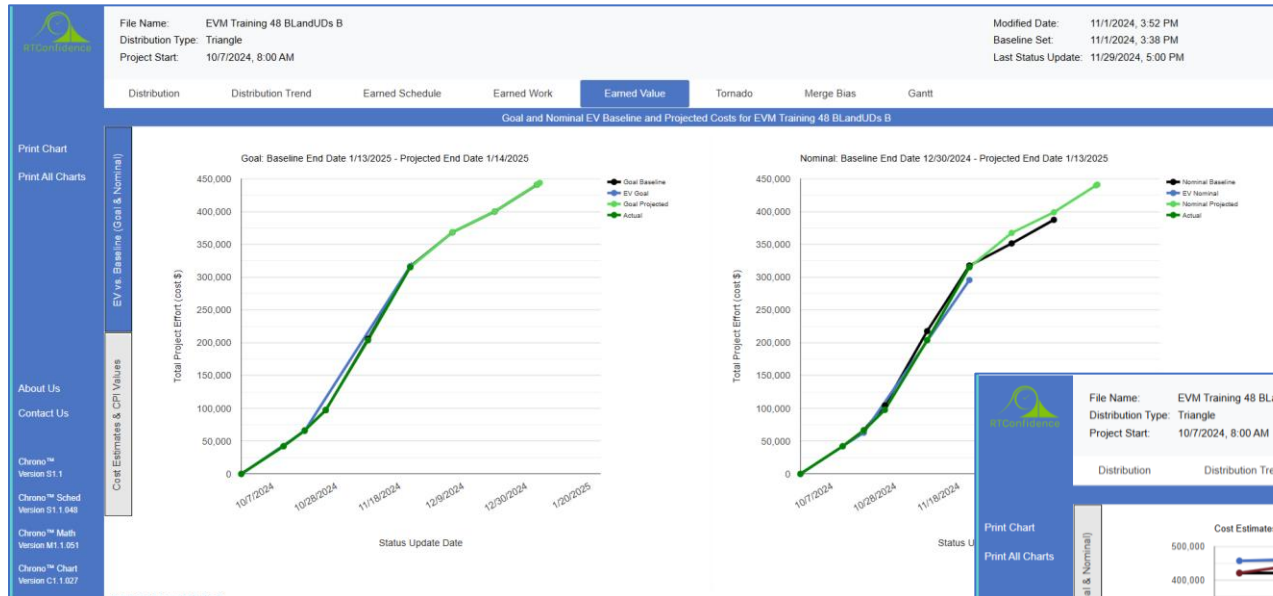
Status Update #2 Published Dist. Trend & Tornado Charts



Project Progress Update Reference



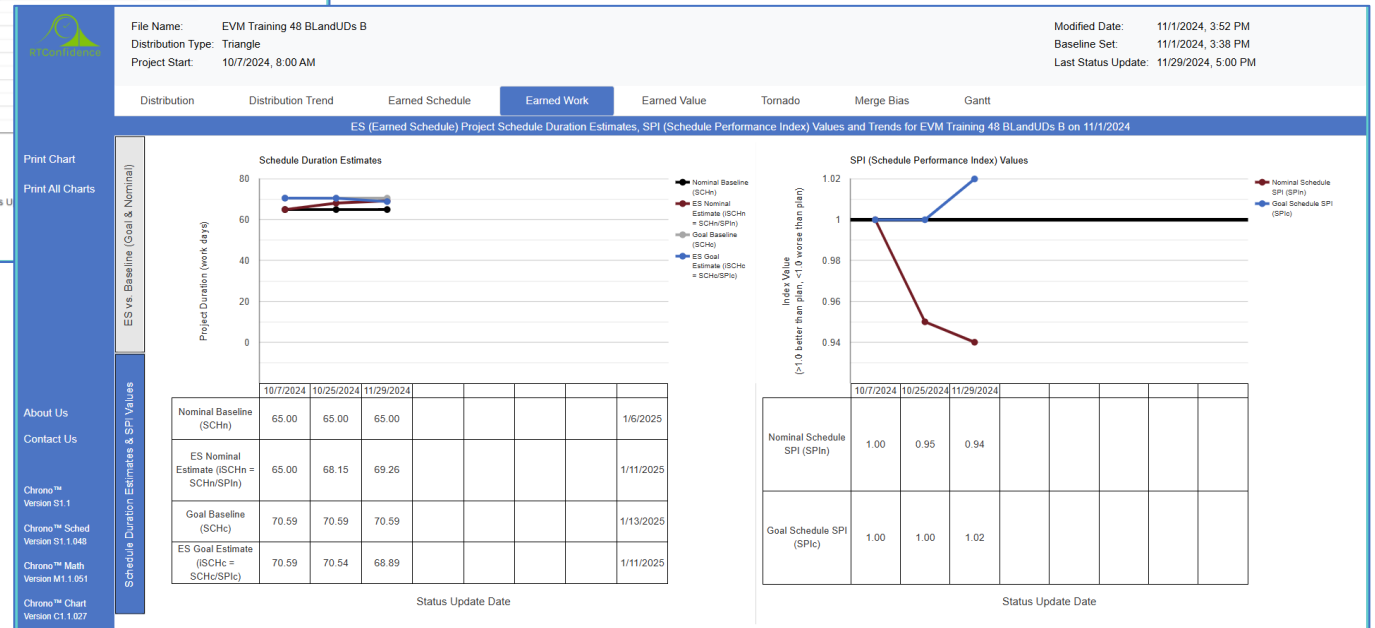
Status Update #2 Published Cost EV & CPI Charts



Project Progress Update Reference



Status Update #2 Published Schedule EW & SPI Charts



Project Progress Update Reference

Status Update #2 Published Commit Sch. & Cost Charts



File Name: EVM Training 48 BLandUDs B
 Distribution Type: Triangle
 Project Start: 10/7/2024, 8:00 AM

Modified Date: 11/1/2024, 3:52 PM
 Baseline Set: 11/1/2024, 3:38 PM
 Last Status Update: 11/29/2024, 5:00 PM

- Distribution
- Distribution Trend
- Earned Schedule
- Earned Work
- Earned Value
- Tornado
- Merge Bias
- Gantt**

'EVM Training 48 BLandUDs B' 14 Task Schedule Commit

	WComp	ACWP	BCWP	BCWS	EAC	CV	SV	CPI	SPI	Base Dur	Base Cost	Actual Cost	Fixed Cost	Cost	30 Sep	07 Oct	14 Oct	21 Oct	28 Oct	04 Nov	11 Nov	18 Nov	25 Nov	02 Dec	09 Dec	16 Dec	23 Dec	30 Dec	06 Jan	13 Jan				
Nominal	100													\$442,142.20																				
	56.62	\$53,600.00	\$53,556.61	\$53,600.00	\$94,670.39	-\$43.39	-\$43.39	0.9991	0.9991	70.58	\$94,590.04	\$53,868.00			\$95,140.00																			
High Risk	48.81	\$261,642.00	\$61,287.58	\$276,352.00	\$1,543,917.00	-\$200,354.42	-\$215,064.42	0.2217	0.2342	70.58	\$345,568.04	\$261,642.00	\$220,000.00	\$347,002.20																				
	100	\$20,790.00	\$19,750.50	\$18,900.00	\$20,790.00	-\$1,039.50	\$850.50	1.045	0.95	10.45	\$19,750.50	\$20,790.00	\$20,790.00	\$20,790.00																				
Medium Risk	100	\$8,610.00	\$9,630.90	\$8,610.00	\$8,610.00	\$1,020.90	\$1,020.90	1.1185	1.1185	7.82	\$9,630.90	\$8,610.00		\$8,610.00																				
	100	\$105,600.00	\$0.00	\$115,000.00	\$120,000.00	-\$105,600.00	-\$115,000.00			25.77	\$120,000.00	\$105,600.00	\$120,000.00	\$120,000.00																				
Goal	100	\$16,200.00	\$14,391.00	\$12,150.00	\$16,200.00	-\$1,809.00	\$2,241.00	1.1844	0.8883	10.66	\$14,391.00	\$16,200.00		\$16,200.00																				
	100	\$63,750.00	\$0.00	\$75,000.00	\$75,000.00	-\$63,750.00	-\$75,000.00			21.32	\$75,000.00	\$63,750.00	\$75,000.00	\$75,000.00																				
Commit	100	\$21,692.00	\$24,748.60	\$21,692.00	\$21,692.00	\$3,056.60	\$3,056.60	1.1409	1.1409	25.1	\$24,748.60	\$21,692.00		\$21,692.00																				
	100	\$25,000.00	\$0.00	\$25,000.00	\$25,000.00	-\$25,000.00	-\$25,000.00			12.12	\$25,000.00	\$25,000.00	\$25,000.00	\$25,000.00																				
					\$26,052.24					14.87	\$26,052.24			\$27,659.70																				
					\$30,994.80					11.22	\$30,994.80			\$32,050.50																				

Note: click on "Goal" first to get the right Baseline for "Commit"

- Print Chart
- Print All Charts
- About Us
- Contact Us
- Chrono™ Version S1.1
- Chrono™ Sched Version S1.1.048
- Chrono™ Math Version M1.1.051
- Chrono™ Chart Version C1.1.027

Project Progress Update Reference



Status Update #2 Published Nominal Sch. & Cost Charts

File Name: EVM Training 48 BLandUDs B
 Distribution Type: Triangle
 Project Start: 10/7/2024, 8:00 AM

Modified Date: 11/1/2024, 3:52 PM
 Baseline Set: 11/1/2024, 3:38 PM
 Last Status Update: 11/29/2024, 5:00 PM

mike.bissonette@rtconfidence.com Logout

Distribution
Distribution Trend
Earned Schedule
Earned Work
Earned Value
Tornado
Merge Bias
Gantt

'EVM Training 48 BLandUDs B' 14 Task Schedule Nominal

		Format: Hour Day |Week| Month Ou...										2024 2024 2024 2024 2024 2024 2024 2024 2024 2024 2024 2024 2024 2024 2024 2024 2024 2025 2025																
		Start Date	End Date	% Comp.	ID	Dur	Best	Nominal	Worst	Preds	Succs	Tr	30 Sep	07 Oct	14 Oct	21 Oct	28 Oct	04 Nov	11 Nov	18 Nov	25 Nov	02 Dec	09 Dec	16 Dec	23 Dec	30 Dec	06 Jan	13 Jan
Nominal	Start Milestone	10/07/2024 08:00	10/07/2024 08:00		1						2,4,9																	
	LOE Project Tasks	10/07/2024 08:00	01/07/2025 17:00	60%	2	67	67	67	67	1	13																	
High Risk	Summary	10/07/2024 08:00	01/07/2025 17:00	78.1%	3	67	67	67	67																			
	A1 System Design	10/07/2024 08:00	10/21/2024 17:00	100%	4	11	8.8	11	13.2	1	5,7																	
	A2 Mechanical Design	10/22/2024 08:00	10/30/2024 17:00	100%	5	7	6	7	10.01	4	6																	
	A3 Procure Mech. Materials	10/31/2024 08:00	12/04/2024 17:00	88%	6	25	25	25	25	5	11																	
	B1 Electrical and SW Design	10/22/2024 08:00	11/06/2024 17:00	100%	7	12	10.29	12	18.86	4	8																	
	B2 Procure Elect. Materials	11/07/2024 08:00	12/04/2024 17:00	85%	8	20	20	20	26.67	7	11																	
	C1 Manufacturing Design	10/07/2024 08:00	11/05/2024 17:00	100%	9	22	19.99	22	30.01	1	10																	
	C2 Procure Fab. Equipment	11/06/2024 08:00	11/27/2024 17:00	100%	10	16	14.55	16	21.82	9	11																	
	D1 Fabrication	12/05/2024 08:00	12/24/2024 17:00		11	14	12	14	18	8,10,6	12																	
	D2 Integration and Test	12/25/2024 08:00	01/07/2025 17:00		12	10	8	10	15	11	13																	
	Confidence Milestone	01/07/2025 17:00	01/07/2025 17:00		13						2,12	14																
	Commitment Milestone	01/13/2025 17:00	01/13/2025 17:00		14							13																

Note: this is the Schedule that the Team works to so as to Increase Chances of meeting the Commit schedule & budget.

Print Chart

Print All Charts

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Version S1.1.048

Chrono™ Math
Version M1.1.051

Chrono™ Chart
Version C1.1.027

Project Progress Update Reference

Scenario Explanation (Third Update)



Third Project Progress Update (Friday, 12/27/2024)

- 1) Task A3 (TaskID 6) completed as planned, Next.
- 2) Task B2 (TaskID 8) pushed out 3 work-days (Change Remaining Duration from -14), Next, and Next.
- 3) Task D1 (ID 11) in a bit behind schedule, for it was planned to be completed by the status update date. Since this is a build of 40 units, and Testing is at a separate facility, all units must be complete before the integration and test can begin. 37 units are complete and 3 more are in process. Change “Total Units” to 40 and “Units Complete” to 37 – Next, and Next and Accept the BC and WC changes (BC = .98 and WC = 1.47), Accept Changes.
- 4) Select “3. Preview” and notice that the Commitment Confidence from the updated Distribution chart (below) has gone down to only 25%. This is not acceptable to the team.
- 5) **Do not Select “4. Publish”!!!!**

Project Progress Update Reference

Status Update #3 Input 2



File Chrono™ Task Resource Report Project View Help Gantt Chart Format Tell me what you want to do

Display Probability Chart
 Project Progress Update
 Nominal Durations
 Medium Risk Confidence @ 50%
 Align Commit
 Resource
 Commit Date 1/13/2025 5:00:00 PM
 Run Simulation
 Set Project Baselines
 Goal Confidence @ 70%
 Commit Confidence @ 84%
 View Entire Project
 Distribution-Triangle
 % Confidence at Commit Date 84%
 Chrono™ Wizard
 Validate Project
 High Risk Confidence @ 30%
 Select Baseline - @Nominal
 Merge Bias View
 Metrics
 Nominal Confidence 16%

Chrono™ Tools Chrono™ Gantt Chart Views Chrono™ Options Project Summary Info - Last Update 11/29/2024

Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors	Successors	Best Case	Worst Case	Total Slack	% Complete	Actual Cost
0	0	Simple EVM Template File	71 days	10/7/24 8:00 AM	1/13/25 5:00 PM			0 days	0 days	0 days	73%	\$320,310.00
1	1	Start Milestone	0 days	10/7/24 8:00 AM	10/7/24 8:00 AM		2,4,9	0 days	0 days	0 days	100%	\$0.00
2	2	LOE Project Tasks	67 days	10/7/24 8:00 AM	1/7/25 5:00 PM	1	13	0 days	0 days	4 days	60%	\$53,868.00
3	3	Summary	67 days	10/7/24 8:00 AM	1/7/25 5:00 PM			0 days	0 days	4 days	79%	\$266,442.00
4	3.1	A1 System Design	11 days	10/7/24 8:00 AM	10/21/24 5:00 PM	1	5,7	8.8 days	13.2 days	0 days	100%	\$20,790.00
5	3.2	A2 Mechanical Design	7 days	10/22/24 8:00 AM	10/30/24 5:00 PM	4	6	6 days	10.01 days	0 days	100%	\$8,610.00
6	3.3	A3 Procure Mech. Materials	24 days	10/31/24 8:00 AM	12/3/24 5:00 PM	5	11	21.95 days	30 days	5 days	92%	\$110,400.00
7	3.4	B1 Electrical and SW Design	12 days	10/22/24 8:00 AM	11/6/24 5:00 PM	4	8	10.29 days	18.86 days	0 days	100%	\$16,200.00
8	3.5	B2 Procure Elect. Materials	20 days	11/7/24 8:00 AM	12/4/24 5:00 PM	7	11	20 days	26.67 days	4 days	85%	\$63,750.00
9	3.6	C1 Manufacturing Design	22 days	10/7/24 8:00 AM	11/5/24 5:00 PM	1	10	19.99 days	30.01 days	0 days	100%	\$21,692.00
10	3.7	C2 Procure Fab. Equipment	16 days	11/6/24 8:00 AM	11/27/24 5:00 PM	9	11	14.55 days	21.82 days	0 days	100%	\$25,000.00
11	3.8	D1 Fabrication	14 days	12/5/24 8:00 AM	12/24/24 5:00 PM	10,6,8	12	12 days	18 days	4 days	0%	\$0.00
12	3.9	D2 Integration and Test	10 days	12/25/24 8:00 AM	1/7/25 5:00 PM	11	13	8 days	15 days	4 days	0%	\$0.00
13	4	Confidence Milestone	0 days	1/7/25 5:00 PM	1/7/25 5:00 PM	2,12	14	0 days	0 days	4 days	0%	\$0.00
14	5	Commitment Milestone	0 days	1/13/25 5:00 PM	1/13/25 5:00 PM	13		0 days	0 days	0 days	0%	\$0.00

Update Task % Complete OR Units Complete OR Remaining Duration OR Closure Date

TaskID 8 - B2 Procure Elect. Materials TaskID

Instructions - Update Task % Complete or Units Complete of Total Units or Remaining Duration or Closure Date, (- past) for closed tasks, 0 for closing tasks on Status Date, or (+ future) for open tasks

% Complete Units Complete Total Units

OR of OR

Remaining Duration relative to Status Date in days Closure Date mm/dd/yy and optional time hh:mm

OR

Status Date: 12/27/2024 5:00:00 PM

Preview Reject Best & Worst

Save and Exit Done with Update **Next**

Column Names Gantt Chart Start

Indicators Gantt Chart Zoom

Project Progress Update Reference

Status Update #3 Input 3



File Chrono™ Task Resource Report Project View Help Gantt Chart Format Tell me what you want to do

Display Probability Chart
 Project Progress Update
 Nominal Durations
 Medium Risk Confidence @ 50%
 Align Commit
 Resource
 Commit Date 1/13/2025 5:00:00 PM
 Defaults
 Run Simulation
 Set Project Baselines
 Goal Confidence @ 70%
 Commit Confidence @ 84%
 View Entire Project
 Distribution-Triangle
 % Confidence at Commit Date 84%
 Contact and Help
 Chrono™ Wizard
 Validate Project
 High Risk Confidence @ 30%
 Select Baseline - @Nominal
 Merge Bias View
 Metrics
 Nominal Confidence 16%
 Info
 Chrono™ Tools
 Chrono™ Gantt Chart Views
 Chrono™ Options
 Project Summary Info - Last Update 11/29/2024
 Chrono™ Settings, Ver. S1.1.048

Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack	Resource Names	Fixed Cost	Cost	Work	Best Case Duration	Worst Case Duration
0	0	EVM Training 48 BlandUDs B	71.14 days	10/7/24 8:00 AM	1/14/25 9:07 AM			0 days		\$0.00	\$431,196.55	4,152.46 hrs	0 days	0 days
1	1	Start Milestone	0 days	10/7/24 8:00 AM	10/7/24 8:00 AM		2,4,9	0 days		\$0.00	\$0.00	0 hrs	0 days	0 days
2	2	LOE Project Tasks	67 days	10/7/24 8:00 AM	1/7/25 5:00 PM	1	13							
3	3	Summary	71.14 days	10/7/24 8:00 AM	1/14/25 9:07 AM									
4	3.1	A1 System Design	11 days	10/7/24 8:00 AM	10/21/24 5:00 PM	1	5,7							
5	3.2	A2 Mechanical Design	7 days	10/22/24 8:00 AM	10/30/24 5:00 PM	4	6							
6	3.3	A3 Procure Mech. Materials	25 days	10/31/24 8:00 AM	12/4/24 5:00 PM	5	11							
7	3.4	B1 Electrical and SW Design	12 days	10/22/24 8:00 AM	11/6/24 5:00 PM	4	8							
8	3.5	B2 Procure Elect. Materials	23 days	11/7/24 8:00 AM	12/9/24 5:00 PM	7	11							
9	3.6	C1 Manufacturing Design	22 days	10/7/24 8:00 AM	11/5/24 5:00 PM	1	10							
10	3.7	C2 Procure Fab. Equipment	16 days	11/6/24 8:00 AM	11/27/24 5:00 PM	9	11							
11	3.8	D1 Fabrication	15.14 days	12/10/24 8:00 AM	12/31/24 9:07 AM	8,10,6	12							
12	3.9	D2 Integration and Test	10 days	12/31/24 9:07 AM	1/14/25 9:07 AM	11	13							
13	4	Confidence Milestone	0 days	1/14/25 9:07 AM	1/14/25 9:07 AM	2,12	14							
14	5	Commitment Milestone	0 days	1/13/25 5:00 PM	1/13/25 5:00 PM									

TRACKING GANTT

Update Task % Complete OR Units Complete OR Remaining Duration OR Closure Date

TaskID 11 - D1 Fabrication

Instructions - Update Task % Complete or Units Complete of Total Units or Remaining Duration or Closure Date, (- past) for closed tasks, 0 for closing tasks on Status Date, or (+ future) for open tasks

TaskID: 11

% Complete: 92.5 OR Units Complete: 37 of Total Units: 40 OR

Remaining Duration relative to Status Date in days: 1.14 OR Closure Date mm/dd/yy and optional time hh:mm: 12/31/2024 9:07:12 AM

Status Date: 12/27/2024 5:00:00 PM

Buttons: Preview, Reject, Best & Worst, Save and Exit, Done with Update, Next

Column Names: Indicators, Gantt Chart Start, Gantt Chart Zoom

Enter Best Case and Worst Case

Instructions - If desired, modify the Best Case Duration and/or the Worst Case Duration.

Status Date: 12/27/2024 5:00:00 PM

Nominal Duration 1.14 days. All durations relative to Status Date.

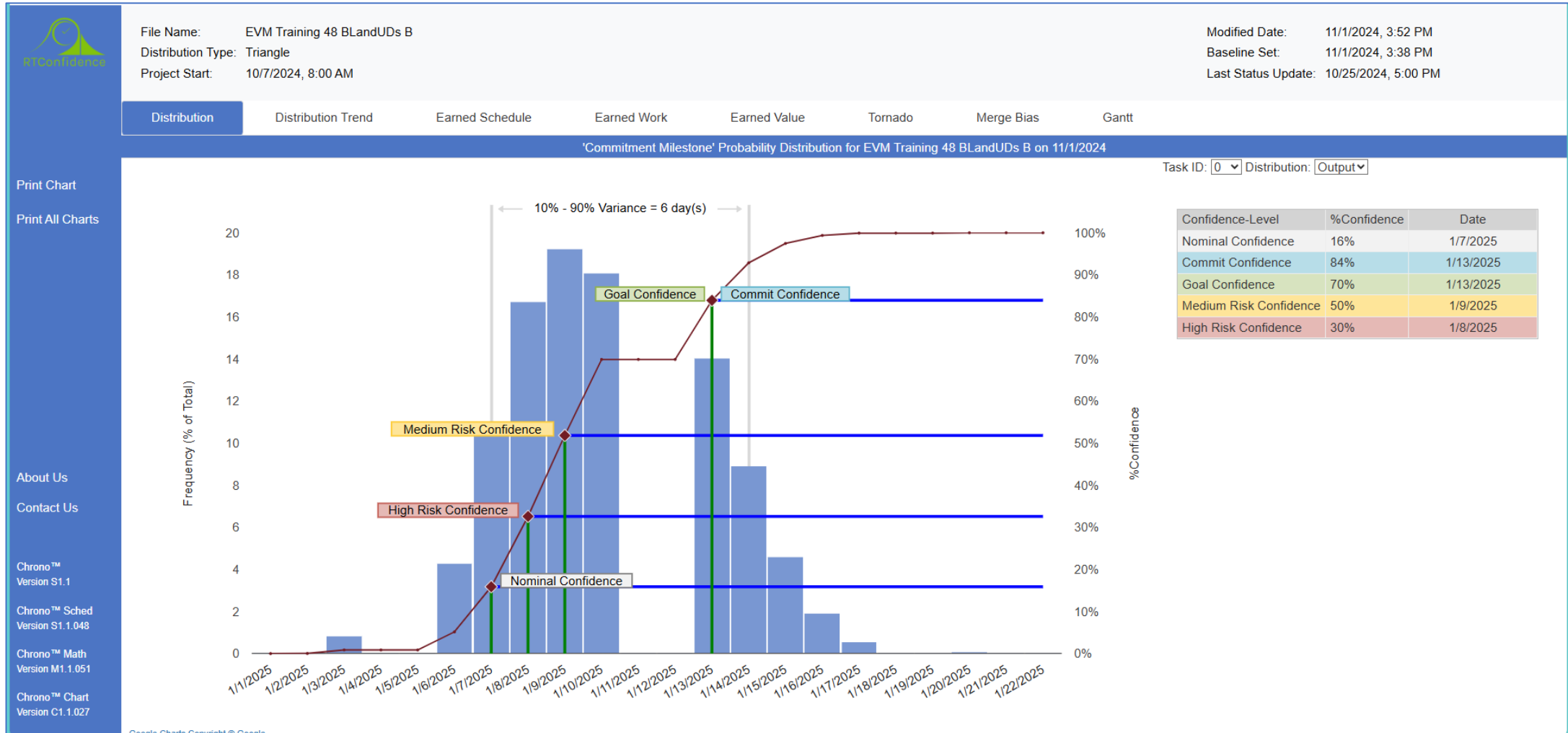
Best Case Value: 0.98 Worst Case Value: 1.47

Accept Changes

Project Progress Update Reference



Status Update #3 Previewed Chrono Distribution



Project Progress Update Reference

Recovery Scenario to Meet Commitments



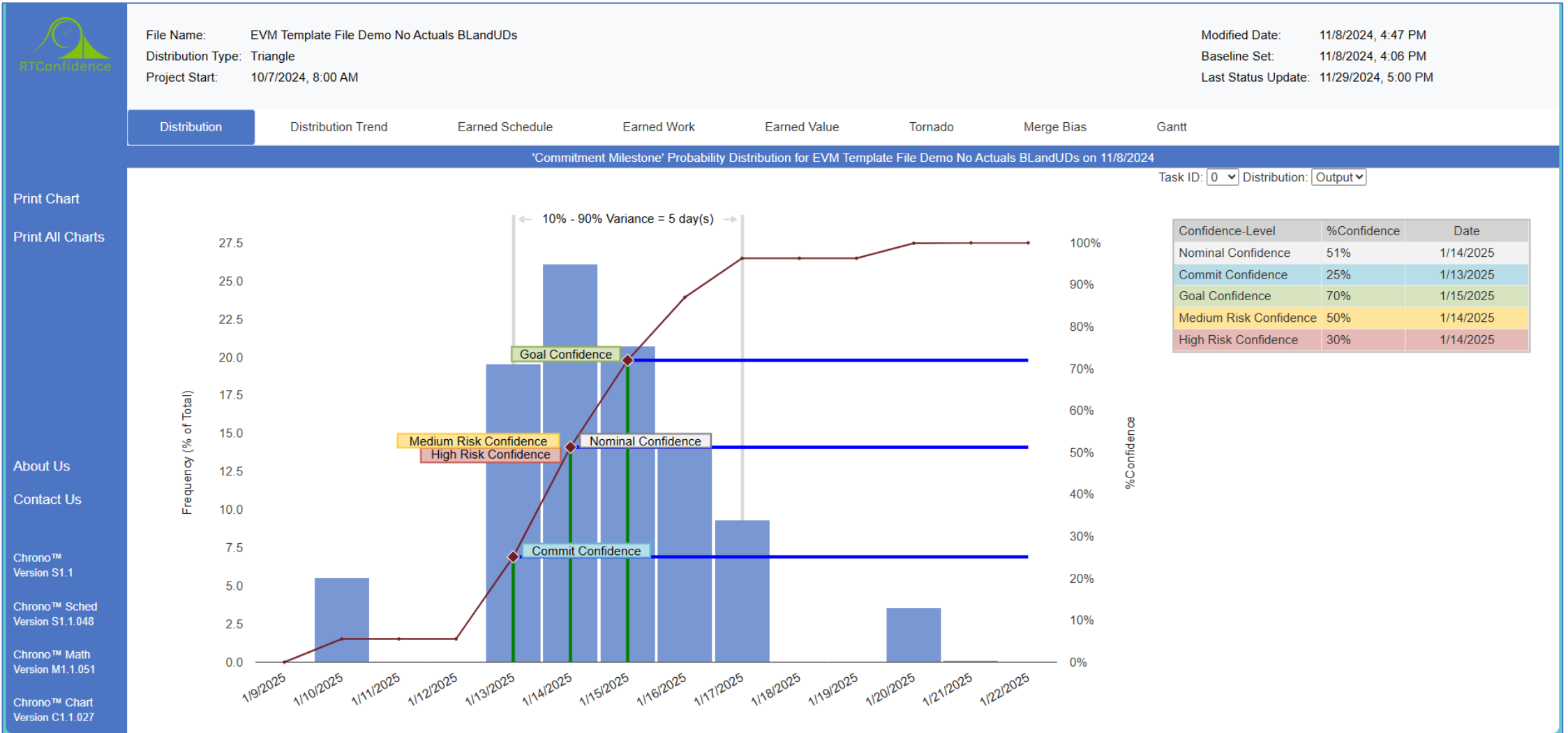
Based on the prior chart, it is determined that the organization needs to take Corrective Action(s) to maintain its schedule commitment of 1/13/2025.

- 1) Extra resources will be applied to Task D1 (ID 11) to complete the fabrication on 12/30 – the duration will be changed from 15.14 days to 15 days with a Worst-Case of 15 days.
- 2) For Task D2 (ID 12) will be receiving 2 extra resources (people) to ensure that the task can be completed in no more than 10 days (vs. the 10 days planned, and the Worst-Case of 15 days). This will have a relatively small cost increase, but will enable on-time delivery of product. The 10 day plan is therefore assured, provided no unexpected issues. Also the Worst-Case duration is changed to 10 as well (enabled by pre-authorizing overtime if necessary).
- 3) We will preview the changed schedule to ensure that the commitment schedule is met.

Project Progress Update Reference



Status Update #3 Previewed Chrono Distribution



Project Progress Update Reference



IMS Changes to Preview Next (Lower Shows Revisions)

Before

Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors	Successors	Best Case	Worst Case	Total Slack	% Complete	Actual Cost	Fixed Cost	Cost
0	0	Simple EVM Template File	71.14 days	10/7/24 8:00 AM	1/14/25 9:07 AM			0 days	0 days	0 days	91%	\$397,488.78	\$0.00	\$436,743.59
1	1	Start Milestone	0 days	10/7/24 8:00 AM	10/7/24 8:00 AM		2,4,9	0 days	0 days	0 days	100%	\$0.00	\$0.00	\$0.00
2	2	LOE Project Tasks	71.14 days	10/7/24 8:00 AM	1/14/25 9:07 AM	1	13	0 days	0 days	0 days	90%	\$85,794.34	\$0.00	\$95,327.04
3	3	Summary	71.14 days	10/7/24 8:00 AM	1/14/25 9:07 AM			0 days	0 days	0 days	92%	\$311,694.44	\$0.00	\$341,416.55
4	3.1	A1 System Design	11 days	10/7/24 8:00 AM	10/21/24 5:00 PM	1	5,7	8.8 days	13.2 days	0 days	100%	\$20,790.00	\$0.00	\$20,790.00
5	3.2	A2 Mechanical Design	7 days	10/22/24 8:00 AM	10/30/24 5:00 PM	4	6	6 days	10.01 days	0 days	100%	\$8,610.00	\$0.00	\$8,610.00
6	3.3	A3 Procure Mech. Materials	24 days	10/31/24 8:00 AM	12/3/24 5:00 PM	5	11	21.95 days	30 days	0 days	100%	\$120,000.00	\$120,000.00	\$120,000.00
7	3.4	B1 Electrical and SW Design	12 days	10/22/24 8:00 AM	11/6/24 5:00 PM	4	8	10.29 days	18.86 days	0 days	100%	\$16,200.00	\$0.00	\$16,200.00
8	3.5	B2 Procure Elect. Materials	23 days	11/7/24 8:00 AM	12/9/24 5:00 PM	7	11	23 days	30.67 days	0 days	100%	\$75,000.00	\$75,000.00	\$75,000.00
9	3.6	C1 Manufacturing Design	22 days	10/7/24 8:00 AM	11/5/24 5:00 PM	1	10	19.99 days	30.01 days	0 days	100%	\$21,692.00	\$0.00	\$21,692.00
10	3.7	C2 Procure Fab. Equipment	16 days	11/6/24 8:00 AM	11/27/24 5:00 PM	9	11	14.55 days	21.82 days	0 days	100%	\$25,000.00	\$25,000.00	\$25,000.00
11	3.8	D1 Fabrication	15.14 days	12/10/24 8:00 AM	12/31/24 9:07 AM	10,6,8	12	13 days	19.53 days	0 days	92%	\$24,402.44	\$0.00	\$26,524.55
12	3.9	D2 Integration and Test	10 days	12/31/24 9:07 AM	1/14/25 9:07 AM	11	13	8 days	15 days	0 days	0%	\$0.00	\$0.00	\$27,600.00
13	4	Confidence Milestone	0 days	1/14/25 9:07 AM	1/14/25 9:07 AM	2,12	14	0 days	0 days	0 days	0%	\$0.00	\$0.00	\$0.00
14	5	Commitment Milestone	0 days	1/13/25 5:00 PM	1/13/25 5:00 PM	13		0 days	0 days	0.14 days	0%	\$0.00	\$0.00	\$0.00

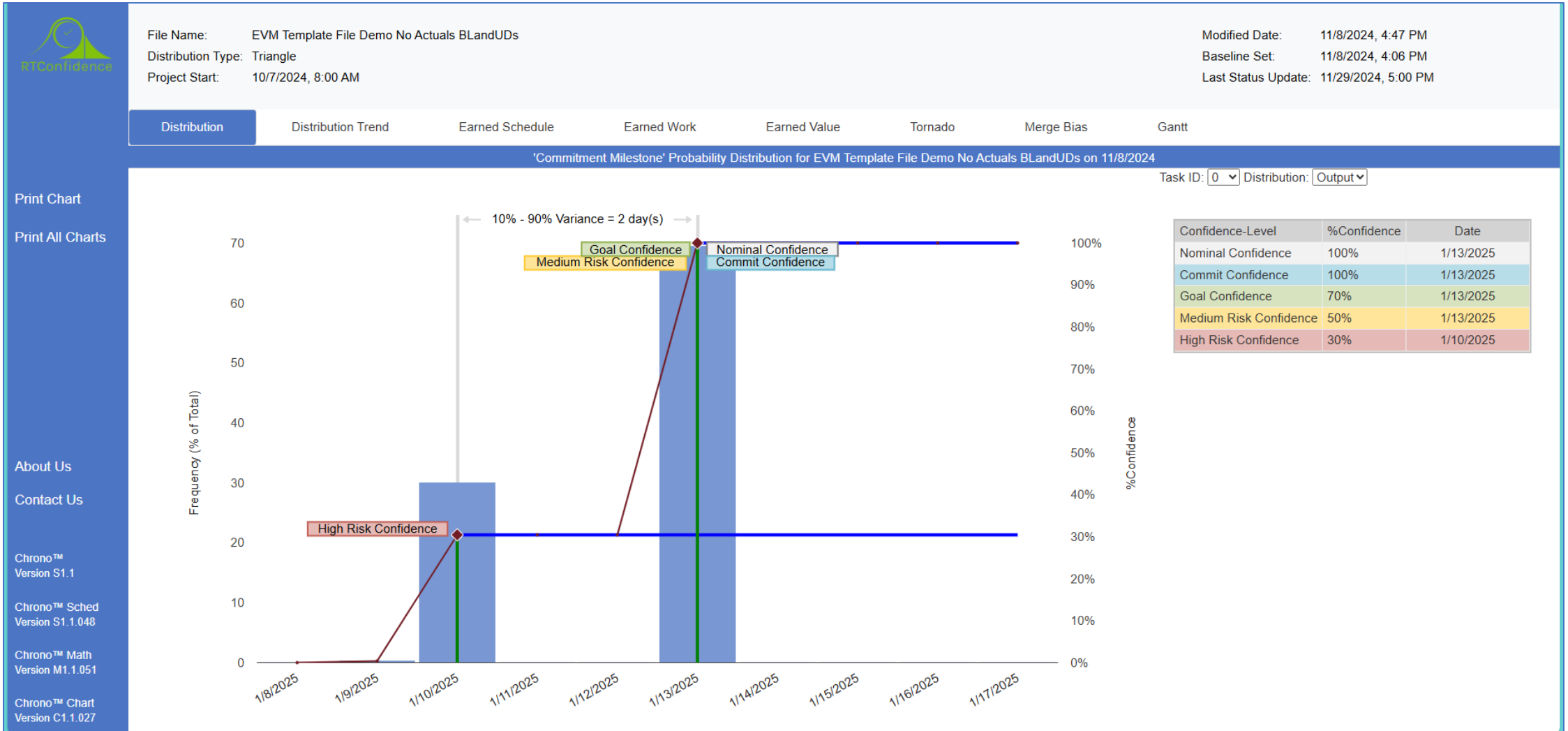
After

Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors	Successors	Best Case	Worst Case	Total Slack	% Complete	Actual Cost	Fixed Cost	Cost
0	0	Simple EVM Template File	71.14 days	10/7/24 8:00 AM	1/14/25 9:07 AM			0 days	0 days	0 days	91%	\$397,488.78	\$0.00	\$436,499.04
1	1	Start Milestone	0 days	10/7/24 8:00 AM	10/7/24 8:00 AM		2,4,9	0 days	0 days	0 days	100%	\$0.00	\$0.00	\$0.00
2	2	LOE Project Tasks	71.14 days	10/7/24 8:00 AM	1/14/25 9:07 AM	1	13	0 days	0 days	0 days	90%	\$85,794.34	\$0.00	\$95,327.04
3	3	Summary	71 days	10/7/24 8:00 AM	1/13/25 5:00 PM			0 days	0 days	0.14 days	92%	\$311,694.44	\$0.00	\$341,172.00
4	3.1	A1 System Design	11 days	10/7/24 8:00 AM	10/21/24 5:00 PM	1	5,7	8.8 days	13.2 days	0 days	100%	\$20,790.00	\$0.00	\$20,790.00
5	3.2	A2 Mechanical Design	7 days	10/22/24 8:00 AM	10/30/24 5:00 PM	4	6	6 days	10.01 days	0 days	100%	\$8,610.00	\$0.00	\$8,610.00
6	3.3	A3 Procure Mech. Materials	24 days	10/31/24 8:00 AM	12/3/24 5:00 PM	5	11	21.95 days	30 days	0 days	100%	\$120,000.00	\$120,000.00	\$120,000.00
7	3.4	B1 Electrical and SW Design	12 days	10/22/24 8:00 AM	11/6/24 5:00 PM	4	8	10.29 days	18.86 days	0 days	100%	\$16,200.00	\$0.00	\$16,200.00
8	3.5	B2 Procure Elect. Materials	23 days	11/7/24 8:00 AM	12/9/24 5:00 PM	7	11	23 days	30.67 days	0 days	100%	\$75,000.00	\$75,000.00	\$75,000.00
9	3.6	C1 Manufacturing Design	22 days	10/7/24 8:00 AM	11/5/24 5:00 PM	1	10	19.99 days	30.01 days	0 days	100%	\$21,692.00	\$0.00	\$21,692.00
10	3.7	C2 Procure Fab. Equipment	16 days	11/6/24 8:00 AM	11/27/24 5:00 PM	9	11	14.55 days	21.82 days	0 days	100%	\$25,000.00	\$25,000.00	\$25,000.00
11	3.8	D1 Fabrication	15 days	12/10/24 8:00 AM	12/30/24 5:00 PM	10,6,8	12	13 days	15 days	0.14 days	93%	\$24,402.44	\$0.00	\$26,280.00
12	3.9	D2 Integration and Test	10 days	12/31/24 8:00 AM	1/13/25 5:00 PM	11	13	8 days	10 days	0.14 days	0%	\$0.00	\$0.00	\$27,600.00
13	4	Confidence Milestone	0 days	1/14/25 9:07 AM	1/14/25 9:07 AM	2,12	14	0 days	0 days	0 days	0%	\$0.00	\$0.00	\$0.00
14	5	Commitment Milestone	0 days	1/13/25 5:00 PM	1/13/25 5:00 PM	13		0 days	0 days	0.14 days	0%	\$0.00	\$0.00	\$0.00

Project Progress Update Reference



Status Update #3 Previewed Revised Chrono Distribution



- Print Chart
- Print All Charts

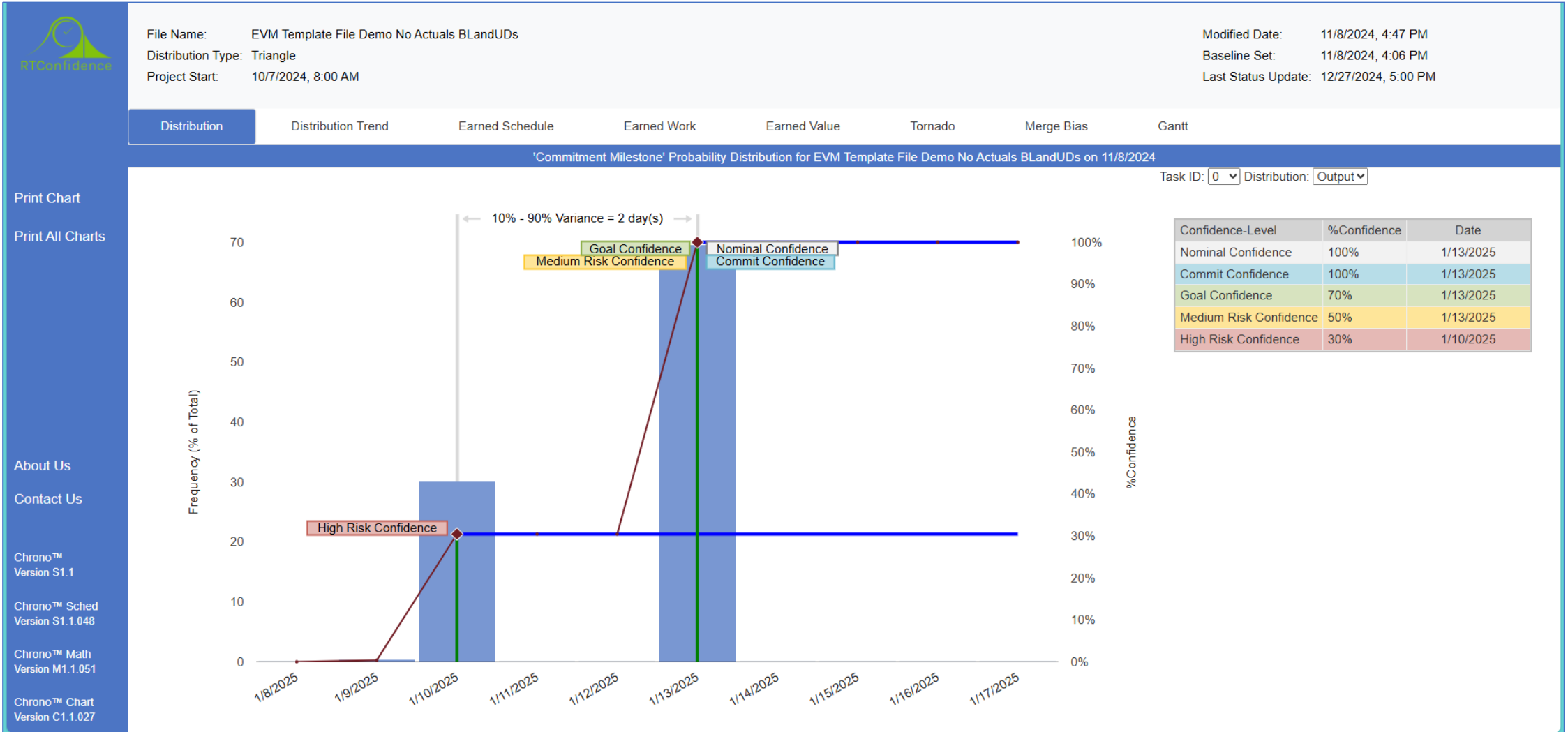
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- Chrono™ Sched Version S1.1.048
- Chrono™ Math Version M1.1.051
- Chrono™ Chart Version C1.1.027

Project Progress Update Reference



Status Update #3 Published Chrono Distribution



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Version S1.1.048

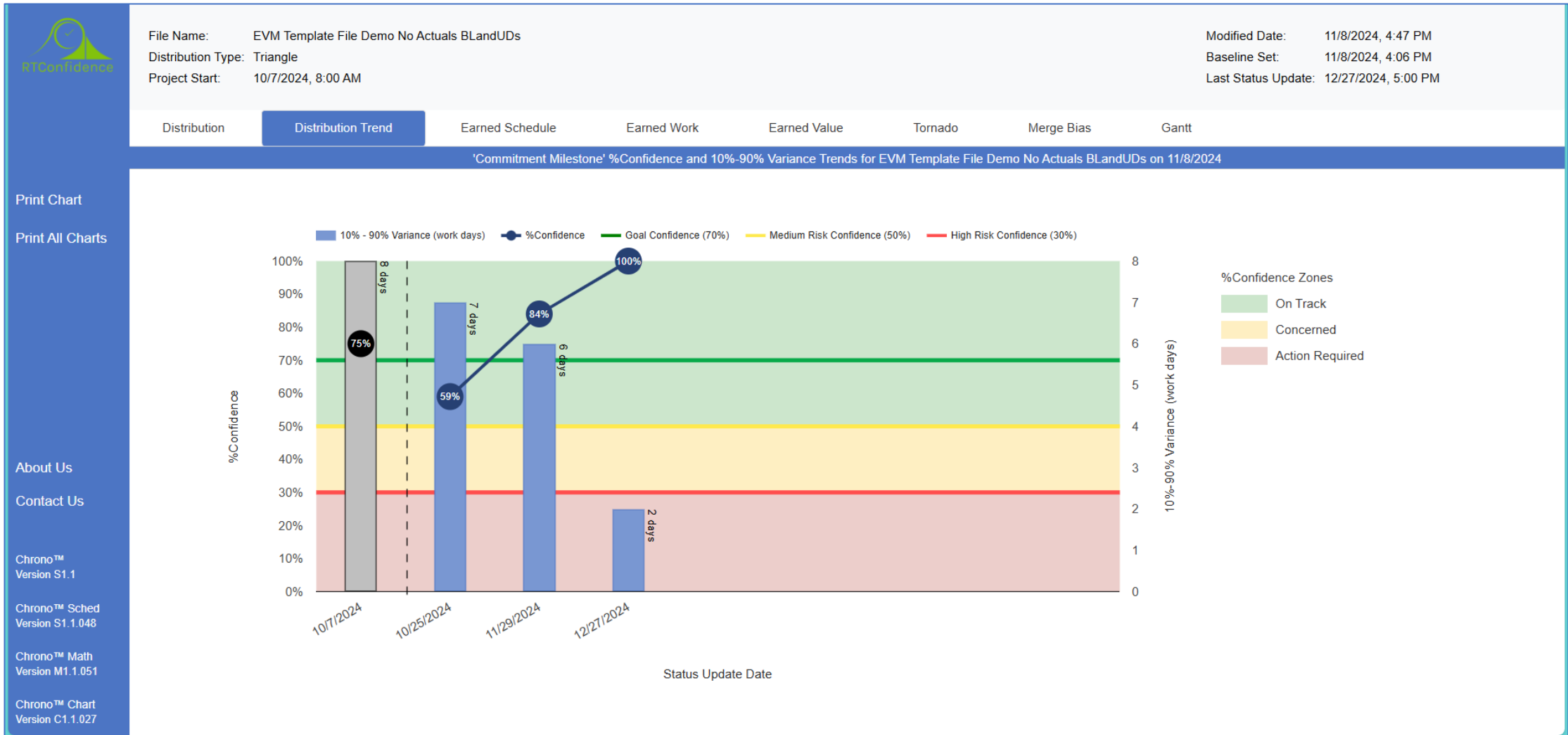
Chrono™ Math
Version M1.1.051

Chrono™ Chart
Version C1.1.027

Project Progress Update Reference



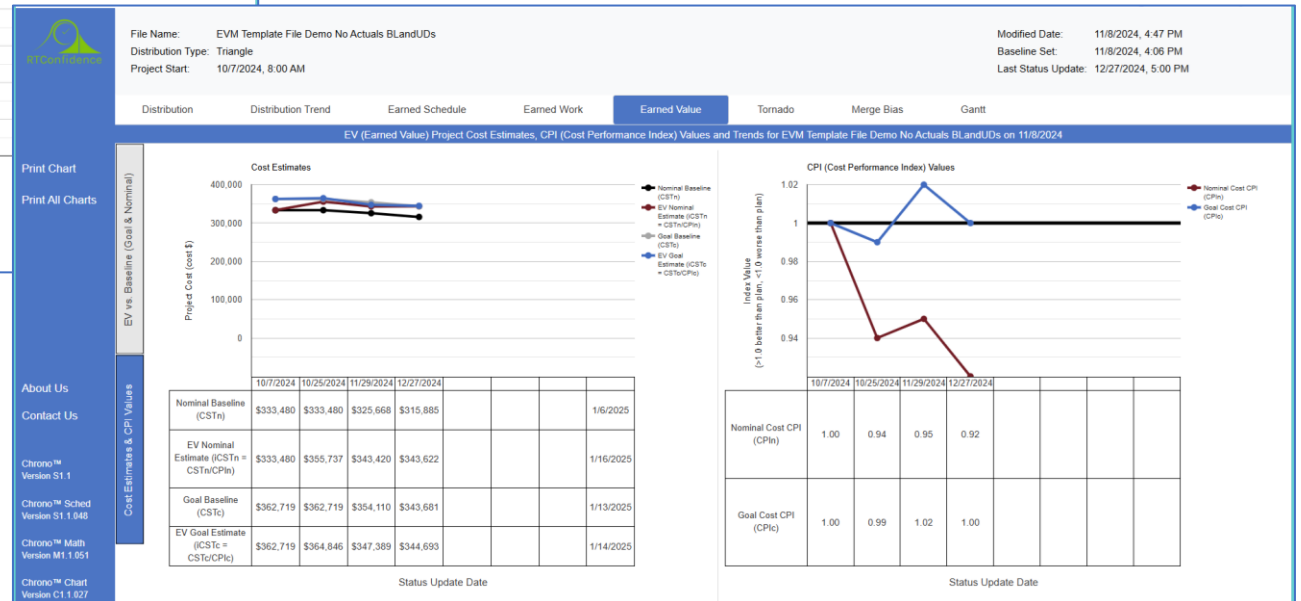
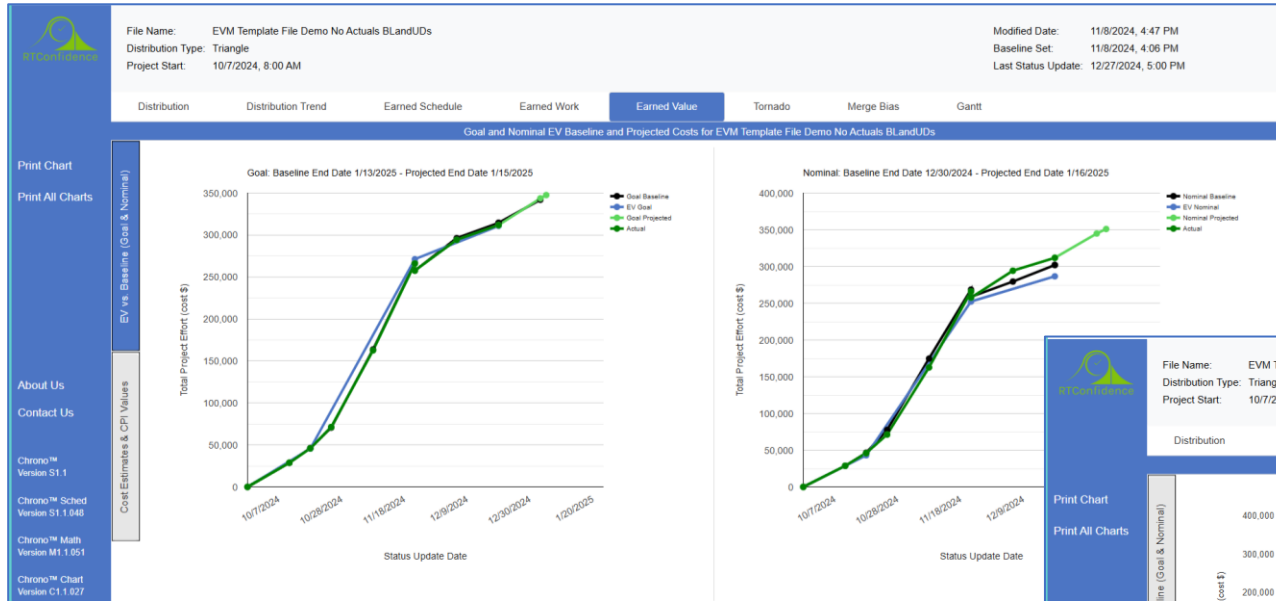
Status Update #3 Published Distribution Trend Chart



Project Progress Update Reference



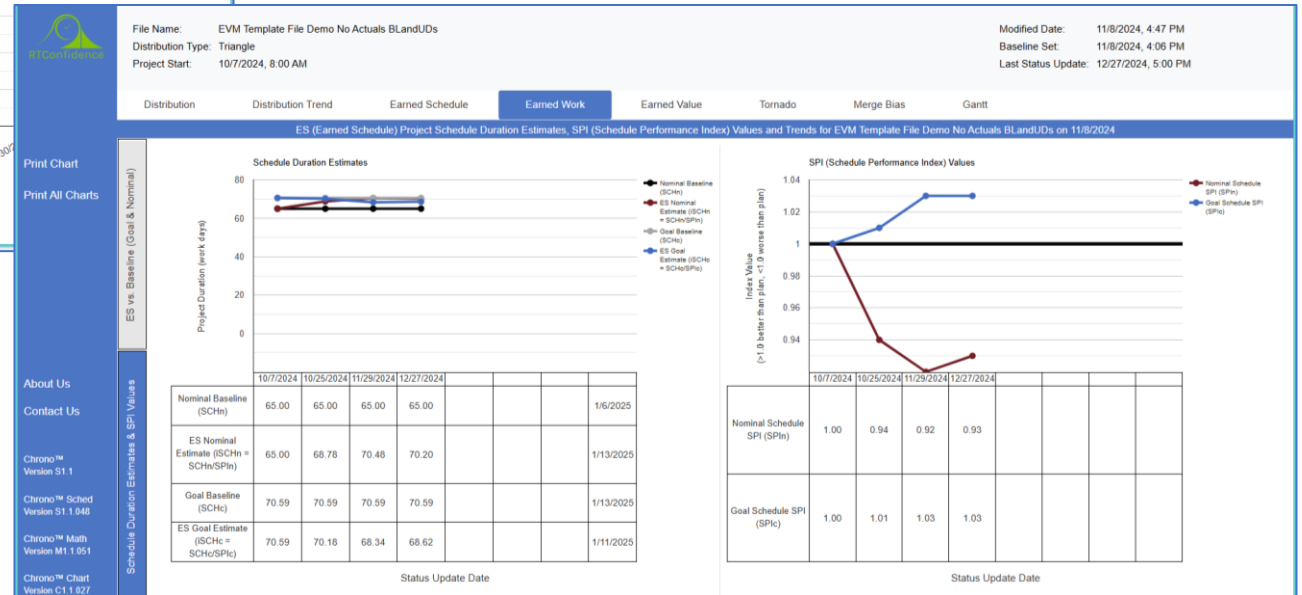
Status Update #3 Published Cost EV & CPI Charts



Project Progress Update Reference



Status Update #3 Published Schedule EW & SPI Charts



Project Progress Update Reference



Status Update #3 Published Commit Sch. & Cost Charts

File Name: EVM Template File Demo No Actuals BLandUDs
 Distribution Type: Triangle
 Project Start: 10/7/2024, 8:00 AM

Modified Date: 11/8/2024, 4:47 PM
 Baseline Set: 11/8/2024, 4:06 PM
 Last Status Update: 12/27/2024, 5:00 PM

Distribution
Distribution Trend
Earned Schedule
Earned Work
Earned Value
Tornado
Merge Bias
Gantt

'EVM Template File Demo No Actuals BLandUDs' 14 Task Schedule Commit

Type	ACWP	BCWP	BCWS	EAC	CV	SV	CPI	SPI	Base Cost	Actual Cost	Fixed Cost	Cost	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2025	2025
													30 Sep	07 Oct	14 Oct	21 Oct	28 Oct	04 Nov	11 Nov	18 Nov	25 Nov	02 Dec	09 Dec	16 Dec	23 Dec	30 Dec	06 Jan	13 Jan	
Nominal	\$80,400.00	\$80,401.53	\$80,400.00	\$94,588.51	\$1.53	\$1.53	1	1	\$87,100.00	\$80,869.00		\$436,253.20																	
High Risk	\$311,732.40	\$95,342.24	\$319,680.00	\$1,150,853.00	-\$216,390.16	-\$224,337.76	0.2982	0.3058	\$333,480.00	\$311,732.00	\$220,000.00	\$341,113.20																	
Medium Risk	\$20,790.00	\$19,750.50	\$18,900.00	\$20,790.00	-\$1,039.50	\$850.50	1.045	0.95	\$18,900.00	\$20,790.00		\$20,790.00																	
Goal	\$8,610.00	\$9,630.90	\$8,610.00	\$8,610.00	\$1,020.90	\$1,020.90	1.1185	1.1185	\$8,610.00	\$8,610.00		\$8,610.00																	
Commit	\$120,000.00	\$0.00	\$120,000.00	\$120,000.00	-\$120,000.00	-\$120,000.00			\$120,000.00	\$120,000.00	\$120,000.00	\$120,000.00																	
	\$16,200.00	\$14,391.00	\$12,150.00	\$16,200.00	-\$1,809.00	\$2,241.00	1.1844	0.8883	\$12,150.00	\$16,200.00		\$16,200.00																	
	\$75,000.00	\$0.00	\$75,000.00	\$75,000.00	-\$75,000.00	-\$75,000.00			\$75,000.00	\$75,000.00	\$75,000.00	\$75,000.00																	
	\$21,692.00	\$24,748.60	\$21,692.00	\$21,692.00	\$3,056.60	\$3,056.60	1.1409	1.1409	\$21,692.00	\$21,692.00		\$21,692.00																	
	\$25,000.00	\$0.00	\$25,000.00	\$25,000.00	-\$25,000.00	-\$25,000.00			\$25,000.00	\$25,000.00	\$25,000.00	\$25,000.00																	
	\$24,440.40	\$24,132.05	\$24,528.00	\$26,392.20	-\$308.35	-\$395.95	0.9838	0.9873	\$24,528.00	\$24,440.00		\$26,382.20																	
			\$13,800.00	\$30,994.80		-\$13,800.00				\$27,600.00		\$27,439.00																	

Note: click on "Goal" first to get the right Baseline for "Commit"

Print Chart

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Chrono™ Chart Version C1.1.027

Project Progress Update Reference



Status Update #3 Published Nominal Sch. & Cost Charts



File Name: EVM Template File Demo No Actuals BLandUDs
 Distribution Type: Triangle
 Project Start: 10/7/2024, 8:00 AM

Modified Date: 11/8/2024, 4:47 PM
 Baseline Set: 11/8/2024, 4:06 PM
 Last Status Update: 12/27/2024, 5:00 PM

Distribution Distribution Trend Earned Schedule Earned Work Earned Value Tornado Merge Bias Gantt

'EVM Template File Demo No Actuals BLandUDs' 14 Task Schedule Nominal

		2024										2025					
		30 Sep	07 Oct	14 Oct	21 Oct	28 Oct	04 Nov	11 Nov	18 Nov	25 Nov	02 Dec	09 Dec	16 Dec	23 Dec	30 Dec	06 Jan	13 Jan
Nominal	ACWP	\$80,400.00	\$73,605.36	\$80,400.00	\$95,140.35	\$-6,794.64	\$-6,794.64	0.9155	0.9155	\$87,100.00	\$80,869.00		\$436,312.00				
	BCWP	\$311,732.40	\$304,163.04	\$319,680.00	\$341,778.94	\$-7,569.36	\$-15,516.96	0.9757	0.9515	\$333,480.00	\$311,732.00	\$220,000.00	\$341,172.00				
	BCWS	\$20,790.00	\$18,900.00	\$18,900.00	\$20,790.00	\$-1,890.00		0.9091	1	\$18,900.00	\$20,790.00	\$20,790.00	\$20,790.00				
	EAC	\$8,610.00	\$8,610.00	\$8,610.00	\$8,610.00			1	1	\$8,610.00	\$8,610.00	\$8,610.00	\$8,610.00				
	CV	\$120,000.00	\$120,000.00	\$120,000.00	\$120,000.00			1	1	\$120,000.00	\$120,000.00	\$120,000.00	\$120,000.00				
	SV	\$16,200.00	\$12,150.00	\$12,150.00	\$16,200.00	\$-4,050.00		0.75	1	\$12,150.00	\$16,200.00	\$16,200.00	\$16,200.00				
	CPI	\$75,000.00	\$75,000.00	\$75,000.00	\$75,000.00			1	1	\$75,000.00	\$75,000.00	\$75,000.00	\$75,000.00				
	SPI	\$21,692.00	\$21,692.00	\$21,692.00	\$21,692.00			1	1	\$21,692.00	\$21,692.00	\$21,692.00	\$21,692.00				
	Base Cost	\$25,000.00	\$25,000.00	\$25,000.00	\$25,000.00			1	1	\$25,000.00	\$25,000.00	\$25,000.00	\$25,000.00				
	Actual Cost	\$24,440.40	\$22,811.04	\$24,528.00	\$26,280.00	\$-1,629.36	\$-1,716.96	0.9333	0.93	\$24,528.00	\$24,440.00	\$26,280.00	\$26,280.00				
	Fixed Cost			\$13,800.00	\$27,600.00		\$-13,800.00			\$27,600.00			\$27,600.00				
	Cost																

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Medium Risk

 Goal

 Commit

Project Progress Update Reference

Scenario Explanation (Fourth and Final Update)



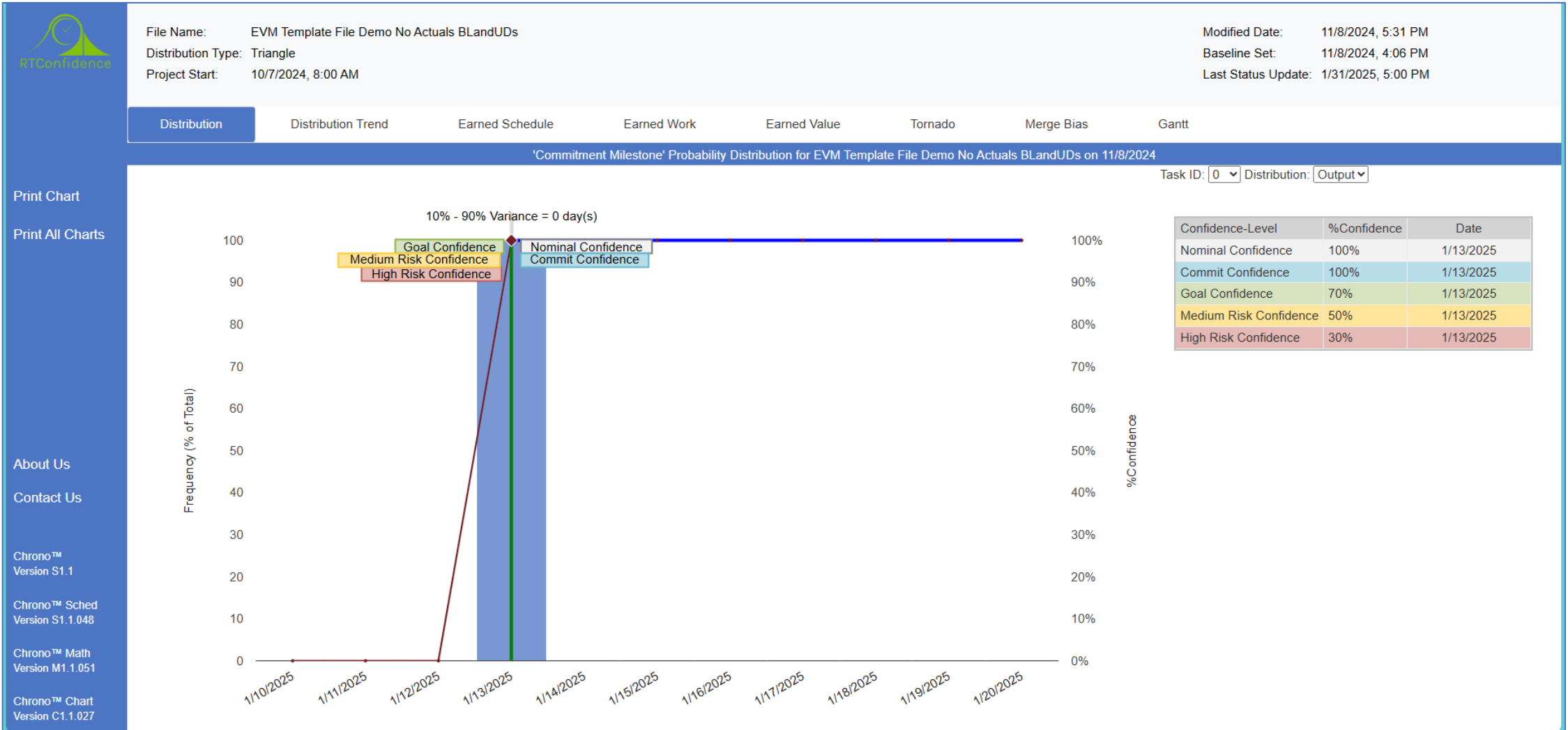
Fourth and Final Project Progress Update (Friday, 1/31/2025)

- 1) Task D1 (TaskID 11) completed as planned, Next.
- 2) Task D2 (TaskID 12) completed as planned, Next.
- 3) “4. Publish” to get the subsequent outputs.

Project Progress Update Reference



Status Update #4 Published Chrono Distribution



- Print Chart
- Print All Charts

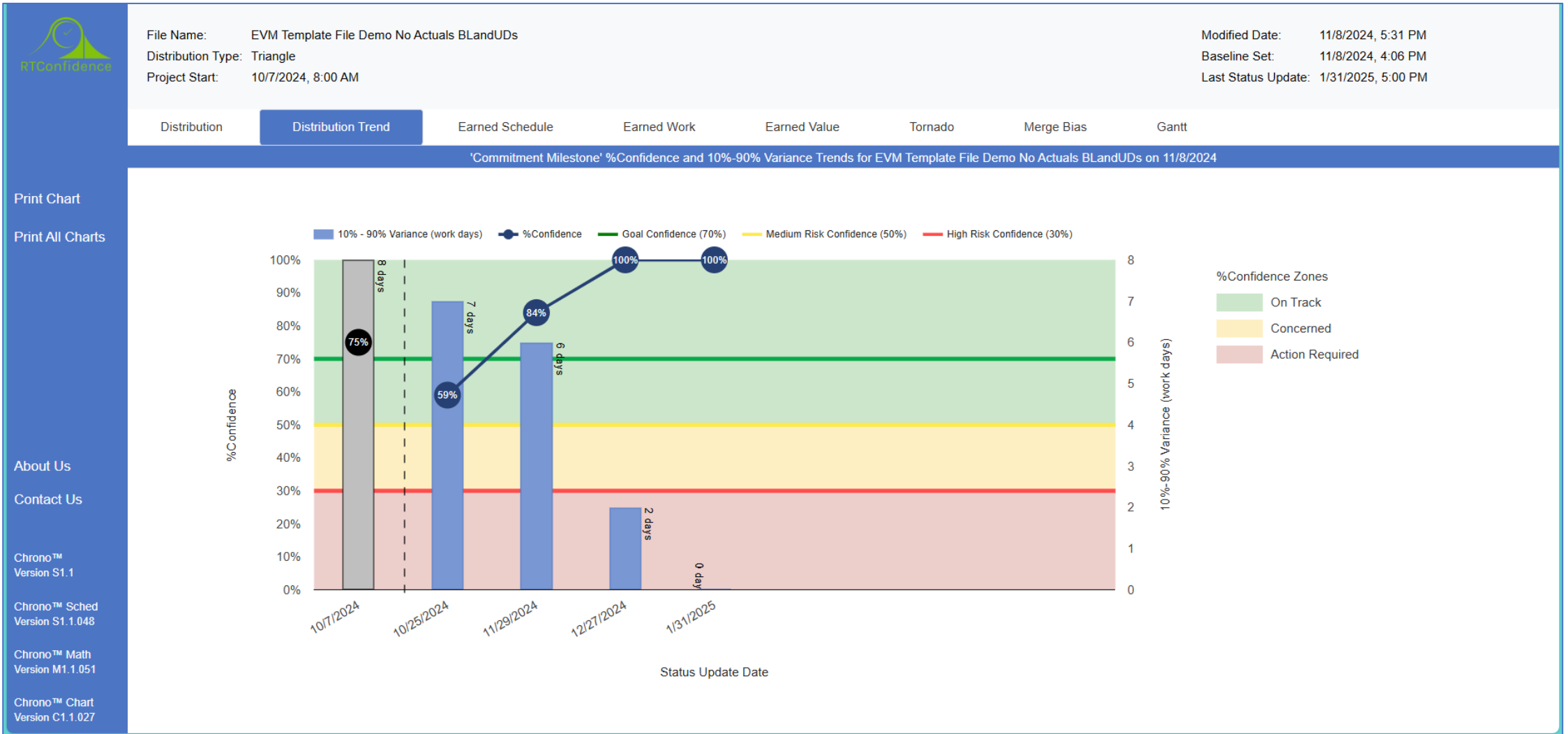
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Project Progress Update Reference



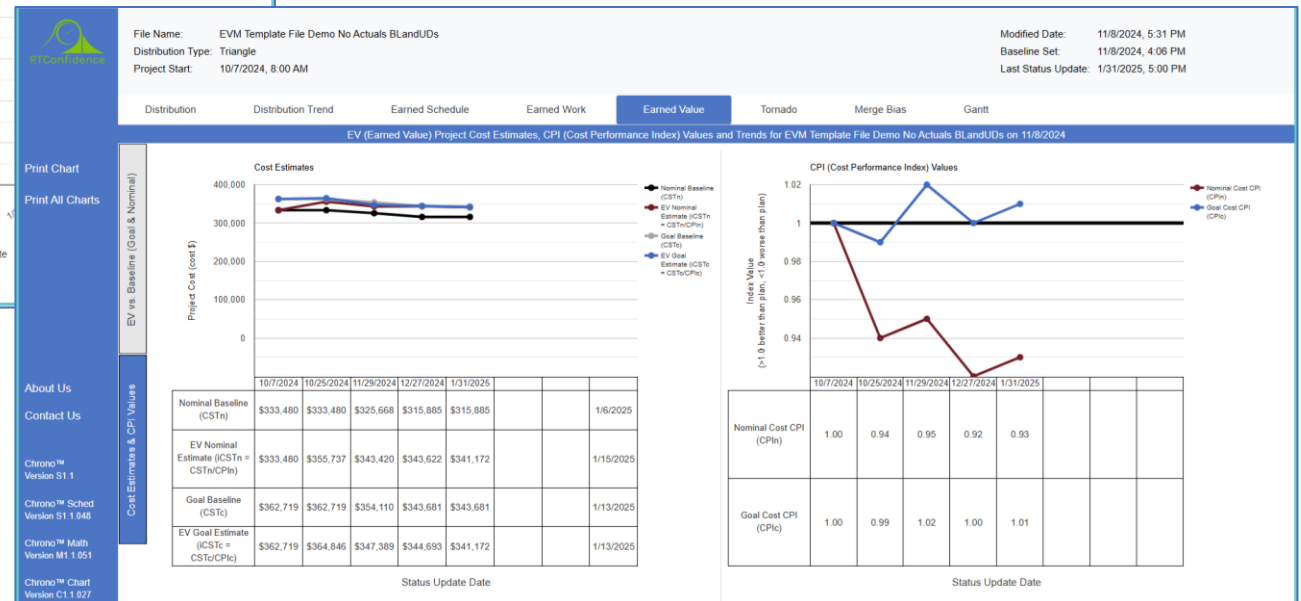
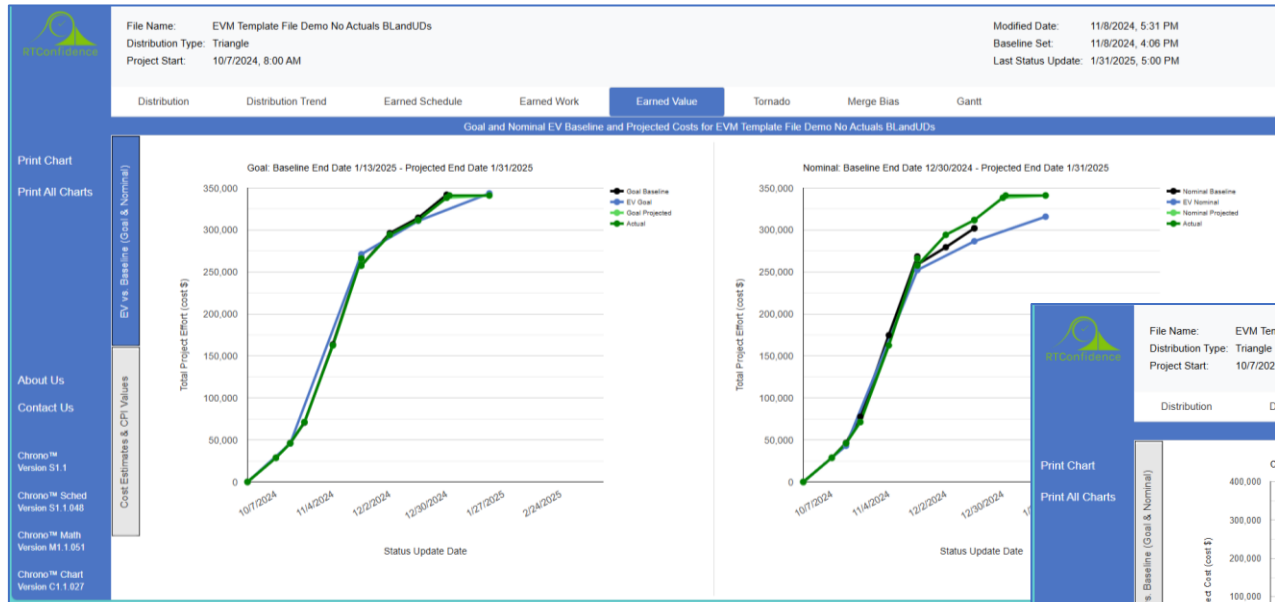
Status Update #4 Published Distribution Trend Chart



Project Progress Update Reference



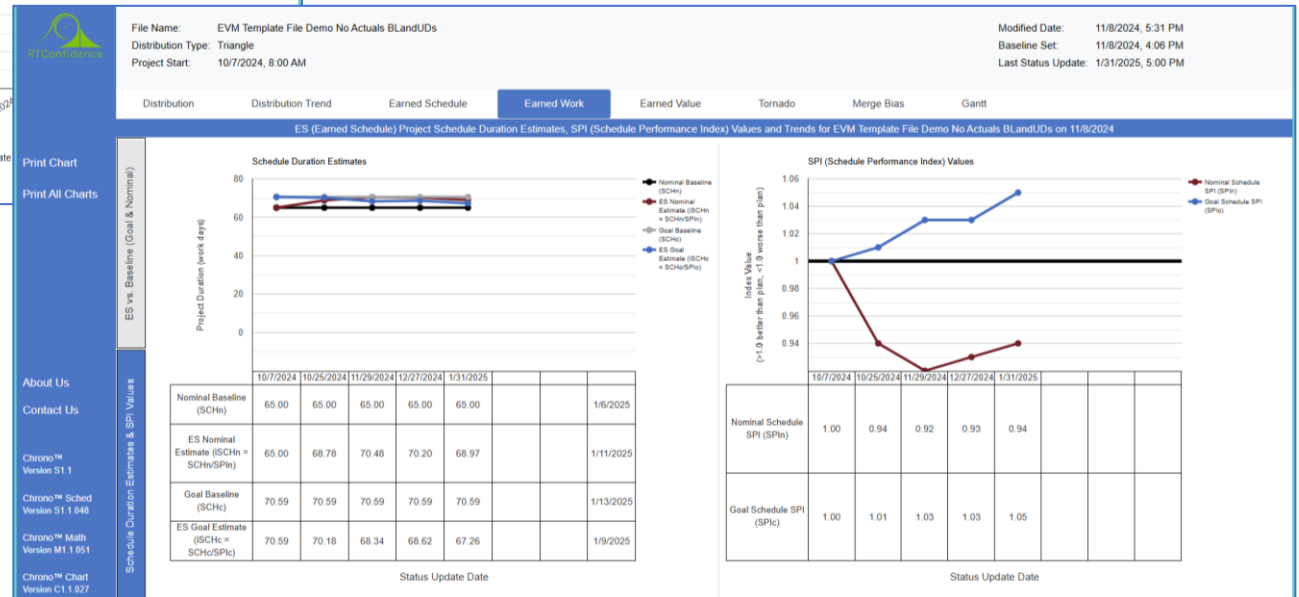
Status Update #4 Published Cost EV & CPI Charts



Project Progress Update Reference



Status Update #4 Published Schedule EW & SPI Charts



Project Progress Update Reference

Status Update #4 Published Commit Sch. & Cost Charts



File Name: EVM Template File Demo No Actuals BlandUDs

Distribution Type: Triangle

Project Start: 10/7/2024, 8:00 AM

Modified Date: 11/8/2024, 5:31 PM

Baseline Set: 11/8/2024, 4:06 PM

Last Status Update: 1/31/2025, 5:00 PM

Distribution Distribution Trend Earned Schedule Earned Work Earned Value Tornado Merge Bias Gantt

'EVM Template File Demo No Actuals BlandUDs' 14 Task Schedule Commit

sp	ACWP	BCWP	BCWS	EAC	CV	SV	CPI	SPI	Base Cost	Actual Cost	Fixed Cost	Cost	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2025	2025
													30 Sep	07 Oct	14 Oct	21 Oct	28 Oct	04 Nov	11 Nov	18 Nov	25 Nov	02 Dec	09 Dec	16 Dec	23 Dec	30 Dec	06 Jan	13 Jan
												\$436,312.00																
	\$95,140.00	\$94,590.04	\$87,100.00	\$95,140.00	-\$549.96	\$7,490.04	1.0859	0.9942	\$94,590.04	\$95,140.00		\$95,140.00																
	\$341,172.00	\$125,568.04	\$333,480.00	\$925,501.35	-\$215,603.96	-\$207,911.96	0.3765	0.368	\$345,568.04	\$341,172.00	\$220,000.00	\$341,172.00																
	\$20,790.00	\$19,750.50	\$18,900.00	\$20,790.00	-\$1,039.50	\$850.50	1.045	0.95	\$19,750.50	\$20,790.00		\$20,790.00																
	\$8,610.00	\$9,630.90	\$8,610.00	\$8,610.00	\$1,020.90	\$1,020.90	1.1185	1.1185	\$9,630.90	\$8,610.00		\$8,610.00																
	\$120,000.00	\$0.00	\$120,000.00	\$120,000.00	-\$120,000.00	-\$120,000.00			\$120,000.00	\$120,000.00	\$120,000.00	\$120,000.00																
	\$16,200.00	\$14,391.00	\$12,150.00	\$16,200.00	-\$1,809.00	\$2,241.00	1.1844	0.8883	\$14,391.00	\$16,200.00		\$16,200.00																
	\$75,000.00	\$0.00	\$75,000.00	\$75,000.00	-\$75,000.00	-\$75,000.00			\$75,000.00	\$75,000.00	\$75,000.00	\$75,000.00																
	\$21,692.00	\$24,748.60	\$21,692.00	\$21,692.00	\$3,056.60	\$3,056.60	1.1409	1.1409	\$24,748.60	\$21,692.00		\$21,692.00																
	\$25,000.00	\$0.00	\$25,000.00	\$25,000.00	-\$25,000.00	-\$25,000.00			\$25,000.00	\$25,000.00	\$25,000.00	\$25,000.00																
	\$26,280.00	\$26,052.24	\$24,528.00	\$26,280.00	-\$227.76	\$1,524.24	1.0621	0.9913	\$26,052.24	\$26,280.00		\$26,280.00																
	\$27,600.00	\$30,994.80	\$27,600.00	\$27,600.00	\$3,394.80	\$3,394.80	1.123	1.123	\$30,994.80	\$27,600.00		\$27,600.00																

30 Sep
07 Oct
14 Oct
21 Oct
28 Oct
04 Nov
11 Nov
18 Nov
25 Nov
02 Dec
09 Dec
16 Dec
23 Dec
30 Dec
06 Jan
13 Jan

Note: click on "Goal" first to get the right Baseline for "Commit"


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- Chrono™ Math Version M1.1.051
- Chrono™ Chart Version C1.1.027

- Nominal
- High Risk
- Medium Risk
- Goal
- Commit

Project Progress Update Reference



Status Update #4 Published Nominal Sch. & Cost Charts



File Name: EVM Template File Demo No Actuals BLandUDS
 Distribution Type: Triangle
 Project Start: 10/7/2024, 8:00 AM

Modified Date: 11/8/2024, 5:31 PM
 Baseline Set: 11/8/2024, 4:06 PM
 Last Status Update: 1/31/2025, 5:00 PM

Distribution Distribution Trend Earned Schedule Earned Work Earned Value Tornado Merge Bias Gantt

'EVM Template File Demo No Actuals BLandUDS' 14 Task Schedule Nominal

Task	ACWP	BCWP	BCWS	EAC	CV	SV	CPI	SPI	Base Cost	Actual Cost	Fixed Cost	Cost	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2025	2025
													30 Sep	07 Oct	14 Oct	21 Oct	28 Oct	04 Nov	11 Nov	18 Nov	25 Nov	02 Dec	09 Dec	16 Dec	23 Dec	30 Dec	06 Jan	13 Jan
1	\$95,140.00	\$87,100.00	\$87,100.00	\$95,140.00	-\$8,040.00		0.9155	1	\$87,100.00	\$95,140.00		\$436,312.00																
2	\$341,172.00	\$333,480.00	\$333,480.00	\$341,172.00	-\$7,692.00		0.9775	1	\$333,480.00	\$341,172.00	\$220,000.00	\$341,172.00																
3	\$20,790.00	\$18,900.00	\$18,900.00	\$20,790.00	-\$1,890.00		0.9091	1	\$18,900.00	\$20,790.00		\$20,790.00																
4	\$8,610.00	\$8,610.00	\$8,610.00	\$8,610.00			1	1	\$8,610.00	\$8,610.00		\$8,610.00																
5	\$120,000.00	\$120,000.00	\$120,000.00	\$120,000.00			1	1	\$120,000.00	\$120,000.00	\$120,000.00	\$120,000.00																
6	\$16,200.00	\$12,150.00	\$12,150.00	\$16,200.00	-\$4,050.00		0.75	1	\$12,150.00	\$16,200.00		\$16,200.00																
7	\$75,000.00	\$75,000.00	\$75,000.00	\$75,000.00			1	1	\$75,000.00	\$75,000.00	\$75,000.00	\$75,000.00																
8	\$21,692.00	\$21,692.00	\$21,692.00	\$21,692.00			1	1	\$21,692.00	\$21,692.00		\$21,692.00																
9	\$25,000.00	\$25,000.00	\$25,000.00	\$25,000.00			1	1	\$25,000.00	\$25,000.00	\$25,000.00	\$25,000.00																
10	\$26,280.00	\$24,528.00	\$24,528.00	\$26,280.00	-\$1,752.00		0.9333	1	\$24,528.00	\$26,280.00		\$26,280.00																
11	\$27,600.00	\$27,600.00	\$27,600.00	\$27,600.00			1	1	\$27,600.00	\$27,600.00		\$27,600.00																

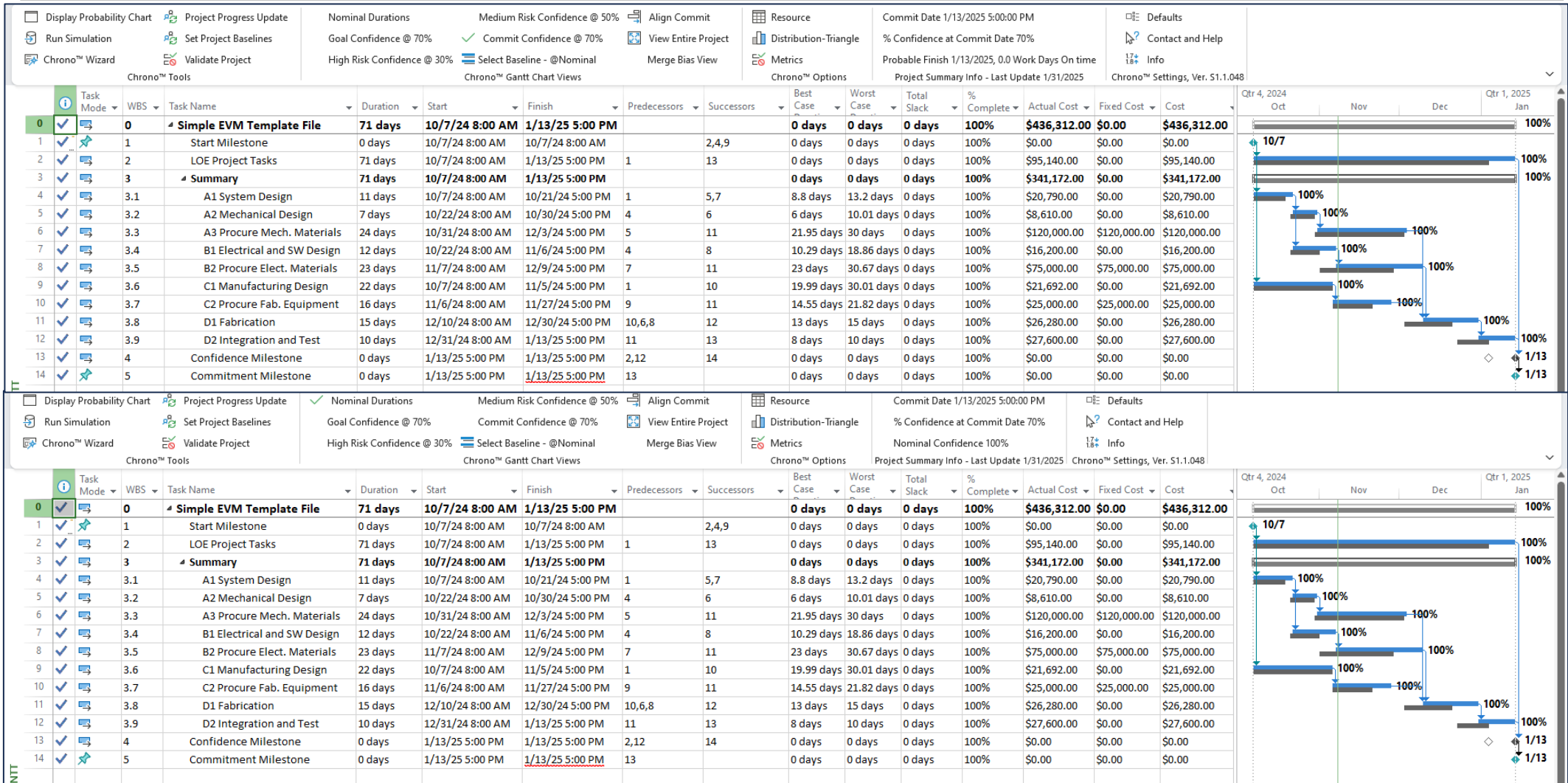
Note: this is the Schedule that the Team works to so as to Increase Chances of meeting the Commit schedule & budget.

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Nominal
High Risk
Medium Risk
Goal
Commit

Project Progress Update Reference

Final Project IMS Outcome



EVM (Earned Value Management) Training

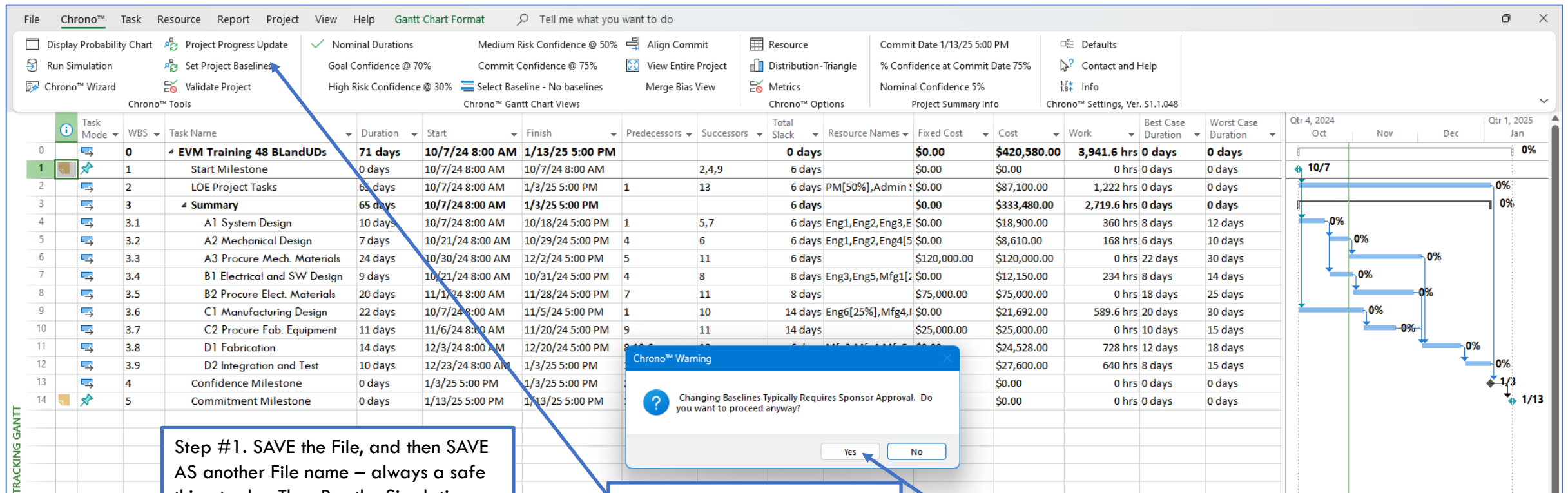
Performing EVM Baselineing and Updating in Chrono™ with Updated Actual Costs

CHRONO™ TRAINING REFERENCE GUIDE

Baselines and Updates

Establishing Project Baselines

If you haven't already done so – SAVE then SAVE_AS New File Name



The screenshot shows the Chrono software interface. The top menu bar includes File, Chrono™, Task, Resource, Report, Project, View, Help, and Gantt Chart Format. Below the menu is a toolbar with various tools like 'Display Probability Chart', 'Run Simulation', 'Chrono™ Wizard', 'Project Progress Update', 'Set Project Baselines', 'Validate Project', 'Nominal Durations', 'Goal Confidence @ 70%', 'High Risk Confidence @ 30%', 'Medium Risk Confidence @ 50%', 'Commit Confidence @ 75%', 'Select Baseline - No baselines', 'Align Commit', 'View Entire Project', 'Merge Bias View', 'Resource', 'Distribution-Triangle', 'Metrics', 'Chrono™ Options', 'Commit Date 1/13/25 5:00 PM', '% Confidence at Commit Date 75%', 'Nominal Confidence 5%', 'Defaults', 'Contact and Help', and 'Info'. The main area displays a Gantt chart with tasks such as 'EVM Training 48 BlandUDs', 'Start Milestone', 'LOE Project Tasks', 'Summary', 'A1 System Design', 'A2 Mechanical Design', 'A3 Procure Mech. Materials', 'B1 Electrical and SW Design', 'B2 Procure Elect. Materials', 'C1 Manufacturing Design', 'C2 Procure Fab. Equipment', 'D1 Fabrication', 'D2 Integration and Test', 'Confidence Milestone', and 'Commitment Milestone'. A warning dialog box is open, asking 'Changing Baselines Typically Requires Sponsor Approval. Do you want to proceed anyway?' with 'Yes' and 'No' buttons.

Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack	Resource Names	Fixed Cost	Cost	Work	Best Case Duration	Worst Case Duration
0	0	EVM Training 48 BlandUDs	71 days	10/7/24 8:00 AM	1/13/25 5:00 PM			0 days		\$0.00	\$420,580.00	3,941.6 hrs	0 days	0 days
1	1	Start Milestone	0 days	10/7/24 8:00 AM	10/7/24 8:00 AM		2,4,9	6 days		\$0.00	\$0.00	0 hrs	0 days	0 days
2	2	LOE Project Tasks	65 days	10/7/24 8:00 AM	1/3/25 5:00 PM	1	13	6 days	PM[50%],Admin	\$0.00	\$87,100.00	1,222 hrs	0 days	0 days
3	3	Summary	65 days	10/7/24 8:00 AM	1/3/25 5:00 PM			6 days		\$0.00	\$333,480.00	2,719.6 hrs	0 days	0 days
4	3.1	A1 System Design	10 days	10/7/24 8:00 AM	10/18/24 5:00 PM	1	5,7	6 days	Eng1,Eng2,Eng3,E	\$0.00	\$18,900.00	360 hrs	8 days	12 days
5	3.2	A2 Mechanical Design	7 days	10/21/24 8:00 AM	10/29/24 5:00 PM	4	6	6 days	Eng1,Eng2,Eng4[5	\$0.00	\$8,610.00	168 hrs	6 days	10 days
6	3.3	A3 Procure Mech. Materials	24 days	10/30/24 8:00 AM	12/2/24 5:00 PM	5	11	6 days		\$120,000.00	\$120,000.00	0 hrs	22 days	30 days
7	3.4	B1 Electrical and SW Design	9 days	10/21/24 8:00 AM	10/31/24 5:00 PM	4	8	8 days	Eng3,Eng5,Mfg1[2	\$0.00	\$12,150.00	234 hrs	8 days	14 days
8	3.5	B2 Procure Elect. Materials	20 days	11/1/24 8:00 AM	11/28/24 5:00 PM	7	11	8 days		\$75,000.00	\$75,000.00	0 hrs	18 days	25 days
9	3.6	C1 Manufacturing Design	22 days	10/7/24 8:00 AM	11/5/24 5:00 PM	1	10	14 days	Eng6[25%],Mfg4,1	\$0.00	\$21,692.00	589.6 hrs	20 days	30 days
10	3.7	C2 Procure Fab. Equipment	11 days	11/6/24 8:00 AM	11/20/24 5:00 PM	9	11	14 days		\$25,000.00	\$25,000.00	0 hrs	10 days	15 days
11	3.8	D1 Fabrication	14 days	12/3/24 8:00 AM	12/20/24 5:00 PM	8,10,11	12	8 days		\$24,528.00	\$24,528.00	728 hrs	12 days	18 days
12	3.9	D2 Integration and Test	10 days	12/23/24 8:00 AM	1/3/25 5:00 PM	11	13	8 days		\$27,600.00	\$27,600.00	640 hrs	8 days	15 days
13	4	Confidence Milestone	0 days	1/3/25 5:00 PM	1/3/25 5:00 PM			0 hrs		\$0.00	\$0.00	0 hrs	0 days	0 days
14	5	Commitment Milestone	0 days	1/13/25 5:00 PM	1/13/25 5:00 PM			0 hrs		\$0.00	\$0.00	0 hrs	0 days	0 days

Step #1. SAVE the File, and then SAVE AS another File name – always a safe thing to do. Then Run the Simulation again and verify the same results.

Step #2. In the New File, Select “Set Project Baselines” in the Chrono Tools Section.

Step #3. Select “Yes” when this Pop-up appears.

Establishing Baselines

The Baseline Goal Gantt (i.e., Commit Schedule)



File Chrono™ Task Resource Report Project View Help Gantt Chart Format Tell me what you want to do

Display Probability Chart Project Progress Update Nominal Durations Medium Risk Confidence @ 50% Align Commit Resource Commit Date 1/13/2025 5:00:00 PM Defaults
 Run Simulation Set Project Baselines Goal Confidence @ 70% Commit Confidence @ 75% View Entire Project Distribution-Triangle % Confidence at Commit Date 75% Contact and Help
 Chrono™ Wizard Validate Project High Risk Confidence @ 30% Select Baseline - @Goal Merge Bias View Metrics Probable Finish 1/13/2025, -0.4 Work Days On time Info
 Chrono™ Tools Chrono™ Gantt Chart Views Chrono™ Options Project Summary Info - Last Update 10/7/2024 Chrono™ Settings, Ver. 51.1.048

Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack	Resource Names	Fixed Cost	Cost	Work	Best Case Duration	Worst Case Duration
0	0	EVM Training 48 BlandUDs	71 days	10/7/24 8:00 AM	1/13/25 5:00 PM			0 days		\$0.00	\$440,158.08	4,333 hrs	0 days	0 days
1	1	Start Milestone	0 days	10/7/24 8:00 AM	10/7/24 8:00 AM		2,4,9	0.41 days		\$0.00	\$0.00	0 hrs	0 days	0 days
2	2	LOE Project Tasks	70.59 days	10/7/24 8:00 AM	1/13/25 1:43 PM	1	13	0.41 days	PM[50%],Admin	\$0.00	\$94,590.04	1,327.08 hrs	0 days	0 days
3	3	Summary	70.59 days	10/7/24 8:00 AM	1/13/25 1:43 PM			0.41 days		\$0.00	\$345,568.04	3,005.92 hrs	0 days	0 days
4	3.1	A1 System Design	10.45 days	10/7/24 8:00 AM	10/21/24 11:36 AM	1	5,7	0.41 days	Eng1,Eng2,Eng3,E	\$0.00	\$19,750.50	376.2 hrs	8 days	12 days
5	3.2	A2 Mechanical Design	7.83 days	10/21/24 11:36 AM	10/31/24 10:14 AM	4	6	0.41 days	Eng1,Eng2,Eng4[5	\$0.00	\$9,630.90	187.92 hrs	6 days	10 days
6	3.3	A3 Procure Mech. Materials	25.78 days	10/31/24 10:14 AM	12/6/24 8:29 AM	5	11FS+0.43 day	0.41 days		\$120,000.00	\$120,000.00	0 hrs	22 days	30 days
7	3.4	B1 Electrical and SW Design	10.66 days	10/21/24 11:36 AM	11/5/24 8:53 AM	4	8	2.04 days	Eng3,Eng5,Mfg1[	\$0.00	\$14,391.00	277.16 hrs	8 days	14 days
8	3.5	B2 Procure Elect. Materials	21.32 days	11/5/24 8:53 AM	12/4/24 11:26 AM	7	11FS+0.43 day	2.04 days		\$75,000.00	\$75,000.00	0 hrs	18 days	25 days
9	3.6	C1 Manufacturing Design	25.1 days	10/7/24 8:00 AM	11/11/24 8:48 AM	1	10	7.25 days	Eng6[25%],Mfg4,I	\$0.00	\$24,748.60	672.68 hrs	20 days	30 days
10	3.7	C2 Procure Fab. Equipment	12.12 days	11/11/24 8:48 AM	11/27/24 9:46 AM	9	11FS+0.43 day	7.25 days		\$25,000.00	\$25,000.00	0 hrs	10 days	15 days
11	3.8	D1 Fabrication	14.87 days	12/6/24 11:55 AM	12/27/24 10:53 AM	8FS+0.43 days,	12	0.41 days	Mfg3,Mfg4,Mfg5,	\$0.00	\$26,052.24	773.24 hrs	12 days	18 days
12	3.9	D2 Integration and Test	11.23 days	12/27/24 10:53 AM	1/13/25 1:43 PM	11	13	0.41 days	Test1,Test2,Test3	\$0.00	\$30,994.80	718.72 hrs	8 days	15 days
13	4	Confidence Milestone	0 days	1/13/25 1:43 PM	1/13/25 1:43 PM	2,12	14	0.41 days		\$0.00	\$0.00	0 hrs	0 days	0 days
14	5	Commitment Milestone	0 days	1/13/25 5:00 PM	1/13/25 5:00 PM	13		0 days		\$0.00	\$0.00	0 hrs	0 days	0 days

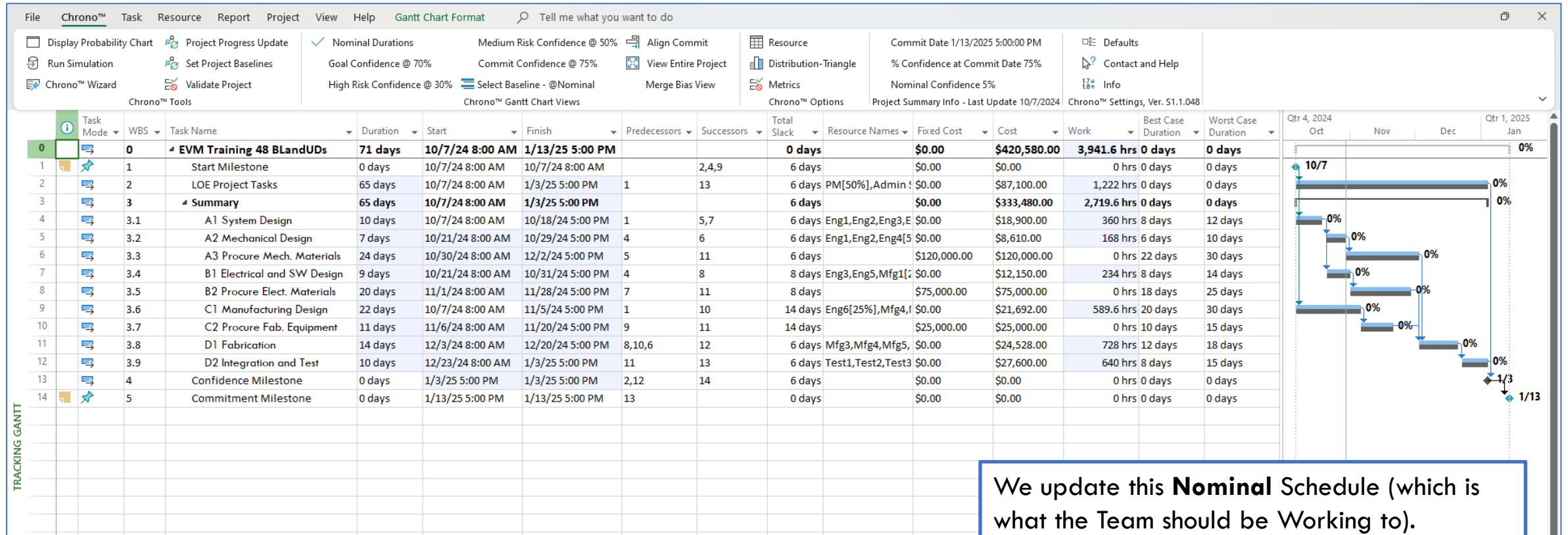
TRACKING GANTT

Consider the Black Baseline bars as Snap-shots that do not change, even after updating the schedule.

Baselines are auto-Saved and a replica named: **<file name>_000** of the file is put into the same folder.

Establishing Baselines

The Baseline Nominal Gantt (i.e., Target Schedule)

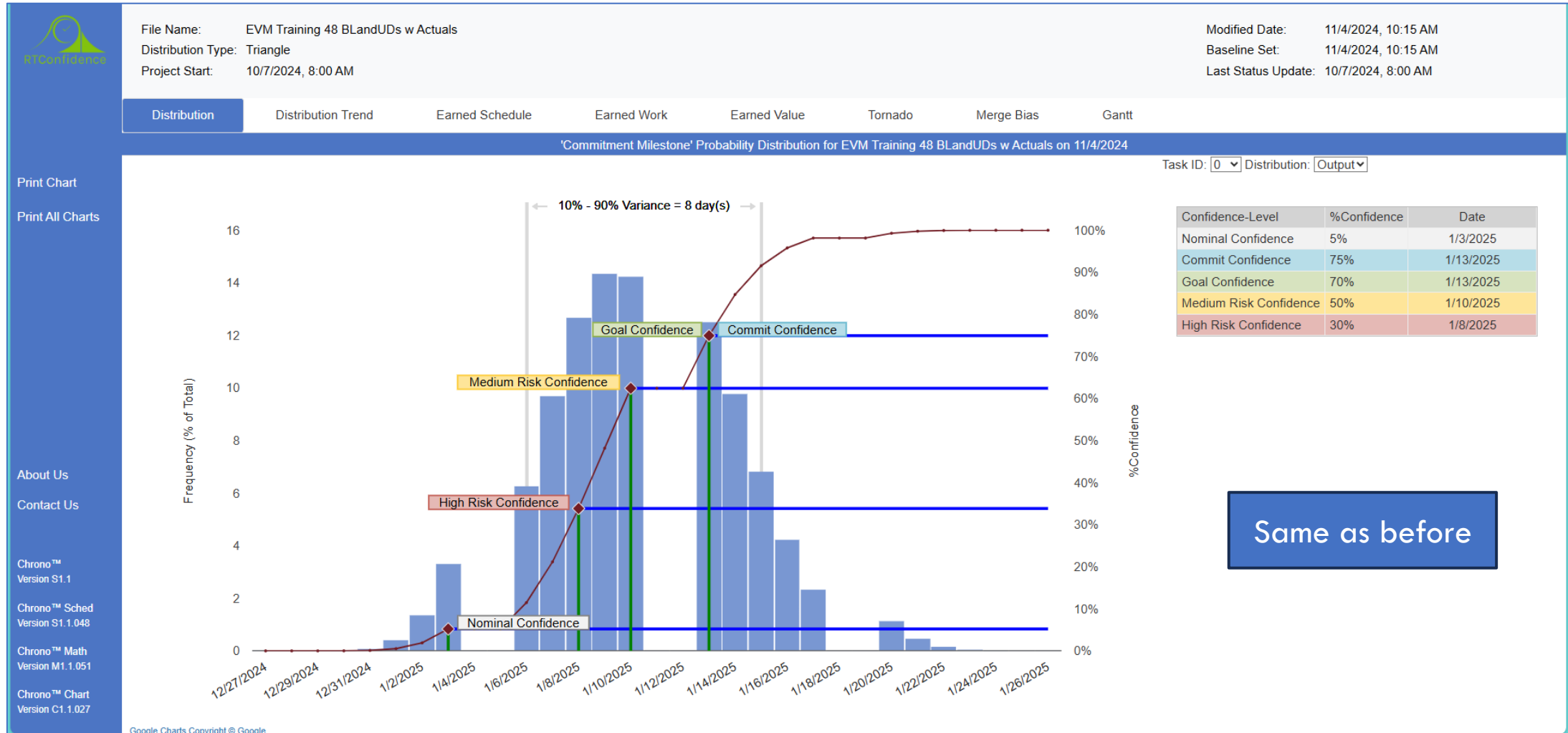


Select the “Nominal Durations” Gantt to view this Critical Path schedule -- which is considered a good “Target” for the Team to Work toward Achieving.

We update this **Nominal** Schedule (which is what the Team should be Working to).
However, we are most concerned about how we are performing to the **Commit** Schedule.

SRA Simulation Output Display

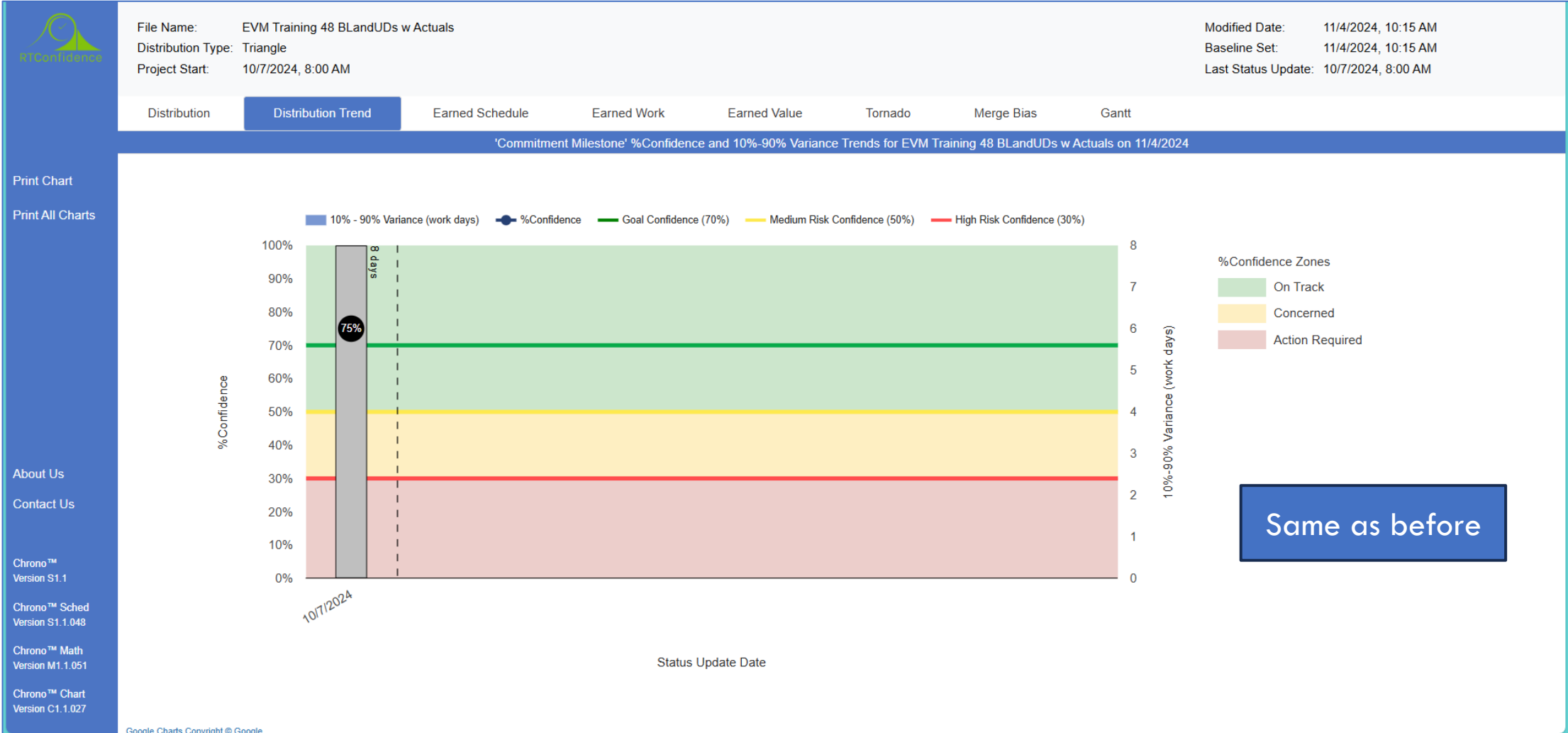
Result of Setting the Project Baseline



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- Chrono™ Math Version M1.1.051
- Chrono™ Chart Version C1.1.027

SRA Simulation Output Display


Result of Setting the Project Baseline



SRA Simulation Output Display



EVM Schedule Metrics – are Automatically Calculated



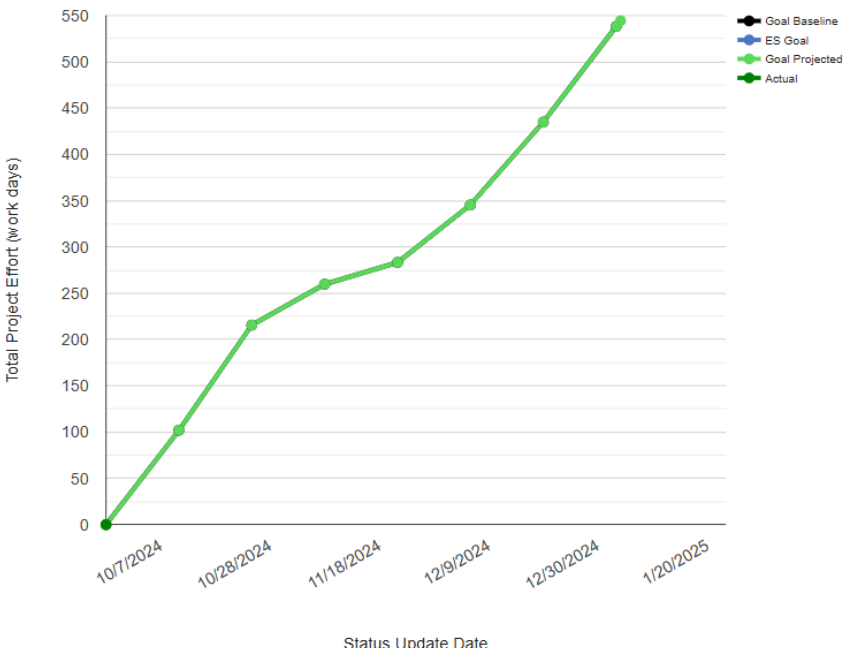
File Name: EVM Training 48 BLandUDs w Actuals
 Distribution Type: Triangle
 Project Start: 10/7/2024, 8:00 AM

Modified Date: 11/4/2024, 10:15 AM
 Baseline Set: 11/4/2024, 10:15 AM
 Last Status Update: 10/7/2024, 8:00 AM

Distribution
Distribution Trend
Earned Schedule
Earned Work
Earned Value
Tornado
Merge Bias
Gantt


Goal and Nominal ES Baseline and Projected Schedules for EVM Training 48 BLandUDs w Actuals

Goal: Baseline End Date 1/13/2025 - Projected End Date 1/14/2025



Status Update Date	Actual (work days)	Goal Projected (work days)
10/7/2024	0	0
10/28/2024	215	215
11/18/2024	260	260
12/9/2024	345	345
12/30/2024	435	435
1/14/2025	540	540

Nominal: Baseline End Date 12/30/2024 - Projected End Date 1/6/2025



Status Update Date	Actual (work days)	Nominal Projected (work days)
10/7/2024	0	0
10/28/2024	210	210
11/18/2024	245	245
12/9/2024	345	345
12/30/2024	440	440
1/6/2025	495	495

Same as before

Print Chart | Print All Charts | ES vs. Baseline (Goal & Nominal) | Schedule Duration Estimates & SPI Values

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SRA Simulation Output Display

EVM Schedule Metrics – are Automatically Calculated



File Name: EVM Training 48 BLandUDs w Actuals
 Distribution Type: Triangle
 Project Start: 10/7/2024, 8:00 AM

Modified Date: 11/4/2024, 10:15 AM
 Baseline Set: 11/4/2024, 10:15 AM
 Last Status Update: 10/7/2024, 8:00 AM

- Distribution
- Distribution Trend
- Earned Schedule
- Earned Work**
- Earned Value
- Tornado
- Merge Bias
- Gantt

ES (Earned Schedule) Project Schedule Duration Estimates, SPI (Schedule Performance Index) Values and Trends for EVM Training 48 BLandUDs w Actuals on 11/4/2024

Print Chart
 Print All Charts

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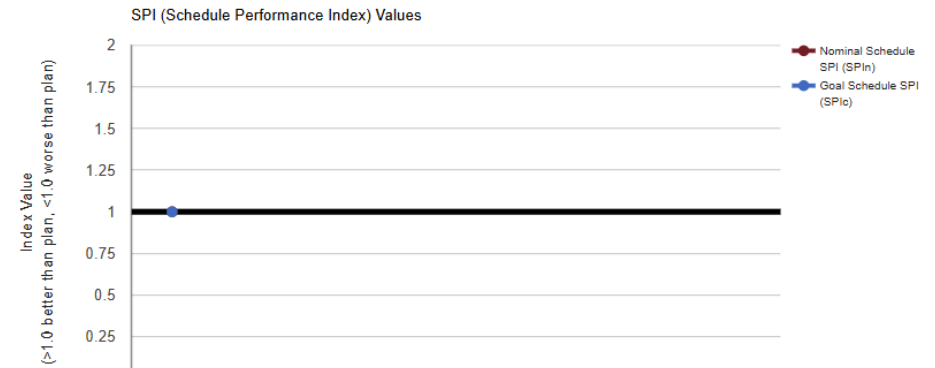
ES vs. Baseline (Goal & Nominal)

Schedule Duration Estimates & SPI Values



	10/7/2024								
Nominal Baseline (SCHn)	65.00								1/6/2025
ES Nominal Estimate (ISCHn = SCHn/SPI _n)	65.00								1/6/2025
Goal Baseline (SCHc)	70.59								1/13/2025
ES Goal Estimate (ISCHc = SCHc/SPI _c)	70.59								1/13/2025

Status Update Date



	10/7/2024								
Nominal Schedule SPI (SPI _n)	1.00								
Goal Schedule SPI (SPI _c)	1.00								


Status Update Date

Same as before

SRA Simulation Output Display



EVM Cost Metrics – are Automatically Calculated



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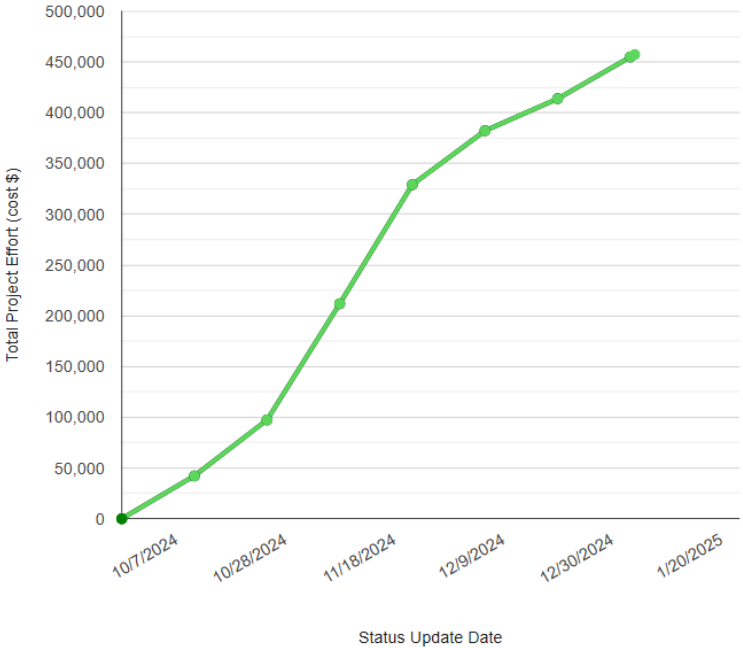
File Name: EVM Training 48 BlandUDs w Actuals
 Distribution Type: Triangle
 Project Start: 10/7/2024, 8:00 AM

Modified Date: 11/4/2024, 10:15 AM
 Baseline Set: 11/4/2024, 10:15 AM
 Last Status Update: 10/7/2024, 8:00 AM

Distribution
Distribution Trend
Earned Schedule
Earned Work
Earned Value
Tornado
Merge Bias
Gantt

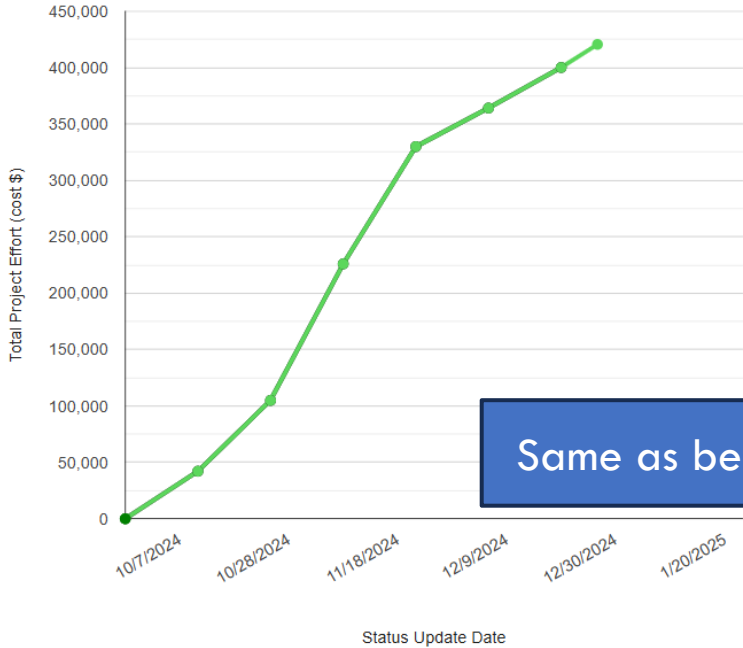
Goal and Nominal EV Baseline and Projected Costs for EVM Training 48 BlandUDs w Actuals

Goal: Baseline End Date 1/13/2025 - Projected End Date 1/14/2025



Status Update Date	Actual EV	Goal Projected EV
10/7/2024	0	0
10/28/2024	45,000	45,000
11/18/2024	215,000	215,000
12/9/2024	385,000	385,000
12/30/2024	415,000	415,000
1/20/2025	460,000	460,000

Nominal: Baseline End Date 12/30/2024 - Projected End Date 1/6/2025



Status Update Date	Actual EV	Nominal Projected EV
10/7/2024	0	0
10/28/2024	45,000	45,000
11/18/2024	225,000	225,000
12/9/2024	365,000	365,000
12/30/2024	400,000	400,000
1/20/2025	420,000	420,000

EV vs. Baseline (Goal & Nominal)

Cost Estimates & CPI Values

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SRA Simulation Output Display



EVM Cost Metrics – are Automatically Calculated

File Name: EVM Training 48 BLandUDs w Actuals
 Distribution Type: Triangle
 Project Start: 10/7/2024, 8:00 AM

Modified Date: 11/4/2024, 10:15 AM
 Baseline Set: 11/4/2024, 10:15 AM
 Last Status Update: 10/7/2024, 8:00 AM

Distribution
Distribution Trend
Earned Schedule
Earned Work
Earned Value
Tornado
Merge Bias
Gantt

EV (Earned Value) Project Cost Estimates, CPI (Cost Performance Index) Values and Trends for EVM Training 48 BLandUDs w Actuals on 11/4/2024

Cost Estimates

	10/7/2024								
Nominal Baseline (CSTn)	\$420,580								1/6/2025
EV Nominal Estimate (iCSTn = CSTn/CPIin)	\$420,580								1/6/2025
Goal Baseline (CSTc)	\$457,309								1/13/2025
EV Goal Estimate (iCSTc = CSTc/CPIc)	\$457,309								1/13/2025

Status Update Date

CPI (Cost Performance Index) Values

	10/7/2024								
Nominal Cost CPI (CPIin)	1.00								
Goal Cost CPI (CPIc)	1.00								

Status Update Date

Same as before

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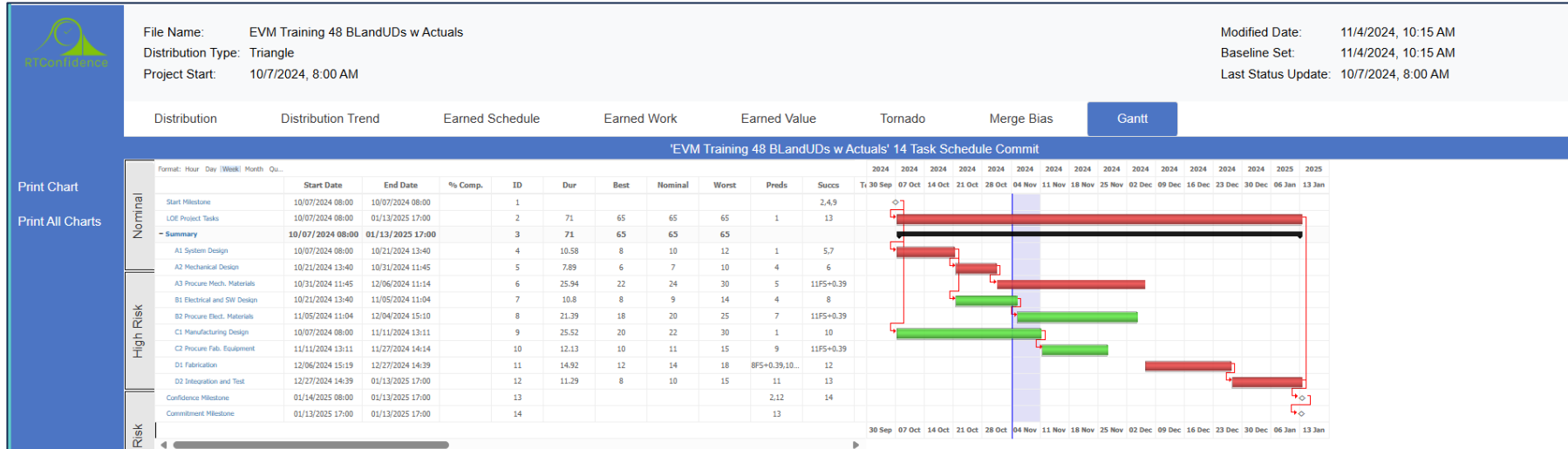
EV vs. Baseline (Goal & Nominal)

Cost Estimates & CPI Values

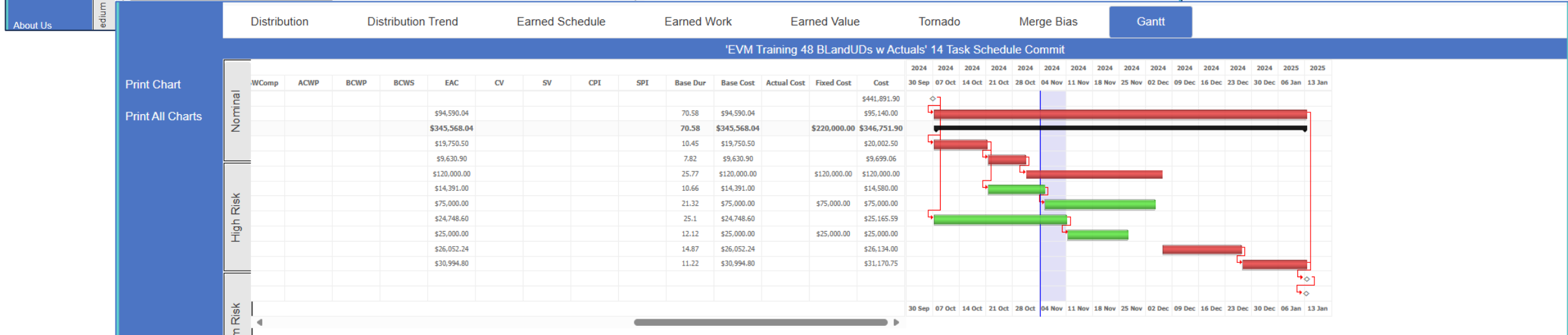
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Post Baseline Simulation Outputs

EVM Metrics – Commitment Plan

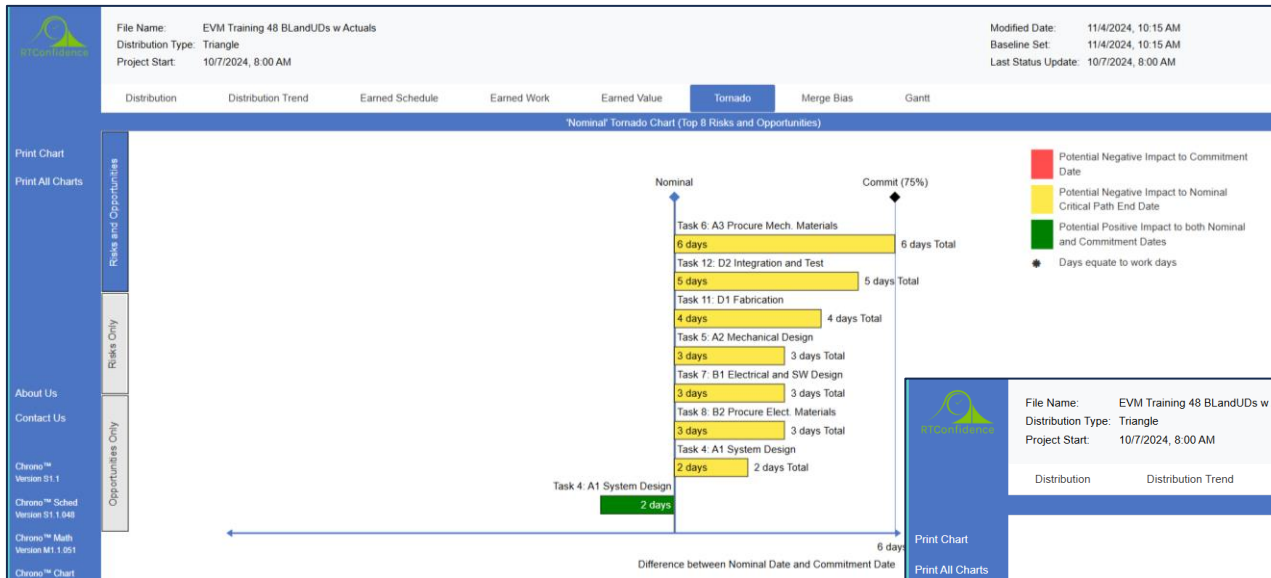


Same as before



Post Baseline Simulation Outputs

Tornado and Merge Bias Charts Prioritize Risks



Same as before



Project Progress Update Reference



Scenario (for 1st Update), with Actual Cost Update

First Project Progress Update (Friday, 10/25/2024)

- 1) Task A1 (TaskID 4) pushed out 1 day (change Closure Date and Time to 10/21/2024 5:00PM), then Next, and Next.
- 2) Task A2 (TaskID 5) is on track with remaining Duration of 3 work days, Next, then Accept Changes to the revised Best Case and Worst Case duration Values (2.57 and 4.29 days from the Status Update date).
- 3) Task B1 (TaskID 7) is expected to push out 2 more days (Change Remaining Duration from 5 to 7), Next, then Next again and change BC and WC (BC = 6 and WC = 11), Accept Changes.
- 4) Task C1 (ID 9) in on track – Next, and Accept the BC and WC changes (BC = 6.36 and WC = 9.55), Accept Changes.
- 5) Select “3. Preview” and notice that the Commitment Confidence from the updated Distribution chart (below) has only gone down to 59%. This is acceptable to the team.

Before Publishing we are going to update the Actual Costs from the Organization’s Financial System

- In this case the only change is to Task ID 4 (A1 System Design) – for it is the only completed task (and **you can only change the Actual Cost after the task is 100% completed**). The projected costs (based on original estimates) was \$20,790.00, and the Actual Costs from the Financial System is \$22,215.00. To make this change, it is important to change the current amount in the Nominal Gantt chart, making sure that you select “Enter” when you are finished. This is Cost change of (+\$1,425). (Note: you can only make these changes while in the “Nominal Durations” Gantt chart view).
- 6) Select “4. Publish” and see the Update #1 ChronoView Outputs that follow.

Project Progress Update Reference

Status Update #1 Input 1



File Chrono™ Task Resource Report Project View Help Gantt Chart Format Tell me what you want to do

Display Probability Chart
 Project Progress Update
 Nominal Durations
 Medium Risk Confidence @ 50%
 Align Commit
 Resource
 Com

Run Simulation
 Set Project Baselines
 Goal Confidence @ 70%
 Commit Confidence @ 75%
 View Entire Project
 Distribution-Triangle
 %

Chrono™ Wizard
 Validate Project
 High Risk Confidence @ 30%
 Select Baseline - @Nominal
 Merge Bias View
 Metrics
 Nom

Chrono™ Tools Chrono™ Gantt Chart Views Chrono™ Options Project

Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack	Resource Names
0	0	EVM Training 48 BlandUDs	71 days	10/7/24 8:00 AM	1/13/25 5:00 PM			0 days	
1	1	Start Milestone	0 days	10/7/24 8:00 AM	10/7/24 8:00 AM	2,4,9		6 days	
2	2	LOE Project Tasks	65 days	10/7/24 8:00 AM	1/3/25 5:00 PM	1	13	6 days	PM[50%],Admin
3	3	Summary	65 days	10/7/24 8:00 AM	1/3/25 5:00 PM			6 days	
4	3.1	A1 System Design	10 days	10/7/24 8:00 AM	10/18/24 5:00 PM	1	5,7	6 days	Eng1,Eng2,Eng3,E
5	3.2	A2 Mechanical Design	7 days	10/21/24 8:00 AM	10/29/24 5:00 PM	4	6	6 days	Eng1,Eng2,Eng4,5
6	3.3	A3 Procure Mech. Materials	24 days	10/30/24 8:00 AM	12/2/24 5:00 PM	5	11	6 days	
7	3.4	B1 Electrical and SW Design	9 days	10/21/24 8:00 AM	10/31/24 5:00 PM	4	8	8 days	Eng3,Eng5,Mfg1,2
8	3.5	B2 Procure Elect. Materials	20 days	11/1/24 8:00 AM	11/28/24 5:00 PM	7	11	8 days	
9	3.6	C1 Manufacturing Design	22 days	10/7/24 8:00 AM	11/5/24 5:00 PM	1	10	14 days	Eng6[25%],Mfg4,I
10	3.7	C2 Procure Fab. Equipment	11 days	11/6/24 8:00 AM	11/20/24 5:00 PM	9	11	14 days	
11	3.8	D1 Fabrication	14 days	12/3/24 8:00 AM	12/20/24 5:00 PM	8,10,6	12	6 days	Mfg3,Mfg4,Mfg5,
12	3.9	D2 Integration and Test	10 days	12/23/24 8:00 AM	1/3/25 5:00 PM	11	13	6 days	Test1,Test2,Test3
13	4	Confidence Milestone	0 days	1/3/25 5:00 PM	1/3/25 5:00 PM	2,12	14	6 days	
14	5	Commitment Milestone	0 days	1/13/25 5:00 PM	1/13/25 5:00 PM	13		0 days	

Update Task % Complete OR Units Complete OR Remaining Duration OR Closure Date

TaskID 4 - A1 System Design TaskID: 4

Instructions - Update Task % Complete or Units Complete of Total Units or Remaining Duration or Closure Date, (- past) for closed tasks, 0 for closing tasks on Status Date, or (+ future) for open tasks

% Complete: OR Units Complete: of OR

Remaining Duration relative to Status Date in days: OR Closure Date mm/dd/yy and optional time hh:mm:

Status Date: 10/25/2024 5:00:00 PM

Buttons: Preview, Reject, Best & Worst, Save and Exit, Done with Update, Next

Column Names, Gantt Chart Start, Indicators, Gantt Chart Zoom

Project Progress Update Reference

Status Update #1 Input 2



File Chrono™ Task Resource Report Project View Help Gantt Chart Format Tell me what you want to do

Display Probability Chart
 Project Progress Update
 Nominal Durations
 Medium Risk Confidence @ 50%
 Align Commit
 Resource
 Commit Date 1/13/2025 5:00:00 PM
 Defaults
 Run Simulation
 Set Project Baselines
 Goal Confidence @ 70%
 Commit Confidence @ 75%
 View Entire Project
 Distribution-Triangle
 % Confidence at Commit Date 75%
 Contact and Help
 Chrono™ Wizard
 Validate Project
 High Risk Confidence @ 30%
 Select Baseline - @Nominal
 Merge Bias View
 Metrics
 Nominal Confidence 5%
 Info
 Chrono™ Tools
 Chrono™ Gantt Chart Views
 Chrono™ Options
 Project Summary Info - Last Update 10/7/2024
 Chrono™ Settings, Ver. S1.1.048

Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack	Resource Names	Fixed Cost	Cost	Work	Best Case Duration	Worst Case Duration
0	0	EVM Training 48 BlandUDs	71 days	10/7/24 8:00 AM	1/13/25 5:00 PM			0 days		\$0.00	\$422,470.00	3,977.6 hrs	0 days	0 days
1	1	Start Milestone	0 days	10/7/24 8:00 AM	10/7/24 8:00 AM		2,4,9	5 days		\$0.00	\$0.00	0 hrs	0 days	0 days
2	2	LOE Project Tasks	65 days	10/7/24 8:00 AM	1/3/25 5:00 PM	1	13	6 days	PM[50%],Admin	\$0.00	\$87,100.00	1,222 hrs	0 days	0 days
3	3	Summary	66 days	10/7/24 8:00 AM	1/6/25 5:00 PM			5 days		\$0.00	\$335,370.00	2,755.6 hrs	0 days	0 days
4	3.1	A1 System Design	11 days	10/7/24 8:00 AM	10/21/24 5:00 PM	1	5,7	5 days	Eng1,Eng2,Eng3,E	\$0.00	\$20,790.00	396 hrs	8.8 days	13.2 days
5	3.2	A2 Mechanical Design	7 days	10/22/24 8:00 AM	10/30/24 5:00 PM	4	6	5 days	Eng1,Eng2,Eng4	\$0.00	\$8,610.00	168 hrs	6 days	10 days
6	3.3	A3 Procure Mech. Materials	24 days	10/31/24 8:00 AM	12/3/24 5:00 PM	5		0 hrs				22 days	30 days	
7	3.4	B1 Electrical and SW Design	9 days	10/22/24 8:00 AM	11/1/24 5:00 PM	4		234 hrs				8 days	14 days	
8	3.5	B2 Procure Elect. Materials	20 days	11/4/24 8:00 AM	11/29/24 5:00 PM	7		0 hrs				18 days	25 days	
9	3.6	C1 Manufacturing Design	22 days	10/7/24 8:00 AM	11/5/24 5:00 PM	1		589.6 hrs				20 days	30 days	
10	3.7	C2 Procure Fab. Equipment	11 days	11/6/24 8:00 AM	11/20/24 5:00 PM	9		0 hrs				10 days	15 days	
11	3.8	D1 Fabrication	14 days	12/4/24 8:00 AM	12/23/24 5:00 PM	8,10,		728 hrs				12 days	18 days	
12	3.9	D2 Integration and Test	10 days	12/24/24 8:00 AM	1/6/25 5:00 PM	11		640 hrs				8 days	15 days	
13	4	Confidence Milestone	0 days	1/6/25 5:00 PM	1/6/25 5:00 PM	2,12		0 hrs				0 days	0 days	
14	5	Commitment Milestone	0 days	1/13/25 5:00 PM	1/13/25 5:00 PM	13		0 hrs				0 days	0 days	

Update Task % Complete OR Units Complete OR Remaining Duration OR Closure Date

TaskID 5 - A2 Mechanical Design

Instructions - Update Task % Complete or Units Complete of Total Units or Remaining Duration or Closure Date, (- past) for closed tasks, 0 for closing tasks on Status Date, or (+ future) for open tasks

TaskID: 5

% Complete: 57.14 OR Units Complete: 57.14 of Total Units: 100 OR

Remaining Duration relative to Status Date in days: 3 OR Closure Date mm/dd/yy and optional time hh:mm: 10/30/2024 5:00:00 PM

Status Date: 10/25/2024 5:00:00 PM

Buttons: Preview, Reject, Best & Worst, Save and Exit, Done with Update, Next

Column Names, Indicators, Gantt Chart Start, Gantt Chart Zoom

Enter Best Case and Worst Case

Instructions - If desired, modify the Best Case Duration and/or the Worst Case Duration.

Status Date: 10/25/2024 5:00:00 PM

Nominal Duration 3 days. All durations relative to Status Date.

Best Case Value: 2.57 Worst Case Value: 4.29

Accept Changes

Qtr 4, 2024

Oct Nov Dec Qtr 1

Project Progress Update Reference

Status Update #1 Input 3



File Chrono™ Task Resource Report Project View Help Gantt Chart Format Tell me what you want to do

Display Probability Chart Project Progress Update Nominal Durations Medium Risk Confidence @ 50% Align Commit Resource Commit Date 1/13/2025 5:00:00 PM Defaults
 Run Simulation Set Project Baselines Goal Confidence @ 70% Commit Confidence @ 75% View Entire Project Distribution-Triangle % Confidence at Com
 Chrono™ Wizard Validate Project High Risk Confidence @ 30% Select Baseline - @Nominal Merge Bias View Metrics Nominal Confidence 5%
 Chrono™ Tools Chrono™ Gantt Chart Views Chrono™ Options Project Summary Info - Last

Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack	Resource Names	Fixed Cost
0	0	EVM Training 48 BlandUDs B	71 days	10/7/24 8:00 AM	1/13/25 5:00 PM			0 days		\$0.00
1	1	Start Milestone	0 days	10/7/24 8:00 AM	10/7/24 8:00 AM		2,4,9	5 days		\$0.00
2	2	LOE Project Tasks	65 days	10/7/24 8:00 AM	1/3/25 5:00 PM	1	13	6 days	PM[50%],Admin	\$0.00
3	3	Summary	66 days	10/7/24 8:00 AM	1/6/25 5:00 PM			5 days		\$0.00
4	3.1	A1 System Design	11 days	10/7/24 8:00 AM	10/21/24 5:00 PM	1	5,7	5 days	Eng1,Eng2,Eng3,E	\$0.00
5	3.2	A2 Mechanical Design	7 days	10/22/24 8:00 AM	10/30/24 5:00 PM	4	6	5 days	Eng1,Eng2,Eng4[5	\$0.00
6	3.3	A3 Procure Mech. Materials	24 days	10/31/24 8:00 AM	12/3/24 5:00 PM	5	11	5 days		\$120,000.00
7	3.4	B1 Electrical and SW Design	11 days	10/22/24 8:00 AM	11/5/24 5:00 PM	4	8	5 days	Eng3,Eng5,Mfg1[	\$0.00
8	3.5	B2 Procure Elect. Materials	20 days	11/6/24 8:00 AM	12/3/24 5:00 PM	7	11	5 days		\$75,000.00
9	3.6	C1 Manufacturing Design	22 days	10/7/24 8:00 AM	11/5/24 5:00 PM	1	10	14 days	Eng6[25%],Mfg4,1	\$0.00
10	3.7	C2 Procure Fab. Equipment	11 days	11/6/24 8:00 AM	11/20/24 5:00 PM	9	11	14 days		\$25,000.00
11	3.8	D1 Fabrication	14 days	12/4/24 8:00 AM	12/23/24 5:00 PM	8,10,6	12	5 days	Mfg3,Mfg4,Mfg5,	\$0.00
12	3.9	D2 Integration and Test	10 days	12/24/24 8:00 AM	1/6/25 5:00 PM	11	13	5 days	Test1,Test2,Test3	\$0.00
13	4	Confidence Milestone	0 days	1/6/25 5:00 PM	1/6/25 5:00 PM	2,12	14	5 days		\$0.00
14	5	Commitment Milestone	0 days	1/13/25 5:00 PM	1/13/25 5:00 PM	13		0 days		\$0.00

Update Task % Complete OR Units Complete OR Remaining Duration OR Closure Date

TaskID 7 - B1 Electrical and SW Design TaskID 7

Instructions - Update Task % Complete or Units Complete of Total Units or Remaining Duration or Closure Date, (- past) for closed tasks, 0 for closing tasks on Status Date, or (+ future) for open tasks

% Complete: OR Units Complete: of Total Units OR

Remaining Duration relative to Status Date in days: OR Closure Date mm/dd/yy and optional time hh:mm:

Status Date: 10/25/2024 5:00:00 PM

Buttons: Preview, Reject, Best & Worst, Save and Exit, Done with Update, Next

Column Names, Gantt Chart Start, Indicators, Gantt Chart Zoom

Enter Best Case and Worst Case

Instructions - If desired, modify the Best Case Duration and/or the Worst Case Duration.

Status Date: 10/25/2024 5:00:00 PM

Nominal Duration 7 days. All durations relative to Status Date.

Best Case Value: Worst Case Value:

Buttons: Reject Changes, Accept Changes

Project Progress Update Reference

Status Update #1 Input 4



File Chrono™ Task Resource Report Project View Help Gantt Chart Format Tell me what you want to do

Display Probability Chart Project Progress Update Nominal Durations Medium Risk Confidence @ 50% Align Commit Resource Commit Date 1/13/2025 5:00:00 PM Defaults
 Run Simulation Set Project Baselines Goal Confidence @ 70% Commit Confidence @ 75% View Entire Project Distribution-Triangle % Confidence at Commit Date 75% Contact and Help
 Chrono™ Wizard Validate Project High Risk Confidence @ 30% Select Baseline - @Nominal Merge Bias View Metrics Chrono™ Options Nominal Confidence 5% Info

Chrono™ Tools Chrono™ Gantt Chart Views Project Summary Info - Last Update 10/7/2024 Chrono™ Settings, Ver. S1.1.048

Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack	Resource Names	Fixed Cost	Cost	Work	Best Case Duration	Worst Case Duration	Sep	Oct	Nov
0		EVM Training 48 BlandUDs	71 days	10/7/24 8:00 AM	1/13/25 5:00 PM					\$0.00	\$10.00	3,996.4 hrs	0 days	0 days			
1		Start Milestone	0 days	10/7/24 8:00 AM	10/7/24 8:00 AM							0 hrs	0 days	0 days			
2		LOE Project Tasks	66 days	10/7/24 8:00 AM	1/6/25 5:00 PM							1,240.8 hrs	0 days	0 days			
3		Summary	66 days	10/7/24 8:00 AM	1/6/25 5:00 PM							2,755.6 hrs	0 days	0 days			
4	3.1	A1 System Design	11 days	10/7/24 8:00 AM	10/21/24 5:00 PM							396 hrs	8.8 days	13.2 days			
5	3.2	A2 Mechanical Design	7 days	10/22/24 8:00 AM	10/30/24 5:00 PM							168 hrs	6 days	10.01 days			
6	3.3	A3 Procure Mech. Materials	24 days	10/31/24 8:00 AM	12/3/24 5:00 PM							0 hrs	22 days	30 days			
7	3.4	B1 Electrical and SW Design	9 days	10/22/24 8:00 AM	11/1/24 5:00 PM							234 hrs	9 days	14.4 days			
8	3.5	B2 Procure Elect. Materials	20 days	11/4/24 8:00 AM	11/29/24 5:00 PM							0 hrs	18 days	25 days			
9	3.6	C1 Manufacturing Design	22 days	10/7/24 8:00 AM	11/5/24 5:00 PM							589.6 hrs	20 days	30 days			
10	3.7	C2 Procure Fab. Equipment	11 days	11/6/24 8:00 AM	11/20/24 5:00 PM							0 hrs	10 days	15 days			
11	3.8	D1 Fabrication	14 days	12/4/24 8:00 AM	12/23/24 5:00 PM							728 hrs	12 days	18 days			
12	3.9	D2 Integration and Test	10 days	12/24/24 8:00 AM	1/6/25 5:00 PM							640 hrs	8 days	15 days			
13	4	Confidence Milestone	0 days	1/6/25 5:00 PM	1/6/25 5:00 PM							0 hrs	0 days	0 days			
14	5	Commitment Milestone	0 days	1/13/25 5:00 PM	1/13/25 5:00 PM							0 hrs	0 days	0 days			

Update Task % Complete OR Units Complete OR Remaining Duration OR Closure Date

TaskID 9 - C1 Manufacturing Design

Instructions - Update Task % Complete or Units Complete of Total Units or Remaining Duration or Closure Date, (- past) for closed tasks, 0 for closing tasks on Status Date, or (+ future) for open tasks

TaskID: 9

% Complete: OR Units Complete: of Total Units: OR

Remaining Duration relative to Status Date in days: OR Closure Date mm/dd/yy and optional time hh:mm:

Status Date: 10/25/2024 5:00:00 PM

Buttons: Preview, Reject, Best & Worst, Save and Exit, Done with Update, Next

Column Names: [] Gantt Chart Start: []

Indicators: [] Gantt Chart Zoom: []

Enter Best Case and Worst Case

Instructions - If desired, modify the Best Case Duration and/or the Worst Case Duration.

Status Date: 10/25/2024 5:00:00 PM

Nominal Duration 7 days. All durations relative to Status Date.

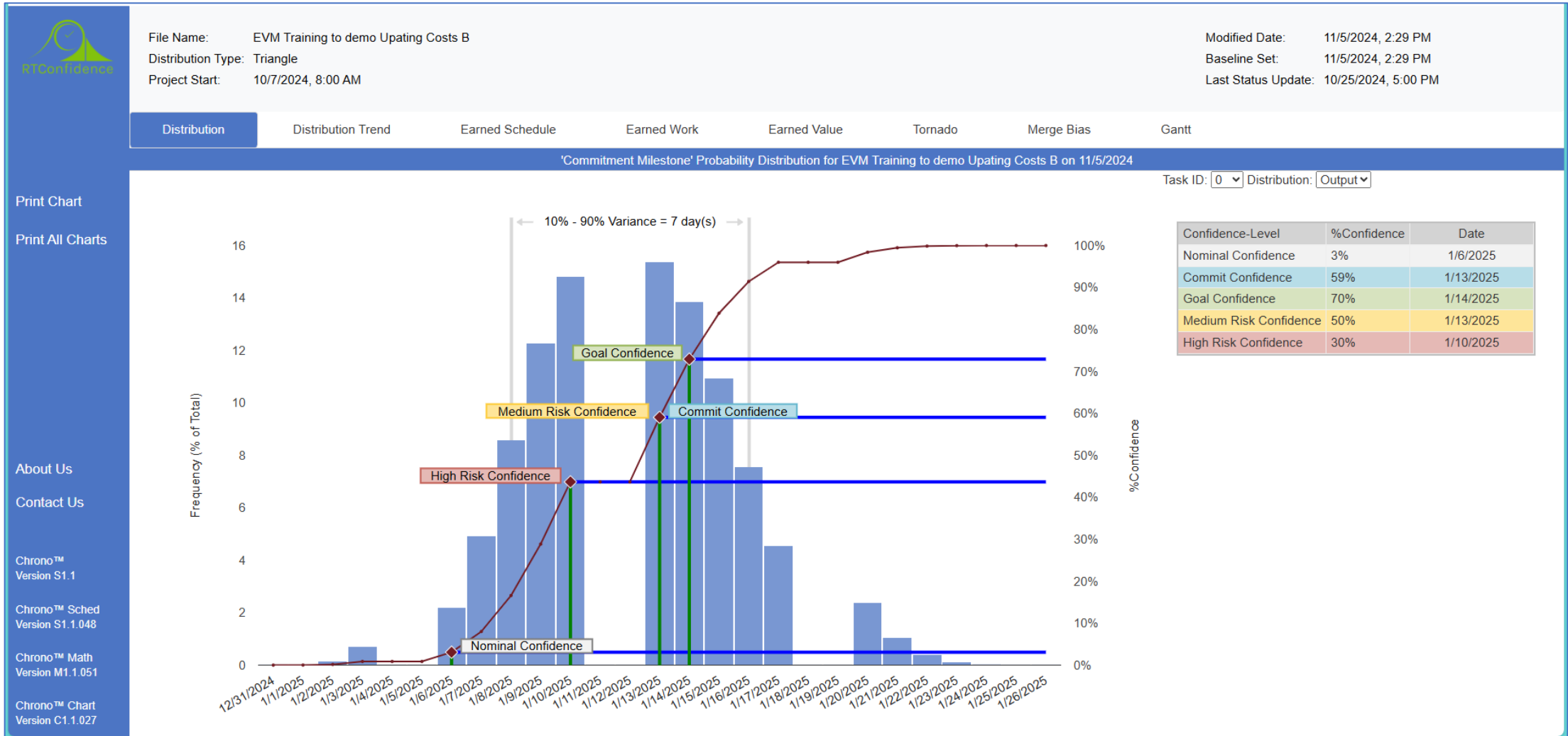
Best Case Value: Worst Case Value:

Accept Changes

Project Progress Update Reference



Status Update #1 Previewed/Published Distribution



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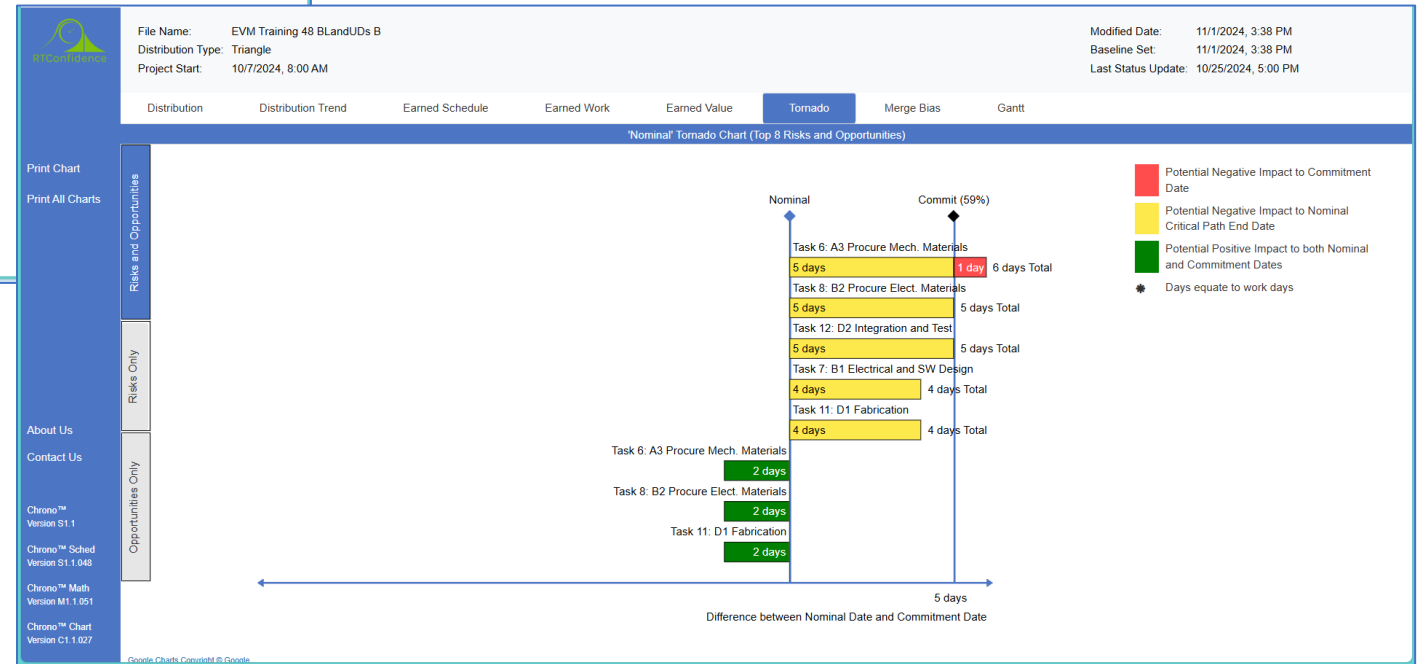
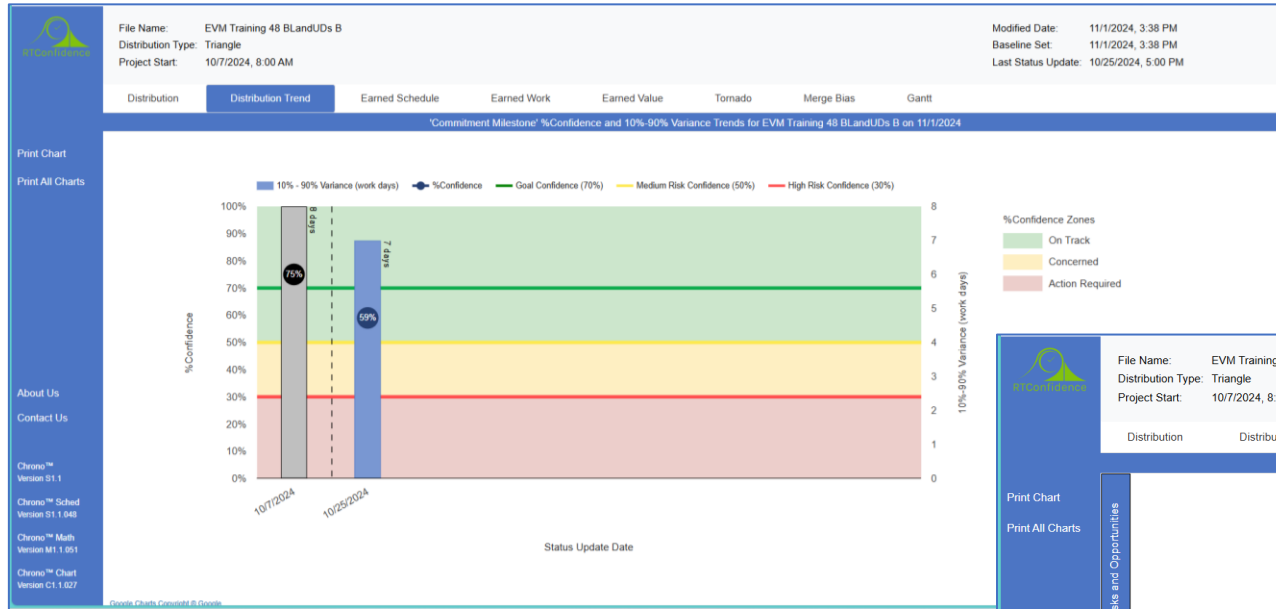
Chrono™ Sched
Version S1.1.048

Chrono™ Math
Version M1.1.051

Chrono™ Chart
Version C1.1.027

Project Progress Update Reference

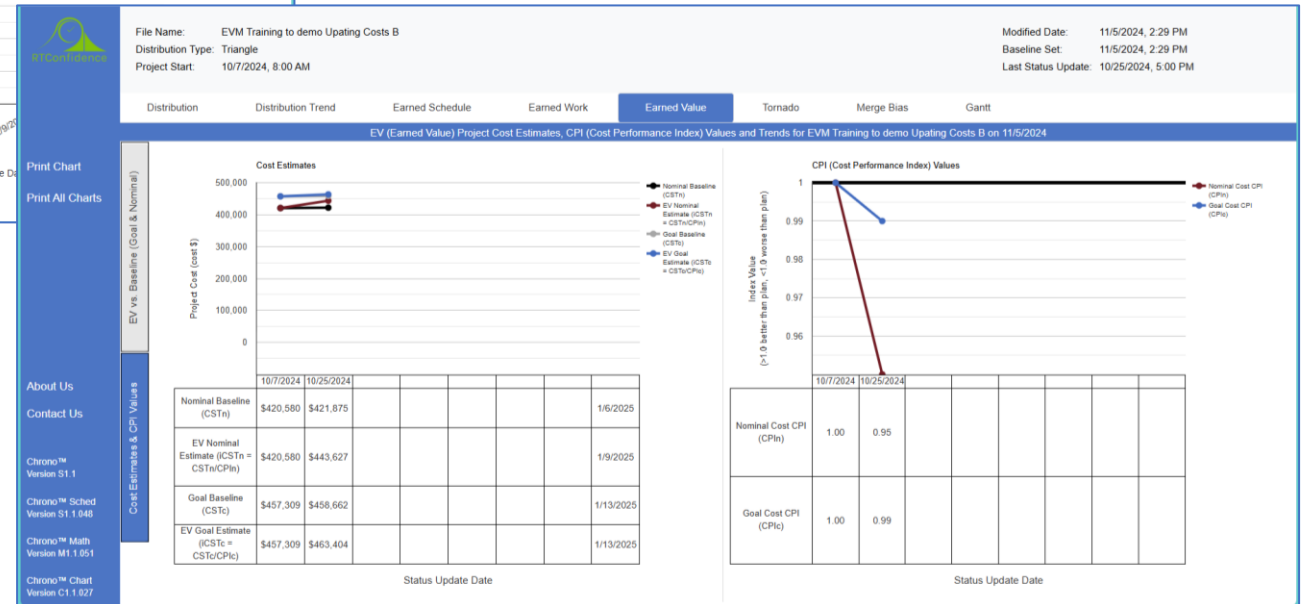
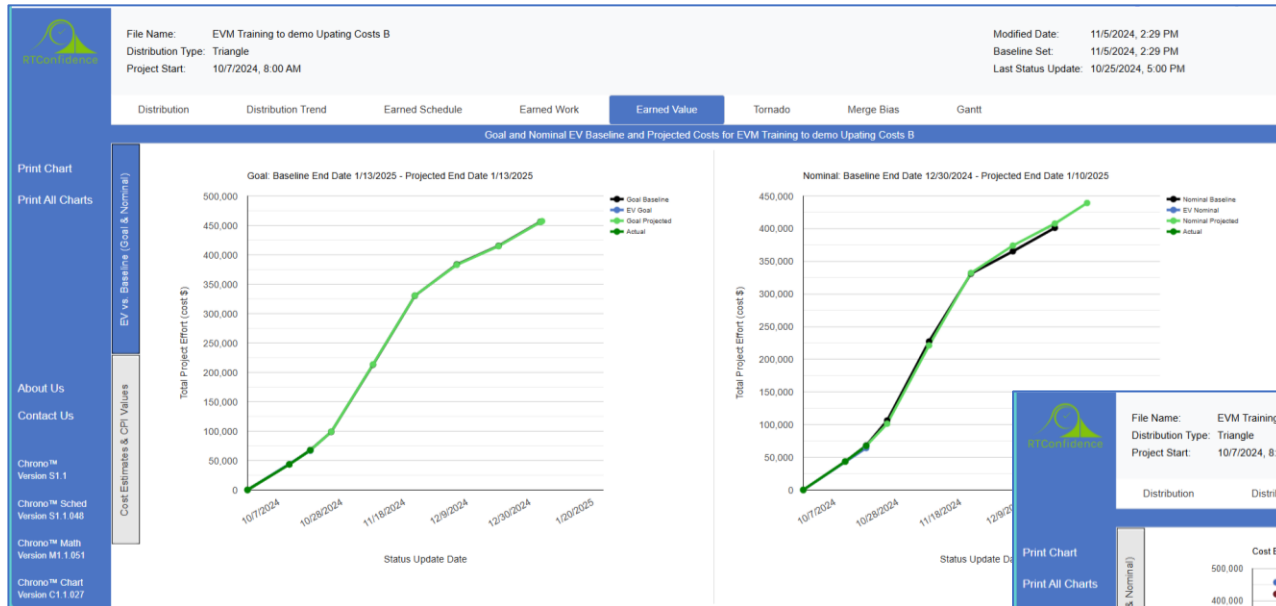
Status Update #1 Published Trend & Tornado Charts



Project Progress Update Reference



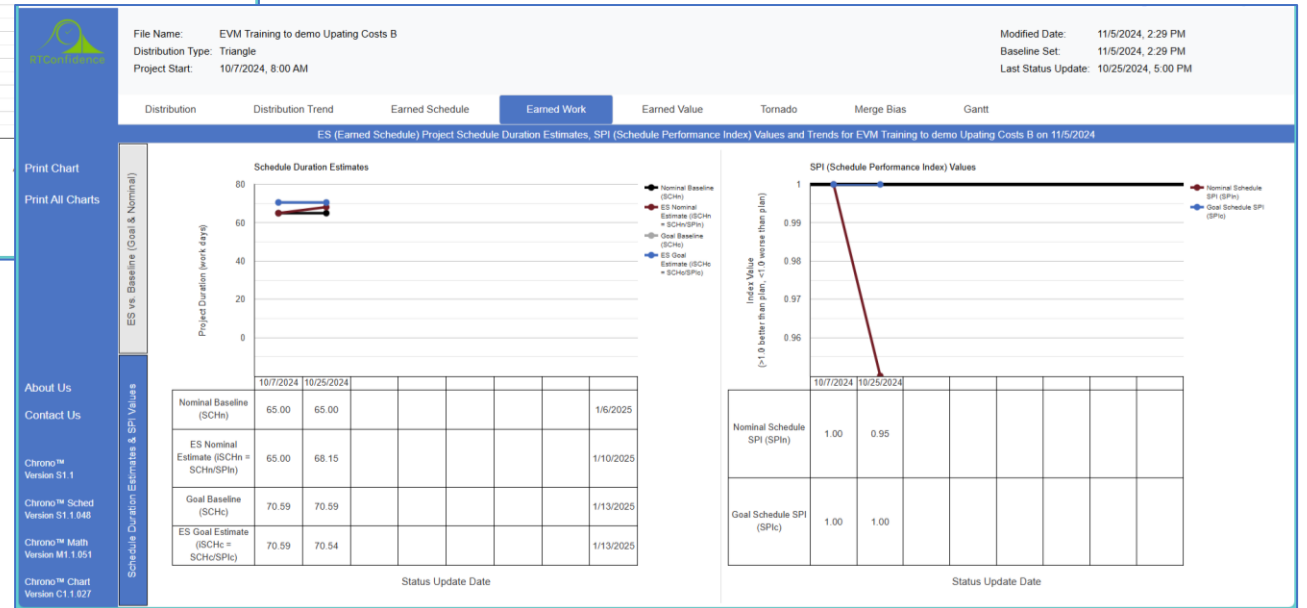
Status Update #1 Published Cost EV & CPI Charts



Project Progress Update Reference



Status Update #1 Published Schedule EW & SPI Charts



Project Progress Update Reference

Status Update #1 Published Commit Sch. & Cost Charts



File Name: EVM Training to demo Upating Costs B
 Distribution Type: Triangle
 Project Start: 10/7/2024, 8:00 AM

Modified Date: 11/5/2024, 2
 Baseline Set: 11/5/2024, 2
 Last Status Update: 10/25/2024,

Distribution Distribution Trend Earned Schedule Earned Work Earned Value Tornado Merge Bias **Gantt**

'EVM Training to demo Upating Costs B' 14 Task Schedule Commit

	BCWP	BCWS	EAC	CV	SV	CPI	SPI	Base Dur	Base Cost	Actual Cost	Fixed Cost	Cost	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2025	2025	
													30 Sep	07 Oct	14 Oct	21 Oct	28 Oct	04 Nov	11 Nov	18 Nov	25 Nov	02 Dec	09 Dec	16 Dec	23 Dec	30 Dec	06 Jan	13 Jan
Nominal	00	\$20,223.62	\$20,100.00	\$94,015.54	\$123.62	\$123.62	1.0061	1.0061	70.58	\$94,590.04	\$20,341.00	\$441,491.12														
	26	\$40,924.05	\$46,590.00	\$394,075.68	-\$6,295.21	-\$5,665.95	0.8783	0.8666	70.58	\$345,568.04	\$47,219.00	\$221,425.00	\$346,351.12													
High Risk	00	\$18,325.50	\$18,900.00	\$23,684.68	-\$3,889.50	-\$574.50	0.9696	0.8249	10.45	\$19,750.50	\$22,215.00	\$1,425.00	\$22,215.00													
	0	\$5,242.47	\$6,150.00	\$10,056.02	\$334.77	-\$907.53	0.8524	1.0682	7.82	\$9,630.90	\$4,908.00		\$9,012.31													
				\$120,000.00					25.77	\$120,000.00		\$120,000.00	\$120,000.00													
	0	\$4,705.89	\$6,750.00	\$19,239.43	-\$640.11	-\$2,044.11	0.6971	0.8802	10.66	\$14,391.00	\$5,346.00		\$16,346.25													
				\$75,000.00					21.32	\$75,000.00		\$75,000.00	\$75,000.00													
	56	\$16,302.91	\$14,790.00	\$22,413.14	\$1,552.35	\$1,512.91	1.1022	1.1052	25.1	\$24,748.60	\$14,751.00		\$22,388.36													
m Risk								12.12	\$25,000.00		\$25,000.00	\$25,000.00														
								14.87	\$26,052.24			\$25,816.45														
								11.22	\$30,994.80			\$30,572.75														

Project Progress Update Reference



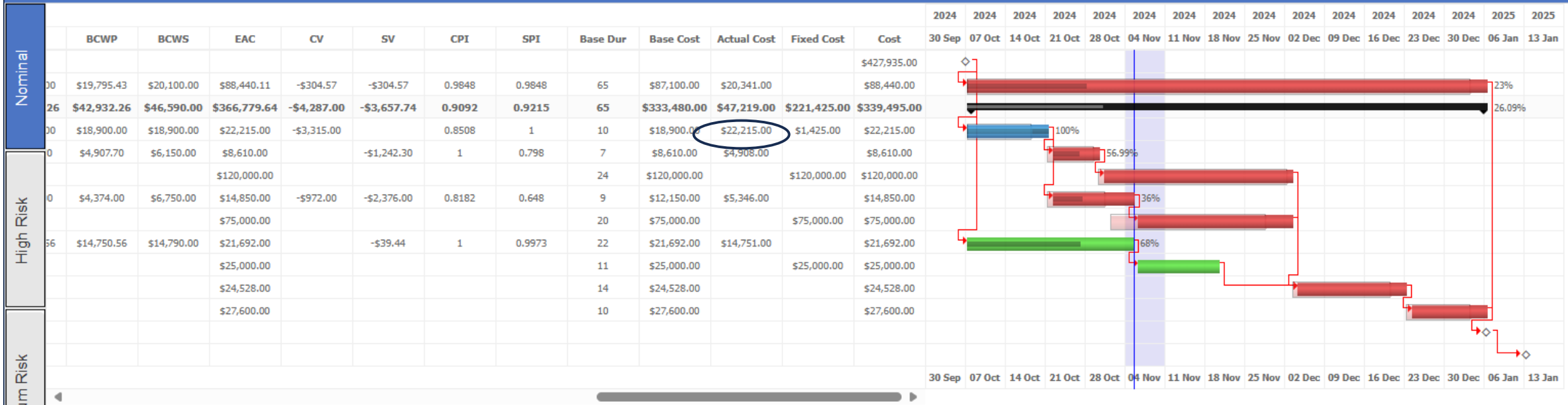
Status Update #1 Published Nominal Sch. & Cost Charts

File Name: EVM Training to demo Upating Costs B
 Distribution Type: Triangle
 Project Start: 10/7/2024, 8:00 AM

Modified Date: 11/5/2024
 Baseline Set: 11/5/2024
 Last Status Update: 10/25/2024

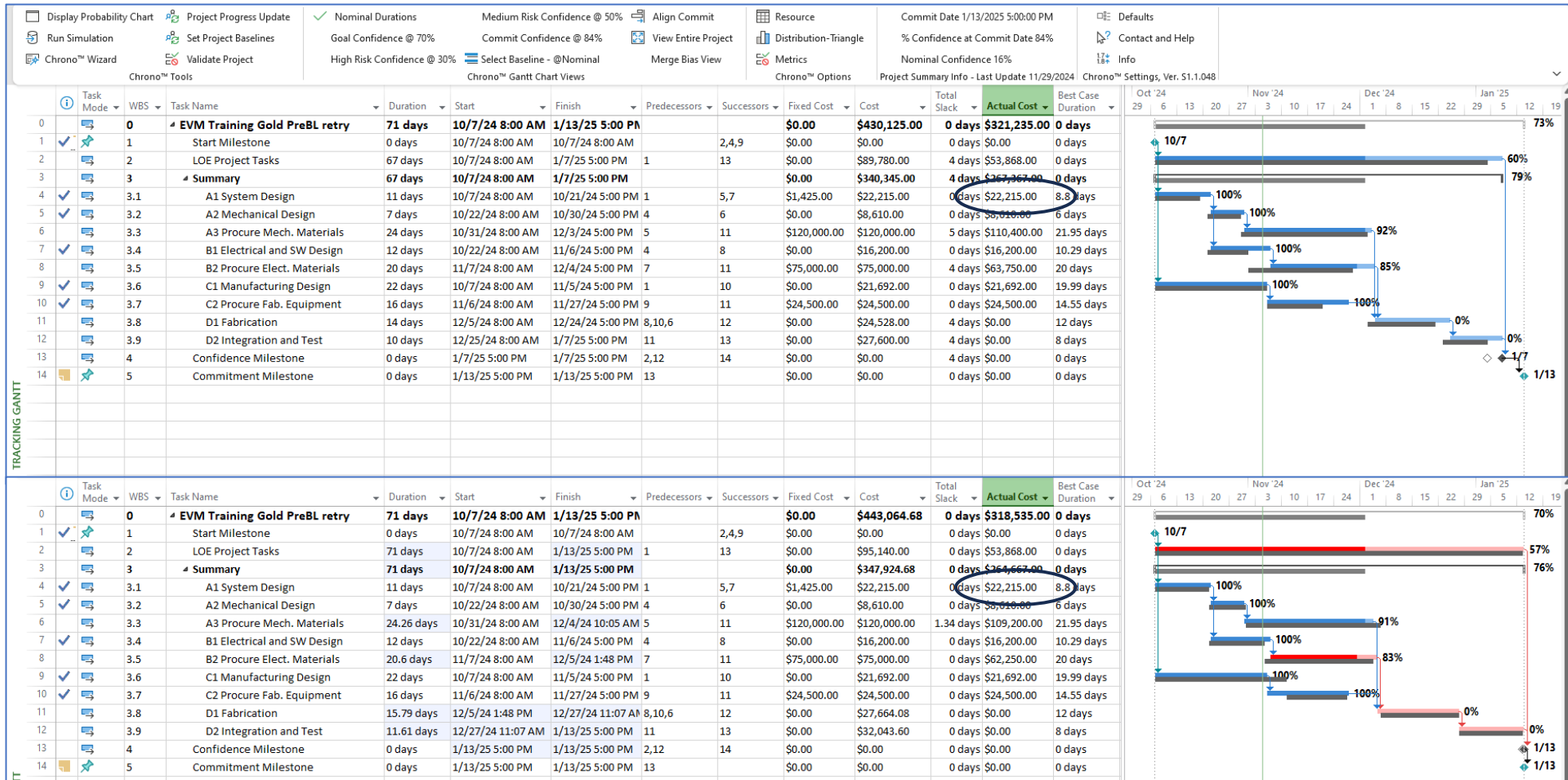
Distribution Distribution Trend Earned Schedule Earned Work Earned Value Tornado Merge Bias **Gantt**

'EVM Training to demo Upating Costs B' 14 Task Schedule Nominal



Project Progress Update Reference

Post Status Update #1 Changing the Cost to Actual Costs



Note 1. Insert the "Actual Cost" column as shown above.

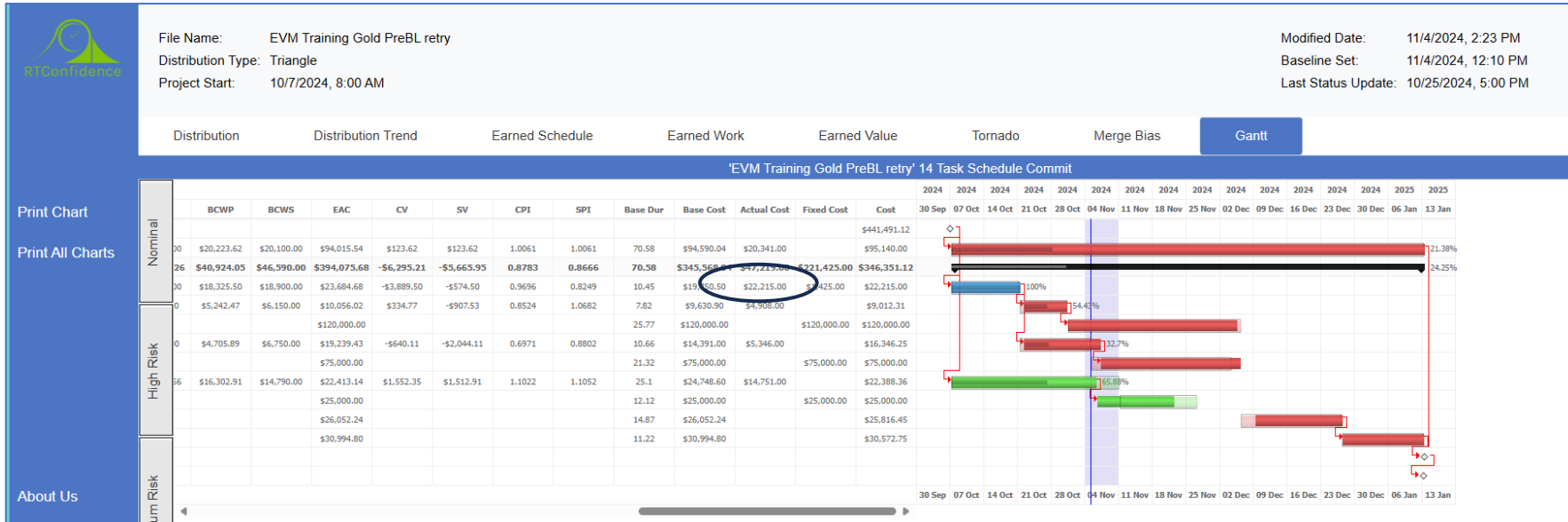
Note 2. Replace the cost in row 4 (\$20,790.00) with \$22,215.00.

Note 3. Run the Simulation and notice the changes to that entry in the Gantt charts.

Note 4. Proceed with Update #2

Project Progress Update Reference

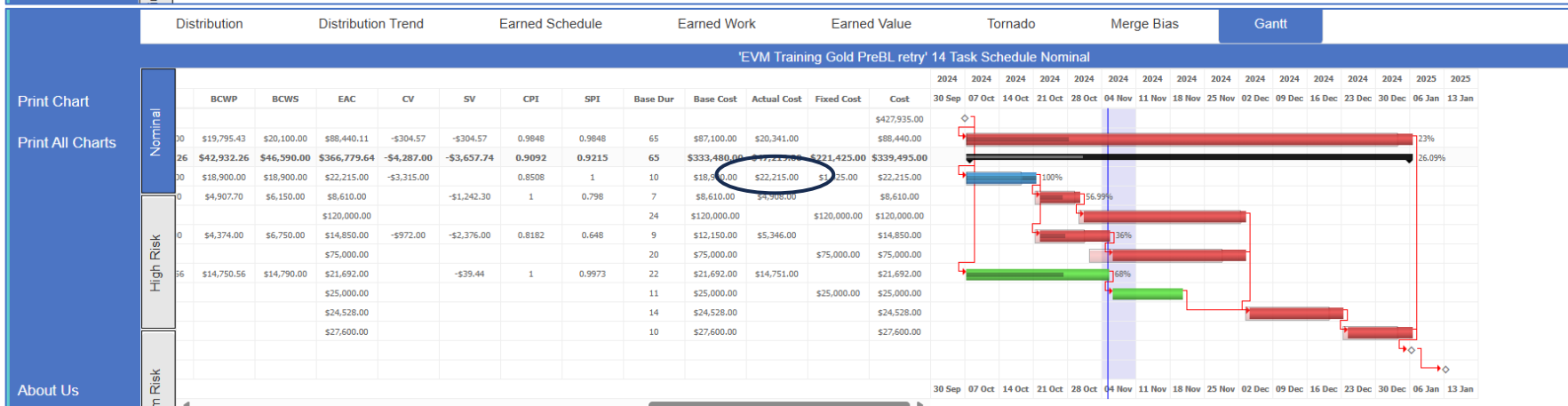
Post Status Update #1 Changing Cost to Actual Costs



Note 1. The new “Actual” Cost Value is now recorded.

Note 2. The rippling affect of the Cost change has been made, **but the other EV and EW charts remain the same.** The changes will be in effect on the next progress project update.

Note 3. If you wish to see the change show up on the Update #1 charts you need to enter you “Publish” the Updated changes. We will do this in the second update.



Project Progress Update Reference

Scenario Explanation (Second Update)



Second Project Progress Update (Friday, 11/29/2024)

- 1) Task A2 (TaskID 5) completed as planned (on 10/30/2024), Next.
- 2) Task A3 (TaskID 6) is on track with remaining Duration of 2 work days, Next, then Accept Changes to the revised Best Case and Worst Case duration Values (1.83 and 2.5 days).
- 3) Task B1 (TaskID 7) Completed 1 day later than expected (Change Remaining Duration from -18 to -17), Next, then Next again.
- 4) Task B2 (Task ID 8) in on track with remaining Duration of 3 work days, Next, and make BC and WC changes (BC = 3 and WC = 4), Accept Changes.
- 5) Task C1 (Task ID 9) completed to schedule – Next.
- 6) Task C2 (Task ID 10) experienced some delays – completed a week late. Change -7 work-days to -2 work-days, then Next, and Next.
- 7) Select “3. Preview” and notice that the Commitment Confidence from the updated Distribution chart has changed to 84% due to the retiring of project risks. This is obviously acceptable to the team.
- 8) **Do not Select “4. Publish” until the cost changes in the next chart are made.**

Project Progress Update Reference

After Status Update #2 Changing Costs to Actual Costs



The following Tasks were completed prior to the Update date, and the corresponding Actual Costs were provided and entered prior to the “4. Publish” of this update. Here are the changes (you can only change the Actual Cost in the IMS “Nominal Durations view” after the task is completed):

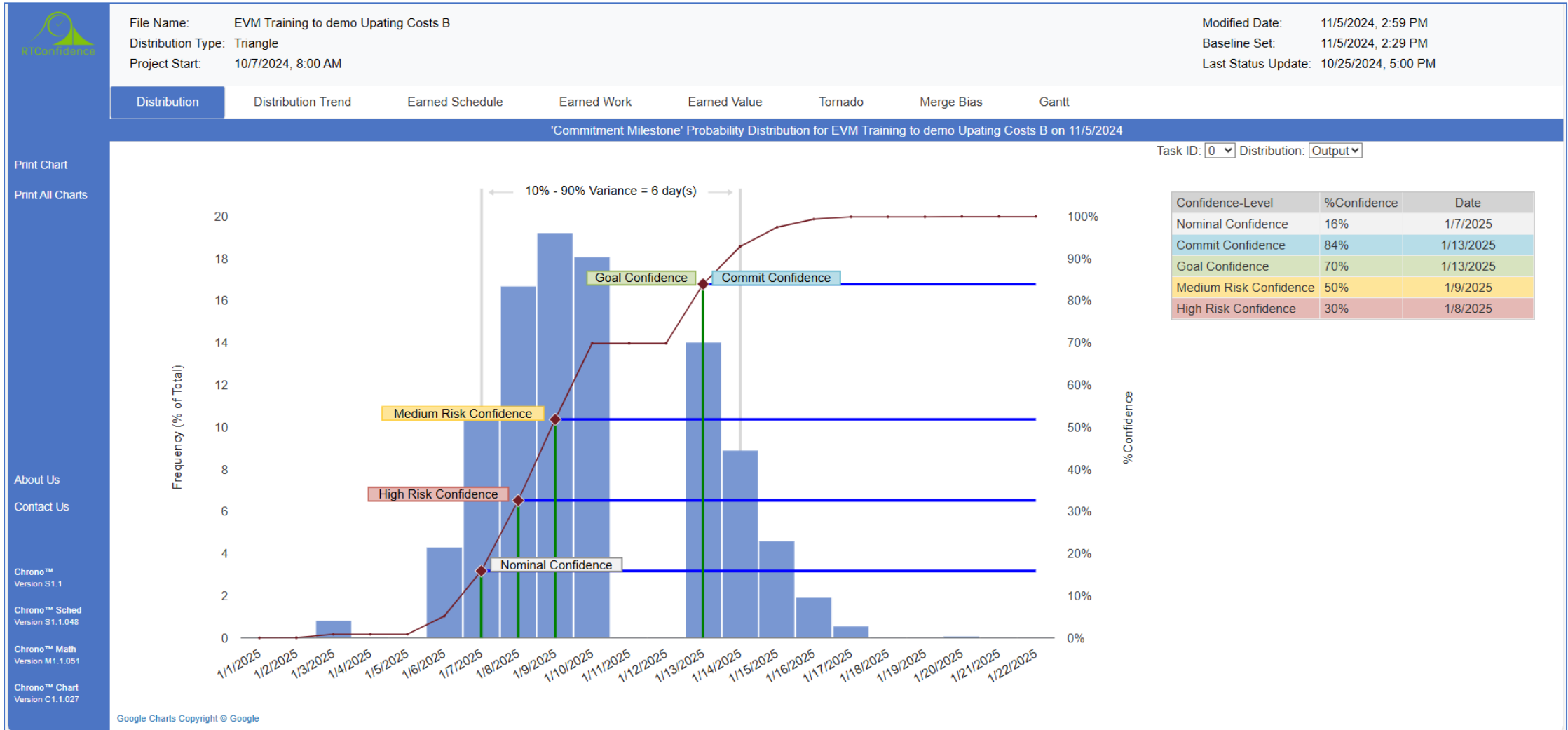
1. Task ID 5 (A2 Mechanical Design) – is completed. The projected costs (based on original estimates) was \$8,610.00, and the Actual Costs from the Financial System is \$8,915.00. The change in Cost (+\$305.00).
2. Task ID 7 (B1 Electrical and SW Design) – is completed. The projected costs (based on original estimates) was \$16,200.00, and the Actual Costs from the Financial System is \$16,200.00. No change in Cost.
3. Task ID 9 (C1 Manufacturing Design) – is completed. The projected costs (based on original estimates) was \$21,692.00, and the Actual Costs from the Financial System is \$24,792.00. Notice the change in Cost (+\$3,100.00).
4. Task ID 10 (C2 Procure Fab. Equipment) – is completed. The projected costs (based on original estimates) was \$25,000.00, and the Actual Costs from the Financial System is \$24,500.00. The change in Cost (+\$500.00).

After these changes are made, go back to Project Progress Update and “3. Preview”, check the changes and then “4. Publish” the update to see the Update #2 ChronoView Outputs below.

Project Progress Update Reference



Status Update #2 Previewed Chrono Distribution



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Version S1.1.048

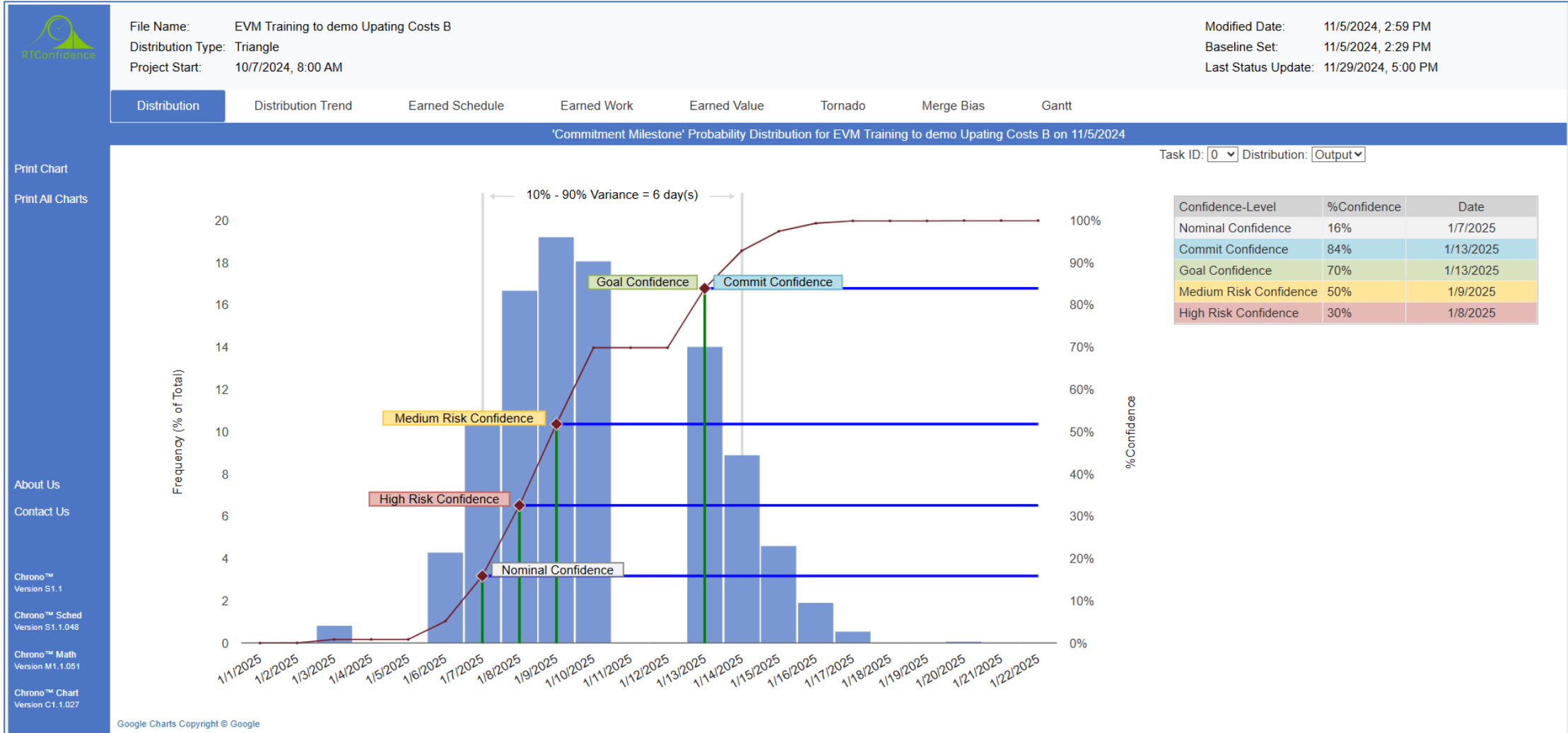
Chrono™ Math
Version M1.1.051

Chrono™ Chart
Version C1.1.027

Project Progress Update Reference



Status Update #2 Published Chrono Distribution



Print Chart
Print All Charts

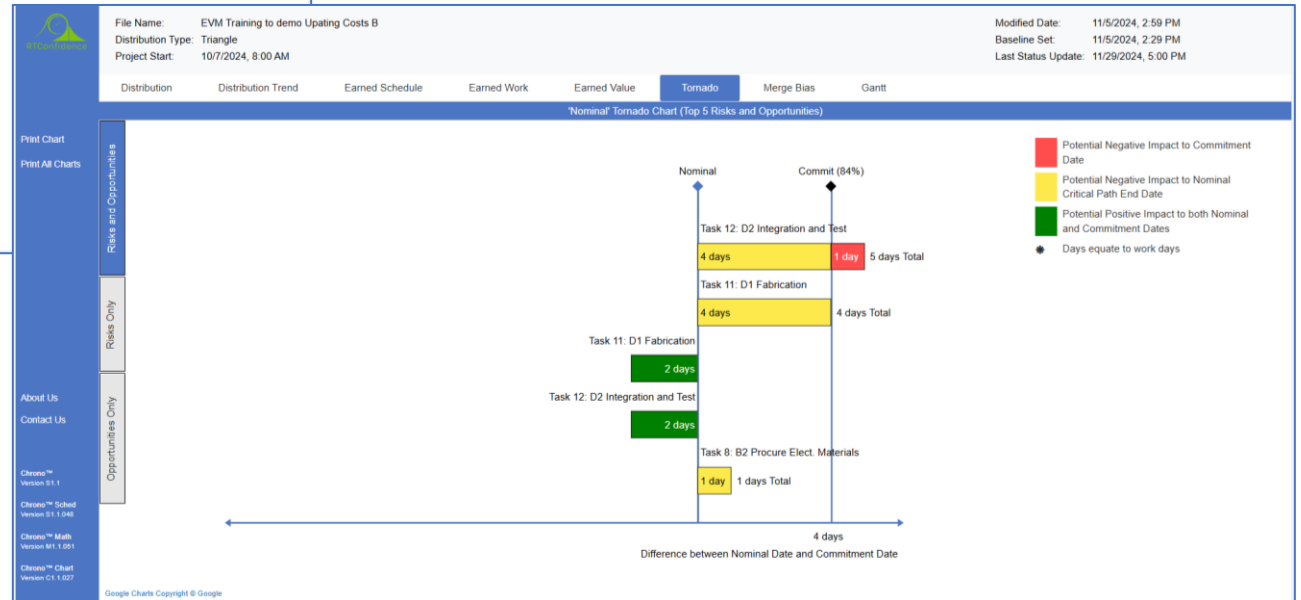
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Chrono™ Sched
Version S1.1.048
Chrono™ Math
Version M1.1.091
Chrono™ Chart
Version C1.1.027

Project Progress Update Reference



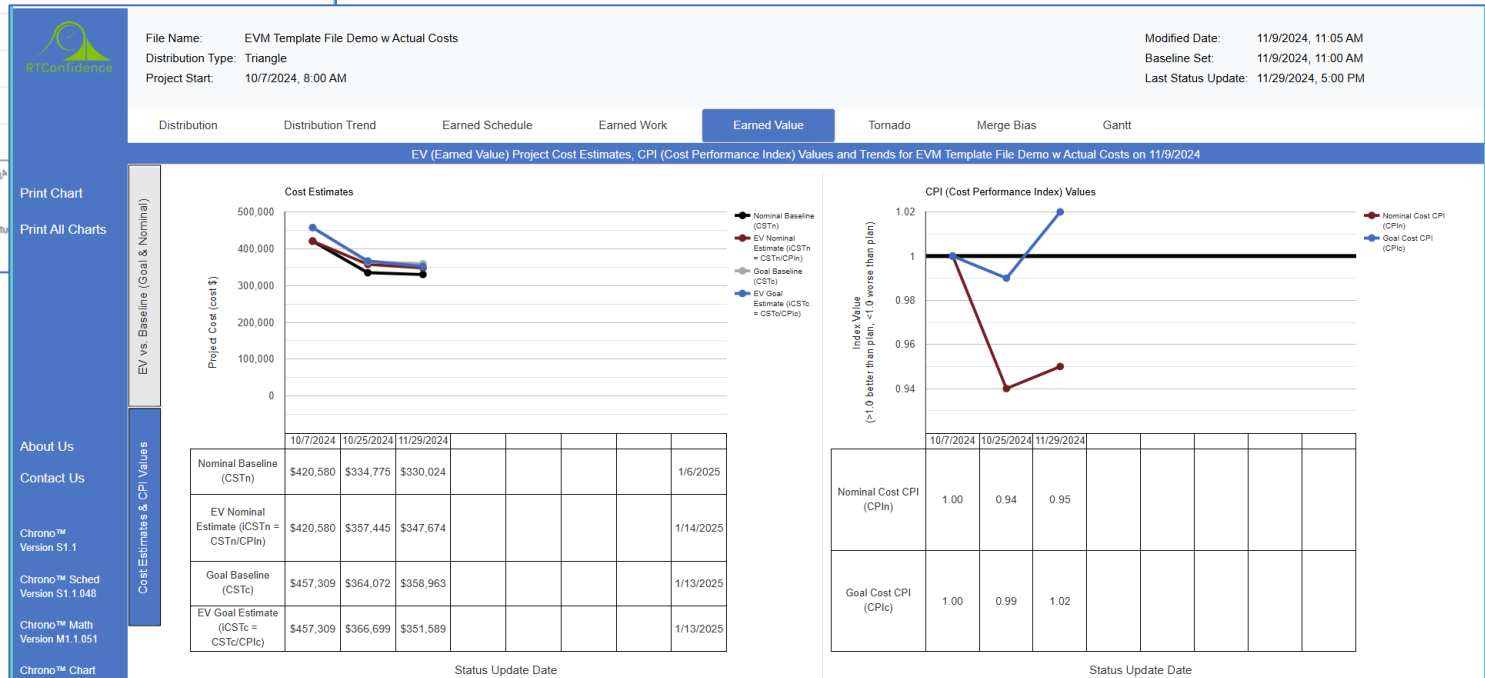
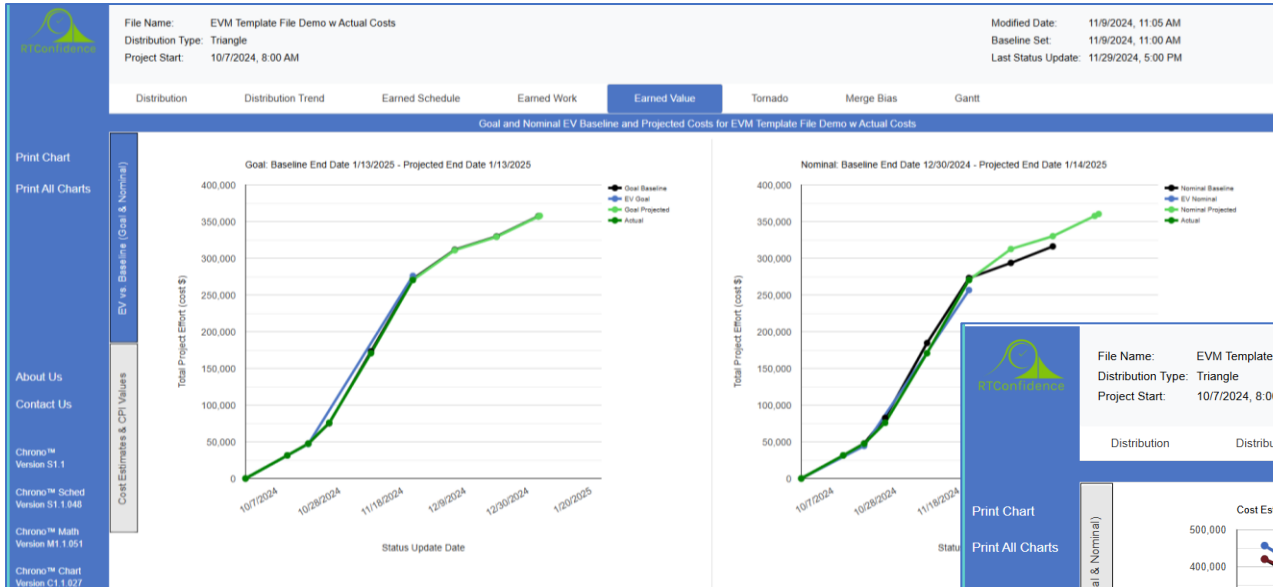
Status Update #2 Published Dist. Trend & Tornado Charts



Project Progress Update Reference



Status Update #2 Published Cost EV & CPI Charts



Project Progress Update Reference



Status Update #2 Published Schedule EW & SPI Charts

File Name: EVM Template File Demo w Actual Costs
 Distribution Type: Triangle
 Project Start: 10/7/2024, 8:00 AM
 Modified Date: 11/9/2024, 11:05 AM
 Baseline Set: 11/9/2024, 11:00 AM
 Last Status Update: 11/29/2024, 5:00 PM

Distribution | Distribution Trend | Earned Schedule | Earned Work | **Earned Value** | Tornado | Merge Bias | Gantt

EV (Earned Value) Project Cost Estimates, CPI (Cost Performance Index) Values and Trends for EVM Template File Demo w Actual Costs on 11/9/2024

	10/7/2024	10/25/2024	11/29/2024	
Nominal Baseline (CSTn)	\$420,580	\$334,775	\$330,024	1/6/2025
EV Nominal Estimate (CSTn + CSTn/CPI)	\$420,580	\$357,445	\$347,674	1/14/2025
Goal Baseline (CSTc)	\$457,309	\$364,072	\$358,963	1/13/2025
EV Goal Estimate (CSTc + CSTc/CPI)	\$457,309	\$366,699	\$351,589	1/13/2025

	10/7/2024	10/25/2024	11/29/2024	
Nominal Cost CPI (CPIh)	1.00	0.94	0.95	
Goal Cost CPI (CPIc)	1.00	0.99	1.02	

Print Chart
Print All Charts

EV vs. Baseline (Goal & Nominal)
Cost Estimates & CPI Values

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Chrono™ Math
Version M1.1.051
Chrono™ Chart
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File Name: EVM Template File Demo w Actual Costs
 Distribution Type: Triangle
 Project Start: 10/7/2024, 8:00 AM
 Modified Date: 11/9/2024, 11:05 AM
 Baseline Set: 11/9/2024, 11:00 AM
 Last Status Update: 11/29/2024, 5:00 PM

Distribution | Distribution Trend | Earned Schedule | **Earned Work** | Earned Value | Tornado | Merge Bias | Gantt

ES (Earned Schedule) Project Schedule Duration Estimates, SPI (Schedule Performance Index) Values and Trends for EVM Template File Demo w Actual Costs on 11/9/2024

	10/7/2024	10/25/2024	11/29/2024	
Nominal Baseline (SCHn)	65.00	65.00	65.00	1/6/2025
ES Nominal Estimate (SCHn + SCHn/SPIh)	65.00	68.78	70.48	1/13/2025
Goal Baseline (SCHc)	70.59	70.59	70.59	1/13/2025
ES Goal Estimate (SCHc + SCHc/SPIc)	70.59	70.18	68.34	1/10/2025

	10/7/2024	10/25/2024	11/29/2024	
Nominal Schedule SPI (SPIh)	1.00	0.94	0.92	
Goal Schedule SPI (SPIc)	1.00	1.01	1.03	

Print Chart
Print All Charts

ES vs. Baseline (Goal & Nominal)
Schedule Duration Estimates & SPI Values

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Project Progress Update Reference

Status Update #2 Published Commit Sch. & Cost Charts

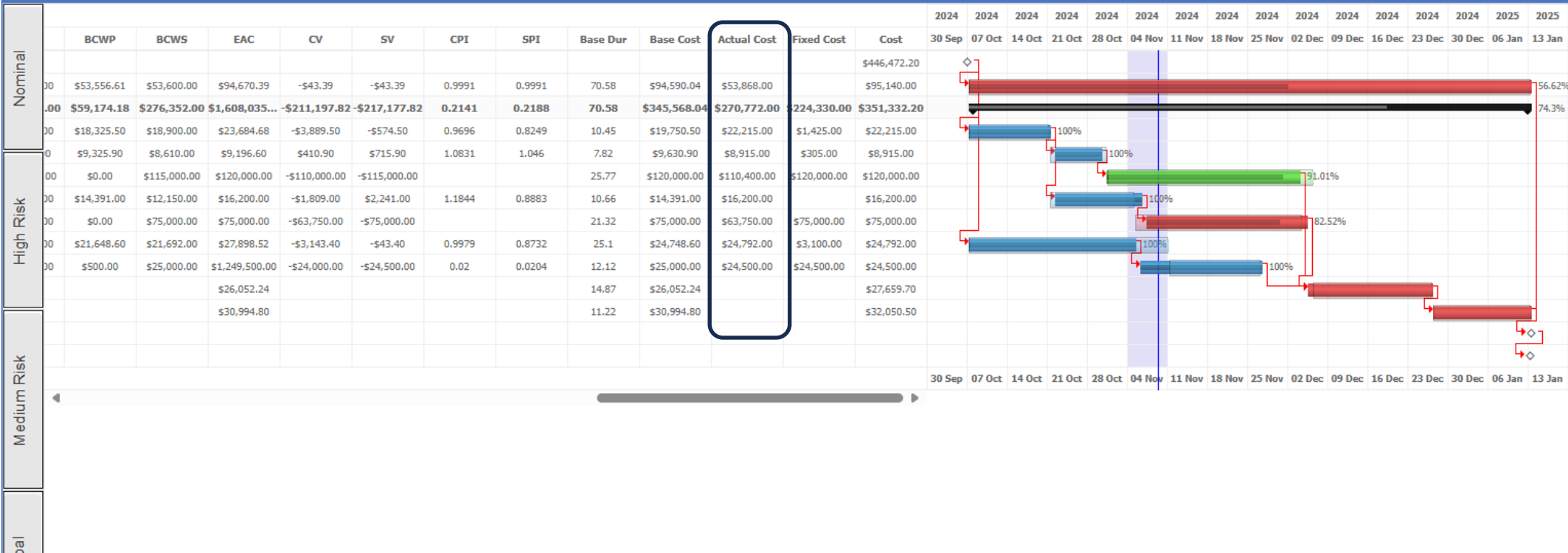


File Name: EVM Template File Demo w Actual Costs
 Distribution Type: Triangle
 Project Start: 10/7/2024, 8:00 AM

Modified Date: 11/9/2024, 11:05 AM
 Baseline Set: 11/9/2024, 11:00 AM
 Last Status Update: 11/29/2024, 5:00 PM

Distribution Distribution Trend Earned Schedule Earned Work Earned Value Tornado Merge Bias **Gantt**

'EVM Template File Demo w Actual Costs' 14 Task Schedule Commit



Project Progress Update Reference



Status Update #2 Published Nominal Sch. & Cost Charts

File Name: EVM Template File Demo w Actual Costs
 Distribution Type: Triangle
 Project Start: 10/7/2024, 8:00 AM

Modified Date: 11/9/2024, 11:05 AM
 Baseline Set: 11/9/2024, 11:00 AM
 Last Status Update: 11/29/2024, 5:00 PM

Distribution Distribution Trend Earned Schedule Earned Work Earned Value Tornado Merge Bias **Gantt**

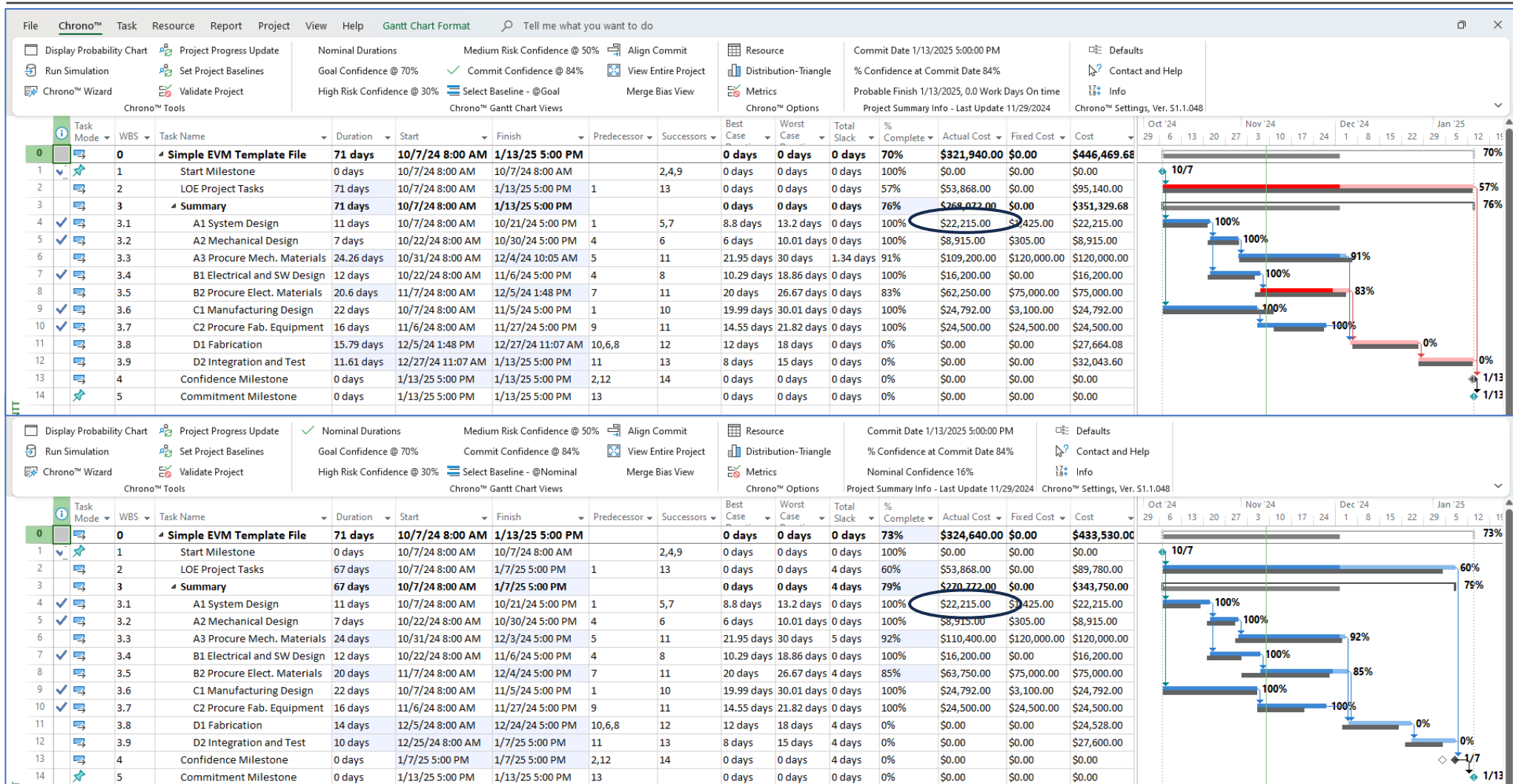
'EVM Template File Demo w Actual Costs' 14 Task Schedule Nominal

	BCWP	BCWS	EAC	CV	SV	CPI	SPI	Base Dur	Base Cost	Actual Cost	Fixed Cost	Cost	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2025	2025
													30 Sep	07 Oct	14 Oct	21 Oct	28 Oct	04 Nov	11 Nov	18 Nov	25 Nov	02 Dec	09 Dec	16 Dec	23 Dec	30 Dec	06 Jan
Nominal	\$51,999.82	\$53,600.00	\$89,780.32	-\$1,600.18	-\$1,600.18	0.9701	0.9701	65	\$87,100.00	\$53,868.00		\$433,530.00															
	\$260,100.96	\$276,352.00	\$346,648.68	-\$10,271.04	-\$16,251.04	0.962	0.9412	65	\$333,480.00	\$270,772.00	\$224,330.00	\$343,750.00															
	\$18,900.00	\$18,900.00	\$22,215.00	-\$3,315.00		0.8508	1	10	\$18,900.00	\$22,215.00	\$1,425.00	\$22,215.00															
	\$8,610.00	\$8,610.00	\$8,915.00	-\$305.00		0.9658	1	7	\$8,610.00	\$8,915.00	\$305.00	\$8,915.00															
	\$109,998.96	\$115,000.00	\$120,001.14	-\$1.04	-\$5,001.04	1	0.9565	24	\$120,000.00	\$110,400.00	\$120,000.00	\$120,000.00															
	\$12,150.00	\$12,150.00	\$16,200.00	-\$4,050.00		0.75	1	9	\$12,150.00	\$16,200.00		\$16,200.00															
	\$63,750.00	\$75,000.00	\$75,000.00		-\$11,250.00	1	0.85	20	\$75,000.00	\$63,750.00	\$75,000.00	\$75,000.00															
	\$21,692.00	\$21,692.00	\$24,792.00	-\$3,100.00		0.875	1	22	\$21,692.00	\$24,792.00	\$3,100.00	\$24,792.00															
	\$25,000.00	\$25,000.00	\$24,500.00	\$500.00		1.0204	1	11	\$25,000.00	\$24,500.00	\$24,500.00	\$24,500.00															
			\$24,528.00					14	\$24,528.00			\$24,528.00															
			\$27,600.00					10	\$27,600.00			\$27,600.00															

Project Progress Update Reference



Status Update #2 Changing Costs to Actual Costs



Project Progress Update Reference

Scenario Explanation (Third Update)



Third Project Progress Update (Friday, 12/27/2024)

- 1) Task A3 (TaskID 6) completed as planned, Next.
- 2) Task B2 (TaskID 8) pushed out 3 work-days (Change Remaining Duration from -17 days to -14 days), Next, and Next.
- 3) Task D1 (ID 11) in a bit behind schedule, for it was planned to be completed by the status update date. Since this is a build of 40 units, and Testing is at a separate facility, all units must be complete before the integration and test can begin. 37 units are complete and 3 more are in process. Change “Total Units” to 40 and “Units Complete” to 37 – Next, and Next and Accept the BC and WC changes (BC = .98 and WC = 1.47), Accept Changes.
- 4) Select “3. Preview” and notice that the Commitment Confidence from the updated Distribution chart (below) has gone down to only 25%. This is not acceptable to the team.
- 5) **Do not Select “4. Publish” yet!!!!**

Project Progress Update Reference

Status Update #3 Input 3



File Chrono™ Task Resource Report Project View Help Gantt Chart Format Tell me what you want to do

Display Probability Chart Project Progress Update Nominal Durations Medium Risk Confidence @ 50% Align Commit Resource Commit Date 1/13/2025 5:00:00 PM Defaults
 Run Simulation Set Project Baselines Goal Confidence @ 70% Commit Confidence @ 84% View Entire Project Distribution-Triangle % Confidence at Commit Date 84% Contact and Help
 Chrono™ Wizard Validate Project High Risk Confidence @ 30% Select Baseline - @Nominal Merge Bias View Metrics Nominal Confidence 16% Info
 Chrono™ Tools Chrono™ Gantt Chart Views Chrono™ Options Project Summary Info - Last Update 11/29/2024 Chrono™ Settings, Ver. S1.1.048

Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack	Resource Names	Fixed Cost	Cost	Work	Best Case Duration	Worst Case Duration
0	0	EVM Training 48 BlandUDs B	71.14 days	10/7/24 8:00 AM	1/14/25 9:07 AM			0 days		\$0.00	\$431,196.55	4,152.46 hrs	0 days	0 days
1	1	Start Milestone	0 days	10/7/24 8:00 AM	10/7/24 8:00 AM		2,4,9	0 days		\$0.00	\$0.00	0 hrs	0 days	0 days
2	2	LOE Project Tasks	67 days	10/7/24 8:00 AM	1/7/25 5:00 PM	1	13							
3	3	Summary	71.14 days	10/7/24 8:00 AM	1/14/25 9:07 AM									
4	3.1	A1 System Design	11 days	10/7/24 8:00 AM	10/21/24 5:00 PM	1	5,7							
5	3.2	A2 Mechanical Design	7 days	10/22/24 8:00 AM	10/30/24 5:00 PM	4	6							
6	3.3	A3 Procure Mech. Materials	25 days	10/31/24 8:00 AM	12/4/24 5:00 PM	5	11							
7	3.4	B1 Electrical and SW Design	12 days	10/22/24 8:00 AM	11/6/24 5:00 PM	4	8							
8	3.5	B2 Procure Elect. Materials	23 days	11/7/24 8:00 AM	12/9/24 5:00 PM	7	11							
9	3.6	C1 Manufacturing Design	22 days	10/7/24 8:00 AM	11/5/24 5:00 PM	1	10							
10	3.7	C2 Procure Fab. Equipment	16 days	11/6/24 8:00 AM	11/27/24 5:00 PM	9	11							
11	3.8	D1 Fabrication	15.14 days	12/10/24 8:00 AM	12/31/24 9:07 AM	8,10,6	12							
12	3.9	D2 Integration and Test	10 days	12/31/24 9:07 AM	1/14/25 9:07 AM	11	13							
13	4	Confidence Milestone	0 days	1/14/25 9:07 AM	1/14/25 9:07 AM	2,12	14							
14	5	Commitment Milestone	0 days	1/13/25 5:00 PM	1/13/25 5:00 PM									

TRACKING GANTT

Update Task % Complete OR Units Complete OR Remaining Duration OR Closure Date

TaskID 11 - D1 Fabrication TaskID: 11

Instructions - Update Task % Complete or Units Complete of Total Units or Remaining Duration or Closure Date, (- past) for closed tasks, 0 for closing tasks on Status Date, or (+ future) for open tasks

% Complete: 92.5 OR Units Complete: 37 of 40 OR Total Units: 40

Remaining Duration relative to Status Date in days: 1.14 OR Closure Date mm/dd/yy and optional time hh:mm: 12/31/2024 9:07:12 AM

Status Date: 12/27/2024 5:00:00 PM

Preview Reject Best & Worst

Save and Exit Done with Update Next

Column Names Gantt Chart Start

Indicators Gantt Chart Zoom

Enter Best Case and Worst Case

Instructions - If desired, modify the Best Case Duration and/or the Worst Case Duration.

Status Date: 12/27/2024 5:00:00 PM

Nominal Duration 1.14 days. All durations relative to Status Date.

Best Case Value: 0.98 Worst Case Value: 1.47

Accept Changes

Project Progress Update Reference

After Status Update #3 Changing Costs to Actual Costs



The following Tasks were completed prior to the Update date, and the corresponding Actual Costs were provided and entered prior to the “4. Publish” of this update. Here are the changes (**you can only change the Actual Cost in the IMS “Nominal Durations view” after the task is completed**):

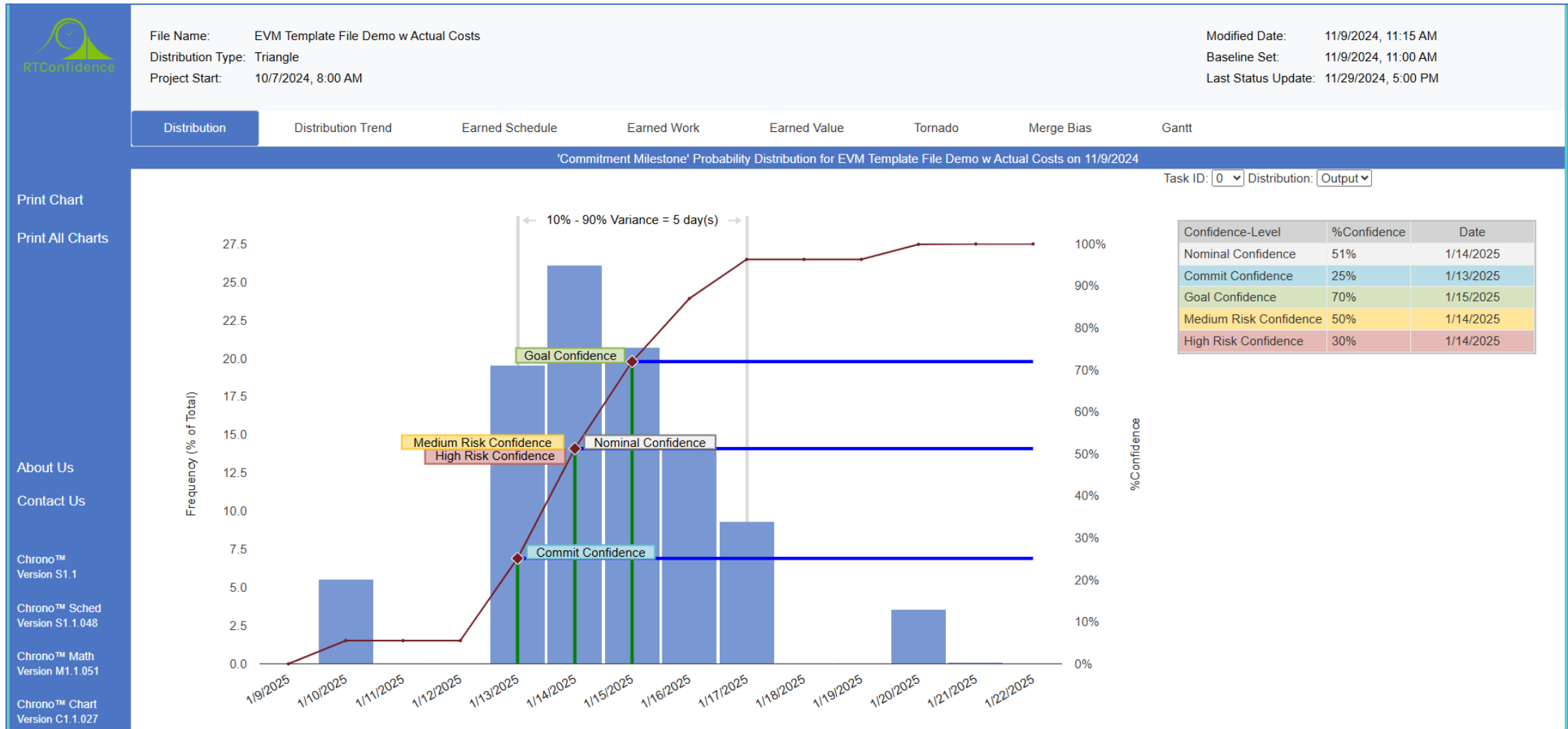
1. Task ID 6 (A3 Procure Mech. Materials) – is completed. The projected costs (based on original estimates) was \$120,000.00, and the Actual Costs from the Financial System is \$125,358.00. The change in Cost (+\$5,358.00).
2. Task ID 8 (B2 Procure Elect. Materials) – is completed. The projected costs (based on original estimates) was \$75,000.00, and the Actual Costs from the Financial System is \$73,450.00. The change in Cost (-\$1,550.00).

After these changes are made, go back to Project Progress Update and “3. Preview” the update to see the Update #2 ChronoView Outputs below. **Do not “4. Publish” yet!!!!**

Project Progress Update Reference



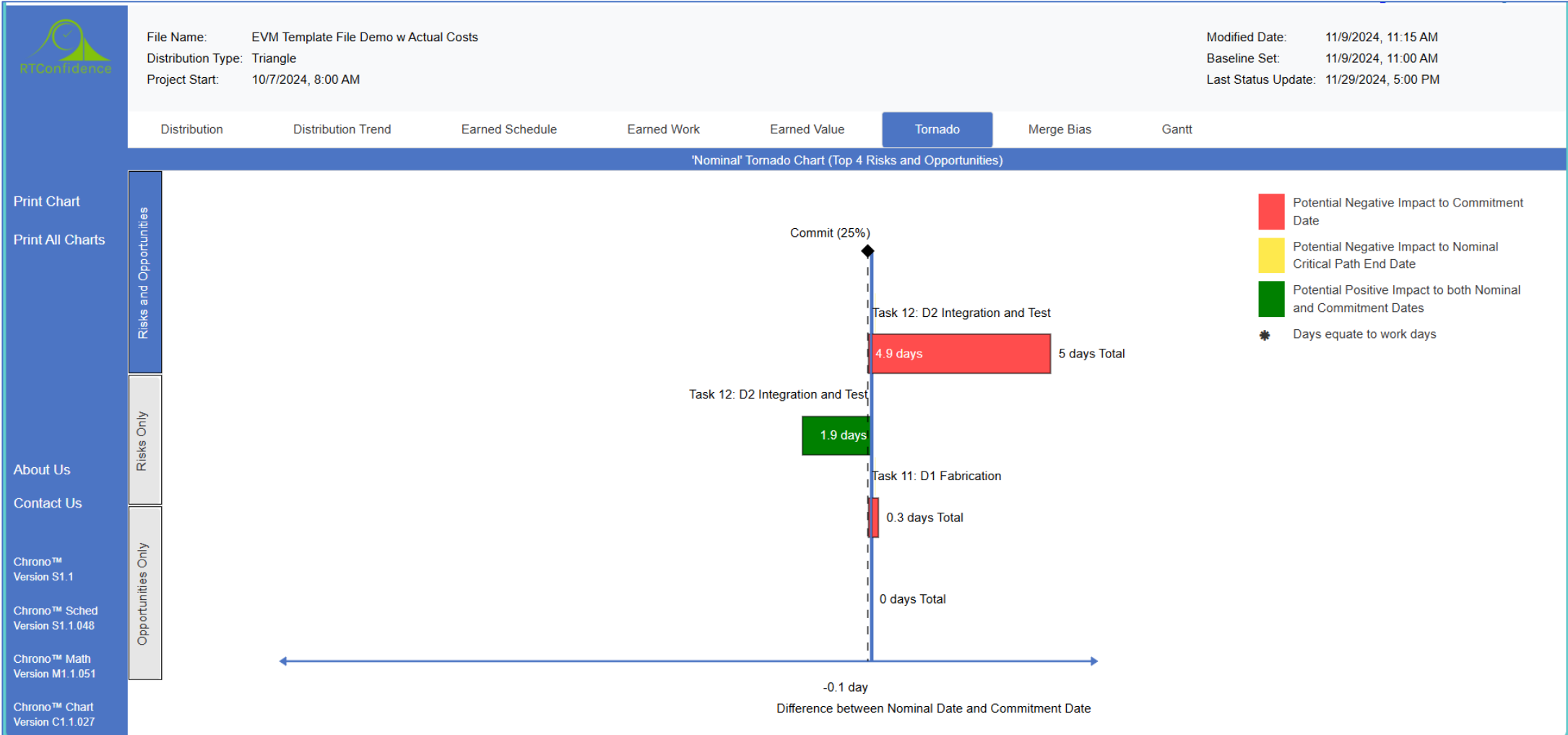
Status Update #3 Previewed Chrono Distribution



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- Chrono™ Math Version M1.1.051
- Chrono™ Chart Version C1.1.027

Project Progress Update Reference

Status Update #3 Previewed Tornado Chart


←
→

Project Progress Update Reference

Recovery Scenario to Meet Commitments



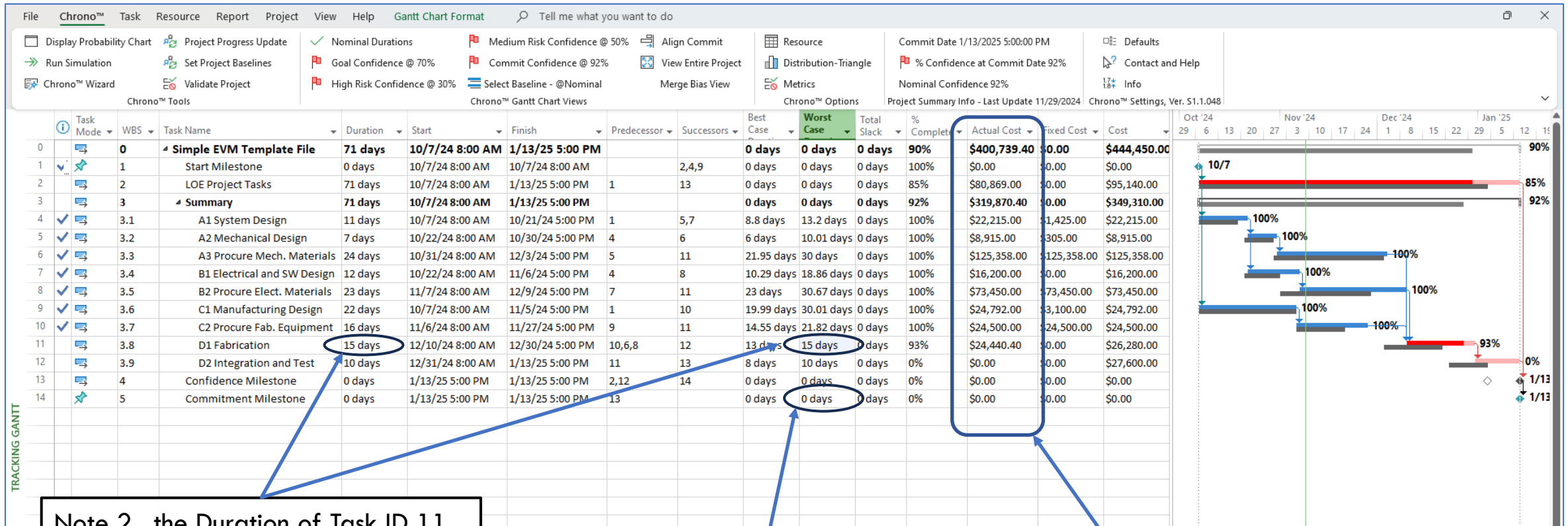
Based on the last “3. Preview” chart, it is determined that the organization needs to take Corrective Action(s) to maintain its schedule commitment of 1/13/2025.

- 1) Extra resources will be applied to Task D1 (ID 11) to complete the fabrication on 12/30 – the duration will be changed from 15.14 days to 15 days, with a Worst-Case duration also changed to 15 days, as shown on the subsequent chart.
- 2) For Task D2 (ID 12) will be receiving 2 extra resources (people) to ensure that the task can be completed in no more than 10 days (vs. the 10 days planned, and the Worst-Case of 15 days). This will have a relatively small cost increase, but will enable on-time delivery of product. The 10 day plan is therefore assured, provided no other unexpected issues. Also the Worst-Case duration is changed to 10, as well (enabled by pre-authorizing overtime if necessary). So enter that Worst-Case change shown on the subsequent chart.
- 3) We will “3. Preview” the changed schedule to ensure that the commitment schedule is met.
- 4) If/when all is well, then Select “4. Publish”

Project Progress Update Reference



Post Status Update #3 Actual Cost & Recovery Changes



Note 2. the Duration of Task ID 11 was changed to exactly 15 days, with a Worst-Case duration change to 15 days as well.

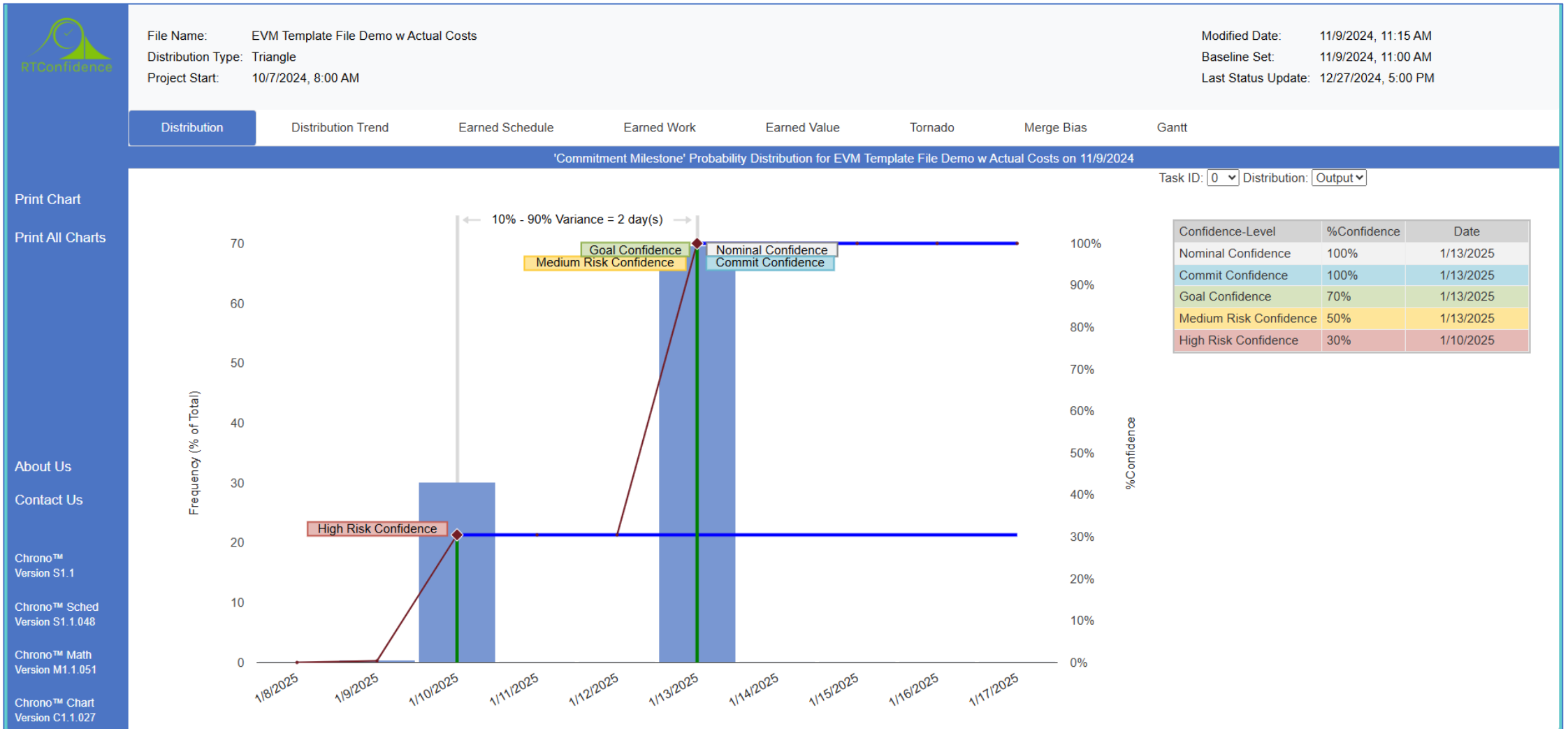
Note 3. The Worst-Case duration for Task ID 12 is now 10 days.

Note 1. All the "Actual Cost" column changes as shown above.

Project Progress Update Reference



Status Update #3 Published Chrono Distribution



Project Progress Update Reference

Status Update #3 Published Distribution Trend Chart

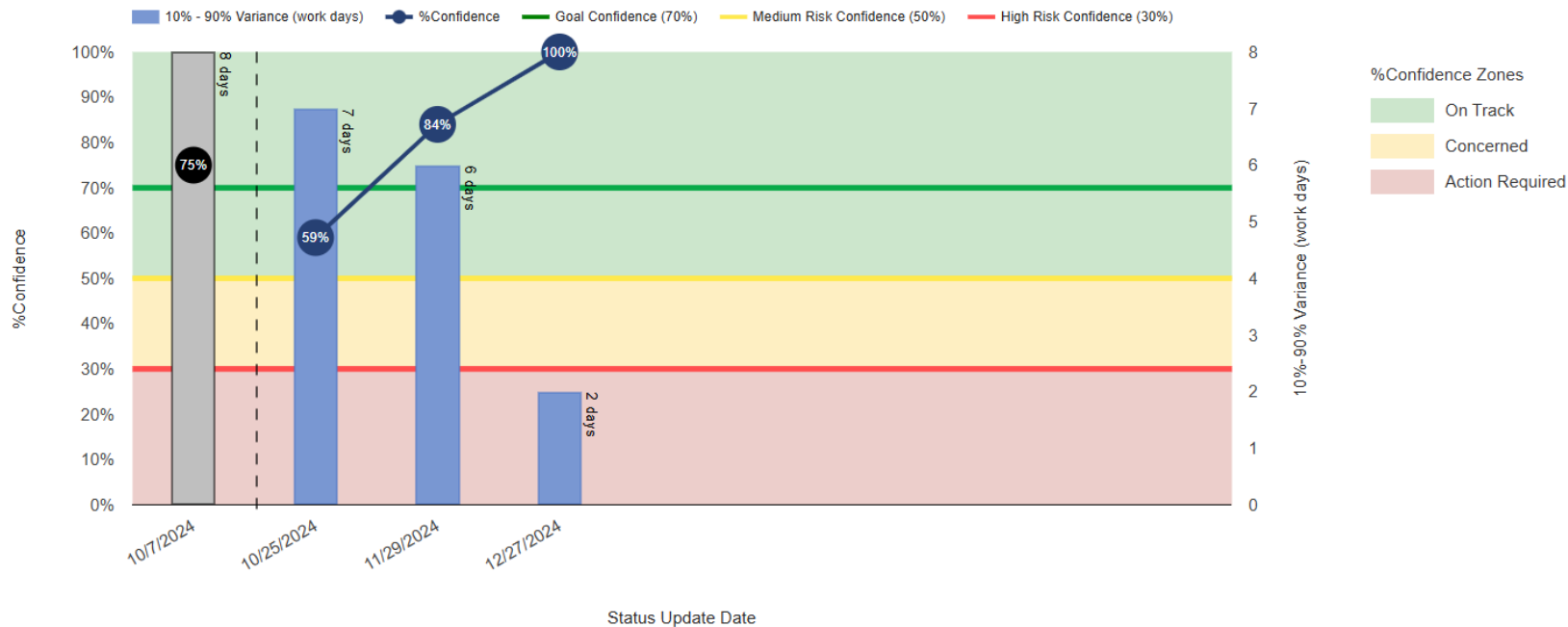


File Name: EVM Template File Demo w Actual Costs
 Distribution Type: Triangle
 Project Start: 10/7/2024, 8:00 AM

Modified Date: 11/9/2024, 11:15 AM
 Baseline Set: 11/9/2024, 11:00 AM
 Last Status Update: 12/27/2024, 5:00 PM

Distribution **Distribution Trend** Earned Schedule Earned Work Earned Value Tornado Merge Bias Gantt

'Commitment Milestone' %Confidence and 10%-90% Variance Trends for EVM Template File Demo w Actual Costs on 11/9/2024



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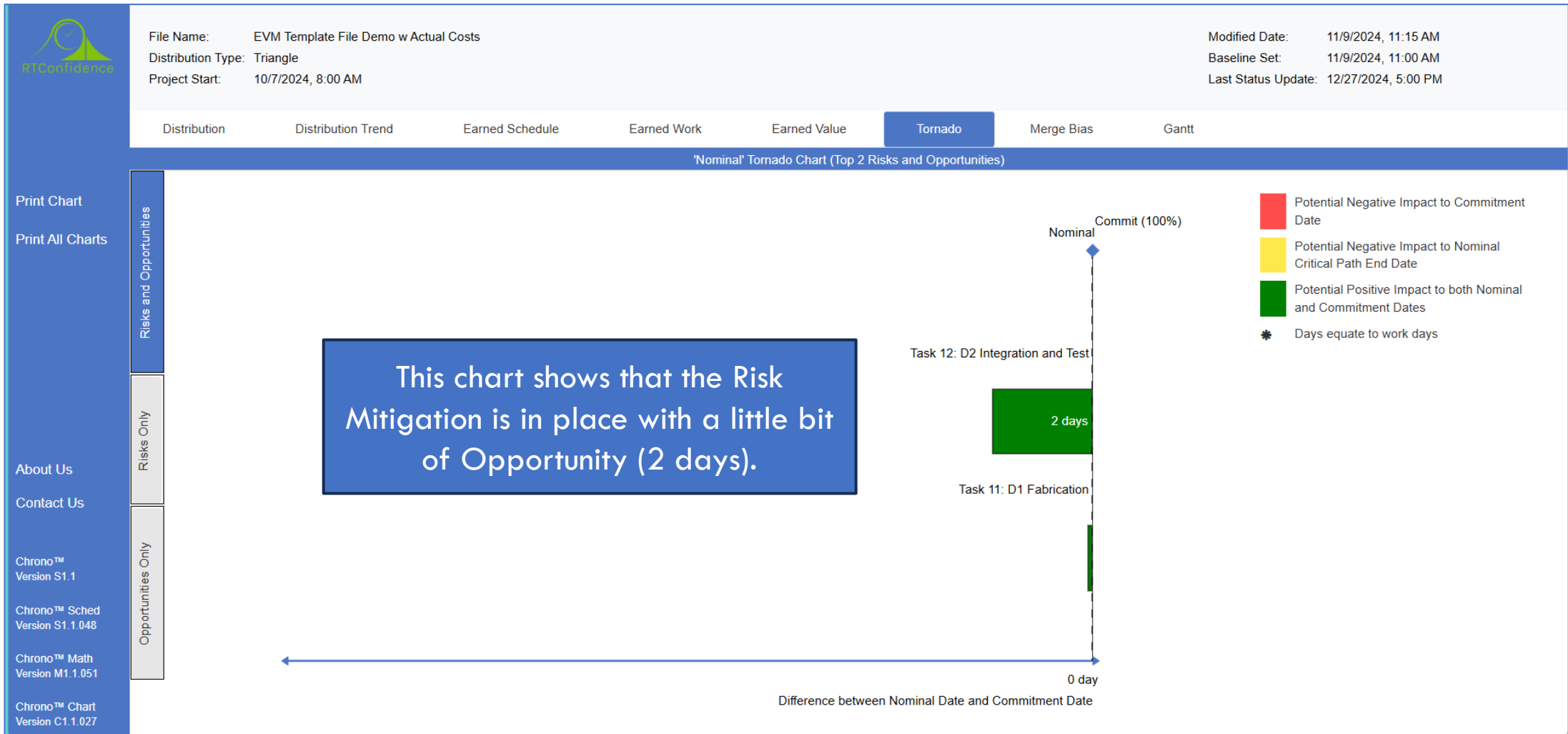
Chrono™ Sched
 Version S1.1.048

Chrono™ Math
 Version M1.1.051

Chrono™ Chart
 Version C1.1.027

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Status Update #3 Published Tornado Charts



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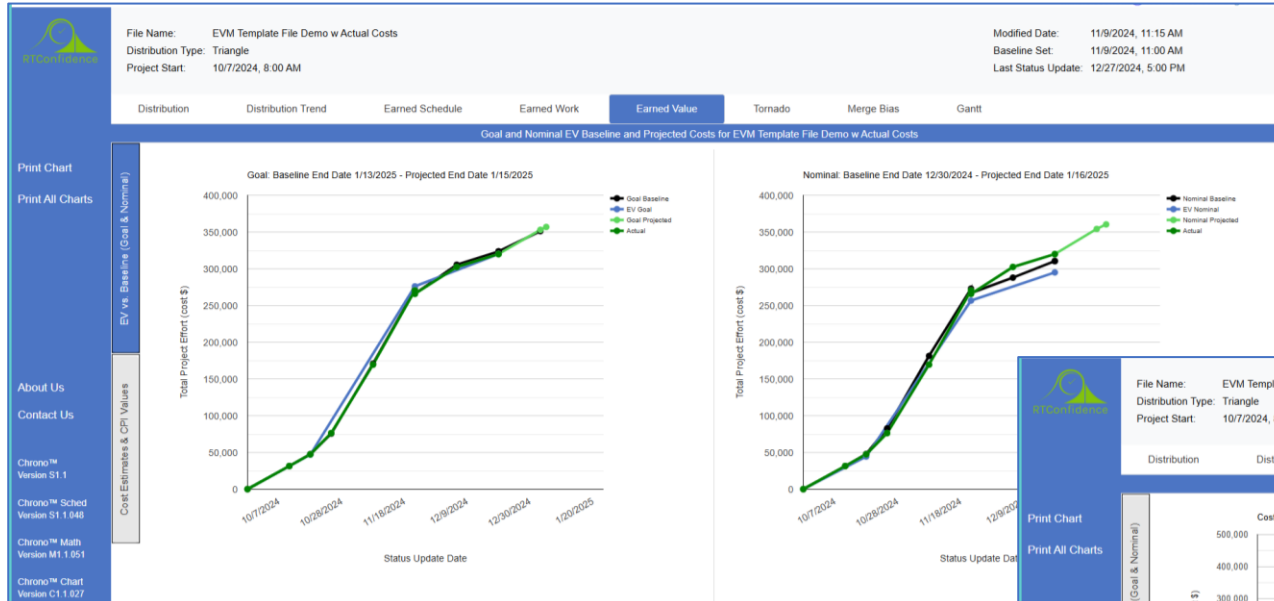
Chrono™ Math
Version M1.1.051

Chrono™ Chart
Version C1.1.027

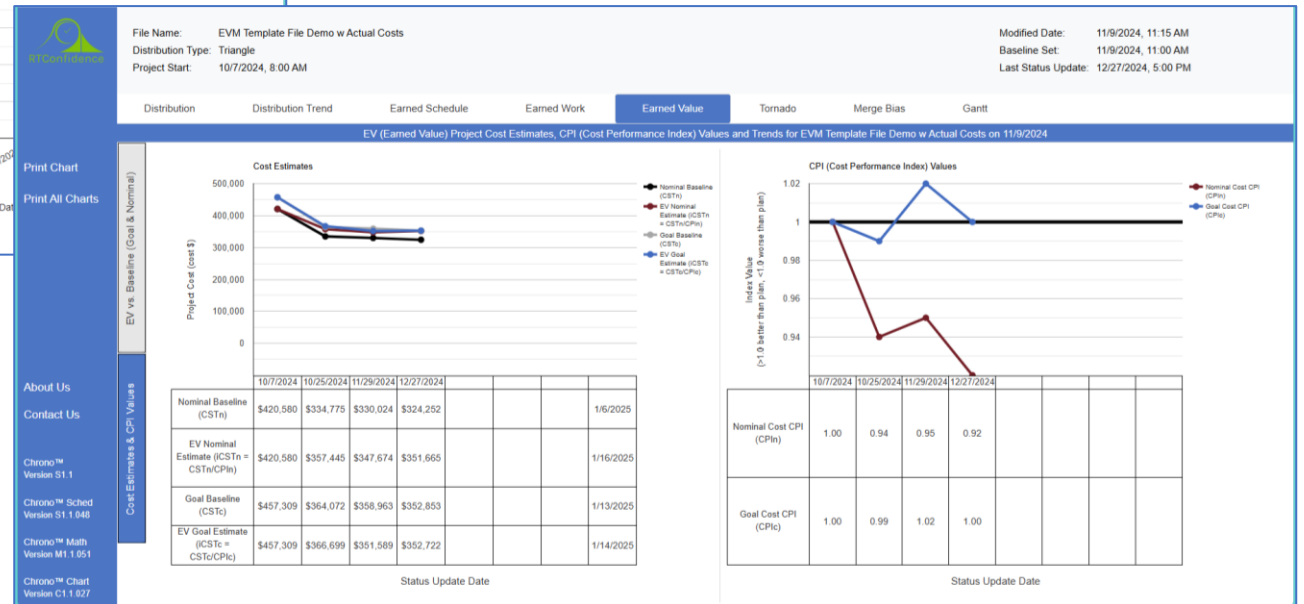
Project Progress Update Reference



Status Update #3 Published Cost EV & CPI Charts



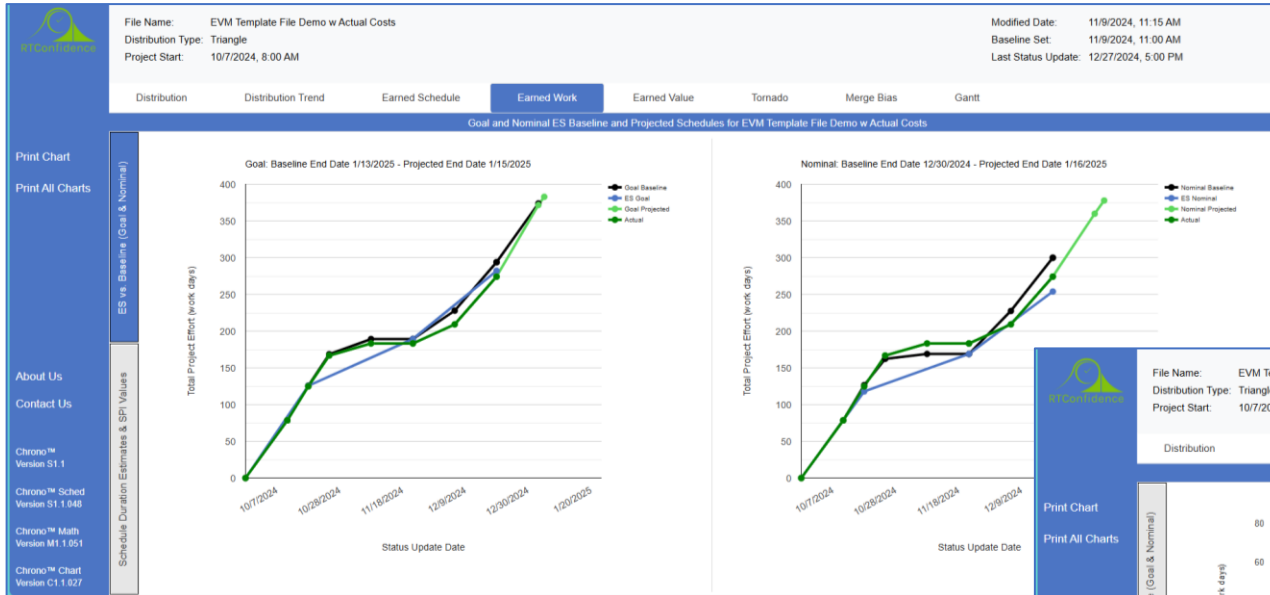
Cost CPI and Estimates were expected to change and did.



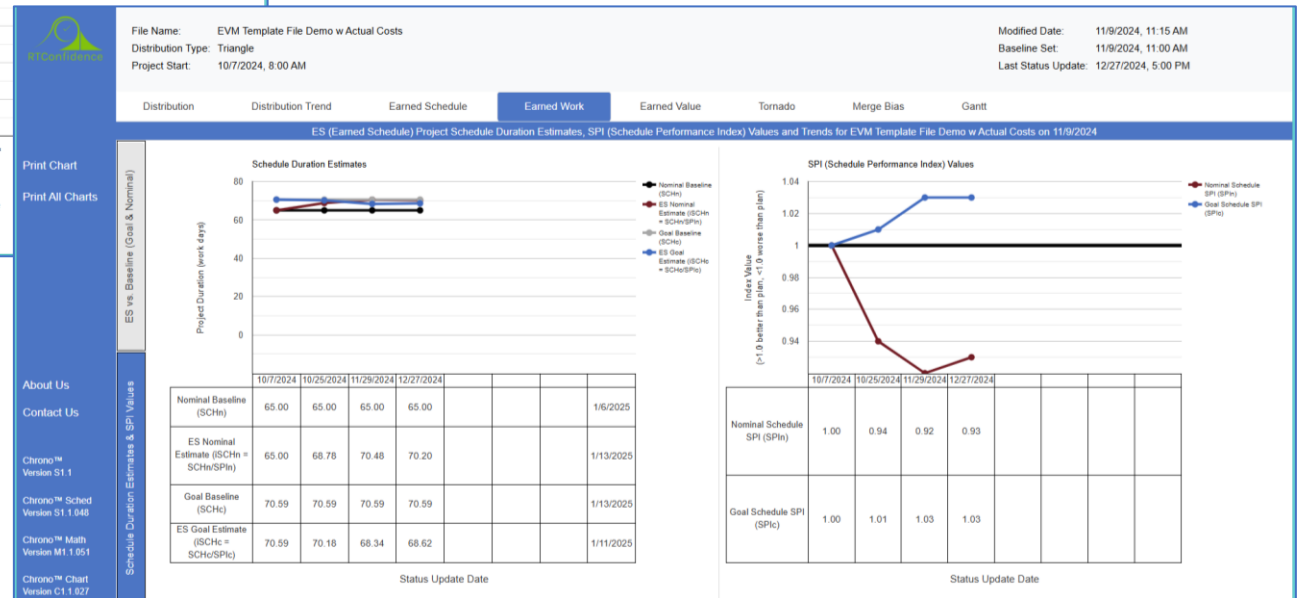
Project Progress Update Reference



Status Update #3 Published Sch. EW & SPI Charts



Schedule SPI and Estimates were Not expected to change and much, if at all.



Project Progress Update Reference

Status Update #3 Published Commit Sch. & Cost Charts

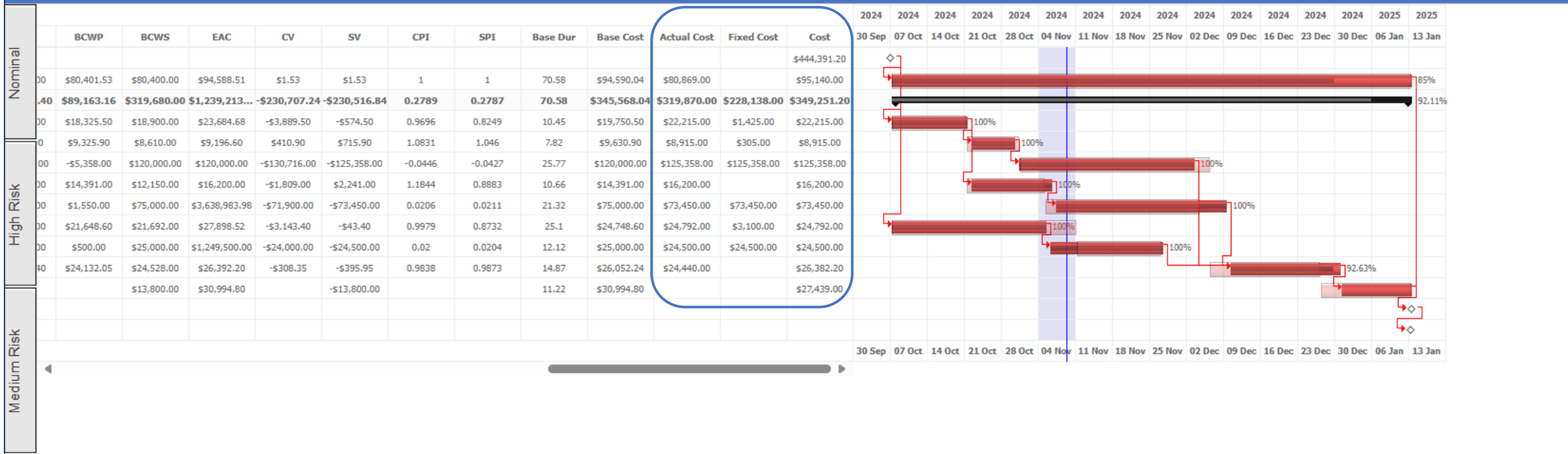


File Name: EVM Template File Demo w Actual Costs
 Distribution Type: Triangle
 Project Start: 10/7/2024, 8:00 AM

Modified Date: 11/9/2024, 11:15 AM
 Baseline Set: 11/9/2024, 11:00 AM
 Last Status Update: 12/27/2024, 5:00 PM

Distribution Distribution Trend Earned Schedule Earned Work Earned Value Tornado Merge Bias **Gantt**

'EVM Template File Demo w Actual Costs' 14 Task Schedule Commit



Project Progress Update Reference



Status Update #3 Published Nominal Sch. & Cost Charts

File Name: EVM Template File Demo w Actual Costs

Distribution Type: Triangle

Project Start: 10/7/2024, 8:00 AM

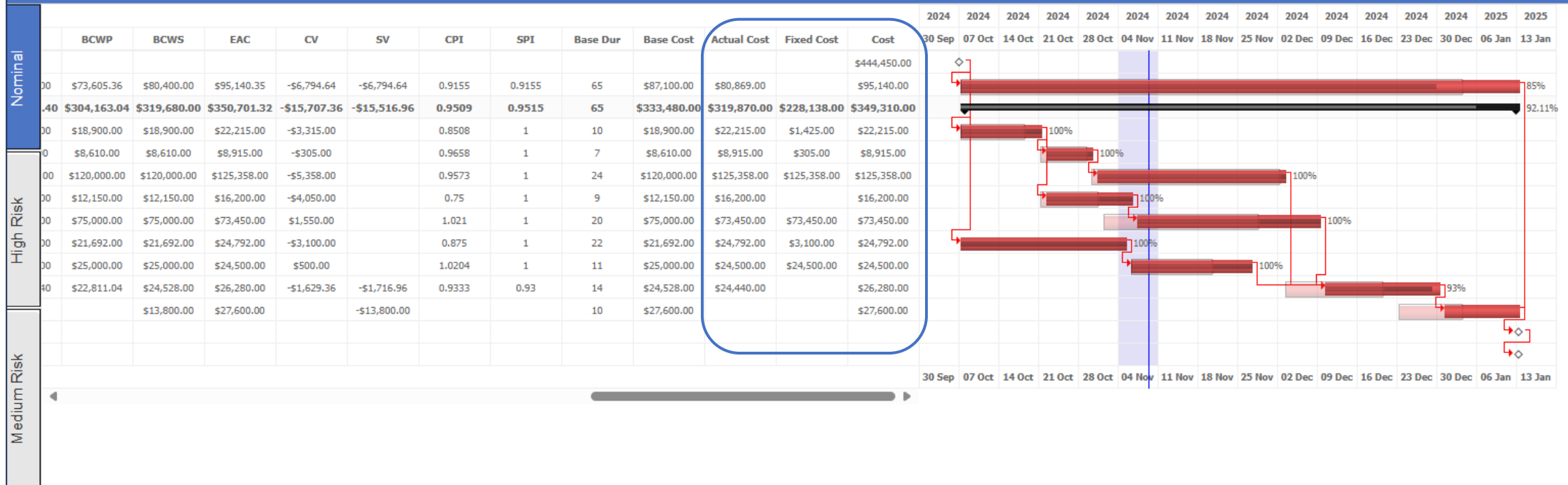
Modified Date: 11/9/2024, 11:15 AM

Baseline Set: 11/9/2024, 11:00 AM

Last Status Update: 12/27/2024, 5:00 PM

Distribution Distribution Trend Earned Schedule Earned Work Earned Value Tornado Merge Bias **Gantt**

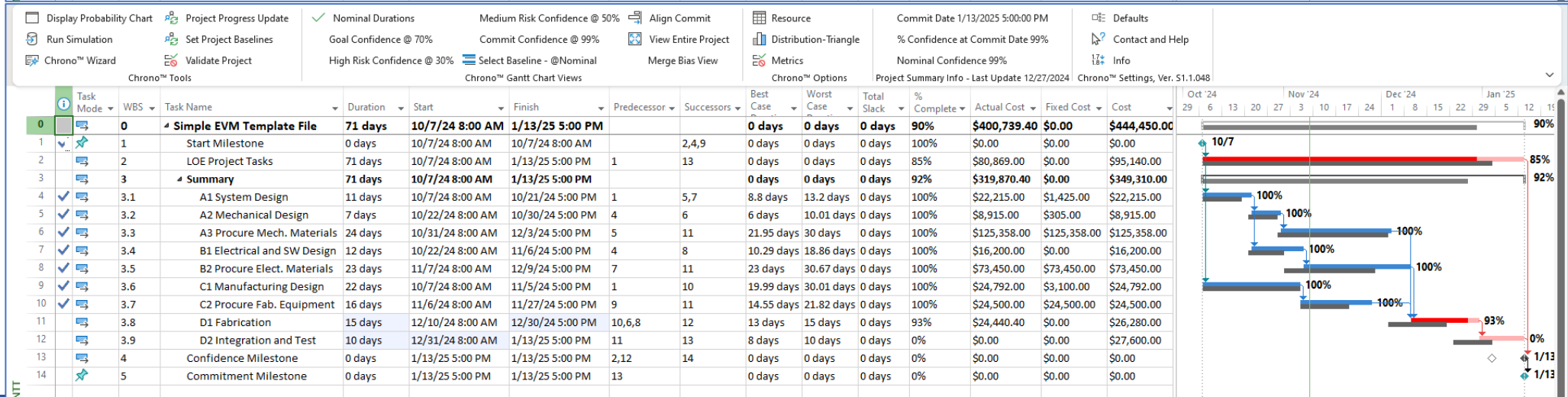
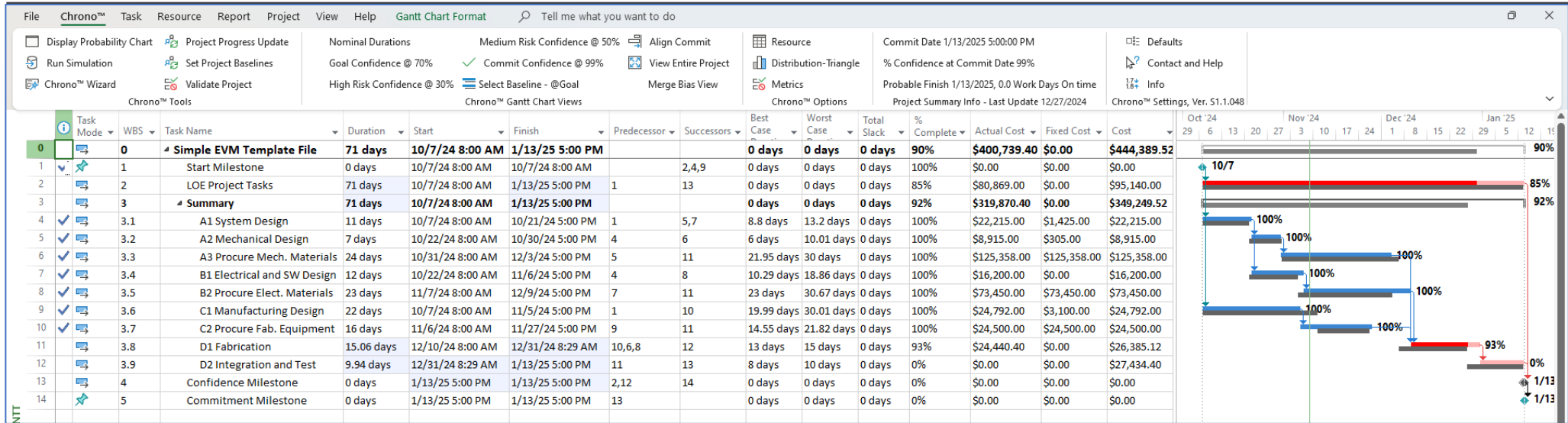
'EVM Template File Demo w Actual Costs' 14 Task Schedule Nominal



Project Progress Update Reference



Post Status Update #3 Changing Cost to Actual Costs



Project Progress Update Reference



Scenario Explanation (Fourth and Final Update)

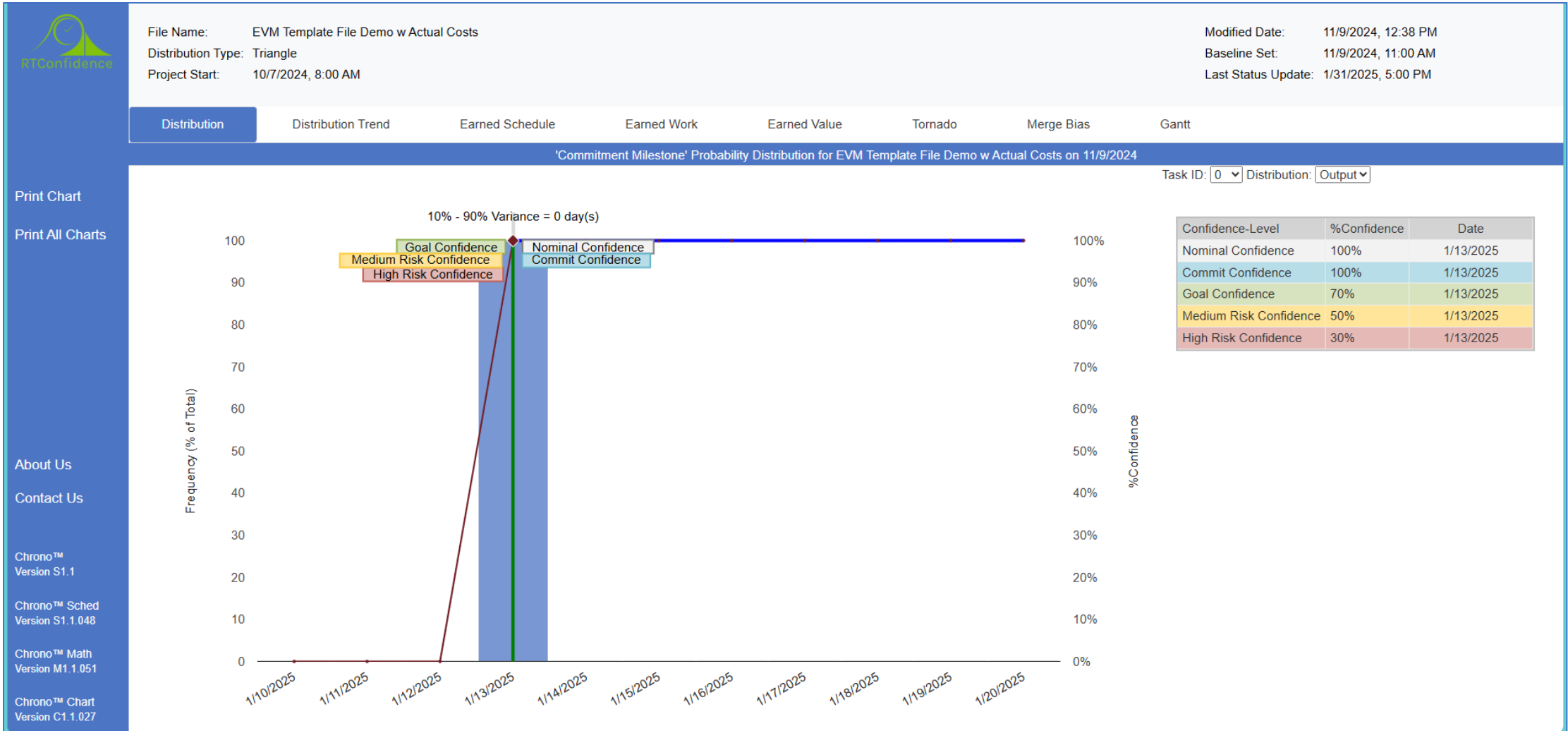
Fourth and Final Project Progress Update (Friday, 1/31/2025)

- 1) Task D1 (TaskID 11) completed as planned (-24 work-days ago), Next.
- 2) Task D2 (TaskID 12) completed as planned (-14 work-days ago), Next.
- 3) “3. Preview” – **do not “4. Publish” until after the final Actual Costs are input.**
- 4) Go back to the Nominal Gantt chart view and make the following changes:
 - Change the TaskID 11 “Actual Cost” from \$26,280.00 to \$27,234.00 (+\$954.00)
 - Change the TaskID 12 “Actual Cost” from \$27,600.00 to \$31,478.00 (+\$3,878.00)
 - Change the TaskID 2 “Actual Cost” from \$95,140.00 to \$92,050.00 (-\$3,090)
- 5) “3. Preview” to ensure all numbers are updated as directed
- 6) “4. Publish” and compare the following charts. **Note that the only changes from the charts in the last sections are the Task and Project “Costs”, and related Indicators.**

Project Progress Update Reference



Status Update #4 Published Chrono Distribution



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Project Progress Update Reference



Status Update #4 Published Distribution Trend Chart

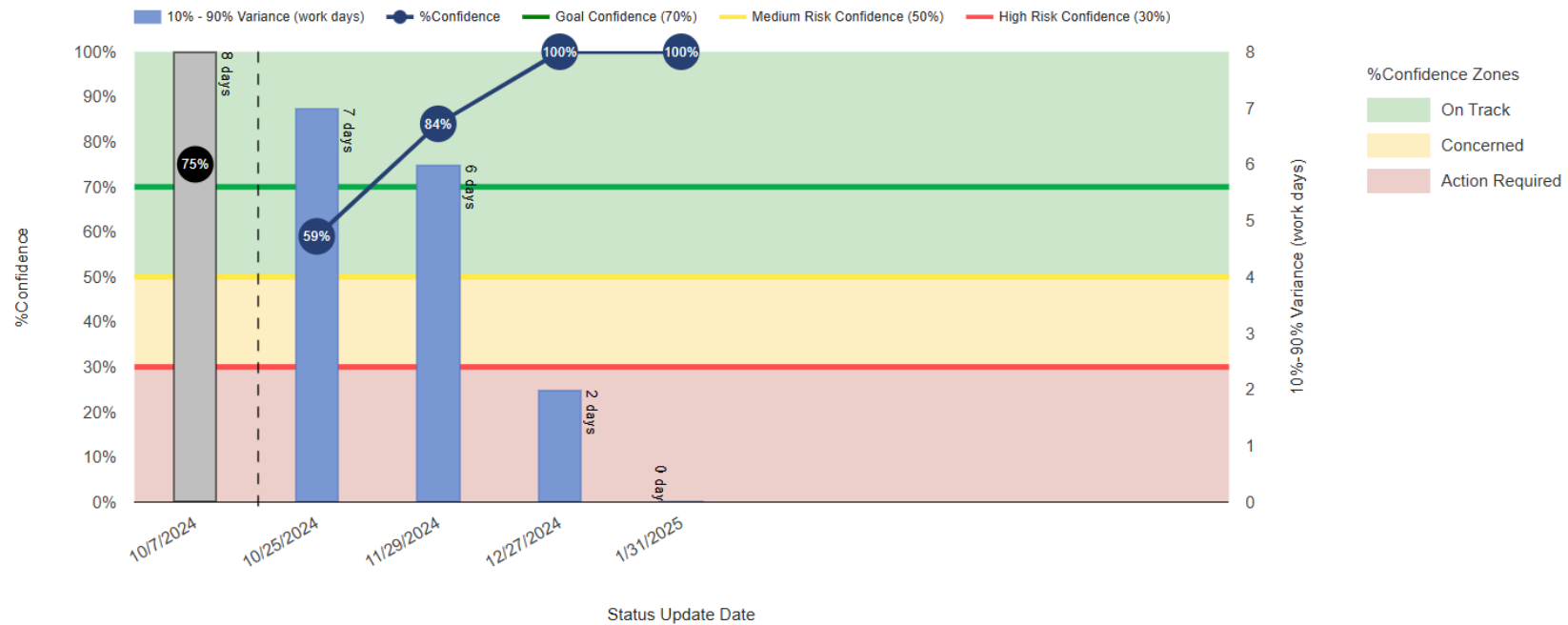


File Name: EVM Template File Demo w Actual Costs
 Distribution Type: Triangle
 Project Start: 10/7/2024, 8:00 AM

Modified Date: 11/9/2024, 12:38 PM
 Baseline Set: 11/9/2024, 11:00 AM
 Last Status Update: 1/31/2025, 5:00 PM

Distribution **Distribution Trend** Earned Schedule Earned Work Earned Value Tornado Merge Bias Gantt

'Commitment Milestone' %Confidence and 10%-90% Variance Trends for EVM Template File Demo w Actual Costs on 11/9/2024



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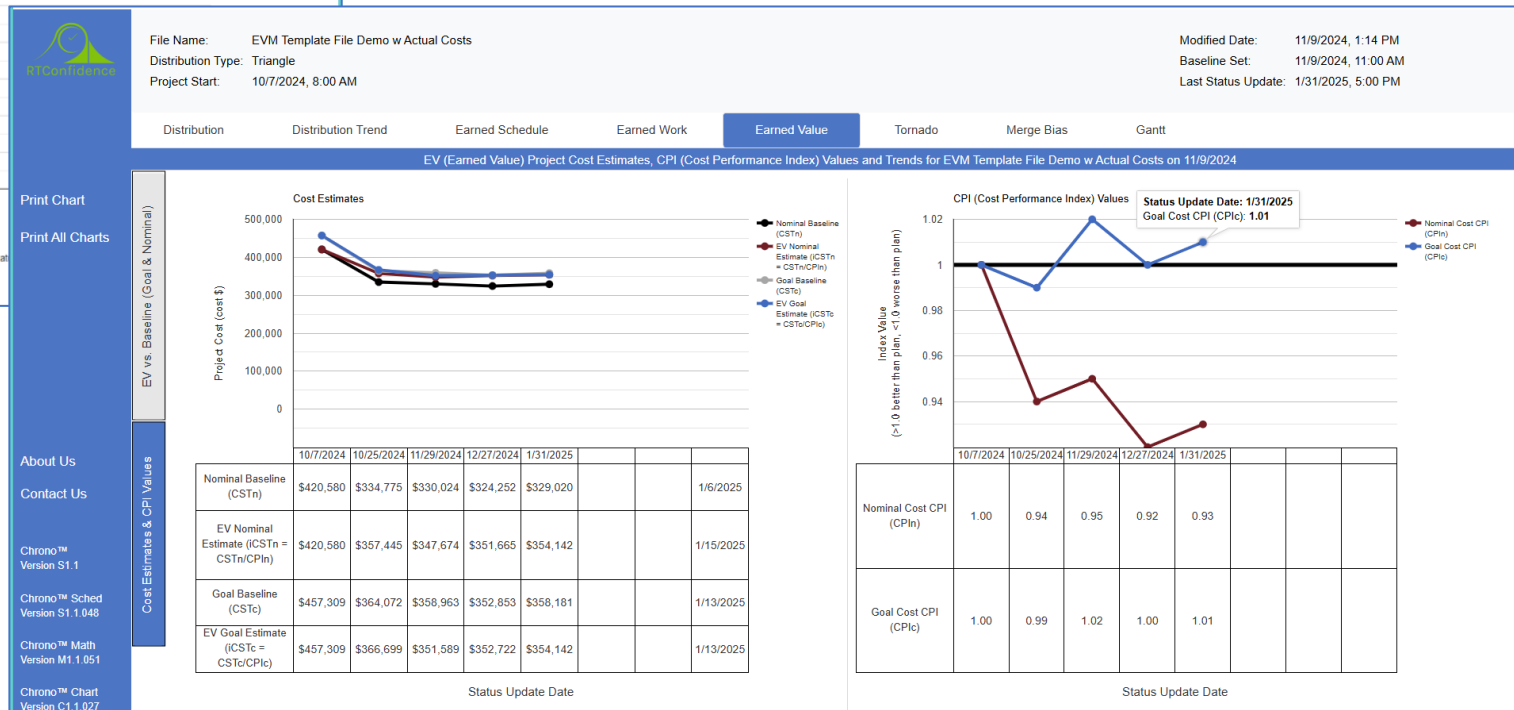
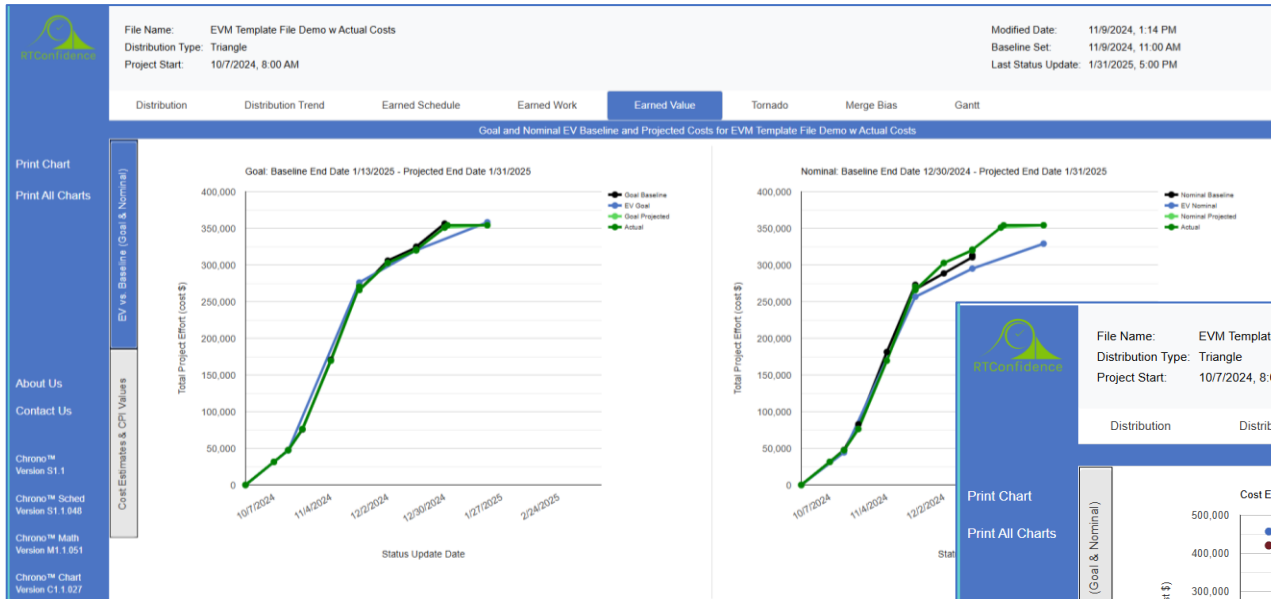
Chrono™ Math
Version M1.1.051

Chrono™ Chart
Version C1.1.027

Project Progress Update Reference



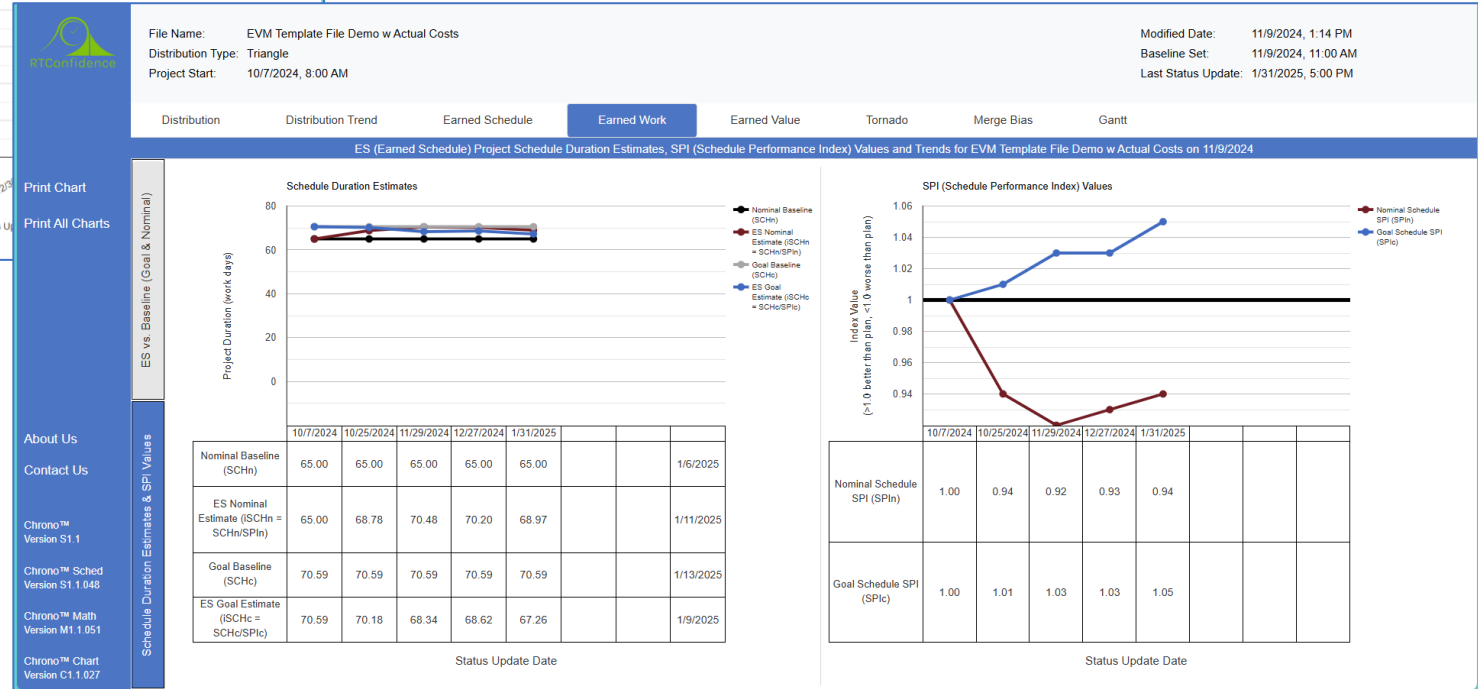
Status Update #4 Published Cost EV & CPI Charts



Project Progress Update Reference



Status Update #4 Published Schedule EW & SPI Charts



Project Progress Update Reference

Status Update #4 Published Commit Sch. & Cost Charts



File Name: EVM Template File Demo w Actual Costs
 Distribution Type: Triangle
 Project Start: 10/7/2024, 8:00 AM

Modified Date: 11/9/2024, 1:14 PM
 Baseline Set: 11/9/2024, 11:00 AM
 Last Status Update: 1/31/2025, 5:00 PM

Distribution Distribution Trend Earned Schedule Earned Work Earned Value Tornado Merge Bias **Gantt**

'EVM Template File Demo w Actual Costs' 14 Task Schedule Commit

	BCWP	BCWS	EAC	CV	SV	CPI	SPI	Base Dur	Base Cost	Actual Cost	Fixed Cost	Cost	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2025	2025
													30 Sep	07 Oct	14 Oct	21 Oct	28 Oct	04 Nov	11 Nov	18 Nov	25 Nov	02 Dec	09 Dec	16 Dec	23 Dec	30 Dec	06 Jan
Nominal												\$446,192.00															
00	\$97,680.04	\$87,100.00	\$89,294.52	\$5,630.04	\$10,580.04	1.1214	1.0611	70.58	\$94,590.04	\$92,050.00	-\$3,090.00	\$92,050.00															
.00	\$112,598.04	\$333,480.00	\$1,044,219...	-\$241,543.96	-\$220,881.96	0.3376	0.3179	70.58	\$345,568.04	\$354,142.00	\$232,970.00	\$354,142.00															
00	\$18,325.50	\$18,900.00	\$23,684.68	-\$3,889.50	-\$574.50	0.9696	0.8249	10.45	\$19,750.50	\$22,215.00	\$1,425.00	\$22,215.00															
00	\$9,325.90	\$8,610.00	\$9,196.60	\$410.90	\$715.90	1.0831	1.046	7.82	\$9,630.90	\$8,915.00	\$305.00	\$8,915.00															
High Risk																											
00	-\$5,358.00	\$120,000.00	\$120,000.00	-\$130,716.00	-\$125,358.00	-0.0446	-0.0427	25.77	\$120,000.00	\$125,358.00	\$125,358.00	\$125,358.00															
00	\$14,391.00	\$12,150.00	\$16,200.00	-\$1,809.00	\$2,241.00	1.1844	0.8883	10.66	\$14,391.00	\$16,200.00		\$16,200.00															
00	\$1,550.00	\$75,000.00	\$3,638,983.98	-\$71,900.00	-\$73,450.00	0.0206	0.0211	21.32	\$75,000.00	\$73,450.00	\$73,450.00	\$73,450.00															
00	\$21,648.60	\$21,692.00	\$27,898.52	-\$3,143.40	-\$43.40	0.9979	0.8732	25.1	\$24,748.60	\$24,792.00	\$3,100.00	\$24,792.00															
00	\$500.00	\$25,000.00	\$1,249,500.00	-\$24,000.00	-\$24,500.00	0.02	0.0204	12.12	\$25,000.00	\$24,500.00	\$24,500.00	\$24,500.00															
00	\$25,098.24	\$24,528.00	\$28,166.37	-\$2,135.76	\$570.24	1.0232	0.9215	14.87	\$26,052.24	\$27,234.00	\$954.00	\$27,234.00															
00	\$27,116.80	\$27,600.00	\$35,425.48	-\$4,361.20	-\$483.20	0.9824	0.8614	11.22	\$30,994.80	\$31,478.00	\$3,878.00	\$31,478.00															
Medium Risk																											

Project Progress Update Reference



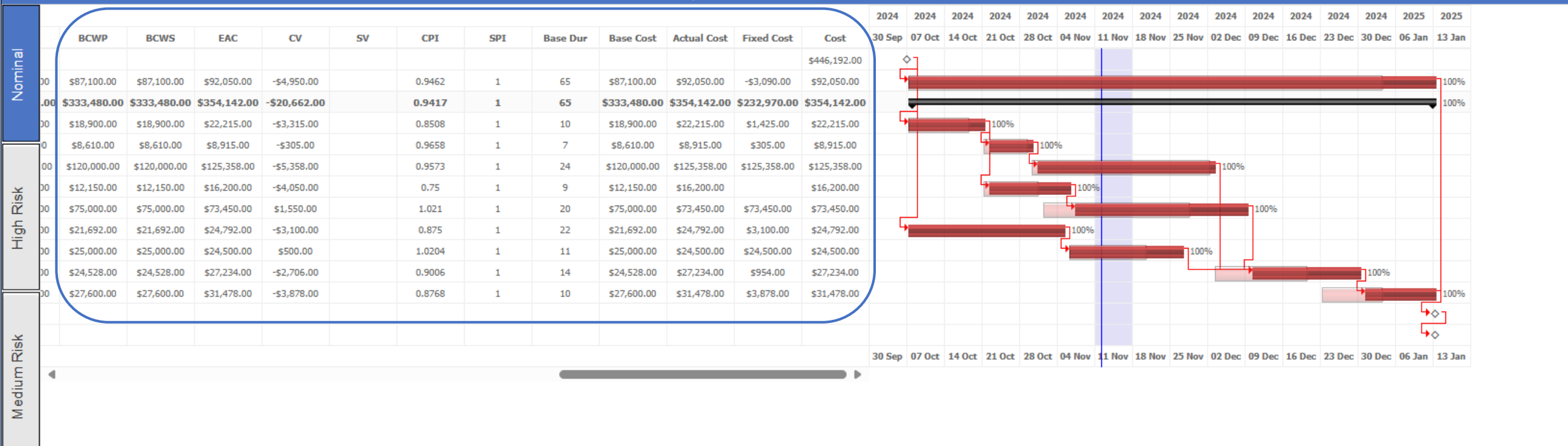
Status Update #4 Published Nominal Sch. & Cost Charts

File Name: EVM Template File Demo w Actual Costs
 Distribution Type: Triangle
 Project Start: 10/7/2024, 8:00 AM

Modified Date: 11/9/2024, 1:14 PM
 Baseline Set: 11/9/2024, 11:00 AM
 Last Status Update: 1/31/2025, 5:00 PM

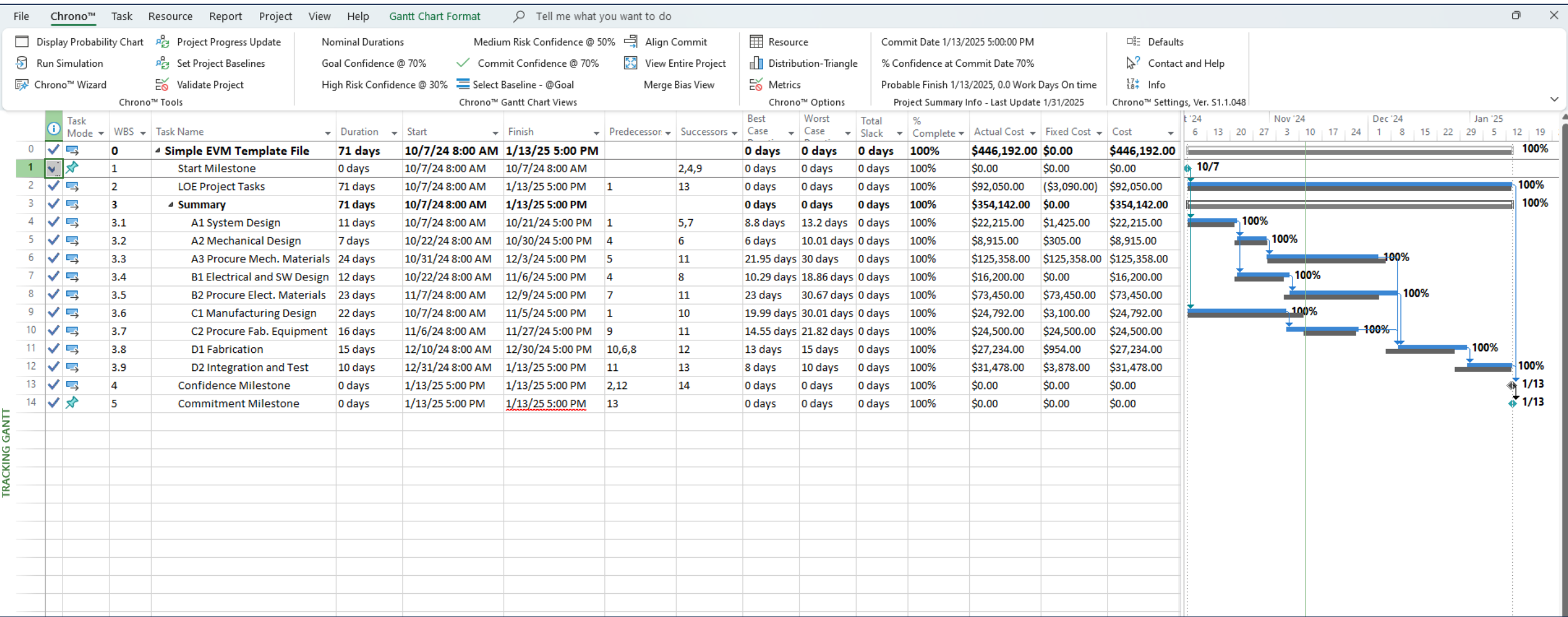
Distribution Distribution Trend Earned Schedule Earned Work Earned Value Tornado Merge Bias **Gantt**

'EVM Template File Demo w Actual Costs' 14 Task Schedule Nominal



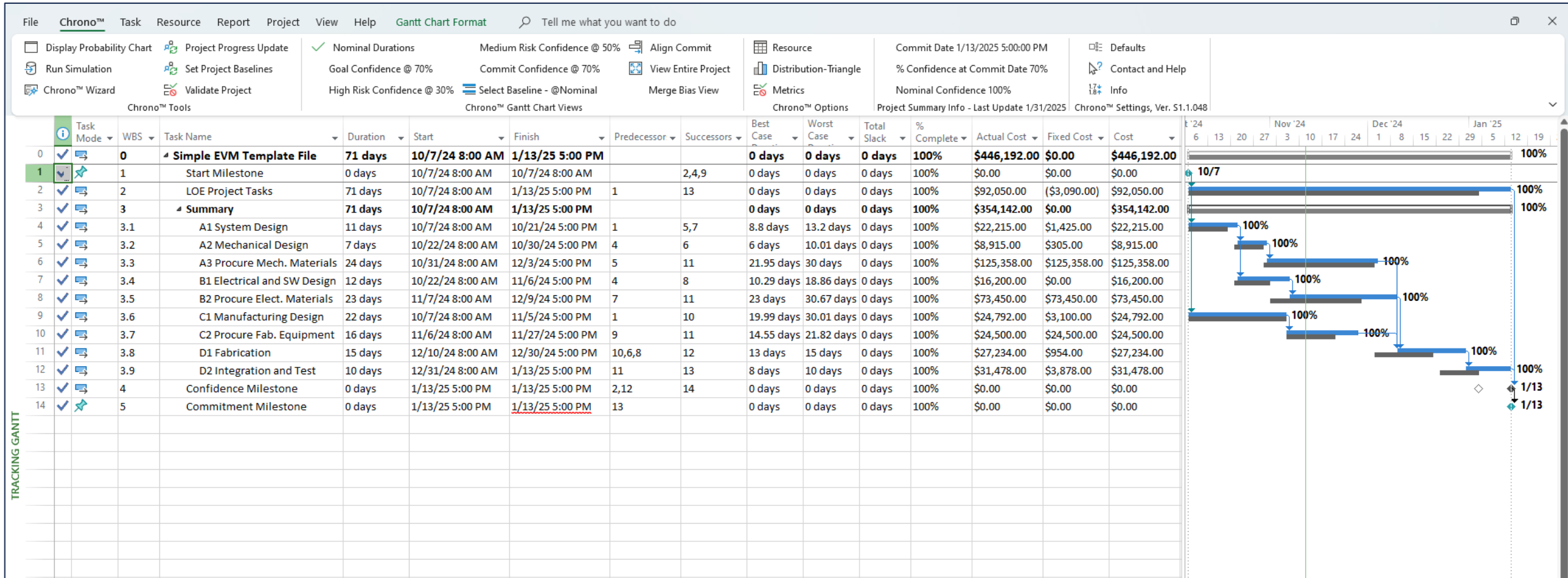
Project Progress Update Reference

Final Project IMS Outcome - Commitment



Project Progress Update Reference

Final Project IMS Outcome - Nominal



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