# HOW TO PREPARE **RECOVERY OR** REVISED SCHEDULE

PREPARED BY

ENG. ABDULAZIZ HUSAM ALYAMANI, PMP, PSP, PMI-SP

PLANNING ENGINEER AT SAUDICO LTD.

eng.abdulaziz\_alyamani@outlook.com

https://www.linkedin.com/in/abdulaziz-alyamani-pmp®-psp®-pmi-sp®-51a996b9

### **OVERVIEW**

PREPARING RECOVERY OR REVISED SCHEDULES IS A VERY COMMON TASK DURING PROJECT EXECUTION, MONITORING AND CONTROLLING.

WHEN THERE IS A SLIPPAGE IN THE PROJECT FINISH FORECAST DATE OR SCOPE ADDITION OR OMISSION OR A CHANGE IN THE CONSTRUCTION METHODOLOGY OR CONSTRUCTABILITY METHOD, THE SCHEDULE BASELINE IS NO LONGER EFFECTIVE IN THE MONITORING AND CONTROLLING PROCESS.

THEREFORE, A RECOVERY OR REVISED SCHEDULE SHOULD BE PREPARED, APPROVED AND MAINTAINED AS A NEW BASELINE TO MONITOR AND CONTROL THE PROJECT.

HOWEVER, THERE IS A DIFFERENCE BETWEEN A RECOVERY AND A REVISED SCHEDULE AS FOLLOWS:

**RECOVERY SCHEDULE:** IF THERE IS A SLIPPAGE IN THE PROJECT FINISH FORECAST DATE BECAUSE OF ONE OF THE ABOVE MENTIONED FACTORS BUT THE PROJECT TEAM STILL BELIEVES THAT THERE IS A REALISTIC CHANCE OF COMPLETING THE PROJECT ON TIME BY TAKING ADDITIONAL MEASURES, THEN THE CONTRACTOR MAY BE REQUESTED TO SUBMIT A RECOVERY SCHEDULE.

**REVISED SCHEDULE:** IF THERE IS A SLIPPAGE IN THE PROJECT FORECAST FINISH DATE BECAUSE OF ONE OF THE ABOVE MENTIONED FACTORS AND THE SLIPPAGE IS SO MUCH THAT THE PROJECT COMPLETION DATE IS NO LONGER REALIZABLE, THE CLIENT MAY REQUEST, AND THE CONTRACTOR MAY SUBMIT A REVISION OF THE SCHEDULE WITH A NEW, REALISTIC COMPLETION DATE.

### TO WHOM THIS DOCUMENT ADDRESSED:

-PLANNING ENGINEERS.

-Scheduling Coordinators.

### WHAT SHOULD YOU KNOW BEFORE READING THIS DOCUMENT:

BEFORE YOU READ THIS DOCUMENT YOU SHOULD BE FAMILIAR WITH THE FOLLOWING:

-**CRASHING TECHNIQUE:** A TECHNIQUE USED TO SHORTEN THE SCHEDULE DURATION FOR THE LEAST INCREMENTAL COST BY ADDING RESOURCES. EXAMPLES OF CRASHING INCLUDE APPROVING OVERTIME, BRINGING IN ADDITIONAL RESOURCES, OR PAYING TO EXPEDITE DELIVERY TO ACTIVITIES ON THE CRITICAL PATH. CRASHING WORKS ONLY FOR ACTIVITIES ON THE CRITICAL PATH WHERE ADDITIONAL RESOURCES WILL SHORTEN THE ACTIVITY'S DURATION. CRASHING DOES NOT ALWAYS PRODUCE A VIABLE ALTERNATIVE AND MAY RESULT IN INCREASED RISK AND/OR COST.

-FAST TRACKING TECHNIQUE: A SCHEDULE COMPRESSION TECHNIQUE IN WHICH ACTIVITIES OR PHASES NORMALLY DONE IN SEQUENCE ARE PERFORMED IN PARALLEL FOR AT LEAST A PORTION OF THEIR DURATION. AN EXAMPLE IS CONSTRUCTING THE FOUNDATION FOR A BUILDING BEFORE COMPLETING ALL OF THE ARCHITECTURAL DRAWINGS. FAST TRACKING MAY RESULT IN REWORK AND INCREASED RISK. FAST TRACKING ONLY WORKS IF ACTIVITIES CAN BE OVERLAPPED TO SHORTEN THE PROJECT DURATION.

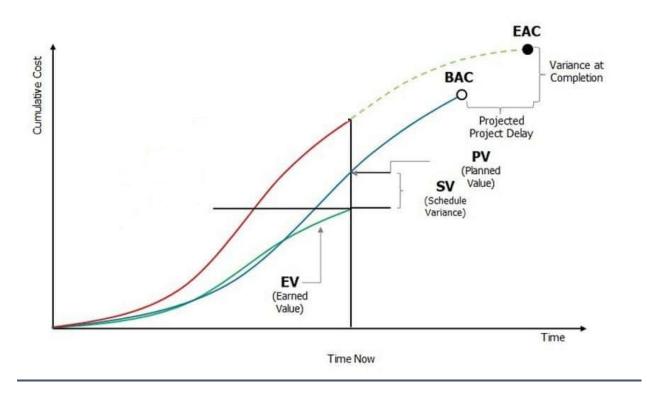
- **OUT OF SEQUENCE:** AN OUT-OF-SEQUENCE ACTIVITY IS ANY ACTIVITY THAT IS IN-PROGRESS OR HAS COMPLETED BEFORE ONE OR MORE OF ITS PREDECESSORS.

-PRIMAVERA USING, TYPES OF RELATIONSHIPS & IMPORTING AND EXPORTING USING MICROSOFT EXCEL.

-USING GLOBAL CHANGE.

-ACTIVITY % COMPLETE TYPES AND ITS EFFECT ON PRIMAVERA CALCULATIONS.

### MAIN CONCEPT





As shown in Figure 1, There is a variance between the planned value curve which is represented in primavera as schedule percent complete for the whole project and the earned value curve which is represented in the primavera as the performance percent complete which will result in a delay in the forecast finish date.

Therefore, IN CASE OF A RECOVERY SCHEDULE WE WILL BRING THE EV CURVE TO BE MATCH BACK WITH THE PV CURVE **WITHOUT** CHANGING THE FINISH DATE OF THE PROJECT.

BUT IN THE REVISED SCHEDULE WE WILL BRING THE EV CURVE TO BE MATCH BACK WITH THE PV CURVE **WITH** CHANGING THE FINISH DATE OF THE PROJECT.

### MEANS AND METHODS OF THE RECOVERY OR REVISED SCHEDULE:

WHEN START PREPARING YOUR RECOVERY OR REVISED SCHEDULE YOUR UPDATED SCHEDULE WILL HAVE THREE TYPES OF ACTIVITIES:

**-NOT STARTED ACTIVATES:** WHICH WE WILL NOT PERFORM ANY GLOBAL CHANGE TO AND WILL KEEP IT AS IT IS WHILE MAKING THE RECOVERY OR REVISED SCHEDULE.

-**COMPLETED ACTIVITIES:** WHICH WE WILL USE A GLOBAL CHANGE TO MAKE THE PLANNED DATES AND DURATION EQUAL TO ACTUAL DATES AND DURATION.

**-IN PROGRESS ACTIVITIES:** WHICH WILL BE THE MAIN PROBLEM THAT WE WILL FIX USING EXCEL AND PRIMAVERA GLOBAL CHANGE, AS IN THIS CASE USUALLY THE ACTUAL DURATION OF THE ACTIVITIES IN THE UPDATED SCHEDULE IS TAKING MUCH LONGER TIME THAN THE DURATION IN THE BASELINE SCHEDULE WHICH CAUSING THE DELAY OF THE PROJECT.

TO FIX THE IN PROGRESS ACTIVITIES PROBLEM AND BRING IT BACK TO MATCH THE PLANNED THERE ARE THREE WAYS TO DO THAT.

HOWEVER, WE WILL EXPLAIN THE FIRST WAY IN DETAIL AND AFTER WE FINISH WE WILL GO THROUGH THE SECOND AND THIRD WAY IN GENERAL.

### **1-THE FIRST WAY**

IS TO CHANGE THE ACTUAL START OF THE ACTIVITIES IN PROGRESS TO MAINTAIN THE ORIGINAL DURATION OF THE ORIGINAL BASELINE INSTEAD OF KEEPING THE ACTUAL START WHICH CAUSED THE ACTIVITY TO EXTEND ITS DURATION DURING THE UPDATE.

✓ Layout: KBWT	Filter: All Activities												
Activity ID Activity Name			Original Duration	BL Project Start	BL Project Finish	Start	Finish	Schedule % Complete	Performance % Complete		) Sep	Oct No	ov Dec Jan
P12D2-TRM-GF-362 Reinforced Conc	rete for Stairs in terminal Buildin	Ig	10.00	11-Jun-19	22-Jun-19	05-Oct-19 A	21-Nov-19 A	100%	100%				Reinforced C
P12D2-TRM-GF-748 Earthing Conduits	s and Cable Accessories		5.00	14-Jul-19	18-Jul-19	19-Oct-19 A	04-Feb-20	100%	30%				
P12D2-TRM-GF-148 Conduits, Cables	and Conductors		6.00	07-Jul-19	13-Jul-19	19-Oct-19 A	01-Feb-20	100%	30%				
P12D2-TRM-GF-151 Wiring Devices (C	Dutlets & Switches)		6.00	01-Oct-19	07-Oct-19	19-Oct-19 A	31-May-20	100%	30%			_	
P12D2-TRM-GF-157 Interior Lighting F	Fixtures		12.00	01-Oct-19	14-Oct-19	19-Oct-19 A	04-Jun-20	100%	30%			_	
P12D2-TRM-GF-357 Reinforced Conc	rete for Slabs		6.00	03-Jun-19	12-Jun-19	26-Oct-19 A	11-Dec-19 A	100%	100%				Reinforc
P12D2-TRM-GF-379 Reinforced Conc	rete for Beams		10.00	27-May-19	10-Jun-19	26-Oct-19 A	11-Dec-19 A	100%	100%				Reinforc
P12D2-TRM-GF-351 Plain Concrete U	nder Slab On Grade		4.00	08-May-19	12-May-19	05-Jan-20	09-Jan-20	100%	0%				∎ P
P12D2-TRM-GF-149 Earthing Conduits	s and Cable (Underground)		8.00	24-Jun-19	02-Jul-19	05-Jan-20	14-Jan-20	100%	0%	v <			1 1
						00.1.00	40.1 00	1000	0.07		_		
General Status Resources Codes Relationships	Notebook Steps Feedback W	Ps & Docs Risks Expenses	Summary										
Activity P12D2	2-TRM-GF-157	Interior Lighting Fixtu	res										Project KBW
Duration		Status										~	Labor Units
Original	12.00	V Started	F	19-Oct-19		Dura	tion %				309	% В	ludgeted
Actual	53.00	Finished		04-Jun-20		Susp	end					A	kctual
Remaining	8.40	Exp Finish	ſ			Resu	me					R	temaining
At Complete	197.79											Α	At Complete
		Constraints											

For Example, as shown in Figure 2 the interior lighting fixtures activity has an original duration of 12 days, but as updated, the actual duration for it is 53 days and it still in progress which causing the planned value for it not equal to the earned value.

SO USING THIS WAY WE WILL CHANGE THE ACTUAL START DATE FORWARD THE DATA DATE USING THIS EQUATION AND USING EXCEL (EQUATION NO.1)

NEW ACTUAL START DATE = (ACTIVITY % COMPLETE \* ORIGINAL DURATION) – DATA DATE.

### **DISADVANTAGES:**

1-THE DISADVANTAGES FOR THIS WAY THAT YOU WILL LOSE THE REAL ACTUAL START DATA FOR IN PROGRESS ACTIVITIES WHICH WILL AFFECT THE AS BUILT SCHEDULE FOR ANY FORENSIC ANALYSIS OR DELAY ANALYSIS.

2- THE EARNED VALUE CURVE WILL BE AFFECTED IF YOU ARE NOT KEEPING A RECORD WITH EVERY UPDATE BECAUSE ALL THE IN PROGRESS ACTIVITIES ACTUAL START WILL BE FEW DAYS BEFORE THE DATA DATE WHICH CAUSING THE EARNED VALUE TO INCREASE AROUND THE DATA DATE MORE THAN THE ACTUAL REAL DISTRIBUTION.

**3-**The performance percentage complete will not match the planned percentage complete **100%**.

### TO MITIGATE THESES DISADVANTAGES YOU SHOULD DO THE FOLLOWING:

1-You can keep a record of the real actual start dates using a user defined field and when the project is finished the planned value will be equal to the earned value so you can change back new actual start dates back to the real actual start dates but it will still affect the delay analysis if you are using window or time impact analysis.

2-TO MITIGATE THE EARNED VALUE CURVE PROBLEM YOU SHOULD KEEP A RECORD OF EARNED VALUE OF THE SCHEDULE IN AN EXTERNAL EXCEL SHEET AND UPDATE IT WITH EVERY UPDATE.

**3-FOR THE PERFORMANCE PERCENTAGE COMPLETE THE MAIN REASON BEHIND THIS ARE TWO THINGS, THE FIRST REASON IS THAT YOU HAVE TO FIX THE REMAINING DURATION TO EXCLUDE ANY DECIMALS WHILE DOING THE RECOVERY WHICH WILL AFFECT THE PRIMAVERA CALCULATIONS.** 

For Example, IF you have an activity with 10 days duration and 30% actual percentage so the actual duration for that activity is =  $30\% \times 10 = 3.33$  days so that the remaining duration will be 6.66 days.

HOWEVER, THESE DECIMALS WILL NOT BE SEEN UNTIL YOU VIEW THE DECIMALS IN PRIMAVERA.

SO, DURING OUR RECOVERY PROCESS WE WILL FIX ALL THE REMAINING DURATIONS TO BE EQUAL TO CORRECT NUMBERS WITHOUT DECIMALS.

tivities																			
tivities Projects																			
r Layout: KBWT		Fiter	AllActivities																
tivity ID	Activity Name			(	Original	BL Project Start	BL Pro	ject	Start _	Finish	Schedule %	Performance ^					202		
				0	- Duration		Finish		į		Complete	% Complete	Aug Sep	Oct Nov Dec	Jan Feb Ma	ar Apr Ma	ay Jun	Jul Aug	Sep
P12D2-TRM-GF-148	Conduits, Cables and Co	nductors			6.00	07-Jul-19	13-Jul-1	19	19-Oct-19A	01-Feb-20	100%	30%			Conduits	, Cables and	Conductors		
P12D2-TRM-GF-151	Wiring Devices (Outlets &	Switches)			6.00	01-Oct-19	07-0d-	19	19-Oct-19 A	31-May-20	100%	30%		-		-		Devices (Ou	
P12D2-TRM-GF-157	Interior Lighting Fixtures				12.00	01-Oct-19	14-0ct-1	19	19-Oct-19 A	04-Jun-20	100%	30%		_		$ \rightarrow $	🖣 Interio	or Lighting Fi	idures
P12D2-TRM-GF-357	Reinforced Concrete for S	labs			6.00	03-Jun-19	12-Jun-	19	26-Oct-19 A	11-Dec-19/	100%	100%		R	einforced Concrete	for Slabs			
P12D2-TRM-GF-379	Reinforced Concrete for B	eams			10.00	27-May-19	10-Jun-	19	26-Oct-19 A	11-Dec-19 <i>1</i>	100%	100% 🗸	<						3
eneral Status Resources (	Codes Relationships Notebo Activity P12D2-TRU-GF			Risks Expenses Sum									_	Project	KBWT-2				_
Predecessors	,			,					Successors	1					,				
Activity D 🛛 🖓 Ac	ctivity Name	Relations	Lag Start	Finish	Fre	e Float Total Float	Critical	Driving	Activity ID	7	Activity Name		Relations	Lag Start	Finish	Free Floa	t Total Float	Critical	Driving
🗧 P1202-TRII-GF-215 🛛 Do	oor Hardware	FS	0.00 19-May-20	26-May-20		0.00 -202.59	V	M	🚽 P1202-	TRM-GF-802	Painting Works (Final Co	iat & touch up)	FF	0.00 31-May-20	14-Jun-20	0.00	-202.59	V	
🖳 P1202-TRM-GF-703 🛛 Ac	rouptical Danal Calinne	FS	0.00 29-Apr-20	12-1/ay-20		0.00 -202.59	V	Γ											

### THE SECOND REASON FOR THIS IS SHOWN IN FIGURE NO.3 BELOW:

#### FIGURE 3

As noticed in Figure No.3, interior lighting fixture activity is in progress, but there is a gap highlighted in yellow because of its relation with the predecessor activity (using retained logic), which causing the remaining early start for the activity to start later than 1 day after the data date which effects the activity calculation as shown in Figure No.4:

(		>	<	
General Status Resources Codes Relationships Notebook Steps Feedback V	VPs & Docs Risks Expenses Summary			
Activity P12D2-TRM-I/IZ-157	Interior Lighting Fixtures			
Duration	Status			
Original 5.00	V Started	19-Oct-19	Duration %	30%
Actual 53.00	Finished	04-May-20	Suspend	
Remaining 3.50	Exp Finish		Resume	
At Complete 170.21				
,	Constraints			
Total Float -163.21	Primary	< None >	Secondary	< None > v
Free Float 0.00	Date		Date	

As shown in Figure No.4, the original duration for the interior lighting fixture activity is 5 days, while the actual duration gained from the update is 53 days, the remaining duration is 3.5 days, but notice that the <u>at complete duration doesn't</u> <u>equal the actual duration + remaining duration</u> which will cause a variance between the planned percentage and the earned percentage.

TO MITIGATE THE ABOVE MENTIONED PROBLEM, WE WILL SHOW THE REMAINING EARLY START COLUMN IN PRIMAVERA AND CHECK THAT:

### ALL ACTIVITIES REMAINING EARLY START = DATA DATE+1

AND WE WILL DO THAT BY CHANGING THE RELATIONS AS POSSIBLE. HOWEVER, IN SOME CASES WE WILL NOT HAVE THE OPTION TO CHANGE THE RELATIONSHIPS WHICH WILL KEEP A LITTLE VARIANCE BETWEEN THE PLANNED AND THE EARNED VALUES.

# Now we will do a practice example using this method to clear-out the practical way using duration % complete:

**STEPS TO MAKE RECOVERY/REVISED SCHEDULE:** 

**1-**ADD OR OMIT ANY APPROVED SCOPE CHANGES.

**2-**FIX OUT OF SEQUENCE ACTIVITIES.

**3-**Fix project and milestones dates to meet the approved new dates (USING CRASHING/FAST TRACKING).

**4-**Fix remaining early start dates for <u>in progress</u> activities to be = data date + 1

**5-** COST LOADING (IF THERE IS ANY).

**6-** FIX THE REMAINING DURATION (GET RID OF DECIMALS).

**7-**FIX ACTUAL START DATES BY CALCULATING THE ACTUAL DURATION DEPENDING ON ORIGINAL DURATION.

8-PERFORM GLOBAL CHANGE FOR COMPLETED AND IN PROGRESS ACTIVITIES.

EXAMPLE:-

IN THIS EXAMPLE WE HAVE A TERMINAL BUILDING PROJECT, IT WAS SUPPOSED TO FINISH ON <u>30</u> <u>NOV 2019</u>. However, Due to delay events we will make a revised schedule and fix the FINISH DATE TO BE <u>15 JUN 2020</u>.

-As of latest update the data date is 19 DEC 2019

-THE SCHEDULE % COMPLETE = 100%

-THE PERFORMANCE % COMPLETE = 19.45%

-PLANNED VALUE COST = 42,507,585.94

-EARNED VALUE COST = **8,269,425.07** 

KINDLY REFER TO FIGURE 5 TO SEE THE ABOVE MENTIONED INFORMATION TAKEN FROM PRIMAVERA.

Activity ID	Activity Name	Original Duration	BL Project Start	Finish	Start	Finish	Schedule % Complete		Planned Value Cost	Earned Value Cost
Khaled Ibn	Al-Waleed Terminus	479.37	02-Feb-19	30-Nov-19	02-Feb-19 A	23-Aug-20	100%	19.45%	\$42,507,585.94	\$8,269,425.07
<ul> <li>Project Miles</li> </ul>	tones	479.37	02-Feb-19	30-Nov-19	02-Feb-19 A	23-Aug-20	0%	0%	\$0.00	\$0.00
+ Project Mobil	lization & Pre-Construction	17.00	02-Feb-19	20-Feb-19	02-Feb-19 A	28-Feb-19 A	100%	100%	\$2,210,644.02	\$2,210,644.02
<ul> <li>Project Engin</li> </ul>	neering	389.67	02-Feb-19	08-Oct-19	27-Feb-19 A	10-May-20	100%	51.43%	\$6,376,137.89	\$3,279,330.59
🗄 Shop Drawii	ngs	326.50	02-Feb-19	16-Jul-19	27-Feb-19 A	15-Mar-20	100%	55.76%	\$4,250,758.59	\$2,370,234.71
		339.67	01-Apr-19	08-Oct-19	03-Apr-19 A	10-May-20	100%	42.77%	\$2,125,379.30	\$909,095.88
<ul> <li>Project Cons</li> </ul>	struction	430.37	13-Feb-19	02-Nov-19	23-Feb-19 A	26-Jul-20	100%	8.46%	\$32,858,114.38	\$2,779,450.45
Terminal Bu	ilding	404.59	03-Mar-19	02-Nov-19	23-Feb-19 A	25-Jun-20	100%	9.49%	\$28,527,638.47	\$2,706,996.03
External Wo	rks	307.37	13-Feb-19	31-Oct-19	19-Oct-19 A	26-Jul-20	100%	1.67%	\$4,330,475.91	\$72,454.42
Project Testin	ng & Commessioning and Handover	120.37	06-Jul-19	30-Nov-19	05-Apr-20	23-Aug-20	100%	0%	\$1,062,689.65	\$0.00
Terminal Bu	ilding	39.20	21-Oct-19	30-Nov-19	08-Jun-20	23-Jul-20	100%	0%	\$637,613.79	\$0.00
External Wo	rks	120.37	06-Jul-19	28-Nov-19	05-Apr-20	23-Aug-20	100%	0%	\$425,075.86	\$0.00

### FIGURE 5

### <u>Step 1</u>

### -USING A COPY OF THE LATEST UPDATE.

**1-**ADD OR OMIT ANY APPROVED SCOPE CHANGES.

IN THIS EXAMPLE THERE IS NO CHANGE IN SCOPE SO IT WILL REMAIN THE SAME.

### <u>Step 2</u>

**2-**FIX OUT OF SEQUENCE ACTIVITIES.

-DITCH THE ATTACHED BASELINE.

TO DO THAT GO TO PROJECT TAB AND SELECT ASSIGN BASELINE.

S 10 5			5. F 🗉 - 📾 '	<b>T</b> • 🖬• # .		🗞 ≴ 📆 🗉		. 🛛 🔹 🔟 🖗	9 🕲 . 🛃	1 🖻 🗸	
Activities	Resource Assignments										
Activities											
V Layout: K	Maintain Baselines	- Fi	ter: All Activities								
Activity ID	Bisks ¥	ne	Original Duration	BL Project Start	Finish	Start	Finish	Schedule % Complete		Planned Value Cost	Earned Value
Khale	ed Ibn Al-Waleed	Terminus	479.37	02-Feb-19	30-Nov-19	02-Feb-19 A	23-Aug-20	100%	19.45%	\$42,507,585.94	\$8,269,425.0
· Proje	ct Milestones		479.37	02-Feb-19	30-Nov-19	02-Feb-19 A	23-Aug-20	0%	0%	\$0.00	\$0.0
+ Proje	ct Mobilization & Pre	-Construction	17.00	02-Feb-19	20-Feb-19	02-Feb-19 A	28-Feb-19A	100%	100%	\$2,210,644.02	\$2,210,644.0
- Proje	ct Engineering		389.67	02-Feb-19	08-Oct-19	27-Feb-19 A	10-May-20	100%	51.43%	\$6,376,137.89	\$3,279,330.5
B Shop	p Drawings		326.50	02-Feb-19	16-Jul-19	27-Feb-19 A	15-Mar-20	100%	55.76%	\$4,250,758.59	\$2,370,234.7
- Mate	rial		339.67	01-Apr-19	08-Oct-19	03-Apr-19 A	10-May-20	100%	42.77%	\$2,125,379.30	\$909,095.8
- Proje	ct Construction		430.37	13-Feb-19	02-Nov-19	23-Feb-19 A	26-Jul-20	100%	8.46%	\$32,858,114.38	\$2,779,450.4
	ninal Building		404.59	03-Mar-19	02-Nov-19	23-Feb-19 A	25-Jun-20	100%	9.49%	\$28,527,638.47	\$2,706,996.0
= Exter	rnal Works		307.37	13-Feb-19	31-Oct-19	19-Oct-19 A	26-Jul-20	100%	1.67%	\$4,330,475.91	\$72,454.4
- Proje	ct Testing & Commes	ssioning and Han	dover 120.37	06-Jul-19	30-Nov-19	05-Apr-20	23-Aug-20	100%	0%	\$1,062,689.65	\$0.0
. Term	ninal Building		39.20	21-Oct-19	30-Nov-19	08-Jun-20	23-Jul-20	100%	0%	\$637,613.79	\$0.0
+ Exter	rnal Works		120.37	06-Jul-19	28-Nov-19	05-Apr-20	23-Aug-20	100%	0%	\$425,075.86	\$0.0



-REMOVE THE PROJECT SELECTION FROM <u>PROJECT BASELINE</u> AND <u>PRIMARY</u> AND MAKE IT CURRENT PROJECT.

ctivities											
Activities Project	ts										
V Layout: KBWT	Filter: All Activ									ana a	
Activity ID	Activity Name	Original Duration		- BL Project Finish	Start	Finish		Performance % Complete		Value Cost	Earned Value Cos
Khaled Ibn	Al-Waleed Terminus	479.37	02-Feb-19	30-Nov-19	02-Feb-19A	23-Aug-20	100%	19.45%	\$42,507	,585.94	\$8,269,425.07
<ul> <li>Project Miles</li> </ul>	stones	479.37	02-Feb-19	30-Nov-19	02-Feb-19A	23-Aug-20	0%	0%		\$0.00	\$0.00
<ul> <li>Project Mob</li> </ul>	ilization & Pre-Construction	17.00	02-Feb-19	20-Feb-19	02-Feb-19A	28-Feb-19A	100%	100%	\$2,210	,644.02	\$2,210,644.02
<ul> <li>Project Engi</li> </ul>	neering	389.67	02-Feb-19	08-Oct-19	27-Feb-19 A	10-May-20	100%	51.43%		137.89	\$3,279,330.59
Shop Draw	ings	326.50	02-Feb-19	16-Jul-19	27-Feb-19A	15-Mar-20	100%	55.76%	\$4,250	,758.59	\$2,370,234.71
Material		339.67	01-Apr-19	08-Oct-19	03-Apr-19 A	10-May-20	100%	42.77%	\$2,125	,379.30	\$909,095.88
<ul> <li>Project Const</li> </ul>		430.37	13-Feb-19	02-Nov-19	Assign Baselin	es	40.00	R 2000	200.050	421.00	× 79,450.45
Terminal Building		404.59	03-Mar-19	02-Nov-19					1	ОК	06,996.03
External Wo		307.37	13-Feb-19	31-Oct-19	Project KBWT-7 : Kh	aled Ibn Al-Waleed	Terminus		1	1997	\$72,454.42
and the second se	ing & Commessioning and Handover	120.37	06-Jul-19	30-Nov-19				-	0	Cance	
Terminal Bu		39.20 120.37	21-Oct-19 06-Jul-19	30-Nov-19 28-Nov-19	Project Basel	ine I-Waleed Terminus			. 💿	Help	\$0.00
External Wo	Drks	120.37	00-JUI-19	28-1404-19	<current pro<="" td=""><td></td><td></td><td></td><td></td><td></td><td>\$0.00</td></current>						\$0.00
					Khaled Ibn Al	-Waleed Terminus			~		
					Primary						
					Khaled Ib	n Al-Waleed Termin	us	-	×		
					Secondar				1		
					<none></none>			-			
					Tertiary <none></none>			•	r.		

FIGURE 7

### -GO TO PROJECT TAB THEN SELECT MAINTAIN BASELINE.

Crivities	<b>ELE</b> <u>E</u> 5. <b>F</b>		<b>7 · E ·</b> # .	. <b>■</b> @ ¥ !	🍐 🖇 🔂 🗉		. 🗄 🛞 🔟 🛱	9 🕲 🔒 🛓	1 <b>B</b> .	
Activities										
Activities Assign Baselines										
V Layout K	Filter: All Activiti	:5								
Activity ID Sisks	ne		BL Project Start	BL Project	Start	Finish	Schedule % Complete		Planned Value Cost	Earned Value Cost
Khaled Ibn Al-Waleed Ter	rminus	479.37	02-Feb-19	30-Nov-19	02-Feb-19 A	23-Aug-20	100%	19.45%	\$42,507,585.94	\$8,269,425.07
Project Milestones		479.37	02-Feb-19	30-Nov-19	02-Feb-19 A	23-Aug-20	0%	0%	\$0.00	\$0.00
Project Mobilization & Pre-Co	Instruction	17.00	02-Feb-19	20-Feb-19	02-Feb-19A	28-Feb-19A	100%	100%	\$2,210,644.02	\$2,210,644.02
Project Engineering		389.67	02-Feb-19	08-Oct-19	27-Feb-19 A	10-May-20	100%	51.43%	\$6,376,137.89	\$3,279,330.59
Shop Drawings		326.50	02-Feb-19	16-Jul-19	27-Feb-19 A	15-Mar-20	100%	55.76%	\$4,250,758.59	\$2,370,234.71
Material		339.67	01-Apr-19	08-Oct-19	03-Apr-19 A	10-May-20	100%	42.77%	\$2,125,379.30	\$909,095.88
<ul> <li>Project Construction</li> </ul>		430.37	13-Feb-19	02-Nov-19	23-Feb-19 A	26-Jul-20	100%	8.46%	\$32,858,114.38	\$2,779,450.45
Terminal Building		404.59	03-Mar-19	02-Nov-19	23-Feb-19 A	25-Jun-20	100%	9.49%	\$28,527,638.47	\$2,706,996.03
External Works		307.37	13-Feb-19	31-Oct-19	19-Oct-19 A	26-Jul-20	100%	1.67%	\$4,330,475.91	\$72,454.42
<ul> <li>Project Testing &amp; Commession</li> </ul>	oning and Handover	120.37	06-Jul-19	30-Nov-19	05-Apr-20	23-Aug-20	100%	0%	\$1,062,689.65	\$0.00
Terminal Building		39.20	21-Dct-19	30-Nov-19	08-Jun-20	23-Jul-20	100%	0%	\$637,613.79	\$0.00
+ External Works		120.37	06-Jul-19	28-Nov-19	05-Apr-20	23-Aug-20	100%	0%	\$425,075.86	\$0.00

FIGURE 8

-THEN SELECT THE ASSIGNED PROJECT AND DELETE IT.

ject Name/Baseline Name		Close
Khaled Ibn Al-Waleed Terminus		
t Khaled Ibn Al-Waleed Terminus	÷	Add
	×	Delete
	-	Сору
		Update
	Þ	Restore
Baseline Name	•	Help
Khaled Ibn Al-Waleed Terminus		
Baseline Type Data Date Last Update Date		
Baseline Type Data Date Last Update Date		

FIGURE 9

-TO DEFINE THE NUMBER AND ID'S FOR OUT OF SEQUENCE ACTIVITIES YOU HAVE GO TO TOOLS TAB AND SCHEDULE THE PROJECT THEN VIEW LOG.

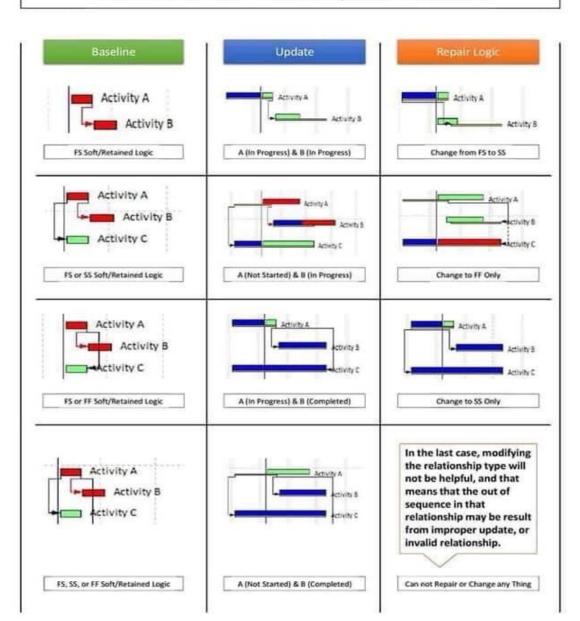
Project(s) to schedule	1 Cr	incel
Current Data Date	19-Dec-19	edule w Loo
Project Forecast Start Date		ielp
Set Data Date and Planned Start to Proje	ct Forecest Start during scheduling	ions
✓ Log to file		

FIGURE 10

Activities without :			1		
Project:	KBWT-7	Activity:	A1190 Project Finish	1	
Out-of-sequence act:	ivities				
Project:	KBWT-7 4	Activity:	P12D2-EXT-ELN-274	Exterior Lighting	
Project:	KBWT-7 A	Activity:	P12D2-EXT-FT-110	Plain Concrete Under Foundation	
Project:	KBWT-7 A	Activity:	P12D2-EXT-IRR-235	Valves (Gate Valves, Water Meters & Pressure Control Valves)	
Project:	KBWT-7 4	Activity:	P12D2-MTAPP-1243	Stone Cladding	
Project:	KBWT-7 4	Activity:	P12D2-MTAPP-1655	Steel structure	
Project:	KBWT-7 4	Activity:	P12D2-MTAPP-1675	acoustical ceiling	
Project:	KBWT-7 A	Activity:	P12D2-MTAPP-1815	Interior Lighting	
Project:	KBWT-7 4	Activity:	P12D2-MTAPP-2056	Doors & Windows	
Project:	KBWT-7	Activity:	P12D2-MTAPP-2066	Glazing	
Project:	KBWT-7 4	Activity:	P12D2-MTAPP-2076	Aluminum framed storefront & Curtain walls	
Project:	KBWT-7 4	Activity:	P12D2-MT5UB-1726	Rotary-Screw Chillers	
Project:	KBWT-7 A	Activity:	P12D2-MTSUB-1946	Site adaptation	
Project:	KBWT-7 A	Activity:	P12D2-MTSUB-1956	Floor tiles	
Project:	KBWT-7 4	Activity:	P12D2-MTSUB-1966	Paint works	
Project:	KBWT-7 4	Activity:	P12D2-MTSUB-1976	Roads	
Project	KRWT-7 /	Activity	P1202_S0APP_1219	Substructure Architecturel Drawings	

FIGURE 11

-TO FIX THE OUT OF SEQUENCE ACTIVITIES REFER TO FIGURE NO.12 BELOW.



How to Deal With "Out of Sequence" Activities

Waleed Hamdy

FIGURE 12

-IN THIS EXAMPLE I FIXED THE OUT OF SEQUENCE USING THE SAME CONCEPT.

chedLog - Notepad					- 0	
Edit Format View Help						
ings:						
Activities without Project:	predecessors KBWT-6 Activity:	A1180 Project Start				
Activities without	successors	1				
Project:	KBWT-6 Activity:	A1190 Project Finish				
	-					
Out-of-sequence act	ivities	0				
Activities with Act	ual Dates > Data Date	0				
	s with involid polationsh	ips0				
Milestone Activitie						
Milestone Activitie	s with invalld relationsh					
	d predecessors have diffe					
Finish milestone ar	d predecessors have diffe					
	d predecessors have diffe					
Finish milestone ar	d predecessors have diffe	erent calendars0				
Finish milestone ar duling/Leveling Result # Projects Schedule # Activities Schedu	nd predecessors have diffe ::  nd/Leveled 1ed/Leveled	erent calendars0				
Finish milestone ar duling/Leveling Result # Projects Schedule # Activities Schedu	d predecessors have diffe ::  d/Leveled	erent calendars0				
Finish milestone ar duling/Leveling Result: # Projects Schedule # Activities Sched # Relationships wit	d predecessors have diffe  d/Leveled h other projects	erent calendars0	-19			
Finish milestone ar duling/Leveling Result # Projects Schedul # Activities Sched # Relationships wit Data Date	d predecessors have diffe  /_ /Leveled led/Leveled. h other projects					
Finish milestone an duling/Leveling Results # Projects Schedule # Activities Schedul # Relationships wit Data Date Earliest Early Sta	d predecessors have diffe  d/Leveled led/Leveled h other projects t Date	erent calendars0	-19			
Finish milestone ar duling/Leveling Result: # Projects Schedule # Relationships wi Data Date Earliest Early Star Latest Early Finish	d predecessors have diffe  d/Leveled led/Leveled h other projects t Date	1 	-19			
Finish milestone an eduling/Leveling Result: # Projects Schedule # Relationships wi Data Date Earliest Early Star Latest Early Finish eptions:	d predecessors have diffe :: d/Leveled led/Leveled h other projects t Date Date	rent calendars0 	-19			
Finish milestone ar duling/Leveling Result # Projects Schedul # Relationships wit Data Date Earliest Early Star Latest Early Finish eptions: Critical Activities	d predecessors have diffe :: d/Leveled hother projects t Date Date	erent calendars0 1 579 0 19-Dec 19-Dec 11-Jul 	-19			
Finish milestone ar duling/Leveling Result: # Projects Schedul # Activities Schedul # Activities Schedul # Relationships wir Data Date	d predecessors have diffe :: d/Leveled led/Leveled h other projects t Date Date	1 1 579 	:-19 20			
Finish milestone ar duling/Leveling Result: # Projects Schedul # Activities Schedul # Relationships wit Data Date	d predecessors have diffe :: d/Leveled hother projects t Date Date	erent calendars0 1 579 0 19-Dec 19-Dec 11-Jul 	-19			
Finish milestone ar duling/Leveling Result: # Projects Schedul # Activities Schedul # Activities Schedul # Relationships wir Data Date	d predecessors have diffe  d/Leveled h other projects t Date Date KBMT-6 Activity:	1 1 579 	:19 -20 Electrical duct bank Exterior Lighting			
Finish milestone ar duling/Leveling Result: # Projects Schedule # Relationships wi Data Date Earliest Early Star Latest Early Finish ptions: Critical Activitie: Project: Project:	d predecessors have diffe :: d/Leveled	rent calendars0 1 	-19 -20 Electrical duct bank Exterior Lighting Existing street lighting poles relocation			
Finish milestone ar duling/Leveling Result # Projects Schedul # Relationships wit Data Date Earliest Early Star Latest Early Finish ptions: Critical Activitie: Project: Project: Project: Project:	d predecessors have diffe  d/Leveled led/Leveled h other projects Date Date KBWT-6 Activity: KBWT-6 Activity: KBWT-6 Activity:	erent calendars0 1 	:19 -20 Electrical duct bank Exterior Lighting			
Finish milestone ar duling/Leveling Result: # Projects Schedul # Activities Schedu # Relationships wi Data Date Earliest Early Stat Latest Early Stat ptions: Critical Activitie: Project: Pr	d predecessors have diffe d/Leveled	1 	-19 -20 Electrical duct bank Exterior Lighting Existing street lighting poles relocation			
Finish milestone ar eduling/Leveling Result: # Projects Schedule # Relationships wi Data Date Earliest Early Star Latest Early Finish eptions: Critical Activities Project: Project: Project: Project: Project: Project: Project: Project:	d predecessors have diffe :: d/Leveled	rent calendars0 1 	-19 -20 Electrical duct bank Exterior Lighting Existing street lighting poles relocation Street lighting poles			
Finish milestone ar duling/Leveling Result: # Projects Schedul # Activities Schedul # Activities Schedul Earliest Early Stan Latest Early Finish sptions: Critical Activities Project: Pro	d predecessors have diffe :: d/Leveled	1 579 19-Dec 19-Dec 19-Dec 11-Jul 463 A1190 Project Finish P1202-EXT-ELN-194 P1202-EXT-ELN-504 P1202-EXT-ELN-506 P1202-EXT-ELN-563	:19 -20 Electrical duct bank Exterior Lighting Existing street lighting poles relocation Street lighting poles Electrical Manholes	Control Valves)		

FIGURE 13

However, due to ditching the baseline and fixing the out of sequence, the planned and performance percentages will change.

Activity ID	Activity Name	Original Duration	BL Project Start	BL Project Finish	Start	Finish	Schedule % Complete		Planned Value Cost	Earned Valu Cos
Khaled Ibn	Al-Waleed Terminus	443.00	02-Feb-19	11-Jul-20	02-Feb-19A	11-Jul-20	26.08%	19.47%	\$11,087,989.93	\$8,276,784.4
<ul> <li>Project Miles</li> </ul>	itones	443.00	02-Feb-19	11-Jul-20	02-Feb-19A	11-Jul-20	0%	0%	\$0.00	\$0.0
Project Mobi	lization & Pre-Construction	17.00	02-Feb-19	20-Feb-19	02-Feb-19.A	28-Feb-19A	100%	100%	\$2,210,644.02	\$2,210,644.0
- Project Engi	neering	364.00	02-Feb-19	09-Apr-20	27-Feb-19 A	09-Apr-20	72.95%	51.43%	\$4,651,567.67	\$3,279,330.
Shop Drawi	ngs	309.68	02-Feb-19	06-Feb-20	27-Feb-19A	06-Feb-20	83.89%	55.76%	\$3,565,914.15	\$2,370,234.
Material		314.00	01-Apr-19	09-Apr-20	03-Apr-19 A	09-Apr-20	51.08%	42.77%	\$1,085,653.52	\$909,095.
- Project Cons	struction	394.00	03-Mar-19	13-Jun-20	23-Feb-19 A	13-Jun-20	12.86%	8.48%	\$4,225,778.23	\$2,786,809.
Terminal Bu	ilding	393.29	03-Mar-19	13-Jun-20	23-Feb-19A	13-Jun-20	11.92%	9.49%	\$3,399,850.96	\$2,706,996.
External Wo	orks	271.00	28-Jul-19	13-Jun-20	01-Oct-19A	13-Jun-20	19.07%	1.84%	\$825,927.27	\$79,813.
- Project Testi	ng & Commessioning and Handover	115.00	29-Feb-20	11-Jul-20	29-Feb-20	11-Jul-20	0%	0%	\$0.00	\$0.
Terminal Bu	ilding	35.00	31-May-20	11-Jul-20	31-May-20	11-Jul-20	0%	0%	\$0.00	\$0.
= External Wo	orks	115.00	29-Feb-20	11-Jul-20	29-Feb-20	11-Jul-20	0%	0%	\$0.00	\$0.

FIGURE 14

### <u>Step 3</u>

**3-**Fix project and milestones dates to meet the approved new dates (Using crashing/fast tracking).

-As shown in Figure 14, the project finish forecast date is 11 Jul 2020. So we need to fix it by <u>using the longest path filter and crashing and fast tracking techniques</u> to make the project finish date equal to 15 JUN 2020 as shown in figure 15.

Activity ID	Activity Name	Original Duration	BL Project Start	BL Project Finish	Start	Finish	Schedule % Complete		Planned Value Cost	Earned Value Cost
Khaled Ibn	Al-Waleed Terminus	420.25	02-Feb-19	15-Jun-20	02-Feb-19A	15-Jun-20	26.08%	19.47%	\$11,087,989.93	\$8,275,784.47
<ul> <li>Project Miles</li> </ul>	itones	420.25	02-Feb-19	15-Jun-20	02-Feb-19A	15-Jun-20	0%	0%	\$0.00	\$0.00
Project Mobi	lization & Pre-Construction	17.00	02-Feb-19	20-Feb-19	02-Feb-19A	28-Feb-19 A	100%	100%	\$2,210,644.02	\$2,210,644.02
- Project Engi	neering	364.00	02-Feb-19	09-Apr-20	27-Feb-19A	09-Apr-20	72.95%	51.43%	\$4,651,567.67	\$3,279,330.59
🗉 Shop Drawi	ngs	309.68	02-Feb-19	06-Feb-20	27-Feb-19A	06-Feb-20	83.89%	55.76%	\$3,565,914.15	\$2,370,234.71
<ul> <li>Material</li> </ul>		314.00	01-Apr-19	09-Apr-20	03-Apr-19 A	09-Apr-20	51.08%	42.77%	\$1,085,653.52	\$909,095.88
- Project Cons	struction	371.25	03-Mar-19	18-May-20	23-Feb-19A	18-May-20	12.86%	8.48%	\$4,225,778.23	\$2,786,809.85
Terminal Bu	ilding	371,25	03-Mar-19	18-May-20	23-Feb-19A	18-May-20	11.92%	9.49%	\$3,399,850.96	\$2,706,996.03
External Wo	orks	248.00	28-Jul-19	17-May-20	01-Oct-19A	17-May-20	19.07%	1.84%	\$825,927.27	\$79,813.82
- Project Testi	ng & Commessioning and Handover	92.25	29-Feb-20	15-Jun-20	29-Feb-20	15-Jun-20	0%	0%	\$0.00	\$0.00
Terminal Bu	ilding	29.96	11-May-20	15-Jun-20	11-May-20	15-Jun-20	0%	0%	\$0.00	\$0.00
External Wo	orks	92.00	29-Feb-20	14-Jun-20	29-Feb-20	14-Jun-20	0%	0%	\$0.00	\$0.00

### FIGURE 15

# **<u>HINT:</u>** DON'T FORGET TO CHANGE THE PROJECT FINISH CONSTRAINT TO MATCH WITH YOUR NEW FINISH DATE IN CASE OF REVISED SCHEDULE.

General	Notebook	Budget Log	Spending Plan	Budget Summary	Dates	Funding	Codes	Defaults	Resources	Settings	Calculations	
Sche	dule Dates									_		
P	oject Planne	ed Start								Mu	st Finish By	
F	6-Dec-18									15	-Jun-20	
D	ata Date									Fin	ish	
1	9-Dec-19								/	15	-Jun-20	
									/			
A	ctual Start								/	Ac	tual Finish	
0	2-Feb-19							/				

FIGURE 16

### <u>Step 4</u>

**4-**FIX REMAINING EARLY START DATES FOR **IN PROGRESS** ACTIVITIES TO BE = DATA DATE + **1** 

-OUR DATA DATE IN THIS EXAMPLE IS 19 DEC 2019 AND BECAUSE 20 DEC 2019 WILL NOT BE A WORKING DAY (FRIDAY) SO THE REMAINING EARLY START FOR ALL IN PROGRESS ACTIVITIES SHOULD BE 21 DEC 2019.

-Show the remaining early start column and filter the in progress activities then use group and sort option to show the activates without the **WBS** to identify the activities that need to be fixed.

-TO FIX THIS ISSUE YOU SHOULD <u>CHANGE THE RELATIONSHIP WITH THE PREDECESSOR ACTIVITIES</u> (SOMETIMES YOU WILL HAVE TO NOT ONLY CHANGE THE TYPE OR LAG OF THE RELATION, BUT THE WHOLE RELATION, TO BE WITH A COMPLETED OR IN PROGRESS ACTIVITY) AS POSSIBLE. HOWEVER, IN SOME CASES IF THERE IS NOTHING THAT WE CAN DO WITH THE RELATIONSHIP WE WILL BE FORCED TO KEEP SOME ACTIVITIES WITH A DEFERENT REMAINING EARLY START, <u>REFER TO</u> FIGURE 3.

**HINT:** TO FIX THIS ISSUE YOU CAN ALSO DIVIDE THE IN PROGRESS ACTIVITY THAT NEED TO BE FIXED INTO TWO ACTIVITIES, ONE IS COMPLETED WITH FIXING THE BUDGETED UNITS FOR IT TO MATCH THE DURATION % COMPLETE AND THE OTHER ONE IS NOT STARTED WITH FIXING ITS BUDGETED UNITS TOO.

Activity ID	Activity Name	Original Duration	BL Project Start	BL Project Finish	Start	Finish		Performance % Complete	Planned Value Cost			Remaining Early Start
P12D2-EXT-ELN-274	Exterior Lighting	15.00	13-Oct-19	29-Oct-19	19-Oct-19A	14-May-20	100%	5.42%	\$735,444.31	\$39,836.57	In Progres	28-Apr-20
P12D2-TRM-GF-151	Wiring Devices (Outlets & Switches)	6.00	01-Oct-19	07-Oct-19	19-Oct-19 A	02-May-20	100%	30%	\$173,807.49	\$52,142.25	In Progres	27-Apr-20
P12D2-TRM-GF-157	Interior Lighting Fixtures	12.00	01-Oct-19	14-Oct-19	19-Oct-19 A	04-May-20	100%	30%	\$105,375.23	\$31,612.57	In Progres	25-Apr-20
P12D2-TRM-BF-157	Interior Lighting Fixtures	6.00	21-Sep-19	28-Sep-19	19-Oct-19 A	16-Apr-20	100%	30%	\$35,125.08	\$10,537.52	In Progres	12-Apr-20
P12D2-TRM-BF-151	Wiring Devices (Outlets & Switches)	6.00	21-Sep-19	28-Sep-19	19-Oct-19A	16-Apr-20	100%	30%	\$21,725.94	\$6,517.78	In Progres	12-Apr-20
P12D2-TRM-MZ-157	Interior Lighting Fixtures	5.00	08-Oct-19	13-Od-19	19-Oct-19A	13-Apr-20	100%	30%	\$210,750.46	\$63,225.14	In Progres	08-Apr-20
P12D2-TRM-MZ-151	Wiring Devices (Outlets & Switches)	6.00	08-Oct-19	14-Oct-19	19-Oct-19A	12-Apr-20	100%	30%	\$21,725.94	\$6,517.78	In Progres	06-Apr-20
P12D2-TRM-BF-144	Duct Accessories (Volume & Motorized Damp	6.00	29-Aug-19	04-Sep-19	19-Oct-19 A	29-Mar-20	100%	8.4%	\$7,789.38	\$654.52	In Progres	22-Mar-20
P12D2-EXT-IRR-235	Valves (Gate Valves, Water Meters & Pressure	6.00	28-Jul-19	03-Aug-19	19-Oct-19 A	27-Feb-20	100%	10.56%	\$64,693.91	\$6,828.80	In Progres	22-Feb-20
P12D2-TRM-MZ-148	Conduits, Cables and Conductors	6.00	06-Aug-19	17-Aug-19	19-Oct-19A	17-Feb-20	100%	30%	\$77,722.39	\$23,316.72	In Progres	11-Feb-20
P12D2-TRM-BF-148	Conduits, Cables and Conductors	6.00	21-Aug-19	27-Aug-19	19-Oct-19A	30-Jan-20	100%	30%	\$51,814.93	\$15,544.48	In Progres	26-Jan-20
P12D2-TRM-MZ-198	Masonry Block Works	6.00	27-Jun-19	03-Jul-19	14-Dec-19A	11-Jan-20	100%	8.68%	\$41,464.19	\$3,599.32	In Progres	04-Jan-20
P12D2-TRM-GF-148	Conduits, Cables and Conductors	6.00	07-Jul-19	13-Jul-19	19-Oct-19 A	06-Jan-20	100%	30%	\$129,537.32	\$38,861.20	In Progres	01-Jan-20
P12D2-TRM-GF-748	Earthing Conduits and Cable Accessories	5.00	14-Jul-19	18-Jul-19	19-Oct-19A	05-Jan-20	100%	30%	\$22,486.63	\$6,745.99	In Prop	01-Jan-20
P12D2-TRM-GF-198	Masonry Block Works	12.00	23-Jun-19	06-Jul-19	14-Dec-19A	09-Jan-20	100%	33.45%	\$69,106.98	\$23,119.65	In Progres	01-Jan-20
P12D2-TRM-GF-354	Reinforced Concrete for Columns, Walls and	12.00	20-May-19	02-Jun-19	21-Jun-19A	01-Jan-20	100%	99.98%	\$156,478.82	\$156,451,85	In Progres	01-Jan-20
P12D2-SDAPP-1844	Structure cabling network system Drawings (I	24.00	20-May-19	19-Jun-19	14-Jun-19A	06-Jan-20	100%	58.62%	\$70,845.98	\$41,829.76	In Progres	26-Dec-19
P12D2-SDAPP-1841	Power system Drawings (Internal)	24.00	25-Mar-19	21-Apr-19	14-Jun-19A	06-Jan-20	100%	58.62%	\$70,845.98	\$41,529.76	In Progres	26-Dec-19
P12D2-SDAPP-1843	Structure cabling network system Drawings (I	24.00	22-May-19	22-Jun-19	14-Jun-19A	30-Dec-19	100%	82.86%	\$70,845.98	\$58,700.07	In Progres	25-Dec-19
P12D2-MTPROC-1804	Interior Lighting	30.00	03-Jul-19	06-Aug-19	20-Jun-19 A	21-Jan-20	100%	23.33%	\$7,328.89	\$1,710.08	In Progres	25-Dec-19
P12D2-SDAPP-1847	Fire alarm system Drawings	24.00	26-May-19	25-Jun-19	14-Jun-19 A	31-Dec-19	100%	78.18%	\$70,845.98	\$55,385.32	In Progres	25-Dec-19
P12D2-SDAPP-1845	Lighting system Drawings (Internal)	24.00	05-May-19	01-Jun-19	14-Jun-19A	31-Dec-19	100%	78.18%	\$70,845.98	\$55,385.32	In Progres	25-Dec-19
P12D2-MTAPP-2076	Aluminum framed storefront & Curtain walls	24.00	22-Apr-19	19-May-19	03-Jun-19 A	25-Dec-19	100%	80%	\$22,771.92	\$18,217.54	In Progres	21-Dec-19
P12D2-MTAPP-2066	Glazing	24.00	06-May-19	02-Jun-19	03-Jun-19A	25-Dec-19	100%	80%	\$22,771.92	\$18,217.54	In Progres	21-Dec-19
P12D2-MTAPP-2056	Doors & Windows	24.00	20-May-19	19-Jun-19	16-Jun-19 A	05-Jan-20	100%	44%	\$22,771.92	\$10,020.04	In Progres	21-Dec-19
P12D2-MTSUB-2076	Aluminum framed storefront & Curtain walls	12.00	08-Apr-19	21-Apr-19	14-Jun-19A	21-Dec-19	100%	92.31%	\$22,771.92	\$21,020.54	In Progres	21-Dec-19
P12D2-MTSUB-2066	Glazing	12.00	22-Apr-19	05-May-19	14-Jun-19 A	21-Dec-19	100%	92.31%	\$22,771.92	\$21,020.54	In Progres	21-Dec-19
P12D2-MTSUB-2056	Doors & Windows	12.00	06-May-19	19-May-19	21-Jun-19 A	26-Dec-19	100%	50%	\$22,771.92	\$11,385.96	In Progres	21-Dec-19
P12D2-MTAPP-1243	Stone Cladding	24.00	22-Jun-19	18-Jul-19	09-Jun-19 A	28-Dec-19	100%	70.83%	\$22,771.92	\$16,130.11	In Progres	21-Dec-19
P12D2-MTSUB-1241	Stone Cladding	12 00	08-Jun-19	20-Jun-19	17-Jun-19A	22-Dec-19	100%	83.33%	\$22 771 92	\$18 976 60	In Progres	21-Dec-19

#### FIGURE 17

### <u>Step 5</u>

**5-** COST LOADING (IF THERE IS ANY).

-THERE IS NO SCOPE CHANGE IN THIS EXAMPLE. THEREFORE, THE BUDGETED COST WILL REMAIN THE SAME.

### <u>Step 6</u>

6- FIX THE REMAINING DURATION (GET RID OF DECIMALS).

-IF YOU SHOW THE DECIMALS IN PRIMAVERA BY GOING TO EDIT TAB THEN USER PREFERENCES, YOU WILL NOTICE THAT THE REMAINING DURATION FOR IN PROGRESS ACTIVITIES HAS DECIMALS, WHICH WILL AFFECT THE TOTAL FLOAT CALCULATIONS.

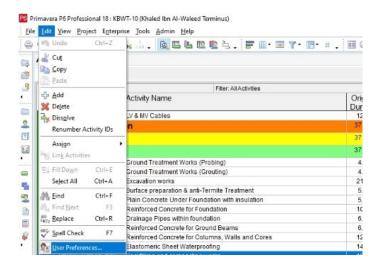


FIGURE 18

Time <u>U</u> nits	Units Format
Dates	Unit of Time Sub-unit Decimals
Currency	Hour Minutes 0 V
Agaistance	Show Unit label Example 41
Application	
Password	Durations Format
Resource Analysis	Unit of Time Sub-unit Decimals
ajculations	Day Prours 2
tartup <u>Filters</u>	Show Duration label Example 10.06
	Units/Time Format Resource Units/Time can be shown as a percentage or as units per duration C Show as a percentage (50%) C Show as units/duration (4h/d)
	🕜 Help 🖽 Clos

P12D2-SDSUB-1218 Roads [	)rawings				45.00	02-Feb-19	25-Mar-19	21-Jun-19 A	02-Feb-20	
P12D2-SDSUB-1210 Substru	cture Architectural Drawing	15			14.00	09-Feb-19	24-Feb-19	20-Jun-19 A	28-Dec-19	
P12D2-SDSUB-1211 Substru	cture Structural Drawings				14.00	20-Feb-19	07-Mar-19	12-Jun-19 A	21-Dec-19	
P12D2-SDSUB-1212 Superst	ucture Architectural Drawin	ngs			14.00	04-Mar-19	19-Mar-19	19-Jun-19 A	26-Dec-19	
P12D2-SDSUB-1213 Superst	ucture Structural Drawing:	5			14.00	16-Mar-19	31-Mar-19	19-Jun-19 A	26-Dec-19	
P12D2-SDSUB-1214 Steel St	ucture Drawings				14.00	27-Mar-19	11-Apr-19	24-Jun-19 A	30-Dec-19	
P12D2-SDSUB-1215 Aluminu	m & Glazing Drawings				14.00	30-Mar-19	14-Apr-19	27-Jun-19 A	31-Dec-19	
P12D2-SDSUB-1918 Final Fir	ishes Drawings				14.00	24-Apr-19	09-May-19	19-Jun-19 A	26-Dec-19	
P12D2-SDSUB-1919 Landsca	ape Drawings				14.00	15-May-19	30-May-19	24-Jun-19 A	01-Jan-20	
Approval					246.89	25-Feb-19	29-Jan-20	30-May-19 A	02-Feb-20	
P12D2-SDAPP-1219 Substru	cture Architectural Drawing	S			24.00	25-Feb-19	24-Mar-19	14-Jun-19 A	02-Jan-20	
P12D2-SDAPP-1220 Substru	cture Structural Drawings				24.00	09-Mar-19	04-Apr-19	30-May-19 A	22-Dec-19	
										3
neral Status Resources Codes Re	lationships Notebook Steps	Feedback \	VPs & Docs	Risks Expe	nses Summary					
Activ	ty P12D2-SDSUB-1218			Roads Drawi	ngs					_
			Status							
Duration										
Ouration Original		45.00	🔽 Sta	arted		21-Jun-19		Duratio	on %	
		45.00	I⊽ Sta I∏ Fin			21-Jun-19 02-Feb-20		Duratio		

FIGURE 20

SO, WE WILL EXPORT THE REMAINING DURATION FOR **IN PROGRESS** ACTIVITIES AND ROUND IT USING EXCEL TO BE EQUAL TO CORRECT NUMBERS WITHOUT DECIMALS.

HINT: THIS STEP WILL HAS A SLIGHTLY EFFECT ON CALCULATED PERFORMANCE PERCENTAGES & IT WILL AFFECT THE FORECAST FINISH DATE SO YOU HAVE TO FIX IT AFTER YOU FINISH THIS STEP.

-GO TO FILE THEN EXPORT.

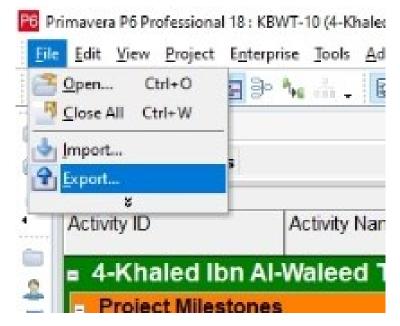


FIGURE 21

### -SELECT EXPORT AS EXCEL FORMAT

Export Format			
Select the export format.			
C Primavera PM - (XER)	18.8 or later 💌		
C Primavera Contractor - (XER)	6.1 or later 💌		
C Primavera P6 - (XML)			
Spreadsheet - (XLSX)			
C Microsoft Project	XML 2002/3 🛛 🔫		
C UN/CEFACT Format 6 - (XML)			
Cancel	Prev	Next	SS Finish

FIGURE 22

-SELECT EXPORTING THE ACTIVITIES.

Export Type			
Select the type of data to export.			
Activities			
Activity Relationships			
Expenses			
E Resources			
Resource Agsignments	i		

FIGURE 23

-Select your project.

pen Proj		
Export	Project ID KBWT-10	Project Name 4-Khaled Ibn Al-Waleed Terminus-Remaining early start

FIGURE 24

-Select the right template.

LSX Template	;				
resource			-		
Update					
Recovery					
E	lact The vight	tomn	Into for I	ho joh	
Т	elect The right hese template ake your own				

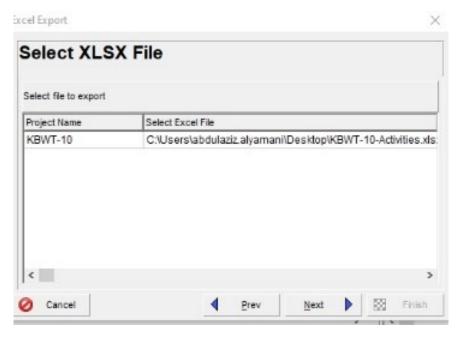
FIGURE 25

### - Don't forget to export the remaining duration

						1	ОК
emplate Name	GE					0	Cancel
ubject Area	Activities			•	-	-	
				_		4	Add
lumns Filter	Sort					x	Delete
✓ Available Opti Activity Code			ted Options			-	Сору
Activity Code			ivity ID ivity Status		▲   1 <sup>-</sup>	î.	Paste
Activity Step			S Code				Faste
Costs		H Act	ivity Name		<b>•</b>		
Dates			formance % Com	plete			Modify
Durations			ginal Duration	-			Default
Earned Value	9	Rer	naining Duration		-	<u> </u>	Delauit
Feedback						~	
General						<b>?</b>	Help
Lists	-				-		
Multiple Float							
Number of A							
Percent Com							
Project Code Units	S						
Units User Defined							

FIGURE 26

-Select the location to save the exported file to.



-Use the round equation in excel to get rid of the decimals of the remaining duration.

Hint: after rounding the remaining duration you have to check the following:

-Some activities with a very high performance complete may have a very low remaining duration (Less than 0.5) that will be rounded to zero, which is wrong, because an in progress activity can't have zero remaining duration, so you have to fix it to 1 manually.

-Some activities with a very low performance % complete may have a high remaining duration that will be rounded to equal the original duration, which is wrong, because an in progress activity can't have a remaining duration equal to original duration, so you have to fix it manually to equal **(Original duration-1)** 

🗎 🕹 Cut	-	0.00			m, ±+1	Σ AutoSu
Ba Coov • • • • • • • • • • • • • • • • • •	Normal	Bad Good	Neutral Cal	culation		Fill *
- eg vogy * aste ダ Format Painter B I 旦 ・ 団 ・ 盗 ・ A ・ 三 三 三 任 征 聞 Merge & Center - \$ - % , % 炎 Conditional Formation		Explanatory Input	Linked Cell Not	ie Insert	Delete Format	Clear *
Clipboard 15 Font 15 Alignment 15 Number 15	lable -	Styles			Cells	
UM ▼ : × √ fr +ROUND(G3,0)						
A B C D	E	F	G	н	1	
task_cc v status v wbs_id v task_name	v perfm_complete_pct	▼ target_drtn_hr_cn	remain_drtn_hr_cnt	delete_record_flag *		¥
Activity IE Activity St WBS Code Activity Name	(*)Performance % Com	plete(%) Original Duration(	d) Remaining Duration(d)	Delete This Row	Round	
P12D2-EX In Progres KBWT-10. Valves (Gate Valves, Water Meters & Pressure Control Valves)	10.56	6	5.37		+ROUND(G3,0)	
P12D2-EX <sup>-</sup> In Progres KBWT-10, Exterior Lighting	5.42	15	14.19		1	
P12D2-TRI In Progres KBWT-10- Backfilling and compacting works	74.58	12	3.05			
P12D2-TRI In Progres KBWT-10. Elastomeric Sheet Waterproofing	96.21	14	0.53			
P12D2-TRI In Progres KBWT-10, Conduits, Cables and Conductors	30	6	4.2			
P12D2-TRI In Progres KBWT-10. Wiring Devices (Outlets & Switches)	30	6	4.2			
P12D2-TRI In Progres KBWT-10./ Backfilling and compacting works	99.79	5	0.01			
	Y	12	0			
	99.98	**				
P12D2-TRI In Progres KBWT-10- Reinforced Concrete for Columns, Walls and Cores	99.98 33.45	12	7.99			
P12D2-TRI In Progres KBWT-10. Reinforced Concrete for Columns, Walls and Cores P12D2-TRI In Progres KBWT-10. Masonry Block Works	33.45 30		3.5		+	
P12D2-TRI In Progres KBWT-10. Reinforced Concrete for Columns, Walls and Cores P12D2-TRI In Progres KBWT-10. Masonry Block Works P12D2-TRI In Progres KBWT-10. Earthing Conduits and Cable Accessories	33.45 30 30		3.5 4.2		•	
P12D2-TRI In Progres KBWT-10. Reinforced Concrete for Columns, Walls and Cores P12D2-TRI In Progres KBWT-10. Masonry Block Works P12D2-TRI In Progres KBWT-10. Earthing Conduits and Cable Accessories P12D2-TRI In Progres KBWT-10. Conduits, Cables and Conductors	33.45 30 30 30 30		3.5		V Drag Down	1
P12D2-TR In Progres KBWT-10. Reinforced Concrete for Columns, Walls and Cores P12D2-TR In Progres KBWT-10Masonry Block Works P12D2-TR In Progres KBWT-10Earthing Conduits and Cable Accessories P12D2-TR In Progres KBWT-10Conduits, Cables and Conductors P12D2-TR In Progres KBWT-10Wiring Devices (Outlets & Switches)	33.45 30 30		3.5 4.2		Drag Down	
P1202-TRI In Progres KBWT-10. Reinforced Concrete for Columns, Walls and Cores         P1202-TRI In Progres KBWT-10. Masonry Block Works         P1202-TRI In Progres KBWT-10. Earthing Conduits and Cable Accessories         P1202-TRI In Progres KBWT-10. Conduits, Cables and Conductors         P1202-TRI In Progres KBWT-10. Wiring Devices (Outlets & Switches)         P1202-TRI In Progres KBWT-10. Reinforced Concrete for Slabs	53.45 50 50 50 50 8.68		3.5 4.2 4.2 3 5.48		V Drag Down	
P12D2-TRIIn Progres KBWT-10. Reinforced Concrete for Columns, Walls and Cores         P12D2-TRIIn Progres KBWT-10. Carthing Conduits and Cable Accessories         P12D2-TRIIn Progres KBWT-10. Conduits, Cables and Conductors         P12D2-TRIIn Progres KBWT-10. Wining Devices (Outlets & Switches)         P12D2-TRIIn Progres KBWT-10. Reinforced Concrete for Slabs         P12D2-TRIIn Progres KBWT-10. Masonny Block Works         P12D2-TRIIn Progres KBWT-10. Assonny Block Works         P12D2-TRIIn Progres KBWT-10. Conduits, Cables and Conductors	533.45 50 50 50 50 8.68 50		3.5 4.2 4.2 3 5.48 4.2		Varag Down	
P12D2-TRIIn Progres KBWT-10. Reinforced Concrete for Columns, Walls and Cores         P12D2-TRIIn Progres KBWT-10. Masonry Block Works         P12D2-TRIIn Progres KBWT-10. Carthing Conduits and Cable Accessories         P12D2-TRIIn Progres KBWT-10. Conduits, Cables and Conductors         P12D2-TRIIn Progres KBWT-10. Wring Devices (Outlets & Switches)         P12D2-TRIIn Progres KBWT-10. Reinforced Concrete for Slabs         P12D2-TRIIn Progres KBWT-10. Reinforced Concrete for Slabs         P12D2-TRIIn Progres KBWT-10. Masonry Block Works	53.45 50 50 50 50 8.68		3.5 4.2 4.2 3 5.48		Drag Down	

### <u>Step 7</u>

**7-**FIX ACTUAL START DATES BY CALCULATING THE ACTUAL DURATION DEPENDING ON ORIGINAL DURATION.

IN ORDER TO FIX THE ACTUAL START DATES FOR IN PROGRESS ACTIVITIES WE WILL DO IT USING EXCEL AND THEN IMPORT IT BACK TO PRIMAVERA.

TO KNOW THE NEW ACTUAL START DATE WE WILL MULTIPLY THE PERFORMANCE PERCENTAGE COMPLETE BY THE ORIGINAL DURATION THEN WE WILL ROUND THE FIGURES TO GET RID OF ANY DECIMALS AND SUBTRACT IT FROM THE PROJECT DATA DATE. (REFER TO EQUATION 1)

HINT: WE WILL **ADD 1** TO THE ORIGINAL DURATION TO MATCH THE CALCULATION OF DAYS BETWEEN PRIMAVERA AND EXCEL, AND DO NOT FORGET TO USE THE **(WORKDAY.INT)** EQUATION IN THE CALCULATION OF THE NEW ACTUAL START DATE TO EXCLUDE THE NONWORKING DAYS.

-Export the in progress activities and show the columns in Figure 29 while exporting.

					1	OK
Template Name	Recovery				0	Cancel
Subject Area	Activities		•			
					4	Add
olumns Fiter	Sort				×	Delete
Available O Activity Co	ptions ides - Global		Selected Options		20	Сору
+ Activity Co	des - Project	•	Activity D Activity Status	-	6	Paste
+ Activity St + Costs	eps	*	WBS Code	-		
+ Costs + Dates			Activity Name Actual Start		1.00	Modify
+ Durations			Activity % Complete			
Earned Va	lue	•	Original Duration			Default
+ Feedback						
General					1	Help
+ Lists						
+ Multiple Flo						
+ Number of						
<ul> <li>Percent Co</li> </ul>						
Project Co	des					
+ Units						

### -Replace the actual start dates with the new actual start dates and don't forget to fix the actual start hours to be in the beginning of the day, I fixed them after taking the screen shot.

ta	sk_code status_co(wbs_id task_name	act_start_date	complete_pct	target_drtn_hr_cnt	delete_record_flag	Actual Duaration	Rounded Actual Duration	New Actual Start	Data Date
A	ctivity IC Activity St WBS Code Activity Name	Actual Start 🏑	Activity % Complete(%)	Original Duration(d)	Delete This Row	Activity % Complete * Original Duration		WORKDAY.INTL(\$D ATA DATE\$,- ROUNDED ACTUAL DURATION+1,16,0)	19-Dec-19 16:
P	12D2-EX <sup>®</sup> In Progres KBWT-11.4 Valves (Gate Valves, V	19-Oct-19 08:00	16.67	6		1.0002	1.0000	19-Dec-19 16:00	
P	12D2-EX In Progres KBWT-11. Exterior Lighting	19-Oct-19 08:00	6.67	15		1.0005	1.0000	19-Dec-19 16:00	
P	I2D2-TRI In Progres KBWT-11. Backfilling and compa	c 25-Jun-19 08:00	75	12 Doplar	e the actual start	9.0000	9.0000	10-Dec-19 16:00	
P	12D2-TRI In Progres KBWT-11.4 Elastomeric Sheet Wa	t 23-Jun-19 08:00	92.86		he new actual star		13.0000	05-Dec-19 16:00	
P	12D2-TRI In Progres KBWT-11. Conduits, Cables and (	19-Oct-19 08:00	33.33	6	move the other	1.9998	2.0000	18-Dec-19 16:00	
P	I2D2-TRI In Progres KBWT-11. Wiring Devices (Outle	1 19-Oct-19 08:00	33.33	-	ded column then i	mport 1.9998	2.0000	18-Dec-19 16:00	
P	12D2-TRI In Progres KBWT-11.4 Backfilling and compa	c 25-Jun-19 08:00	80		o primavera	4.0000	4.0000	16-Dec-19 16:00	
) P:	12D2-TRI In Progres KBWT-11. Reinforced Concrete f	21-Jun-19 08:00	91.67	12	o primarera	11.0004	11.0000	08-Dec-19 16:00	
P	12D2-TRI In Progres KBWT-11. Masonry Block Works	14-Dec-19 08:00	33.33	12		3.9996	4.0000	16-Dec-19 16:00	
2 P1	12D2-TRI In Progres KBWT-11.4 Earthing Conduits and	19-Oct-19 08:00	20	5		1.0000	1.0000	19-Dec-19 16:00	
3 P:	12D2-TRI In Progres KBWT-11. Conduits, Cables and (	19-Oct-19 08:00	33.33	6		1.9998	2.0000	18-Dec-19 16:00	
4 P)	2D2-TRI In Progres KBWT-11. Wiring Devices (Outle	1 19-Oct-19 08:00	33.33	6		1.9998	2.0000	18-Dec-19 16:00	
5 P	12D2-TRI In Progres KBWT-11. Reinforced Concrete f	12-Dec-19 00:00	50	6		3.0000	3.0000	17-Dec-19 16:00	
5 P.	12D2-TRI In Progres KBWT-11. Masonry Block Works	14-Dec-19 08:00	16.67	6		1.0002	1.0000	19-Dec-19 16:00	
7 P	12D2-TRI In Progres KBWT-11. Conduits, Cables and (	19-Oct-19 08:00	33.33	6		1.9998	2.0000	18-Dec-19 16:00	
B P1	12D2-TRI In Progres KBWT-11.4 Wiring Devices (Outle	19-Oct-19 08:00	33.33	6		1.9998	2.0000	18-Dec-19 16:00	
9 P.	12D2-SD: In Progres KBWT-11. Substructure Architect	t 20-Jun-19 08:00	50	14		7.0000	7.0000	12-Dec-19 16:00	
) P	12D2-SD. In Progres KBWT-11. Substructure Structure	a 30-May-19 08:00	91.67	24		22.0008	22.0000	25-Nov-19 16:00	
1 P1	12D2-SD In Progres KBWT-11. Substructure Structure	a 12-Jun-19 08:00	92.86	14		13.0004	13.0000	05-Dec-19 16:00	
2 P	12D2-SD In Progres KBWT-11. Superstructure Archite	e 19-Jun-19 08:00	57.14	14		7.9996	8.0000	11-Dec-19 16:00	
B P	12D2-SD In Progres KBWT-11. Superstructure Structu	19-Jun-19 08:00	64.29	14		9.0006	9.0000	10-Dec-19 16:00	
4 P:	12D2-SD In Progres KBWT-11. Steel Structure Drawin	1 24-Jun-19 08:00	42.86	14		6.0004	6.0000	14-Dec-19 16:00	
5 P	I2D2-SD In Progres KBWT-11. Aluminum & Glazing D			14		4.9994	5.0000	15-Dec-19 16:00	
5 D1	1202-SDI In Dromos KRWT-11 Boards Drawings	21-lun-19.08-00	15 56	45		7 0020	7 0000	12-Dec-1916:00	

FIGURE 30

### Hint:

-In some cases if there is a very low activity percentage and the calculated actual duration result is less than **0.5** it will be rounded to zero, so you have to check if there is any zero after rounding the result and make it 1.

-In other cases if there is a very high activity percentage the calculated actual duration will be rounded to equal the original duration, so you have to subtract 1 from the result.

-After you finish you have to check that

Rounded actual duration + Remaining Duration = Original Duration.

-After you import **if the forecast finish date of the project is changed** its usually because the remaining early start dates have been changed so fix them again to bring back your forecast finish date to the date required.

### <u>Step 8</u>

**8-**PERFORM GLOBAL CHANGE FOR COMPLETED AND IN PROGRESS ACTIVITIES.

The last step is to perform 3 global changes, 2 of them for completed activities and the last 1 is for the in progress activities to make the planned dated equal to actual dates. Therefore, the scheduled percentage will be equal to performance percentage.

-GLOBAL CHANGE 1 (FOR COMPLETED ACTIVITIES)

elect Sub	bject Area	i.				Global Change N	ame		1	<u>o</u> k
Activities			-	•		1-Rec-Complete	d Activities 1		0	Cancel
		Parameter		ls	Value		High Value			
		(All of the fo							-	Change
	Where	Activity Stat	US.	equals	Com	pleted			\$	Add
									×	Delete
									ď	Cuţ
en	Paramet		ls.	Parameter/Value		Operator	Parameter/Value	_	6	Сору
	Original	Duration	=	At Completion Du	irabon				6	Paste
									•	*
								>	~	
se	Paramet	er	ls	Parameter/Value	B.	Operator	Parameter/Value		•	Help
ise	Paramet	er	ls	Parameter/Value	5	Operator	Parameter/Value	-		

## -GLOBAL CHANGE 2 (FOR COMPLETED ACTIVITIES)

	Area				Global Change Na	ame		1	<u>0</u> K	
Activities		-	·	2-Rec-Completed Activities 2				0	Canc	el
-	Parameter		ls	Value	6	High Value				
	(All of the fo	lowin	g) ( ( ( (					-	Chang	e a
When	e Activity Stat	tus	equals	Comp	leted			\$	Add	
								*		-
								~	Delet	.6
								ď	Cut	
	ameter	ls	Parameter/Value	_	Operator	Parameter/Value	_	Ga	Copy	£
	ned Start ned Finish	=	Actual Start Actual Finish					10	Past	
										T
									Ψ.	
							>			
ise Para	ameter	lis	Parameter/Value		Operator	Parameter/Value		•	Help	ł.

FIGURE 32

### -GLOBAL CHANGE 3 (FOR IN PROGRESS ACTIVITIES)

elect Subject	tArea			G	lobal Change N	ame		1	OK
ctivities		-	·	3	-Rec-In Progres	ss Activities 1	_	0	Gancel
	Parameter		ls	Value		High Value			
	(All of the fo							1	Change
Whe	ere Activity Stat.	JS	equals	In Progr	633			ф	Add
								×	Delete
								d'	Cuț
en Pa	arameter	is	Parameter/Value		Operator	Parameter/Value		-	Copy
Pis	anned Start	-	Actual Start				-	6	Paste
								-	*
									Ŧ
	arameter	ls	Parameter/Value		Operator	Parameter/Value	-	•	Help

FIGURE 33

-Now after performing the global changes we have done our revised schedule and the performance percentage is equal to the scheduled percentage (19.37%) with only 0.08% change in the performance percentage when we started (19.45%) and the new forecast finish date for the project is 15<sup>th</sup> Jun 2020.

Start	Finish	The second process of the second s	Performance % Complete	Planned Value Cost	
02-Feb-19 08:00 AM A	15-Jun-20 04:00 PM	19.37%	19.37%	\$8,234,177.68	\$8,234,177.68

FIGURE 34
-----------

When we started this paper we mentioned that there are 3 ways to do this operation and we explained the first one in detail. Now we will speak generally about the other two ways.

### **2-THE SECOND WAY**

<u>IS TO CHANGE THE PERFORMANCE % PERCENTAGE FOR THE ACTIVITIES TO BE EQUAL TO THE</u> <u>SCHEDULED PERCENTAGE USING GLOBAL CHANGE.</u>

USING THIS WAY YOU WILL KEEP THE ACTUAL START DATES UN TOUCHED BUT THE PERFORMANCE PERCENTAGE COMPLETE WILL BE UNREALISTIC.

However, If you decided to take this approach you will have to go through steps 1 to 6 as mentioned above and then to use the following global changes.

-For completed activities you will make the same global changes in Figure 31 & Figure 32.

-For in progress activities you will make 2 global changes which are in Figure 35 and after that make the one in Figure 33

elects	Subject Area	a			(	Global Change Na	ame	1	OK
Activities			-	Percetages recovery - In progress 1				Cancel	
		Parameter		ls	Value		High Value	0	
		(All of the fo						1	Change
	Where	Activity Stat	tus	equals	In Prog	ireas		4	∆dd
								×	Delete
								*	Cuţ
en	Parame	ter	Is	Parameter/Value		Operator	Parameter/Value	- Ra	Copy
	Original	Duration	-	Actual Duration			Remaining Duration	6	Paste
								4	*
100								<u> </u>	Нер
		ter	lis	Parameter/Value		Operator	Parameter/Value	~	Tak

I performed this way to the same project in the example, so notice the below result.

Finish		Performance % Complete	Planned Value Cost	
15-Jun-20 04:00 PM	24.43%	24.43%	\$10,385,936.05	\$10,385,936.05

FIGURE 36

Notice how the performance percentage complete increased dramatically.

### **3-THE THIRD WAY**

### IS TO SEPARATE ALL THE IN PROGRESS ACTIVITIES TO TWO ACTIVITIES, ONE OF THEM IS COMPLETED AND THE OTHER ONE IS NOT STARTED WITH A FINISH TO START RELATIONSHIP BETWEEN THEM.

USING THIS WAY YOU WILL HAVE ONLY 2 TYPES OF ACTIVITIES IN YOUR SCHEDULE (COMPLETED) & (NOT STARTED) PRESERVING THE SAME PERFORMANCE PERCENTAGE COMPLETE AND WITHOUT CHANGING THE ACTUAL START DATES WHICH I PERSONALLY BELIEVE IT'S THE BEST APPROACH. HOWEVER, YOU WILL FACE A PROBLEM IF YOU HAVE A DATA LOADING BECAUSE YOU WILL NEED A LOT OF EFFORT TO FIX YOUR DATA LOADING TO MATCH WITH THE NEW ADDED ACTIVITIES.

To use this way you have to separate the cost & resources for the in progress activity and calculate the amount of cost and resources that will be loaded to the completed part of the activity using the budgeted quantities and activity percentage complete to match the actual status of the activity as the first part of the activity will be completed with **100%** percentage complete.

AFTER THAT YOU WILL USE THE SAME GLOBAL CHANGES FOR COMPLETED ACTIVITIES MENTIONED ABOVE TO MATCH THE PLANNED WITH THE ACTUAL BUT YOU WILL NOT USE THE IN PROGRESS GLOBAL CHANGES SINCE YOU WILL NOT HAVE ANY.

I HOPE THIS PAPER WAS AN ADDED VALUE TO YOU AND I HOPE YOU SHARE IT WITH ANYBODY IN NEED.

# **THANK YOU**