FOLDER 4:

PROJECT MONITORING & PERFORMANCE REPORTING
(SECTION C)

1

MONITORING PROCESS

SCHEDULE ASSESSMENT – Progress Stage

What to look for?

Refer to:

**Work Program Guideline
Appendix C : Checklist for Assessing
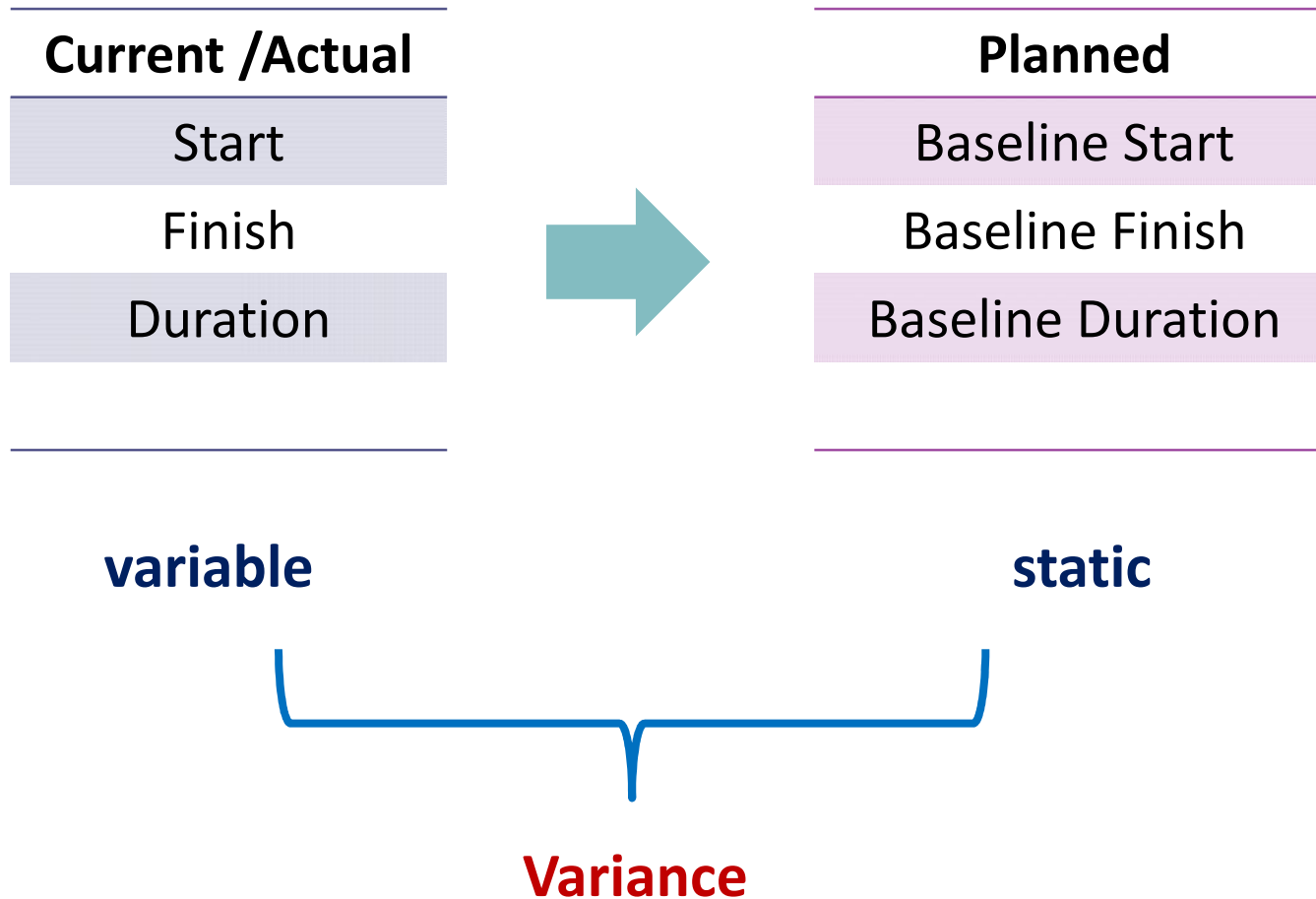Work Program**

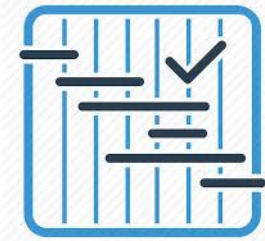# Project Monitoring & Controlling

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PROJECT MONITORING

Objective Of Assessment

- To ensure monitoring (tracking) and controlling is performed according to JKR Project Scheduling Guideline.

- If performance is behind schedule, what action to be taken by the contractor to recover (back on track).

BASELINE

Current /Actual
Start
Finish
Duration

variable

Planned
Baseline Start
Baseline Finish
Baseline Duration

static

Variance

BASELINE

a. Ensure that the updated program is prepared using the accepted program (baseline).

b. Compare updated work program with baseline.

How to check?

a. Project → Compare Project (make sure in Entry Table)

→ Then, do filter in each column to see the different (baseline duration; task; predecessor). If there is difference, means changes had been made to the baseline.

CHECK STATUS DATE

a. To ensure the updated work program is updated to the required status date.

How to check?

a. Save updated file (file A) with a different file name (file B)

→ Set status date to the required status date → update project (file B).

→ % complete in (file B) to be adjusted accordingly to (file A)

→ Compare finish variance and slipping task in the updated file (file B) with file submitted by the contractor (file A)

→ If there is difference, meaning that (file A) is not updated to the status date

CHECK SCHEDULED PROGRESS

a.   To ensure the scheduled progress is generated from baseline file.

How to check?

a.   Compare schedule generated from baseline with the schedule

shown in the updated file.

CHECK ACTUAL PROGRESS

a.   To ensure the actual progress reported is consistent with the actual progress on site.

How to check?

a.   Check the updated progress with site diary record.

IDENTIFY VARIANCES

How to check?

a. Compare schedule progress with actual data.

Financial Progress	**FROM**	Difference between schedule and actual cost
Physical Progress		Difference between schedule and actual % complete
Delay or Ahead		Project Finish Variances

SET UPDATING TEMPLATE

a. To identify variance of project's progress

Task Name	Baseline Start	Act. Start	Baseline Finish	Act. Finish	Schedule Physical	% Comp.	Schedule Cost	Act. Cost
Projek Membina bangunan serbaguna Dan Pondok Pengawal JKR	Tue 01 03 11	NA	Wed 30 11 11	NA	40%	0%	RM495,000	RM0
Project Start	Tue 01 03 11	NA	Tue 01 03 11	NA	100%	0%	RM0	RM0
Preliminaries	Tue 01 03 11	NA	Wed 30 11 11	NA	54%	0%	RM60,000	RM0
Performance Bonds & Insurance	Tue 01 03 11	NA	Wed 09 03 11	NA	100%	0%	RM10,000	RM0
Site Office	Thu 10 03 11	NA	Tue 15 03 11	NA	100%	0%	RM30,000	RM0
Setting Out	Thu 10 03 11	NA	Sun 20 03 11	NA	100%	0%	RM20,000	RM0
Progress Report	Tue 01 03 11	NA	Tue 22 11 11	NA	50%	0%	RM0	RM0
CCC	NA	NA	Wed 30 11 11	NA	0%	0%	RM0	RM0
External Works	Mon 21 03 11	NA	Thu 10 11 11	NA	30%	0%	RM35,000	RM0
bangunan Serbaguna	Tue 24 05 11	NA	Tue 25 10 11	NA	29%	0%	RM110,000	RM0
Frame	Tue 24 05 11	NA	Sun 10 07 11	NA	100%	0%	RM60,000	RM0
Wall	Tue 05 07 11	NA	Tue 26 07 11	NA	56%	0%	RM16,800	RM0
Roof	Mon 11 07 11	NA	Mon 29 08 11	NA	14%	0%	RM5,600	RM0
Finnishes & Furniture	NA						RM0	RM0
Door & Windows	NA						RM0	RM0
Sanitary & Plumbing	Tue 05 07 11						RM27,600	RM0
Electrical Works	NA	NA	Wed 19 10 11	NA	0%	0%	RM0	RM0
Wiring	NA	NA	Tue 20 09 11	NA	0%	0%	RM0	RM0
Lighting Switches & Powerpoints	NA	NA	Tue 04 10 11	NA	0%	0%	RM0	RM0
Fittings	NA	NA	Wed 19 10 11	NA	0%	0%	RM0	RM0
Mechanical Works	NA	NA	Tue 25 10 11	NA	0%	0%	RM0	RM0
A.C & Ventilation Works	NA	NA	Tue 25 10 11	NA	0%	0%	RM0	RM0
Fire Protection Works	NA	NA	Mon 24 10 11	NA	0%	0%	RM0	RM0
Pondok Pengawal	Tue 01 03 11	NA	Tue 02 08 11	NA	84%	0%	RM290,000	RM0
Land Acquisition	Tue 01 03 11	NA	Tue 01 03 11	NA	100%	0%	RM0	RM0
Frame	Tue 24 05 11	NA	Wed 29 06 11	NA	100%	0%	RM60,000	RM0
Wall	Thu 30 06 11	NA	Sun 17 07 11	NA	100%	0%	RM90,000	RM0
Roof	Thu 30 06 11	NA	Wed 20 07 11	NA	80%	0%	RM120,000	RM0
Door, Window & Finishes	NA	NA	Tue 02 08 11	NA	0%	0%	RM0	RM0
Minor Electrical & Mechanical Works	Thu 30 06 11	NA	Wed 13 07 11	NA	100%	0%	RM20,000	RM0
T&C	NA	NA	Tue 08 11 11	NA	0%	0%	RM0	RM0
Project Finish	NA	NA	Wed 30 11 11	NA	0%	0%	RM0	RM0

Example: No Actual Progress

SET UPDATING TEMPLATE

Example : Schedule vs Actual Progress

Task Name	Baseline Start	Act. Start	Baseline Finish	Act. Finish	Schedule Fizikal	% Comp.	Schedule Cost	Act. Cost
Projek Membina bangunan serbaguna Dan Pondok Pengawal JKR	Tue 01 03 11	Tue 01 03 11	Wed 30 11 11	NA	40%	35%	RM495,000	RM435,300
Project Start	Tue 01 03 11	Tue 01 03 11	Tue 01 03 11	Tue 01 03 11	100%	100%	RM0	RM0
Preliminaries	Tue 01 03 11	Tue 01 03 11	Wed 30 11 11	NA	54%	54%	RM60,000	RM60,000
Performance Bonds & Insurance	Tue 01 03 11	Tue 01 03 11	Wed 09 03 11	Wed 09 03 11	100%	100%	RM10,000	RM10,000
Site Office	Thu 10 03 11	Thu 10 03 11	Tue 15 03 11	Tue 15 03 11	100%	100%	RM30,000	RM30,000
Setting Out	Thu 10 03 11	Thu 10 03 11	Sun 20 03 11	Sun 20 03 11	100%	100%	RM20,000	RM20,000
Progress Report	Tue 01 03 11	Tue 01 03 11	Tue 22 11 11	NA	50%	50%	RM0	RM0
CCC	Sun 13 11 11	NA	Wed 30 11 11	NA	0%	0%	RM0	RM0
External Works	Mon 21 03 11	Tue 15 03 11	Thu 10 11 11	NA	30%	27%	RM35,000	RM31,500
Earthworks	Mon 21 03 11	Tue 15 03 11	Mon 23 05 11	NA	100%	90%	RM35,000	RM31,500
Drain	Wed 27 07 11	NA	Mon 29 08 11	NA	0%	0%	RM0	RM0
Road	Mon 22 08 11	NA	Wed 05 10 11	NA	0%	0%	RM0	RM0
Turfing	Thu 06 10 11	NA	Wed 09 11 11	NA	0%	0%	RM0	RM0
Fence	Thu 06 10 11	NA	Thu 10 11 11	NA	0%	0%	RM0	RM0
bangunan Serbaguna	Tue 24 05 11	Fri 20 05 11	Tue 25 10 11	NA	29%	24%	RM110,000	RM93,100
Frame	Tue 24 05 11	Fri 20 05 11	Sun 10 07 11	NA	100%	80%	RM60,000	RM48,000
Wall	Tue 05 07 11	Fri 01 07 11	Tue 26 07 11	NA	56%	45%	RM16,800	RM13,500
Roof	Mon 11 07 11	Tue 05 07 11	Mon 29 08 11	NA	14%	10%	RM5,600	RM4,000
Finnishes & Furniture	Wed 21 09 11	NA	Mon 10 10 11	NA	0%	0%	RM0	RM0
Door & Windows	Wed 27 07 11	NA	Tue 02 08 11	NA	0%	0%	RM0	RM0
Sanitary & Plumbing	Tue 05 07 11	Tue 05 07 11	Thu 21 07 11	NA	69%	69%	RM27,600	RM27,600
Electrical Works	Sun 04 09 11	NA	Wed 19 10 11	NA	0%	0%	RM0	RM0
Wiring	Sun 04 09 11	NA	Tue 20 09 11	NA	0%	0%	RM0	RM0
Lighting Switches & Powerpoints	Wed 21 09 11	NA	Tue 04 10 11	NA	0%	0%	RM0	RM0
Fittings	Tue 11 10 11	NA	Wed 19 10 11	NA	0%	0%	RM0	RM0
Mechanical Works	Wed 21 09 11	NA	Tue 25 10 11	NA	0%	0%	RM0	RM0
A.C & Ventilation Work	Wed 21 09 11	NA	Tue 25 10 11	NA	0%	0%	RM0	RM0
Fire Protection Works	Wed 21 09 11	NA	Mon 24 10 11	NA	0%	0%	RM0	RM0
Pondok Pengawal	Tue 01 03 11	Tue 01 03 11	Tue 02 08 11	NA	84%	72%	RM290,000	RM250,700
Land Acquisition	Tue 01 03 11	Tue 01 03 11	Tue 01 03 11	Tue 01 03 11	100%	100%	RM0	RM0
Frame	Tue 24 05 11	Wed 18 05 11	Wed 29 06 11	NA	100%	80%	RM60,000	RM48,000
Wall	Thu 30 06 11	Thu 23 06 11	Sun 17 07 11	NA	100%	78%	RM90,000	RM70,200
Roof	Thu 30 06 11	Fri 24 06 11	Wed 20 07 11	NA	80%	75%	RM120,000	RM112,500

FINISH VARIANCES

a. To identify what activities contribute to finish variances.

b. To determine variances for each activity or summary tasks, view data at that particular level.

EXAMPLE OF VARIANCE

Baseline : 1	Schd. Progress	Actual Progress	Variance
Financial Progress	495,000.00	435,300.00	- 59,700.00
Physical Progress	40%	35%	- 5%
Project Finish Date	30.11.2011	10.12.2011	Lewat 7 hari (10 hari mengikut calendar)

ACTION TO BE TAKEN

Priority Action :

Project Finish Date

Financial Progress

Physical Progress
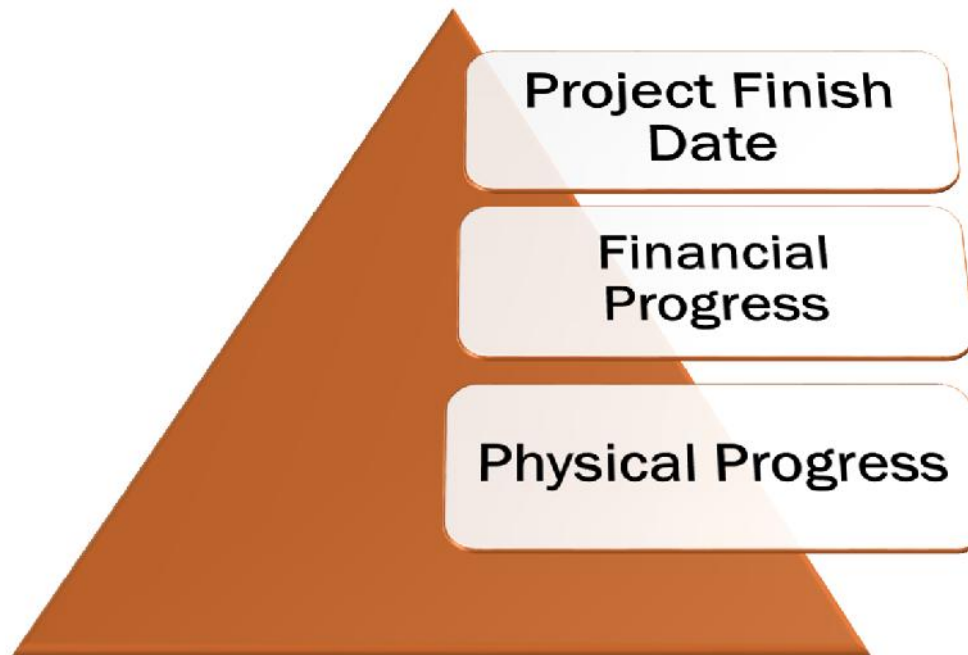
ACTION TO BE TAKEN

a. Identified what activities contribute to finish variances.

How to check?

a. Use filter in Finish Variance column : select days according to finish variances at level 1 (e.g. 10 days).

→ From the list of delayed activities, select activity/activities (critical) that will be recovered.

→ Perform forecasting to the selected activity/activities.

→ From the forecasted finish variances, decide whether it is acceptable.

→ Acceptable forecasting work plan will be used as **recovery plan.**

Project Progress &
Contract Report

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Laporan Kontrak:

a. Disediakan seawalnya 2 hari sebelum Mesyuarat Tapak dan dibentangkan mengikut agenda (rujuk **SPB : JKR_PK(O)_04-6**)

b. Disediakan berdasarkan data daripada *Updated Work Program.*

c. Rujuk **Surat Arahan KPKR bil.6/2015 : Pemantauan dan Kawalan Kemajuan Pembinaan Projek**

Kandungan Laporan?

Lampiran A (Keselamatan)	Lampiran G (Kelulusan PBT)
Lampiran B (Kemajuan)	Lampiran H (WKP-WPS)
Lampiran C (EOT)	Lampiran I (NCR)
Lampiran D (Bayaran Interim)	Lampiran J (APP-APK)
Lampiran E (Log Risiko)	Lampiran K (As-Built Dwg)
Lampiran F (Log Isu)	Lampiran L (Sub-Con Bumi)

EXERCISE 3

Refer to Case Study :

Prepare report as:

a. Lampiran B based on Updated Work Program

b. Lampiran H & L based on WBS in Updated Work Program

LAPORAN KEMAJUAN:

a. Disediakan oleh kontraktor setiap bulan.

b. Sebahagian daripada maklumat yang perlu dimasukkan dalam laporan perlu diperolehi (dicetak) daripada Ms Project/Primavera

Kandungan Laporan?

    a. Maklumat aktiviti kritikal

    b. Maklumat *slipping task*

    c. Maklumat *unstarted task*

    d. Maklumat kerja yang disiapkan sehingga bulan lepas

    e. Maklumat kerja yang akan dilaksanakan pada bulan hadapan

LAPORAN KEMAJUAN

1. Slipping tasks

a. Aktiviti yang terkeluar daripada landasan tarikh projek, boleh menyebabkan kelewatan tarikh siap projek.

How to check?

a. View → filter → more filter → select date range → edit

→ in dialog box name, type date range .. Slipping

→ in dialog box, type

And	Actual Finish	equals	NA
And	Baseline Finish	does not equal	NA
And	Finish	is greater than	Baseline Finish

→ save

→ apply filter, and type

Date Range...nextmonth		Date Range...nextmonth
Show tasks that start or finish after:	then	And before:
3/11/2014		3/11/2015
OK		OK
Cancel		Cancel
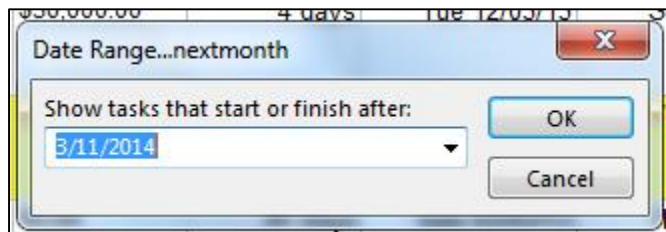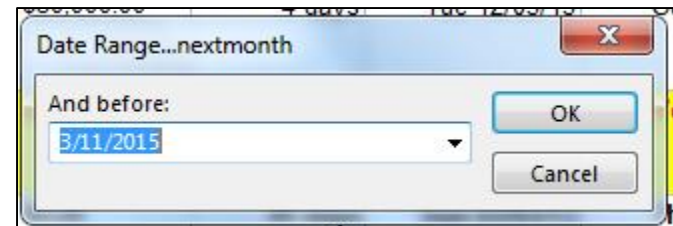
How To Insert Data …..

Filter Definition in 'CPM-BGN-Parlimen 3A-UPDATED-02-2016-4-30'

Name: Date &Range…slipping2   ☑ Show in menu

Filter:

| Cut Row | Copy Row | Paste Row | Insert Row | Delete Row |

And/Or	Field Name	Test	Value(s)
	Finish	is greater than or equal to	"Show tasks that start or finish after:"
And	Start	is less than or equal to	"And before:"?
And	Actual Finish	equals	NA
And	Baseline Finish	does not equal	NA
And	Finish	is greater than	[Baseline Finish]

☑ Show related summary rows

| Help | | Save | Cancel |

LAPORAN KEMAJUAN

2. Unstarted Tasks

How to check?

a. View → filter → more filter → select date range → edit
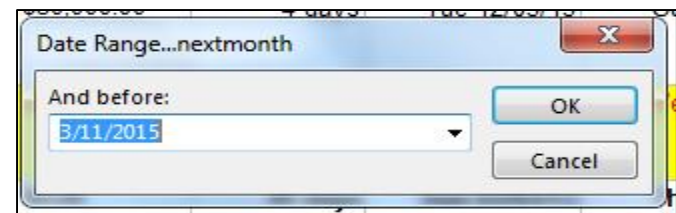
→ in dialog box name, type Date Range .. Unstarted

→ in dialog box, type

→ save

→ apply filter, and type
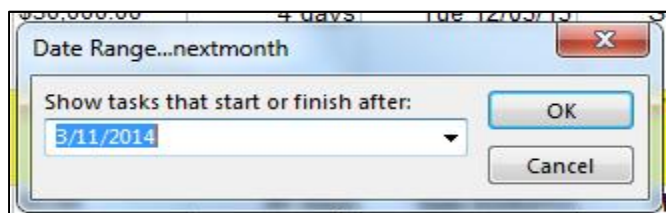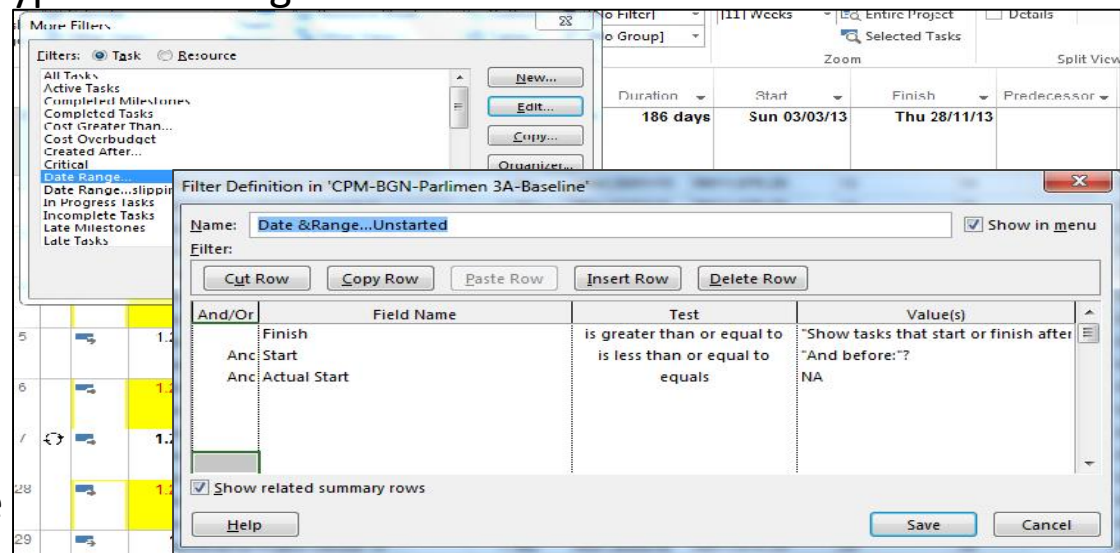
then

How To Insert Data .....

Filter Definition in 'CPM-BGN-Parlimen 3A-Baseline'

Name: Date &Range...Unstarted   ☑ Show in menu
Filter:

| Cut Row | Copy Row | Paste Row | Insert Row | Delete Row |

And/Or	Field Name	Test	Value(s)	
	Finish	is greater than or equal to	"Show tasks that start or finish after	
And	Start	is less than or equal to	"And before:"?	
And	Actual Start	equals	NA	

☑ Show related summary rows

| Help | | Save | Cancel |

Laporan Kemajuan

3. Completed tasks

How to check?

a.   View → filter → more filter → select date range → edit

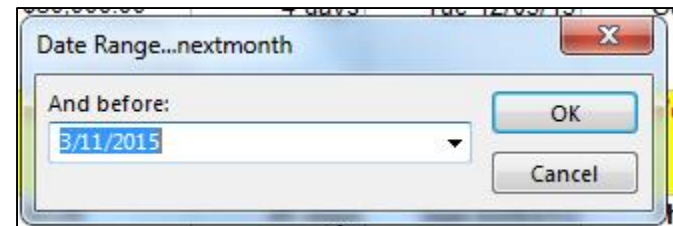→ in dialog box name, type date range .. completed

→ in dialog box, type

→ save

→ apply filter,
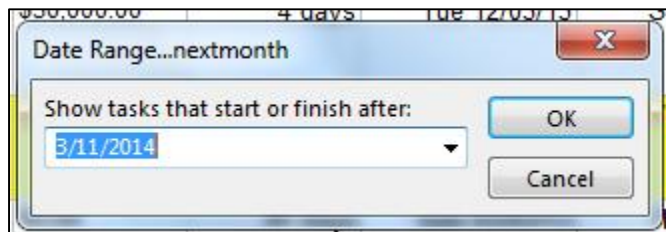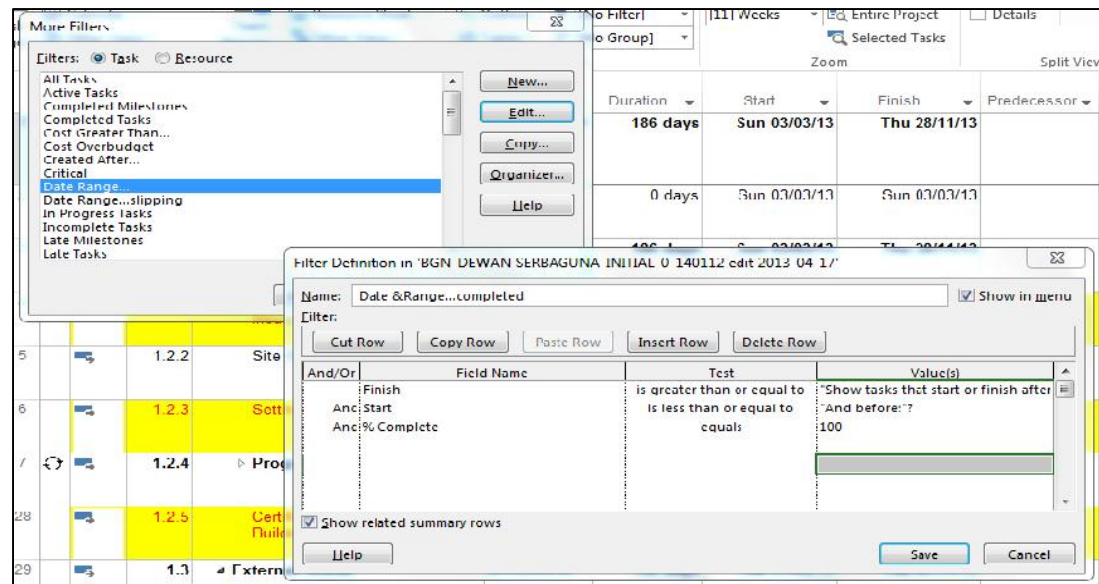
and type

then

Laporan Kemajuan

4. Next month tasks

How to check?
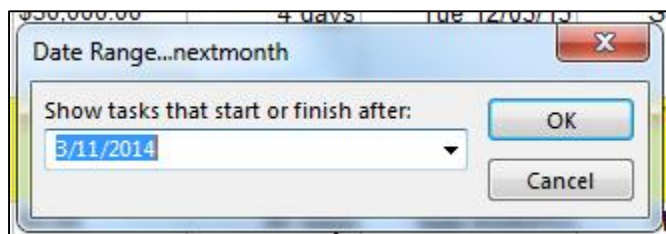
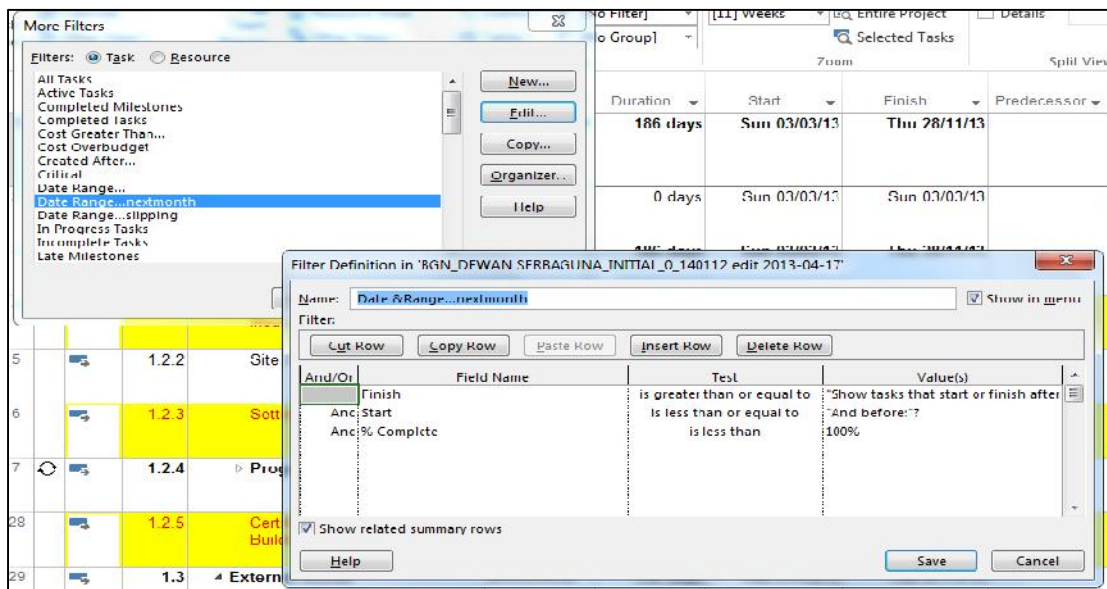a. View → filter → more filter → select date range → edit

→ in dialog box name, type date range .. nextmonth
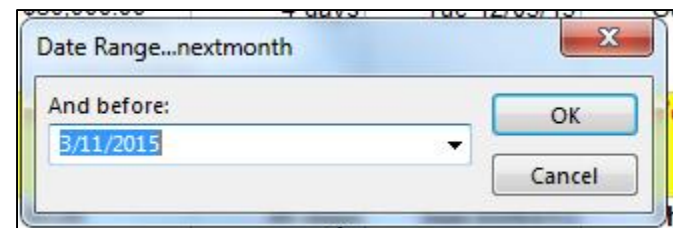
→ in dialog box, type

→ save

→ apply filter,

and type

then

Do you have any questions? Thank you for your attention

# LAPORAN SKALA JKR

Berdasarkan kaedah *Earn Value* iaitu:

- Planned Value (PV) = Rancangan Kewangan Kontrak (RKK)

- Earned Value (EV) = Nilai Kerja Sebenar

- Status Varian Kemajuan = EV – PV

- Status *delay @ ahead* berdasarkan pengiraan *schedule variances* (berbeza dengan pengiraan *delay @ ahead* menggunakan CPM)

Financial S-Curve: PV, EV

Schedule Variance

Cost

Planned Value

Earned Value

Time now

Time

Time Behind

30
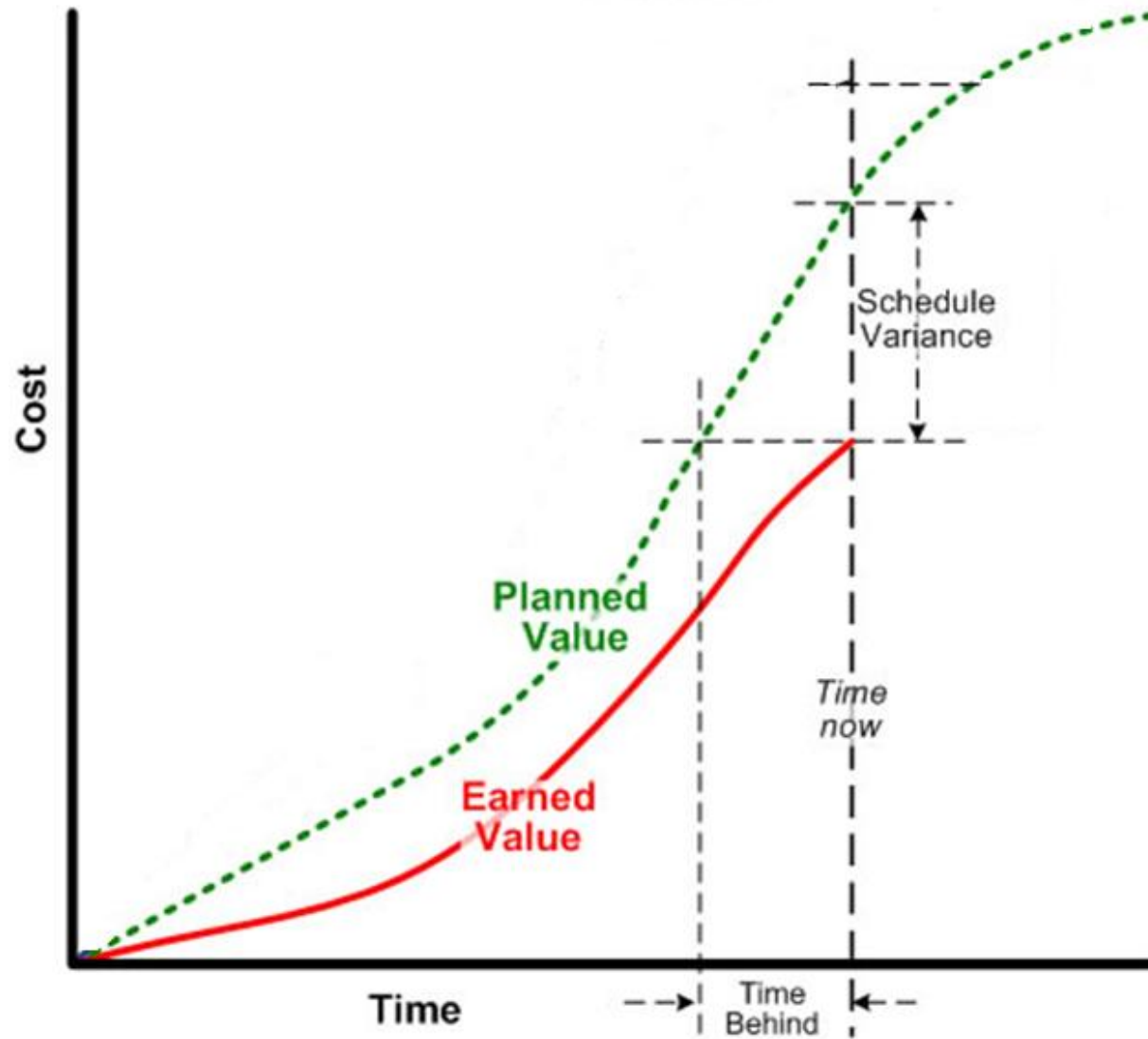
HOW TO ANSWER OTHER QUESTIONS?

1. Are we ahead of or behind schedule?
2. How efficiently are we using our time?
3. Are we under or over budget?
4. How efficiently are we using our resources?
5. When is the project likely to be completed?
6. What is the remaining work likely to cost?
7. What is the entire project likely to cost?
8. How much will we be under or over budget?

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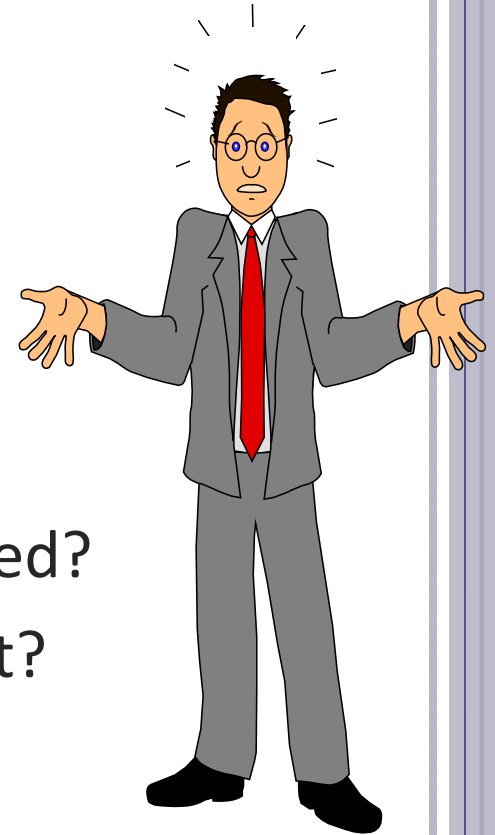
PROGRESS TRACKING USING EARN VALUE
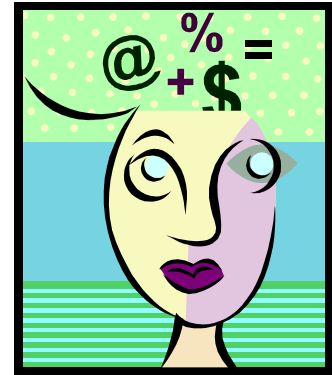
Schedule Performance Index (SPI):
EV/PV = 310,230/400,920 = 0.77

If > 1 = Ahead; < 1 = Behind

Cost Performance Index (CPI):
EV/AC = 310,230/254,389 = 1.22

If > 1 = Under budget; < 1 = Over budget

FORECASTING COMPLETION USING EARN VALUE

- **Time Estimate at Completion (EAC$_t$)**

= Project duration/SPI
= 12 months/0.77
= 15.6 months

- **Time Variance at Completion (VAC$_t$)**

= EACt - Project duration
= 15.6 - 12 months
= 3.6 months *(yg diperlukan utk siapkan projek)*

FORECASTING COMPLETION USING EARN VALUE

- **Estimate at Completion (EAC)**

= Budget at Completion/CPI

= RM1m/1.22

= RM0.82m

- **Variance at Completion (VAC)**

= EAC – Budget at Completion

= RM0.82 – RM1m

= -RM0.18m *(penjimatan)*

- **Estimate to Complete (ETC)**

= EAC – AC

= RM0.82m – RM0.254m

= RM0.566m

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Report right thing at right time to the right person!!!

DON'T JUST WRITE FOR FILES

Do you have any questions? Thank you for your attention