

Project Management Institute Southern Caribbean Chapter 5th International Project Management Conference

**7 Steps to Highly Effective
Planning & Scheduling
of construction projects**

by

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Presentation scope

Overview – Project Management

Assumptions - Cost Engineering

Core – Total Cost Management

Inputs – Project Control functions

Outputs – IMP and IMS

Limitations – CPM/Constructability



Presentation outline

1. Knowledge base

2. Organization structure

3. Standards, practices, basis

4. Training & certification

5. Applied skills, t & t

6. Schedule reviews & reports

7. Continuous improvement



1. Knowledge base

- **Project Management 9KA**
- **Construction Extension PM 9KA + 4**
- **Process groups, 44 processes + CE**
- **Integration Management**
- **CIOB Code of Practice**
- **AACEI TCM Framework**
 - **Cost Engineering**
 - **Economics & Estimating**
 - **Planning & Scheduling**



Planning & Scheduling

Planning

(Establish acceptable course of action)

Scheduling

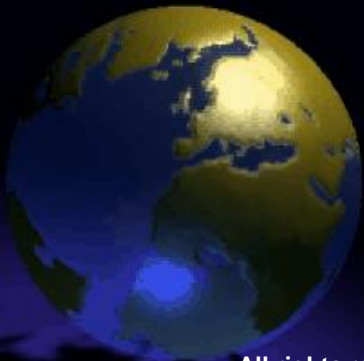
(Develop schedule & implement plan)

Schedule management and control

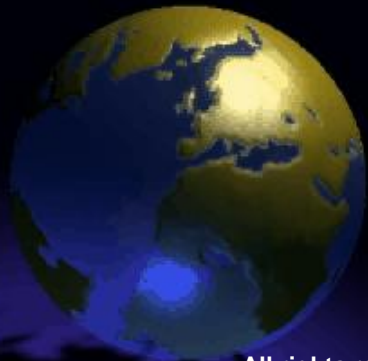


2. Organization structure

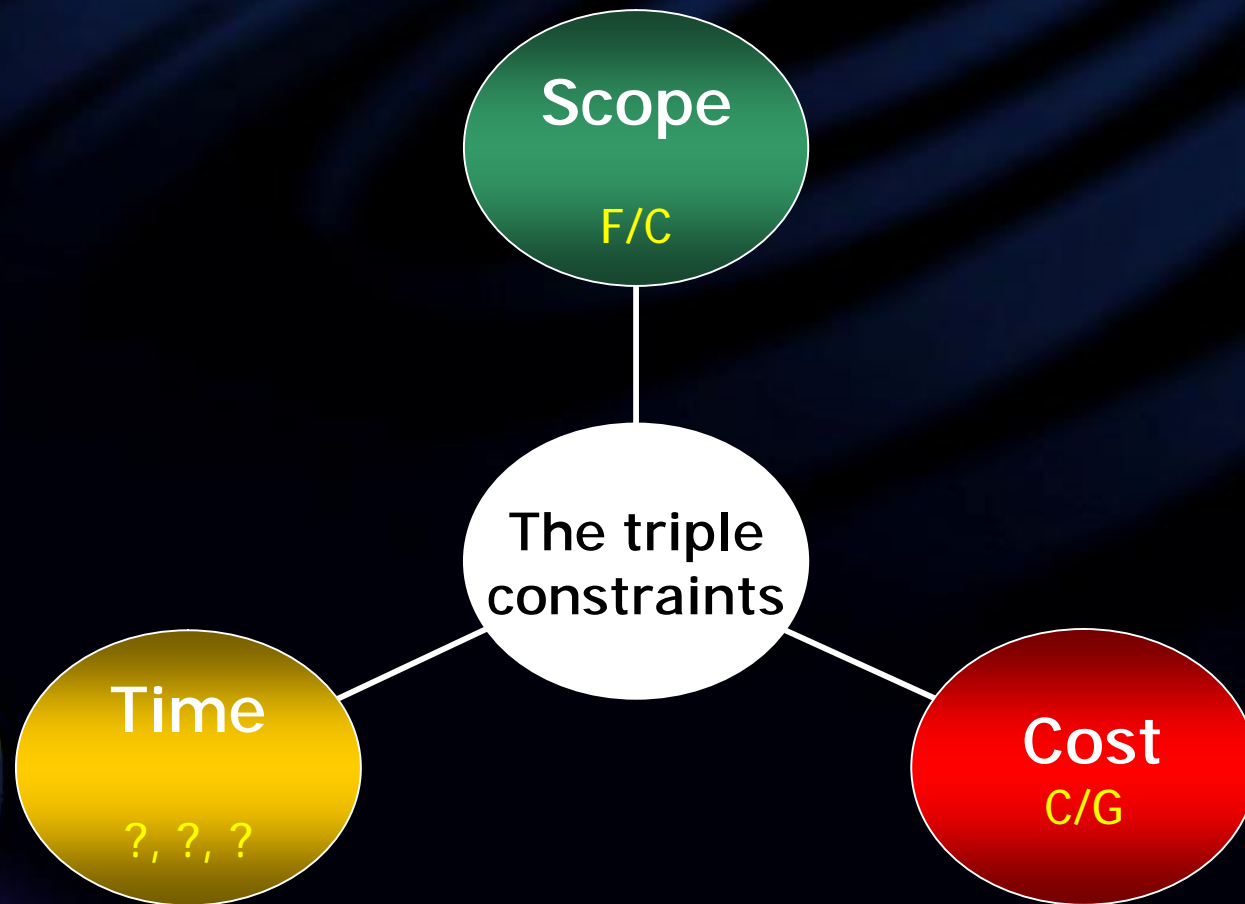
- **Business strategy**
- **Project Control functions**
- **Team staffing**
- **Responsibility matrix defined**
- **Communication matrix**
- **Team building/mentoring**



Project Life Cycle

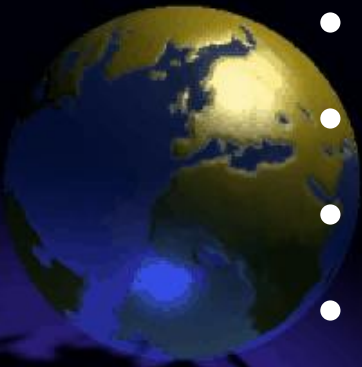


Project Control?



3. Standards, codes, practices

- **Construction Extension to PMBOK®**
- **WBS & EVM standards**
- **DOD guidelines**
- **CII best practices**
- **AACEI Recommended practice guides**
 - **Schedule basis- 38R-06**
 - **Schedule constructability review 48R-08**
 - **Forensic schedule analysis 29R-03**
 - **Schedule update review 53R – 06**
 - **Schedule claims protection methods 45R-08**



Schedule basis – AACEI RP 38R -06

- Project description
- SOW, WBS, OBS
- Methodology & Execution strategy
- Planning basis
- Key dates
- Concerns 1st. Issues 2nd
- Risks/Opportunities
- Assumption/exclusions/exceptions
- Critical path description
- Baseline changes
- Schedule reserves
- Project buy ins



Schedule methodologies



1. Bar charts???

(Activities not linked)



2. CPM

(Activities logic linked, prioritized & sequenced)



3. Line of balance

(Linear planning & scheduling)



IMP Primary data points

- Scope plan

- Schedule plan

- Cost plan

- Resource plan

- Risk plan

Risk register
(Strikes,
escalation
inflation)

- QA/QC plan

- Safety plan

- Contingency Plan

IMS Primary data points

- **Scope**

Scope
event
planned
(Not valued)

BWS
(Not BCWS)

- **Time**

Duration
estimated

Scope/
time
estimate

- **Cost**

Scope/time
& cost
budgeted &
integrated

BCWS
(PV[^])

IMP and IMS

Plan	+ Estimate	+ Budget	= Schedule
Scope plan			Scope
Time plan	Duration	Duration	Scope & time budgeted[^]
Cost plan	Cost	Cost	Scope, time & cost[^]
Risk plan	Impact	Allocate	Mitigate s, c & t[^]
Contingency plan	Range	Allocate	Monitor s, c & t[^]

Schedule outputs

Weekly reports

Rolling schedule status & progress (Q & %)

Monthly reports






Progress & performance (C, O, S & EVA results)

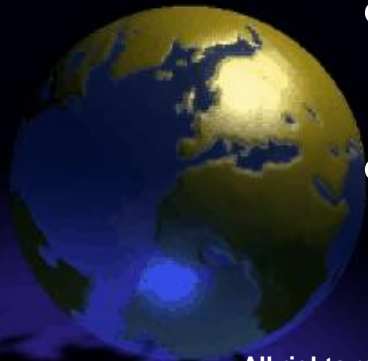
Valuations, request for payment

B.A.R,F schedules - progress curve, trending



4. Training & certification

- **AACEI**  
- **PMI** 
- **RICS** 
- **AACEI/PMI partnering** 
- **Conferences/workshops**



5. Applied skills, t & t

- **Planning & scheduling verb descriptions**
- **IMP & IMS integration profile**
- **Software tools**
- **Sort techniques**
- **Filter techniques**
- **Group techniques**



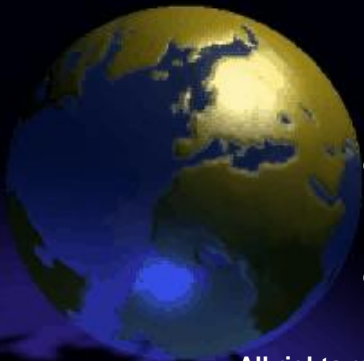
6. Schedule reviews & reports

- **Status/progress**
- **Frequency/accuracy**
- **Verification/validation**
- **Forecasting/trending**
- **EVM/EVA, CAR & NCR**
- **Change management/claims**



Schedule highlights

- **Integrated Schedule - Questions**
- **EVA Schedule - Answers**
- **Concerns/issues management**
- **Critical Path Analysis**
- **Change management**
- **Forensic Claims Analysis**



7. Continuous improvement

- Establish planning culture
- Structure schedule development
- Document Lessons Learned
- Benchmark
- Use Best practices (CII)
- Retraining/recertify



Keyword summary



1. Knowledge	TCM, Cost Engineering, Project Management
2. Structure	Business, organization, project team & planning
3. Standardize	Use practice standards guides. Standardize process
4. Train	Retrain and certify project team
5. Review	Maintain report verification and validation routine
6. Technique	Develop skills, appropriate tools, technique
7. Improve	Best practice, process, skills & techniques

Presentation ? & !

1. Knowledge base
2. Organization structure
3. Standard, practices, basis
4. Training & certification
5. Review
6. Develop
7. Continuous improvement

