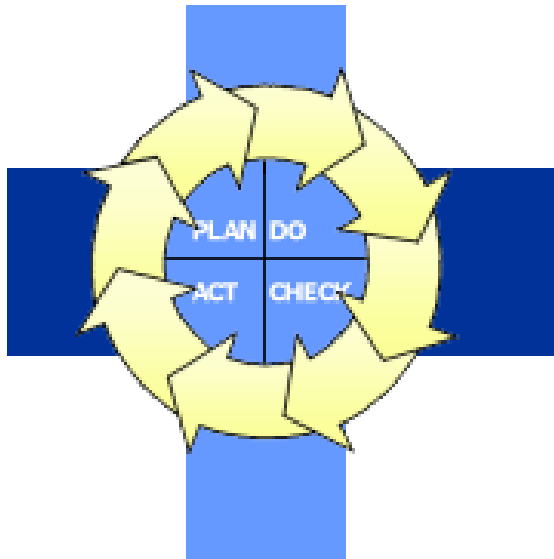


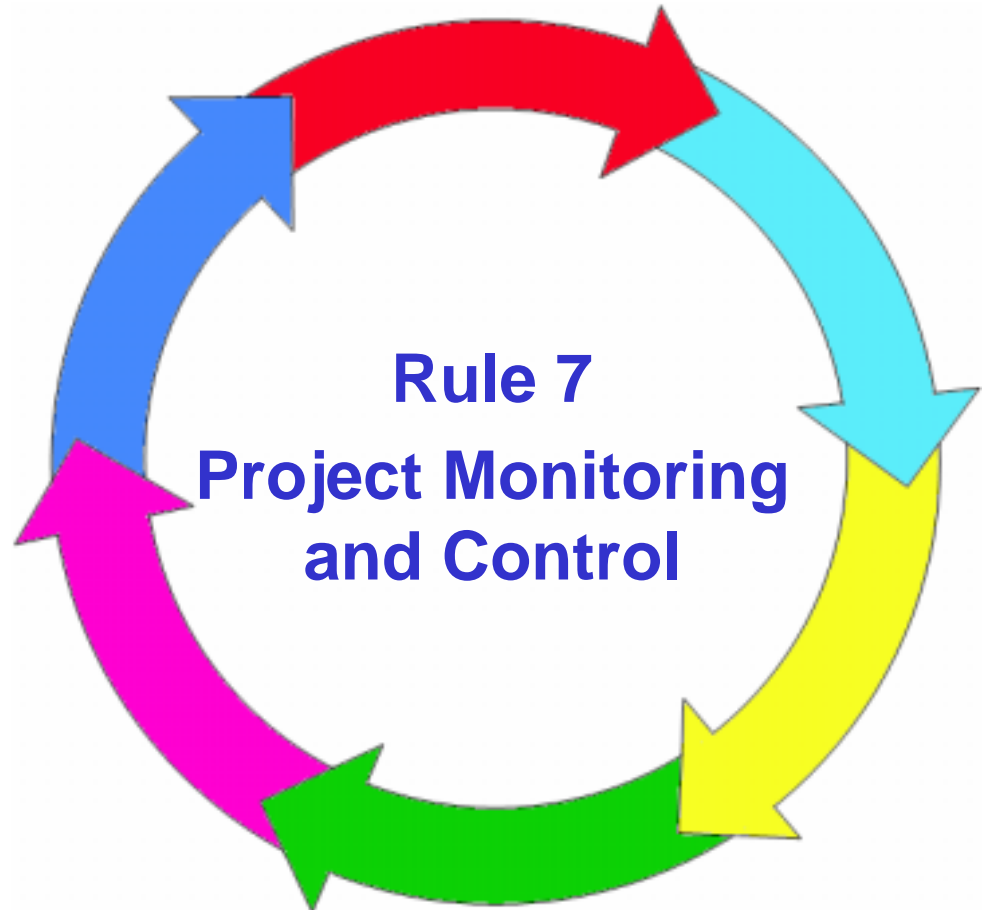


# Software Process Training



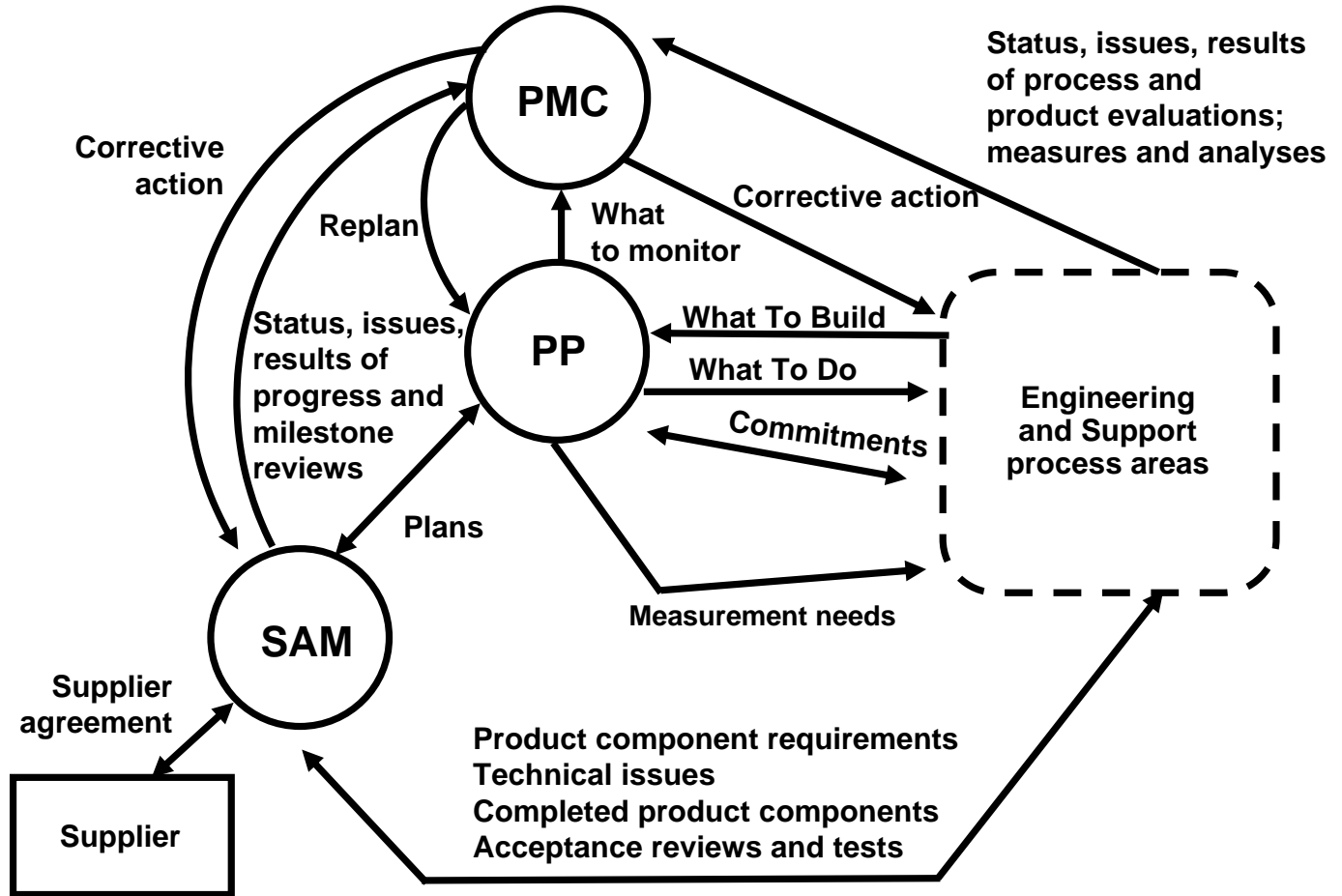
**Dr. Ernest Wallmüller**  
**Wolfgang Höh**

**Qualität & Informatik**  
**[www.itq.ch](http://www.itq.ch)**



# PMC Process Context

- OPF
- OPD
- MA
- REQM
- PP
- RD
- PMC
- CM
- PPQA
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## ■ Policy

**Establish adequate visibility into actual progress so that management can take effective actions when the Software project's performance deviates significantly from the software plans.**

- **Actual results and performances are tracked against the software plans.**
- **Corrective actions are taken and managed to closure when actual results and performance deviate significantly from the software plans.**
- **Changes to software commitments are agreed to all involved stakeholders.**

## ■ Scope

- **All SW producing units in AVL SBU MES.**

## ■ Purpose

**The purpose of Project Monitoring and Control is to provide an understanding of the project's progress so that appropriate corrective actions can be taken when the project's performance deviates significantly from the plan.**

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- **Method:** *Plenum*
- **Timing:** *20'*
- **Form:** *Brainstorming and discussion*
- **Documents:** *none*
- **Deliverable:** *Documentation on flipchart (trainer)*

- **Questions:**

- I. How do we know that the process is performing well?*
- II. Who of you has experiences with this process?  
Which one?*
- III. What are the most relevant work products?*



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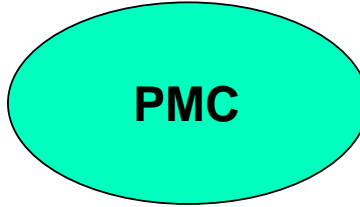
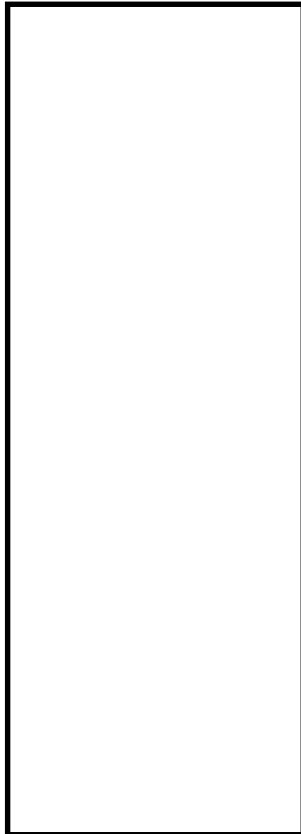
- **Method:** *Individual*
- **Timing:** *10'*
- **Form:** *Individual elaboration*
- **Documents:** *Process Rule 7; form: next foil*
- **Deliverable:** *Filled in form*

## Question:

- I. *Based on your experience, the prior discussion and the PMC process definition list the involved roles, the performed activities, and the produced work products.*

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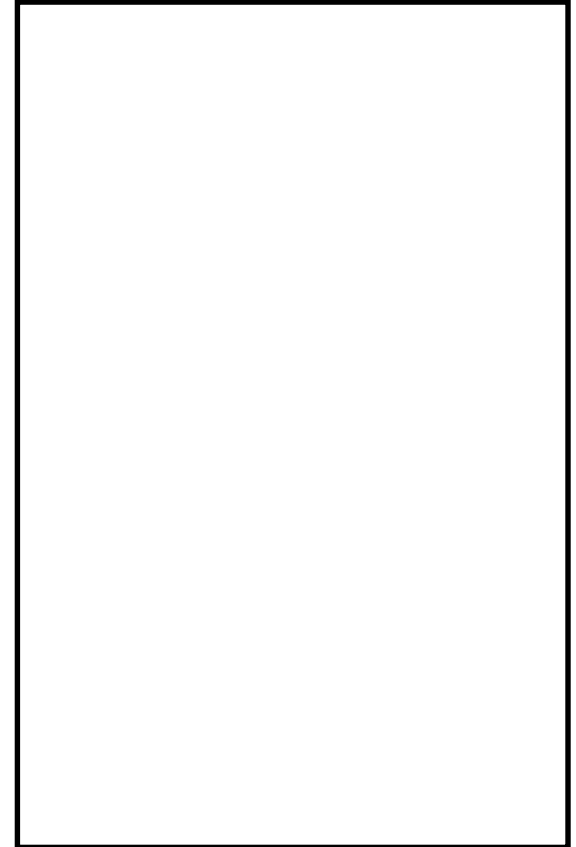
## Roles



## Activities



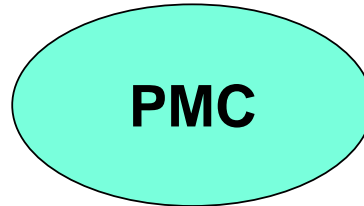
## Work Products



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## Roles

- PL-DP
- SPL
- HOD
- GPM
- SBM
- BSM



## Activities

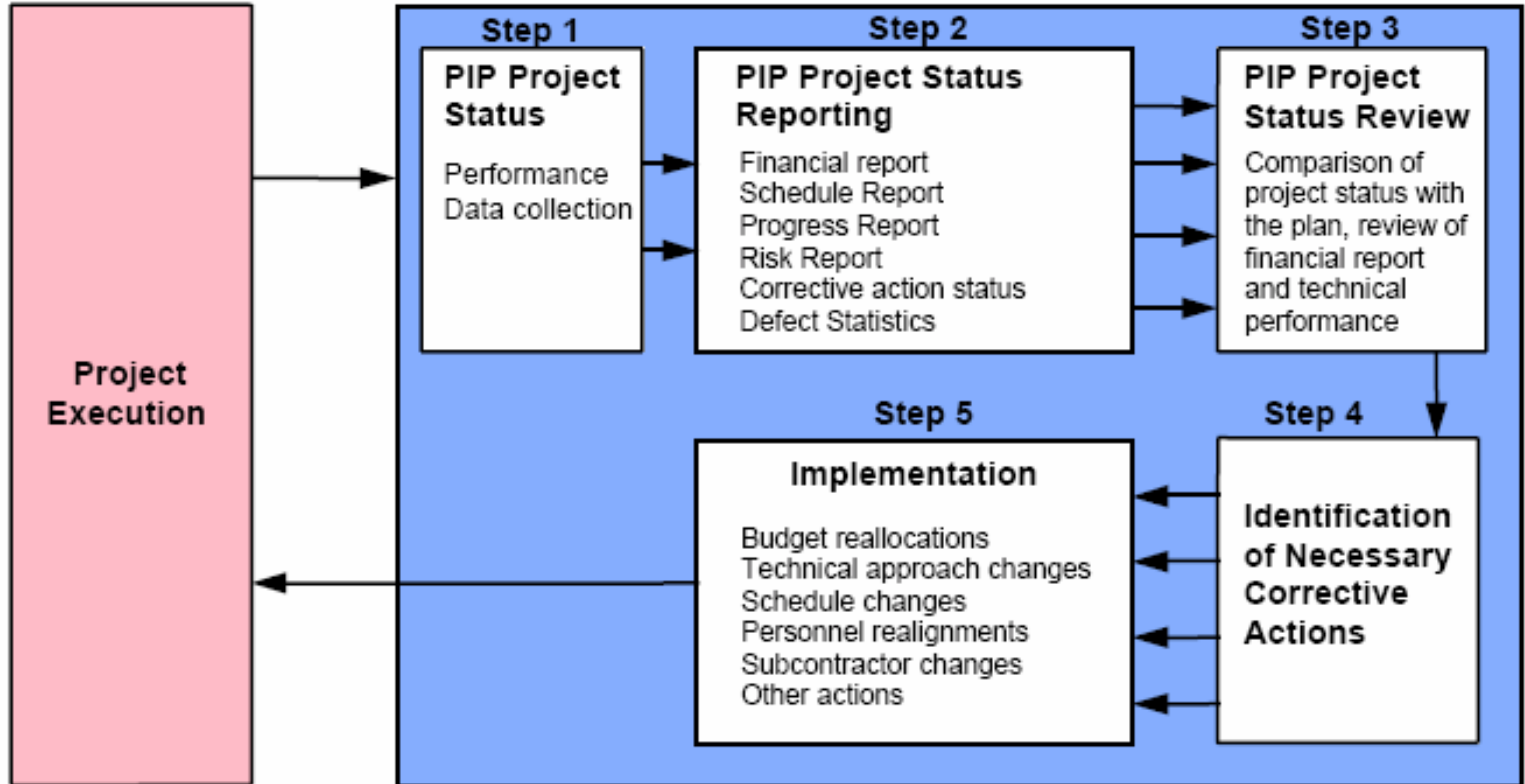
- Monitor Project Planning Parameters
- Monitor Commitments
- Monitor Project Risks
- Monitor Data Management
- Monitor Stakeholder Involvement
- Conduct Progress Reviews
- Conduct Milestone Reviews
- Manage Corrective Actions to Closure

## Work Products

- Project summary report
- Subproject summary report
- CCB Report
- Defect reports and trend graphics
- Financial status report
- Cost Trend Analysis
- PIP Milestones Trend Analysis
- PIP Design Review Reports
- PIP Project Status Review Report
- PIP Projects Action List
- DCPR

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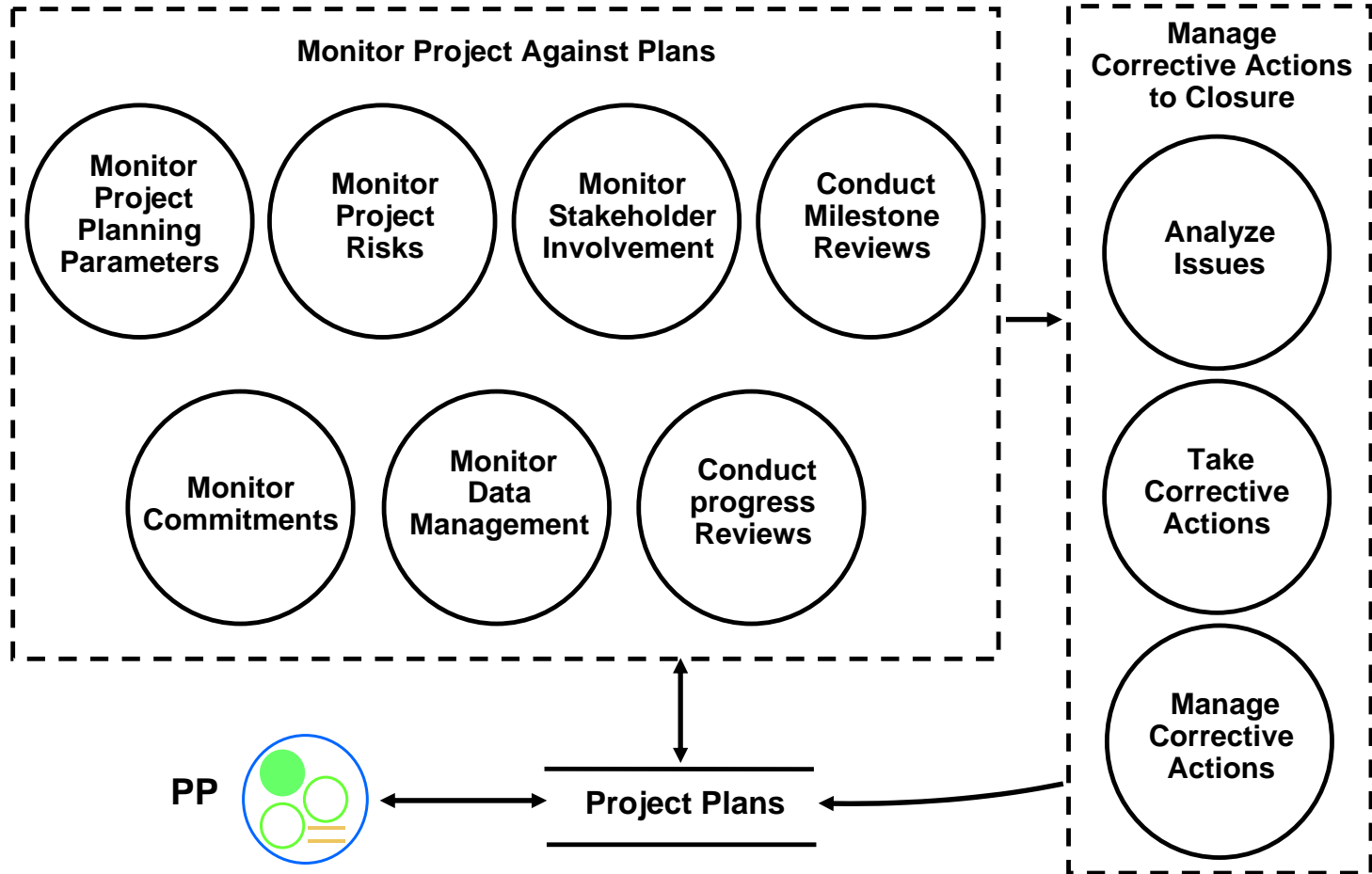
## Project Control Process





# PMC Practice: Monitor Project against Plan

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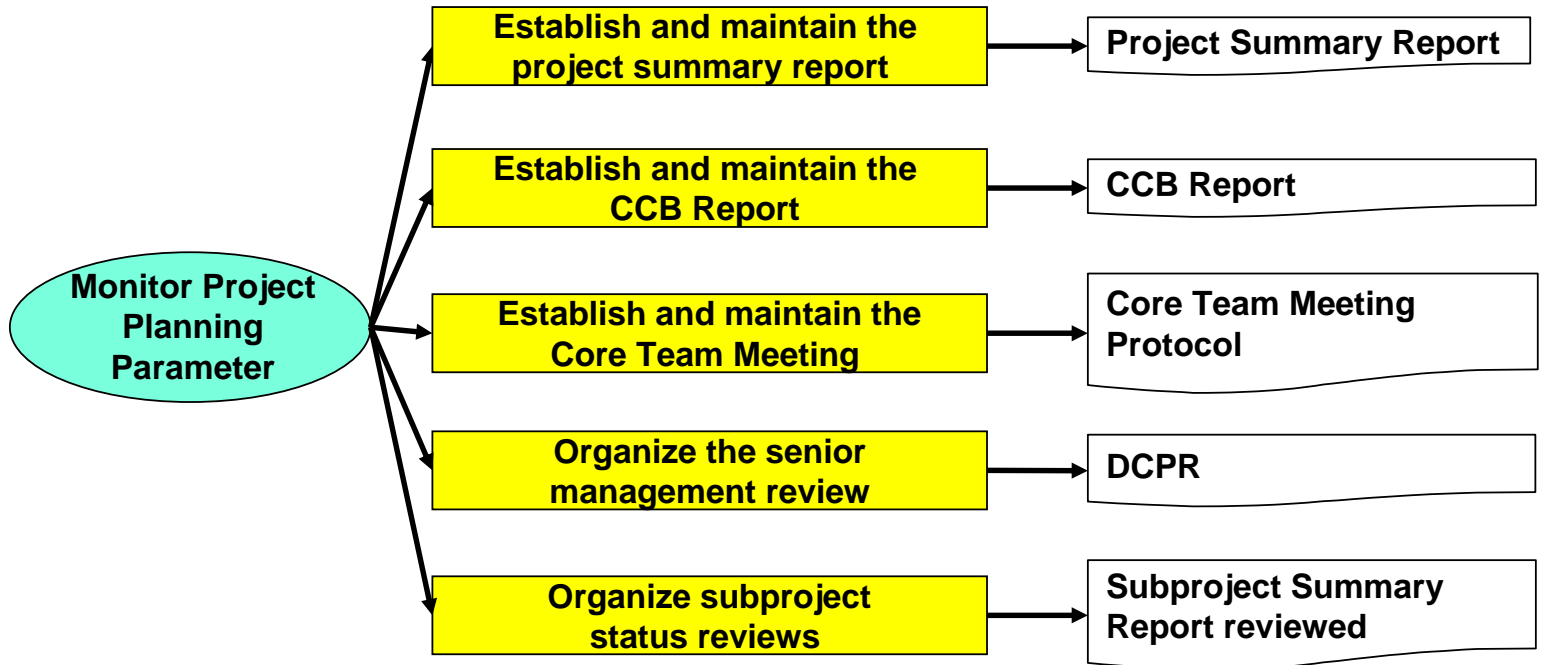


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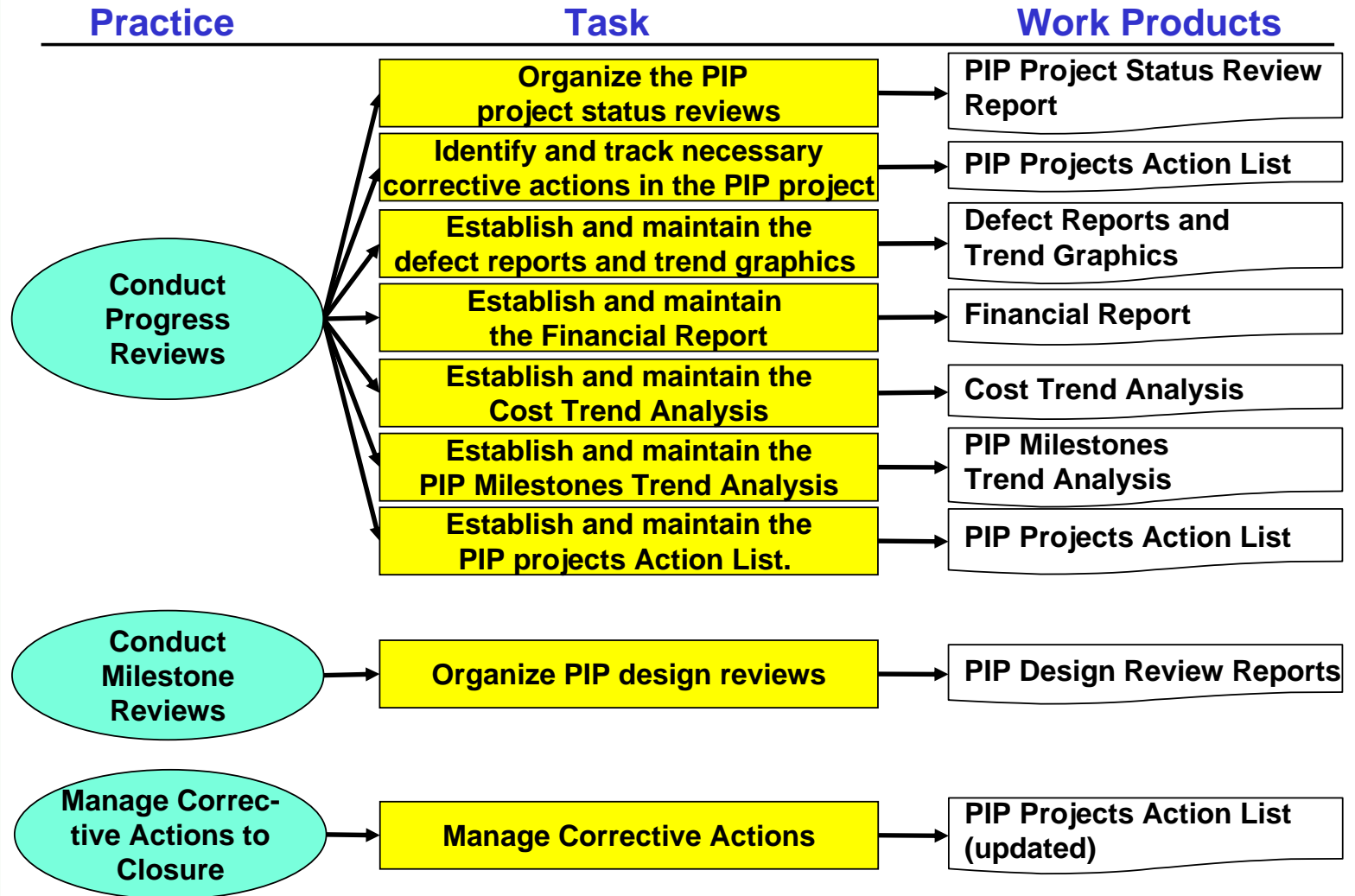
**Practice**

**Task**

**Work Products**



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The following metrics are used:

**Average value of estimated & actual budget**

**Goal:** Improve the planning quality

**Documentation:** Central\_Measurement\_Plan

**Standard deviation of estimated & actual budget**

**Goal:** Improve the planning quality

**Documentation:** Central\_Measurement\_Plan

**Cost Trend Analysis**

**Goal:** Get an overview about the actual state of the costs and schedule of the project.

**Documentation:** Central\_Measurement\_Plan

# Metrics (cont.)

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## PIP Milestone Trend Analysis (1)

**Goal:** Zero violations. The reference curve of schedule should never be violated. Reported milestones should be achieved.

**Documentation:** Central\_Measurement\_Plan *Template:*  
Template\_PMC\_Milestones\_Trend\_Analysis.xls

## PIP Milestone Trend Analysis (2)

**Goal:** Zero delays. Reported milestones should be achieved.

**Documentation:** Central\_Measurement\_Plan  
**Template:** Template\_PMC\_Milestones\_Trend\_Analysis.xls

## PIP Milestone Trend Analysis (3)

**Goal:** 100%. No delay. All reported milestones should be achieved.

**Documentation:** Central\_Measurement\_Plan  
**Template:** Template\_PMC\_Milestones\_Trend\_Analysis.xls

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## Defect Rate Analysis

**Goal:** Get an overview about the amount and state of the reported defects.

- The defect trend graphic is a monitoring instrument to make sure that the defects are solved according their priority

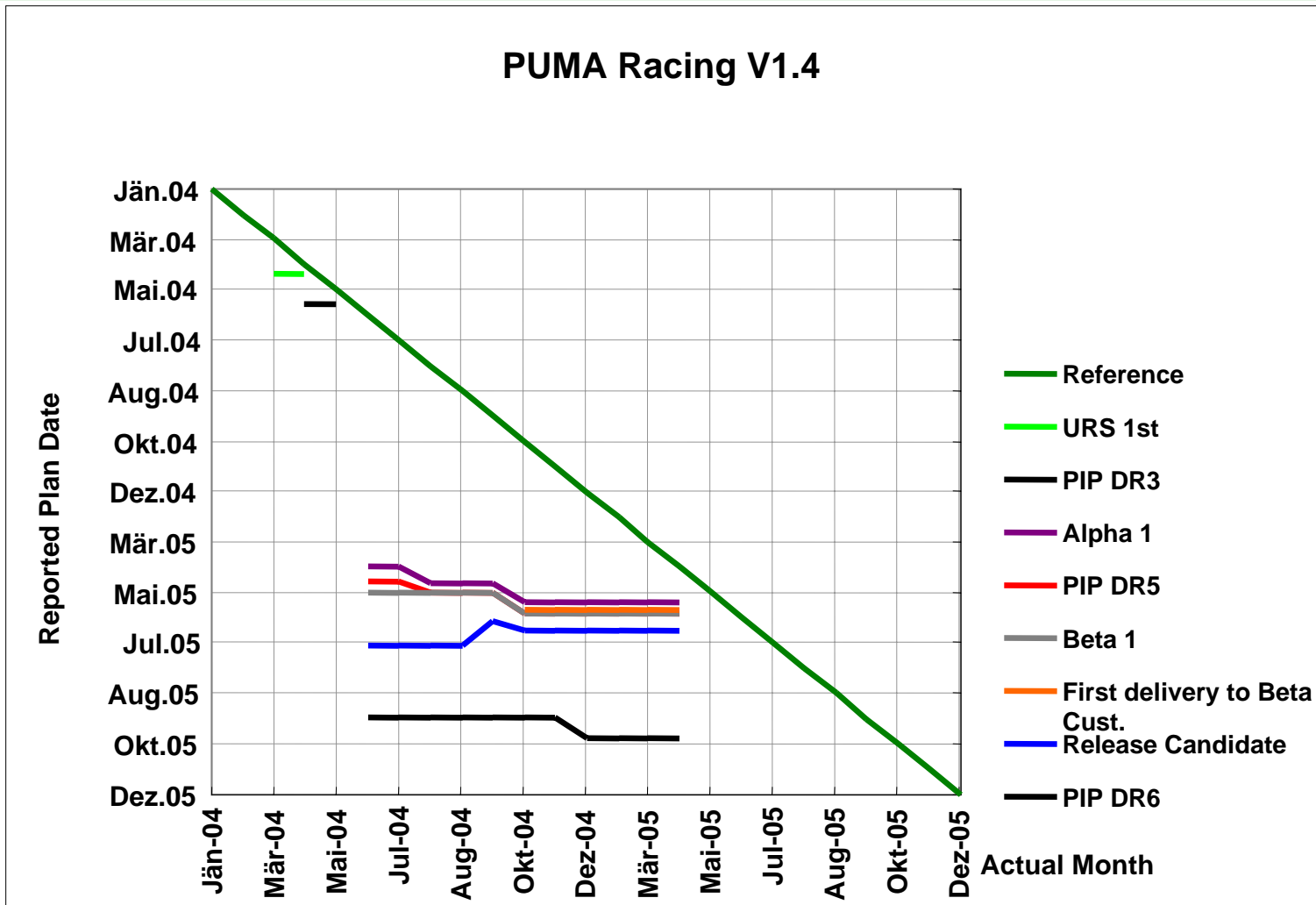
The defect report provides all information needed to solve the issues

**Tool:** ClearQuest

**Documentation:** Central\_Measurement\_Plan

# Metric: PIP Milestones Trend Analysis

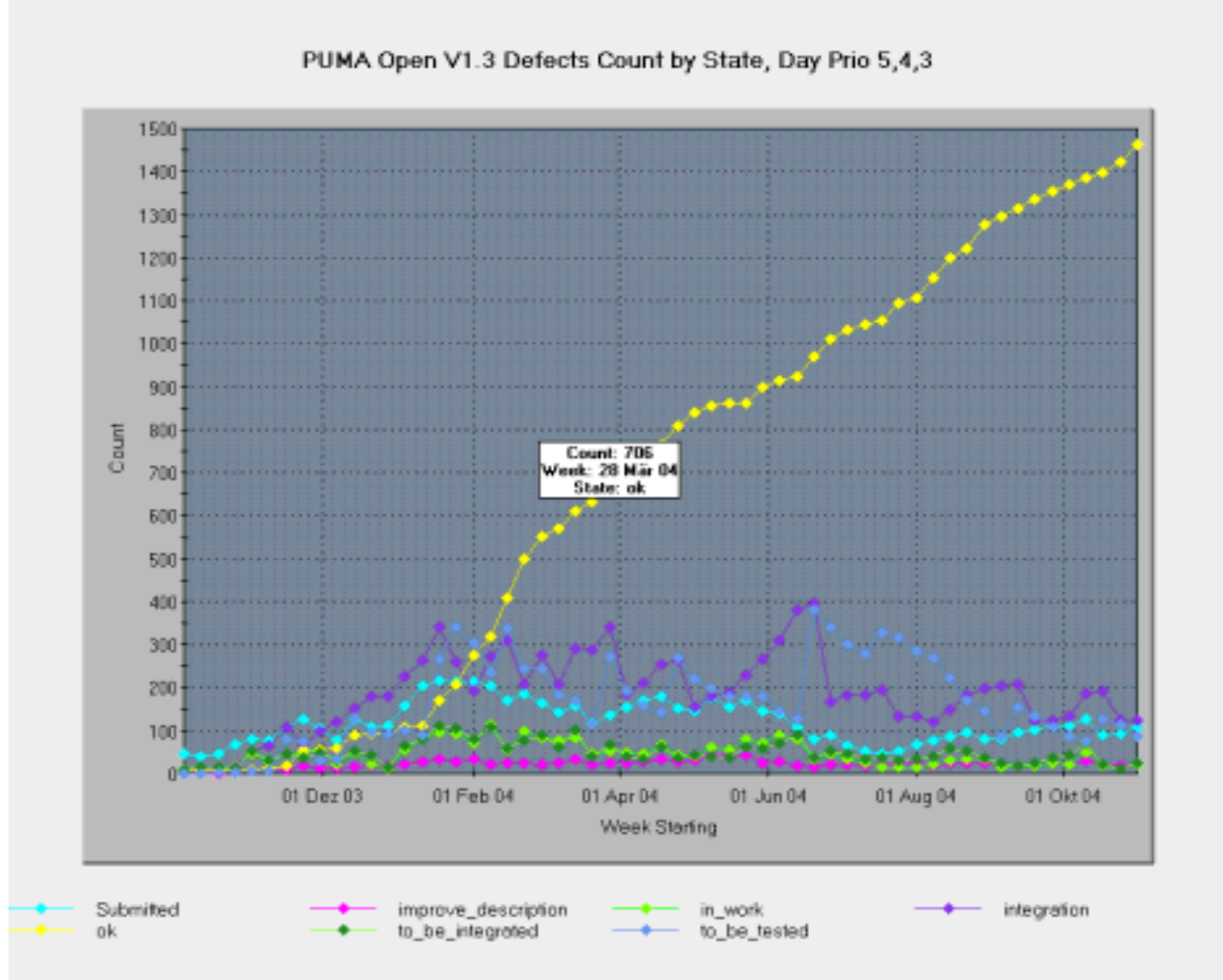
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# Metric: Defect Rate Analysis



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- **Method:** *Group work*
- **Timing:** *20' group work, 15' presentation & discussion (comparative discussion of group results)*
- **Form:** *Group elaboration*
- **Documents:** *Process Rule 7: PMC*
- **Deliverable:** *Task description on flipchart*
  
- **Question:**
  - I. *Describe the selected task*  
*PMC\_T08 'Establish and maintain the project summary report'*  
*using the presented description technique (→ next foil).*

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**Input**

<b>ID</b>	<b>Task Name</b>
<b>Description</b>	
<b>Roles</b>	
<b>Tools</b>	
<b>Method/Technique</b>	

**Output**

# Task Details 'Establish and maintain the project summary report'



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## Input

- Plans
- Progress statements
- People time reporting
- Configuration management status report
- Project Summary Report (actual)

<b>PMC_T08</b>	<b>Establish and maintain the project summary report</b>
<b>Description</b>	
<ul style="list-style-type: none"> <li>• Monitor and control the mandatory project planning parameters: (Cost, effort, progress of defined tasks, requirements changes, risks, schedule)</li> <li>• Establish the Project Summary Report</li> </ul>	
<b>Roles</b>	
<b>PL-DP</b>	<b>Responsible of task T08</b>
<b>SPL</b>	<b>Provides subproject summary report</b>
<b>Tools</b>	
<b>Template:</b> Template_PP_Project_Summary_Report_yyyy_mm.dot	
<b>Method/Technique</b>	
<b>Not specified</b>	

## Output

- Subproject summary report
- Project summary report
- Deviation records

# Monitored Project Parameters and Resulting Work Products



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Work Products	Monitored Project Parameter					
	Costs	Effort	Progress of defined Tasks	Requirements	Risks	Schedule
Financial Report	PIP Project Status Review					PIP Project Status Review
Milestones Trend Analysis						PIP Project Status Review
Cost Trend Analysis	PIP Project Status Review	PIP Project Status Review	PIP Project Status Review			PIP Project Status Review
PIP Design Review Report	PIP DR				PIP DR	PIP DR
<b>CCB Report + Action List</b> (PUMA Open: Core-Team)		CCB/ Core Team Meeting	CCB/ Core Team Meeting	<b>CCB/ Architecture Team Meeting</b>	CCB/ Core Team Meeting	CCB/ Core Team Meeting
<b>Project Summary Report</b>	PIP Project Status Review	PIP Project Status Review	PIP Project Status Review		PIP Project Status Review	PIP Project Status Review
Subproject Summary Report	Subproject Status Review	Subproject Status Review	Subproject Status Review		Subproject Status Review	Subproject Status Review
<b>PIP Projects Actions List</b>	PIP Project Status Review	PIP Project Status Review	PIP Project Status Review		PIP Project Status Review	PIP Project Status Review
DCPR	Senior Management Review	Senior Management Review	Senior Management Review		Senior Management Review	Senior Management Review

# Rule 7: List of Work Products

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WP Id	Type	Description	Task Id	Resp.	Link to Template
PMC_W01	M	Project summary report	PMC_T08	PL-DP	Template_PP_Project_Summary_Report_yyyy_mm
PMC_W02	O	Subproject Summary Report	PMC_T13	SPL	Template_PMC_Subproject_Summary_Report
PMC_W03	O	CCB Report	PMC_T10	PL-DP	free form
PMC_W04	O	Defect Reports and Trend Graphics	PMC_T03	PL-DP	n.a.
PMC_W05	O	Financial Status Report	PMC_T04	PL-DP	Template_PMC_Project_Summary_Report_Financial_Status
PMC_W06	O	Cost Trend Analysis	PMC_T05	PL-DP	Template_PMC_Project_Summary_Report_Financial_Status
PMC_W07	O	PIP Milestones Trend Analysis	PMC_T06	PL-DP	Template_PMC_Milestones_Trend_Analysis
PMC_W08	M	PIP Design Review Reports	PMC_T07	GPM	Template_PPQA_FB-MES-004-001-SQ_Pdr
PMC_W09	M	PIP Project Status Review Report	PMC_T01	HOD	Template_PMC_Project_Status_Review_Report.dot
PMC_W10	M	PIP Projects Action List	PMC_T02	HOD	Template_PP_PIP_Project_Action_List
PMC_W11	M	DCPR	PMC_T04	HOD	Template_PMC_Projects_Coordination_Report.dot

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- **Method:** *Small groups*
- **Timing:** *10' group work, 10' discussion in plenum*
- **Form:** *Group elaboration*
- **Documents:** *none*
- **Deliverable:** *Group notes*

- **Question:**

The process' core objective is to monitor and control. To reach the project's objectives in an efficient and effective way is key for the project's success.

- I. *Why is it important to have this generic practice implemented?*
- II. *What are the central elements for a successful implementation in a project?*

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## GP2.8 MONITOR AND CONTROL THE PROCESS

*Monitor and control the process against the plan for performing the process and take appropriate corrective action.*

### Purpose:

Perform the direct day-to-day monitoring and controlling of the process. Monitoring and controlling the process involves measuring appropriate attributes of the process or work products produced by the process.

### Practice:

- Measure actual performance against the plan
- Review accomplishments and results of the process against the plan
- Review activities, status, and results of the process with the immediate level of management responsible for the process
- Identify and evaluate the effects of significant deviations
- Identify problems in the plan for performing the process
- Take corrective action when requirements and objectives are not being satisfied
- Track corrective action to closure.

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*What was important for  
you concerning this  
Process Rule?*





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