

# Technical documentation - Plant Maintenance Report

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## Access Management

### Roles & Access

List of application role + menu role and explanation if we have several applications role with specials rules.

Role Code	Role Description	Explanation
ZR_RCS_CA_M08	ZR_RCS_CA_M08	Role menu for queries
ZR_RCS_PM_A02	Maintenance Orders Applications - End User role	User role
ZR_RCS_PM_A01	Maintenance Orders Applications - Super User role	User role
ZR_RCS_PM_A03	Maintenance Orders Applications - Key User role	User role
ZR_RCS_PM_A00	Maintenance Orders Applications - RCS/APM role	User role

### Authorization Objects

List of authorization objects mandatory for the application.

Authorization object	Explanation
C_PMORDER__0COMP_CODE 0COMP_CODE	Company, role: ZR_*_CA_P01
C_PMORDER__C_AUTHMA 0PLANT__C_AUTHMA	Authorization scope: ZR_*_CA_P00
C_ZSECT (Global Business Unit)	GBU role: ZR_*_CA_P05

## DataFlow

### Overview

## Technical Rules on Workbench

Data is extracted from standard extractors from system WP1 400: 2LIS\_17, 0PM\_OM\_OPA\_1 & 2, 0CA\_TS\_IS\_1

Dependencies:

- It shares some extractors (2LIS\_17\_I3OPER, 0PM\_OM\_OPA\_2) with MECANO.
- Data is consumed by ORACLE by the broadcast of a workbook (BCAST\_ORACLE\_PM) with PM costs, which is integrated manually by IS PM team.
- Data is loaded in cube CUB\_PM for QV dashboard RCS KPI
- Costs data from all three systems (WP1/PF1/RHO) is used in FI cubes

Functional Rules:

- Alternative Labeling is used on Functional Location in the source system. The alternative label is loaded in the master data attributes.

Transformations for CUB\_PM001 CUB\_PM001 IFS\_0PM\_OM\_OPA\_1:

Start routine:

Fields ABCINDIC (ABC indicator) and C\_OBJTYPE (Object Type (equip)) comes from view /BI0/MEQUIPMENT if a correspondance is found with the equipment, else comes from view /BIC/MC\_FUNCLOC.

Infopackages are filtered on CURTYPE = 10 & 0VTYPE between [020;030] and [050;090] with differents periods.

Transformation TRSF: ODS\_PMEN -> CUB\_PM001:

C\_FUNCLOC (functional location) / 0WAPRL (Maintenance plan) / C\_WAPOS (maintenance plan item) & 0NOTIFICATN (Notification number) come from master data C\_PMORDER.

C\_COSTCENTER equal M if field C\_MATNR is not empty.

C\_EBELN (Purchase order number) if ref\_doc\_ct (Reference Document: Type) = 020 then field equal ref\_doc\_nr (Reference Document Number (External Document Number)).

C\_EBELP (Item Number of Purchasing Document) if ref\_doc\_ct (Reference Document: Type) = 020 then field equal ref\_doc\_it (Reference document item).

C\_DINPD (Item number purchase document description) if ref\_doc\_ct = 020 then field equal C\_DINPD.

Fields ABCINDIC (ABC indicator) and C\_OBJTYPE (Object Type (equip)) comes from view /BI0/MEQUIPMENT if a correspondance is found with the equipment, else comes from view /BIC/MC\_FUNCLOC.

DTP - ODS\_PMEN -> CUB\_PM001: filters currency type = 10 and semantic group on CURTYPE / METYPE / VTYPE / FISCVARNT / MATL\_GROUP / DB\_CR\_IND / CREDITOR / VTSTAT / VTDETAIL / VERSION / COSTELMNT / COMP\_CODE / CO\_AREA / FISCPER // BIC/C\_EKORG / BIC / C\_EKGRP.

Transformation: TRSF : 0PM\_OM\_OPA\_2 -> ODS\_PM01 (Rhodia)

Fields 0PART\_CCTR (Partner Cost Center), 0PART\_ACTTY (Activity Type of Partner Cost Center), 0PART\_COORD (Partner Order), 0PART\_WBSEL (Partner WBS Element), 0PART\_ABCPR (Partner Business Process) are determined with module function CO001\_BIW\_PARTNER\_DECODE with input parameter rspobart (Partner (short)) & rsparobval (Partner IO val.)

DTP : 0PM\_OM\_OPA\_2 -> ODS\_PM01 (Delta): semantic group on KOKRS, BELNR, BUZEI, FISCVAR, FISCPER and CURTYPE.

Transformation RSDS 2LIS\_17\_I3OPER WP1\_400 -> ODSO ODS\_PM04:

C\_PM\_USST (C\_PM\_USST User Status.) comes from master data C\_PMORDER (field ZZISTAT).

C\_SYSTATS (Detailed System Status.) comes from master data C\_PMORDER (field ZZESTAT).

Transfer rule CUB\_PM004 8ODS\_PM04:

Fields ABCINDIC (ABC indicator) and C\_OBJTYPE (Object Type (equip)) comes from view /BI0/MEQUIPMENT if a correspondance is found with the equipment, else comes from view /BIC/MC\_FUNCLOC.

## Reporting

- [CATALOG - Industrial & Planning Reporting](#) (in the tab Maintenance)

Query	Descriptions
BW_QRY_MPR_PM001_0001_BCAST	BW - PM Monthly Synthetic Expenses (BROADCAST)
BW_QRY_MPR_PM001_0030	BW - PM Cumulated (year) detailed costs (Core query)
BW_QRY_MPR_PM001_0030_2	BW - PM Cumulated (year) detailed costs (Core query)
BW_QRY_MPR_PM001_0031	BW - PM Monthly costs synthetic report (Core query)
BW_QRY_MPR_PM001_0031_MPI1	MPI 1 - Maintenance Costs per ton of production
BW_QRY_MPR_PM001_0031_MPI4	MPI 4 - Structure of Maintenance Costs
BW_QRY_MPR_PM001_0033	BW - PM Material consumptions per order (Core query)
BW_QRY_MPR_PM001_0034	BW - PM Orders list by vendor (Core query)
BW_QRY_MPR_PM001_BCAST_0001	BW_QRY_MPR_PM001_BCAST_0001
BW_QRY_MPR_PM001_BCAST_0001	Extraction Oracle 2019
BW_QRY_MPR_PMECO_0001	BW - Emergency WOs
BW_QRY_MPR_PMECO_0002	BW - Past Due PM
BW_QRY_MPR_PMECO_0003	BW - MTBF Rotating Equipment
BW_QRY_MPR_PMECO_0004	BW - MTBF
BW_QRY_MPR_PMECO_0005	BW - Backlog Maintenance Metrics
MPR_PM003_QRY005	General Control of Preventive Maintenance (Quantities)
QV_BW_QRY_MPR_PM001_0030	QV-BW-PM Cumulated (year) detailed costs (QV)
QV_BW_QRY_MPR_PM001_0031	QV-BW-PM Monthly costs synthetic report (QV)

Description	Nom technique
Monitoring Overdue customer Invoice	ZR_RCS_CA_M05_TEST_BI7
OLD - Monitoring Cost Controlling	ZR_RCS_CA_M18
PM - Plant Maintenance	ZR_RCS_CA_M08
Brazil	0000001811
GTBU	0000001871
MEGANO	0000001990
BW - Detail notifications items (Core Query)	BW_QRY_CUB_PM08_0001
BW - Maintenance Orders Indicators (Core Query)	BW_QRY_CUB_PM004_0001
BW - MTBF	BW_QRY_MPR_PMECO_0004
BW - Notification cause details (Core Query)	BW_QRY_CUB_PM08_0005
BW - Notification item details (Core Query)	BW_QRY_CUB_PM08_0004
BW - Notifications by status (Core Query)	BW_QRY_CUB_PM08_0002
BW - Notifications details (Core Query)	BW_QRY_CUB_PM08_0003
BW - PM Cumulated (year) detailed costs (Core query)	BW_QRY_MPR_PM001_0030
BW - PM Cumulated (year) detailed costs (Core query)	BW_QRY_MPR_PM001_0030_2
BW - PM Functional Location and Equipment Attributes (Core)	BW_QRY_IS_FUNLOC_0001
BW - PM Hours (Core Query)	BW_QRY_CUB_PM004_0002
BW - PM Material consumptions per order (Core query)	BW_QRY_MPR_PM001_0033
BW - PM Monthly costs synthetic report (Core query)	BW_QRY_MPR_PM001_0031
BW - PM Order and Operations User status list (Core Query)	BW_QRY_CUB_PM012_0001
BW - PM Orders by status (Core query)	BW_QRY_CUB_PM003_0002
BW - PM Orders list by vendor (Core query)	BW_QRY_MPR_PM001_0034
BW - PM Orders numbers (Core query)	BW_QRY_CUB_PM001_0003
BW - Priority analysis (Core query)	BW_QRY_MPR_PM001_0032

Several topics are covered by BEx reports :

- Work Orders with Maintenance Plan
- Work Orders with Equipment
- Notifications by Status and Causes
- Planned and Actual duration on Operations
- Work Orders and Operations by Status and Priority
- Monthly Costs
- Functional Location and Equipment Attributes
- Consumption of Materials on Work Orders
- Work Orders Costs by Vendor
- MTBF (Mean Time Between Failure)
- Backlog on Operations

## Broadcast

- BCAST\_ORACLE\_PM (Weekly) : Extraction of actual costs year to date for current year send to PM IS Team for Chalampé plant, and the data is loaded manually in ORACLE Hyperion by PM Team.
- RCS\_KPI\_PM\_ALL (Monthly) : Extraction of KPI PM. It has been unscheduled on SEP 2015 after a usage survey from IS Reporting Team and is not running anymore.

## Dependencies with other applications

We should have the information where the application is sending or receiving information (e.g. APD open hub)

## Data Loading

### Info Providers and objects loaded

Detail of process chain, list + link between or special event done for the loading

Main Process Chain	Final Provider Loading	Frequency	Time start	Duration
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RSP_PM	CUB_PM001	Daily (not saturday)	Around 1:15 am	45 mins
Plant Maintenance	CUB_PM002			
	CUB_PM003			
	CUB_PM004			
	CRFICCS01			

## Data loadings

### Info providers and objects loaded

Infoproviders and Master data are grouped in the Application Area **AREA\_PM**.

Process Chains included in the Global RSP\_DAILY Process Chain:

- ZPC\_MD\_ATTR\_RCS (For shared master data attributes and texts)
- RCS\_PM\_KPI (Load Cubes for RCS KPI application used by QV dashboard)
- RSP\_PM
- RSP\_PM\_ACETOW (Load PM Costs data from RHO system for FI cubes)
- RSP\_PM\_SOLVAY (Load PM Costs data & Commitments and orders distribution rules from PF1 system for FI cubes)
- PC\_PM\_01

Others Process Chains:

- PC\_PM\_ORDER\_WEEKLY
- PM\_BACKLOG

### Loading frequency

- Daily loadings Monday to Friday
- Weekly loadings for PC\_PM\_ORDER\_WEEKLY & PM\_BACKLOG

### Average performance

The main process chain RSP\_PM run in about one and a half hours.

PM Extractors (2LIS\_17) are set up in delta with a delta queue. Costs on PM orders are loaded in full mode.

### Historization

We keep all the data in the DSO and Cubes. Archiving is done on Source System.

## Data Quality Control

## Operational Documentation

### Procedures

<Describe the recurring procedures needed to operate the application (eg. start/pause/terminate/restart the app processes, data preparation, data ingestion, ETL, data visualization, data export, other manual activities)>

### Scheduling

<Describe the scheduling in place for the application (eg. existing jobs, trigger time/event based, dependencies)>

### Monitoring

<Describe the monitoring checks to confirm the application is performing well (eg. check the overall status, check performance metrics like runtime /data volume/memory/disk/CPU, maintain and react to alerts/notifications)>

## **Error Handling**

<Describe how to handle errors (eg. error codes, description and respective resolution, alert users)>

## **Known Bugs**

<List the existing bugs, its criticality, workarounds and resolution plan.>

## **Roadmap**

<List past & future evolutions for the application (including links to MED/FSD/TSD)>