

## Predictive Maintenance Batch Import File

This file is prepared external to MaintScape and is used to enter Predictive Maintenance Measurement/Readings and/or Maintenance Events into MaintScape, potentially triggering Work Orders.

A Measurement/Reading is a quantity measured or read at a particular Measurement/Reading Point on an Equipment - e.g. Voltage, Temperature. A Maintenance Event is a non-quantified event which can be observed for an Equipment - e.g. Overheat, Flood, etc.

Work Order trigger rules are defined for Equipment on the Equipment Type window, 'Maintenance Triggers' tab. The Predictive Maintenance Batch File processing window is accessed from the MaintScape Main Menu window, Equipment Icon, 'Predictive Maintenance Batch' menu item.

The Predictive Maintenance Batch Import File is a tab-separated text file with the following columns.

Column	datatype	corresponds to MaintScape table	applies to
calc_prcs_ind	char (1)	(processed indicator)	all
eqmt_id	integer	equipment	all
eqmt_cd	char (30)	equipment	all
maint_evnt_typ_id	smallint	maintenance_event_type	maint event
maint_evnt_typ_cd	char (8)	maintenance_event_type	maint event
meas_rdng_pt_id	integer	measurement_reading_point	meas/rdng
meas_rdng_typ_cd	char (8)	measurement_reading_type	meas/rdng
meas_rdng_pt_cd_usg	char (8)	measurement_reading_point	meas/rdng
meas_rdng_val	decimal (20,8)	measurement_reading	meas/rdng
meas_rdng_dtm_eff	timestamp	measurement_reading	meas/rdng

Refer to the MaintScape Database Structure Reports for more information on the MaintScape tables and their relationships. These reports are accessible from the MaintScape main menu window, 'Inventory and Reports' icon.

Records in the Batch Import File represent either a Measurement/Reading or a Maintenance Event. The 'applies to' column in the above indicates which (or both) of the two types of records a particular column applies to.

Preparing the Predictive Maintenance Batch Import File:

- Specify value 'n' (without quotes) in the calc\_prcs\_ind column of all records. See 'processing rules' below for an explanation of this column.
- Eqmt\_id is the internal MaintScape Identifier for the Equipment and may be left null. Eqmt\_cd must be specified and represents the Equipment Code as defined for the Equipment in MaintScape. If not specified, eqmt\_id will be computed as a look-up from eqmt\_cd.
- As mentioned above, the Batch Import File columns are tab separated. If values are specified for column 1 and 3 but not for column 2, then two consecutive tab characters should separate the values for column 1 and 3.
- If the Batch record represents a Maintenance Event, then maint\_evnt\_typ\_cd must be specified and represents a Maintenance Event as defined within the Maintenance Event system code table. If not specified, maint\_evnt\_typ\_id will be computed as a look-up from maint\_evnt\_typ\_cd.

- If the Batch record represents a Measurement/Reading, then `meas_rdnng_typ_cd`, must be specified and must match a Measurement/Reading Point defined to the Equipment's Equipment Type (equipment type window, `meas/rdng` page). A Measurement/Reading Point may be further identified by an optional Meas/Rdnng Point ID which can differentiate between multiple Meas/Rdnng Points of a given type. If the Measurement/Reading is for such a Meas/Rdnng Point, then `meas_rdnng_pt_cd_usg` identifies the Meas/Rdnng Point ID.

If not specified, the value for `meas_rdnng_pt_id` is computed from `meas_rdnng_typ_cd` and `meas_rdnng_pt_cd_usg`.

- If the Batch record represents a Measurement/Reading, then `meas_rdnng_val` must be specified and represents the Measurement/Reading value.
- If the Batch record represents a Measurement/Reading, then `meas_rdnng_dtm_eff` represents the Measurement/Reading effective date and time. If not specified, the effective date and time will be taken as 'the date the record is processed, time 00:00:00'.

#### Processing Rules:

- A batch record with `calc_prcs_ind='y'` has been successfully processed into a Measurement/Reading or Maintenance Event. This indicator is required because errors may occur during processing, and we wish to ensure subsequent processing of the same file does not duplicate work. Records not yet processed should have `calc_prcs_ind='n'`.
- The batch import record is first inspected for errors. Examples of Errors:
  - Equipment not found.
  - Measurement/Reading Point identification not valid for Equipment.
  - Reading not specified.
  - etc...
- If no errors are found, one of a Maintenance Event or Measurement/Reading is recorded for the Equipment. The Batch Import File record is updated to `calc_prcs_ind='y'`.

If the record 'fires' a Maintenance Trigger, then a Work Order is created for the Equipment from the Procedure specified in the Maintenance Trigger.