

Analysis – TEEP – Summary and Hierarchy Tabs

The values making up the charts are displayed within their respective section. Includes the ability to select which values to display.

Total Effective Equipment Performance (TEEP) considers maximum time to be All Available Time – that is 24 hours, 365 days a year. *(This includes Standby in Downtime to be selected)*

TEEP = Performance x Quality x Availability (where Availability = Actual Production Time / All Time).

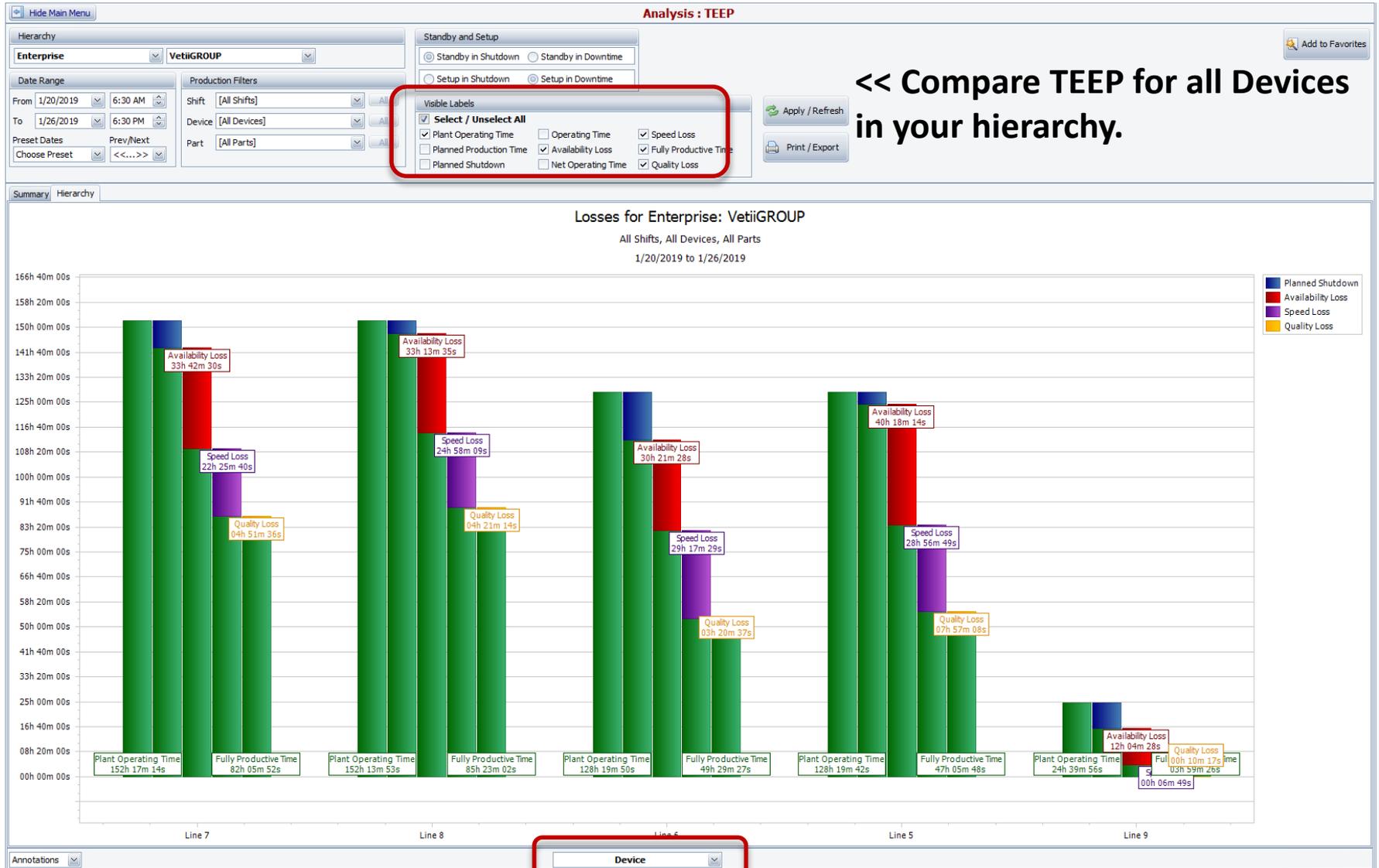
Overall Operations Effectiveness (OOE) takes unscheduled time into account, looking at Total Operations Time as the maximum.

Performance x Quality x Availability (where Availability = Actual Production Time / Operating Time)

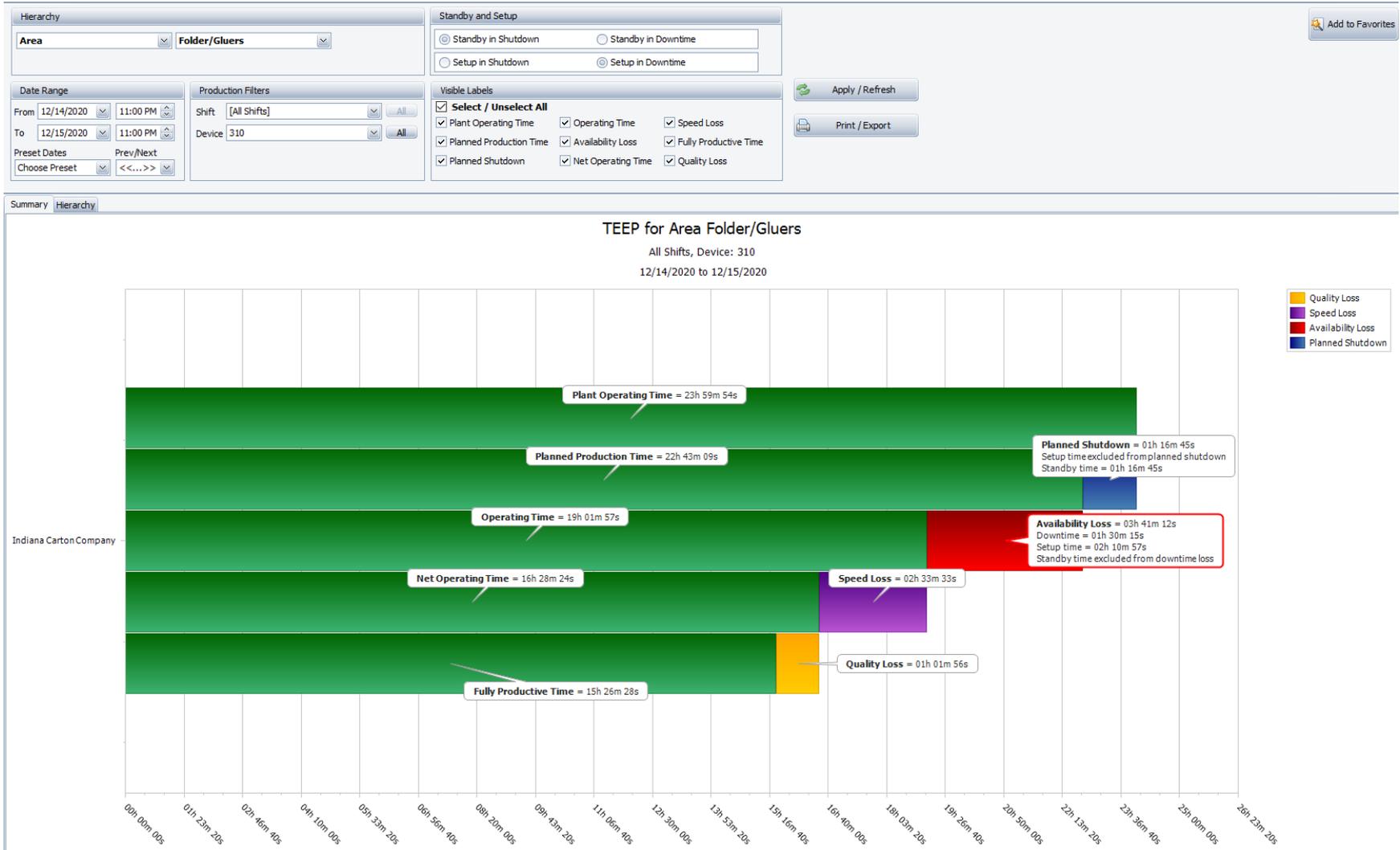
Overall Equipment Effectiveness (OEE) only considers scheduled time. If a machine is down due to maintenance, and it's not scheduled for work, OEE ignores this time. *(Standby in Shutdown would be selected)*

Performance x Quality x Availability (where Availability = Actual Production Time / Scheduled Time)

Analysis – TEEP – Summary and Hierarchy Tabs



Validate the Numbers



Calculations

These calculations can be created in the Shift Data – Shift Analysis Screen:

- **Plant operating time** = Total Time
- **Planned Shutdown** = (Setup Time if setup in **shutdown**) + (standby time if standby in **shutdown**)
- **Planned Production Time** = **Plant Operating Time** - **Planned Shutdown**
- **Availability Loss** : (down time) + (Setup Time if setup in **downtime**) + (standby time if standby in **downtime**)

The screenshot shows a section titled "Analysis : TEEP". It contains two main groups of radio buttons. The first group, titled "Standby and Setup", has two options: "Standby in Shutdown" (which is selected) and "Setup in Shutdown". The second group, titled "Standby in Downtime", has two options: "Standby in Downtime" and "Setup in Downtime" (which is selected). The "Standby in Downtime" group is highlighted with a red box.

- **Operating time** = **Planned Production Time** - **Availability Loss**
- **Speed Loss** : [Run Time] * (1 - [Performance] / 100.0)
- **Net Operating Time** = **Operating time** - **Speed Loss**
- **Fully Productive time** = ([Run Time] - [Run Time] * (1 - [Performance] / 100.0)) * ([Quality] / 100.0)
- **Quality Loss time** = [Plant Operating Time] - [Planned Shutdown] - [Availability Loss] - [Speed Loss] - [FullyProductive]

Enterprise Area Location Shift									
Drop Column Fields Here									
Device	Plant Operating Time	Planned Shutdown	Planned Production	Availability Loss	Operating Time	Speed Loss	Net Operating Time	FullyProductive	QualityLossTime
310	23h 59m 54s	01h 16m 45s	22h 43m 09s	03h 41m 12s	19h 01m 57s	02h 33m 33s	16h 28m 24s	15h 26m 28s	01h 01m 56s

Plant Operating Time

New Custom Expression

Options

Field Description: Plant Operating Time

Result Type:

- Boolean
- Date and Time
- Date Only
- Decimal
- Integer
- String
- Currency
- Custom Data Interval
- Duration

Summary Type:

- Count
- Sum
- Min
- Max
- Average
- Std Dev
- Std Dev P
- Var
- Var P

The sum of the values.

Append Summary Type to the Field Description:

If the Field Description is "Cost" and the Summary Type is "Sum", the field will display as Cost (Sum) if this option is chosen. Otherwise it will simply display as "Cost".

Hide Field:

Use Summary Values:

Expression editor

[Total Time]

Functions, Operators, Fields, Constants

[Standard Cycles Time]
[Standby Time]
[Start Time]
[Takt Time]
[Target Count]
[Total Count]
[Total Loss Percent]
[Total Loss Time]
[Total Time]
[User No. 1]
[User No. 2]
[User No. 3]
[User No. 4]

Field Information
Caption: Total Time
The type of this field is: System.Double

Grand Total		
OEE	Availability	OEE
35.2	47.0	34.5
0.0	0.0	0.0
47.5	61.6	44.3
8.8	5.8	4.7
33.6	41.2	30.0

OK Cancel

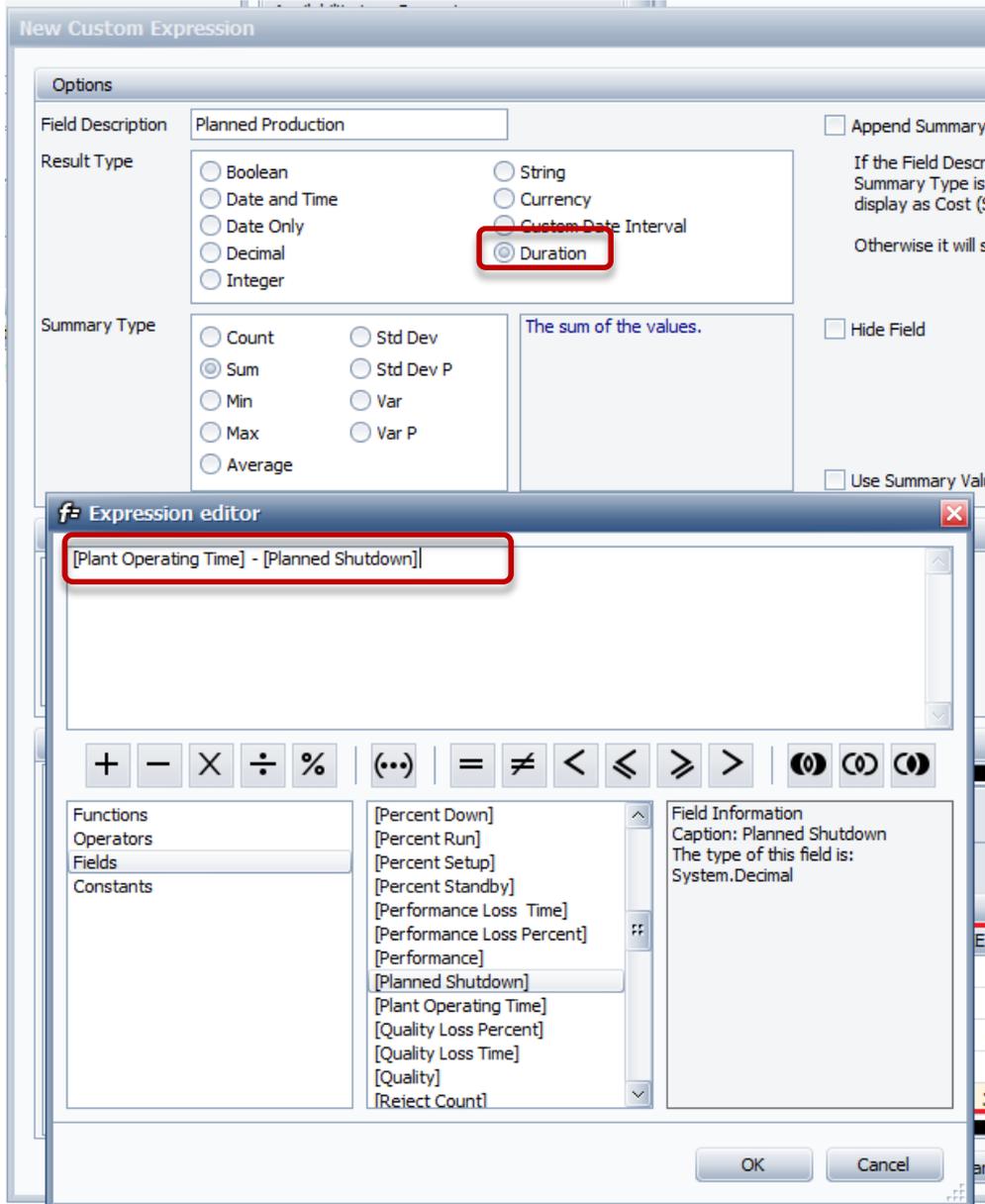
Cancel Proceed to Expression Editor >>

Planned Shutdown

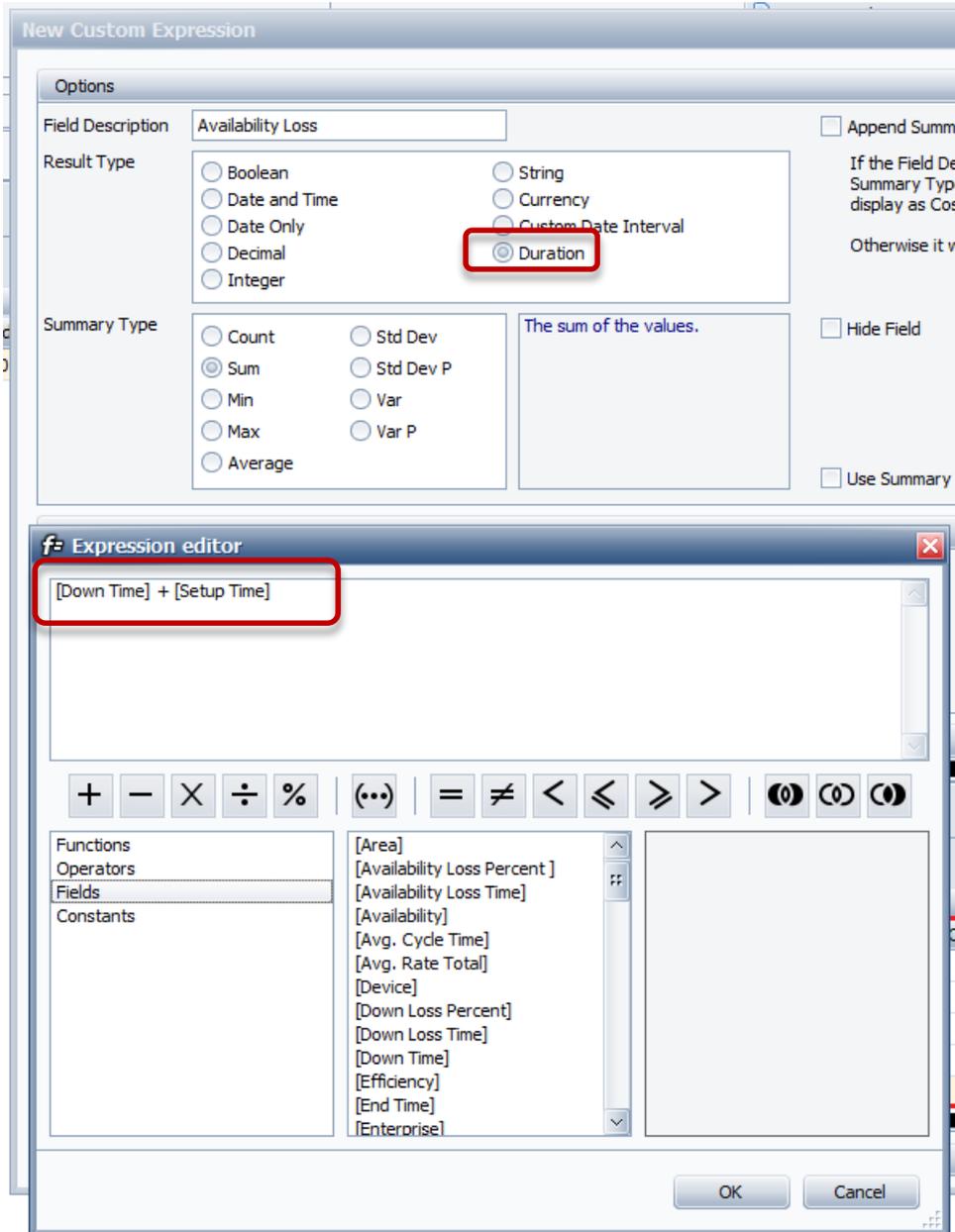
The screenshot shows the 'New Custom Expression' dialog box in SAP. The 'Field Description' is 'Planned Shutdown'. Under 'Result Type', 'Duration' is selected. Under 'Summary Type', 'Sum' is selected. The 'Expression editor' shows '[Standby Time]' as the field expression. A preview table is visible at the bottom right.

Grand Total	
Availability	OEE
47.0	34.5
0.0	0.0
61.6	44.3
5.8	4.7
41.2	30.0

Planned Production



Availability Loss



Operating Time

New Custom Expression

Options

Field Description:

Result Type:

- Boolean
- Date and Time
- Date Only
- Decimal
- Integer
- String
- Currency
- Custom Date Interval
- Duration

Summary Type:

- Count
- Sum
- Min
- Max
- Average
- Std Dev
- Std Dev P
- Var
- Var P

The sum of the values.

Append Summary
If the Field Description Summary Type display as Cos
Otherwise it w

Hide Field

Use Summary

f Expression editor

Functions
Operators
Fields
Constants

[Area]
[Availability Loss Percent]
[Availability Loss Time]
[Availability Loss]
[Availability]
[Avg. Cycle Time]
[Avg. Rate Total]
[Device]
[Down Loss Percent]
[Down Loss Time]
[Down Time]
[Efficiency]
[End Time]

Field Information
Caption: Availability Loss
The type of this field is:
System.Decimal

OK Cancel

Speed Loss

New Custom Expression

Options

Field Description: Speed Loss

Result Type

- Boolean
- Date and Time
- Date Only
- Decimal
- Integer
- String
- Currency
- Custom Date Interval
- Duration

Summary Type

- Count
- Std Dev
- Sum
- Min
- Max
- Average
- Std Dev P
- Var
- Var P

The sum of the values.

Append Summary
If the Field Summary T display as C
Otherwise
Hide Field
Use Summa

f: Expression editor

[Run Time] * (1 - [Performance] / 100.0)

Functions
Operators
Fields
Constants

- [Area]
- [Availability Loss Percent]
- [Availability Loss Time]
- [Availability Loss]
- [Availability]
- [Avg. Cycle Time]
- [Avg. Rate Total]
- [Device]
- [Down Loss Percent]
- [Down Loss Time]
- [Down Time]
- [Efficiency]
- [End Time]

OK Cancel

Net Operating Time

The image shows a 'New Custom Expression' dialog box with two main sections: 'Options' and 'Expression editor'.

Options Section:

- Field Description:** Net Operating Time
- Result Type:** Radio buttons for Boolean, Date and Time, Date Only, Decimal, Integer, String, Currency, and Custom Date Interval. The 'Duration' radio button is selected and highlighted with a red box.
- Summary Type:** Radio buttons for Count, Sum, Min, Max, Average, Std Dev, Std Dev P, Var, and Var P. The 'Sum' radio button is selected.
- Text:** 'The sum of the values.'
- Checkboxes:** Append Summary, Hide Field, and Use Summary V.

Expression editor Section:

- Expression:** '[Operating Time] - [Speed Loss]' (highlighted with a red box)
- Functions:** A list of functions including Abs(), Acos(), AddDays(), AddHours(), AddMilliseconds(), AddMinutes(), AddMonths(), AddSeconds(), AddTicks(), and AddTimeSpan().
- Buttons:** +, -, ×, ÷, %, (..), =, ≠, <, ≤, ≥, >, and three circular icons.
- Buttons:** OK and Cancel.

Fully Productive Time

New Custom Expression

Options

Field Description: FullyProductive

Result Type:

- Boolean
- Date and Time
- Date Only
- Decimal
- Integer
- String
- Currency
- Custom Date Interval
- Duration

Summary Type:

- Count
- Sum
- Min
- Max
- Average
- Std Dev
- Std Dev P
- Var
- Var P

The sum of the values.

Expression editor

$$([Run\ Time] - [Run\ Time] * (1 - [Performance] / 100.0)) * ([Quality] / 100.0)$$

Functions:

- (All)
- Abs()
- Acos()
- AddDays(,)
- AddHours(,)
- AddMilliseconds(,)
- AddMinutes(,)
- AddMonths(,)
- AddSeconds(,)
- AddTicks(,)
- AddTimeSpan(,)

OK Cancel

Quality Loss

New Custom Expression

Options

Field Description:

Result Type:

- Boolean
- Date and Time
- Date Only
- Decimal
- Integer
- String
- Currency
- Custom Date Interval
- Duration

Summary Type:

- Count
- Sum
- Min
- Max
- Average
- Std Dev
- Std Dev P
- Var
- Var P

The sum of the values.

Append Summary:

If the Field Description Summary Type display as Cost:

Otherwise it will:

Hide Field:

Use Summary Value:

Expression editor

Functions
Operators
Fields
Constants

[Area]
[Availability Loss Percent]
[Availability Loss Time]
[Availability Loss]
[Availability]
[Avg. Cycle Time]
[Avg. Rate Total]
[Device]
[Down Loss Percent]
[Down Loss Time]
[Down Time]
[Efficiency]
[End Time]

OK Cancel