

Appendix 1

Power Bi Measures

No.	Name	Description	Formula
1	Max Volume	Calculates the maximum volume of production output. It multiplies the machine's capacity (in tonnage) by the total number of production days.	Max Volume = [Production Rate]*[Total Production Days]
2	Production Per Employee	Number of tons that a single employee generates.	Production Per Employee = [Total Production Vol]/[Total Headcount]
3	Production Rate	Daily machine's capacity (in tonnage).	Production Rate = CALCULATE(AVERAGE(MACHINE CAPACITY (Tonnage)), [year] = "BUDGET 2022")
4	Total Available Days	Calculates the actual operational days excluding planned downtime.	Total Available Days = CALCULATE(SUM(Available Days), [Year] <> "BUDGET 2022") - [Total Planned Shut Days]
5	Total Headcount	Number of Full-Time employees.	Total Headcount = CALCULATE(SUM(Headcount), [year] <> "BUDGET 2022")
6	Total Off Grade	Production that doesn't meet the quality standards.	Total Off Grade Vol = CALCULATE(SUM(OFF GRADE (Tonnage)), [year] <> "BUDGET 2022")
7	Total On Grade Vol	Production that meets the quality standards.	Total On Grade Vol = CALCULATE(SUM(ON GRADE (Tonnage)), [year] <> "BUDGET 2022")
8	Total Planned Shut Days	Refers to the lost time that mill must cease production to perform preventative maintenance on certain equipment.	Total Planned Shut Days = CALCULATE(SUM(PLANNED SHUT (days)), [year] <> "BUDGET 2022")
9	Total Production Days	Refers to the available days after subtracting both planned and unplanned shutdown days.	Total Production Days = CALCULATE(SUM(Production Days), [year] <> "BUDGET 2022")
10	Total Production Vol	Total production.	Total Production Vol = CALCULATE(SUM(TOTAL PRODUCTION (Tonnage)), [year] <> "BUDGET 2022")

11	Total Unplanned Shut Days	Refers to the time lost when production must stop because of unforeseen issues.	Total Unplanned Shut Days = CALCULATE(SUM(UNPLANNED SHUT (days)), [year] <> "BUDGET 2022")
12	Unplanned Downtime Loss	It calculates the loss in tonnage caused by unplanned shutdowns by multiplying the actual daily production (not the anticipated amount from the budget) by the number of production days affected.	Unplanned Downtime Loss = DIVIDE([Total Production Vol],[Total Production Days])*[Total Unplanned Shut Days]
13	Availability	Percentage of production uptime after accounting for losses due to planned and unplanned downtime.	Availability = [Total Production Days]/[Total Available Days]
14	Performance	Ratio of actual tonnage produced within the available timeframe compared to the expected production volume at the planned rate.	Performance = [Total Production Vol]/([Total Production Days]*[Production Rate])
15	Quality	Analyzes the ratio between the overall production quantity and the count of acceptable, quality-produced parts.	Quality = [Total On Grade Vol]/[Total Production Vol]
16	OEE Score	Overall Equipment Effectiveness (OEE)	OEE Score = [Availability]*[Performance]*[Quality]