



PROPOSAL

ADVISORY & CONSULTANCY SERVICES

TOTAL PRODUCTIVE MAINTENANCE (TPM)

Prepared for:

MSM Prai Berhad
798, Main Road
13600 Prai, Seberang Prai,
Pulau Pinang, Malaysia

Prepared by:

Malaysia Productivity Corporation (MPC)
Organisational Excellence Development
Lorong Produktiviti off Jalan Sultan,
46200 Petaling Jaya, Selangor.
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29th December 2021

1.0 INTRODUCTION

- 1.1. Total Productive Maintenance (TPM) is a new approach to equipment management in a factory, frontline personnel are trained and encouraged to apply through statistical control techniques. Quality product, from TPM standpoint, demands that it be created by highly skilled and motivated workers and with equipment operated and maintained under optimal condition.
- 1.2. TPM program can greatly impact overall equipment effectiveness (OEE) over time. A TPM Program helps get rid of this mindset and turns it into one of putting machinery at the core focus of an operation and maximizing its availability.
- 1.3. Improving OEE through TPM is often done by forming small, multidisciplinary teams to address core areas such as preventive and autonomous maintenance, training employees who operate machinery, and the security and standardization of work processes.
- 1.4. Total Productive Maintenance focuses on the efficient and effective use of the means of production, meaning all departments should be involved. These small teams work together to increase productivity and decrease downtime through equipment reliability.

2.0 OBJECTIVE

The objectives of this TPM Program are to:

- i. Increase plant, equipment efficiency with less maintenance investment
- ii. Minimises emergency and unscheduled maintenance to a minimum
- iii. Maximised productivity through zero downtime
- iv. Provide safe and good working environment
- v. Inculcate better teamwork through total involvement by all levels, participation and commitment.
- vi. Develop continuous improvement minded people towards creativity and continuous improvement for maximum equipment performance

2.0 POTENTIAL BENEFITS

The potential benefits of TPM can be summarised as follows:

- i. Increase Productivity
- ii. Improve product Quality

- iii. Reduce manufacturing costs
- iv. Ensure on-time delivery
- v. Provide a safer working environment

4.0 PROJECT METHODOLOGY

No.	Task Mode	Task Name	Days
1.	TPM Start-up (TPM Assessment Before TPM)	a) TPM Top Management Briefing <ul style="list-style-type: none"> • Managing Director • CEO/COO • Head Of Department • Managers • Executives/Engineer b) TPM Pre-Audit – to assess current situation of production processes c) Factory Gemba <ul style="list-style-type: none"> • Observe production operations • Learn about the equipment • Study present maintenance operations • Gauge orderliness and cleanliness in the plant • Talk to employees to determine their motivation and attitude 	2
2.	TPM Training	a) Practical training in TPM Methodology – Team Leaders (and implementation team members) b) Current Equipment Feasibility Study – TPM Study Team Training	2
3.	TPM Pilot Implementation	a) Stage 1: TPM Organisation Setup <ol style="list-style-type: none"> i. Steering Committee and TPM Study Team ii. Establish basic TPM Policy iii. TPM Promotion / Campaign iv. Draft a TPM implementation Master Plan b) Stage 2: TPM Pilot Installation <ol style="list-style-type: none"> i. SGA – Focused Improvement Activities ii. AM – Autonomous Maintenance Program iii. PM – Planned Maintenance Program iv. TRN – Operation and Maintenance Skills Training 	2

		c) Stage 3: TPM Implementation and establishing effective support system i. TPM Pilot Implementation and Progress Consultation ii. Establishing Maintenance Management System – MMS iii. Integrating health, safety and the environment management	2
4.	TPM POST Audit and Project Result Presentation	a) Post Project Assessment and Project outcome presentation to Top Management	1
		Total	13

5.0 PROFESSIONAL FEE

NO	PROGRAMME	Unit	Unit Price	FEE (RM)
1.	TPM Start-up	2	2,500	5,000
2.	TPM Training 1	2	4,500	9,000
3.	TPM Training 2	2	4,500	9,000
4.	TPM Organisation Setup	1	2,500	2,500
5.	TPM Pilot Installation – PM & AM (Jishou Hozen)	1	2,500	2,500
6.	TPM Pilot Installation – SGA & Kobetsu Kaizen (OEE,MTTR,MTBF) *	1	2,500	2,500
7.	TPM Progress Consultation 1	1	2,500	2,500
8.	TPM Progress Consultation 2	1	2,500	2,500
9.	TPM Progress Consultation 3	1	2,500	2,500
10.	TPM Post Audit & Project Outcome Presentation	1	2,500	2,500
	Grand Total	13 days		40,500

* Selected key processing equipment

5.1 Payment Term

Payment shall be made to "**PERBADANAN PRODUKTIVITI MALAYSIA**" using crossed cheque OR Local Order OR Electronic Fund Transfer (EFT) to MPC Account (**Maybank Islamic: 564164438566**). Kindly remit proves of EFT to MPC for issuance of official receipt.

7.0 PROJECT MILESTONE

Refer to Appendix 1

8.0 CONTACT PERSON

For more details, please contact:

- i. Encik Rosmi Abdullah (rosmi@mpc.gov.my / 013-928 0509)
- ii. Encik Muhammad Hafiz Sabarudin (hafiz@mpc.gov.my / 012-956 2398)

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6.0 MEDIUM OF INSTRUCTION

- i. The programme will be conducted either in English or Bahasa Malaysia.
- ii. The training venue will be provided by the client.
- iii. Training material will be provided by MPC
- iv. Payment should be made before the commencement of the programme.
- v. Details of the proposal shall be treated as confidential and shall not be reproduced in any form or manner without the written consent of MPC.
- vi. Any changes in work content, charges or contractual conditions must be agreed by an exchange of letters signed by authorised representative and MPC Project Manager.
- vii. Customers shall be deemed to have accepted and agreed to be bound by these Terms and Conditions as soon as MPC received Acceptance Letter, which was signed by the customer together with the relevant documents if applicable.
- viii. MPC reserve the right to amend/made changes to the above conditions in the interest of implementing the training programme.



**ACCEPTANCE LETTER
ADVISORY & CONSULTANCY SERVICES
TOTAL PRODUCTIVE MAINTENANCE (TPM)**

We have read and understood the indemnity and agree to the terms and conditions herein contained:

Organisation : MSM PPAI BERHAD - PG
Name (as per NRIC) : CHEAH POH LYE
Designation : HEAD of OPERATION
Contact No. : 04-3888233
Fax : _____
Email : p1.cheah@msmsugar.com
Fee : RM40,500

.....
Signature and Company Stamp

.....
Date

(To fill up by MPC and return to organisation)

This agreement has been accepted and confirmed by:

Malaysia Productivity Corporation

Signature

Name

ROSMI ABDULLAH

Designation

DIRECTOR

Date

8/3/2022

APPENDIX 2

TOTAL PRODUCTIVE MAINTENANCE COURSE CONTENT

Time	Module (Day 1)
9.00 – 13.00	<ul style="list-style-type: none">• Introduction of TPM• Why TPM?• Objective and Benefits of TPM
13.00 – 14.00	<ul style="list-style-type: none">• Break
14.00 – 17.00	<ul style="list-style-type: none">• Eight Pillars of TPM<ul style="list-style-type: none">▪ Focused Improvement (Kobetsu Kaizen)▪ Autonomous Maintenance (Jishu Hozan)▪ Planned Maintenance▪ Training▪ Early Equipment Management▪ Quality Maintenance▪ Office TPM▪ Safety and Health Management

Time	Module (Day 2)
9.00 – 13.00	<ul style="list-style-type: none">• OEE Calculation<ul style="list-style-type: none">▪ Equipment Losses and Breakdown Management▪ Measure of Machine Productivity▪ 8 Major Equipment Losses and Overall Equipment Effectiveness
13.00 – 14.00	<ul style="list-style-type: none">• Break
14.00 – 17.00	<ul style="list-style-type: none">• TPM Implementation<ul style="list-style-type: none">▪ Gantt Chart / Roadmap▪ 12 Steps of TPM Implementation▪ Improving Overall Equipment Effectiveness▪ Identify Action Plan to Eliminate Waste and Cost Reduction

*Subject to change

APPENDIX 3

LIST OF PROJECTS / EXPERIENCES

No.	Client	Projects	Year
1	MSM Refinery Johor	TPM	2021/2022
2	CJ Bio (M) Sdn. Bhd.	TPM/AM/5S	2021
3	CJ Bio (M) Sdn. Bhd.	ICC	2021
4	Sabella Holdings Bhd.	5S	2021
5	Skim Peningkatan Produktiviti Enterprise	Digitalisation (10 SME)	2021
6	Majlis Bandaraya Subang Jaya	Lean	2020
7	Malaysia Airlines Bhd	5S	2020
8	Vendor Development Program	Lean (9 Vendor)	2020
9	Vendor Development Program	Digital (3 Vendor)	2020
10	Vendor Development Program	Kaizen (5 Vendor)	2020
11	CJ Bio (M) Sdn. Bhd.	5S	2020
12	CJ Bio (M) Sdn. Bhd.	ICC	2020
13	Skim Peningkatan Produktiviti Enterprise	Productivity Improvement (200 SME)	2018 – 2020
14	Petronas Penapisan Bhd	ICC	2020
15	Dynasun Sdn. Bhd.	5S	2020
16	Construction Research Institute of Malaysia	5S	2019
17	Kumpulan Wang Persaraan (KWAP)	Lean & 5S	2018
18	Pusat Perubatan Universiti Kebangsaan Malaysia	Lean	2018
19	Ortustech (M) Sdn. Bhd.	Lean	2018
20	CCM Duopharma Biotech Bhd	Lean	2018
21	Combi-Pack Sdn Bhd	Lean	2018
22	See Hau Global Sdn Bhd	Lean	2018
23	Ekspedisi Emas Sdn Bhd	Lean	2018
24	Zeito Plastic Components Sdn Bhd	Lean	2018
25	Shamawar Eletrika Sdn Bhd	TPM / Lean	2017