

ENVIRONMENTAL ASPECTS AND IMPACTS ASSESSMENT GUIDE

PTS 60.3202

June 2006



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Issue Approval

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Environmental Aspects and Impacts Assessment Guide

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1.0 PURPOSE

The purpose of this document is to provide PETRONAS Operating Units and Joint Ventures guidance on how:

- To identify environmental aspects of all activities and their associated sub-activities
- To determine those activities that can have significant environmental impacts based on the Environmental Risks.
- To develop Environmental Aspect Impact Register (EAIR) for all activities and their associated sub-activities.

2.0 SCOPE

This guide shall be used and is :

- Applicable to all activities, products and services.
- Applicable to all PETRONAS Operating Units and Joint Ventures businesses.

3.0 REFERENCE DOCUMENT

Group HSE Policy
HSE Policy (* OPU Specific)
ISO 14001 and its series
PTS 60.167 Environmental Assessment
PTS 60.168 Social Impact Assessment
PTS 60.186 Technical Guidance for Environmental Assessment
PTS 60.203P HSE Regulatory Compliance Guidelines
PTS 60.149 Overview HEMP
EIA (* OPU Specific)
Preliminary Environmental Review (* OPU Specific)
Environmental Manual (* OPU Specific)
Environmental Regulatory Compliance Assessment (ERCA)
Environmental Legal Register (* OPU Specific)

4.0 INTRODUCTION

This guide will provide a step-by-step process for conducting environmental aspects and impacts assessment. PETRONAS Operating units and Joint Ventures can to develop environmental aspects and impacts register in line with HEMP. This guide can also be used to compliment the requirements of ISO 14001

5.0 METHODOLOGY

This guide Provide a step-by-step guidance on how to identify environmental aspects of all activities in their operations. The process allows the determination of activities that can have significant environmental impacts based on the Environmental Risks quantification and Impact Significance Evaluation. Those that has been identified significant needs to be addressed in the HEMP initial Risks Assessment for mitigation measures in . At the end of the assessment exercise, we can see the development of an Environmental Aspects and Impacts Register (EAIR) stepThe steps below are summarised as shown in Appendix 1

Identification of aspects and impacts

1. Identify core activities during normal operating condition.
2. List all sub-activities related to the identified core activities. One core activity may have more than one sub-activity.
3. Identify all aspect of the sub-activities.
4. Identify associated impacts. One aspect may have more than one impact
5. Repeat (1- 4) for
 - Abnormal operating condition
 - Emergency operating condition

Assessment of Significance

A – Quantitative (Environmental Screening)

1. From the identified aspects and impacts, perform the screening criteria by evaluating the significance of impacts against
 - a. Legislative requirements (EQA 1974, Technical Standards HSE 60.203P-Regulatory Compliance Guidelines)
 - b. Policy requirements
 - c. Interested parties concerned

2. In circumstance whereby none of the three requirements is applicable, the impact shall be revisited whenever there is
 - a. Policy change
 - b. Management of Change
3. In the event whereby one or more of the three requirements becomes applicable, proceed with Quantitative Assessment.

B – Qualitative (Environmental Risks)

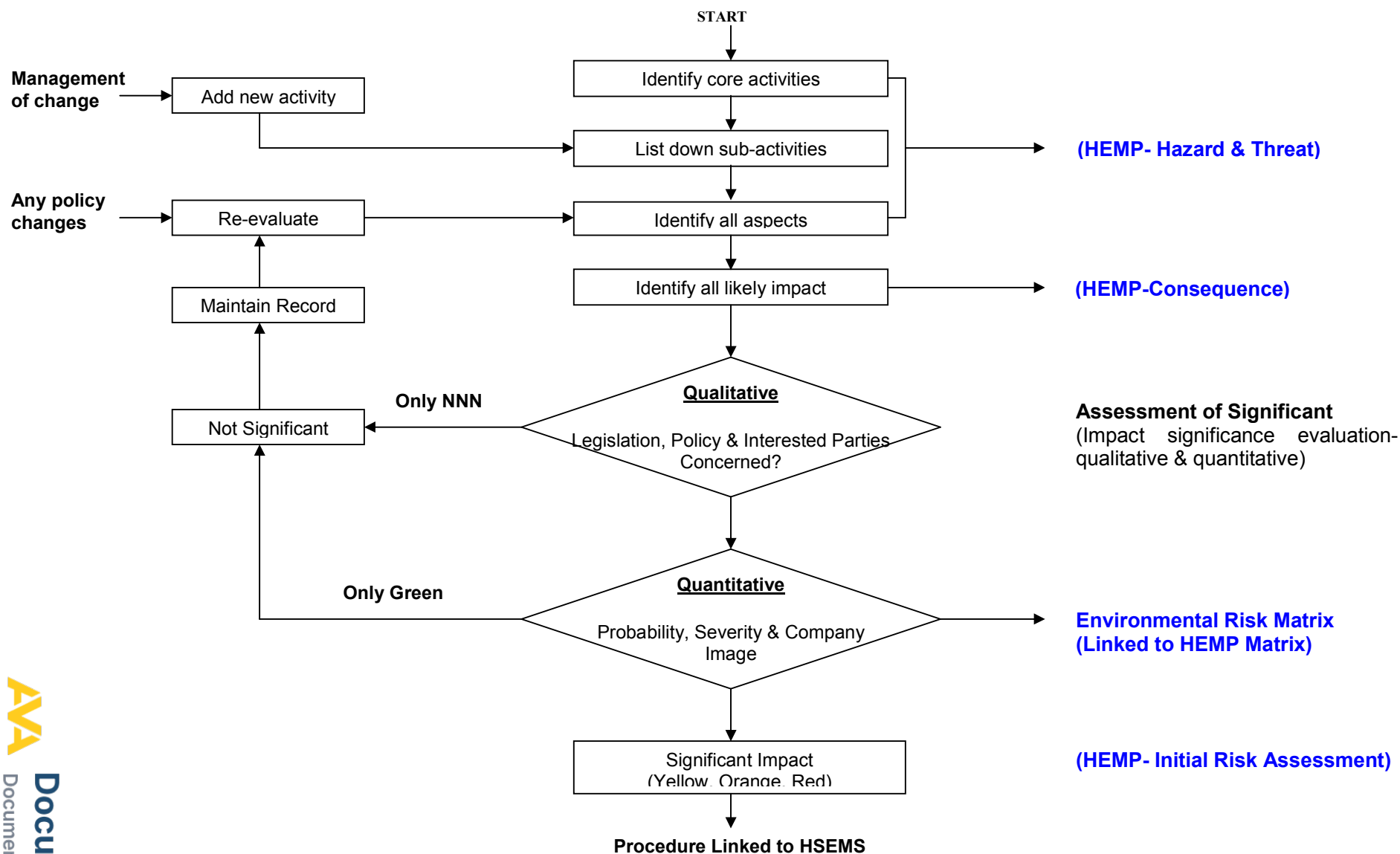
1. Quantify the Severity, Probability and Company Image using
 - a. Probability Factor (1-4 scale)
 - b. Severity Factor (1-5 scale)
 - c. Company Image Factor (1-5 scale)
2. Determine the Environmental Risks Score using the formula

$\text{Score} = \text{Severity} \times \text{Probability} \times \text{Company Image}$
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3. Classify the Impact Significance Evaluation
(Appendix I) as
 - a. Not Significant (1-5 score)
 - b. Significant (Low Priority) (6-25 score)
 - c. Significant (Medium Priority) (26-45 score)
 - d. Significant (High) (46-100 score)
4. Step 3 above is equivalent to HEMP-Initial Risk Assessment
5. Repeat B, Steps 1- 3 for the remaining aspects impacts screened, in evaluating their Environmental Risks and Impact Significance.
6. An Aspect Impact Register can then be developed using the template (Appendix 2)

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	Aspect Impact Assessment Flowchart Appendix 1	Rev. 0 April 2004
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ENVIRONMENTAL ASPECTS AND IMPACTS ASSESSMENT									
OPU / Facility									
Location									
Dept. / Section / Custodian									
Core Activity									
Rev No. / Date / Page									

No.	Sub Activities	Operations (Please check)			Environmental Aspect	Env. Impact	Environmental Screening (Yes or No)			Environmental Risks				Impact Significance				Control Measures / Remarks
										Quantitative		Score						
		N	A	E			Legal	Policy	Interested Party	Probability (P)	Severity (S)	Company Image (CI)	P x S x CI	Not Significant (1-5)	Low Priority (6-25)	Medium Priority (26-45)	High (46-100)	

Legend		Environmental Impact Coding									
N	Normal	1	Air Pollution	6	Acid Rain	11	Business Impact	16	Photochemical Smog		
A	Abnormal	2	Surface Water Pollution	7	Heat / Radiation	12	Community Impacts	17	Climate Change / Global Warming		
E	Emergency	3	Land Contamination	8	Odour / Nuisance	13	Loss of Biodiversity	18	Depletion of Natural Resources		
		4	Groundwater Contamination	9	Noise / Vibration	14	Damage to Environmental Health	19	Ozone Layer Depletion		
		5	Marine Pollution	10	Haze	15	Unpleasant Working Environment	20	Positive		