

**THE 16TH MEETING OF
THE MALAYSIA-SINGAPORE JOINT COMMITTEE ON THE ENVIRONMENT
WORKING GROUP
(MSJCE WG)**

**18-19 JULAI 2018
MALAYSIA**

TENTATIVE AGENDA

1. Welcome Remarks by Co-Chairpersons
2. Adoption of Agenda
3. Joint Information Paper on Vehicular Emissions
4. Water Quality in the Straits of Johor
 - (i) Joint Seawater Monitoring Report
5. Progress Report on the Monitoring of Ecology and Morphology In and Around the Straits of Johor
6. Emergency Response Plan for Chemical Spill at Malaysia – Singapore Second Crossing
7. Report by MSJCE Expert Group
 - (i) Emergency Response Plan for Chemical Spill in East Johor Strait
 - (ii) Collaboration between Malaysia and Singapore in the Area of Oil Spill Prevention and Control in the Straits of Johor

8. Exchange of Information under Settlement Agreement
 - (i) Update on Lido Boulevard Project
 - (ii) Update on Pulau Tekong Reclamation
 - (iii) Update on the Streamlining of Changi East Finger
9. Collaboration between EiMAS and SEI
10. Other Matters
 - (i) Update on Development of a Port at Tuas
 - (ii) Update on Coastal Waterfront Development at Tuas and Jurong Island
 - (iii) Update on Proposed Reclamation at Mukim Plentong
 - (iv) Update on Country Garden Reclamation Project
 - (v) Update on R&F Guangzhou Reclamation Project
 - (vi) Update on Reclamation Works at Danga Bay
 - (vii) Importation of Wastes and E-Wastes
11. Proposed Date and Venue for Next MSJCE/AEV Meeting and MSJCE WG Meeting

MALAYSIA-SINGAPORE JOINT COMMITTEE ON THE ENVIRONMENT (MSJCE)

EXPERT GROUP ON VEHICULAR EMISSIONS

JOINT INFORMATION PAPER ON VEHICULAR EMISSIONS

AS OF JUNE 2018

1 Introduction

- 1.1 This paper updates on the measures adopted by Malaysia and Singapore to control vehicular emissions.

2 Emission Standards for New and In-Use Vehicles

2.1 Emission Standards for New Vehicles

- 2.1.1 The prevailing and future exhaust emission standards for new vehicles in Malaysia and Singapore are as follows:

2.1.2 Emission Standards for New Motorcycles

Malaysia	Singapore
EURO 3 (since 1 January 2016)	EURO 3 (since 1 October 2014)
EURO 4 (target to be implemented in 2020)	EURO 4: <ul style="list-style-type: none">• since January 2018 for large two-wheeled motorcycles (>200cc) and three-wheeled motorcycles• effective from January 2020 for small two-wheeled motorcycles (\leq200cc)

2.1.3 Emission Standards for New Motor Vehicles

Vehicle Type	Malaysia	Singapore
Petrol	EURO 2 (since 1 January 2000) EURO 4 (target to be implemented in October 2018)	EURO 6 (since 1 September 2017)
Diesel	EURO 1 (since 1 January 1999) EURO 4 (target to be implemented in September 2020)	EURO 6 (since 1 January 2018)

2.2 Emission Standards for In-Use Vehicles

Malaysia

Petrol Motor Vehicle Emission Standards

Registration Date of Vehicle	Petrol Motor Vehicle	
	Idle	
	CO (Vol%)	HC (ppm)
Vehicles registered before 1 January 1997	4.5	800
Vehicles registered after 1 January 1997	3.5	600

Motorcycle Emission Standards

Registration Date of Vehicle	Motorcycle
	Idle
	CO (Vol%)

Vehicles registered after 1 January 2004	4.5
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Diesel Motor Vehicle Emission Standards

2.2.1 The current smoke opacity limit for Malaysia is 50 HSU since 1 September 1996.

Periodic Inspection

2.2.2 In Malaysia, commercial vehicles are subjected to periodic inspections every six months. For other vehicle types, no inspection is required unless there is a change in vehicle ownership.

Singapore

2.2.3 The prevailing (new requirements since 1 April 2018 in **bold**) emission standards as follows.

Petrol Motor Vehicle Emission Standards

Registration Date of Vehicle	Petrol Motor Vehicle			
	Idle		High Idle	
	CO (Vol%)	HC (ppm)	CO (Vol%)	HC (ppm)
Vehicles registered before 1 October 1986	6.0	1200	-	-
Vehicles registered on or after 1 October 1986 but before 1 July 1992	4.5	1200	-	-
Vehicles registered on or after 1 July 1992 but before 1 January 2001	3.5	1200	-	-
Vehicles registered on or after 1 January 2001 but before 1 April 2014	1.0	300	-	-
Vehicles registered on or after 1 April 2014	0.5	-	0.3	200
			Lambda: 1± 0.03	

Motorcycle Emission Standards

Registration Date of Vehicle	Motorcycle	
	Idle	
	CO (Vol%)	HC (ppm)
Vehicles registered before 1 October 1986	6.0	-
Vehicles registered on or after 1 October 1986 but before 1 July 2003	4.5	
Vehicles registered on or after 1 July 2003 but before 1 October 2014 and three-wheeled motorcycles	4.5	7800 (2-Stroke)

		2000 (4-Stroke)
Vehicles registered on or after 1 October 2014	3.0	1000

In-Use Diesel Motor Vehicle Emission Standards

2.2.4 Since 1 January 2014, the emission standard is 40 Hartridge Smoke Units (HSU).

Periodic Inspection

2.2.5 All Singapore-registered vehicles are required to undergo periodic inspections. The frequency of inspection would depend on the type and age of the vehicle.

3 Exhaust Noise Emission Standards

Malaysia

- 3.1 The control of vehicular noise from exhaust noise emission is enforced under the Environmental Quality (Motor Vehicles Noise) Regulations, 1987. The noise standards are as follows:

<i>Type of Vehicle</i>	<i>Registration Standard for New Vehicle (dBA)</i>
	<i>Current</i>
<i>Motor cycle*</i> Below 90 c.c. 90 c.c. and above	92 95
<i>Passengers Vehicle**</i> Not more than 9 seats More than 9 seats, less than 3.5 tonnes More than 9 seats, more than 3.5 tonnes, less than 200 h.p. DIN More than 9 seats, more than 3.5 tonnes, 200 h.p. DIN or more	80 81 82 85
<i>Goods Vehicle**</i> Less 3.5 tonnes, less than 200 h.p. DIN More than 3.5 tonnes, less than 200 h.p. DIN More than 3.5 tonnes, 200 h.p. DIN or more	81 86 88

**Standards based on stationary test*

***Standards based on acceleration test*

- 3.2 The new exhaust noise standards based on UN R41.03 for two and three wheeled

vehicles have been implemented since 1 January 2016. However, the noise emission standards for both passenger and goods vehicles will be based on UN R51.01 and UN R51.02. The new regulations are expected to be gazetted in 2018.

Singapore

3.3 The noise standards for new and in-use vehicles are as follows:

Type of Vehicle	Registration Standard for New Vehicle (dBA)		Enforcement Standard for In-use Vehicle (dBA)
	Acceleration Test (EU)	Stationary Test (JPN)	Stationary Test
Motor cycle Not more than 80 c.c. More than 80 c.c. but not more than 175 c.c. More than 175 c.c	75 77 80	94	99
Motor car Passengers vehicle not more than 9 seats	74	96 100 (rear engine)	103
Bus / Passengers vehicle more than 9 seats Not more than 2 tonnes		97	103

More than 2 tonnes but not more than 3.5 tonnes			
More than 3.5 tonnes, less than 150 kW	76		
More than 3.5 tonnes, not less than 150 kW	77	99	107
	78		
	80		
Goods Vehicle			
Not more than 2 tonnes	76	97	103
More than 2 tonnes but not more than 3.5 tonnes	77		
More than 3.5 tonnes, less than 75 kW	77		
More than 3.5 tonnes, not less than 75 kW but less than 150 kW	78		
More than 3.5 tonnes, not less than 150kW	80	99	107

3.4 The noise standards are based on Japan standards (Articles 30 and 65 of the Safety Regulations for Road Vehicles as amended by the Ministry of Transport Ordinance No. 5 of 21st February 2000 and No. 66 of 20th December 1996, respectively, of Japan) and EU standard (EC Council Directive 97/24/EC for motorcycle and EC Council Directive 70/157/EEC).

3.5 The standards for noise emission for Singapore and Malaysia are comparable.

4 Fuel Quality Standards and Specifications

	Malaysia	Singapore
Sulphur content in fuel	0.05% (EURO 2M) by weight for both diesel and petrol (since 1 September 2009)	< 0.001% (EURO 5) by weight for diesel (since 1 July 2013)

	<p>0.005% (EURO 4M) by weight for petrol (Implemented on 1 September 2015 for Petrol RON97 and target to be implemented on 1 October 2018 for Petrol RON95).</p> <p>0.001% (EURO 5) by weight for both diesel and petrol (target to be implemented on 1 September 2020 for diesel and 1 September 2025 for petrol).</p>	< 0.001% (EURO 5) by weight for petrol (since 1 July 2017)
Benzene	3.5% by volume for petrol (Implemented on 1 September 2015 for RON97 and effective on 1 October 2018 for RON95).	1% (EURO 5) by volume for petrol (since 1 July 2017)
Other fuel parameters	<p>EURO 5 diesel specification for other parameters New parameter – Polycyclic Aromatic Hydrocarbon (PAH) 8%mass; (target to be implemented in stages from 2020 to 2025)</p> <p>EURO 5 petrol specification for other parameters New parameter: Oxygen content – 3.7%mass; Olefins – 21% volume; Aromatics – 42% volume Oxygenate Ether - 22%volume (target to be implemented in stages from 2025 to 2027)</p>	<p>EURO 5 diesel specification (since 1 January 2018)</p> <p>EURO 5 petrol specification (since 1 July 2017 – except aromatics effective from 1 December 2018)</p>

- 4.1 In Malaysia, EURO 4M petrol RON97 has been implemented since 1 September 2015 while EURO 4M petrol RON95 is targeted for implementation in October 2018. However, for diesel fuel quality, Malaysia Government has decided to leapfrog the implementation of EURO 2M diesel to EURO5 diesel fuel in

September 2020. The EURO 5 fuel quality specification and regulation have been gazetted on 1 December 2015. The regulation will come into force in stages from September 2020 to September 2022 for diesel fuel and from September 2025 to September 2027 for petrol fuel.

5 Enforcement Against Smoky and Noisy Vehicles

Malaysia

- 5.1 In 2017, total of 128 enforcement operations were carried out by DOE Johor at the Malaysian Custom Checkpoints in Tanjung Puteri and Tanjung Kupang, Johor Bahru. Throughout the operations, a total of 15,519 vehicles were screened during camera surveillance and enforcement blitz. 47 vehicles were tested during the enforcement blitz, of which 1 motorist was compounded.
- 5.2 From 1 January until 31 May 2018, 8 operations were carried out at the Malaysian Custom Checkpoints in Tanjung Puteri and Tanjung Kupang, Johor Bahru. Throughout the operations, a total of 1064 vehicles were screened during camera surveillance and enforcement blitz. 4 vehicles were tested during the enforcement blitz.

Year	No. of Operation	Total Screened	Total Tested	Notice (kerbside)	Compound	Prohibition Order
2017	128	15,519	47	8	1	0
2018 (Jan – June)	8	1,064	4	4	0	0

- 5.3 DOE Johor carried out enforcement operations against smoky commercial vehicles in the daytime and during ad-hoc (by invitation from RTD) operations at night.
- 5.4 In 2017, a total of 105 cases of noisy Malaysia registered motorcycles were spotted and reported by Singapore to DOE Johor for follow up enforcement action. Between 1 January and 30 June 2018, Singapore referred 57 cases to DOE. DOE Johor followed up the enforcement action by issuing inspection notice to the errant motorists.

- 5.5 Malaysia's Guided Self-Regulation (GSR) was voluntary and is applicable to all commercial vehicle owners who would have to keep maintenance records and readiness for being inspected by the DOE's enforcers. Malaysia added that they were studying the implementation of new Environment Mainstreaming Tools (EMT) which would be made mandatory for large fleet operators (own and operate 10 or more commercial vehicles). The EMT would require them to set-up testing facilities (for exhaust emissions, noise emissions etc.) and hire competent personnel to conduct testing of their vehicles so as to ensure they are properly maintained. These large fleet operators would also be allowed to offer their testing capabilities to smaller fleet operators or commercial vehicle owners as an added incentive. These measures would help to improve the effectiveness of current enforcement operations which are manpower-intensive.

Singapore

- 5.6 Enforcement operations in Singapore are carried out in the daytime including ad-hoc operations at night. In addition, joint enforcement blitz with other agencies are also conducted to clamp down on smoky, noisy, speeding and illegally-modified vehicles.

- 5.7 The number of smoky Malaysian-registered vehicles are tabulated below:

Year	Malaysian Commercial Vehicles			Malaysian Motorcycles
	Fined	Turned Back	Total	
2015	2,473	184	2,687	465
2016	2,348	283	2,631	636
2017	1,116	53	1,169	436
2018 (Jan – Jun)	558	92	650	317

Tightening of Turn-back HSU limit

- 5.8 Since 1 January 2018, the turn-back smoke opacity limit was tightened from 70 HSU to 60 HSU.

6 Alternatives to Conventional Petrol and Diesel Vehicles

Malaysia

Incentive for use of Alternatives

- 6.1 As of 31 December 2017, there are total of 89,537 NGV¹ which include taxis and private cars, buses, trucks and others vehicles. There are 168² NG refuelling stations in the country.
- 6.2 As of 31 December 2017, there were a total of 62,470 hybrid vehicles¹ and 4,094 Electric Vehicles (EV)¹ registered in Malaysia. The exemption of excise duties and import taxes for CKD (Completely Knocked Down) and CBU (Completely Built Up) hybrid vehicles were ended on 31 December 2015. The incentive for exemption of excise duty for EV was extended until 31 December 2017.
- 6.3 Malaysia's National Automotive Policy (NAP) 2014 was announced by the Ministry of International Trade and Industry (MITI) in early January 2014 with the main objectives is to make Malaysia a regional automotive hub in energy efficient vehicles (EEV). The NAP has been implemented and monitored by Malaysia Automotive of Institute (MAI).

^{1,2}Note: Data from Malaysia's Road Transport Department. (As at 31 December 2017);

	Hybrid	NGV	EV
All Vehicles	62470	89537	4094

²²Note: Data from Malaysia's Petronas Dagangan Bhd. (As at 31 December 2017);

- 6.4 The Malaysia Palm Oil Board (MPOB) was studying the implementation of B10 in Malaysia, which the target implementation date is subjected to the completion of the studies.

Singapore

Vehicular Emissions Scheme

- 6.5 The Carbon Emissions-based Vehicle Scheme (CEVS) was introduced on 1 January 2013 as a carbon mitigation measure for the transport sector. Under this scheme, buyers of lower carbon emission cars will benefit from rebates while buyers of high carbon emission models will pay a surcharge.
- 6.6 Since 1 January 2018, the CEVS was replaced with the Vehicular Emissions Scheme (VES) for all new cars, taxis and newly imported used cars. In addition to the carbon dioxide (CO₂) criterion in the CEVS, the VES covered 4 other criteria pollutants - carbon monoxide (CO), particulate matter (PM), as well as nitrogen oxides (NO_x) and hydrocarbons (HC) which are precursors to ozone. Adding the four criteria pollutants under the new scheme would account more holistically for the health and environmental impact of vehicular emissions. The surcharge or rebates applied to the vehicle registration fees will be based on the worst-performing criteria pollutant. This is to encourage consumers towards buying even cleaner vehicles, and retailers towards importing such vehicles.

Early Turnover Scheme

- 6.7 Singapore implemented the Early Turnover Scheme (ETS) on 24 April 2013, which is aimed at encouraging vehicle owners to replace their old and more polluting Pre-Euro/Euro I diesel commercial vehicles with cleaner models, in line with the Government's efforts to further improve Singapore's ambient air quality by regulating vehicular emissions. Under the ETS, commercial vehicle owners can register a replacement vehicle conforming to a higher emission standard by paying a discounted Prevailing Quota Premium (PQP) (ie. a COE bonus). On 12 March

2014, the scheme was enhanced, with higher COE bonus (light vehicles – increased from 10% to 20%; heavy vehicles – increased from 30% to 100%).

- 6.8 On 1 August 2015, the ETS was expanded to include Euro II/III diesel commercial vehicles with replacement to Euro V/VI vehicles (higher COE bonus for Euro VI replacement vehicles – additional 3% for light vehicles and 10% for heavy vehicles). The ETS for Pre-Euro/Euro I expired on 30 April 2016, while the ETS for Euro II/III vehicles ran for two years till 31 July 2017. The ETS for Euro II/III vehicles was further extended from 1 August 2017 to 31 July 2019 and is applicable only for turning over to Euro VI vehicles, with higher COE bonus for light vehicles (increased from 13% to 35%).
- 6.9 As at 31 May 2018, 37,359 Pre-Euro/Euro I/II/III diesel commercial vehicles have been replaced with Euro V/VI vehicles under the ETS.

Motorcycle Incentive Scheme

- 6.10 All owners of motorcycles that were registered before 1 July 2003 are eligible for a cash incentive of up to \$3,500, if they de-register their motorcycles on or before 5 April 2023.
- 6.11 Singapore will also tighten the in-use emission standards for these motorcycles from 6 April 2023. These motorcycles will no longer be allowed for use on Singapore's roads after 30 June 2028.

7 Any Other Matters

- 7.1 Malaysia has 65 continuous air monitoring stations which are able to monitor PM_{2.5} (8 stations in Johor). Of the 65 stations, 10 air monitoring stations are able to detect BTEX (*benzene, toluene, ethyl-benzene and xylene*) and polycyclic aromatic hydrocarbons (PAH). Malaysia also has 14 manual stations for detecting trace metals and PAH.

COLLABORATION BETWEEN MALAYSIA AND SINGAPORE IN THE AREA OF OIL SPILL PREVENTION
AND CONTROL IN THE STRAITS OF JOHOR

(Malaysia-Singapore Joint Information Paper)

INTRODUCTION

This paper is to inform the Malaysia-Singapore Joint Committee on the Environment (MSJCE) Working Group (WG) on the progress made under the collaboration between Malaysia and Singapore in the area of oil spill prevention and control in the Straits of Johor (SOJ).

BACKGROUND

2 At the 21st MSJCE Meeting held on 3 Feb 2007, the MSJCE requested the MSJCE WG to look into the issue of oil spill prevention in the SOJ. At the 6th MSJCE WG Meeting on 16-17 Apr 2007, a proposal for collaboration between Malaysia and Singapore in the area of oil spill prevention and control in the SOJ was discussed. The meeting agreed on three (3) main areas of collaboration, namely:

- (i) Identification of sources of oil pollution;
- (ii) Enhancement of cooperation in information exchange pertaining to oil pollution and its control; and
- (iii) Enhancement in capacity building in oil pollution prevention and control.

The Expert Group (EG) was tasked to look into this matter.

UPDATES BY MSJCE EXPERT GROUP

3 The EG subsequently established the following areas of collaboration:

- (i) Identify and establish a list of possible sea- and land-based sources of pollution in the SOJ;
- (ii) Establish the types of information that could be useful and exchanged between both countries to prevent and control oil pollution, including the discharge of oily wastes into the SOJ; and
- (iii) Identify areas for capacity building.

4 The EG has completed the work on Para 3(i) and 3(ii). A sharing session was also held in Singapore to share and exchange knowledge on oil spill response. At subsequent meetings, the EG discussed and updated the existing Procedure for Coordination of Control of Tanker Desludging Activities and Disposal of Tanker Sludge in Malaysia and Singapore.

5 A Joint Planning Team (JPT) jointly led by Malaysia's Marine Department (MMD) and the Maritime and Port Authority of Singapore (MPA) was formed in Jul 2013 and was tasked to explore opportunities for capacity building and experience sharing in the following areas:

- i) Marine pollution investigation due to deliberate discharge or negligence from ship activities like bunkering, de-sloping, STS (ship-to-ship) transfer focusing on evidence collection and source identification;
- ii) Training on shoreline clean-up assessment technique;
- iii) Transboundary response to marine pollution incidents through joint table-top and field exercises; and
- iv) Information sharing programme on marine pollution response in the SOJ³.

6 The Expert Group met on 16 April 2014 in Singapore. The JPT deliberated and proposed to focus on items (ii) and (iii) as key areas of collaboration. Capacity building and experience sharing on Items (i) and (iv) were proposed to be deferred and excluded from JPT's scope.

7 It was agreed at the 12th MSJCE Working Group on 22-23 May 2014 in Kuala Lumpur that the Expert Group retain items (i) and (iv) as in paragraph 5 above and these items would be further discussed by JPT.

8 At the 28th MSJCE on 24 November 2014 in Kuala Lumpur, both countries agreed to collaborate in capacity building and experience sharing on the prevention and control of oil pollution and investigation techniques due to incidents resulting ship-to-ship transfer activities as well as illegal disposal of oil and oily sludge into Straits of Johor.

³The TOR was amended from "joint enforcement programme on marine pollution response in the SOJ" to "information sharing programme on marine pollution response in the SOJ" to better reflect the collaboration on capacity building and experience sharing at the MSJCE EG Meeting on 30 Mar 2016 in Singapore.

9 Malaysia presented the paper on the Proposal on Joint Mechanism Implementation of Illegal Tanker Desludging, at the Expert Group and Working Group meetings on 23rd April 2015 in Putrajaya and 19 – 20th May 2015 in Singapore respectively. Upon review, Singapore proposed that an approval be obtained at the MSJCE for a review to be conducted on the existing Procedure for Coordination of Control of Tanker Desludging Activities and Disposal of Tanker Sludge in Malaysia and Singapore instead of formalising the Malaysia's proposal paper.

10 At the MSJCE EG meeting on 30 Mar 2016 in Singapore, the meeting agreed with JPT's proposal to hold a capacity building and experience sharing workshop on "Prevention and Control of Oil Pollution in the Straits of Johor" in end 2016.

11 It was also agreed at the MSJCE EG meeting on 30 Mar 2016 that, upon completion of the workshop, JPT would update the existing Procedure for Coordination of Control of Tanker Desludging Activities and Disposal of Tanker Sludge in Malaysia and Singapore, instead of formalising the Malaysia's proposal paper mentioned in Para 9.

12 Singapore NEA and MPA jointly conducted the capacity building and experience sharing workshop on 17 and 18 Nov 2016 in Singapore. There were a total of 32 personnel from Singapore's NEA, MPA, NParks, and Malaysia's DOE and MDM (11 participants from Malaysian agencies) who participated in the workshop. On the first day of the workshop, both countries shared on best practices in areas such as prevention and control of oil pollution and shoreline clean-up assessment techniques. This was followed by a site visit to a petrochemical terminal at Oil Tanking Asia Pacific Pte Ltd on Jurong Island on the second day of the workshop. Both countries agreed that the workshop was useful as it allowed participants to share expertise

and gain knowledge about each other's oil spill response procedures and capabilities. The workshop also provided a good learning and sharing platform for both countries to enhance their own oil spill response strategies as well as joint response collaborations to strengthen capabilities in managing oil pollution in the SOJ.

13 Updates on the Procedure for Coordination of Control of Tanker Desludging Activities and Disposal of Tanker Sludge in Malaysia and Singapore has been completed with minor changes on the list of contact persons of both countries.

14. With increase concern on oil spill pollution both JPT will continue to explore others opportunities for capacity building and experience sharing focusing on Information sharing programme on marine pollution response in the SOJ. EG will discuss further on this areas and come up with the recommendations soon.