



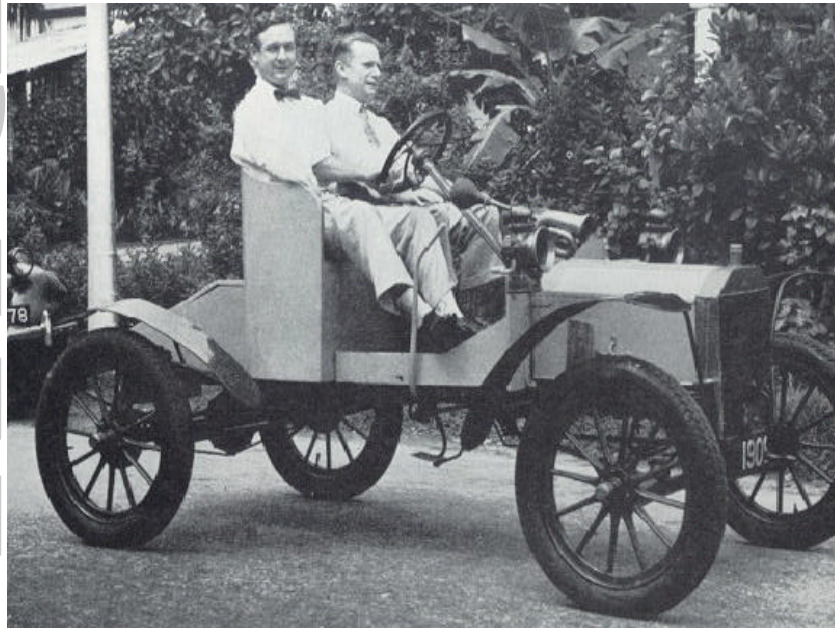
**FORD MALAYSIA SDN BHD**  
**SHAH ALAM ASSEMBLY PLANT**

*Public Environment Report*  
*2002*



# SHAH ALAM

## Assembly Plant Report



*H W Wood of Universal Cars—Ford's Singapore Dealer—and JM Bartlett, Ford Malaya's General Superintendent with a Model N*



Ford Malaysia Sdn. Bhd.  
Shah Alam Assembly Plant

No. 1 Jalan Sesiku 15/2,  
40000 Shah Alam, Selangor Darul Ehsan,  
Malaysia



# 1.0 Preface

**Ford Malaysia is committed to reduce the environmental footprint its vehicle assembly operations may have on the environment. This is achieved through implementing environmental management initiatives, such as an ongoing Environment Improvement Plan (EIP).**



Ford Malaysia hereby presents the Shah Alam Assembly Plant's Public Environment Report (PER), incorporating the Environment Improvement Plan (EIP). The EIP process is an ongoing exercise, aimed at achieving compliance with all environmental standards and community expectations.

***New Ford Prefect and Anglia go out to dealers. Plant Protection Men, Ganda Singh and Tahil Singh perform routine inspections.***

Ford Malaysia has also implemented a Ford Motor Company Environmental Management System certified to ISO14001 as part of the total Ford Production System (FPS) which ensures regular monitoring of the Plant's performance.

The environmental objectives and targets set out in the EIP will drive Ford Shah Alam towards fulfilling the Site Environmental Policy as presented in Appendix A. The main focus of this Plan is to provide an insight into Ford's environmental performance including compliance with regulatory requirements, and community expectations and identifying improvement opportunities.



## *Signatories*

### **to the 2002/2003 Environment Improvement Plan**

Henry Marszalek

*Ford Environmental Quality Office Asia  
Pacific Manager*

---

Rizal b Jailani

*Environmental Engineer*

---

Tony Caon

*Ford Environmental Quality Office*

---

Manzoor Hussain

*Environmental Management  
Representative*

---

Chin Sai Hin

*FPS Environmental Champion*

---

Shah Ghani

*Corporate Affairs Advisor*

---

Low Seng Chee

*Plant Manager*

---

Deborah J Aronson

*Managing Director  
Ford Malaysia Sdn Bhd*

---



## ***Table of Contents***

i	1.0	Preface
1	2.0	Year at a Glance
2	3.0	Plant Management Statement
3	4.0	Company Profile
6	5.0	Larger Environment
7	6.0	Vision Strategy
9	7.0	Policies and Organisation
16	8.0	Environmental Regulatory Conditions
17	9.0	Environmental Issues
27	10.0	Glossary of Terms & Acronyms

### **Appendices**

Appendix A	Environment Policy Ford Shah Alam Site
Appendix B	Ford Shah Alam site layout
Appendix C	Ford Shah Alam Assembly Pant Process
Appendix D	Letter stating supplier ISO 14001 mandate
Appendix E	Ford Shah Alam Environmental Regulations and Legislation.



# 2.0 Year at a Glance

## 2.1 Accomplishments

- Conversion of liquefied gas to natural gas resulted in savings of RM50,000.00 per month.
- In 2000 the Ford Production System (FPS) was introduced and implemented in Shah Alam. The environmental element is a major component of the FPS.
- 28% reduction in electricity consumption per unit produced since 1999.
- Water consumption per vehicle produced in 2001/2002 was reduced by 15% compared to the previous financial year.
- Since Feb 2002, successfully converted to chrome free passivation rinse chemical in pre-treatment process at the Paint shop.
- Began conversion to Lead Free Paint in Ecoat process at the Paint shop.
- Successfully implemented the use of returnable pallets for Escape kits



## 2.2 Challenges

- Continue to reduce Volatile Organic Compounds (VOC) emissions and paint usage.
- To manage soil impacts.
- Reducing the amount of prescribed waste generated.
- Reduce electricity consumption on a per vehicle bases.
- To establish Community liaison group.



# 3.0 Plant Management Statement

The Shah Alam Site will continue to lead by example, aiming to improve environmental performance and enhance community perceptions. With support from government and community groups, we will manage our processes and pursue improvements to minimise environmental impacts.

We believe in engaging stakeholders on environmental issues and that this allows us to build a rapport with the community. We will continue to engage the community to seek valuable feedback that will assist us in shaping our future environmental goals.

*“Ford aims to go beyond compliances with statutory and licence requirements.”*

This is the first year that Ford Malaysia is publishing a Public Environmental Report (PER). This report uses the Global Reporting Initiative's Sustainability Reporting Guidelines (GRI). The environmental section of the GRI was used as a guide with regard to the information included in this report. Shah Alam Assembly Operations aims to continue to evolve our public environmental reporting reflecting our stakeholders' expectations.

Ford Malaysia aims to go beyond compliance of statutory and license requirements. This report details the results of Ford Shah Alam plant environment performance.



*Low Seng Chee*  
*Plant Manager*



*Deborah J Aronson*  
*Managing Director*  
*Ford Malaysia Sdn Bhd*



# 4.0 Company Profile

## 4.1 The Company

Ford cars were introduced to this region as early as in 1916. Some of the models found their way into Malaya, Singapore, Thailand and Indonesia.

By 1926, a company known as the Ford Motor Company of Malaya was set up in Singapore. From a shophouse, it moved to a warehouse, then to an assembly plant in Bukit Timah. The Second World War stopped further expansion.

In 1947, the company resumed its operation. And by 1957, it was busy assembling vehicles. Following the formation of Malaysia, the Malaysian government began imposing restrictions on the import of completely built-up vehicles.

At about the same time, the government launched its first 5-year plan. Included in the plan was the provision for the development of a local automotive industry. It was then that the company entered into an agreement with Wearne Brothers Limited for the assembly and distribution of Ford European sourced completely knockdown units.

Assembly took place at this Wearne's plant in Shah Alam, better known as the AMIM plant. A Ford marketing office was set up in a building in Kuala Lumpur. A parts and accessories supply depot was also set up at Jalan Paku in Shah Alam.

Ford later decided to handle the entire business operations on its own. So by 1973, the Ford Motor Company of Malaysia Sdn Bhd, better known as Ford Malaysia, was incorporated.

A former managing director of the Ford Motor Company of Malaya Limited, Mr. Gordon Withell, was assigned to make a detail study of Ford's future in Malaysia. On his recommendations, Ford Motor Company in the US injected some RM25m in Ford Malaysia. The company also bought over the AMIM plant.

At about the same time, Ford Motor Company entered into a joint-venture agreement



The next phase of our operations did not start again until April, 1947, when the Bukit Timah plant was returned to us by the British Military Authority, following its use as a R.E.M.E. workshop. The plant was then re-equipped and assembly operations gradually picked up pace. This picture taken in 1951 shows some of our men in Final Assembly working on a 1951 Ford (Canadian) Custom.





Ford then later turned to its affiliate in Japan for Japanese sourced CKD units. The units are produced from a plant in Hiroshima before being exported to Malaysia. So, at this plant at Shah Alam, assembly work begins. Crates bring in the various parts for both the passenger cars and commercial vehicles. They contain parts for Ford Lasers, Econovans, Spectrons, Transits, Escape, Rangers and other franchises such as BMWs and Mazda.

The Shah Alam site employs 792 people. Along with direct employment, Ford Malaysia supports many other local companies supplying to Ford, making a major economic and community contribution to the region.

### **Ford Malaysia Information- 2001/2002 Financial year**

Number of Sites	1
Number of Employees	792
Operating costs	RM 77 million
Raw Materials Purchased	RM 32 million
Capital Expenditure	RM 4.6 million
Wages Including Benefits	RM 19 million
Ford Malaysia number of vehicles assembled	10,194



## **4.2 This Report**

This document has been developed using the environmental section of the Global Reporting Initiative 'Sustainability Reporting Guidelines in Economic, Environmental, and Social Performance' as a guideline. This environment report does not include social and financial elements of the GRI guidelines. Further information about the GRI guidelines can be found at [www.globalreporting.org](http://www.globalreporting.org). Some guidelines were not included as they were not applicable to this report.

The GRI guidelines are an international benchmark for reporting which aim to provide sufficient information allowing readers to make an informed assessment of a company's performance. Use of GRI guidelines can also assist companies in reviewing their own performance. Data included in this report, unless otherwise stated, has not been independently verified.

This report is openly available to all interested parties including:

- Neighbours and the broader community (industrial, commercial and residential)
- Community organisations

- Regulatory Authorities
- Ford suppliers
- Ford present and employees and families

***“This report is available to all interested parties....”***

past  
their

Ford Shah Alam welcomes any suggestions, questions or comment in regard to the PER.

Any correspondence should be directed to:

Manzoor Hussain

Environmental Management Representative

Ph: 603 5101 5120

Fax: 603 5519 0188



# 5.0 *The Larger Environment*

To ensure commitment at the highest levels, the Ford Board of Directors formed the Environmental and Public Policy Committee in 1997. This Committee of the board reviews all the company's environmental policies and practices.

The committee chairman is William Clay Ford, Jr., great-grandson of Henry Ford. An enthusiastic conservationist, Bill Ford continues the legacy of the Ford commitment to use wisely the "material blessings" his great-grandfather so passionately cherished.

The environmental matters relevant to Ford Shah Alam's operations comprise local, state, national and global issues. These include air emissions, storm water, environmental noise, soil and groundwater impacts, greenhouse gases, waste generation, energy consumption and ozone depleting substances. Ford's Environmental Policy provides leadership and direction to the whole organisation and is reflected in each site's environmental policy. This policy is the cornerstone of management of these issues.

*"The foundation of society are the men and means to grow things, to make things, and to carry things. As long as agriculture, manufacture, and transportation survive, the world can survive any economic or social change"*

*"My Life and Work" by Henry Ford, 1924*

## **5.1 The Ultimate Goal: Continuous Environmental Improvement**

Continuous improvement is the engine that drives the Shah Alam site Environmental Management System (EMS). It is also the foundation of ISO14001 certification. ISO14001 is the international standard for environmental management systems. To remain cer-

tified each facility must undergo yearly audits to ensure adherence to ISO guidelines and to measure progress against targets for improvement. This discipline of setting targets for improvement is a way of doing business. Indeed, the culture of Ford Environmental System, which is driven by the methodology and reporting structure of ISO 14001, is becoming the mind-set at Ford.

The spirit at Shah Alam is to document the efforts at continuous improvement clearly and consistently. This includes documenting not only the successes but also instances in which the site falls short of pre determined goals.

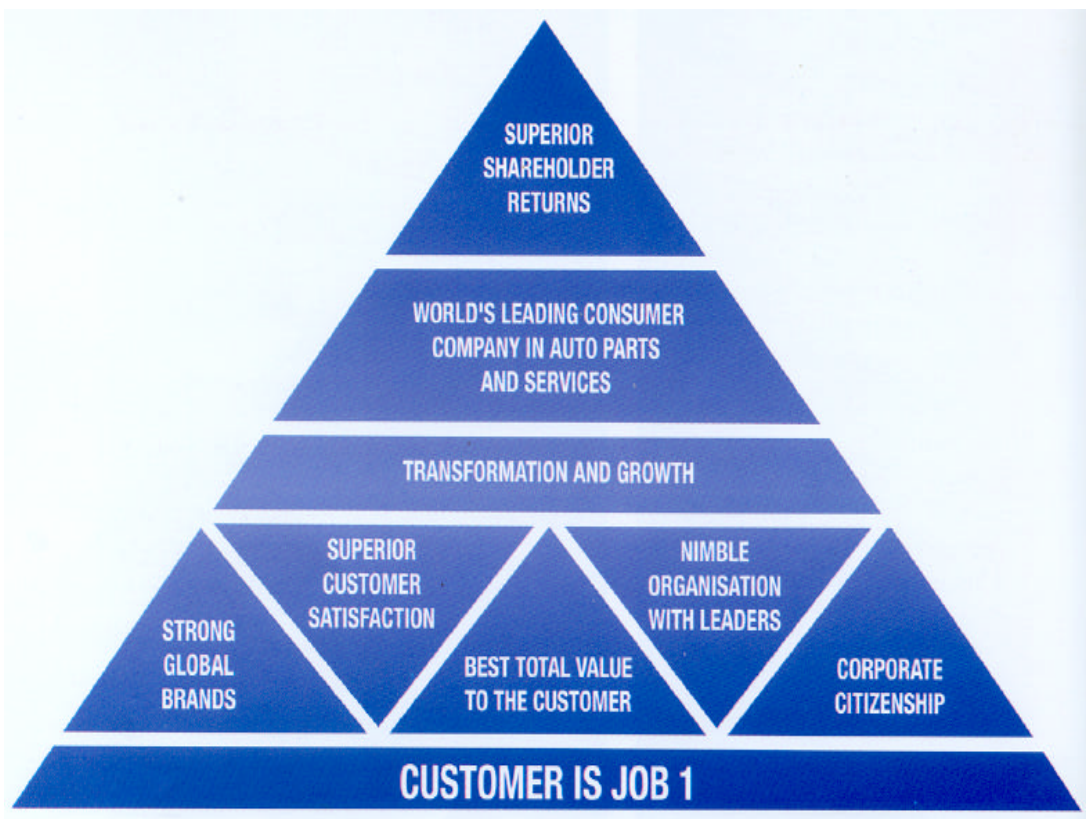




# 6.0 Vision and Strategy

*Ford Motor Company has a vision:*

*"To become the world's leading consumer company for automotive products and services"*



Supporting this vision are five strategies, one of which is corporate citizenship.

The corporate citizenship strategy is an evolving one, as societal expectations for performance in corporate citizenship and sustainability become better understood. This is explained in greater detail in the Ford Motor Company Corporate Citizenship report which can be found at:

<http://www.ford.com/en/ourCompany/communityAndCulture/buildingRelationships/default.htm>



Within manufacturing operations the corporate citizenship strategy is realised through environmental stewardship, which has five key guiding principles:

- Transition toward sustainability and eco-effectiveness
- Open, transparent connection with external stakeholders (community and regulators)
- Alignment of environmental objectives with other business drivers
- Continual improvement of manufacturing site emissions (air, water, waste, etc)
- Robust compliance with environmental legal requirements

At the local level these principles are translated into objectives and targets, as defined later in this report. In many areas of our operations there are significant challenges associated with improving performance. Generically these are:

- Technological limitations. Vehicle manufacturing technology is a complex and resource intensive process. Ford resources these areas on a corporate level and in strategic partnerships with other organizations including, in some instances, competitors. Processes utilized within the Shah Alam operations are similar to those used elsewhere in the Ford world and hence whilst optimization and refinement may occur at the local level, quantum step breakthroughs in regard to environmental impact are unlikely to occur at this level.
- Local management needs to juggle the sometimes conflicting demands that can occur in the areas of quality, cost, delivery, safety and morale with those of the environment. In many areas efforts are synergistic but in others they may be contradictory and difficult judgments must be made.



Despite these significant challenges there are many areas where performance has improved in the period under review and there are still many areas of opportunity for further improvement as this report demonstrates.



# 7.0 *Policies and Organisation*

**The Environmental Policy for Ford Malaysia's Shah Alam Site (See Appendix A) is based on the Ford Environment Policy.**

## **7.1 Environmental Management System (EMS)**

The Shah Alam site EMS consists of a series of procedures, processes and programs which enables the site to strive to continually improve environmental performance in accordance with Ford's Environmental Policy.



Environmental practices in Ford's operations are implemented by a rigorous system of setting objectives and targets for those aspects designated as significant. For each of the objectives and targets an environment improvement program is developed. These programs detail the action to be taken, the responsible person and the timing for completion.

Aspects of Ford Shah Alam operations are considered significant if there are associated legal and other requirements or if the associated environmental impact group is solid waste or resource utilisation (water, electricity, gas).

Significant aspects are then managed by:

- Controlling by work procedure (including training)
- Investigating the optimum process and improvement action
- Implementing a process improvement action to eliminate or minimise the environmental impact



## 7.1.1 Environmental Training and Awareness Programs

### 7.1.1.1 Inside Ford

Within the organisation, environmental training and awareness programs are implemented via communication networks that cover the entire organisation from each *Kumpulan Mutu Kerja (KMK)* or Natural Work Group to top management at the site. KMKs are small groups of shop floor personnel who meet each week to discuss work issues including the environment, occupational health and safety and quality, as these issues apply directly to their work area. All shop floor employees are members of a KMK. This allows a flow of information from the shop floor to all levels within the organisation.



A cross-functional environmental team (CFT) of Area Coordinators was formed in 2000. Typically an Area Coordinator is a process engineer or equivalent. Each department is represented by an Area Coordinator on the CFT. The entire CFT have received environmental systems and awareness training.

Environmental matters are regularly discussed at the weekly KMK meetings. The KMK reports issues and suggestions raised in KMK meetings to the Area Coordinator via meetings. The information is passed on to the CFT team, or via e-mail to the Environment Engineer or Environment Management Representative.



section of this report.

### 7.1.1.2 Outside Ford

Environmental programs pertaining to suppliers include a requirement for ISO14001 certification and a Restricted Substance Management Standard. More information on these programs can be found in the Supply chain relationships



### **7.1.2 Incident and Emergency Response Program**

As part of the EMS, Ford Shah Alam has an integrated emergency response process that includes environmental emergencies. The Emergency Response Team (ERT) – part of the Plant Fire Squad - attends to all incidents, twenty-four hours a day, seven days a week that have the potential to impact the environment. The emergency response process, requires the Site Environmental Engineer be contacted. In the event that the incident is likely to impact the off site environment, the Department of Environment is contacted.

All incidents are recorded and investigated to minimize the likelihood of recurrence. The status of all incident reports is reviewed at monthly management meetings. Emergency responses to environmental incidents are tested annually and documented in an incident report database.

### **7.1.3 External Communication**

#### **7.1.3.1 Complaint Handling Procedures**

Ford Shah Alam complaint handling procedure may be initiated by any contact from an external person. The complaint is directed to the appropriate Ford employee, who for environmental complaints is the Environmental Management Representative. Each complaint received is documented and investigated. Feedback to the complainant is provided via a phone call informing them of the action to be taken.

In 2001/2002 no complaints were received by the Ford Malaysia Shah Alam plant.

## **7.2 Ford Production System (FPS)**

The Ford Production System is the integration of 11 management processes designed to help Ford become the leading automotive manufacturer. FPS aims for zero waste, injuries, accidents, defects and breakdowns and an improvement in all processes at the shop floor level. The key principles guiding FPS processes include: effective work groups; aligning capacity with market demand; optimizing production efficiency and using the concept of total business cost.

Environmental management is one of the 11 FPS elements. The environment element incorporates ISO14001 certification of the plant environmental management system as a baseline. FPS drives environmental performance beyond that expected by the ISO14001 standard in the areas of compliance, training and awareness programs, chemical use and minimisation, and integration of quality and environmental systems.

All Ford operations worldwide are implementing FPS. FPS implementation is reviewed internally by local operational personnel on a regular basis and is more formally reviewed by an independent internal assessment team once a year. The FPS element tools have a point and level system, requiring all operations to be ranked. The ranking process is used to compare operations and exchange best practices as these are developed or as they are reported during FPS internal independent reviews.

Each plant sets objectives for achieving FPS levels in the 11 elements every year. These objectives are reflected in employee's performance objectives and in their annual performance review.





### 7.3 Environmental Activities

As well as adhering to all legal requirements including permit conditions, Ford Malaysia supports conservation and environmental groups through the annual Ford Motor Company Conservation and Environmental Awards program. Ford Malaysia also supports various environmental programs in the community.

#### 7.3.1 Ford Motor Company Conservation and Environmental Grants Program

The Ford Motor Company Conservation & Environmental Grants programme is a continuation of the successful Henry Ford Conservation Awards, which was launched in Europe in 1983.



*Ford Motor Company*  
Conservation & Environmental Grants

The Ford Motor Company Conservation & Environmental Grants is one of the world's largest of such programmes offering a total grant of RM3.8 million annually worldwide.



The programme was launched last year in Malaysia with great success. A total of 34 submissions were received. 17 projects were finally selected by a distinguished panel of judges. Eleven of the selected projects last

were efforts to conserve flora, fauna and/or their respective habitats, while two are projects involving young people ages 18 or under and one is a conservation engineering



A wetlands International project

programme. These projects received a total of RM 247,000.

Grant applicants can send in their projects in four different categories – natural environment – projects to conserve flora, fauna and/or their respective habitats, heritage – projects to conserve man-made aspects of national heritage, conservation engineering – projects to reduce the rate of consumption of natural resources and/or pollution and



### ***7.3.2 Participation in Enviro-Hunt 2002***

The Enviro-Hunt 2002 was jointly organized by the Selangor State Department of Environment (DOE) and the Yayasan Anak Warisan Alam (YAWA) or Children's Environmental Heritage Foundation. It was held in October, 2002 in conjunction with the Environment Week Celebration.

The main objective of the event was to create a buzz among young children and youths on the importance of conserving the environment for future generations. The hunt consisted of both a driving phase and a "walking" phase where clues were placed such that participants had to look around and be aware of their natural surroundings to be able to answer questions and win prizes.



***Ford Malaysia Enviro-Hunt 2002 Teams***

Ford Malaysia entered three teams in support of this worthy initiative. One of these teams won the top prize while the other two merited honourable mentions.



**The winning team**



### 7.3.3 The Lanun Darat program



The Lanun Darat (Land Pirates) is a club of Ford 4x4 pickup truck owners sponsored by Ford Malaysia. The club regularly gathers 30 or more trucks for expeditions into scenic spots well off the beaten tarmac highways.

These expeditions are family-oriented and involve activities ranging from clinics on how to get the most out of 4x4 vehicles to off-road camping. These activities are designed to generate greater public appreciation of Malaysia's rainforest and better utilization and conservation of Malaysia's natural resources.

An excellent example was a *gotong royong* (community voluntary work group) effort during one of the expeditions to clean up the beautiful but soiled surroundings of the waterfalls and camping grounds of Jerangkang, about 50 km from Kuantan, Pahang. Men,

Women and children pitched in to pick up litter scattered all over the scenic spot by errant picnickers over the years. Aside from scraps of food packaging and discarded cans, the Lanun Darat group attacked a huge pile of garbage reminiscent of a squatter slum within sight of a spectacular series of breathtaking waterfalls. Garbage bags full of the offending pile were distributed among the members of the expedition and ferried in their trucks to the proper dumping location at the nearest town.

### 7.3.4 Wildlife-at-work certification

Ford Malaysia is working with the Wildlife Habitat Council, a US-based NGO, to make the Shah Alam plant a "Wildlife-at-Work" site. As the name suggests, this involves making the



plant a more natural habitat for some indigenous wildlife. A bal-

ance is sought to ensure that nature co-exists with production activities and environment.

To kick-off this long-term project, a group of enthusiastic volunteer employees have converted a Ford Ranger carrier box destined for the scrapheap into a living fish tank. The tank is now a source of pride and in a small way symbolizes each employee's awareness of and concern for the natural environ-



ment.



### ***7.4 Supply Chain Relationships***

Ford Shah Alam requires sound environmental practices of its suppliers through global directives such as the Restricted Substance Management Standard (RSMS) and supplier ISO14001 certification requirements.

### ***7.5 Restricted Substance Management Standard***

Ford Motor Company was the first automotive company to publish a global Restricted Substance Management Standard in 1984, setting out materials for which use must be reduced or eliminated. The list of restricted and prohibited substances is reviewed and updated annually to reflect the ever-increasing level of knowledge in this field.

### ***7.6 Mandate to Obtain ISO14001***

Suppliers to Ford Shah Alam, with manufacturing facilities, are required to introduce an Environmental Management System and obtain certification to ISO14001 at a minimum of one manufacturing site by July 31, 2005. See Appendix D for the request letter mandating that suppliers implement an EMS certified to ISO14001. The local deadline is different from the global corporate requirement (July 2003) reflecting unique local conditions.

To aid suppliers in meeting this requirement Ford has hosted Environmental Management System information sessions.

Not all suppliers have met the directive and Ford in conjunction with environmental consultants are continuing to work with suppliers to achieve the requirement.





# 8.0 *Environmental Regulatory Conditions*

**The *Environment Quality Act 1974* (The Act) is the primary legislation that provides the regulatory framework relating to the prevention, abatement, and control of pollution and enhancement of the environment in Malaysia**

## ***8.1 Legislation***

There are also several regulations and rules, which are used to implement the requirements outlined in The Act. Those relevant to Ford Malaysian operations are contained within the Ford Malaysia Operating Management System procedure, 'Environmental Regulations & Other Requirements', the list legal and other requirements are shown in Appendix F.

## ***8.2 Licences***

Licenses and agreements relevant to the environmental performance of operations at Ford Malaysia are as follows:

Type of Licence or Agreement	Number of Licence	Issuing Authority
Air	(B) B38/432/100/005	Department of Environment
Waste water	AS (WT) 38432/5/(34)	Department of Environment



# Environmental Issues

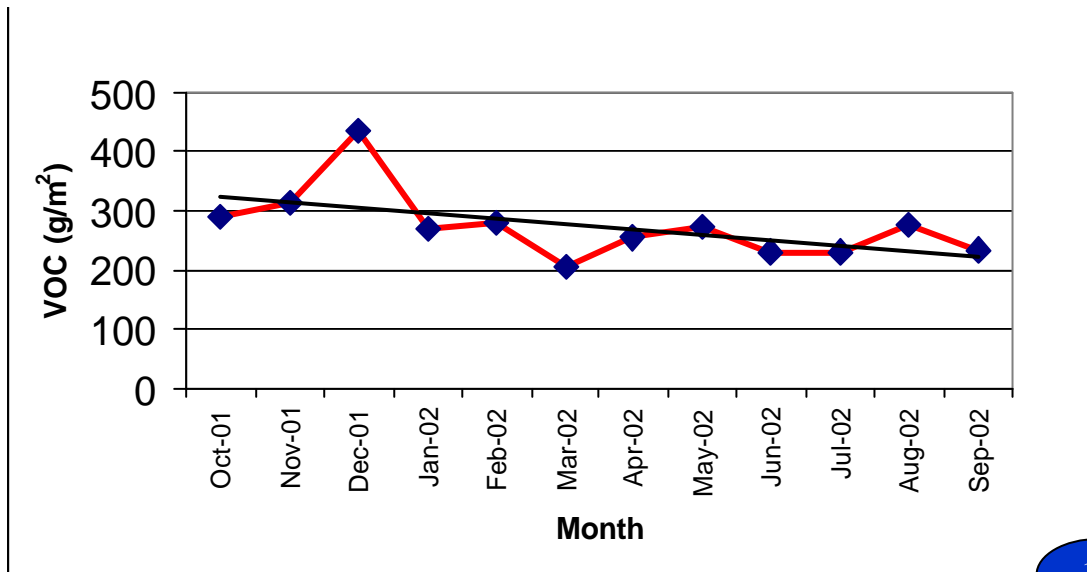
## 9.1 Air

### 9.1.1 Measuring and Monitoring Air Emissions

For discharges to air, the Environmental Quality (Clean Air) Regulations 1978 require FOM to report on the particulate emissions and to ensure they remain under the Standard C,  $0.4\text{g}/\text{Nm}^3$  at any given time. Monitoring to date demonstrate FOM remain in compliance with all emissions between less than 30 times below the Standard C.

In October 2001 Ford Malaysia voluntarily adopted the Ford Motor Company Data Management System (DMS) database to model the Volatile Organic Compound (VOC) emissions from the paint shop. DMS is a computer database tool developed by Ford's global environmental technical support group and utilises paint and solvent consumption data and key paint shop operational characteristics to provide an accurate estimation of the amount of VOC emitted from the facility per square meter of painted vehicle surface area ( $\text{g}/\text{m}^2$ ). DMS is used throughout the Ford world and is the accepted and preferred method of reporting by numerous environmental agencies. Currently there are no VOC emission limits defined in Malaysia for automotive assembly operations.

Figure 1- **VOC Emission - FORD MALAYSIA**



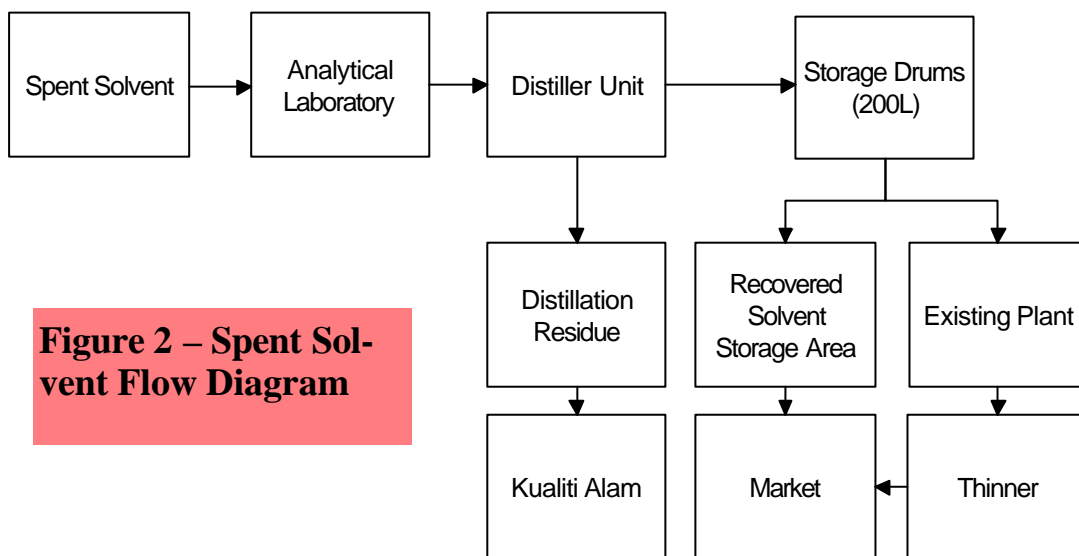


From review of the information presented in Figure 1, Ford Malaysia on average from October 2001 to September 2002 was emitting 275 g/m<sup>2</sup>.

The emission of VOCs is effectively limited by proper and preventative maintenance of the air balance in the paint spray booths as well as the conditions of both the air filter system and exhaust fan belts.

The most efficient method of reducing VOC emissions is to reduce the raw material inputs that produce these volatile air emissions. This not only makes environmental sense, but economical sense, as well as generating less waste.

Hiap Huat Chemicals Sdn Bhd takes solvent waste generated at Ford Malaysia. The waste is taken to a facility where the solvent material is reclaimed or recycled as detailed in Figure 2.



**Figure 2 – Spent Solvent Flow Diagram**

### **TARGET - 2003 and Beyond**

- Maintain all equipment associated with generation of potential particulate emissions in accordance with manufacturers specification to ensure particulate emissions remain below the Standard C of the Environmental Quality (Clean Air) Regulations 1978.
- Reduce solvent usage in the painting process to achieve 200 grams of VOC per square meter of painted vehicle surface area by March 2003.



## 9.2 Liquid Waste (Trade Waste)

Wastewater produced by Ford Malaysia operations is managed under a Department of Environment wastewater agreement.

This legally binding agreement requires that trade waste leaving the site complies with certain quality standards. The agreement involves regular inspections, monitoring and discharge limits in accordance with DOE standard B. Parameters that require monitoring include pH, COD (chemical Oxygen Demand), BOD (Biological Oxygen Demand), total suspended solids, mercury, cadmium, hexavalent chromium, arsenic, cyanide, lead, trivalent chromium, copper, manganese, nickel, tin, and zinc.

### **TARGET - 2003 and Beyond**

- Upgrade aeration system to increase efficiency of oxygen transfer.
- Increase frequency of de-sludging clarifier and settlement tanks to maintain compliance with suspended solids limits.

To ensure trade waste discharge requirements are met Ford Malaysia has a trade waste treatment plant (TWTP) on site. Influent treated in the TWTP are detailed in the following table;

Category	Waste Type	Frequency
Electro deposition waste	<ul style="list-style-type: none"><li>• Alkaline rinse</li><li>• Phosphate rinse</li><li>• Pre-clean rinse</li></ul>	Daily
Spray booth	<ul style="list-style-type: none"><li>• Small parts</li><li>• Primer 1</li><li>• Primer 2</li><li>• Top coat</li></ul>	3 Months
Trolley cleaning	<ul style="list-style-type: none"><li>• Hard paint</li></ul>	Daily
Kitchen waste	<ul style="list-style-type: none"><li>• Detergents</li><li>• oil</li></ul>	Daily





### 9.3 Solid Waste

Ford Malaysia has a contract agreement with Syarikat See Hup Engineering Sdn Bhd that manage 6 full time staff on site who separate and collect all recyclable solid wastes. These wastes include Wooden crates, cardboard, steel, CKD packing, plastic and paper.

### 9.4 Scheduled Waste

Ford Malaysia produces a variety of Scheduled Waste including spent solvents, oils, paint sludge, wastewater treatment sludge, soiled rags and gloves. All scheduled wastes with the exception of spent solvent is sent to Kualiti Alam. We ensure the management of scheduled waste

#### **TARGET - 2003 and Beyond**

- Reduce packing materials wastage through increased use of returnable containers for Ford Ranger kits

complies with requirements set in the sites) Regulations 1989. The objectives of the regulation are:

- To define the transport, disposal, treatment and storage requirements of scheduled wastes;
- Minimise the generation of scheduled waste; and
- Eliminate as soon as practicable the disposal of prescribed industrial waste to landfill.

#### **TARGET - 2003 and Beyond**

- Set up Drying bed (modelled after Ford India)
- Increase capacity of existing Filter Press

The DOE operates a system to track the movement of scheduled waste. This system involves the completion of a consignment note for the transport of scheduled waste to the waste receiver. This system ensures information regarding the management of the waste, from 'cradle to grave', is transferred to the DOE.

Recent investigations have indicated significant volume reductions are achievable by solar drying paint sludges. Experiment conducted in India have demonstrated over 50% volume reduction is achievable. Ford Malaysia is trialing different techniques to realise similar reductions.

### 9.5 Stormwater

Ford Malaysia has undertaken several measures to ensure the protection of stormwater before it is discharged off-site into the public drain. A comprehensive stormwater management system is being developed across the site, which includes banking around chemical delivery, dangerous goods and waste storage areas. In addition to this awareness of employ-

#### **TARGET - 2003 and Beyond**

- Finalise stormwater protection plan.
- Increase employee awareness on stormwater protection.



## ***9.6 Groundwater and Soil***

### **Fuel delivery System Upgrade**

As part of a contract upgrade with BP to provide fuel to the site BP will take ownership and are responsible for the fuel storage system. This contract requires the old storage tanks to be decommissioned and the BP owned ones to be installed. Prior to decommissioning soil and groundwater investigations around the tanks in addition to dipping records indicate no leakage had occurred from the old underground storage tanks (UST). The new tanks were installed in November 2002. During excavation of the old UST some of the soil indicated the presence of hydrocarbons. These soils were sampled and results have confirmed some residual hydrocarbons are present. It is suspected these are a result of spillages during tanker unloading over the past 10 years.

***New fuel tanks to replace old tanks***





## Groundwater Investigations

On Wednesday 29th, May 2002 at about 11.00 am a fuel leak to the stormwater drain adjacent to the fuel delivery line was identified. Immediately the maintenance crew, following the Oil Spill procedures, controlled the spill preventing discharge to the public drain. The following details the subsequent events;

- Totally shut off dispenser units and delivery of fuel from underground tank.
- Start to purchase fuel from nearby Service Station to support production.
- Closed tank valve and checked for leak from tank. Result - none.
- Under advice by EQOAP, contacted a local consultant for a professional opinion.
- Recommendation to conduct soil sampling, well installation and ground water sampling along the delivery line.
- After approval by EQOAP, ERM conducted the site works.
- Detail report and recommendation by ERM was presented to Ford Malaysia on September '02.

The report concluded that the recent underground petroleum pipeline leakage has not significantly impacted the underlying soil and groundwater and any residual hydrocarbons are likely to migrate slowly and naturally attenuate and biodegrade over time.

### ***TARGET - 2003 and Beyond***

- Develop a management plan for the residual hydrocarbons associated with the old UST and the fuel leakage incident

## ***9.7 Resource Conservation***

As a major user of energy and water, Ford Malaysia is constantly seeking innovative ways to minimize resource use or to use it more efficiently, at all stages from concept and design of plant upgrades to vehicle assembly and Plant operations. As part of our commitment to Ford's global environmental policy Ford Malaysia is committed to reducing consumption of resources and has establish processes to collect consumption information so as to map trends and plan actions. *The figure detailed below.*



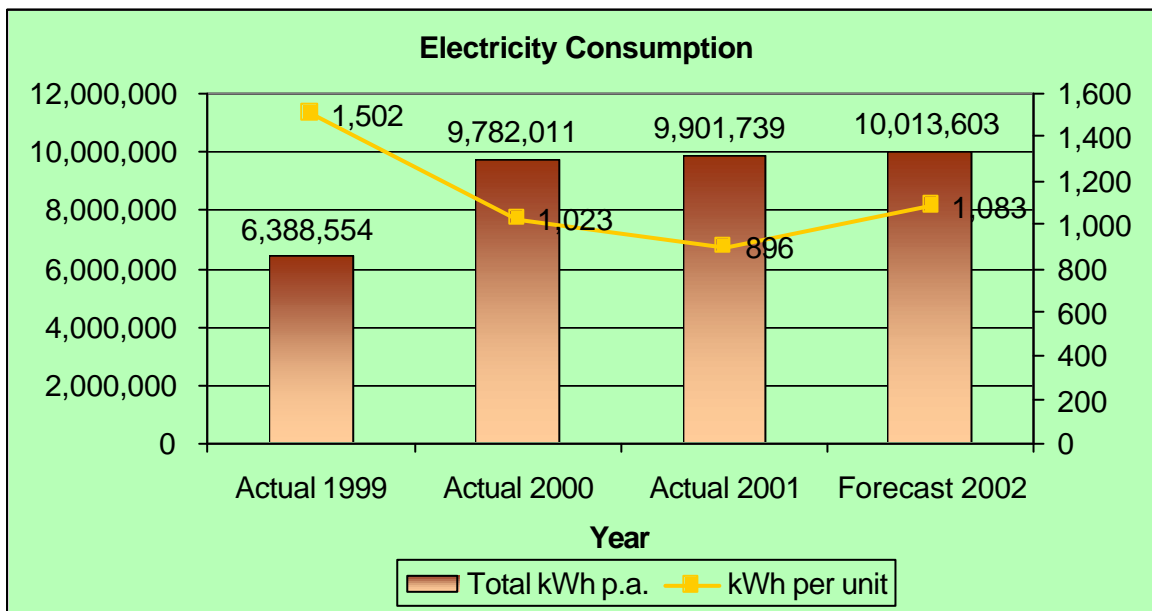


### 9.7.1 Electricity Consumption

Electricity is consumed directly by production operations and by office lighting, air conditioning, heating and communication equipment. Several activities recently completed have been successful in reducing electricity consumption. These included;

- Appointment of an energy manager to lead energy conservation initiatives.
- Engaged a resource efficiency specialist who conducted an energy audit of the facility and provided numerous recommendations.
- Installed pneumatic valve to shut off air compressor use in LCV and Body Build after 7.00 pm. This resulted in air compressor being in load and unload mode vs. continuous load mode, which leads to reduction in electricity usage

Analysis of electricity consumption data per unit production over the past 4 years shows the plant has become more efficient with its electricity use. However a de-



*Educating employees in energy conservation and implementing energy reduction action plans will ensure electricity consumption reduction targets are met.*



### 9.7.2 Water Consumption

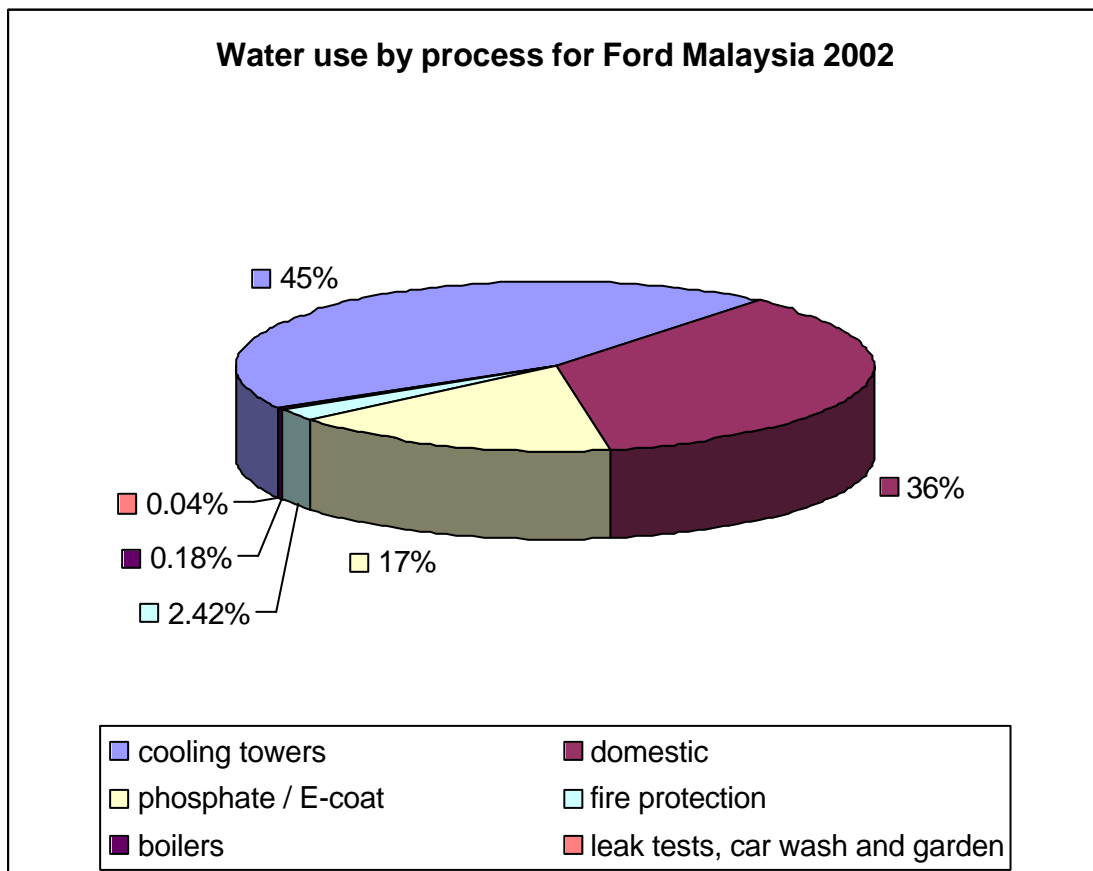
Ford Malaysia was the first site in Asia Pacific to utilize WET (Water Evaluation Tool) developed by Environmental Quality Office Technical Services Division. WET is a tool used to identify where the site is utilizing water.

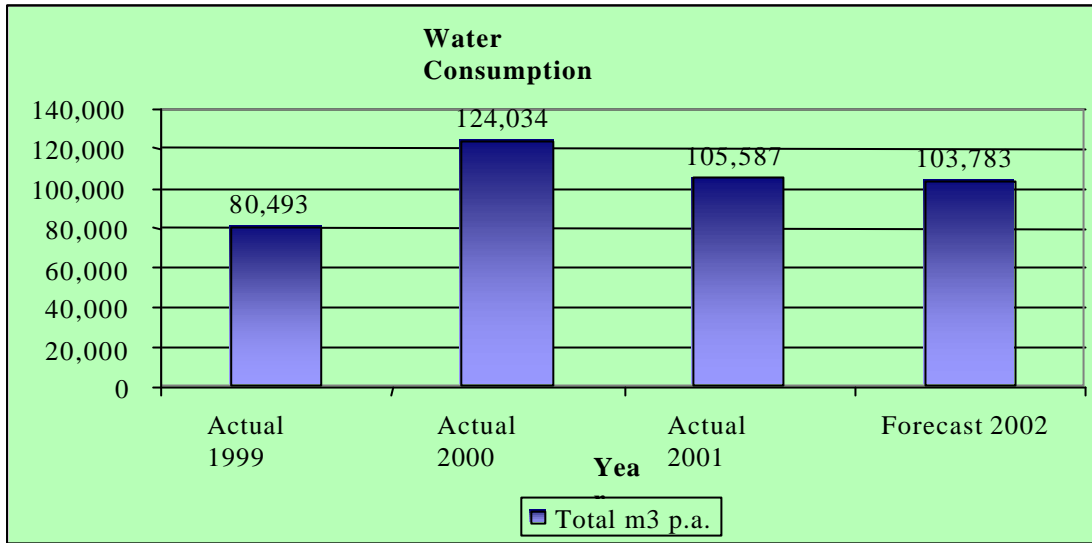
The tool is based on known consumption rates typical plant equipment and requires the user to input the equipments operational parameters. The tool calculates the usage rates based on established algorithms. It helps a site to identify where they will achieve the best return for effort by focusing on the major water using processes. The figure below shows where Ford Malaysia used its water in 2002.



util-  
the  
Divi-  
site

f o r  
input  
then





### ***TARGET - 2003 and Beyond***

- Complete switch from water-cooled to air-cooled compressor – Q2 2003

## ***9.8 Compliance***

To ensure that each site complies with all relevant local environmental acts, regulations, site permits and licences a Compliance Assurance assessment is used by Ford Malaysia, and all Ford plants worldwide. An annual compliance report is produced by each site and is distributed to Ford management locally and to Ford Motor Company in the US. This system provides additional assurance that a site is in robust compliance and it provides visibility to most senior management of potential regulatory matters. The results of the last assessment identified opportunities for improvement in soil, air emission permits, stormwater and the wastewater treatment plant. The actions to address these issues are covered elsewhere in this report.

Ford Malaysia has successfully maintained ISO 14001 certification for its Environmental Management System (EMS) during 2002. No major non-conformances were found. These surveillance audits are conducted twice every year.

Internal auditing of the EMS ensures environmental management controls in place, such as procedures and work instructions, are being followed effectively. Non-conformances found and Corrective Action Requests (CARs) ensure any non-compliances to Ford Malaysia EMS are reported and managed accordingly.

### ***TARGET - 2003 and Beyond***

- Maintain compliance with all DOE licence conditions
- Continue to maintain ISO 14001 certification.



## 9.8 Supply Chain Environmental Management

Ford Malaysia issued a mandate for all its suppliers with manufacturing sites to comply with and achieve ISO14001 by July 31<sup>st</sup> 2005. To assist suppliers with achieving this mandate, Ford Malaysia will be coordinating a number of workshops aimed at assisting the persons responsible with implementing their environmental management systems. Ford Malaysia has plans for two 1 day sessions in December 2002 and is in collaboration with local consultancies to develop an enhanced strategy to ensure all our suppliers meet the deadline.

---

Ford Malaysia

Ford Malaysia Sdn Bhd  
Jalan Sesiku, 15/2,  
40000 Shah Alam, Selangor D.E.

---

### Ford Malaysia Quality Policy Statement

**It is our Quality Policy to achieve Customer Satisfaction through:**

- \* **Prevention of defects rather than inspection to detect them,**
- \* **Improving continuously at everything we do,**
- \* **Encouraging total employee involvement, and**
- \* **Achieving product and service quality excellence to internal and external customers.**

Deborah Atkinson  
Managing Director

Low Seng Chee  
Plant Manager

Copies of this Quality Policy Statement and further information on Ford Malaysia Quality Management System can be obtained by contacting the Quality System Department at 03-95191801 (extension 1155).

Date of Issue: 1<sup>st</sup> July 2001

Revision: 2

Date of Last Issue: 1<sup>st</sup> July 2000

---



# 10.0 *Glossary of Terms & Acronyms*

CFC	Chlorofluorocarbon: a halogenated carbon compound which breaks down ozone in the upper atmosphere. In the upper atmosphere, the ozone layer filters ultra-violet radiation from the Sun and limits its impact on the earth's surface.
Environmental Management System (EMS)	A formal operating system which aids a company in the efficient management of its environmental matters.
ERT	Emergency Response Team.
EQOAP	Ford Environmental Quality Office – Asia Pacific Region.
FPS	Ford Production System.
GRI guidelines	Global Reporting Initiative's 'Sustainability Reporting Guidelines in Economic, Environmental and Social Performance
ISO 14001	International standard for Environmental Management Systems
PER	Public Environment Report.
RSMS	Restricted Substance Management Standard.
WWTP	Ford Malaysia on site waste water treatment plant
VOC	Volatile Organic Compounds: are organic chemicals, such as solvents, which easily evaporate into the air.





# Appendix A

## Appendix A

Ford Malaysia

Ford Malaysia Sdn Bhd  
Jalan Sesiku, 15/2,  
40000 Shah Alam, Selangor D.E.

## Ford Malaysia Environmental Policy Statement

This Environmental Policy Group Statement covers all activities at the Ford Malaysia organization site. Our site will adhere to the Sime Darby Group's Environmental Procedure GPA26 and Ford Environmental Pledge.

It is Ford Malaysia's Environmental Policy:

**To protect the environment by striving to continually improve processes that minimize waste and pollution, and by setting environmental objectives and targets which meet or exceed all legal requirements.**

We shall achieve this by;

- Establishing and implementing an environmental management system certifiable to ISO14001.
- Ensuring environmental considerations are integral in the planning of all future manufacturing processes and related service activities.
- Investigating, and where practicable, minimizing pollution and process waste.
- Ensuring prompt and effective response to potential environmental emergencies.
- Investigating, and where practicable, reducing energy consumption.
- Communicating to on-site contractors the requirements of the Ford Malaysia Environmental Management System.
- Ensuring regular and proper handling and disposition of all scheduled waste materials.
- Compliance with all legal and subscribed Corporate requirements in regard to the environment.
- Monitoring and evaluating our environmental performance against appropriate objectives and targets to ensure continuous improvement.

These strategies shall ensure we conduct our main plant, Plant 2, and CVDO, and supporting services in a manner that demonstrates responsibility for the protection of our environment.

  
Deborah Aronson  
Managing Director

  
Low Seng Chee  
Plant Manager

**Protecting the environment is everyone's job**

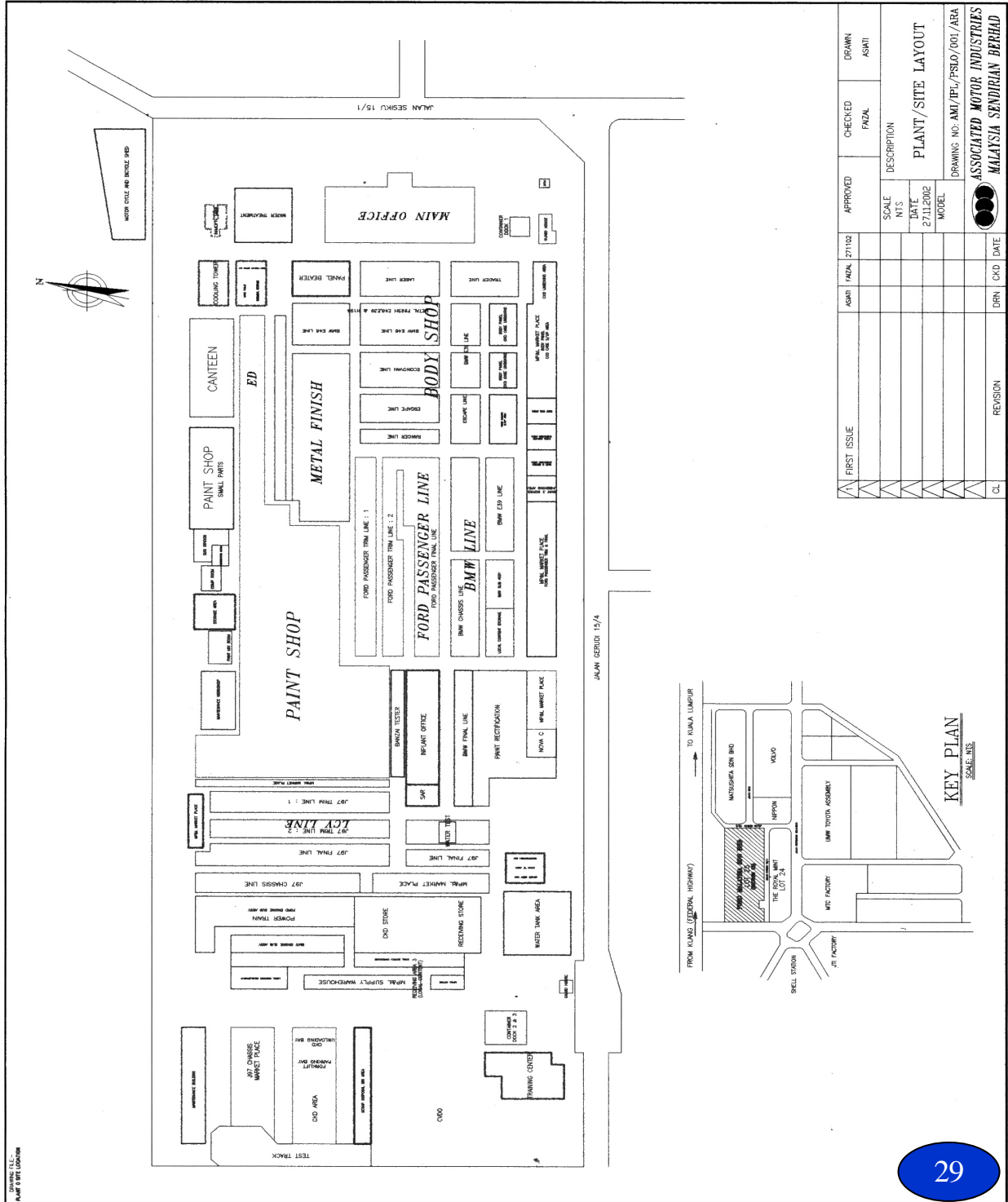
Copies of this Environmental Policy Statement and further information on Ford Malaysia's Site Environmental Management System can be obtained by contacting the Engineering Department at 03-55191601 (extension 1120).



# Appendix B

## Appendix B

### Ford Shah Alam site layout

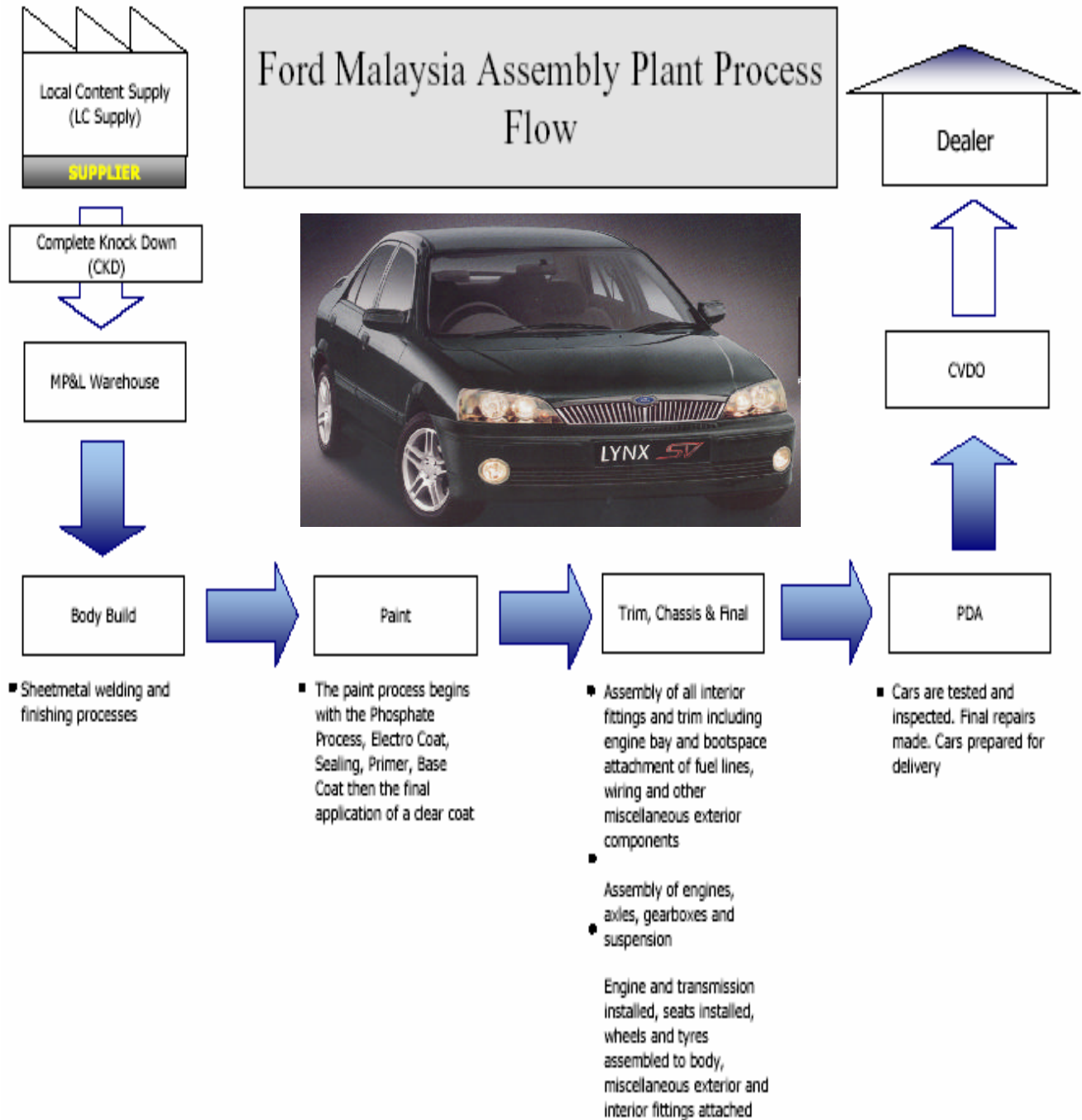


ASST	FAZAL	27/102	APPROVED	CHECKED	DRAWN
FAZAL	FAZAL	FAZAL	FAZAL	FAZAL	ASARI
SCALE			DESCRIPTION		
N/T/S			PLANT/SITE LAYOUT		
DATE			DRAWING NO. AM/PP/PSLD/001/ARA		
27/11/2002			ASSOCIATED MOTOR INDUSTRIES		
MODEL			MALAYSIA SENDIRIAN BERHAD		
CL	REVISION	DRN	CKD	DATE	



# Appendix C

## Appendix C





# Appendix D

## Appendix D

### Letter stating supplier ISO 14001 mandate

*Ford Motor Company,*

Our ref: AS/FORD/0959/01

Mr. Lee Weng,  
Managing Director,  
Success Plus Sdn. Bhd.,  
9, Jalan SS 19/6,  
Subang Jaya,  
47500 Petaling Jaya

November 8, 2001

#### New Q1 2002 will improve Ford-supplier relationship and drive quality

For many years, Q1 has been viewed as a global industry standard, a quality trust mark. But, recently, it has lost some of the human touch that made it a benchmark. Maintaining a trust mark requires continuous review, assessment and improvement, which is a 6-Sigma mindset.

Today, we are requesting your commitment and personal leadership as we take the next step in the Q1 journey - Q1 2002. The new Production Q1, Q1 2002, recaptures the essence of customer satisfaction by forging an ongoing collaborative partnership with suppliers using clear metrics and rigorous site assessment. These elements drive continuous improvement through manufacturing efficiency and variability reduction. Remember that Q1, above all, is the road to customer satisfaction!

To help you understand what this means to your organization we are requesting you to attend an executive overview in Ford Malaysia on the **4<sup>th</sup> of December 2001, 9.00 am.**

Key aspects of Q1 2002 that you should be aware of are:

All manufacturing sites must meet the new requirements by January 2<sup>nd</sup> 2006 in order to achieve Q1 status. Between now and then suppliers need to monitor their performance to be certain they will meet the Q1 2002 processes.

- All manufacturing sites must comply with and achieve QS9000 by December 31<sup>st</sup> 2003.

All manufacturing sites must comply with and achieve ISO14001 by July 31<sup>st</sup> 2005.

(Failing to comply with the above requirements on the given dates will result in no new sourcing of parts.)

- A self-assessment of each manufacturing site will be required every six months to identify improvement opportunities and address overall manufacturing process capability.

Ford Malaysia Sdn Bhd (Company No. 13844-D)  
(formerly known as AMM Holdings Sdn Bhd)

1 Jalan Seesku 15/2, Shah Alam, Selangor Darul Ehsan, Malaysia, P.O. Box 7308, 40710 Shah Alam, Malaysia  
6 03 5519 1661 Fax: 6 03 5519 0188 www.ford.com.my



At the same time that we are announcing Q1 2002, our Supplier Technical Assistance (STA) organization is undergoing a transformation in order to support this return to fundamentals. We have examined our organizational make-up and have addressed potential opportunities to improve skills and knowledge. We encourage you to do the same with your organization. Ask yourself just one question - does my company have what it takes to drive manufacturing capability and quality performance to the highest possible levels? Enclosed with this letter is the Q1 2002 Manufacturing Site Assessment Checklist for you to carry out your own site assessment. We require that you complete the checklist and return it back to us personally for further discussion by the 19<sup>th</sup> of November 2001.

As our supplier, you are expected to perform at a certain level, but more importantly, you're to put the tools in place to maintain excellence and to improve their quality with each passing year. The Q1 manufacturing site assessment looks at the important areas expected in any robust quality system by evaluating how well the site has planned for and demonstrated overall manufacturing process capability. This is the catalyst of Q1 2002 for our production suppliers.

For some suppliers, the Q1 2002 requirements will be too tough. But we're confident that you as our supplier with a passion for quality can and will get there. Our Local Content engineers will be assisting you every step of the way. Remember that quality with value translates into new levels of customer satisfaction. This is a very important dynamic and one that we cannot afford to lose sight of!

We are very excited about Q1 2002 and the potential it holds for our future success.

Best Regards,

Deborah Jan Aronson  
Managing Director  
Ford Malaysia Sdn. Bhd.

Akhtar Sulaiman  
Product Planning & Local Content Manager  
Ford Malaysia Sdn. Bhd.



Ford Malaysia Sdn Bhd (Company No. 13844-D)  
(formerly known as AMM Holdings Sdn Bhd)

1 Jalan Seesku 15/2, Shah Alam, Selangor Darul Ehsan, Malaysia, P.O. Box 7308, 40710 Shah Alam, Malaysia  
6 03 5519 1661 Fax: 6 03 5519 0188 www.ford.com.my



# Appendix E

## Appendix E

### Ford Shah Alam Environmental Regulations and Legislation

Environmental Quality Act, 1974,	Is the backbone of all subsequent environmental orders, regulations and rules. This main Act provides a common legal basis to coordinate all activities on environmental control throughout the country. Under the Environmental Quality Act 1974, 20 sets of Regulations and Orders have been introduced and enforced to date. Additionally, the Act provides for the protection of soil, and indirectly groundwater, however acceptable conditions have not been defined in regulations.	Generally covers all environmental discharges and impacts from AMI facilities.  Does not require a licence
Environmental Quality (Clean Air) Regulations 1978.	Require the control of noxious or offensive air emissions from stacks and vents, requires applications for any new stacks/vents installed	Specifically emissions from paint shop operations (VOC, particulates) and welding equipment (NOx, particulates)  Currently does not require a licence for the Shah Alam area, but this is likely to change
Environmental Quality (Sewage and Industrial Effluents) Regulations 1979	Apply effluent discharge standards to manufacturing facilities that discharge effluent into any inland waters.	AMI must meet Standard B of the regulations for all discharges from the site which essentially includes liquid effluent from the Wastewater Treatment Plant and water discharge from the stormdrains.
Environmental Quality (Scheduled Wastes) Regulations, 1989	Regulate the responsibilities and procedures related to storage, handling, transport and disposal of scheduled hazardous wastes. Scheduled waste can be stored, recovered or treated within the premises of the waste generator, but cannot be incinerated or disposed.	AMI is required to keep an up-to-date inventory of scheduled waste generated, treated and disposed. Proper labelling, containers and storage areas as well as prohibition of storage of incompatible waste are also required by law. AMI is responsible to, inform the transport contractor regarding the nature of the waste and the actions to be taken during accidents, ensure the transporter is licenced with the DOE and ensure that the waste transported from AMI reaches the approved destination.
DOE Noise Guidelines for the Siting and Zoning of Industries	The recommended noise quality levels for the siting and zoning of industries. Is usually applied at the EIA stage	Does not affect the facility as it is not subject to EIA. In the event of a major modification or expansion, these guidelines should be considered
Ford Motor Company Environmental Policy (Policy Letter 17)	Outlines the Ford Motor Company commitment to protect the environment.	AMI will be required to apply the general principals of sustainable economic development to its operations
Ford Motor Company Directive A-124: Joint Venture ISO14001 Certification	Requires that the "Joint-Venture" obtain and maintain an EMS certified to ISO14001 in a reasonable time.	AMI will be required to develop an EMS and maintain its certification to ISO14001