



**Australian  
Institute of  
Petroleum**

# **Maintaining Supply Reliability in Australia**

*April 2008*

## KEY FACTS & CONCLUSIONS

### Overall

- Fuel supply reliability remains a high priority for AIP member companies.
- Reliable supplies of high quality fuel are considered essential to maintain customer loyalty to brand, as well as to maximise business commercial viability.
- By global standards Australia has a good level of fuel supply reliability.
- This record is despite the unique and significant challenges in distributing fuel in a country as geographically dispersed as Australia.

### Supply & Demand Facts

- Australia consumes a very small proportion of global crude oil production.
- Around 70% of crude oil used in Australian refineries is imported (30% is from Australian oilfields).
- In 2006-07, these imported crudes were sourced from over 16 countries mainly from:
  - Asia-Pacific - around 80% of imports (or 55% of crude oil requirements)
  - Middle East - around 20% of imports (or 15% of crude oil requirements).
- This means that any supply disruption risks are spread between domestic and imported crudes, and crude oils from a variety of different sources.
- Reliable access to crude oil supplies suitable for Australian needs has not been a problem, even during periods of rapidly rising oil prices. Australia will continue to be able to access supply to meet its fuel requirements as long as we pay the international market price.
- Australia has seven operational refineries - generally constructed in the 1950s and 1960s, but extensively modified since then - particularly in 2005 and 2006.
- Australian refineries are small by regional standards (eg. the Reliance Industries refinery in Jamnagar, India, has nearly twice Australia's total refining capacity).
- In 2006-07, Australian refineries supplied around 75% of total Australian demand for petroleum products. That is, around 25% of demand was met by imports.
- The bulk of imported petroleum products was from Singapore (around 64 %); the proportion of diesel imports was similar (63%), while the proportion of petrol imports was much higher (90%).
- Since 2000, demand for total petroleum products in Australia has grown by 2% per annum, with varying growth rates for different fuels (eg. around 5% per annum for diesel).

### The Impact of Structural Imports & Cleaner Fuel Standards

- Since 2003, a growing proportion of Australia's liquid fuel needs have been imported.
- This situation is expected to continue in the foreseeable future.
- This outcome is helping to widen sources of supply and increase the options available to acquire (in the market) and bring spot cargoes of fuel to Australia in response to an emergency.
- The increasing frequency of ships bringing fuel to Australia has also increased industry flexibility in responding to unplanned supply disruptions at particular locations.
- With growing demand for fuel produced to Australian standards, Asian refineries are producing more regular batches of Australian quality fuel.
- Availability of this fuel should continue to improve as other countries move to fuel standards which are more closely aligned to Euro standards (as Australian standards are) over the next few years.

### The Supply Chain & Industry Actions to Maintain Reliable Supply

- The Australian liquid fuel supply chain has considerable span and diversity – from crude and product shipments, refinery throughput, storage facilities, extensive terminal and distribution networks, and around 6000 retail outlets.
- AIP member companies have undertaken extensive reviews of their supply chain operations and commercial levels of stocks to improve efficiency.
- The current levels of commercial stockholdings reflect a considered assessment of the operating conditions throughout the supply chain and the risks more likely to be encountered by refiners and others in operating the supply chain.

- Improved information flows have been set up to better manage peak demands for products in various regions (eg. For example, better forecasting systems have been developed for diesel demand during harvest periods, and enhanced systems are in place to manage jet fuel supplies).
- AIP member companies also have well developed and workable allocation procedures for the equitable distribution of available supplies over the duration of a disruption.

### Supply Disruptions

- Each supply disruption involves a series of events which develops in its own way.
- The actions to address the situation will also unfold in a dynamic manner with different impacts at different points in the supply chain.
- Typical events with the potential to impact on supply reliability include:
  - Refinery production disruptions
  - Delay in supply of product from another location (eg. from intrastate, interstate or overseas)
  - Actual demand exceeding identified supply requirements
  - Stocks insufficient to meet short-term supply/demand shortfall.

### Management of Supply Disruptions

- Australian refineries are complex operations which for commercial reasons must operate at very high utilisation rates.
- Maintenance cycles are carefully planned to optimize the efficiency of the refinery.
- When maintenance is planned, actions are taken to minimise any potential impacts on supply reliability during the maintenance period as well as during the subsequent re-start period.
- Following on from the major investment in the Cleaner Fuels Program and in general refinery upgrades in recent years, Australian refineries have had an extended period of good reliability.
- Nevertheless there have been (and will continue to be) unplanned events which impact on refinery operations and create fuel supply challenges at short notice.
- Individual refiner responses to these disruptions illustrate the rapid and comprehensive strategies in place to respond to supply disruptions, including:
  - in-refinery options
  - sourcing supplies from other refiners
  - sourcing supplies internationally
  - carefully allocating bulk fuel supplies to customers.
- While there may be stock-outs for some products at some retail sites as a result of short term supply disruptions, motorists have had alternative supply options at all times, and there has been no significant across the board panic buying.
- Federal and relevant state Ministers and departmental officials are kept fully informed of developments when there are supply disruptions.

### Management of a Liquid Fuel Emergency (LFE)

- Major amendments to the liquid fuel emergency (LFE) legislation were passed by Parliament in 2007 with the support of AIP member companies.
- The industry is now working with the Federal and State governments (through NOSEC) to implement key regulations (Guidelines and Directions) under the Act.
- The broad strategic approach to responding to a national LFE is established through the legislation, the national plan and the intergovernmental agreement between Federal and State governments.
- The regulations will provide the detailed actions to be undertaken by industry and government, and are critical to shaping the way industry and government will work together to prepare and plan for responding to a fuel supply emergency, as well as the responsibilities of all parties during an LFE.
- AIP member companies support a strong market based approach to responding to any fuel supply emergency, and that maximum use is made of existing business practices along the supply chain.
- AIP member companies are keen to ensure that any areas where there is potential for government intervention in the market or the supply chain, these are very clearly defined and that the bases for intervention are well documented and understood by all parties in advance of any emergency.
- A key issue moving forward is establishing robust arrangements between industry and the ACCC to enable effective consultation on supply planning in the period immediately prior to a LFE.

# MAINTAINING SUPPLY RELIABILITY IN AUSTRALIA

## (1) INTRODUCTION

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This background paper focuses on supply reliability from an overall market and framework perspective, and outlines generic industry approaches and mechanisms, rather than detailing the characteristics and supply footprints in particular jurisdictions or markets.

The coverage of the paper includes:

- Supply and demand facts
- The supply chain and stockholdings
- Industry actions to maintain supply reliability
- Supply disruptions and industry management
- Government responses to a liquid fuel emergency (LFE).

## (2) SUPPLY & DEMAND FACTS

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### (a) The Crude Oil Requirements for Australian Refineries

Australia consumes a very small proportion of global crude oil production.

Of the oil consumed in Australian refineries, around 30% is sourced from Australian oilfields.

There are important reasons for this.

- Australian crudes tend to be lighter (lower density) and sweeter (lower sulfur) than most crude oils. This leads to generally higher prices for our crudes and Australian refiners can find cheaper alternatives.
- The product yields from Australian crudes do not match the proportions of products required by Australian consumers (ie. for LPG, petrol, jet fuel and diesel).
- In addition, Australian crudes are not suitable for producing heavier products such as bitumen, lubricating oils and greases.

Therefore, in order to produce the required product slates in Australia – including with the appropriate fuel qualities and at the lowest production costs - Australian refineries use a mixture of crudes from a variety of sources.

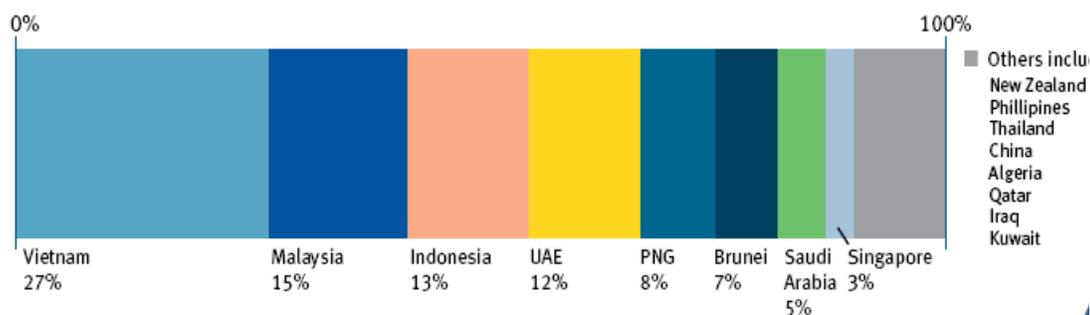
Around 70% of crude oil used in Australian refineries is imported.

In 2006-07, these imported crudes were sourced from over 16 countries mainly from:

- Asia-Pacific - around 80% of imports (or 55% of crude oil requirements)
- Middle East - around 20% of imports (or 15% of crude oil requirements).

This means that any supply disruption risks are spread between domestic and imported crudes, and crude oils from a variety of different sources.

**Figure 1: Imports of Crude Oil (2006-07)**



Source: Australian Petroleum Statistics

Reliable access to crude oil supplies suitable for Australian needs has not been a problem, even during periods of rapidly rising oil prices. Australia will continue to be able to access crude oil and products to meet its fuel requirements as long as we pay the international market price. There is no reason to believe this situation will change.

## (b) Refinery Production & Petroleum Product Demand

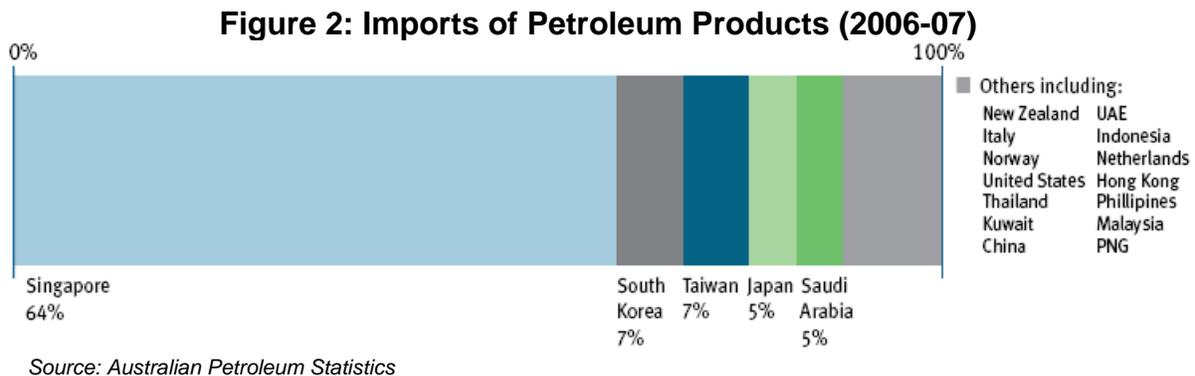
Australia has seven operational refineries (with the mothballing of Port Stanvac). They were generally constructed in the 1950s and 1960s, although they have been extensively modified since then – particularly in 2005 and 2006 with the industry’s substantial investment in the Cleaner Fuels Program. They are small refineries by regional standards, with our largest refinery (Kwinana, WA, @ 8,000 ML pa) being around 12% the size of the largest Asian refinery (Jamnagar, India, @ 70,000 ML pa). The Reliance Industries refinery in Jamnagar has nearly twice Australia’s total refining capacity.

From the domestic and imported crude oils noted above, Australian refineries produce a full range of petroleum products including:

- o petrol (46%)
- o diesel (29%)
- o jet fuel (14%)
- o fuel oil (2%)
- o LPG (4%)
- o lube oils, bitumen and other products (5%).

It also produces a substantial volume of product for chemical feedstock.

In 2006-07, Australian refineries supplied around 75% of total Australian demand for petroleum products. That is, around 25% of demand (12,420 ML) was met by imports. As shown in Figure 2 below, the bulk of imported petroleum products was from Singapore (around 64 %); the proportion of diesel imports from Singapore was about the same (63%) while the proportion of petrol imports was much higher (around 90%).



A proportion of this imported volume was supplied to northern and north western areas of Australia where, compared to larger Asian refineries, domestic refineries generally are unable to competitively supply market needs.

## (c) Demand Growth

Since 2000, demand for total petroleum products in Australia has grown by 2% per annum, with varying growth rates for different fuels. For example, demand for middle distillates like diesel and jet fuel have been growing at around 5% per annum, whereas demand for petrol has been growing at around 1% recently.

### (3) THE SUPPLY CHAIN

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The Australian liquid fuel supply chain has considerable span and diversity – from crude and product shipments, refinery throughput, storage facilities, extensive terminal and distribution networks, and around 6000 retail service stations.

#### (a) Length of Supply Lines & Stockholdings

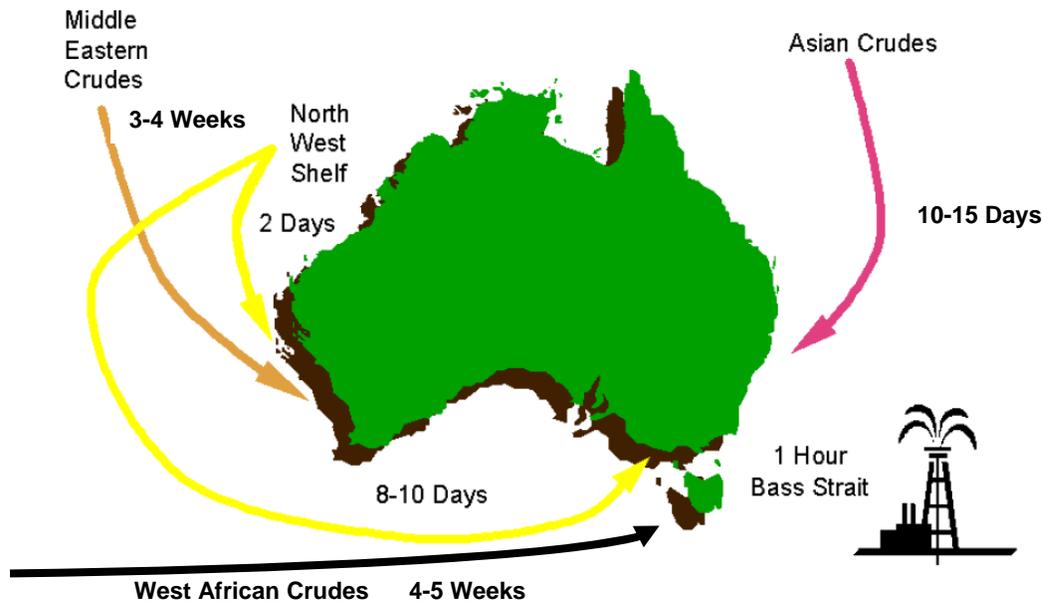
Refinery operations are based on linear programming models which match the Australian product demand with refinery equipment and capabilities leading to decisions on which crude oils to purchase for the least amount of money and still be able to meet product demand.

The length of the crude oil supply lines is on average:

- around 3-4 weeks for the 15% supplied from the Middle East
- around 10-15 days for the 55% supplied from Asia
- around 1-10 days for the 30% of indigenous crude oil.

There is additional lead time required for ordering/purchasing the crude oil and securing the ships to bring it to Australia. This raises the overall supply time to around 3 months (ie. ordering in early February for April cargoes).

### Length of Crude Supply lines



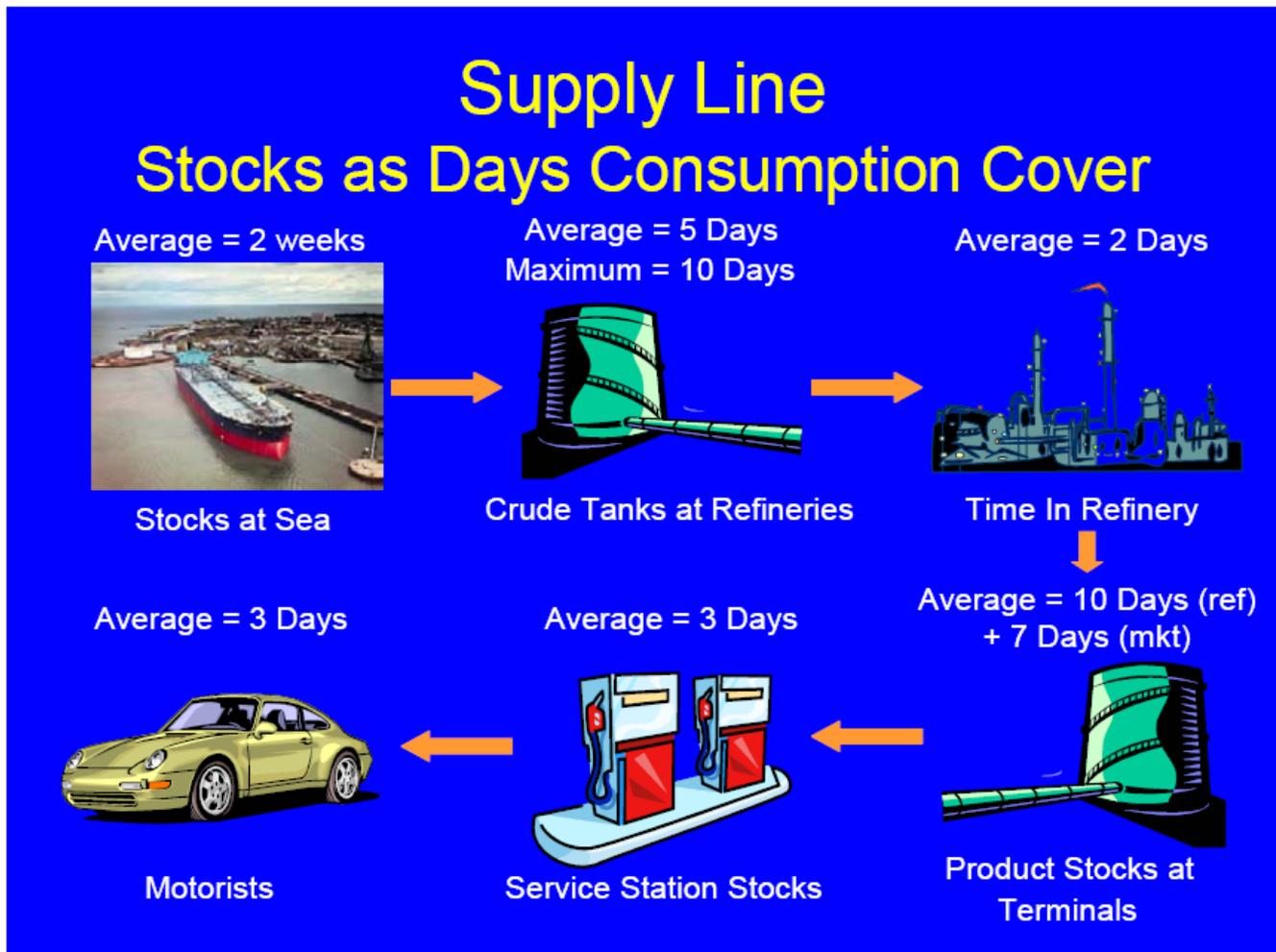
#### Refineries & Terminals

Once the crude oil reaches the refineries it is stored in holding tanks and these can hold anywhere from 10-15 days of refinery consumption, where crude supply is by ship, down to perhaps 1 or 2 days for pipeline supply.

Refineries generally consume crude oil until around 5 days supply is left in the tanks with tankers scheduled to arrive to fill up the tanks to capacity.

The minimum planning inventory of around 5 days consumption provides the refinery with security of supply in case the tanker is delayed (eg. due to bad weather).

The important point here is that there is little or no surplus tankage for crude oil at refineries. Crude tanks operate between full and relatively low inventory on a regular basis, in line with the supply shipping pattern. Crude oil will usually take 7 -10 days in total to be processed into final product. Refinery terminals typically hold the equivalent of 10 days of consumption. Marketing terminals typically hold an additional 5-7 days of products supply. There are generally no spare product tanks at refineries or marketing terminals.



### Distribution

The structure of distribution has been changing over the past few years in the search for greater efficiencies. The major change has been the removal of intermediate steps/handling wherever possible, facilitated by improved roads and trucks.

That is, there is an increasing trend for fuel distributors to supply their customers directly from large terminals or other seaboard facilities, rather than handling product through local area depots as in the past. For example, on the eastern seaboard 80% of product is delivered directly from major refinery or import terminals to service stations or other end-consumers.

Depots now tend to be restricted to some country areas where the delivery of smaller volumes is required for farm use and other local needs and because of the smaller size of tankage at many rural service stations. The effect of this trend is that the product supply lines ex-refinery or terminal have shortened considerably and there is less storage capacity along the supply chain. The reduction in the number of secondary storage facilities (particularly country depots) and ongoing decreases in the number of retail sites has resulted in an overall decline in the amount of product in the supply chain ex-refinery.

## **(b) The Impact of Higher Imports and Cleaner Fuel Standards**

The financial underperformance of the downstream petroleum sector during the 1990's led to a rationalisation of the supply chain to improve efficiency and as a consequence lowered aggregate stocks

The Australian liquid fuels market has also now entrenched itself as a structural importer with the mothballing of Port Stanvac in July 2003. This means that any additional demand, such as normal growth in the demand and demand spikes, will be met from increased imports. This situation is expected to continue in the foreseeable future.

There are different opinions about whether increased imports impact on Australia's supply reliability. Some argue that the greater length of supply lines and the time required for imported cargoes to reach Australia, place the market at greater risk of supply disruptions and constrain response options to disruptions.

However, it is AIP's view that the increased frequency and volume of shipping to Australia means greater supply reliability because there is greater flexibility in the supply chain. That is, this outcome is providing wider sources of supply and is helping to increase the options available to acquire (in the market) and bring cargoes of fuel to Australia in response to an emergency. The increasing frequency of ships bringing fuel to Australia has also increased industry flexibility in responding to unplanned supply disruptions at particular locations. Relevant shipping lanes are viewed as secure, underpinned by US naval presence.

A further complexity surrounding supply reliability, and the supply chain more generally, is the move to cleaner fuel standards here in Australia.

Australian fuel quality standards moved ahead (in 2003 and 2006) of traditional import sources in Asia. While supply options in the region were limited initially, there is currently no problem in sourcing product of Australian quality from the Asia-Pacific region. With the growing demand for fuel produced to Australian specifications, Asian refineries are producing more regular batches of Australian quality fuel. Availability of this fuel should continue to improve as other countries move to fuel standards which are more closely aligned to European standards over the next few years.

Although there are regulated federal standards for fuel quality, there are still a number of state-based regulations on some fuel quality parameters (eg. MTBE in WA, regional volatility specs), which will limit absolute flexibility to move cargoes between jurisdictions.

#### **(4) INDUSTRY ACTIONS TO MAINTAIN SUPPLY RELIABILITY**

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##### **(a) Industry Incentives for Reliable Supply**

Overall, reliable supplies of high quality fuel are considered essential to maintain customer loyalty to brand, as well as to maximise business commercial viability.

Fuel supply reliability remains a high priority for AIP member companies. Each AIP member has the incentive to keep all areas adequately stocked as a “stock-out” will force customers to source product from a competitor leading to a loss of revenue and profits.

Stock-outs also have the potential to adversely affect customer confidence in the supply reliability of the company concerned. Companies, therefore, have a strong incentive to avoid supply disruptions and the perception of supply vulnerability.

As a result, oil companies and their distributors encourage the active management of stocks with the customers, particularly in markets with limited supply options (eg. remote areas).

##### **(b) Industry Actions to Maintain Supply Reliability**

AIP member companies have undertaken extensive reviews of their supply chain operations and commercial levels of stocks. Improved information flows have been set up to better manage peak demands for products in various regions. For example, better forecasting systems have been developed for diesel demand during harvest periods, and enhanced systems are in place to manage jet fuel supplies.

##### Effective Demand Forecasting

AIP members continuously review demand forecasts and impress on their distributors and ultimately their customers the importance of providing accurate and detailed demand forecasts.

The Australian Petroleum Statistics (APS) monthly data indicate that the total demand for petroleum products does not display any appreciable seasonality on a national basis with sales being fairly constant throughout the year. However, there are demand spikes (particularly at the end of each year) as a result of harvest time, holidays and defence department requirements. The intensity of these demand spikes varies across fuel types and geographical areas.

Large and unanticipated surges in demand by customers will always present a supply challenge because of the commercial imperative not to hold excess stocks in any part of the supply chain, and physical limitations in the supply chain.

## Stock Levels

AIP member companies review their stock levels on an ongoing basis to determine whether demand characteristics have altered sufficiently to warrant an increase in stock levels at certain locations.

The current levels of commercial stockholdings reflect a considered assessment of the operating conditions throughout the supply chain and the risks more likely to be encountered by refiners and others in operating the supply chain.

From time to time views are expressed by some parties that Australia's security of liquid fuels supply will be improved through an increase in the level of stocks in the supply chain.

It is AIP's view that consideration of this option requires very careful examination of the costs of stockpiling against the risk-weighted benefits of such action. An increase in stock levels will place additional costs on the supply system that would ultimately be passed on to the consumer unless government underwrote the significant costs.

## Bulk Allocations

AIP members seek to ensure continuous supply to all areas which involves simultaneously managing all aspects of the supply chain from crude shipments, refinery throughput, and terminal and distribution capacities. Different points in the supply chain will be subject to different constraints, such as pipeline capacity or the availability of transport.

Normally AIP members would expect to meet all requests for fuel purchases at the terminals. However, circumstances may arise where demand exceeds supply when, either actual demand exceeds forecast demand or when there is a supply disruption. When a potential demand-supply problem is emerging AIP members will attempt to meet demand using all available supply alternatives.

If it transpires that the ability of AIP members to ensure continuous supplies is at risk, the chief mechanism for managing supply is allocations at the terminal.

Allocations are the supply of existing contracted customers at a proportion of their usual forecast demand profile.

When supply is subject to allocations, spot sales are not conducted and may result in an uncontracted purchaser being declined supply by a particular company at a particular time and location. Spot sales account for approximately 5% of sales in the normal course of business.

- Many bulk customers remain uncontracted as a competitive strategy as it allows them to purchase fuels at lower prices by timing their purchases. Bulk customers who benefit from remaining uncontracted must also expect the consequences of potential non-supply when supplies are tight.
- Most bulk customers, however, prefer to enter into term contracts with fuel suppliers to guarantee supply availability in a fuel supply restriction (such as might arise from refinery outages) and to provide site branding and access to fuel card operations.

- For large volume contracts, highly competitive prices can be negotiated with suppliers. These negotiations take account of:
  - the value of large supply volumes in planning refinery and import operations
  - the value of regular uplift of product in pipelines and tankers that enables the maximum use to be made of delivery vehicles
  - the risks that can be managed between supplier and customer in relation to future movements in petroleum product prices.

Allocations are used where the actual demand exceeds supply and oil company stock levels are expected to be drawn down at an unacceptable rate. In the case where there is an unexpected demand surge, the allocation may still exceed the forecast demand but may still not meet actual demand (eg the allocation may be at 120% of the contracted volumes).

Allocations are usually commenced at 100% of contracted volumes. Most customers are not aware that there is a potential supply problem as contracted supplies are still being delivered. Purchasers wishing to buy on the spot market will not be able to purchase product from that supplier when allocations are in place.

Allocations falling below 100% of contracted volumes are a potential indication of a supply problem and the impact on customers would depend on the expected duration of the event and customers' stock levels.

The use of allocations could therefore be characterised as a precautionary measure which largely ensures an equitable distribution of available supplies over the duration of the event. In more severe supply events, allocations also ensure that sufficient stocks are maintained for the use of emergency services.

### **(c) Supply Reliability: Recent Performance**

By global standards Australia has a good level of fuel supply reliability. This record is despite the unique and significant challenges in distributing fuel in a country as geographically dispersed as Australia.

Since 2000, the industry has experienced a number of supply disruptions. These include the difficulties in 2003 with the supply of jet fuel in Sydney and the steps implemented by government to address that issue. The situation with diesel and petrol is markedly different to that of jet fuel which has a single supply point at the airport Joint User Hydrant Installation (JUHI). Australia's diesel and petrol markets have many supply points with many competing companies including significant independent players vying for market share.

Other supply disruptions have also included major refinery outages, on occasion for months at a time, and in every instance the industry has managed to arrange supply through imports and established inter-company processes without any significant shortfalls in the market.

The success of these processes suggests there is no need to introduce additional arrangements for the day-to-day management of diesel and petrol supply, except under extreme circumstances.

## **(5) SUPPLY DISRUPTIONS & INDUSTRY MANAGEMENT**

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### **(a) Supply Disruptions**

Each supply disruption involves a series of events which develops in its own way. The actions to address the situation will also unfold in a dynamic manner with different impacts at different points in the supply chain. In the first instance, AIP members establish whether steps can be taken to ensure a seamless supply from other sources and then determine whether there is a significant issue for customers.

In classifying supply disruptions there are two key criteria:

- the magnitude of the undersupply (represented by ability to meet forecast demand)
- the duration of the disruption (dependant on its nature, the opportunities for overcoming the supply disruption and the magnitude of the stock draw down in the supply chain).

There are a variety of potential events in the supply chain which may or may not prove to be an issue for certain types of fuel customers; a list of such events is outlined in Box 1 below.

#### **BOX 1: Typical events with the potential to impact on supply reliability**

##### Refinery production disruptions

- Delay in crude arrival or crude berth closure (eg. bad weather)
- Off-spec production
- Inability of units to operate at optimum/maximum output
- Technical failure of production unit resulting in shut-down of unit
- Unit shut-down for planned maintenance
- Unit shutdown for unplanned maintenance

##### Delay in supply of product from another source/location

- Delay in arrival of import shipment
- Delay in arrival of inter/intra state shipment
- Off spec imported product
- Lack of availability of road tankers
- Malfunction of unloading transfer facilities (eg. at port or gantry)
- Malfunction in pipeline transfer facilities (eg. between refineries)
- Physical limitation of pipeline transfer system
- Third party supplier unable to meet orders

##### Actual demand exceeding identified supply requirements

- Changed timing of supply requests
- Unplanned events increasing demand (eg. drought breaking rain leading to mass planting)
- Deficiencies in supply planning processes
  - Inability to fully capture demand requirements
  - Operational system failure

##### Stocks insufficient to meet short-term supply/demand shortfall

- Refiners' stocks depleted from previous event
- Refiners' stocks insufficient to meet shortfall
- Terminal safety stocks insufficient (eg. tanks out-of-service for maintenance)
- Customer stocks depleted through recent activity
- Customer stocks insufficient to meet shortfall

Normal 'technical' supply problems (eg. shipping delays, refinery problems, land freight disruptions, pipeline leaks, compressor break downs) are capable of being managed by the market and are not expected to require the activation of LFE legislation.

Significant supply disruptions (eg. catastrophic equipment or pipeline failure/fire, shipping accidents, natural disasters, strikes and weather events causing port, road and rail closures) would trigger normal commercial safety management response mechanisms. But the market would be the normal mechanism for handling the supply response.

In the event of a terrorist attack on an offshore or onshore facility, established risk assessment, risk mitigation and crisis management mechanisms are in place outside the coverage of the LFE legislation. Management of supply consequences would be handled through market based mechanisms.

The LFE legislation should only be considered for activation in an extreme situation where broad based rationing (across multiple jurisdictions) would be necessary for an extended period and be beyond the capability of the industry to manage on its own.

## **(b) Industry Management of Supply Disruptions**

Australian refineries are complex operations which for commercial reasons must operate at very high utilisation rates.

Maintenance cycles are carefully planned to optimize the efficiency of the refinery. When maintenance is planned, actions are taken to minimise any potential impacts on supply reliability during the maintenance period as well as during the subsequent re-start period.

Following on from the major investment in the Cleaner Fuels Program and in general refinery upgrades in recent years, Australian refineries have had an extended period of good performance reliability.

Nevertheless there have been (and will continue to be) unplanned events which impact on refinery operations and create fuel supply challenges at short notice.

Individual refiner responses to these disruptions illustrate the rapid and comprehensive strategies in place to respond to supply disruptions (see Box 2 below).

The range of response options can be categorised into four types, namely:

- in-refinery options
- sourcing supplies from other refiners
- sourcing supplies internationally
- carefully allocating bulk fuel supplies to customers.

While there may be stock-outs of some products at some retail sites as a result of short term supply disruptions, motorists have had alternative supply options at all times, and there has been no significant across the board panic buying.

## **BOX 2: Industry Response Options to a Supply Disruption**

The main response options available to refiners to meet a demand-supply shortfall include:

### In-refinery options

- Repair production unit or handling facility
- Draw down refiners stocks
- Truncate maintenance program
- Increase production throughput of facility
- Technical refinery options (depending on duration of the supply disruption):
  - Alter the cut points for different products
    - This option could mean less jet fuel.
  - Change catalysts to produce more/less diesel/petrol (lengthy disruption)
    - Very expensive and 3 month implementation time
  - Change crude types together with relaxation of fuel standards (lengthy disruption)
    - 3 month implementation time

### Source alternative supplies from other refiners

- Availability depends on location and time to relocate stocks

### Source alternative supplies internationally

- Spot and stranded loads
- Redirection of international cargoes

### Allocate bulk fuel supplies to customers

- Constrain supply to customers in order to encourage draw-down of customer stocks

### Other options

- Utilise other transport means to move product
- Modify/improve supply planning strategies and customer consultation

## Notification Procedures

AIP members maintain close contact with relevant Federal and State/Territory government authorities and keep them apprised of the supply situation on an ongoing basis.

AIP members inform the appropriate government(s) and departments when it is probable that customers will experience a major impact from a supply disruption.

AIP members encourage customers to contact their fuel supplier in the first instance about any supply issue rather than pursue concerns through politicians or the media.

### **(c) Future Management Challenge**

An industry supply reliability challenge is the adequacy of infrastructure to meet increased fuel demand in future.

For example, the growth in demand noted in Section 2 must be met through increased imports through terminals/refineries and/or movement of products between refineries.

Industry infrastructure investment will continue to be focused on maximising the efficiency of the supply chain.

As part of industry's ongoing efforts to maintain supply reliability, industry will be considering further investment in port unloading, terminalling and storage capacity.

In this context, it is important that a positive investment environment is maintained and any barriers to efficient investment in additional supply chain improvements are removed.

## **(6) GOVERNMENT RESPONSES TO LFE**

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Major amendments to the liquid fuel emergency (LFE) legislation were passed by Parliament in 2007 with the support of AIP member companies. The industry is now working with the Federal and State governments (through NOSEC) to implement key regulations under the Act (the Guidelines and Directions). The broad strategic approach to responding to a national LFE is established through the legislation, the national plan and the intergovernmental agreement between federal and State governments. The regulations will provide the detailed actions to be undertaken by industry and government, and are critical to shaping the way industry and government will work together to prepare and plan for responding to a fuel supply emergency, as well as the responsibilities of all parties during an LFE.

In general, governments are faced with the following choices to match supply and demand if the situation is beyond the ability of industry to manage:

### (1) Improve supply

- Relax fuel standards (eg. raise sulfur levels in diesel) to allow greater choice of crude oils and greater yield of product
- Require the establishment and maintenance of strategic stockpiles of crude oil.

### (2) Constrain demand

- Prioritising fuel customers (ie. emergency services to have full access to supplies and everyone else is rationed)
- Rationing fuel supplies at retail outlets (eg. using measures such as odds and evens, maximum dollar or volume amounts allowed per customer).
- Controlling public order and access to supplies.

Overall, AIP member companies support a strong market based approach to responding to any fuel supply emergency, and that maximum use is made of existing business practices (eg. bulk allocation procedures) along the fuel supply chain.

AIP member companies are keen to ensure that any areas where there is potential for government intervention in the market or the supply chain, these are very clearly defined and that the bases for intervention are well documented and understood by all parties in advance of any emergency.

### **(a) Waivers for Environmental Standards**

A recent Study prepared by Economic Associates Pty Ltd for the Department of Resources Energy & Tourism assessed the extent to which net supply of petrol and diesel might be increased during an LFE by the relaxation of fuel standards (relative to fuel standards set under the *Fuel Quality Standards Act 2000*).

The main conclusion from this Study is that there would be greater scope to increase supply (ie. to increase production and to accelerate the importation of cargoes from overseas) if packages of relaxations in fuel quality standards were implemented. Packages recognise that the capacity of industry to respond to any relaxation would not be uniform and that greater 'degrees of freedom' for refiner/marketers was needed to optimise responses to an LFE.

The Study produced a draft set of guidelines for packages of fuels standards variations to be used in the event of an LFE. AIP considers that these guidelines need to be formalised and subject to further consultation with a view to having these guidelines approved, at least in principle, by NOSEC and Fuel Standards Consultative Committee (FSCC).

### **(b) Strategic Stockpiles of Crude or Petroleum Products**

Views are expressed by some parties that Australia's security of liquid fuels supply could be improved through an increase in the level of crude and product stocks ('strategic stocks').

As noted above, it is AIP's view that consideration of this option requires very careful examination of the costs of stockpiling against the risk-weighted benefits of such action.

The current levels of commercial stockholdings reflect a considered assessment of the operating conditions throughout the supply chain and the risks more likely to be encountered by refiners and others in operating the supply chain. An increase in stock levels will place additional costs on the supply system that would ultimately be passed on to the consumer unless government underwrote the significant costs.

Assuming suitable crude storage facilities can be found (natural or tank farms), the costs of acquiring, holding and managing a crude stockpile would be substantial. Stocks would need to be very substantial to provide petroleum products to the market for an extended period. Increasing stocks of petroleum products is also far from straightforward. There are issues around turnover of stock, seasonal changes to product specifications, and potential quality degradation over extended storage periods.

### **(c) Retail Rationing & Maintaining Consumer Confidence**

The main and direct role for government is in an extended event which necessitates retail rationing. In all other cases direct government intervention is likely to exacerbate the supply disruption (eg. through actions which encourage panic buying or limit the effectiveness of price adjustments as a demand management tool).

However, there are other actions where government and industry can work together to maintain consumer confidence in fuel supply reliability and to improve supply planning processes. These include governments and industry reassuring stakeholders that the supply situation has been reviewed and various measures have been put in place to deal with a major supply disruption and, more broadly, agreement by governments to harmonise fuel standards across jurisdictions.

### **(d) Improving the Effectiveness of Market Based Mechanisms**

AIP member companies believe that consumers are best able to make decisions about their need for liquid fuels and the way they use those fuels based on information about price and availability. Consumers are also able to make decisions about how they will manage the risks of a supply disruption so that their economic and social interests are handled in the way that best suits their interests. Some consumers may invest in extra stockholdings while others may change the way they do things to avoid or minimise the impacts of possible disruptions.

The need to provide adequate information to customers to allow them to make informed decisions about management of supply risks is exacerbated in periods of high relative prices, where customers face additional working capital implications of holding higher stocks.

Provided fuel suppliers have a good up-to-date knowledge of consumer needs for various petroleum products in locations across Australia, the petroleum industry is able to develop and operate an optimally efficient refining and supply chain.

The effectiveness of this market based approach will of course improve through removal of barriers and constraints to its operation. From the petroleum industry perspective, these currently include:

- the level of dialogue between consumers and suppliers about unusual levels of demand for particular products
- perceptions that consumers need only hold very limited stocks on the basis that stocks will be held by suppliers, or governments will intervene to protect consumers' interests if supplies are not forthcoming
- perceptions that all consumers are essential users and will get preferential supplies during a supply disruption
- the existence of price control legislation in some jurisdictions, which will constrain the functioning of the price mechanism in rationing available supplies during an emergency, and which discourage consumers from considering the potential impacts on business and lifestyle of high fuel prices during a supply disruption.

#### **(e) Trade Practices Considerations**

The LFE legislation provides for exemption from the provisions of the Trade Practices legislation once a liquid fuel emergency has been declared. This provision is essential if the oil industry is to participate effectively in national and regional co-ordination bodies with governments to manage the production and distribution of liquid fuels to essential users and others during an emergency.

However, AIP believes consideration must be given to how industry and government can more effectively co-operate on essential preparations prior to an emergency being declared.

Industry believes there is a case for development of guidelines and appropriate legislated powers for handling matters during this period that might otherwise raise trade practices concerns.

The key concern is to remove uncertainty about what can be discussed so that pro-active, rather than cautious, preparatory work can be undertaken.

This preparatory work could include:

- co-ordinated release of stocks around the country
- co-ordinated refinery outputs to minimise the need for movement of products between regions
- co-ordinated approaches to supplying essential users whether through bulk supplies or through designated service stations.