

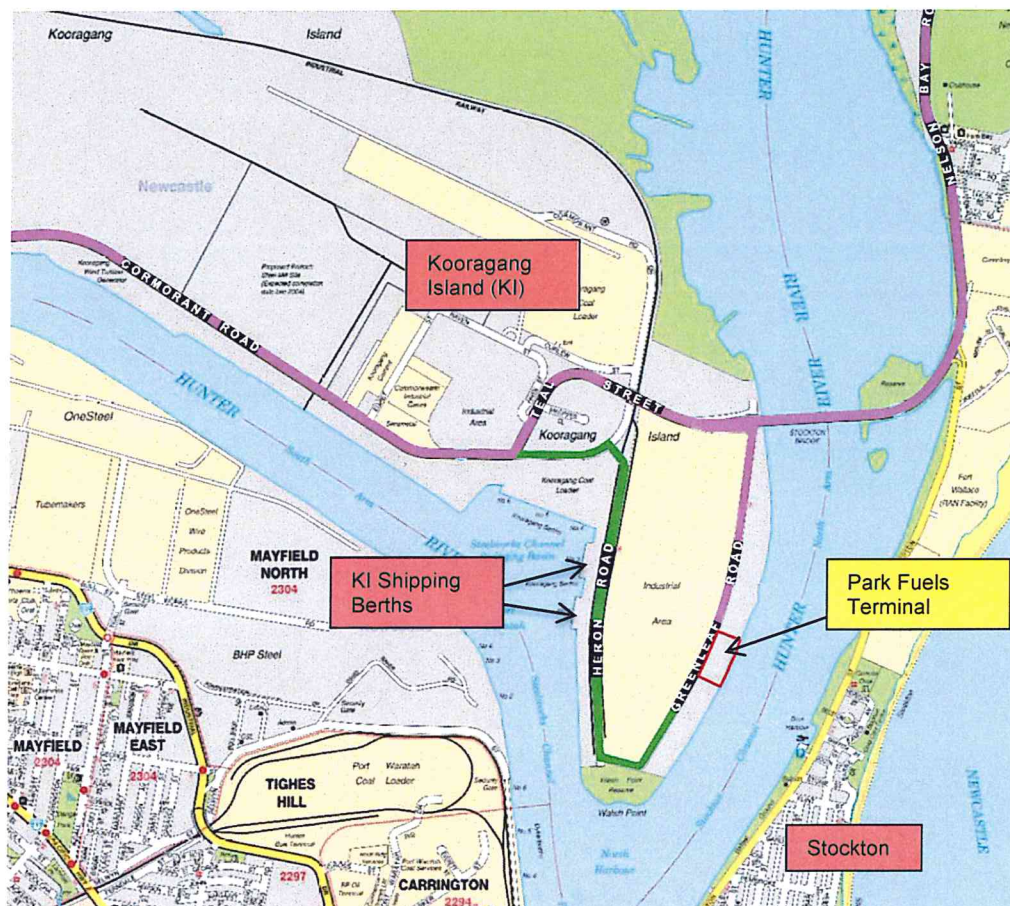
**Park Fuels  
MP07\_0066 MOD 1 & 2  
Section 75W Modifications**

## 1. BACKGROUND

On 2 June 2008, the then Minister for Planning approved an application from Manildra Park Pty Ltd (now known as Park Fuels) to construct and operate a marine fuel storage and distribution facility at Greenleaf Road, on the southern end of Kooragang Island (see **Figure 1**).

The site is adjacent to the north arm of the Hunter River in the Port of Newcastle, which is managed by the Port of Newcastle (PoN) under a 98-year lease from the NSW Government which commenced on 30 May 2014.

Prior to 2008, the site was not occupied and contained only two unused fuel storage tanks. The site's redevelopment was proposed in response to the growing demand for marine fuel, required primarily for the export of coal (by ship). The approved facility is currently under construction, with works expected to be completed in early 2015.



**Figure 1: Site location**



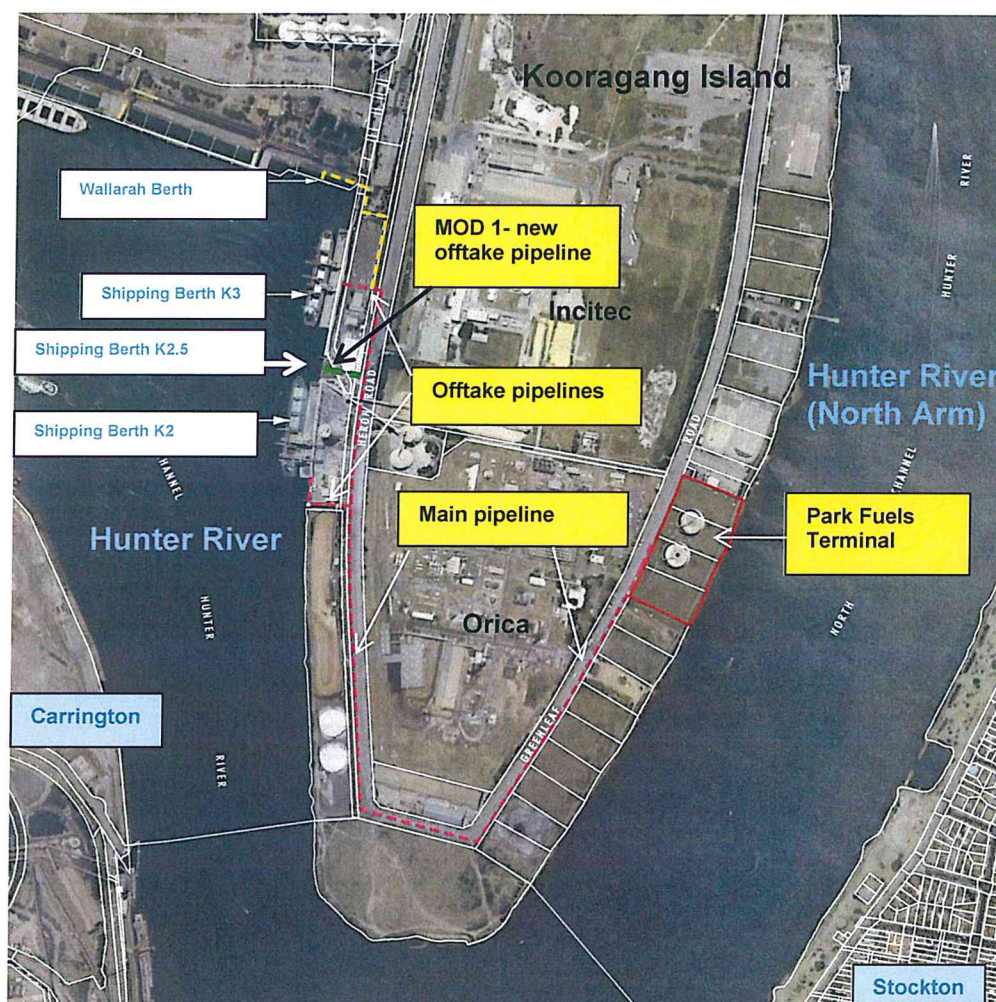
On completion, the approved facility would appear as depicted in **Figure 2**. Seven tanks within the terminal site would store up to 577ML a year of marine fuel, diesel and biodiesel.



**Figure 2:** Photomontage of the proposed facility as viewed from Stockton

## 1.2 Site context

The southern portion of Kooragang Island (see **Figure 3**) has steadily grown since the early 1960's. It currently supports a range of major industrial development, including heavy and light industries and transport and distribution infrastructure.



**Figure 3:** The Park Fuels site and surrounding land use on Kooragang Island

The closest industrial neighbours to the Park Fuels Terminal site are Orica and Incitec Pivot which manufacture a range of chemicals but primarily commercial explosives and blasting systems for the mining and infrastructure markets.

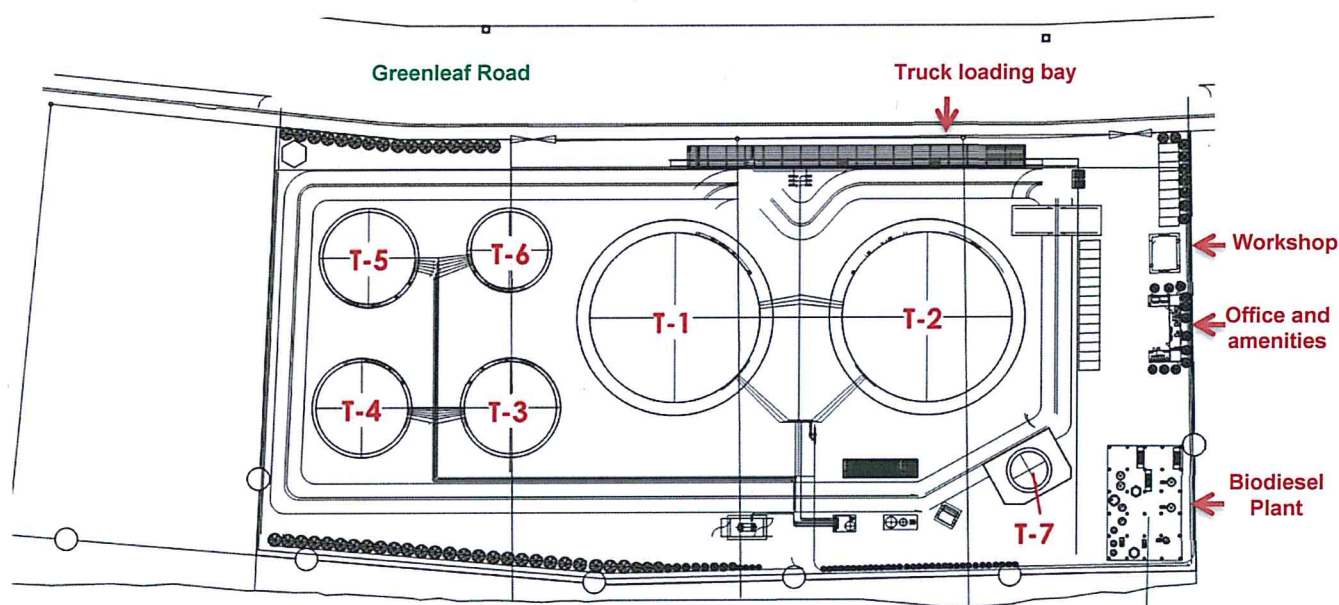


Nearby shipping Berths (K2 and K3) are purpose designed ship unloading and storage facilities handling materials for nearby industry i.e. Orica, Incitec Pivot and Cargill. Berth K2.5 has also recently been constructed by PoN and is purpose built for ships unloading or loading product by pipeline.

The closest residential suburbs to the Park Fuels terminal are Stockton (600m to the east), Fern Bay (over 1km to the north) and Carrington (1.6km to the south-west).

### 1.3 Approved project

The approved site layout is primarily depicted in **Figure 4** and included seven fuel storage tanks and a biodiesel production plant. The project also includes pipelines for the transfer of fuel from ships docked at berths K2 and K3 to the Park Fuels Terminal (see **Figure 3**).



**Figure 4:** Layout of approved Marine Fuel Storage and Biodiesel Production Facility

In summary, the project involves:

- the refurbishment of the two existing tanks (T-1 and T2) at the Park Fuels Terminal site;
- the construction of additional tanks (T-3 to T-7) including one for the storage of methanol (T7);
- the unloading of marine fuel oil and diesel from ships at nearby ship berthing facilities (Berths K2 and K3);
- the transfer of these fuels from ships to two short underground 'offtake' pipelines (these pipelines that start near the shipping berths and take fuel from ships to the main pipeline);
- a main pipeline underneath Heron and Greenleaf Roads for the transfer of fuel from the offtake pipelines to the Park Fuels Terminal;
- the distribution of fuels from the Terminal back to ships via a refuelling barge to be located at Wallarah Berth, immediately north of Berth K3;
- the distribution of fuels to road tankers in the 'Truck Loading Bay'; and
- production of 52ML a year of biodiesel using imported or domestic feedstock brought to the site via the K2 and K3 berths or road tankers.

The Department has now received two separate section 75W modification applications from Park Fuels (the Proponent), seeking to modify minor components of the approved facilities referred to within Project Approval (MP07\_0066). Modification 1 (MOD 1) seeks to enable

the use of a newly constructed wharf (K2.5) through the connection of a new offtake pipeline.

Modification 2 (MOD 2) seeks to modify the tank design of three tanks at the Terminal site to support current commercial demands. PoN has provided land owner's consent for the proposed modifications.

## **2. PROPOSED MODIFICATIONS**

### **2.1 Modification 1 (MP 07\_0066 MOD 1)**

On 21 February 2014, the Department received a modification application (MOD 1) under Section 75W of the EP&A Act.

Park Fuels are seeking approval for a new offtake pipe to Berth K2.5 and the slight re-alignment of the previously approved offtake pipe to Berth K2. PANSW had recommended that Park Fuels utilise the new Berth K2.5, as it has been constructed specifically for ships loading or unloading product by pipeline.

The use of an additional offtake pipe will allow Park Fuels to transfer fuel products to and from three shipping Berths (K2, K2.5, and K3), providing greater operational versatility. The dotted line coloured green on **Figure 3** indicates the location of the proposed new offtake pipeline which is proposed to be around 75 metres (m) long and 40 centimetres (cm) in diameter, and:

- located in a trench underground,
- located above the known depth of groundwater;
- outside of an area of soil known to be contaminated by Orica; and
- similar to the two approved offtake pipelines from Berth's K2 and K3.

The Proponent has submitted an addendum to the 2008 Preliminary Hazard Analysis (PHA) in support of this modification application.

Construction impacts from the new offtake pipeline are expected to be managed in accordance with the approved Construction Environmental Management Plan (CEMP).

### **2.2 Modification 2 (MP 07\_0066 MOD 2)**

On 21 May 2014, Park Fuels lodged a second modification application (MOD 2) to replace the Internal Floating Roofs (IFR) for Tanks T1, T2 and T7 (refer to **Figure 4**) with standard fixed roofs without the internal floating 'blankets'. These tanks were originally designed with IFR to minimise potential vapour emissions.

The revised tank design is less expensive to install and easier to maintain, and Park Fuels considers that IFR is no longer required for these tanks.

In addition to the above changes, T7 would be used for the storage of biodiesel rather than methanol. Park Fuels considers that the removal of methanol storage from the Project significantly reduces the risks involved with the operation of the facility, in particularly the risk of flammable vapour generation.

The EA for this application included a qualitative PHA to demonstrate that the changes on the site would not significantly increase the risks from the site.



## 4. STATUTORY CONSIDERATION

### 4.1 Modification

The Department is satisfied that the application can properly be characterised as a modification to the original Project Approval, and can therefore be assessed and determined under Section 75W of the Act, rather than requiring a new application, for the following key reasons:

- the primary function and purpose of the approved project would not change as a result of the proposed modifications;
- the modifications are of a scale that warrants the use of Section 75W of the EP&A Act; and
- any potential environmental impacts would be minimal and appropriately managed through the existing or modified conditions of approval.

### 4.2 Approval Authority

The approval for the fuel storage and biodiesel production facility was granted under Part 3A of the *Environmental Planning and Assessment Act 1979* (the Act).

In accordance with Clause 12 of Schedule 6A of the EP&A Act, Section 75W of the Act as in force immediately before its repeal on 1 October 2011 and as modified by Schedule 6A, continues to apply to transitional Part 3A projects. Therefore the Minister for Planning is the approval authority for the modification applications.

### 4.3 Delegated Authority

On 10 November 2014, the Minister for Planning delegated responsibility for the determination of section 75W modification applications to Directors and Managers who report to the Executive Director, Infrastructure and Industry Assessments where:

- the relevant local council has not made an objection; and
- a political disclosure statement has not been made; and
- there are no public submissions in the nature of objections.

The proposal complies with the terms of the delegation as Newcastle City Council (Council) does not object to the proposal, a political disclosure statement has not been made in relation to the application, and no public submissions were received in the nature of objections. Accordingly, the Manager – Industry Assessments may determine the application in accordance with the Minister's delegation.

### 4.4 Consultation and Submissions

The Environmental Assessment's (EA's) for the modifications were made publicly available on the Department's website. Consultation with adjoining landowners was considered to be unnecessary owing to the limited reach of predicted impacts associated with the modification.

The Department invited submissions from Port of Newcastle (PoN) in relation to both MOD 1 and MOD 2.

The Environment Protection Authority (EPA) and Newcastle City Council (Council) were also invited to comment on MOD 2, as it involved a more detailed assessment.

Agency and stakeholder submissions are attached in full at **Appendix C** and the issues raised are summarised below.

PoN did not object to either application but, in relation to MOD 1, requested that Park Fuels provide it with detailed design for the new pipeline for approval prior to the commencement

of construction. This requirements has been included with the recommended conditions of approval.

**Council** did not object to MOD 2, however requested clarification on whether Park Fuels intends to remove the manufacture of biodiesel from the project (i.e. 52 ML / year), as stated only in the Fire Safety Study (FSS) Addendum submitted with the EA.

The **EPA** requested clarification in relation to the vapour pressure of Biodiesel to be stored. It also recommended conditions relating to vapour pressure.

The **Department's** risk specialist (hazards) requested additional information or clarification in relation to MOD 2, including:

- normal and emergency venting arrangements for the three tanks which are to have fixed roofs rather than IFR (T1, T2 and T7);
- safety analysis for the hot oil system for T1 (containing heavy fuel oil); and
- updating the Fire Safety Study (FSS) for the modified site.

No public submissions were received.

Park Fuels provided the Department with a Response to Submissions report (RTS) on 10 September 2014. Delays in completing the assessment have occurred due to ongoing discussions between the Department's risk specialist and Park Fuels regarding the risk assessment and recommended conditions of approval.

## 5. ASSESSMENT

The Department has assessed the merits of the proposed modification(s). During this assessment, the Department has considered the:

- supporting documentation for the modification applications (see **Appendix B**);
- Secretary's assessment reports for the original project approval;
- existing approval conditions;
- all submissions (see **Appendix C**);
- relevant environmental planning instruments, policies and guidelines; and
- requirements of the Act, including the objects of the Act.

The Department considers the key issues associated with MOD 1 and MOD 2 are related to hazards and risk assessment. As such, the Department's risk specialist has reviewed the EA, submissions and RTS and provided comments and recommended conditions for approval. The Department's consideration of all issues and final recommendations associated with MOD 1 and MOD 2 are summarised in Table 1 below.

**Table 1: Assessment issues**

Issue	Consideration	Recommendation
<b>General Risk Assessment (MOD 1)</b>	<ul style="list-style-type: none"> <li>• MOD 1 involves the use of a new offtake pipeline for Berth 2.5. It would not increase the approved throughput of the facility.</li> <li>• A PHA had been prepared in support of the approved Project to assess hazard related issues resulting from the transfer, storage and transportation of 577ML a year of marine fuel oil, diesel, biodiesel, methanol, sulphuric acid and potassium hydroxide on the Terminal site and at the K2 and K3 wharves. The risks from these activities were considered to be negligible, except for the transportation of methanol.</li> <li>• The Department has considered the potential risks and hazards associated with the new offtake pipe, and considers that the hazards identified are the same as those assessed previously in the PHA and subsequent</li> </ul>	<p>Recommended conditions require the Proponent to:</p> <ul style="list-style-type: none"> <li>• provide PoN with the detailed design for the new pipeline for approval prior to commencement of construction; and</li> <li>• update the approved Construction Safety Study, to</li> </ul>



	<p>hazard related reports including the Final Hazard Analysis (FHA), Hazard and Operability Study (HAZOP), Fire Safety Study (FSS), and Construction Safety Study (CSS). These studies have all been undertaken and approved by the Department in accordance with existing Project Approval conditions.</p> <ul style="list-style-type: none"> <li>The Department considers that there is no need for further detailed analysis of hazards and risks as the third offtake pipeline would not significantly alter the operational risks at the Kooragang Island wharf area; however it has recommended that the approved Construction Safety Study be updated to reflect the new pipeline.</li> <li>PANSW raised no concerns with MOD 1 but requested detailed design for the new offtake pipeline prior to the commencement of construction. The Department has included this requirement in the recommended conditions of approval.</li> <li>The Department's assessment concludes that the third offtake pipeline would provide greater operational versatility without any additional risks.</li> </ul>	<p>include the changes introduced by MOD 1 to the satisfaction of the Secretary.</p>
<b>Construction impacts (MOD 1)</b>	<ul style="list-style-type: none"> <li>The construction works and operational issues associated with the additional offtake pipe are similar to the two approved offtake pipes, and the Department considers that MOD 1 would not result in any increase in construction or operational impacts assessed as part of the original Project application.</li> <li>The proposed third offtake pipe is to be located outside of Orica's soil contamination zone, and above the known groundwater level.</li> <li>The Department considers that any potential construction impacts would be addressed through the existing Construction Environment Management Plan (CEMP).</li> <li>However, the Construction Safety Study (CSS) is required to be updated to reflect MOD 1, at least one month prior to the commencement of construction.</li> <li>The Department's assessment concludes that the updated CSS would identify any additional safeguards to be put in place to ensure any new hazards are identified and controlled.</li> </ul>	<p>Recommended conditions require the Proponent to:</p> <ul style="list-style-type: none"> <li>update the approved CSS to include changes introduced by MOD 1 to the satisfaction of the Secretary.</li> </ul>
<b>Fire Safety (MOD 2)</b>	<ul style="list-style-type: none"> <li>A FSS for the original project was approved in 2009 in consultation with Fire and Rescue NSW (FRNSW).</li> <li>As MOD 2 involves the removal of methanol storage from the Project, the EA for MOD 2 included slight downgrades to the fire protection systems for the facility.</li> <li>The Department sought clarification on the proposed changes to fire protection systems and equipment at the facility, particularly with respect to the removal of a foam deluge system at the tanker truck loading bays and changes to mobile firewater/foam solution monitors, and foam concentrate stocks to be kept on site.</li> <li>The RTS stated that the changes made are a direct result of the removal of methanol from the Project, and the proposed option would still be in excess of the fire safety requirements of the relevant standard (AS1490) for the storage of combustible liquids. Notwithstanding, Park Fuels has agreed to communicate the changes to FRNSW which would be responsible for responding to any emergencies on site.</li> <li>The Department's risk specialist has reviewed the EA for MOD 2 and considers that, as methanol will no longer be stored onsite, Park Fuels has provided justification for the proposed changes to the fire protection arrangements at the facility. In addition, Park Fuels has confirmed that FRNSW will be consulted and advised of</li> </ul>	<p>Recommended conditions require the Proponent to:</p> <ul style="list-style-type: none"> <li>consult with FRNSW regarding MOD 1 and MOD 2 and the proposed changes made to the approved FSS, prior to the storage of any fuel on site, to the satisfaction of the Secretary.</li> </ul>



	any changes to the equipment and systems described in the previously approved FSS, prior to storing any fuel on site.	
<b>Removal of methanol storage and biodiesel manufacture from the Project (MOD 2)</b>	<ul style="list-style-type: none"> <li>• MOD 2 proposes a change in use for tank T7 which would be used for the storage of biodiesel rather than methanol.</li> <li>• As discussed above, a PHA was prepared as part of the original project. It identified that the facility is potentially hazardous with respect to storage and transportation of methanol and transportation of sulphuric acid and potassium hydroxide.</li> <li>• In its submission, Council sought clarification on whether Park Fuels has decided to <i>permanently</i> remove methanol storage at the terminal, and therefore remove the option to manufacture 52ML of biodiesel annually at the site (from methanol and other feedstock).</li> <li>• Park Fuels has confirmed that in the near future, biodiesel would only be stored and handled at the site as finished product. If future industry demand required Park Fuels to manufacture biodiesel, it would seek a separate approval to upgrade T7 to again enable the storage of methanol.</li> <li>• The Department has reviewed the application and its assessment has concluded that any potential risks posed by the modified facility could be appropriately mitigated and managed through updated FSS, HAZOP and FHA to the satisfaction of the Secretary. These studies are standard requirements for potentially hazardous projects in the design stage.</li> </ul>	<p>Recommended conditions require the Proponent to:</p> <ul style="list-style-type: none"> <li>• In addition to the FSS, update the HAZOP and FHA in relation to MOD 2; and</li> <li>• seek a separate approval from the Secretary, prior to the storage of methanol on site.</li> </ul>
<b>Change in tank design (MOD 2)</b>	<ul style="list-style-type: none"> <li>• MOD 2 proposes to remove the Internal Floating Roofs (IFRs) from Tanks T1, T2, and T7. The IFRs were integral to the design of these previously approved tanks, and are typically used on tanks storing substances with high vapour emissions such as methanol.</li> <li>• As MOD 2 seeks to remove the storage of methanol (which is flammable and has a higher vapour pressure than combustible liquid fuels such as diesel, fuel oil and biodiesel), Park Fuels considers that it is no longer necessary for tanks T1, T2 and T7 to have IFRs. Park Fuels has stated that IFRs are not mandated by any Australian Standard or American Petroleum Institute Standard (API) for the storage of combustible fuels.</li> <li>• In its submission the EPA agreed that IFRs would no longer be required for Tanks T1, T2 and T7 if methanol is not going to be stored on site.</li> <li>• The Department agrees that the use of IFRs in tanks containing low vapour pressure combustible liquids, such as diesel and biodiesel, is not mandated by any Australian or international standards and has recommended conditions relating to the relevant standards for the storage of combustible liquids.</li> <li>• The EPA recommended that conditions are included to ensure that only combustible liquids with a vapour pressure of &lt;2 Hg at 25°C and 101.3kPa are stored in T1, T2 and T7;</li> <li>• Park Fuels has agreed to design and construct the tanks in accordance with the relevant API standards for tank construction and venting, and to ensure that all stored fuels meet the EPA's requirements.</li> <li>• The Department's assessment concludes that with the recommended conditions, the removal of IFRs from the three tanks would not adversely alter the risk profile for the facility or increase the potential risk for 'escalation' in the unlikely event of a tank top surface fire occurs.</li> </ul>	<p>Recommended conditions require the Proponent to:</p> <ul style="list-style-type: none"> <li>• design and construct tanks T1, T2 and T7 in accordance with <i>API 650: Welded Steel Tanks for Oil Storage</i>;</li> <li>• ensure that vented systems on all tanks comply with <i>API 2000: Venting Atmospheric and Low-pressure Storage Tanks</i>;</li> <li>• comply with the requirements of the current edition of <i>AS1940: The storage and handling of flammable and combustible liquids</i>; and</li> <li>• ensure that only combustible liquids with a vapour pressure of &lt;2 Hg at 25°C and 101.3kPa are stored in Tanks T1, T2, and T7.</li> </ul>



T1 fuel oil overheating (MOD 2)	<ul style="list-style-type: none"> <li>• Tank T1 would be used for the storage of marine fuel oil. At low temperatures marine fuel oil is viscous, so heating coils would be installed in the tank to heat the oil to around 35°C.</li> <li>• The Department's risk specialist initially considered that the EA contained inadequate information as to how the modified tank design would work to prevent the fuel oil in T1 from overheating, particularly when the fuel level is low.</li> <li>• In its RTS, Park Fuels described the technical aspects of the 'layers of protection' incorporated into the design, and provided further detail of these measures to prevent overheating and/or damage to the heating coils.</li> <li>• The Department's risk specialist has reviewed the RTS and its assessment concluded that there would be appropriate and robust measures in place to prevent tanks overfilling and overheating.</li> </ul>	N/A
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## 6. CONCLUSION

The Department's assessment concluded that the additional pipeline, revised tank design and removal of methanol storage would not significantly change the risk profile of the approved Project, nor would the modifications result in an increase in environmental impacts.

As methanol would no longer be stored onsite, Park Fuels has provided justification for the proposed arrangements for the fire protection arrangements at the facility and has confirmed that FRNSW would be consulted and advised of changes to the equipment and systems described in the previously approved fire safety study.

Consequently the Department is satisfied that the proposed modifications are minor, are in the public interest and should be approved by the Acting Director, Industry and Key Sites subject to some minor amendments to the existing conditions of approval as set out in the notices of modification at **Appendix A**.

## 7. RECOMMENDATION

It is RECOMMENDED that the Manager, Industry:

- **approve** MOD 1 and MOD 2 under Section 75W of the Act; and
- **sign** the attached instruments at Appendix A.

Kerry Hamann  
Planner



Chris Ritchie  
Manager Industry  
Industry Assessments

10/12/14