

Relevant Part of application form	Information Requirements (from RFI letter)	Rationale (from RFI letter)	bp's response
Attachment 2: Premises maps	<p>Please provide a map(s) of the premises layout/infrastructure relevant to the application, clearly identifying and labelling:</p> <ul style="list-style-type: none"> • layout of new infrastructure, equipment and buildings to be installed through the works; • layout of existing infrastructure, equipment and buildings related to operation of the works, with clear labelling to show where modifications form part of the works; • emission and discharge points (such as the oxygen vent and hydrogen vent); • the layout of new or modified stormwater and drainage controls related to the works (pipelines, channels, sumps, storage and infiltration ponds, etc.); and • the proposed location(s) for storing and disposing of dewatered groundwater, if required. 	<p>The layout is required to fully contextualise the proposed works on the premises and to inform the risk assessment. Site layout figures will also be needed for inclusion in the figures section of any issued works approval.</p>	<p>Refer to attached plot plan of project.</p>
Part 9: Emissions, discharges and waste	<p>Please clarify whether air quality modelling has been undertaken - can insignificant emissions be validated? If AQ modelling has been done, can the emissions be validated as</p>	<p>Oxygen, hydrogen and nitrogen will be emitted to air during the commissioning and operation of the project. The application assumes that no environmental impacts will occur as a result of these emissions.</p>	<p>As per DWER's request (via email), Ramboll have developed a technical memorandum outlining that the air quality emissions are insignificant from this project. Please see attached technical memo.</p>

	<p>insignificant and can this modelling please be provided.</p>	<p>Emissions to air associated with the commissioning and operation of the Project are naturally occurring elements. In the quantities proposed to be vented to air, both oxygen and nitrogen are not anticipated to result in any environmental impacts. While DWER recognises these are naturally occurring elements, there is uncertainty regarding whether their emission can potentially impact on other emissions to air at the premises, such as through reactions in air or changed airflow dynamics or impact the validity of previous modelling for the premises.</p>	
	<p>It is acknowledged that it is unlikely that the H2 premises will affect other emissions or modelling on other premises, but clarification is sought on why H2K are pushing the KRF and the H2K through the process separately. There will certainly be some dependencies (influences) between the two plants (ie the emissions from one will likely be influenced by the performance of the other).</p>		<p>KRF and H2K are two separate bp projects. The decision was made to do two works approvals due to different schedules (for example different start of construction and commissioning dates) and it was seen to provide clarity and certainty to the different project teams which works approval conditions applied to each project. The projects are independent of each other, meaning one project may go ahead without the other.</p> <p>Where emissions are likely to be accumulative, H2K has included the proposed emissions as part of its assessment (for example, H2K noise emissions took into account KRF noise and existing terminal noise).</p> <p>Throughout the project development, bp have been engaging both Part IV and Part V about these projects including how bp should manage the two projects onsite in regards to works approvals.</p>
<p>Part 9: Emissions, discharges, and waste</p>	<p>Please provide the expected volume, potential contaminants and contaminant concentrations of the process effluent being generated from the proposed works.</p>	<p>While the application notes that process effluent will meet the existing licence effluent discharge limits, DWER will need to confirm this as part of the risk assessment for the application.</p>	<p>Please see Appendix 1 below regarding the effluent volume, contaminants and concentrations.</p>

	<p>Please advise if leak testing of any tanks with water is to be undertaken, and if so, please advise on the testing regime, contingency and disposal of this wastewater.</p>		<p>Hydrotesting is expected for several tanks such as demin water tanks, and small volume chemical treatment tanks. Hydrogen vessels will be leak tested with nitrogen.</p> <p>Once the construction/commissioning contractor is engaged, as part of their scope of work will be to develop an environmental management plan for the task including a treatment and discharge plan for hydrotesting water. During past hydrotesting activities onsite, this hydrotesting water has either been returned to the process water tanks for reuse or disposed to the existing wastewater treatment plant for treatment. bp will work through the development of the water treatment and disposal plan with the contractor, to ensure that the water is disposed of via an acceptable means.</p>
<p>Part 9: Emissions, discharges and waste</p>	<p>Please provide the contaminated soil and groundwater procedures referred to in the Application Supporting Document.</p>	<p>Contaminated soil and groundwater are potential emissions and discharges that may occur during construction of the works. DWER will require the related management procedures in order to inform the risk assessment of the application.</p>	<p>References to the Kwinana Energy Hub contaminated soil and groundwater procedures, were proposed controls in Table 6.4 of the works approval application supporting document.</p> <p>The overarching procedure is "Procedure for the management of soil and groundwater" which is attached. Any intrusive works into the soil or groundwater must follow this procedure which ensures the work carried out is undertaken in a manner consistent with Contaminated Sites Act requirements. The rough steps to follow for any work affecting soil and groundwater are:</p> <ul style="list-style-type: none"> • Determine the extent of excavation and if soil/groundwater is impacted • Carryout a contamination assessment of the proposed area - this is for understanding and preventing the distribution of any potential contaminants but also to ensure personnel are protected from contaminant exposure.

			<ul style="list-style-type: none"> • Discuss with bp Remediation team the results and development of a work management plan for the task that covers various controls for the task such as applying for dewatering licence, where/how to store and dispose of the soil and/or groundwater and any additional monitoring or sampling that might be required during the task. <p>In addition, the contractor will develop a construction environmental management plan for the task that will reference the soil and groundwater management plan and cover all other environmental impacts.</p> <p>As construction contractor's have yet to be engaged for the project, the soil and groundwater management plan and the contractor's environmental management plan will be developed from applying this overarching procedure.</p>
<p>Part 6: Other DWER approvals</p>	<p>Please clarify whether the hydrogen generation unit referred to in the BP Kwinana Renewable Fuels proposal is different infrastructure to the hydrogen production facility that is the subject of this application.</p>	<p>This requires confirmation so that appropriate decision making and advice procedures are followed during the assessment.</p>	<p>The hydrogen generation unit (HGU) in the bp Kwinana Renewable Fuels (KRF) project is a separate unit to the hydrogen facility outlined in the H2 Kwinana works approval.</p> <p>The KRF HGU is a steam methane reformer that uses the off gases from the KRF biorefinery to create hydrogen. It will also use natural gas for stability reasons. This hydrogen is an intermediate product and is only used within the KRF biorefinery to manufacture biofuels.</p> <p>The hydrogen facility under this works approval is to manufacture green hydrogen from the electrolysis of water and renewable power. Green hydrogen is the final product and will be produced for the KRF biorefinery and also for external customers.</p>

Appendix 1: H2K Effluent Specification

Parameter	Unit	H2K Effluent Stream
Flow rate	m ³ /h	5.3
Temperature	°C	30.0
pH		6-8*
Conductivity	uS/cm	<1500
Turbidity (max)	NTU	5
Total dissolved solids	mg/L	312
Total suspended solids TSS	ppm	37.4*
Total Chemical Oxygen Demand	ppm	< 80*
TOC, Total Organic Carbon	kg/d	3.1
Nitrates	kg/d	3.6*
Phosphates	ppm	13.8
Silicate	ppm	12.9

*These compounds are specified in the DWER Part V licence, all parameters are beneath the limit