

Permitting decisions

Variation

We have decided to grant the variation for Esso Refinery operated by Esso Petroleum Company, Limited.

The variation number is EPR/BR6996IC/V008.

We consider in reaching that decision we have taken into account all relevant considerations and legal requirements and that the permit will ensure that the appropriate level of environmental protection is provided.

Purpose of this document

This decision document provides a record of the decision making process. It:

- highlights [key issues](#) in the determination
- summarises the decision making process in the [decision checklist](#) to show how all relevant factors have been taken into account
- shows how we have considered the [consultation responses](#)

Unless the decision document specifies otherwise we have accepted the applicant's proposals.

Read the permitting decisions in conjunction with the environmental permit and the variation notice. The introductory note summarises what the variation covers.

The proposed changes which are authorised by this variation application are:

- The installation of a new steam methane reforming hydrogen (H₂) plant and a new high pressure diesel hydrofiner unit (HD10) on Block 36B; and
- The installation of a low sulphur jet hydrofining reactor replacing the current reactor on the existing HD7 unit on Block 7.

These projects includes associated improvements of the existing process ancillary equipment, treat gas network reconfiguration, product storage and utilities facilities within the refinery such as new tanks on Block 10 and 13.

The proposed HD10 hydrofiner will allow the refinery to increase the capacity to treat its higher sulphur intermediate streams through a process known as 'hydrodesulphurisation' and produce a greater quantity of low sulphur diesel. This rebalances the refinery so that it efficiently produces transportation fuels for the UK reducing the need for the refinery, and also the UK overall, to import diesel.

Hydrodesulphurisation requires hydrogen and consequently, a new supply of hydrogen will be required for the HD10 hydrofiner. Fawley Oil Refinery has no hydrogen import capability, with current site demands met by hydrogen produced by two powerformers and a plant on the adjacent petrochemical plant.

Hydrogen Plant

The hydrogen plant will react natural gas and steam at high temperature over a series of catalysts to generate hydrogen.

The natural gas feed from the mains gas supply first needs to be pre-treated in order to remove the trace quantities of sulphur which can foul / deactivate the process catalysts. This is achieved by passing the natural gas feed through a hydrogenation reactor which uses hydrogen (recycled from the ultimate downstream product) to convert sulphur compounds in the natural gas to hydrogen sulphide gas.

From the hydrogenation reactor, the natural gas and hydrogen sulphide feed will pass through two sulphur adsorbers containing zinc oxide to remove the hydrogen sulphide from the natural gas feed, forming zinc sulphide and water. The treated natural gas will then enter a large furnace where, in the presence of steam and over a series of catalysts in a high temperature reactor to convert carbon monoxide produced by side reaction into hydrogen and carbon dioxide. The hydrogen will be separated from the carbon dioxide and other impurities using a process called pressure swing absorption (PSA) before it is exported from the plant for use in various hydrogen consuming processes across the refinery in particular the HD10 hydrofiner. The purge gas from the PSA will be burnt as fuel in the hydrogen plant's 130MW furnace with additional natural gas as support fuel.

HD10 Hydrofiner

The HD10 hydrofiner will remove sulphur compounds from the refinery gas oil streams to produce streams suitable for blending with the finished low sulphur diesel.

The plant will take its feed from three gas oil streams from the existing distillation units and one from the catalytic cracker. The feed will be preheated then reacted in the presence of hydrogen over appropriate catalysts so that the sulphur compounds in the feed are reacted to produce hydrogen sulphide. The resulting liquid products will be cooled and then stripped and dried in a vacuum drier in the case of the distillate stream, before being stored in tanks prior to distribution from the refinery. The sour (sulphur containing) gas from the reactor will be scrubbed to remove the hydrogen sulphide and then recycled.

HD7 Hydrofiner

The new HD7 hydrofiner reactor will replace the existing low sulphur reactor on Block 7 with a larger capacity (in catalyst volume terms) hydrofiner reactor. This will be of the same type as the current reactor and will treat high sulphur jet feed giving a product of much lower sulphur content than can be currently achieved. The existing reactor will be taken out of service.

This lower sulphur content product can be used for diesel and medium gas oil blending with the remainder sent to jet sales. The throughput of the improved HD7 reactor will not increase from the current operation but will produce a lower sulphur product.

All three units are based on well proven design and technology which use raw materials efficiently and minimises waste.

Key issues of the decision

Emissions

Air

The majority of the existing refinery emissions and associated impacts will not change as a result of the proposed changes. During normal operation the only new direct emissions to air will be a continuous point source emission from the 130MWth furnace on the hydrogen plant (emission point A31) and the 12MWth furnace on HD10 (emission point A32). These will use low nitrogen oxide generating burners and the combustion gases will be released to air via separate 50m high stacks. These releases will comprise emissions of sulphur oxides, nitrogen oxides, particulates, carbon monoxide and volatile organic compounds. This overall increase in nitrogen oxide emissions will be offset by other changes at the refinery which have enabled a significant reduction in nitrogen oxide emissions in recent years and sulphur oxides releases will remain within the overall refinery emission limit.

There will also be the release of nitrogen purge direct to air, as part of the initial process start up sequence. This will not contain any hydrocarbons, hydrogen or other potentially polluting gaseous materials. Once these materials are present in the system, the purge will be directed to the existing refinery flare system. Emissions from the flares will remain within the existed permitted limits. The only other indirect release to air during normal operation will be from the sulphur recovery units, due to the increased removal of sulphur from the hydrofiner processes. The existing sulphur recovery units have sufficient capacity to treat these additional streams.

There will be minor fugitive releases of volatile organic compounds to air, e.g. from seals, flanges and tank displacement filling. To minimise such emissions, all plant has been designed and engineered to Esso Petroleum Company Limited (EPCo) standards and will be inspected as part of the existing inspection and maintenance programme.

The applicant utilised detailed air dispersion modelling to assess the impact of emissions to air against the relevant air quality standards, and potential impact upon local habitat sites and human health. These assessments predicted the potential effects on local air quality from the stack emissions using the ADMS 5.2 dispersion model, which is a commonly used computer model for dispersion modelling. The model used 5 years (2010 – 2014) of meteorological data collected from the Solent Meteorological Office Station. The station closed at the end of 2014, the nearest current stations are located at Southampton or Bournemouth airports. However these are inland and the applicant stated that these would not be representative of the coastal location of the refinery. We agree with this approach. The impact of the terrain surrounding the site upon plume dispersion was considered in the dispersion modelling. The concentrations reported in the assessments were the maximum ground level concentrations predicted by the dispersion modelling over the 5 years of meteorological data.

The assessment of potential impacts on air quality has considered the current background air quality in the locality as indicated by existing background monitoring stations and Defra mapped background concentration estimates of existing and current air quality as appropriate.

Human Health

A methodology for risk assessment of point source emissions to air, which we use to assess the risk of applications we receive for permits, is set out in our Horizontal Guidance Note H1 and has the following steps:

- Describe emissions and receptors
- Calculate process contributions
- Screen out insignificant emissions that do not warrant further investigation
- Decide if detailed air modelling is needed
- Assess emissions against relevant standards
- Summarise the effects of your emissions

The H1 methodology uses a concept of “process contribution (PC)”, which is the estimated concentration of emitted substances after dispersion into the receiving environmental media at the point where the magnitude of the concentration is greatest. The guidance provides a simple method of calculating PC primarily for screening purposes and for estimating process contributions where environmental consequences are relatively low. It is based on using dispersion factors. These factors assume worst case dispersion conditions with no allowance made for thermal or momentum plume rise and so the process contributions calculated are likely to be an overestimate of the actual maximum concentrations. More accurate calculation of process contributions can be achieved by mathematical dispersion models, which take into account relevant parameters of the release and surrounding conditions, including local meteorology.

Once short-term and long-term PCs have been determined in this way, they are compared with Environmental Quality Standards (EQS) referred to as “benchmarks” in the H1 Guidance.

Where an EU EQS exists, the relevant standard is the EU EQS. Where an EU EQS does not exist, our guidance sets out a National EQS (also referred to as Environmental Assessment Level - EAL) which has been derived to provide a similar level of protection to Human Health and the Environment as the EU EQS levels. In a very small number of cases, e.g. for emissions of Lead, the National EQS is more stringent than the EU EQS. In such cases, we use the National EQS standard for our assessment.

National EQSs do not have the same legal status as EU EQSs, and there is no explicit requirement to impose stricter conditions than BAT in order to comply with a national EQS. However, national EQSs are a standard for harm and any significant contribution to a breach is likely to be unacceptable.

PCs are considered **Insignificant** if:

- the **long-term** process contribution is less than **1%** of the relevant EQS; and
- the **short-term** process contribution is less than **10%** of the relevant EQS.

The **long term** 1% process contribution insignificance threshold is based on the judgements that:

- It is unlikely that an emission at this level will make a significant contribution to air quality;
- The threshold provides a substantial safety margin to protect health and the environment.

The **short term** 10% process contribution insignificance threshold is based on the judgements that:

- spatial and temporal conditions mean that short term process contributions are transient and limited in comparison with long term process contributions;
- the proposed threshold provides a substantial safety margin to protect health and the environment.

The assessment demonstrates that for human receptors, the long and short term PCs for all pollutants from the new sources are below the 1% and 10% thresholds and the predicted environmental concentrations for total refinery emissions for all pollutants are less than the appropriate air quality standards, objectives and assessment levels and consequently, no adverse impacts on human receptors are expected with the proposed new hydrogen plant, HD10 hydrofiner and revamped HD7 reactor in operation.

Habitats

Ecological receptors have been considered in the assessment of impacts from the proposed changes. These comprise of statutory designated biodiversity sites within 15km of the site; Ramsar, Special Protection Areas, Special Areas of Conservation and Sites of Special Scientific Interest and Nature Conservation within 2 km.

The impacts of oxides of nitrogen and sulphur dioxide were assessed and the results for the ecological receptors experiencing the maximum impact are shown in Table 1 below.

Table 1 Ecological receptors experiencing the maximum impact

Pollutant and Receptor	AQS/EAL ug/m³	PC new sources ug/m³	% PC of AQS/EAL	Background concentration	PEC ug/m³	% PEC of AQS/EAL
NOx annual mean, receptors, Solent and Southampton Water SPA , Solent Maritime SAC/Ramsar and Hythe to Calshot Marshes SSSI	30	0.5	1.7	23	27	89
NOx annual mean max PEC receptor Lee on the Solent to Itchen Estuary SSSI	30	0.1	0.3	57	59	198
NOx daily mean, receptor New Forest SSSI (included as max receptor)	75	5	6.7	18.5	70 (includes 2 times background concentration)	94
NOx daily mean max PEC, receptor Lee on the Solent to Itchen Estuary SSSI (included as max receptor)	75	1	1.3	57	125 (includes 2 times background concentration)	167
SO ₂ annual mean, receptors, Solent and Southampton Water SPA , Solent Maritime SAC/Ramsar and Hythe to Calshot Marshes SSSI	20	0.7	3.5	4	18	91
SO ₂ annual mean max PEC, receptors, Solent and Southampton Water SPA , Solent Maritime SAC/Ramsar and Hythe to Calshot Marshes SSSI	20	0.7	3.5	4	18	91

There will be no increase in overall permitted emissions of SO₂ and NO_x authorised by this variation.

The PECs of SO₂ are less than the AQS and allow adequate headroom when compared to the potential contribution of the PC (3.5%) to ensure a breach of the AQS is not likely.

The results show that the emissions from the refinery do not have a significant impact. There are exceedances of the NO_x annual AQS and daily mean at some receptors however this is due to the high background concentration. The long and short term process contributions from the new sources at all but one of these receptors are less than 1% and 10% of the AQS respectively and can therefore be considered insignificant. The long term process contribution NO_x annual mean at the following receptors, Solent and Southampton Water SPA, Solent Maritime SAC/Ramsar and Hythe to Calshot Marshes SSSI is 1.7% however the PEC is 89% allowing adequate headroom when compared to the potential contribution of the PC (1.6%) to ensure a breach of the AQS is not likely.

The potential impacts of deposition rates of nitrogen and sulphur (acid deposition) on ecological receptors has also been considered using Defra - Air Pollution Information System (APIS) estimates of background deposition rates.

Although most ecological receptors already exceed relevant critical levels and critical loads, there will be no significant increase in impact at these receptors since the refinery will still be operating within its existing total refinery wide sulphur dioxide and oxides of nitrogen emission limits which have been set to ensure no significant impact on the environment occurs.

Water, groundwater and ground (land).

The proposed changes will not result in any new release points to surface water or external sewer.

There will be a minor increase in the use of cooling water on HD10, which represents less than 1% of the total refinery sea water cooling flow and the discharge of treated wastewater (HD10 only) and condensate/blowdown via existing permitted outfalls. The wastewater flow from HD10 will be via the existing refinery sour water stripper which has adequate available capacity to treat the minor additional loading. There will be no requirement to change any existing permit conditions for the release of cooling water or treated wastewater.

The abstraction limit for cooling water from Southampton Water will not require any change to the existing permit as it will remain within the current abstraction limit.

Surface run-off water from Block 36B will be collected via new drains to be installed connecting to the existing drainage systems and routed to an oil-water separator before discharge to Southampton Water. The capacity of the surface run off water (dirty water) system is based on the maximum 10 year predicted rainfall event in one hour or maximum firefighting water load, whichever is the greatest.

There are no changes to the current permit for this discharge to surface water.

There are no changes proposed to the surface run off arrangements for Block 7 as a result of the new HD7 hydrofiner reactor.

There will be no direct or indirect emissions to groundwater of List I or List II substances as set out in the Groundwater Regulations 1998 or to ground from the proposed changes.

To prevent fugitive releases to surface water and ground, Block 36B will incorporate a contained hardstanding surface and any accidental releases will be captured by the new drainage system on this block. The replacement hydrofiner reactor HD7 on Block 7 will be on the existing contained hardstanding surface and drainage system on this block.

A new diesel storage tank will be constructed on Block 13 and have a common bund formed with an existing adjacent tank. This bund will have a capacity of > 110% of the larger single tank. The new tank will have an impermeable base.

Noise

EPCo currently maintain an Environmental Noise Management Plan (ENMP) with noise monitoring undertaken at a perimeter location and at nearby residences since 2009 as a condition of the current permit.

Low noise equipment has been selected in the plant design to ensure there is no significant noise impact.

Detailed sound modelling in accordance with BS 4142:2014 was undertaken for the additional sound emission sources introduced by the proposed changes. The results show that the proposed operational sound sources do not have any dominating characteristics; they are generally consistent without impulsivity, intermittent or tonal characteristics. The modelling results show that the predicted rating level at receptors are lower than the background sound level. Based on these results, no significant impact would be expected at residential receptors surrounding the site. The receptors considered are representative of other nearby receptors therefore significant impacts would not be anticipated at any other locations in the area. There will be no noticeable increase in noise from the new plant to local residents.

The measures for the control of noise from the proposed changes are consistent with BAT for these processes

Site condition

As a result of a number of ground quality assessments and an extensive groundwater monitoring programme, ground and groundwater conditions and quality across the installation are well characterised.

There is some evidence of hydrocarbon contamination in areas of Block 36B with some metals present. These are consistent with the industrial use of the site and are below assessment and action levels agreed with the Environment Agency.

The most recent groundwater monitoring during 2017 showed that concentrations of total petroleum hydrocarbons and other potential contaminants in all boreholes considered to be representative of conditions in the area of Block 36B, were significantly below the Action Criteria agreed for the assessment of the significance of groundwater contamination and / or were below the primary assessment criteria (PAC), (the lowest assessment level agreed for the groundwater monitoring programme).

It is anticipated that there will be no requirement for piling in connection with the proposed changes and Block 36B will be excavated to a depth of about 2m. All foundations will be within this contained area.

Preparatory shallow ground investigation works have been completed to inform materials management for the proposed development at Block 36B and the potential for excavated material to be reused on the site at Block 36B or elsewhere. The results were all below the generic acceptance criteria for commercial land use.

Decision checklist

Aspect considered	Decision
Receipt of application	
Confidential information	<p>A claim for commercial or industrial confidentiality has been made by the operator.</p> <p>We have accepted the claim for confidentiality. We have excluded commercial details relating to the operation of the new process detailed in the annex to the application. We consider that the inclusion of the relevant information on the public register would prejudice the applicant's interests to an unreasonable degree. The reasons for this are given in the notice of determination for the claim.</p> <p>The decision was taken in accordance with our guidance on confidentiality.</p>
Consultation/Engagement	
Consultation	<p>The consultation requirements were identified in accordance with the Environmental Permitting Regulations and our public participation statement.</p> <p>The application was publicised on the GOV.UK website.</p> <p>We consulted on the application from 20/09/18 to 20/10/18. A summary of the consultation responses and how we have taken into account all relevant representations is detailed below. The responses to the consultation did not lead to any amendments to the draft permit on which we consulted.</p> <p>We consulted the following organisations:</p> <p>Hampshire Department of Public Health</p> <p>Food Standards Agency</p> <p>Health and Safety Executive</p> <p>Public Health England</p> <p>New Forest District Council, Environmental Protection</p> <p>The comments and our responses are summarised in the consultation section.</p>
The facility	
The regulated facility	<p>We considered the extent and nature of the facilities at the site in accordance with RGN2 'Understanding the meaning of regulated facility', Appendix 2 of RGN 2 'Defining the scope of the installation'.</p> <p>The addition of a hydrogen generation plant is a scheduled activity under the Environmental Permitting Regulations 2016. The following scheduled activity has been added to the permit;</p> <p>S4.2 A(1) (a) (i) Producing inorganic chemicals such as gases (for example ammonia, hydrogen chloride, hydrogen fluoride, hydrogen cyanide, hydrogen sulphide, oxides of carbon, sulphur compounds, oxides of nitrogen, hydrogen, oxides of sulphur, phosgene).</p>

Aspect considered	Decision
	<p>Prior to the amendments to the regulations introduced by the “Environmental Permitting (England and Wales) (Amendment) Regulations 2013” the activity would have fallen under S1.2 (b) Reforming Natural Gas. The amended regulations removed this scheduled activity therefore the most appropriate activity is S4.2 A(1) (a) (i) which describes the process taking place.</p> <p>The extent of the facility is defined in the site plan and in the permit. The activities are defined in table S1.1 of the permit.</p> <p>This permit applies to only one part of the installation consisting of the following activities;</p> <p>S1.2 A1 (d) S1.2 A1 (e) S1.2 A1 (e) S1.1 A(1) (a) S4.2 A(1) (a) (i) S4.2 A(1) (a)(v) S5.3 A1 (a) (ii) S5.3 A1 (a) (ii) S5.4 A(1) (a)(ii) S1.2 B (a)</p> <p>The names and permit numbers of the operators of other parts of the installation are detailed in the permit’s introductory note.</p>
The site	
Extent of the site of the facility	<p>The operator has provided a plan which we consider is satisfactory, showing the extent of the site of the facility and the location of the part of the installation to which this permit applies on that site. The plan is included in the permit.</p> <p>There will be minor changes to the installation boundary as a result of this variation. Block 36B is currently within the installation boundary of the ExxonMobil Chemical Limited (EMCL) Environmental Permit (ZP3839MG) and the transfer of Block 36B to Environmental Permit EPR/BR6996IC is authorised by this variation.</p>
Site condition report	<p>The operator has provided a description of the condition of the site, which we consider is satisfactory. The decision was taken in accordance with our guidance on site condition reports and baseline reporting under the Industrial Emissions Directive.</p> <p>Ground and groundwater conditions on Block 36B have been adequately characterised such that EPCo will accept responsibility for Block 36B based on the original ground conditions as it is proposed that this area of land will transfer to the EPCo permit in this permit variation application.</p>

Aspect considered	Decision
	<p>There are no other changes to the existing EPCo permit installation boundary as a result of these proposals, as all other changes are on blocks currently within the EPCo installation boundary.</p>
<p>Biodiversity, heritage, landscape and nature conservation</p>	<p>The application is within the relevant distance criteria of a site of heritage, landscape or nature conservation, and/or protected species or habitat.</p> <p>We have assessed the application and its potential to affect all known sites of nature conservation, landscape and heritage and/or protected species or habitats identified in the nature conservation screening report as part of the permitting process.</p> <p>We consider that the application will not affect any sites of nature conservation, landscape and heritage, and/or protected species or habitats identified.</p> <p>We have completed a Habitats Regulation and SSSI assessment and sent it to Natural England for information only. This decision was taken in accordance with our guidance.</p>
Environmental risk assessment	
<p>Environmental risk</p>	<p>We have reviewed the operator's assessment of the environmental risk from the facility.</p> <p>The operator's risk assessment is satisfactory.</p> <p>The assessment shows that, applying the conservative criteria in our guidance on environmental risk assessment all emissions may be categorised as environmentally insignificant.</p> <p>See key issues for further information.</p>
Operating techniques	
<p>General operating techniques</p>	<p>We have reviewed the techniques used by the operator and compared these with the relevant guidance notes and we consider them to represent appropriate techniques for the facility.</p> <p>The operating techniques that the applicant must use are specified in table S1.2 in the environmental permit.</p>
<p>Operating techniques for emissions that screen out as insignificant</p>	<p>Emissions of oxides of nitrogen, sulphur dioxide, carbon monoxide and dust have been screened out as insignificant, and so we agree that the applicant's proposed techniques are BAT for the installation and the relevant BAT AELs have been set as ELVs.</p> <p>We consider that the emission limits included in the installation permit reflect the BAT for the sector.</p> <p>The applicant completed a stack height assessment by predicting the maximum long term nitrogen dioxide (NO₂) concentration at human health receptors and acid deposition rates at ecological receptors as these represent the pollutants of greatest potential concern.</p> <p>The chosen stack height of 50 metres ensures the annual PC for NO₂ is less than the 1% insignificance criteria for human health. With respect to acid deposition rates stack heights up to 115 metres were assessed however it was not possible to meet the 1% insignificance criteria. However</p>

Aspect considered	Decision
	<p>the PC is based on the ELVs and performance is expected to be significantly below the ELV, in addition the PC is not significant compared to the existing background concentrations and will not have a significant impact.</p> <p>We agree a stack height of 50 metres ensures that there will be no significant impact on human health and the environment.</p>
Permit conditions	
Updating permit conditions during consolidation	We have updated permit conditions to those in the current generic permit template as part of permit consolidation. The conditions will provide the same level of protection as those in the previous permits.
Use of conditions other than those from the template	<p>Based on the information in the application, we consider that we do need to impose conditions other than those in our permit template.</p> <p>Table 3.6 relating to condition 3.5.1 has been updated to include a leak detection and repair programme (LDAR) in accordance with BAT conclusion 6 (included in the revised BAT Conclusions for the refining of mineral oil and gas industry sector published on 28th October 2014) for testing potential sources of fugitive emissions of VOCs.</p>
Improvement conditions	Improvement conditions IC37, IC40 and IC41 have been amended to correct an error in the dates in the previous variation and IC44 has been confirmed as completed.
Emission limits	<p>ELVs based on BATc have been added for the following substances.</p> <p>The following substances have been identified as being emitted in significant quantities and ELVs and equivalent parameters or technical measures based on BAT have been set for those substances.</p> <p>Emissions to air (A31 and A32);</p> <ul style="list-style-type: none"> • oxides of nitrogen • sulphur dioxide • carbon monoxide <p>In addition redundant notes in tables S3.1a (note 2) and S3.2 (notes 2 and 3a). These notes all related to historical dates which have been superseded.</p> <p>It is considered that the ELVs described above will ensure that significant pollution of the environment is prevented and a high level of protection for the environment secured.</p>
Monitoring	<p>We have decided that monitoring should be added for the following parameters, using the methods detailed and to the frequencies specified:</p> <p>The proposed changes include two new point source release points to air (A31 and A32), these are the direct continuous point source emissions from the 130MWth furnace on the hydrogen plant and from the 12MWth furnace on HD10.</p> <p>A continuous emissions monitoring system will be installed in the hydrogen plant furnace stack (A31) to monitor nitrogen oxides, sulphur oxides and carbon monoxide.</p>

Aspect considered	Decision
	<p>Monitoring for nitrogen oxides, sulphur oxides and carbon monoxide will also be undertaken on the furnace emissions from HD10 (A32) in compliance with regulatory requirements. This will be on a 6 monthly basis.</p> <p>This proposed monitoring will be consistent with that undertaken for these parameters from existing emissions at the refinery and is compliant with BAT.</p> <p>These monitoring requirements have been imposed in order to meet the requirements of the BAT Conclusions for the refining of mineral oil and gas industry sector published on 28th October 2014</p> <p>Based on the information in the application we are satisfied that the operator's techniques, personnel and equipment have either MCERTS certification or MCERTS accreditation as appropriate.</p>
Reporting	<p>We have added reporting in the permit for the following parameters for the frequencies specified in Table S4.1 of the permit:</p> <p>Emissions to air (A31 and A32);</p> <ul style="list-style-type: none"> • oxides of nitrogen • sulphur dioxide • carbon monoxide <p>In addition table S3.2 has been updated to provide clarification as detailed below;</p> <ul style="list-style-type: none"> • Addition of a reference to 'Note 4' on the Outfall 3 COD line to clarify that daily COD is based on the TOC 1:3 ratio and not on any direct COD testing <p>In addition table S4.1 has been updated to provide clarification as detailed below;</p> <ul style="list-style-type: none"> • TOC line update to include W3 to align with W3 reporting form • COD line update to include W3 to align with W3 reporting form • TSS line update to include W3 to align with W3 reporting form • Chromium line update to reflect application of limit and reporting to W2 only
Operator competence	
Management system	There is no known reason to consider that the operator will not have the management system to enable it to comply with the permit conditions.
Financial competence	There is no known reason to consider that the operator will not be financially able to comply with the permit conditions.
Growth Duty	
Section 108 Deregulation Act 2015 – Growth duty	<p>We have considered our duty to have regard to the desirability of promoting economic growth set out in section 108(1) of the Deregulation Act 2015 and the guidance issued under section 110 of that Act in deciding whether to grant this permit.</p> <p>Paragraph 1.3 of the guidance says:</p>

Aspect considered	Decision
	<p data-bbox="561 212 1373 380">“The primary role of regulators, in delivering regulation, is to achieve the regulatory outcomes for which they are responsible. For a number of regulators, these regulatory outcomes include an explicit reference to development or growth. The growth duty establishes economic growth as a factor that all specified regulators should have regard to, alongside the delivery of the protections set out in the relevant legislation.”</p> <p data-bbox="561 426 1385 569">We have addressed the legislative requirements and environmental standards to be set for this operation in the body of the decision document above. The guidance is clear at paragraph 1.5 that the growth duty does not legitimise non-compliance and its purpose is not to achieve or pursue economic growth at the expense of necessary protections.</p> <p data-bbox="561 615 1365 783">We consider the requirements and standards we have set in this permit are reasonable and necessary to avoid a risk of an unacceptable level of pollution. This also promotes growth amongst legitimate operators because the standards applied to the operator are consistent across businesses in this sector and have been set to achieve the required legislative standards.</p>

Consultation

The following summarises the responses to consultation with other organisations, our notice on GOV.UK for the public and the way in which we have considered these in the determination process.

Responses from organisations listed in the consultation section

Response received from
Public Health England
Brief summary of issues raised
No significant concerns regarding risk to health of the local population from this proposed activity, providing that the applicant takes all appropriate measures to prevent or control pollution, in accordance with the relevant sector technical guidance or industry best practice.
Summary of actions taken or show how this has been covered
Permit ensures appropriate measures to prevent or control pollution are taken.

Response received from
Environmental Health
Brief summary of issues raised
This department does not have any comments regarding the proposals outlined in this variation application. We would like to draw your attention, however that this proposal may have a negative impact on the Southampton Clean Air Zone, albeit small.
Summary of actions taken or show how this has been covered
There will be no overall increase in emissions of either SO ₂ or NO _x since the refinery will still be operating within its existing total refinery wide sulphur dioxide and oxides of nitrogen emission limits which have been set to ensure no significant impact on the environment occurs.

Response received from
Hampshire County Council
Brief summary of issues raised
No concerns raised.
Summary of actions taken or show how this has been covered
-

No other responses were received.