

# Notice of variation with introductory note

Environmental Permitting (England & Wales) Regulations 2010

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Murco Petroleum Limited  
Milford Haven  
Pembrokeshire  
SA73 3JD

Variation application number  
EPR/AP3830XQ/V009

Permit number  
EPR/AP3830XQ

# **Murco Petroleum Limited**

## **Permit number EPR/AP3830XQ**

### **Introductory note**

#### **This introductory note does not form a part of the notice**

The following notice gives notice of the variation of an environmental permit.

This variation removes the listed activities and emission points associated with oil refining operations at the site. This change is necessary because the oil refining process units have not been operational since May 2014 and the operator has confirmed that plant associated with the refinery operations will be permanently decommissioned prior to the removal off-site.

In future, the site will continue to operate as a hydrocarbon storage and distribution facility. The varied permit allows for the continuation of existing import, storage and distribution of hydrocarbons into and from the facility, in addition to the continued short term operation of the steam and flare utilities.

The schedules specify the changes made to the original permit.

The status log of a permit sets out the permitting history, including any changes to the permit reference number.

<b>Status log of the permit</b>		
<b>Description</b>	<b>Date</b>	<b>Comments</b>
Application EPR/EP3838LG received	Duly made 06/09/06	
Additional information received	02/02/07	Response to Schedule 4 notice issued 08/12/06
Additional information received	15/02/07	Response to Schedule 4 notice issued 08/12/06
Additional information received	21/03/07	Response to Schedule 4 notice issued 08/12/06
Additional information received	16/02/07	Response to Schedule 4 notice issued 06/02/07
Additional information received	26/04/07	Response to Schedule 4 notice issued 09/03/07
Additional information received	03/07/07	Historical data for water emission monitoring (04-07)
Additional information received	08/09/07	Historical data for air emission monitoring (04-07)
Additional information received	21/09/07	Information on metal and fluoride releases to water
Additional information received	25/09/07	Annual VOC emissions
Additional information received	04/10/07	Email detailing water testing methods
Additional information received	23/10/07	Email regarding particulate testing capability
Additional information received	29/10/07	Additional information on annual SO2 releases
Permit EPR/EP3838LG Issued	30/10/07	Original permit issued to Total (UK) Limited
Transfer application EPR/AP3830XQ	Duly Made 30/10/07	To transfer Permit from total (UK) Limited to Murco Petroleum Limited
Transfer Issued	30/11/07	Permit transferred from total (UK) Limited to Murco Petroleum Limited
Agency Initiated Variation Notice CP3639XE	Issued 18/12/07	
Variation Application EPR/AP3830XQ/V003	Duly Made 06/04/09	Addition of new CHP plant.
RFI	20/05/09	
Variation Issued EPR/AP3830XQ/V003	28/07/09	
Variation application EPR/AP3830XQ/V004	Duly Made 11/09/09	
RFI	02/12/09	

**Status log of the permit**

<b>Description</b>	<b>Date</b>	<b>Comments</b>
Response to RFI	03/12/09	Information on the derivation of emission rates used in air dispersion modelling
Response to RFI	04/12/09	Justification for excluding CO emissions from air dispersion modelling
RFI	11/12/09	Provided 14/12/09 Email confirmation that the increased hydrotreater throughput remains within permitted limits
Variation Issued EPR/AP3830XQ/V004	15/01/10	Variation issued to Murco Petroleum Limited
Variation Application EPR/AP3830XQ/V005	Duly Made 31/01/12	SRU caustic scrubber and amendment to table S4.3(a) annual limits for sulphur dioxide. Addition of improvement condition IC34
Variation Issued EPR/AP3830XQ/V005	30/04/12	Variation issued to Murco Petroleum Limited
Variation Application EPR/AP3830XQ/V006	Duly made 14/12/12	Application to add Bio-ethanol Blending as an activity
Variation determined EPR/AP3830XQ/V006	12/03/13	Variation issued to Murco Petroleum Limited
Environment Agency variation determined EPR/AP3830XQ/V007	21/03/13	Environment Agency variation to implement the changes introduced by IED
Variation Application EPR/AP3830XQ/V008	Duly made 15/04/14	Application to vary the emission limits and monitoring for SO <sub>2</sub> on 3 emission points
Variation determined EPR/AP3830XQ/V008	15/07/14	Varied permit issued.
Variation Application EPR/AP3830XQ/V009	Duly made 28/11/14	Application to vary the permit to remove listed activities and emission points associated with oil refining operations.
Variation determined EPR/AP3830XQ/V009	18/12/14	Varied permit issued.

End of introductory note

## Notice of variation

Environmental Permitting (England and Wales) Regulations 2010

The Natural Resources Body for Wales (“Natural Resources Wales”) in exercise of its powers under regulation 20 of the Environmental Permitting (England and Wales) Regulations 2010 varies

Permit number  
**EPR/AP3830XQ**

issued to:  
**Murco Petroleum Limited** (“the operator”)

whose registered office is

**4 Beaconsfield Road  
St Albans  
Hertfordshire  
AL1 3RH**

company registration number **00677691**

to operate a regulated facility at

**Murco Petroleum Limited  
Milford Haven  
Pembrokeshire  
SA73 3JD**

to the extent set out in the schedules.

The notice shall take effect from 18/12/2014

Name	Date
	<b>18/12/2014</b>

Eirian Macdonald, Principal Permitting Team Leader, NRW Permitting Service

Authorised on behalf of Natural Resources Wales

## Schedule 1 – conditions to be deleted

The following conditions are deleted as a result of the application made by the operator

Condition 2.3.2 shall be deleted:

- 2.3.2 No raw materials or fuels listed in schedule 3 table S3.1 shall be used unless they comply with the specifications set out in that table.

Condition 3.6.5 shall be deleted:

- 3.6.5 Within 6 months of the issue of this permit (unless otherwise agreed in writing by the Agency) the site reference data identified in the site protection and monitoring programme shall be collected and submitted to the Agency.

Condition 4.3.9 shall be deleted:

- 4.3.9 The Operator shall notify the Environment Agency of the commencement of use of the SRU caustic scrubber unit when the SRU is unavailable. Confirmation of the cessation in use of the SRU caustic scrubber unit shall also be notified to the Environment Agency.

Table S3.1 shall be deleted:

<b>Table S3.1 Raw materials and fuels</b>	
<b>Raw materials and fuel description</b>	<b>Specification</b>
Refinery fuel gas (RFG)	Less than 200ppm sulphur (daily average)
Refinery fuel (all fuels for LCP and other combustion plant)	Equivalent to 1% sulphur or less taking all fuels into account across all combustion plant

Table S4.1a shall be deleted:

<b>Table S4.1a Point source emissions to air – emission limits and monitoring requirements</b>						
<b>Emission point ref. &amp; location</b>	<b>Source</b>	<b>Parameter</b>	<b>Limit (including unit)</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
North stack (A1, A2, A3), South stack (A4, A5, A6, A7), HDS stack (A8), CHP stack (A9), Co-gen (A19, A20, A21, A22, A23, A24)	Site operations	Sulphur dioxide	Bubble 1975mg/Nm3	Hourly mean	Continuous (Note 3)	As agreed in response to IC4

*Note 3: Reporting requirement effective as from 1<sup>st</sup> January 2009*

Table S4.3(a) shall be deleted:

<b>Table S4.3(a) Annual limits for installation</b>		
<b>Substance</b>	<b>Medium</b>	<b>Limit (including unit)</b>
Sulphur dioxide (2008 – 2010 inclusive)	Air	5900 tonnes/year
Sulphur dioxide (2011 – 2015 inclusive)	Air	4120 tonnes/year
Sulphur dioxide (2016 onwards)	Air	2710 tonnes/year
Oil	Water	3g/tonne of feedstock

Table S4.4 shall be deleted:

<b>Table S4.4 Process monitoring requirements</b>				
<b>Emission point reference or source or description of point of measurement</b>	<b>Parameter</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>	<b>Other specifications</b>
Refinery fuel oil monitoring	Sulphur content	Daily	Not applicable	Average of spot samples taken
SRU efficiency	% sulphur recovered	Hourly	Not applicable	As agreed with the Agency
Detailed SRU performance evaluation	% sulphur recovered at each stage	Every 2 years	Not applicable	As agreed with the Agency

Table S5.2 shall be deleted:

<b>Table S5.2: Annual production/treatment</b>	
<b>Parameter</b>	<b>Units</b>
Road and other transport fuels	tonnes
Non-transport / heating fuels	tonnes
Chemical / petrochemical feedstocks	tonnes
Bitumen / petcoke / other heavy-end products	tonnes

Table S5.3 shall be deleted:

<b>Table S5.3 Performance parameters</b>		
<b>Parameter</b>	<b>Frequency of assessment</b>	<b>Units</b>
Crude oil and other oil import (i.e. feedstock)	Annually	Tonnes
Water usage	Annually	Tonnes/tonne feedstock
Energy usage (electrical)	Annually	MWh/tonne feedstock
Energy usage (all fuels)	Annually	MJ/tonne feedstock
Total effluent flow to water	Annually	m <sup>3</sup> /tonne feedstock
Total release of oil to water per tonne of feedstock	Annually	G oil/tonne feedstock
Quantity of contaminated caustic disposed of and its final method of disposal. MHR should explore all avenues for the reuse or recycling of the spent caustic and detail this in the report.	Annually	tonnes

The following terms and their definitions shall be deleted from Schedule 7 – Interpretation:

*“bubble limit”* average concentration of release from all qualifying emission points on site.

*“FCCU”* means fluidised catalytic cracking unit.

*“feedstock”* means hydrocarbon raw material brought on to site for processing within the installation.

*“hourly bubble limit”* means the average concentration of emissions across all stacks.

*“SRU”* means sulphur recovery unit.

*“SRU performance evaluation”* means measurement of process stream compositions, overall and inter-stage material balances, calculation of overall and inter-stage recovery efficiency, performance check of key equipment items [reaction furnaces, condensers, reheaters, converters, incinerator], key analyser performance checks and recommendations for unit performance improvements.

## Schedule 2 – conditions to be amended

The following conditions are amended as a result of the application made by the operator.

Condition 3.1.1 shall be amended to:

- 3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 4 tables S4.1 and S4.2.

Condition 3.1.3 shall be amended to:

- 3.1.3 Total annual emissions from the emission points set out in schedule 4 tables S4.1 and S4.2 of a substance listed in schedule 4 table S4.3b shall not exceed the relevant limit in that table.

Condition 3.6.1 shall be amended to:

- 3.6.1 The operator shall, unless otherwise agreed in writing by Natural Resources Wales, undertake the monitoring specified in the following tables in schedule 4 to this permit:
- (a) point source emissions specified in tables S4.1 and S4.2.

Condition 3.6.4 shall be amended to:

- 3.6.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 4 tables S4.1 and S4.2 unless otherwise specified in that schedule.

Condition 4.2.1 shall be amended to:

- 4.2.1 A report or reports on the performance of the activities over the previous year shall be submitted to Natural Resources Wales by 31 January (or other date agreed in writing by Natural Resources Wales) each year. The report(s) shall include as a minimum:
- (a) a review of the results of the monitoring and assessment carried out in accordance with this permit against the relevant assumptions, parameters and results in the assessment of the impact of the emissions submitted with the application;
- (b) where the operator's management system encompasses annual improvement targets, a summary report of the previous year's progress against such targets;
- (c) details of any contamination or decontamination of the site which has occurred; and
- (d) the total annual emissions from, and total amount of energy input to, each Large Combustion Plant in accordance with the requirements of the Annex VIII(B) of the LCPD.

Table S1.1 shall be amended to:

<b>Table S1.1 listed activities</b>		
<b>Activity listed in Schedule 1 of the EP Regulations / Associated Activity</b>	<b>Description of specified activity and WFD Annex I and II operations</b>	<b>Limits of specified activity</b>
S1.1 A(1) (a)	Burning any fuel in an appliance with a rated thermal input of 50MW or more.	Refinery fuel oil storage and supply, refinery fuel gas supply, boilers and abatement plant including: (i) 2 x 48 MWth natural gas/RFG/RFO fired boilers (de-rated to 36MWth each) (ii) 3 x 21.9 MWth natural gas fired turbine generators (CHP plant) (iii) 3 x 21.6 MWth supplementary natural gas/RFG fired boilers within Heat Recovery Steam Generators (CHP plant).
S1.2 A1 (h)	The loading, unloading or other handling of, the storage of, or the physical, chemical or thermal treatment of crude oil.	Receipt and storage of crude including: (i) jetty operations (ii) Crude storage (max. storage capacity – 601kTe)
S5.3 A1 (a)(i)	Disposal or recovery of hazardous waste in a facility with a capacity exceeding 10 tonnes per day involving biological treatment.	Treatment of sludge within aerated lagoon.
S5.4 A(1) (a)(i)	Treatment of non-hazardous waste in a facility with a capacity of more than 50 tonnes per day by biological treatment.	Removal of oil and other chemicals from process water by action of aerobic bacteria within aerated lagoon.
S5.4 A(1) (a)(ii)	Treatment of non-hazardous waste in a facility with a capacity of more than 50 tonnes per day by physico-chemical treatment.	From formation of waste water stream, discharge into site drainage systems to discharge of effluents to Milford Haven waterway.

**Table S1.1 listed activities**

<b>Activity listed in Schedule 1 of the EP Regulations / Associated Activity</b>	<b>Description of specified activity and WFD Annex I and II operations</b>	<b>Limits of specified activity</b>
<b>Directly associated activities</b>		
Flaring of gases	Burning of sour and sweet gases at flares.	Hydrocarbon gas recovery compressor, flare headers, knock-out pots and flare stacks and any ancillary equipment.
Road, rail and ship loading	Loading of hydrocarbon products for export from site.	All associated line work for charging road, rail and ship. Vapour recovery unit on road loading facility.
Cooling water systems	Systems used for cooling.	All cooling water systems including storage, pipelines and equipment, to discharge to ETP.
Lagoons	The holding or temporary storage of water, effluents or oil-based liquids for settling (sedimentation) or other purposes.	The feed point to the lagoon(s), the lagoon(s) and its drainage point.
Surface water drainage	Collection and handling of surface waters within installation.	Handling and storage of site drainage until discharge to the site wastewater treatment system or to discharge off-site.
Water treatment	All water treatment activities.	From formation of waste water stream, discharge into site drainage systems to discharge of effluents to Milford Haven waterway.

Table S4.1 shall be amended to:

<b>Table S4.1 Point source emissions to air – emission limits and monitoring requirements</b>						
<b>Emission point ref. &amp; location</b>	<b>Source</b>	<b>Parameter</b>	<b>Limit (including unit)</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
A4 (South stack) 110 metres above ground	Boilers	Sulphur dioxide	No limit set	Average over sampling period	Quarterly spot (Note 1)	BS6069-4.4:1993
		Oxides of nitrogen (as NO <sub>2</sub> )	No limit set	Average over sampling period	Quarterly spot (Note 1)	ISO 10849: 1996
		Particulate PM <sub>10</sub>	No limit set	Average over sampling period	Quarterly spot (Note 1)	BS 3405:1983
		Carbon monoxide	250mg/Nm <sup>3</sup>	Average over sampling period	6-monthly spot (Note 1)	ISO 12039
A10 (HDS flare) A11 (North flare) A12 (South flare)	Flares	Sulphur dioxide, Oxides of nitrogen, Carbon monoxide, particulate	No monitoring required during normal operation			
A13 6 metres above ground level)	Road loading vapour recovery unit	VOC	No limit set	Average over sampling period	6-monthly	BS EN 13526:2001
A18 12 metres above ground level	Local exhaust ventilation for Rail loading facility	VOC	No limit set	Average over sampling period	6-monthly spot	Calculation based upon rail tanker loading rate and hydrocarbon vapour pressure.

**Table S4.1 Point source emissions to air – emission limits and monitoring requirements**

<b>Emission point ref. &amp; location</b>	<b>Source</b>	<b>Parameter</b>	<b>Limit (including unit)</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
A19 25metres above ground level	Emissions from gas turbine 1 and supplementary firing boiler 1.	Sulphur dioxide	15 mg/Nm <sup>3</sup>	Average over sampling period	6-monthly spot	BS6069-4.4:1993
		Oxides of nitrogen (as NO <sub>2</sub> )	80 mg/Nm <sup>3</sup>	Average over sampling period	6-monthly spot	ISO 10849: 1996
		Particulate	25 mg/Nm <sup>3</sup>	Average over sampling period	6-monthly spot	BS EN 13284-1
		Carbon monoxide	100 mg/Nm <sup>3</sup>	Average over sampling period	6-monthly spot	ISO 12039
A20 25 metres above ground level	Emissions from gas turbine 1 and supplementary firing boiler 1.	Sulphur dioxide	15 mg/Nm <sup>3</sup>	Average over sampling period	6-monthly spot	BS6069-4.4:1993
		Oxides of nitrogen (as NO <sub>2</sub> )	80 mg/Nm <sup>3</sup>	Average over sampling period	6-monthly spot	ISO 10849: 1996
		Particulate	25 mg/Nm <sup>3</sup>	Average over sampling period	6-monthly spot	BS EN 13284-1
		Carbon monoxide	100 mg/Nm <sup>3</sup>	Average over sampling period	6-monthly spot	ISO 12039
A21 25 metres above ground level	Emissions from gas turbine 1 and supplementary firing boiler 1.	Sulphur dioxide	15 mg/Nm <sup>3</sup>	Average over sampling period	6-monthly spot	BS6069-4.4:1993
		Oxides of nitrogen (as NO <sub>2</sub> )	80 mg/Nm <sup>3</sup>	Average over sampling period	6-monthly spot	ISO 10849: 1996
		Particulate	25 mg/Nm <sup>3</sup>	Average over sampling period	6-monthly spot	BS EN 13284-1
		Carbon monoxide	100mg/Nm <sup>3</sup>	Average over sampling period	6-monthly spot	ISO 12039
A22	Emissions from supplementary boilers 1, 2 and 3 respectively when on by-pass mode	Sulphur dioxide	No limit set	No monitoring required		
A23		Oxides of nitrogen				
A24		Particulate Carbon monoxide				
Vents from oil storage tanks	Storage tanks	VOC	No limit set	Average over sampling period		
Floating roof tanks	Storage tanks	VOC	No limit set	No monitoring required		

**Table S4.1 Point source emissions to air – emission limits and monitoring requirements**

<b>Emission point ref. &amp; location</b>	<b>Source</b>	<b>Parameter</b>	<b>Limit (including unit)</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
Process Relief valves	Refining process	VOC, sour gas, RFG, natural gas.	No Benzene to be vented <hr/> No Class A VOC to be vented			No monitoring required

Note 1: Monitoring not required after 1<sup>st</sup> January 2011, replaced by CEMS and/or annual spot sampling of combined flue/stack

Table S5.1 shall be amended to:

**Table S5.1 Reporting of monitoring data**

<b>Parameter</b>	<b>Emission or monitoring point/reference</b>	<b>Reporting period</b>	<b>Period begins</b>
Emissions to air (spot sample) – SO <sub>2</sub> Parameters as required by condition 3.6.1.	A4, A19, A20, A21	Annually	1 <sup>st</sup> January 2008
Emissions to air (spot sample) - NO <sub>x</sub> Parameters as required by condition 3.6.1.	A4, A19, A20, A21	Annually	1 <sup>st</sup> January 2008
Emissions to air (spot sample) – total particulate Parameters as required by condition 3.6.1.	A4, A19, A20, A21	Annually	1 <sup>st</sup> January 2008
Emissions to air (spot sample)– carbon monoxide Parameters as required by condition 3.6.1.	A4, A19, A20, A21	Annually	1 <sup>st</sup> January 2008
Emissions to air – volatile organic compounds Parameters as required by condition 3.6.1.	A13, A18.	Annually	1 <sup>st</sup> January 2008
Emissions to water – oil, phenol, COD Parameters as required by condition 3.6.1	W1, W2, W3, W4	Quarterly	1 <sup>st</sup> November 2007
Emissions to water – flow, temperature Parameters as required by condition 3.6.1	W1	Quarterly	1 <sup>st</sup> November 2007
Emissions to water – pH Parameters as required by condition 3.6.1	W1	Quarterly	1 <sup>st</sup> November 2007
Emissions to water – suspended solids Parameters as required by condition 3.6.1	W1	Quarterly	1 <sup>st</sup> November 2007
Emissions to water – ammonia Parameters as required by condition 3.6.1	W1	Quarterly	1 <sup>st</sup> November 2007
Emissions to water – sulphides, fluorides, cyanides Parameters as required by condition 3.6.1	W1	Quarterly	1 <sup>st</sup> November 2007
Emissions to water – iron, nickel, copper, zinc, arsenic, chromium, lead Parameters as required by condition 3.6.1	W1	Quarterly	1 <sup>st</sup> November 2007
Emissions to water – cadmium, mercury Parameters as required by condition 3.6.1	W1	Quarterly	1 <sup>st</sup> November 2007

Table S5.4 shall be amended to:

<b>Table S5.4 Reporting forms</b>		
<b>Media/parameter</b>	<b>Reporting format</b>	<b>Date of form</b>
Air – LCPD SO <sub>2</sub> , NO <sub>x</sub> , Dust	Form Air – 1 Discontinuous monitoring or other form as agreed in writing by Natural Resources Wales	01/11/07
Air – LCPD SO <sub>2</sub> , NO <sub>x</sub> , Dust	Form Air – 2 continuous monitoring or other form as agreed in writing by Natural Resources Wales	01/11/07
Air – LCPD SO <sub>2</sub> , NO <sub>x</sub> , Dust	Form Air – 3 continuous measurement systems invalidation log or other form as agreed in writing by Natural Resources Wales	01/11/07
Air – LCPD	Form Air – RTA 1 NERP LCP mass reporting or other form as agreed in writing by Natural Resources Wales	01/11/07
Air – LCPD	Form Air – TO1N NERP LCP allocation transfer notification	01/01/08
Air - LCPD	Form Energy – AAE 1 NERP LCP annual energy usage	01/01/08
Air – LCPD Fuels used	Form Air – 4 Annual fuels used (in GJ, ncv basis) and mass release report for SO <sub>2</sub> , NO <sub>x</sub> , Dust for each LCP over 4 quarters to annual mass release report in accordance with Annex VIII B of the LCPD	01/11/07
Air - Flares	Form Air – 7 Report of the flaring rate and energy loss and SO <sub>2</sub> released from flaring.	01/04/12
Air - VOCs	Form Air – 8 Report of VOC losses [following the Institute of Petroleum protocol]	01/11/07
Air – Cogen plant	Form Air – 12 Periodic Emission Sampling Co-gen plant	19/06/09
Water	Form Water – 1 Daily. Flow, oil, pH, temperature and TOC	01/11/07
Water	Form Water – 2 Weekly. COD, Ammoniacal Nitrogen, phenols, sulphide, Fluoride and suspended solids.	01/11/07
Water	Form Water – 3 Quarterly. Cyanide and Heavy Metals	01/11/07
Water usage	Form water usage1 or other form as agreed in writing by Natural Resources Wales	01/01/08
Energy usage	Form energy 1 or other form as agreed in writing by Natural Resources Wales	01/01/08

**Schedule 3 – conditions to be added**

None