

Modification Notice - Regulation 22

If the modification to the regulated activity has already occurred, a regulation 22 modification notice is not applicable.

Interest Holder	Central Petroleum	EMP Title	Mereenie Development Field EMP	Unique EMP ID No.	CTP6-4	Mod No.		Date	1 May 2025
Brief Description	Currently crude oil from the Mereenie Field is trucked to Adelaide for blending and shipping. Due to new arsenic limitations, Santos have limited oil intake from Mereenie to 13 trucks per month or 310 barrels per day. Currently Mereenie produces 390 barrels per day, leaving an excess of 80 barrels. All refineries in Australia have been approached about taking the oil but have declined. Shutting down wells to reduce oil production would significantly impede gas production. Alternative storage and offloading is being investigated as a first priority, whilst reinjection and arsenic removal are being investigated as medium and long-term solutions. In the short-term Central Petroleum seeks a Regulation 22 modification to flare 80 barrels of liquid hydrocarbon (predominantly condensate) per day. The Mereenie CTP flare would be used to flare the liquid hydrocarbon (the ESS flare is not in use) see Attachment 1 and 2. This is a ground flare contained by a turkey's nest and separated from personnel with a 20m exclusion zone (Attachment 3). Flaring of 80 barrels per day equates to approximately 15ktCO₂e per year. This increases the Operator's emissions for all sites from 60 ktCO₂e per year to 75 ktCO₂e per year which is not considered a materially significant increase. Based on FY24 NGRS, reported emissions for Mereenie (Scope 1 = 39,390 tCO₂e) the proposed flaring would increase total emissions to ~55ktCO₂e per year, therefore still well below the 100ktCO₂e Safeguard Mechanism/Large Emitter Threshold. This Regulation 22 modification is seeking to amend the EMP to: - Allow flaring of liquid hydrocarbons of up to 80 barrels per day at the CTP where it cannot be taken by trucks to refineries - Increase the emissions forecast at Mereenie Field over the next five years from 270,700 tCO₂e to 345,365 tCO₂e (from 334,815 tCO₂e to 409,480 tCO₂e across all sites) - Increase flaring forecast emissions for Mereenie Field for FY25, FY26, FY27 from 11,200 tCO₂e to 26,133 tCO₂e. The Operator seeks to implement more sustainable longer-term solutions such as storage/offloading, reinjection and arsenic removal. The operator is currently investigating the technical and commercial feasibility of storing the liquid hydrocarbon and offloading to an end user. Negotiations to find a customer for the product are ongoing. The Operator is currently utilising a wire line unit to investigate the configuration of wells to determine whether any are suitable for reinjection. An initial trial would be no sooner than 18 months away and likely 2-3 years for a permanent solution. A lab has also been contracted to undertake trials using adsorbents to remove arsenic from the crude oil. A permanent solution, if feasible, would likely be at least 24 months away. At this stage these timelines are indicative only. Once these investigations have been completed, implementation timelines can be more accurately determined. The Operator will provide a written update to the Department within 3 months on the progress of these investigations and advise of implementation timelines. Testing of the crude oil being transported to Santos is ongoing. In the event that the levels of arsenic are tested at a rate lower than current projections, Santos may be able to take more or all of the crude oil which may reduce or negate the need to flare.								

Geospatial Files Included?	No						
Does the proposed change result in a new, or increased, potential or actual environmental impact or risk?	If an INCREASE in an existing potential or actual environmental impact or risk, is the increase provided for in the approved EMP?	Does the proposed change require additional mitigation measures to ensure it is managed to ALARP and acceptable levels?	Has additional stakeholder engagement been conducted?	Does the proposed change require additional environmental performance standards or measurement criteria?	Does the proposed change affect compliance with Sacred Site Authority Certificates?	Does the proposed change affect any sub-plans to the EMP?	Will the environmental outcome continue to be achieved?
Attach supporting information to support all answers to the above questions							
No, the flaring of liquid hydrocarbons will not create a significant material increase in forecast emissions.	No significant material increase in forecast emissions.	No additional mitigation measures are considered necessary. Both the environmental risk and the impact is a minor increase to overall emissions.	Discussions with the Traditional Owners are ongoing.	Only emissions forecasts will need to be marginally increased.	The proposed modification scope should not impact any Sacred Sites or current Authority Certificates.	No	The flaring of liquid hydrocarbons will not create a significant material increase in forecast emissions in the short term and the operator will investigate the feasibility of reinjection and arsenic removal as longer-term management options.

Current EMP Text	Amended EMP Text
3.5.2 Oil and gas processing 3.5.2.1 Central Treatment Plant The Central Treatment Plant (CTP), Figure 3-4, comprises: - Oil processing: crude/water separation, condensate stabilisation, crude/condensate storage and crude pumping facilities. - Gas processing: field compression, inlet slug catchers, gas dehydration and separation, hydrocarbon dew point control and pipeline compression. The CTP main functions, shown in Error! Reference source not found.6 are as follows: - Remove gas from various crude oil and condensate streams to produce a stabilised crude oil. - Separate free water and liquid hydrocarbons from the raw gas stream. Water that is saturated in the gas is removed by a column using glycol dehydration (mono ethylene glycol (MEG) and triethylene glycol (TEG)). Hydrocarbon dew-point control is achieved by a refrigeration and low temperature separation process using a series of heat exchangers, a propane refrigeration circuit and a low temperature separator. - Blend condensed hydrocarbon liquids from the gas stream with the crude oil for sale. - Compress the sales quality gas from a plant inlet pressure of ~700kPag to the pipeline pressure of ~ 10,000kPag. Excess or out of specification gas from the CTP is reinjected into the main oil reservoir to maintain reservoir pressure.	3.5.2 Oil and gas processing 3.5.2.1 Central Treatment Plant The Central Treatment Plant (CTP), Figure 3-4, comprises: - Oil processing: crude/water separation, condensate stabilisation, crude/condensate storage and crude pumping facilities. - Gas processing: field compression, inlet slug catchers, gas dehydration and separation, hydrocarbon dew point control and pipeline compression. The CTP main functions, shown in Error! Reference source not found.6 are as follows: - Remove gas from various crude oil and condensate streams to produce a stabilised crude oil. - Separate free water and liquid hydrocarbons from the raw gas stream. Water that is saturated in the gas is removed by a column using glycol dehydration (mono ethylene glycol (MEG) and triethylene glycol (TEG)). Hydrocarbon dew-point control is achieved by a refrigeration and low temperature separation process using a series of heat exchangers, a propane refrigeration circuit and a low temperature separator. - Blend condensed hydrocarbon liquids from the gas stream with the crude oil for sale. Excess of up to 80 barrels per day may be flared. - Compress the sales quality gas from a plant inlet pressure of ~700kPag to the pipeline pressure of ~ 10,000kPag. Excess or out of specification gas from the CTP is reinjected into the main oil reservoir to maintain reservoir pressure.

3.5.4 Venting and flaring

The safe operation of the Mereenie production facilities requires some flaring of gas at the CTP and ESS to maintain a positive purge and disposal of volatile ends produced during crude and condensate stabilisation. Recovery of the volatile ends is currently not done due to the small volumes produced.

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3.9.5 Waste management**3.9.5.1 Solid waste**

Typical wastes and the approach to their management are outlined in Table Error! No text of specified style in document.-1.

Table Error! No text of specified style in document.-1 Waste management approaches

Typical waste	Waste management approach
Oily rags, oil contaminated material, filters, greases and any other hydrocarbon containing material	Recycle/Dispose Stored in a secure area for collection and transport to an approved recycling facility or disposal facility

3.9.5 Waste management**3.9.5.1 Solid waste**

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Table Error! No text of specified style in document.-2 Waste management approaches

Typical waste	Waste management approach
Oily rags, oil contaminated material, filters, greases and any other hydrocarbon containing material	Recycle/Dispose Stored in a secure area for collection and transport to an approved recycling facility or disposal facility
Liquid Hydrocarbon	Recycle/Dispose Up to 80 barrels of liquid hydrocarbon (preference of condensate) may be flared at the Mereenie CTP per day.

3.9.6 Greenhouse gas emissions

The forecast emissions from operations and workovers at Mereenie over the next five years is 270,700 tCO₂e. Across all fields this is estimated to be 334,815 tCO₂e.

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Table 3-8 Forecast emissions for Mereenie Field

Mereenie emissions	Forecast volume t CO ₂ e					Methodology and assumptions
	FY23	FY24	FY25	FY26	FY27	
Fuel gas	35,000	35,000	35,000	35,000	35,000	Steady state
Diesel usage	1,200	1,200	1,200	1,200	1,200	Steady state
Development wells including associated activities	-	10,000	-	-	-	Anticipated in CY24 but not yet approved, aligned with actual numbers from WM27/28
Fugitive	300	300	300	300	300	Steady state
Workovers	5,500	-	-	-	-	Diesel usage an additional 37,000ltrs = 100, Flaring approximately 300 per well x 3 days x 6 wells = 5,400
Wells	300	300	300	300	300	Steady state
Gathering	2,500	2,500	2,500	2,500	2,500	Steady state
Flaring	13,900	11,200	11,200	11,200	11,200	Reduced flaring due to flare gas compressor project 7% - FY23 / 25% - FY24 forward
Total	58,700	60,500	50,500	50,500	50,500	

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Wells	300	300	300	300	300	Steady state
Gathering	2,500	2,500	2,500	2,500	2,500	Steady state
Flaring	13,900	11,200	26,133	26,133	26,133	Reduced flaring due to flare gas compressor project 7% - FY23 / 25% - FY24 forward
Total	58,700	60,500	65,433	65,433	65,433	

6.6 Air and Noise

Risks	Consequences
	▪ Release of contaminants to air environment through: - loss of containment (gas) - fugitive emissions/leaks from wells, flowlines and processing equipment - air emissions from combustion of fuel/gas - flaring and venting of gas and processing by-products - emission from release of chemicals, hazardous substances to atmosphere - vehicle and heavy machinery movements - explosion or fire from the operator's activities

Environmental outcome	Environmental performance standards	Measurement criteria
Greenhouse gas emissions are minimised	Venting to be eliminated as far as reasonably practicable.	• Incident management system records unplanned venting of gas not related to safety or emergency situations. • Daily reports confirm all technically recovered hydrocarbons sent to the flare is metered and recorded • Calculation of greenhouse gas emissions in accordance with the NGER Measurement Determination

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Greenhouse gas emissions are minimised	Venting to be eliminated as far as reasonably practicable.	• Incident management system records unplanned venting of gas not related to safety or emergency situations. • Daily reports confirm all technically recovered hydrocarbons sent to the flare is metered and recorded • Calculation of greenhouse gas emissions in accordance with the NGER Measurement Determination • The operator will investigate feasibility of storage and offloading, reinjection and/or arsenic removal to reduce need for flaring. A progress update will be provided to the department by 30 July 2025.

Submit this notice and supporting information to Onshoregas.DLPE@nt.gov.au