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 in 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 NGERS, 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 a sites) Increase flaring forecast emissions for Meerenie Field for FY25, FY26, FY27 from 11,200 tCO2e to 26,133 tCO2e. 								80 tCO2e across all	
	The Operator seeks to implement more investigating the technical and commer are ongoing. The Operator is currently trial would be no sooner than 18 month remove arsenic from the crude oil. A per these investigations have been complete Department within 3 months on the pro-	sustain cial feas utilising s away rmanen ed, impl ogress o	able longer-term solutions such as sto ibility of storing the liquid hydrocarbo a wire line unit to investigate the con and likely 2-3 years for a permanent t solution, if feasible, would likely be ementation timelines can be more ac f these investigations and advise of in	orage/offloading, i on and offloading ofiguration of wells solution. A lab has at least 24 months curately determin mplementation tim	reinjection and to an end use to determine also been co s away. At this ed. The Opera nelines.	d arsenic remo r. Negotiation e whether any ntracted to un s stage these t ator will provid	oval. The s to find are suita dertake imelines de a writt	operator a custome ble for rei trials using are indica ten update	is currently er for the product njection. An initial g adsorbents to tive only. Once e to the	
	Testing of the crude oil being transport able to take more or all of the crude oil	ed to Sa which m	ntos is ongoing. In the event that the ay reduce or negate the need to flar	e levels of arsenic a e.	are tested at a	rate lower th	an currer	nt projecti	ons, Santos may be	



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 suppor	rt all answers to the abov	e 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.

Modification Notice - Regulation 22

Current EMP Text	Amended EMP Text					
3.5.2 Oil and gas processing	3.5.2 Oil and gas processing					
3.5.2.1 Central Treatment Plant	3.5.2.1 Central Treatment Plant					
The Central Treatment Plant (CTP), Figure 3-4, comprises:	The Central Treatment Plant (CTP), Figure 3-4, comprises:					
 Oil processing: crude/water separation, condensate stabilisation, crude/condensate storage and crude pumping facilities. 	 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. 	 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:	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. 	 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. 	 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. 	 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. 	 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.	5.4 Venting and flaring ne safe operation of the Mereenie production facilities requires some flaring of is at the CTP and ESS to maintain a positive purge and disposal of volatile ends roduced during crude and condensate stabilisation. Recovery of the volatile ends currently not done due to the small volumes produced. Flaring of liquid /drocarbons (preference of condensate) of up to 80 barrels per day may occur at he CTP where it cannot be taken by trucks to refineries			
3.9.5 Waste management	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 document1. Table Error! No text of specified style in document1 Waste management approaches Typical waste Waste management approach Oily rags, oil contaminated material, filters, greases and any other hydrocarbon Recycle/Dispose Stored in a secure area for collection and transport to an approved recycling facility or disposal facility	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 document1. Table Error! No text of specified style in document2 Waste management approaches Typical waste Waste management approach Oily rags, oil contaminated material, filters, greases and any other hydrocarbon Recycle/Dispose Stored in a secure area for collection and transport to an approved recycling facility or disposal facility			
containing material	containing material Image: Containing material 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	3.9.6 Greenhouse gas emissions		
The forecast emissions from operations and workovers at Mereenie over the next five years is $270,700 \text{ tCO}_2\text{e}$. Across all fields this is estimated to be $334,815 \text{ tCO}_2\text{e}$.	The forecast emissions from operations and workovers at Mereenie over the next five years is $345,365$ tCO ₂ e. Across all fields this is estimated to be $409,480$ tCO ₂ e.		

Table 3-8 Forecast emissions for Mereenie Field						-	Table 3-8 Forecast emissions for Mereenie Field							
Mereenie		Foreca	st volume	t CO ₂ e		Methodology and		Mereenie	Forecast volume t CO_2e					Methodology and
emissions	FY23	FY24	FY25	FY26	FY27	assumptions		emissions	FY23	FY24	FY25	FY26	FY27	assumptions
Fuel gas	35,000	35,000	35,000	35,000	35,000	Steady state		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		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		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		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		Workovers	5,500	-	-	-	-	Diesel usage an additional 37,000ltrs = 100, Flaring approximately 300 per
Wells	300	300	300	300	300	Steady state								5,400
Gathering	2,500	2,500	2,500	2,500	2,500	Steady state		Wells	300	300	300	300	300	Steady state
						Reduced flaring due to		Gathering	2,500	2,500	2,500	2,500	2,500	Steady state
Flaring	13,900	11,200	11,200	11,200	11,200	project 7% - FY23 / 25% - FY24 forward		Flaring	13,900	11,200	<mark>26,133</mark>	<mark>26,133</mark>	<mark>26,133</mark>	Reduced flaring due to flare gas compressor
Total	58,700	60,500	50,500	50,500	50,500			5						25% - FY24 forward
								Total	58,700	60,500	<mark>65,433</mark>	<mark>65,433</mark>	<mark>65,433</mark>	

6.6 Air and Noise		6.6 Air and No	pise
Risks	Consequences	Risks	Consequences
	 Release of contaminants to air environment through: 		Release of contaminants to air environment through:
	- loss of containment (gas)		- loss of containment (gas)
	 fugitive emissions/leaks from wells, flowlines and processing equipment 		 fugitive emissions/leaks from wells, flowlines and processing equipment
	- air emissions from combustion of fuel/gas		- air emissions from combustion of fuel/gas
	 flaring and venting of gas and processing by-products emission from release of chemicals, bazardous substances 		 flaring and venting of gas, liquid hydrocarbons and processing by-products
	 to atmosphere vehicle and heavy machinery movements explosion or fire from the operator's activities 		 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	Environmental outcome	Environmental performance	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 	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. 				
ubmit this notice and supporting information to <u>Onshoregas.DLPE@nt.gov.au</u>									

Department of Lands, Planning and Environment June 2020 | Version 1 Page 7 of 13