

APPENDIX 3: Broad Brush Risk Assessment

Title: Blakefield North Consent Modification Site: Beltana
Type of Risk Assessment: Broad Brush Process: BFN modification

Freehand Sort	Key Elements-These change depending on TYPE of Risk Assessment	Step 3: Identify the risks, causes and potential consequences		Step 4: Identify the existing controls to manage the identified risks	Step 5: Determine RCE	Step 6/7/8: Determine the Expected Consequence/Likelihood applicable to the Expected Consequence/current level of risk			
		Risk Description - Something happens.....	Consequence - resulting in:	Existing Controls	Risk Control Effectiveness	Impact Category	Existing Risk		Existing Risk
Sequence Number (sort)	Key Element (CURA Context/Category)						Consequence	Likelihood	
1	Government Consultation	Poor regulator consultation	Delay in development approval	Good relationship with regulators Structured approach to Govt consultation XCN approval to modify form	Satisfactory	Financial	4	B	14
2		Incorrect approvals pathway	Delay in development approval	Previous assessments Risk assessment process Current development consent	Satisfactory	Financial	4	B	14
3	Community Consultation	Objections from residents during the development notification/exhibition period not managed appropriately	Delay in development approval due to requirement for further studies etc	CCC SIP Current relationship is good Complaints procedure	Satisfactory	Financial	3	C	13
4		Objections from residents during the construction and operation period not managed appropriately	Minor modification of operations Increased cost due to noise attenuation and visual screening etc	Multi work permit AFE has been submitted for noise barriers Consent conditions CCC SIP Current relationship is good Complaints procedure	Satisfactory	Financial	1	D	7
5	Visual Amenity	Water vapour from proposed vent shaft may be visible from the Charlton rd	Community concern	Experience with similar occurrence at Blakefield South	Satisfactory	Community/ Reputation	2	B	5
6		Visual impact as a result of drilling boreholes	Community concern	Work permits	Require Improvement	Community/ Reputation	2	D	12
7		Potential flares may be visible from Charlton rd	Community concern	Visual screening Community consultation Enclosed flares	Satisfactory	Community/ Reputation	2	B	5
8		Lighting impacts from lights during construction and operation of surface infrastructure	Community concern	Lighting audit against Aus Standards - included stray light Consent condition - require construction to Aus Standards for lighting Work permits	Satisfactory	Community/ Reputation	2	C	8
9		Construction and operation of gas drainage, ventilation and dewatering infrastructure including well heads, roads, pipelines, boreholes, powerlines etc	Community concern	Visual impact procedure Work permits DA process Biodiversity and land management plan Erosion sed control plan Mine closure plan Rehabilitation procedure Restricted hours of operation	Require Improvement	Community/ Reputation	3	D	17

Title: Blakefield North Consent Modification Site: Beltana
 Type of Risk Assessment: Broad Brush Process: BFN modification

Freehand Sort	Key Elements-These change depending on TYPE of Risk Assessment	Step 3: Identify the risks, causes and potential consequences		Step 4: Identify the existing controls to manage the identified risks	Step 5: Determine RCE	Step 6/7/8: Determine the Expected Consequence/Likelihood applicable to the Expected Consequence/current level of risk			
		Risk Description - Something happens.....	Consequence - resulting in:	Existing Controls	Risk Control Effectiveness	Impact Category	Existing Risk		Existing Risk
Sequence Number (sort)	Key Element (CURA Context/Category)						Consequence	Likelihood	
9a		Power station may be visible to neighboring residences	Community concern	EA Visual impact procedure DA process Biodiversity and land management plan Rehabilitation procedure	Require Improvement	Community/ Reputation	3	D	17
10	Noise	Exceeding noise criteria during construction	Requirement to report exceedance to DECCW Requirement to modify construction activities to satisfy criteria	Noise management plan Consent conditions Industrial noise policy Real time noise monitoring network Quarterly attended noise monitoring Noise model predictions of noise impacts from construction activities Equipment introduction checklist Monitoring of noise levels from construction activities Restricted hours of operation Work permits	Satisfactory	Regulatory	2	C	8
11		Exceeding noise criteria during operation	Requirement to report exceedance to DECCW Requirement to modify construction activities to satisfy criteria Community complaints	Noise management plan Consent conditions Industrial noise policy Real time noise monitoring network Quarterly attended noise monitoring Noise model predictions of noise impacts from construction activities Equipment introduction checklist Monitoring of noise levels from construction activities Restricted hours of operation Work permits	Satisfactory	Community/ Reputation	2	B	5
12		Community concern over noise (construction and operation)	Community complaints	Noise management plan Consent conditions Industrial noise policy Real time noise monitoring network Quarterly attended noise monitoring Noise model predictions of noise impacts from construction activities Equipment introduction checklist Monitoring of noise levels from construction activities Restricted hours of operation Work permits	Satisfactory	Community/ Reputation	2	D	12

Title: Blakefield North Consent Modification Site: Beltana
Type of Risk Assessment: Broad Brush Process: BFN modification

Freehand Sort	Key Elements-These change depending on TYPE of Risk Assessment	Step 3: Identify the risks, causes and potential consequences		Step 4: Identify the existing controls to manage the identified risks	Step 5: Determine RCE	Step 6/7/8: Determine the Expected Consequence/Likelihood applicable to the Expected Consequence/current level of risk			
Sequence Number (sort)	Key Element (CURA Context/Category)	Risk Description - Something happens.....	Consequence - resulting in:	Existing Controls	Risk Control Effectiveness	Impact Category	Existing Risk		Existing Risk
							Consequence	Likelihood	
12a		Community concern over power station noise (construction and operation)	May trigger acquisition or residential agreement modification	Noise management plan Consent conditions Industrial noise policy Real time noise monitoring network Quarterly attended noise monitoring Noise model predictions of noise impacts from construction activities Equipment introduction checklist Work permits	Satisfactory	Community/ Reputation	2	C	8
13	Flora and Fauna	Access and land clearing - increased surface disturbance	May trigger requirement for biodiversity offset from DECCW	F & F management plan Multi work permit EIS Current biodiversity offset strategy in place (i.e. river redgum re-establishment etc)	Satisfactory	Financial	1	E	11
13a		Access and land clearing for power station - increased surface disturbance	May trigger requirement for biodiversity offset from DECCW	F & F management plan EA Proposed site has been previously disturbed by mining activities	Satisfactory	Financial	1	B	2
14	Heritage (Aboriginal, natural and European)	Disturbance of known archaeological sites	Impact on these sites - fines for non compliance with legislation	Archaeological management plant Work permit Pre-drilling inspections Due diligence regarding archaeology	Satisfactory	Regulatory	2	B	5
15		Disturbance of unknown archaeological sites	Impact on these sites - fines for non compliance with legislation	Due diligence assessment Work permits	Satisfactory	Regulatory	2	C	8
16		Construction activities constrained by archaeological sites	Reduced flexibility in site location and potential delays	Archaeological management plan Work permit Pre-drilling inspections Due diligence regarding archaeology Areas are cleared based on preliminary design for infrastructure Risk assessments for preliminary design for infrastructure Area east of Charlton rd has been cleared	Require Improvement	Financial	2	C	8
17		Sterilisation of significant portion of resource - Blakefield North LW 6 (Impact on BMU1 & 2 - grinding grooves)	Impact on these sites - fines for non compliance with legislation	Restricted area No mining until 2018 DECCW has informally recommended Beltana apply for S90 for BMU 1, DECCW will likely approve conditional on the signing of the conservation area agreement	Satisfactory	Financial	4	B	14

Title: Blakefield North Consent Modification Site: Beltana
Type of Risk Assessment: Broad Brush Process: BFN modification

Freehand Sort	Key Elements-These change depending on TYPE of Risk Assessment	Step 3: Identify the risks, causes and potential consequences		Step 4: Identify the existing controls to manage the identified risks	Step 5: Determine RCE	Step 6/7/8: Determine the Expected Consequence/Likelihood applicable to the Expected Consequence/current level of risk			
		Risk Description - Something happens.....	Consequence - resulting in:	Existing Controls	Risk Control Effectiveness	Impact Category	Existing Risk		Existing Risk
Sequence Number (sort)	Key Element (CURA Context/Category)						Consequence	Likelihood	
17a		Disturbance of unknown archaeological sites in location of the power station	Impact on these sites - fines for non compliance with legislation	EA Archaeological management plan Due diligence regarding archaeology	Satisfactory	Regulatory	2	B	5
18	Air Quality and GHG	Total emissions from site are substantially higher than those calculated in the EIS	Delay or failure to obtain approval Community objection	Strategy to pre-drain coal bed methane substantially reduces the GHG impacts Modelling from Blakefield South data provides good predictive capacity Xstrata commitment to beneficial use of coal bed methane Trialing VAM treatments Flaring Power generation Goaf drainage management	Require Improvement	Environment	4	C	18
19		Failure to achieve 85% commitment at Blakefield South	Delay or failure to obtain approval Community objection	Strategy to pre-drain coal bed methane substantially reduces the GHG impacts Modelling from Blakefield South data provides good predictive capacity Xstrata commitment to beneficial use of coal bed methane Flaring Power generation Goaf drainage management	Require Improvement	Regulatory	2	C	8
20		Undesirable air quality impacts (previous modification required air quality assessment of flue gas)	Requirement to conduct an air quality assessment which causes delay in approval	Approval for additional flares Power generation Site based air quality monitoring	Require Improvement	Environment	2	B	5
21		Unacceptable dust emissions (total and cumulative)	Community/regulatory concern	Dust management plan Monitoring Dust suppression on roads and coal	Satisfactory	Community/ Reputation	2	B	5
22		More onerous GHG reporting requirements (NGER's)	Increased cost	XCN NGER's reporting system	Require Improvement	Regulatory	2	D	12
22a		Power station causes undesirable air quality impacts	Requirement to conduct another air quality assessment which causes delay in approval	Current approval for 25 MW power generation Site based air quality monitoring	Require Improvement	Financial	2	B	5
23	Subsidence	No additional risks identified by working group							0
24	Surface Water	Changes in the topography affecting surface water flow - Mining under northern drainage line	Increased pooling due to multi seam extraction - potential opportunity	Northern drainage line management plan Current relationship with NOW	Satisfactory	Environment	3	B	9

Title: Blakefield North Consent Modification Site: Beltana
Type of Risk Assessment: Broad Brush Process: BFN modification

Freehand Sort	Key Elements-These change depending on TYPE of Risk Assessment	Step 3: Identify the risks, causes and potential consequences			Step 4: Identify the existing controls to manage the identified risks	Step 5: Determine RCE	Step 6/7/8: Determine the Expected Consequence/Likelihood applicable to the Expected Consequence/current level of risk		
	Sequence Number (sort)	Key Element (CURA Context/Category)	Risk Description - Something happens.....	Consequence - resulting in:	Existing Controls	Risk Control Effectiveness	Impact Category	Existing Risk Consequence	Existing Risk Likelihood
	25		Construction and use of vent shaft access roads	Erosion and downstream sedimentation impacts	Erosion and sediment control management plan Multi work permit Monthly environmental inspections	Satisfactory	Regulatory	2	D
	26	Groundwater/Alluvium	Unacceptable interaction with alluvials associated with Wollombi Brook	Modification to mine plan Relinquishment of water licenses	Mine plan Env monitoring program Geological model EIS Groundwater management plan	Satisfactory	Regulatory / Environment / Community	3	C
	27		Gas wells are not licensed for mine dewatering	Regulatory violation and/or fine	Bulga complex water management plan GIS - license data base Citect monitoring system	Require Improvement	Regulatory	1	C
	28	Traffic and Transport	Increased construction and operations traffic flow and public interation (Charlton rd) due to additional gas drainage bores	Community complaints - (traffic interruption, mud etc on road) Traffic accident Increased intersections Reduced security Additional costs due to council requirements for intersections	Multi work permit Section 138 CCC SIP Complaints procedure Subsidence management plan	Require Improvement	Community / Financial	2	D
	29		Potential access point to pit top facilities off Charleton rd	Traffic interaction with heavy vehicles Community concern	Mine planning Section 138 CCC SIP	Require Improvement	Community/ Reputation	2	D
	30	Public and Non-mine Utilities	No additional risks identified by working group						0
	31	Site Infrastructure and Services	Relocation of pit top facilities (service boreholes, material delivery, emulsion farm, truck movements, power, compressors etc)	Surface disturbance, noise, visual amenity, traffic interaction	Noise management plan Work permit Rehabilitation planning Visual screening Traffic management plan Approval for some surface infrastructure	Require Improvement	Community/ Reputation	2	C
	32		Truck movements to infrastructure boreholes	Surface disturbance, noise, visual amenity, traffic interaction, dust - transport	Interaction specific traffic management plans	Require Improvement	Community/ Reputation	2	C
	32a		Location of transmission lines and pipeline	Location of transmission lines and pipeline impacts on existing operations	Project management team - consultation with site management	Require Improvement	Financial	2	B
	33	Closure and Rehabilitation	Additional roads and infrastructure require decommissioning, demolition and rehabilitation	Significant additional cost	Progressive rehabilitation program XCN mine closure standard - requirement for a conceptual closure plan and costing Mine closure plan is regularly updated Biodiversity and land management plan	Satisfactory	Financial	2	D

Title: Blakefield North Consent Modification Site: Beltana
 Type of Risk Assessment: Broad Brush Process: BFN modification

Freehand Sort	Key Elements-These change depending on TYPE of Risk Assessment	Step 3: Identify the risks, causes and potential consequences		Step 4: Identify the existing controls to manage the identified risks	Step 5: Determine RCE	Step 6/7/8: Determine the Expected Consequence/Likelihood applicable to the Expected Consequence/current level of risk			
<u>Sequence Number (sort</u>	<u>Key Element (CURA Context/Category)</u>	<u>Risk Description - Something happens.....</u>	<u>Consequence - resulting in:</u>	<u>Existing Controls</u>	<u>Risk Control Effectiveness</u>	<u>Impact Category</u>	<u>Existing Risk</u>		<u>Existing Risk</u>
							<u>Consequence</u>	<u>Likelihood</u>	
34	Land Ownership	No additional risks identified by working group							0
35	Socio-Economic	No additional risks identified by working group							0
36	Non Mining Related Surface Infrastructure	Pipeline may have to cross Broke rd	Increased design requirements and potential increase in cost	Current overpass over Broke rd for operations can be used	Satisfactory	Financial	1	B	2