

## Pollution Incident Response Management Plan – Blue Vale ANE Plant



# POLLUTION INCIDENT RESPONSE MANAGEMENT PLAN

**Blue Vale ANE Plant**  
1216 Braymont Road, Boggabri 2382

## Pollution Incident Response Management Plan – Blue Vale ANE Plant

Accountabilities	Name	Position	Contact details
Prepared by	Mykl Devlin	SHEC and Training Manager	Mob: 0458 500 555 Mykl.devlin@hanwha.com
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Checked and authorised by	Jin Jong An	Legal and Compliance	Mob: 0477 013 586 Jinan4970@hanwha.com
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### DEFINITIONS AND ABBREVIATIONS

Term	Definition
Air emissions	Include greenhouse gases, and all gaseous (odorous or non-odorous), liquid or solid (particulate) matter that may be emitted from a point source (e.g. stack, process vent, etc.) or as a diffuse/fugitive emission.
ANE	Ammonium nitrate emulsion
ANSOL	Ammonium nitrate solution
INX	Hanwha internal online database for the management of SHEC reporting
DG Class	Dangerous goods classification as defined in The Australian Dangerous Goods Code
EMP	Environmental Management Plan
Environmental aspect	An activity or material that can potentially impact the environment, this includes (but not limited to) contamination of land, contamination of water, emissions to air, impact to habitat, flora and fauna.
Land	Refers to soils, flora and fauna.
LoC	Loss of Containment
Operational control	The authority over business operations at the operational level.
PG	Packing Group as defined in The Australian Dangerous Goods Code
POELA Act	Protection of the Environment Legislation Amendment Act 2011
SDS	Safety Data Sheet
Significant environmental aspect	An environmental aspect that has or has the potential to have a significant impact on the environment
SHEC	Safety, health, environment and community
Waste	Refers to all discarded materials (solid, liquid and gaseous) requiring treatment and/or disposal and may include materials such as: <ul style="list-style-type: none"> <li>• Spent chemicals/oils</li> <li>• Contaminated products (liquid or solids) that cannot be reprocessed</li> <li>• Packaging that may or may not be contaminated, e.g. wood/pallets, empty drums, strapping, bags, plastic wrap</li> <li>• Process solids sent for off-site disposal</li> <li>• General site waste/trash</li> <li>• General site recyclables, e.g. office paper, cardboard, ink cartridges</li> <li>• Material sent for recycling including paper, scrap metal, lubricants; liquid effluent/trade waste that is disposed of in individual batches.</li> </ul>
Water	Includes water extracted or treated for usage, effluent (disposed of via pipeline on a continuous basis), stormwater and groundwater.

# Pollution Incident Response Management Plan – Blue Vale ANE Plant

## 1. INTRODUCTION

### Purpose and Scope

This plan has been prepared for the Hanwha Mining Services Blue Vale ANE Plant to:

- Ensure comprehensive and timely communication about a pollution incident to all parties including employees, Environment Protection Authority (EPA), Narrabri Shire Council, NSW Ministry of Health, SafeWork NSW, Fire and Rescue NSW, NSW Rural Fire Service and any other parties who may be affected by the impacts of a pollution incident.
- Minimise and control the risk of a pollution incident at the facility by identifying risks and planned actions and mitigation measures to minimise and manage those risks.
- Ensure that responsible persons responsible for implementing the plan are identified with the plan appropriately implemented by trained persons and ensuring that the plan is regularly tested for accuracy, currency and suitability.

The preparation of this plan will comply with the requirement of the Protection of the Environment Legislation Amendment Act 2011 (POELA Act) for Hanwha Mining Services to prepare and implement a pollution incident response management plan for the Blue Vale ANE Plant.

## 2. HAZARDS

**Table 1: Description of Hazards**

Hazard	Type and Description of Hazard
Chemical Spill (Land /Groundwater Pollution)	• Ammonium Nitrate Solution Spill (e.g. storage containment failure, tank overflow, ANSOL overheat)
	• Ammonium Nitrate Emulsion Spill (e.g. storage containment failure, tank overflow)
	• Combustible Liquid Spill (e.g. storage containment failure, tank overflow)
Severe Storms (Land/Ground Pollution)	• Rain, hail, flooding
Wastewater (Land/Groundwater Pollution)	• Water extracted or treated for usage, effluent
Emissions (Air Pollution, Light Pollution, Noise Pollution)	<ul style="list-style-type: none"> <li>• Dust generated in windy weather from surface of the facility</li> <li>• Light generated from facility spotlights</li> <li>• Noise generated from facility operations</li> </ul>

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**Table 2: Assessment of significant environmental aspects including pre-emptive actions and controls**

<b>Activity</b> What generates the impact?	<b>Aspect</b> What can happen?	<b>Potential impact</b> What is the result?	<b>Controls</b> What are the controls to minimize likelihood or consequence?	<b>Verification</b> How are the controls verified and how often?
Loading / unloading of chemicals	Material spill - Calcium nitrate (CN) chemical spill	Land and groundwater contamination	<ol style="list-style-type: none"> <li>1. Change CN supplier that uses better bags to prevent spill from frequent bag rupture</li> <li>2. Train and assess operator as being competent in work instructions and spill management</li> </ol>	<ol style="list-style-type: none"> <li>1. Verified through INX Training module</li> <li>2. Verification schedule based on validity of competency assessment</li> </ol>
	Material spill - ANSOL chemical spill		<ol style="list-style-type: none"> <li>1. Install concrete or bunding under ANSOL loading area</li> <li>2. Train and assess operator as being competent in work instructions and spill management</li> <li>3. Develop permanent transfer methods to minimise requirement to connect and disconnect ANSOL transfer pipeline</li> </ol>	<ol style="list-style-type: none"> <li>1. Visual verification</li> <li>2. Verified through INX Training module</li> <li>3. Verification schedule based on validity of competency assessment</li> <li>4. Engage suitably qualified process engineer to design and implement permanent transfer infrastructure</li> </ol>

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Activity What generates the impact?	Aspect What can happen?	Potential impact What is the result?	Controls What are the controls to minimize likelihood or consequence?	Verification How are the controls verified and how often?
	Material spill - ANE chemical spill	Land and groundwater contamination	1. Train and assess operator as being competent in work instructions and spill management	1. Verified through INX Training module 2. Verification schedule based on validity of competency assessment
Storm washing down work area	Waste water generation - Contaminated stormwater	Land and groundwater contamination	1. 2. Include inspection of bio retention basins in Housekeeping Inspection 3. Include yearly maintenance to road cambers and site surface (swales, mounts, etc.) in housekeeping inspection 4. Design suitable bunding, storage and stormwater drainage infrastructure to minimise and capture runoff	1. Housekeeping inspection 2. Inspection/verification conducted annually and after heavy rainfall 3. Engage suitability qualified civil engineer to modify site bunding and stormwater drainage
	Waste generation - Sediment blockage		1. Include clearing of drains of sediment after heavy rain in Housekeeping Inspection	1. Housekeeping inspection 2. Inspection/verification conducted after heavy rainfall

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Activity What generates the impact?	Aspect What can happen?	Potential impact What is the result?	Controls What are the controls to minimize likelihood or consequence?	Verification How are the controls verified and how often?
Daily operations	Waste water generation - Sewerage from washrooms	Notice/fine from regulator	1. Check that licensed plumber conducts regular maintenance of sewage treatment plant and submits relevant documentation to the regulator	1. Maintenance scheduled through INX actions 2. Verification schedule according to maintenance schedule
ANE Manufacture	Material spill - Valve failure leading to LoC	Land and groundwater contamination	1. Develop preventative maintenance system to schedule regular inspection and maintenance of valves 2. Replace valve if found to be leaking	1. Completion of preventative maintenance system and actions in INX 2. Verification schedule to be updated upon implementation and as needed
	Material spill - Leaking seal on ANE pump leading to LoC		1. Develop preventative maintenance system to schedule regular inspection and maintenance of pump 2. Replace seal if found to be leaking	1. Completion of preventative maintenance system and actions in INX 2. Actions through INX 3. Verification schedule to be updated upon implementation and as needed
	Material spill - Loss of hot AN/CN solution from failure of transfer line		1. Develop preventative maintenance system to schedule regular inspection and maintenance of line 2. Replace defective parts (e.g. flange) if found to be leaking	1. Completion of preventative maintenance system and actions in INX 2. Actions through INX
	Material spill - ANE splash from hose burst while loading truck		1. Develop preventative maintenance system to schedule regular inspection and maintenance of line	1. Completion of preventative maintenance system and actions in INX and Actions through INX



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Activity What generates the impact?	Aspect What can happen?	Potential impact What is the result?	Controls What are the controls to minimize likelihood or consequence?	Verification How are the controls verified and how often?
			<ol style="list-style-type: none"> <li>2. Replace defective parts (e.g. flange) if found to be leaking</li> <li>3. Train and assess operator as being competent in work instructions and spill management</li> </ol>	<ol style="list-style-type: none"> <li>2. Verified through INX Training module</li> <li>3. Verification schedule based on validity of competency assessment</li> </ol>
	Material spill - Loss of hot ANE from failure of transfer line	Land and groundwater contamination	<ol style="list-style-type: none"> <li>1. Appropriate training in handling ANE hose</li> <li>2. Replace hose if found to be leaking</li> </ol>	<ol style="list-style-type: none"> <li>1. Training records in INX</li> <li>2. Actions through INX</li> <li>3. Verification schedule based on validity of competency assessment</li> </ol>
	Waste generation - Residues	Generation of waste	<ol style="list-style-type: none"> <li>1. Dispose in designated SSAN bin</li> </ol>	<ol style="list-style-type: none"> <li>1. Visual verification</li> <li>2. Daily verification of whenever the bucket fills up</li> </ol>
	Noise emissions - Operating employees exposed to noise pollution from pumps, compressors, and other machinery	Noise pollution	<ol style="list-style-type: none"> <li>1. Remote location, limited noisy equipment and standard working hours</li> <li>2. PPE</li> <li>3. Should the frequent need for hearing protection be identified a health surveillance program of regular audiometric testing will be developed and implemented to verify adherence to exposure standards</li> </ol>	<ol style="list-style-type: none"> <li>1. When information indicates that any employee's exposure may equal or exceed an 8-hour time-weighted average of 85 decibels, or exceed peak 140 decibels (caused by impact or explosive noise), a noise monitoring program will be developed and implemented to verify adherence to exposure standards</li> </ol>
ANE Storage	Material spill - ANE storage silo overflow during	Land and groundwater contamination	<ol style="list-style-type: none"> <li>1. Implement high level alarms and high level cut out as controls for emulsion silo</li> </ol>	<ol style="list-style-type: none"> <li>1. Visual verification</li> <li>2. To be updated upon implementation</li> </ol>

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Activity What generates the impact?	Aspect What can happen?	Potential impact What is the result?	Controls What are the controls to minimize likelihood or consequence?	Verification How are the controls verified and how often?
	loading or leak due to equipment failure		<ol style="list-style-type: none"> <li>2. Preventative maintenance system being developed to check alarms regularly.</li> <li>3. Ensure spill management kit is available for use at all times</li> </ol>	<ol style="list-style-type: none"> <li>3. Verification scheduled after each use</li> </ol>
Material Storage	Material spill - LoC from leak of emulsifier IBC	Land and groundwater contamination	<ol style="list-style-type: none"> <li>1. Designate bunded area for emulsifier storage</li> <li>2. Train and assess operator as being competent in work instructions and spill management instructions</li> </ol>	<ol style="list-style-type: none"> <li>1. Visual verification</li> <li>2. Verified through INX training module</li> </ol>
	Waste water generation - LoC of bund water		<ol style="list-style-type: none"> <li>1. Replace mineral oil ISO tanks with self-bunded tank, eliminating mineral oil bund and contaminated bund water</li> <li>2. Ensure all bunding, transfer piping and joints are in accordance with prevailing legislation and industry best practice.</li> </ol>	<ol style="list-style-type: none"> <li>1. Visual verification</li> <li>2. Annual review of regulatory requirements for material storage</li> </ol>

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Identified environmental aspects and impacts have been evaluated using the risk assessment and received a risk rating based on the consequences and likelihood of an environmental incident leading to adverse impacts on the environment. This methodology is based on the ISO 14001 and ISO 31000 standards. Consequence and likelihood of an environmental incident were assessed using Table 3 and Table 4, to determine the risk as shown in Table 5.

**Table 3: Qualitative Measures of Consequence**

Level	Indicator	
1	Extremely Serious	Offsite release – large detrimental impact
2	Serious	Offsite release – contained with outside assistance
3	Highly Significant	Onsite release – contained with outside assistance
4	Significant	Onsite release – immediately contained
5	Notable	Negligible environmental impact

**Table 4: Qualitative Measures of Likelihood**

Level	Indicator	Frequency
A	Almost certain	Is expected to occur in most circumstances.
B	Likely	Will probably occur in most circumstances.
C	Possible	Might occur at some time.
D	Unlikely	Not expected to occur.
E	Rare	May occur only in exceptional circumstances.

**Figure 1: Risk rating matrix**

	Notable	Significant	Highly Significant	Serious	Extremely Serious
Almost Certain	C	B	A	A	A
Very Likely	C	C	B	A	A
Likely	D	C	C	B	A
Unlikely	D	D	C	C	B
Rare	D	D	D	C	C

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The risk rating for each site identifies whether the standard control measures are sufficient to appropriately manage the risk of environmental incidents or whether additional measures are required.

**Table 5: Risk management**

Rating	Management
A (Extreme)	An unacceptable risk – operations cannot proceed unless this risk is reduced to High or lower. If the risk can be reduced, additional control measures will also be required to ensure the risk is as low as reasonably practicable.
B (High)	Additional measure to those in A (Extreme) <b>Error! Reference source not found.</b> must be considered to ensure these risks are as low as reasonably practicable.
C (Medium)	The measures in B (High) are considered adequate to manage these risks. Consider additional control measures to reduce the risk if they are cost-effective.
D (Low)	The measures in C (Medium) are considered adequate to manage these risks.

Where risks are evaluated as being of A (extreme) or B (high), an action plan will be developed to address the risk as required. Where risks are evaluated as being C (Medium) or D (low), the operations will be monitored, and additional measures adopted if the risks increase at a future review.

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**Table 6: Blue Vale site-specific risk assessment**

Functional/Operational Area	Possible Initiating Event	Possible Consequences	Prevention/Protection Measures
1. Truck loading/unloading areas	<ol style="list-style-type: none"> <li>1. Damaged tank/pallet packaging delivered to site.</li> <li>2. Tank/pallet dropped or damaged during unloading from truck.</li> </ol>	<ol style="list-style-type: none"> <li>1. Chemical related products spill in delivery area.</li> <li>2. Vapour/fumes and other emissions from these chemicals are released into the air.</li> <li>3. Employees come into contact with chemicals and are exposed to air emissions.</li> <li>4. Chemical products enter the stormwater system and flow off-site.</li> </ol>	<ol style="list-style-type: none"> <li>1. Truck drivers are trained in the appropriate handling of all chemicals delivered to and collected from the site including collection, driving and emergency response/spill procedures.</li> <li>2. All tanks and palletised chemicals delivered to site are inspected, sealed, locked and secured at the distributor premises before delivery to the site. The contents of any damaged tank/pallet would be repacked in a new tank/pallet and the damaged items returned to the distributor.</li> <li>3. The chemicals contained within the tanks are typically sealed in these containers by the chemical distributor prior to placement on the truck. In the event of a container being damaged the chemicals would be contained within the local area or on the truck.</li> <li>4. All employees are trained in the handling of chemicals and are provided with appropriate personal protective equipment (PPE).</li> <li>5. Employees are in attendance during all unloading operations and will implement spill control procedures and/or emergency response procedures in the event of a large spill.</li> <li>6. All unloading operations are conducted within bunded areas or within the buildings. The site will be bunded to contain any spills, which could occur.</li> </ol>
2. Truck staging area	<ol style="list-style-type: none"> <li>1. Truck parked in sloped area with unsecured handbrake.</li> <li>2. Truck door is not locked allowing unsecured tank/pallet to roll out from the truck, spilling contents</li> </ol>	<ol style="list-style-type: none"> <li>1. Chemical products spill in truck staging area.</li> <li>2. Fumes and air emissions from the chemicals are released into the air and spread out to surrounding premises.</li> <li>3. Chemical products enter the stormwater system and flow off-site.</li> <li>4. Chemicals are mixed with each other.</li> </ol>	<ol style="list-style-type: none"> <li>1. Staging area is used as waiting area when the plant is operating at full capacity. Trucks would be parked for typically 30 minutes. In the event of major breakdown, waiting period could extend to 4 hours.</li> <li>2. Staging area is flat and will be concreted.</li> <li>3. Water quality devices will be installed at stormwater outlets to reduce the risk of stormwater pollution</li> <li>4. Surveillance camera will be installed, and gates will be locked when not in use, limiting the chances for vandalism.</li> <li>5. Transport containers are fully sealed so potential for spillage is negligible.</li> <li>6. Truck drivers are trained in the appropriate waste collection, driving and emergency response/spill procedures.</li> <li>7. Truck maintenance is conducted on regular basis to prevent malfunction.</li> </ol>
3. Chemical processing plant including mixing/blending and heating	<ol style="list-style-type: none"> <li>1. Container dropped or damaged during emptying into the mixing/blending or heating tanks.</li> <li>2. Tanks are overfilled during container emptying.</li> <li>3. Cross contamination of chemical input with other chemicals which are not compatible.</li> <li>4. Temperature and</li> </ol>	<ol style="list-style-type: none"> <li>1. Chemical products spill in tanks empty area.</li> <li>2. Air emissions from the chemicals are released into the air.</li> <li>3. Employees come into contact with the chemicals and are exposed to air emissions.</li> <li>4. Chemical products enter the stormwater system and flow off-site.</li> <li>5. Chemicals are mixed together.</li> </ol>	<ol style="list-style-type: none"> <li>1. All employees are trained in the handling of chemicals and are provided with appropriate PPE.</li> <li>2. Employees are in attendance during all unloading operations and will implement spill control procedures and/or emergency response procedures in the event of a large spill.</li> <li>3. Chemical containers/tanks are identified, inspected and stored in a designated storage area before being used.</li> <li>4. All unloading operations are conducted within bunded areas or within the buildings. The buildings will be bunded, where required to contain any spills, which could occur.</li> </ol>

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	pressure control malfunction. 5. Blending/mixing tank not closed during processing.		
4. Waste holding area	<ol style="list-style-type: none"> <li>1. Damaged bin delivered to site.</li> <li>2. Bin dropped or damaged during loading onto truck.</li> </ol>	<ol style="list-style-type: none"> <li>1. Chemical and related waste products spill in delivery area.</li> <li>2. Emission from the chemical and related waste released into the air.</li> <li>3. Employees come into contact with chemical and related waste and are exposed to air emissions.</li> <li>4. Chemical and related waste products enter the stormwater system and flow off-site.</li> </ol>	<ol style="list-style-type: none"> <li>1. All bins delivered to site are inspected and secured at the waste generators premises before delivery to the site. The contents of any damaged bins would be returned to the waste company.</li> <li>2. The waste contained within the bins is typically sealed in other smaller containers by the waste generator prior to placement in the bin. In the event of a bin being damaged the waste would be contained within the containers.</li> <li>3. All employees are trained in the handling of chemical and related waste and are provided with appropriate personal protective equipment (PPE).</li> <li>4. Employees are in attendance during all unloading operations and will implement spill control procedures and/or emergency response procedures in the event of a large spill.</li> <li>5. All loading operations are conducted within bunded areas or within the buildings. The buildings will be bunded, where required to contain any spills, which could occur.</li> </ol>
5. Diesel generator	<ol style="list-style-type: none"> <li>1. Diesel generator fails during operation.</li> </ol>	<ol style="list-style-type: none"> <li>1. Electricity generation ceased</li> </ol>	<ol style="list-style-type: none"> <li>1. The plant fail safe mode will be activated automatically to prevent further complication and the release of air emissions into the atmosphere.</li> <li>2. Employees are trained in the diesel generator operating procedures and are in regular attendance during all processes.</li> <li>3. The diesel generator is fitted with monitoring devices, which are regularly inspected.</li> <li>4. Regular maintenance procedures for diesel generator by trained employees.</li> <li>5. All employees are trained in the handling of chemicals and are provided with appropriate personal protective equipment (PPE).</li> <li>6. Inherent safety exists in the electricity generation from a diesel generator rendering a negligible risk for failure.</li> </ol>
6. Diesel boiler	<ol style="list-style-type: none"> <li>1. Diesel boiler fails during operation.</li> </ol>	<ol style="list-style-type: none"> <li>1. Steam generation ceased</li> </ol>	<ol style="list-style-type: none"> <li>1. The plant fail safe mode will be activated automatically to prevent further complication and the release of air emissions into the atmosphere.</li> <li>2. All employees are trained in the diesel generator operating procedures and are in regular attendance during all processes.</li> <li>3. The diesel generator is fitted with monitoring devices, which are regularly inspected.</li> <li>4. Regular maintenance procedures for diesel generator by trained employees.</li> <li>5. All employees are trained in the handling of chemicals and are provided with appropriate personal protective equipment (PPE).</li> <li>6. Inherent safety exists in the electricity generation from a diesel generator rendering a negligible risk for failure.</li> </ol>
7. Chemical storage area	<ol style="list-style-type: none"> <li>1. Chemicals storage areas failed to hold chemicals within tanks due to tank failure</li> </ol>	<ol style="list-style-type: none"> <li>1. Chemicals spill in storage area</li> <li>2. Emissions from the chemicals are released into the air.</li> <li>3. Employees come into contact with chemicals and are exposed to chemicals.</li> </ol>	<ol style="list-style-type: none"> <li>1. The chemicals contained within the storage area are typically contained within sealed tanks. In the event of a tank being damaged the chemicals would be contained within the bunded area.</li> <li>2. All employees are trained in the handling of chemicals and are provided with appropriate personal protective equipment (PPE).</li> <li>3. Employees are in attendance during all operations and will implement spill control procedures and/or emergency response procedures in the event of a large spill.</li> <li>4. All loading/unloading operations are conducted within bunded areas or within a building. The building is bunded to contain any spills, which could occur.</li> </ol>

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		4. Chemical products enter the stormwater system and flow off-site.	5. Bunding provided for the specific chemical storage area.
8. External Areas	<ol style="list-style-type: none"> <li>1. Damaged tanks/packages loaded/unloaded.</li> <li>2. Tanks/packages dropped or damaged during loading/unloading.</li> </ol>	<ol style="list-style-type: none"> <li>1. Chemical products spill in external areas</li> <li>2. Emissions from the chemicals are released into the air.</li> <li>3. Employees come into contact with chemicals and are exposed to chemicals.</li> <li>4. Chemical products enter the stormwater system and flow off-site.</li> </ol>	<ol style="list-style-type: none"> <li>1. The chemicals contained within the external areas are typically contained within sealed tanks. In the event of a tank being damaged the chemicals would be contained within the bunded area</li> <li>2. All employees are trained in the handling of chemicals and are provided with appropriate personal protective equipment (PPE).</li> <li>3. Employees are in attendance during all loading/unloading operations and will implement spill control procedures and/or emergency response procedures in the event of a large spill.</li> <li>4. All loading/unloading is undertaken either within bunded areas or inside a building to avoid such occurrence.</li> <li>5. The site stormwater system will be fitted with stormwater isolation valves, in the event of a large spill the isolation valve will be closed.</li> </ol>
9. Transport of Dangerous Goods	<ol style="list-style-type: none"> <li>1. Transport container fractures due to traffic accident</li> <li>2. Transport container falls from truck spilling contents.</li> <li>3. Transport truck unloads at wrong location spilling contents outside designated area.</li> </ol>	<ol style="list-style-type: none"> <li>1. Spill is contained by truck operator or site personnel without any effect</li> <li>2. Spill is not contained and finds its way into the stormwater system</li> <li>3. Emissions from the chemicals are released into the air.</li> <li>4. Potential contamination of stormwater system with chemicals.</li> </ol>	<ol style="list-style-type: none"> <li>1. Transport containers are of sturdy construction able to withstand significant impacts without fracturing.</li> <li>2. Transport containers are fully sealed so potential for spillage is negligible.</li> <li>3. All trucks are sealed to contain any spilled materials during transportation.</li> <li>4. Truck unloading procedure is always supervised by site personnel who can provide guidance and assistance if required to do so.</li> <li>5. Procedure and facilities for spillage control are maintained at the site for effective response.</li> <li>6. All chemical transport operations undertaken within the requirements of the ADG code and other relevant guidelines.</li> <li>7. Truck driver and site personnel have been trained in the correct spill clean-up procedure.</li> </ol>

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### 3. INVENTORY OF POLLUTANTS

Potential pollutants kept at the facility or used in carrying out activities at the facility are listed in Table 7.

A full set of the Safety Data Sheets (SDS) for the materials used, manufactured and stored on site is held in the office. SDS' for manifest quantities are also stored in the HAZCHEM box located at the facilities main entrance.

**Table 7: Potential Pollutants**

Shipping Name	UN No	ADG Classification		Quantities	Storage ID
		DG Class	PG		
Ammonium nitrate Emulsion	3375	5.1	II	110 kL = 176 T	TK-101 = 55 kL TK-102 = 55 kL
Ammonium nitrate Solution	2426	5.1	II	156 kL	TK-201 to 206 = 6 x 26 kL
Mineral Oil	-	Combustible liquid C1	-	143 kL	TK-401 = 68 kL TK-402 = 75 kL
Diesel Fuel	-	Combustible liquid C1	-	35.9 kL	TK-601 = 31.4 kL TK-602 = 4.5 kL
Calcium Nitrate	-	-	-	720 T	Bulka bags 600 x 1.2 T each
Emulsifier	-	-	-	70 kL	IBC 70 x 1 kL each

Please note that a minimal quantity of miscellaneous lubricants, adhesives and cleaning products are stored appropriately on site.

### 4. SAFETY EQUIPMENT

A range of emergency safety equipment is maintained on site, as detailed in the Emergency Response Plan and located in Figure 2.

**Table 8: Emergency Safety Equipment**

Equipment	Location
2 x 144 kl Fire Water Tanks	At front of Plant outside of security fence – allowing access for local services to fill appliances



## Pollution Incident Response Management Plan – Blue Vale ANE Plant

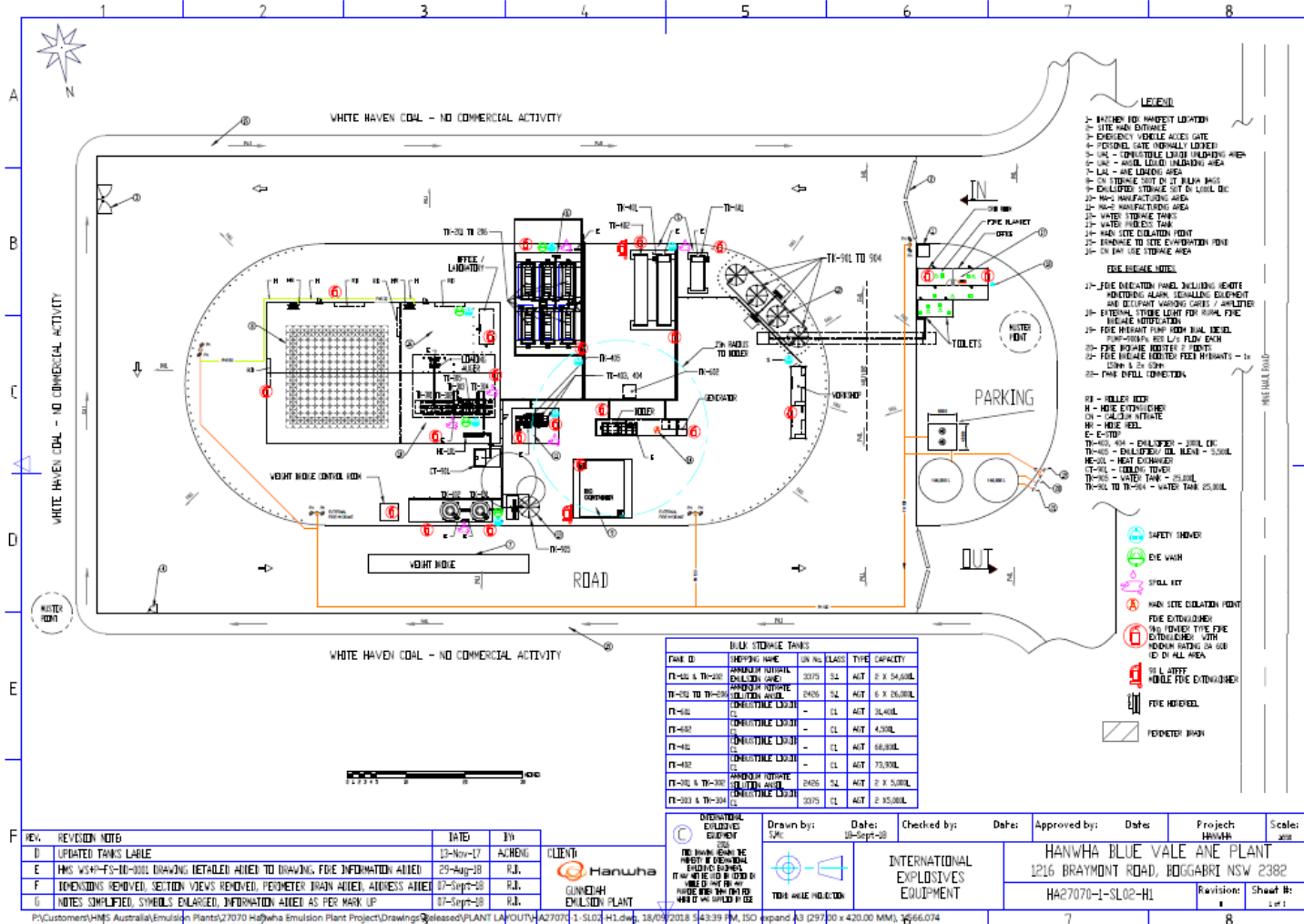
Equipment	Location
Fire Ring Main with Duty and standby diesel fire pumps and 4 Hydrant Stands	Hydrants stands – allowing on site firefighting as required e.g. Grass / Bush fire, fire not involving AN/ANE. <ul style="list-style-type: none"> <li>• Front of Fire Water Tanks</li> <li>• Rear of CN Store</li> <li>• Emulsifier Store</li> <li>• Weigh Bridge Control Room</li> </ul>
Fire Detection System	<ul style="list-style-type: none"> <li>• VESDA smoke detection is installed in the main production building</li> <li>• VESDA smoke detection is installed in the CN store</li> <li>• Point smoke detector in the laboratory</li> </ul>
Fire Reels	<ul style="list-style-type: none"> <li>• CN store</li> <li>• ANE Manufacturing Area</li> </ul>
Fire extinguishers 9 kg fire extinguisher powder-type with minimum rating 2A 60B (E), unless otherwise specified	At strategic locations near the risks, as follows: <ul style="list-style-type: none"> <li>• 1 x dry powder near the car park</li> <li>• 1 x dry powder inside the crib room</li> <li>• 1 x dry powder inside the workshop</li> <li>• 1 x dry powder near the transfer/fill point to Diesel Tank TK-601</li> <li>• 2 x dry powder near the transfer/fill point to Mineral Oil Tanks</li> <li>• 1 x foam near the transfer/fill point to Mineral Oil Tanks</li> <li>• 1 x dry powder at the end Mineral Oil Tanks</li> <li>• 2 x dry powder at the opposite ends of ANSOL Storage Tank Bund</li> <li>• 1 x CO2 at the entrance into the laboratory</li> <li>• 2 x dry powder at the entrances into ANE Manufacturing Building</li> <li>• 1 x dry powder inside the ANE Manufacturing Building</li> <li>• 2 x dry powder at the entrances of the CN storage building</li> <li>• 2 x dry powder adjacent to the Fuel Make-up Skid</li> <li>• 1 x dry powder adjacent to the Boiler</li> <li>• 1 x foam adjacent to the Emulsifier IBC storage area</li> <li>• 3 x dry powder in the ANE load out area</li> <li>• 1 x dry powder adjacent to the generator</li> </ul>
Mobile Fire Fighting Unit	2 x 105 kg foam units on trolleys for the fighting of truck fire
Protective clothing	<ul style="list-style-type: none"> <li>• At strategic locations (e.g. High vis clothing, safety boots, safety glasses, safety hat, Impervious rubber gantlet gloves, face shield, disposable coverall suits).</li> </ul>
First aid equipment/kit	<ul style="list-style-type: none"> <li>• First aid equipment is located in the office and the laboratory</li> </ul>

## Pollution Incident Response Management Plan – Blue Vale ANE Plant

Equipment	Location
Safety showers and eye wash stations	At strategic locations near the risks: <ul style="list-style-type: none"> <li>• In between the transfer points for Mineral Oil and Diesel Fuel</li> <li>• Near ANSOL transfer points</li> <li>• outside the ANSOL bund at the rear</li> <li>• inside the ANE manufacturing building, adjacent to the laboratory</li> <li>• at the rear of the ANE manufacturing skid</li> <li>• in the fuel make up shed</li> <li>• at the ANE load out area</li> <li>• at the workshop</li> </ul>
Chemical Spill Kits	<ul style="list-style-type: none"> <li>• At strategic locations near the risks e.g. Labelled waste bins with absorbent materials, dedicated shovels</li> </ul>
Communication	<ul style="list-style-type: none"> <li>• Plant Mobile phones</li> <li>• Internet</li> </ul>

# Pollution Incident Response Management Plan – Blue Vale ANE Plant

Figure 2: Blue Vale ANE Plant Pollutant Storage Locations and Safety Equipment Locations



## 5. CONTACT DETAILS

Contact details of key Site Emergency Contacts and Emergency Services are located in Tables 9, 10 and 11.

**Table 9: Site Emergency Contacts**

Site Emergency Contacts	Position	Contact details
Hanwha Mining Services	Specialist Advice	1800 054 055
Derek Henning	NSW Operations Manager	0437 816 144
Cliff Carter	Site Supervisor	0491 224 573
Mykl Devlin	SHEC and Training Manager	0458 500 555

**Table 10: Emergency Services**

Emergency Services	Phone Number
All Emergencies	000
NSW Fire and Rescue	
NSW Ambulance	
NSW Police	
Explosives Hotline	1300 739 868
Poisons Information Centre	131 126

**Table 11: Regulatory Authorities and Services**

Regulatory Authorities and Services	Contact / Company	Phone
Narrabri Shire Council, NSW	Narrabri Shire	02 6799 6866 0429 911 111
SafeWork, NSW	SafeWork, NSW	13 10 50
Environment Protection Authority, NSW	Duty Officer	13 15 55

<b>Regulatory Authorities and Services</b>	<b>Contact / Company</b>	<b>Phone</b>
Explosives Inspector, SafeWork NSW	Duty Officer David Barker	02 4321 5189 0402 903 952
NSW Ministry of Health	Sydney, NSW	02 9391 9000
HAZMAT Emergency	Toxfree Solutions Gunnedah	02 9748 5442 1300toxfree 1800hazmat info@toxfree.com.au

## **6. COMMUNICATING WITH NEIGHBOURS AND THE LOCAL COMMUNITY**

The facility is built along a private haul road operated by White Haven Coal. Located 475 meters from a public road the site runs perpendicular to the haul road. The only neighbour is Tarrawonga Coal Mine owned by Whitehaven Coal.

In the event of a pollution incident early warning and notification will be provided by phone to:

- Tarrawonga Mine Emergency Response Team with a request for transport along the Haul Road to cease from both directions.
- Emergency Services (NSW Police) with a request for the Haul Road to be closed at Tarrawonga Mine Site and at the intersection with Hoad Lane.
- Emergency Services (NSW Police) with a request that Hoad Lane be closed at Braymont Road and at the 90<sup>o</sup> bend east of plant

## **7. MINIMISING HARM TO PERSONS ON THE PREMISES**

### **7.1 Types and Levels of Emergency**

The three levels of emergency are as follows:

#### **7.1.1 Local Emergency (Minor)**

Local emergency are incidents where the impacts on people, property and the environment are expected to be confined to a specific location within the site with no potential to impact the remainder of the site. E.g. Significant volumes of overflow from the emulsion tanks.

#### **7.1.2 Internal Site Emergency (Moderate)**

Internal site emergency are incidents where the impacts on people, property and the environment are expected to spread to or affect parts of the site but not off-site. The emergency can be safely handled with the available resources on site and does not meet the criteria for notification of the emergency services. However, internal emergencies need to be communicated to the Senior Hanwha Manager as soon as safely practicable.

E.g. fire in part of the site, where there is no risk of spreading into combustible materials

While internal site emergencies do not require notification to Emergency Services or require Emergency Services to contain and control the emergency, Emergency Service assistance may be required in the mitigation of the effects of the emergency. E.g. calling of an ambulance or paramedics to attend injured personnel.

In these cases, the Emergency Services will be called if and when the need for assistance is determined.

### 7.1.3 External Site Emergency (Major)

External site emergencies are incidents where the impact to people, property and the environment is expected to be both within the site and beyond its boundary.

The emergency cannot be safely handled with the available resources on site or meets the criteria for notification of the emergency services. E.g. major explosion on site, transport incident, bushfire

If there is any doubt as to whether a situation constitutes an emergency, then it must be treated as an emergency. For major emergencies communication must be made to emergency services immediately and to the Senior Hanwha Manager as soon as safely practicable.

## 8. MAP DETAILING LOCATION OF FACILITY AND THE SURROUNDING AREA

The facility is built along a private haul road operated by Whitehaven Coal. Located 475 meters from a public road the site runs perpendicular to the haul road. Neighbours, including distances from the Blue Vale ANE Plant, are shown in Figure 3.

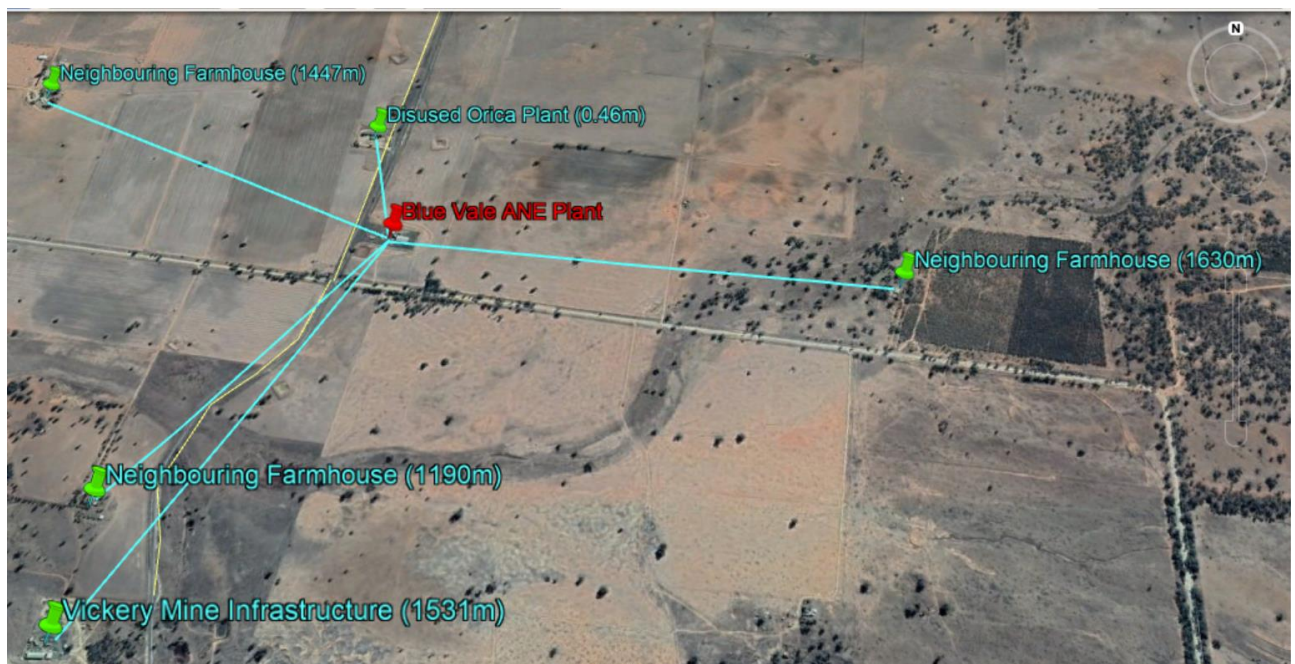


Figure 3: Blue Vale ANE Plant Neighbours incl. distances from Blue Vale ANE Plant

## 9. ACTIONS TO BE TAKEN DURING OR IMMEDIATELY AFTER A POLLUTION INCIDENT

All emergencies are controlled by Hanwha until emergency services arrive.

### 9.1 Incident Controller – Site Supervisor

Incident Controller: Site supervisor acts as the Incident Controller. The Incident Controller is responsible for maintaining this Emergency plan up to date and be fully familiar with its contents. The Incident Controller is also the point of contact with the emergency services.

- In case of a local emergency, the Incident Controller:
  - Directs handling of the emergency and supervises.
  - Coordinates first aid to injured personnel, if required.
  - Ensures appropriate communication and reporting takes place.
- In case of an internal site emergency, the Incident Controller:
  - Contacts emergency services if required.
  - If site evacuation is required, the Incident Controller issues order to evacuate and ensures appropriate isolations are made if possible.
- In case of an external site emergency, the Incident Controller:
  - Communicates the emergency immediately to all personnel including visitors.
  - Contacts emergency services immediately or directs somebody else to contact.
  - Ensures site is evacuated immediately after making appropriate isolations if possible and conducts roll call.
  - If isolations could delay evacuation to a point that site personnel are exposed to greater danger, the Incident Controller must order all employees to evacuate immediately without switching isolations off.
- Site Specific Evacuation instructions are listed in Section 1.8 in the Site Specific Appendix.

### 9.2 Warden

Warden: the most senior employee on site after the Incident Controller acts as the Warden. If supervisor is not on site, the Warden acts as the Incident Controller.

- In case of a local emergency, the Warden:
  - Ensures all site personnel are aware of the emergency and gather at the Muster Point.
  - If evacuation is needed and Incident Controller issues order for evacuation, the Warden conducts evacuation.
  - Brings nearest copy of Emergency plan, SDS (if emergency involves chemicals) and first aid kit. If there are any injuries requiring first aid, the Warden provides first aid service.
- In case of an internal site emergency, the Warden:
  - Conducts evacuation on direction of Incident Controller.
  - Conducts roll call.
  - Administers first aid.
- In case of an external site emergency, the Warden:
  - If evacuation is needed and Incident controller issues order for evacuation, the Warden conducts evacuation.
  - Supports Incident Controller at all times.

### 9.3 Senior Hanwha Manager

Senior Hanwha Manager: off-site role, the person on the HMS Australia Management team who has accountability for the site.

- Liaison with external authorities.

### 9.4 Emergency Management

#### 9.4.1 Emergency Shutdown

Emergency shutdown by activating the E-Stops may be performed by two people and only if it does not compromise their safety. Site operational training which is mandatory for all site personnel covers workplace procedures on emergency shutdown. Site personnel are evaluated on their competency and assessment records are kept in the Training Management System.

#### 9.4.2 Raise Alarm

Alarm initiation is carried out by the site supervisor upon identifying an emergency on site.

The alarm is raised by activating a manual air horn which releases a continuous blast sound.

Following the declaration of an emergency, all site personnel shall gather at the nominated Muster Point, where the site supervisor accounts for all personnel and decides the required escalation.

The site supervisor is also responsible to decide when the emergency is cancelled and return to site is deemed safe by verbal notification.

#### 9.4.3 Emergency Muster Point

The Site Emergency Muster Point is located just outside the sites' front gates. Site access and emergency egress are kept clear at all times.

A secondary Muster Point is at the rear of the sites.

When an emergency is declared and the alarm raised, by air horn, alarm or other means all personnel on site are to make their way to the muster point and await instructions from the Incident Controller.

In the event of a grassfire or bushfire the Muster Point should be inside the site "Crib Room" or "Office" to protect staff from radiant heat.

Emergency Muster Points are identified by a "MUSTER POINT" sign displayed at each location.

#### 9.4.4 Evacuation Point

The Site Evacuation Point is located at the safe distance clearly marked for each site. In general, this will be a safe distance defined as the Protected Works A distance plus a minimum of 20%.

When an evacuation is called the Incident Controller shall

- Contact Emergency Services to advise the site has been evacuated to the designated evacuation point
- Close and lock the site gates upon evacuation
- Request Emergency Services conduct relevant road closures as described in the Plant Appendices.
- For a bushfire event Safe Evacuation Locations are listed in the Site specific appendices.



#### **9.4.5 Facility Emergency Control Centre**

The Facility Emergency Control Centre is the Supervisors Office / Crib Room. The Facility Emergency Control Centre will contain, as a minimum:

- Emergency Plan
- Emergency Plan Site Appendix
- Site Chemical SDS
- Emergency Services Information Package (ESIP).

In the event that this is not accessible or available a mobile centre is to be set up at the Muster Point.

### **9.5 Emergency Response**

#### **9.5.1 Emergency Services Notification**

If the emergency is expected to cause impact beyond the boundaries of the site, emergency services must be notified immediately.

## 10. STAFF TRAINING

Site personnel are trained on induction and annually re-trained in the Emergency Plan. As a minimum the site will carry out one emergency drill per annum. Every employee is responsible for becoming familiar with the Emergency Plan and act in accordance with the plan should an emergency arise. Also, the site must be under regular maintenance to identify any risks and control them before they produce a serious issue. Refer Evacuation Drill Checklist below

### Evacuation Drill Checklist

Site: \_\_\_\_\_

Address: \_\_\_\_\_

Site Supervisor: \_\_\_\_\_ Phone: \_\_\_\_\_

Date and Time of Drill Evacuation: \_\_\_\_\_

Comments: \_\_\_\_\_

- |                                                                        |                          |                          |
|------------------------------------------------------------------------|--------------------------|--------------------------|
| 1. Time taken to complete evacuation of site: _____ Minutes            |                          |                          |
|                                                                        | Yes                      | No                       |
| 2. Could notification for evacuation be heard in all areas?            | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Were all employees familiar with the evacuation scheme?             | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Are all employees adequately trained?                               | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Was the correct assembly point used?                                | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Are all evacuation procedure notices and exit signs in place?       | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Has all firefighting equipment been serviced in the last 12 months? | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Were all isolations taken care of?                                  | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. Next drill due: _____                                               |                          |                          |

Name: \_\_\_\_\_ Signature: \_\_\_\_\_