8-Mar-17 L8937/2015/1 - Licence Amendment Application - Throughput Increase and Addition of Spodumene Ore - Environmental Risk Assessment vironmental Risk Assessment Prepared by - Enviror ment Advisor. Landside Operations Superintendent Port Hedland (Utah Point) Existing Control Risk Title / Issue Describe the Risk Causes Impact Control Effectiveness Rating Basis Consequence Likelihood Risk Rating Maximum Probable Loss Measures How effective do you Select from the Residual Risk Detail the likely maximum What controls believe the existing Consequence Severity Rate as per Rate as per automatically probable loss that could Identify the risk Describe the risk in further detail to List the primary List the key potential (documented/communicated) are controls are in Criteria Likelihood Consequence populates (base eventuate currently in place to manage / managing the Risk? concisely ensure the risk is clearly understood causes for the risk impacts of this risk e - you may list several areas . Severity Criteria Rating Criteria on Consequence (note this may cover severa mitigate the risk Rate as per Control - always rate on the highest and Likelihood areas) consequence) Effectiveness Criteria Throughput Increase As per Schedule 3 of L8937/2015/1 roposed new controls: Public health (respiratory floors for FEL during reclaiming Additional watering of stockvard Storage and handling of Increased contribution to cumulative and cardiovascular) with material with moisture operations. PM10 dust emissions in Port Hedland short and long term content below DEM. • A reduction of 50% in the Satisfactory Environment Low Possible Moderate Dust from the storage and handling of iron exposure. Hot, dry, windy weather Reduced life expectancy wind direction is between 247 and shiploading tonnage rate when the ore, manganese ore and chromite ore. conditions. with long term exposure. 267 degrees and the wind speed is areater than 2 m/s. General Minesite Site is located away from noise operations including Increased contribution to cumulative road trains unloading sensitive areas. noise in Port Hedland from the storage and braking, FEL's and Engineering design to reduce noise Good Low Unlikely Amenity of people Environment and handling of iron ore, manganese product movement and vibrations Use of equipment and machinery ore and chromite ore. through conveyors and with lower noise emissions stackers and reverse alarms. Increased sediment load may impact receiving Material entering marine environment Infrastructure failures water quality. As per Schedule 3 of L8937/2015/1 through contaminated stormwater and Excellent Unlikely Discharge to waters Direct discharge during Environment Low Sedimentation impacts No additional controls proposed. washdown water. clean down. to surroundina mangroves. Failure of bentonite Contamination of groundwater from ver Contaminated Bentonite laver on south-eastern half groundwater may impact of SY1 to prevent infiltration. Land infiltration to infiltration of contaminated stormwater Contaminants stored at Good Environment Low Unlikelv and hydrocarbons spills/leaks from Spill response process in place for aroundwater incorrect stockpile. receiving environment mobile plant entering soils. Mechanical failures of (mangroves). hydrocarbon spills. mobile pants. Addition of Spodumene ROM Public health (respiratory As per Schedule 3 of L8937/2015/1. Storage and handling of Increased contribution to cumulative and cardiovascular) with Proposed new control: naterial with moisture PM10 dust emissions in Port Hedland Addition of Lithium to suite of short and long term Dust content below DEM. Satisfactory Environment Low Possible Moderate from the storage and handling of metals monitored at HVAS monitors exposure. Hot. drv. windv weather Spodumene Reduced life expectancy conditions. with long term exposure General Minesite operations including Site is located away from noise road trains unloading sensitive areas. Increased contribution to cumulative and braking, FEL's and Engineering design to reduce noise Good Unlikely noise in Port Hedland from the storage Amenity of people Environment Low and vibrations. product movement and handling of Spodumene. through conveyors and Use of equipment and machinery stackers and reverse with lower noise emissions alarms. Increased sediment load Material entering marine environment may impact receiving through contaminated stormwater and frastructure failures.

As per Schedule 3 of L8937/2015/1.

Bentonite layer on south-eastern half

Spill response process in place for

hydrocarbon spills.

No additional controls proposed.

groundwater may impact of SY1 to prevent infiltration.

Excellent

Good

Environment

Environment

Low

Low

Unlikelv

Unlikely

water quality.

to surrounding

nangroves.

Contaminated

(mangroves)

Sedimentation impacts

receiving environment

Direct discharge during

Failure of bentonite

incorrect stocknile

bile pants

Contaminants stored at

Mechanical failures of

clean down.

layer.

Discharge to waters

Land infiltration to

groundwater

washdown water Contaminated

stormwater infrastructure failure.

Contamination of groundwater from

infiltration of contaminated stormwater

and hydrocarbons spills/leaks from

mobile plant entering soils.

stormwater may also discharge through

PILBARA PORTS AUTHORITY		
Risk Owner	Treatment	Review
Who within the organisation should manage this risk?	What additional treatments / actions / controls are required to manage / mitigate this risk?	Date for Review Refer to Tolerability Criteria