Information Sheet - Kemerton to Ocean Brine Pipeline

July 2020
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Where does the pipeline go?
The pipeline connects the Kemerton Strategic Industrial Area (SIA) to the coast, following a 12km route through road reserves, Crown land and private land. Firebreaks, road shoulders, farmland and already cleared areas were used as much as possible.

What benefits does the pipeline bring to the community?
Industries establishing in SIA's are typically national and global companies and these projects are of State significance due to the investment and employment they bring to the regional, State and national economies with major flow-on benefits for regional businesses. After the initial employment impact of the construction period, the jobs created are typically stable, with plant life often exceeding 30 years.

Can I see the pipeline along its route?
The pipeline is visible, except for air valves and flow meters which are installed at necessary points along the line.
An air valve is a below ground fitting within a casing, with a visible cover at ground level.

A flow meter is installed below ground level every 2000 meters, but communication equipment protrudes on a pole two to three meters tall (to hold a small solar panel). The locations of these have been chosen to be away from public use to minimise visual impact.

What are the economic benefits of the pipeline?
Infrastructure such as power, water, gas, and brine disposal are key considerations for industry when selecting the location for their operations. The brine pipeline provides best practice brine disposal and neutralisation infrastructure and may be a significant attractor for industry to Kemerton SIA

How was the pipeline be constructed?
The pipe was initially designed to be 200 millimetres in diameter, but after considering operational costs, Harvey Water has increased the size to 315 millimetres in diameter for future provisions and operating efficiency. The pipe made from high density black polyethylene pipe (DN200 SDR13.6 PN12.5) with an average wall thickness of 15millimetres. The pipe is buried to a depth of approximately one meter.

The construction method was a combination of trenching and horizontal direct drilling (HDD). Generally, trenching undertaken to the east of Forrest Hwy, with HDD west of Forrest Hwy. Lengths of pipe were welded together and trenches/ HDD pits backfilled in each day's work program. HDD were used in more sensitive areas to minimise disturbance.

Flow meters (digitally linked) have been installed. Once operational, these meters will provide an early alarm in the highly unlikely event of a pipe leak.
All trenched laying of pipe will be completed by Harvey Water's experienced pipe laying team, with contractors used for HDD drilled sections.

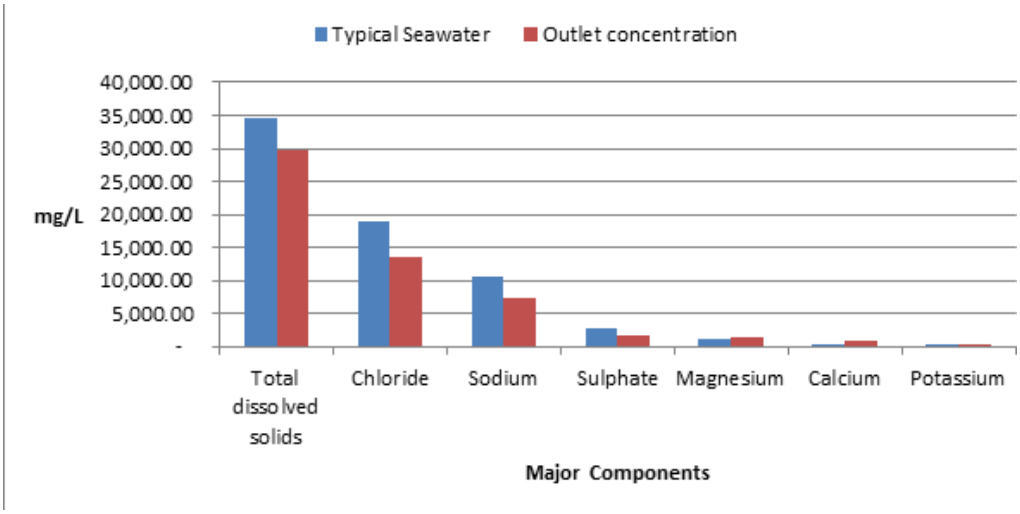
What is the impact to threatened local species the Western Ringtail Possum and Black Cockatoo?
Both species are known to occur throughout the project footprint and Harvey Water have made efforts to flag and map potential habitat and roosting trees. Environmental contractors surveyed the area to identify and mark trees which were bypassed during construction to conserve habitat and minimize disturbance to fauna.

During construction these trees were avoided to stop any impact, through trenching away from rootzones. Furthermore the only clearing that was done on the route was young regrowth, not the old trees with hollows that both animals prefer.

What is the impact on native vegetation?
Harvey Water has worked to find a route that has minimal impact on vegetation, following firebreaks, road verge and cleared areas where possible.
The route has a 380meter length where clearing was needed. This was regrowth in along a road shoulder and the condition of the vegetation was poor.

Why is it proposed to discharge brine into the ocean?
Ocean outfall is a widely accepted practice for brine disposal from best practice commercial and environmental perspectives.

What does the discharge contain?
Following is a graph comparing the composition of typical seawater and the brine.



How far off shore is the brine diffuser be located?
The diffuser is located roughly 400meters from the shore where the water is approximately eight meters deep. This was installed through horizontal directional drilling (HDD) below the seabed to minimise disruption to benthic habitat and marine life.

Will beachgoers notice the ocean discharge?
Beachgoers will not see the pipe; it is buried beneath the dunes, beach and seabed.
Four hundred meters off shore and in eight meters water depth, the diffuser at the end of the pipe is visible, attached to a one meter section of exposed pipe protruding from the seabed.

Can the public still fish/dive in the immediate area?
Yes. The only place the seabed is disturbed is at the very end where is protrudes above the ocean floor. The site where the pipe protrudes is expected to rehabilitate quickly from the contained disturbance.

How will this affect the seagrass and marine life?
The initial Horizontal Direct Drilling (HDD) installation of the pipeline disturbed a small area of ocean floor where the pipe ends at the diffuser, 400 meters out from the beach. Marine surveys show there is a healthy benthic habitat which will recover from this small impact.

Will there be cumulative impact with the existing brine outfall pipelines?
Modelling by our environmental consultants indicates distance, combined with the low volume of output from the pipe, will have very little impact on water quality, cumulative or on its own. This pipeline is approximately 2.5 kilometers from any other outfall.

What regulatory accountability does Harvey Water report to?
This project is monitored by the Department of Water and Environmental Regulation and EPA.

Any changes to the consistency (Through additional users or change in process) will trigger a re-assessment to the EPA on the new proposed brine product.

Any wrongful reporting will impact on Harvey Waters' integrity, something the company does not want to happen. As the fine system relies on a polluter pays method of enforcement, Harvey Water will be vigilant to monitor the input and output of the pipe to ensure it is within the pre-determined standards.

Harvey Water samples the brine storage before disposal at six separate ;locations are the diffuser as DWER requests. The results of these samples and measured flow rates are reported to DWER annually in a compliance assessment report.

Are whales/dolphins impacted by the outfall installation?

Our marine consultants advised that there was minimal risk of disturbance to marine mammals during construction. The Horizontal Direct Drilling method means there was minimal seabed disturbance during construction or anchoring installation required. The location of the outfall does occur within an area of migration for whales and dolphins.

Is this an Albemarle pipeline?

No, this is a Harvey Water pipe. Albemarle is applying to be an initial customer.
The brine will be a product of water from Harvey dam, filtered by Harvey Water where the filtered water will go to Albemarle and the brine will go to the pipeline.

The pipe has been sized to accommodate for a number of users where Albemarle will take up 1/3 of the max capacity, leaving room for future expansion in the Kemerton Industrial Area, only with approval from Harvey Water.

Will the brine that is disposed via ocean outfall have come in contact with the material being processed?

No. Treated water will be used in a circuit that cools parts of the plant that process ore. In between the cooling circuit and plant processing equipment is a heat exchanger. The water will not 'touch' the lithium processing directly. Water that has been used in the cooling process is returned for filtering to remove impurities (such as airborne dust and organic matter). The filtered waste water is sent down the pipeline to ocean outfall.