

## DTSP Engineering, Construction and Monitoring

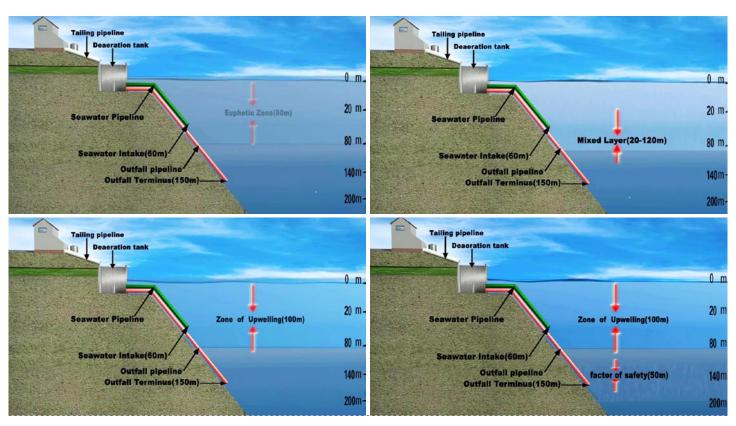
## 1. Chronicle of Events for DSTP System

- January 26, 2007 ENFI signed contract of DSTP system with PSI.
- February 23, 2007 PSI completed the works of outfall pipeline bathymetric survey and on-land pipeline's exploration according to the basic design contract.
- April 10, 2007 Ramu Nickel Management (MCC) Limited and ENFI examined the primary basic design based on the contract issued by PSI.
- July 27, 2007 RNML reviewed the basic design report (0 edition).
- June 24, 2008 PSI completed the tailing slurry test of the MHP.
- August 21, 2008 PSI completed the basic design report (1 edition) according to the latest design parameter provided by ENFI.
- September 27, 2008 RNML reviewed the basic design report (2 edition).
- October 29, 2008 PSI replied to the experts' comments about basic design report of DSTP system and agreed to further improve it.

## 2. Overview of the Basic Engineering Design

At present, basic design of DSTP system has been completed. It consists of a 600 meter on land pipeline, head tank and de-aeration/mixing tank, a 190 meter seawater intake pipeline and the 420 meter outfall tailings pipeline. No pumping facility is needed and the whole system is gravity driven. The design life is 20 years for DSTP system.

- The system makes good use of internationally accepted criteria for environmental design, based on:
- provide de-aeration facilities to ensure that there is no entrained air in the tailings slurry which might carry the tailing into the upper ocean zones;
- discharge the slurry at a depth which is below the mixing zone and the euphotic zone;
- discharge at a density which will encourage the formation of a density current carrying the tailings to greater depths;
- discharge at a location where the bathymetry and local bottom slopes will direct the tailings density current to an acceptable deposition area, either at great depths.





## 3. Implementation and Development of DSTP System

DSTP system plays a very important role in the whole Ramu Nickel/Cobalt Project. In order to ensure the safety of this system, Ramu Nickel Management Company, holding an extremely responsible attitude, is now inviting EPC bidding for the next phase of DSTP project, and by introducing competition, explicitly requesting all bidders to optimize further the completed basic design, to achieve safety, environment protection and emission under all-weather, all-material, and all-working-condition and circumstances. At present, thanks to all the positive responses to the invitation, the bidding work is carried out in full swing. At the same time, Ramu Nickel Management Company will conduct the environmental survey and monitoring program according to the environmental permit issued by the Department of Environment and Conservation. The results of the environmental survey and monitoring results will be available to stakeholders during the construction and operation phase of the mine. The effect of DSTP on the local marine environment will be minimal.