

**Model Indeks Kualitas Perairan
Pada Kolam Pelabuhan Tanjung Emas Semarang
(Studi Kasus Pada PLTU PT. Indonesia Power)**

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ABSTRACT

The industrial waste water by PLTU PT. Indonesia Power into shore, making the quality of territorial waters in Tanjung Emas Semarang bay area decreased. The alteration of territorial waters quality can be shown in the number form by quality of territorial water quality index method. The PLTU's waste water has temperature characteristic 37°C above standard. Based value for sea waters according to resolution of Minister of Environmental No. 51/2004 about standard based value sea waters span controlled temperature 28°C - 30°C . Based on Nemerow Sumitomo waters quality index value, the index quality of Tanjung Emas bay territorial water 3.34 identical counted as light polluted category. According to diversity makrobentos index as determines in territorial waters index biologically, makrobentos indicator result index value 1.01 identical as medium polluted category. Makrobentos in Tanjung Emas bay area spread evenly in 0.423 scale. Based on prediction index which is development from Nemerow Sumitomo index with value 13.8 is light polluted. The value of index span prediction is good if <10 in pH condition between 7-8; turbidity ≤ 5 NTU; salinity between 33‰-34‰; temperature between 28°C - 30°C and DO between 5 mg/l-8 mg/l. the light polluted territorial waters in the index span 10-30 and medium polluted between 30-55 and heavy polluted if greater than 55. prediction of model index is valid in Tanjung Emas bay area with pH condition 1-14, the temperature condition is less than or more than the natural span, turbidity ≥ 1 NTU then salinity condition is more or less than condition of natural salinity and DO between 1 mg/l to 8 mg/l.

Keywords : the liquid waste water of power plant, water quality, index