STUDY OF CAPASITIES UPGRATING PDAM NGAGEL I SURABAYA WATER TREATMENT PLANT

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Abstract

One of the important source in our life is water. Its consequences is enough availability of water in quantity, quality, and continuity. PDAM Surabaya, Water Treatment Plant of Surabaya is government company that provide water to people and service people to fulfill their water requirement. Ironic is happen when comparing between number of people with percentage of PDAM services. Number of people Surabaya was 2,902,507 in 2008, and rate of growth was 1.6 % per year. Total population of Surabaya in 2008 was 2,902,507 inhabitants, with a growth rate of 1.6% per year. While service coverage of PDAM Surabaya is currently 389 000 Residential Connection (SR), which is still 71% unserved areas of clean water. 29% of the population who do not utilize water taps served by wells or water sources of others that have not guaranteed the quality and quantity. Various difficulties and health problems can arise because of these limitations. This has not complied with international agreements regarding the provision of drinking water contained in the Millennium Development Goals (MDGs), which is targeting the service coverage for major cities 80% or reduce by half the proportion of people without sustainable access to safe drinking water.

Installation IPAM Ngagel constructed in 1922 using raw water from the Kali Surabaya with a capacity of 60 L / sec. Furthermore, the water production capacity increased ± 1800 l / sec in 1994. With the increasing demand is needed to increase production capacity in PDAM Ngagel I. An evaluation of IPAM Ngagel need to do to see the possibility of increasing production. Result from the evaluation prove that the installation is not fulfill the range of design criteria yet. This Uprating means reparation the installation without build new WTP, and do the modification The modification is by changing tube settler and increase the number of diffuser pipe. By trial and modification, 2304 L/s is the optimum flowrate.

Keyword : drinking water, capacities uprating, water treatment plant