

Salt production from brine of desalination plant discharge

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Received 14 October 2008; Accepted in revised form 4 September 2009

ABSTRACT

Desalination in the Gulf Cooperation Council (GCC) countries is a growing industry to match the requirement of population growth and the high water demand. This activity however, may generate an environmental impact due to discharge of the brine into the sea and to the chemical utilized during the process operation. The brine can potentially affect marine life and ecology in the proximity of the plant discharge. The seawater salinity is increasing due to the high evaporation rate and to the number of desalination plants growth in the region. One possibility is to reuse brine from desalination plants in a salt plant to produce sodium chloride required for exploration as well as in oil refining process; this should be done in order to protect the environment and to produce a commercial and utilizable salt with a competitive price. The paper presents a technical and economic study to reuse the brine to try to reduce the negative impact of the brine discharge.

Keywords: Brine discharge; Desalination plant; Brine reuse; Salt

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Presented at EuroMed 2008, Desalination for Clean Water and Energy Cooperation among Mediterranean Countries of Europe and the MENA Region, 9–13 November 2008, King Hussein Bin Talal Convention Center, Dead Sea, Jordan.