

Marina Coast Water District
Staff Report

Agenda Item: 10-B

Meeting Date: March 8, 2011

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Reviewed By: Jim Heitzman

Presented By: Carl Niizawa

Subject: Update on the Monterey Regional Water Pollution Control Agency Outfall Capacity Analysis

The Outfall Agreement between the Monterey Regional Water Pollution Control Agency (MRWPCA) and the Marina Coast Water District (District) calls for an engineering analysis for determination of two factors used for the calculation of the outfall capacity fee and for the District's share in costs associated with the capital repair/replacement of the outfall. This report is an update on a staff report given to the Board on August 10, 2010 on the status of the Outfall Capacity Analysis.

In the Outfall Agreement, the factors to be determined in the baseline engineering analysis are the outfall capacity and the impact on useful life of the outfall with the addition of the brine discharge from the proposed District Regional Desalination Facility. Determination of the total capacity of the outfall is needed as the capacity charge is based on the proportional shared use of the outfall by the District's brine discharge. The Outfall agreement also states that the District will pay for additional costs for repair or replacement if the Outfall requires repair or replacement significantly earlier due to the District's brine as indicated by the baseline engineering analysis. The baseline engineering analysis is to be paid for by the District and arranged by MRWPCA.

MRWPCA hired the environmental engineering firm CH2MHill to conduct the outfall analysis and supply draft and final reports on its findings. The initial draft of the engineering analysis "MRWPCA Outfall Hydraulic Flow Analysis" was completed in March 2010 and submitted to District staff for review and comment. The CH2MHill Outfall Report evaluated the outfall capacity and estimated the corrosion potential with the addition of the brine to the outfall.

The CH2MHill draft report indicated that the addition of the brine from the desalination facility would decrease the capacity of the outfall from a range of 66-96 mgd to 53-82 mgd. District staff responded with an analysis which showed that the addition of the brine would actually increase the capacity of the outfall. CH2MHill revised report of August 3, 2010 agreed with the District's comment and revised the calculated outfall capacity of the brine mix to a slightly higher range of 66.9 – 95.2 mgd compared with the calculated range of 66.5 – 94.6 for the capacity without the brine.

The March 2010 CH2MHill draft report indicated the brine addition would shorten the outfall life. The report stated that with the increased chloride content of the brine and treated water mixture, the internal surface life of the reinforced concrete pipe will be decreased by 40%. In the District's response to the draft report, the District staff indicated that the life of the outfall structure was not determined by the brine content from the Desalination facility, but by the

existing higher chloride ocean environment on the exterior of the pipe. In the revised August CH2MHill report, the corrosion model used by CH2MHill showed that the exterior of the pipe would only last 10 years. CH2MHill noted in the report that as the outfall pipe has been in place since 1984 with no observed corrosion, the calculated results are not accurate. CH2MHill report implies the use of inspection and monitoring for the determination of this impact. The District staff concurs with the use of inspection and monitoring for real measurement of impact. As such, the determination of additional costs for outfall corrosion will likely be delayed.