









## VII. CONCLUSIONS

The Six Sigma approach was applied to improve the production of demineralized water. Quality tools and statistical analysis played a significant role in shortening the process of resin recirculation rinse time in demineralized water production. The DMAIC steps incorporating the  $2^{k-1}$  fractional factorial design were employed to find the root causes of the problem and suggest how to set the relevant process parameters. The result indicated clearly that a new set of process parameters increased the in-plant production capacity of demineralized water, which in turn lowered the cost of outside procurement.

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