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THERMAL POWER STATION DEPOSIT ANALYSIS WITH THE OBJECTIVE TO DIAGONISE REASONS FOR DEPOSITION AND SUGGEST WAYS OF PREVENTION

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ABSTRACT

It was observed that the drum contained three distinct types of deposits. From expriement it was found that there was a deposit of scale above the waterline in the drum. The scale was found to have been initiated by foaming, resulting in corrosion under the deposited salt, crystals. The occurance of such deposition can be prevented y careful monitoring of the concentration of dissolved salts in the water and maintaining them at the minimum possible level. It was also found that there was pitting corrosion occurring at the base of the drum. The occurance of corrosion being due to drum design and nothing much can be done about that, except to carefully monitor and minimize factors in the drum that can initiate or accelerate corrosion. The drum also contained a sludge deposit covering the water-space, a consequence of the internal water treatment program. However, although encouraged, the levels of sludge in the drum need to be monitored and kept at low levels as far as is economically possible, because high accumulations can cause the water treatment programm to become a self defeating process, that is, promote the very factors that the program is meant to eliminate or minimize e.g. corrosion, priming and scale deposition.