

**J22. Nine Mile Point 1: BWR-2 Mk1**

U.S.A.

**Replacement of a Pump in a High Radiation Area**

**Description:** After an extensive troubleshooting period the job resulted in the replacement of pump to motor flex coupling.

This work is done in the drywell in a high radiation area.

**Comments:** At the start of the pump problem, reasons for the malfunction was unknown. The testing the amperage of the pump to see if correct amperage was being drawn was the first action. The motor was drawing only 1.5 A when the normal amount was 2.4 A. It was found that the pump was not loaded. After properly starting the motor, the pump was not working. Later, after completing a break down and reassembly of an up-line valve, the pump was again started. The sump pump operated normally with no problems. The plant went back on line for two days before shutting down again. The pump was identified again as not working properly. A plan was devised to replace the pump containing many man hours and man-Sv. However, after removing the pump motor, it was discovered the teeth of the flex coupling had all broken off. The coupling was not "catching" between the motor and pump. Maintenance decided to replace only the flex coupling. After testing the pump worked as designed. A good ALARA practice which reduced the dose to workers was their effective use of low-dose waiting areas. Also the temporary shielding reduced the dose rates as shown above.

**Lessons Learned:**

Mechanical Maintenance will now lubricate the flex couplings every refuel cycle for #11 and #12 DWEDT sump pump. This should reduce the likelihood of sump pump failure.

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