Corrosion monitoring in a straw-fired power plant using an electrochemical noise probe - DTU Orbit (18/02/2019)

**Corrosion monitoring in a straw-fired power plant using an electrochemical noise probe**

Electrochemical Noise Measurements have been carried out in situ in a straw-fired power plant using an experimental probe constructed from alumina and AISI 347 steel. Based on a framework of controlled laboratory experiments it has been found that electrochemical noise has the unique ability to provide in-situ monitoring of intergranular corrosion in progress. The probe had a lifetime of two months. It was shown that down-time corrosion in the boiler was negligible. Electrochemical noise data indicated that metal temperatures around 590 degrees C should be avoided as the intergranular corrosion is at an increased level at this temperature, most likely because of favorable conditions for molten salt film condensation.

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