

# Recent On-line Measurements of Individual Anode Currents at Alouette

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## Abstract

Since early 2014, Alouette has used a system provided by Wireless Industrial Technologies (WIT) to measure individual anode currents on two pots. The system works by measuring the adjacent magnetic field generated by the current for each anode hanger. This paper summarizes initial difficulties and how they have been overcome. Recent current measurements show good agreement with alternative methods for measuring currents (e.g. mV drop along anode hangers). An algorithm has been developed for discerning an imminent anode effect from changes in the measured magnetic fields due to changes in anode currents. Practical reductions of anode effect frequency, compared to cells of reference, have been achieved by using the results of this algorithm to trigger corrective action through the pot control computer. Some additional potential benefits of anode current measurement are described in the paper.

**Keywords:** Anode current measurement; Wireless Industrial Technologies; anode effect prediction.