

## Water Wall Wastage in a CFB Combustor with Two Gas Exits

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The profiles of tube erosion rate on the water wall was measured in a large commercial circulating fluidized bed furnace (200 tonnes steam/h, 4.97 m x 9.90 m x 28.98 m high) with two gas exits by means of an ultrasonic thickness gauge in order to investigate tube wastage patterns. The effect of wing wall on the erosion rate of the side wall was confirmed and the lateral profile of tube wastage was investigated on wing walls. The lateral profile of wear rate confirms that tube wastage has been influenced mainly by secondary flow, stronger toward the center than in the corners, and somewhat by the wing walls and gas exits. The effect of two superposed secondary flows of the second kind, one caused by the shape of the entire freeboard cross-section, and the other by sections between the wing walls, could be also confirmed in lateral profiles of tube erosion rate on the wall connected with wing walls. Appreciable tube erosion rate was confirmed near the center of the rear wall at lower heights. Wastage of wing walls increased with distance into the interior of the furnace.