SYMPOSIA PRESENTATIONS

SYMPOSIUM 3 – CONTINUOUS PROCESSING IN SUGAR FACTORIES

RECENT DEVELOPMENTS IN CONTINUOUS PAN BOILING

P.W. Rein

Tongaat-Hulett Sugar Limited, South Africa

ABSTRACT

Important factors which have influenced the transition from batch to continuous pan boiling are identified. A comparison of batch and continuous pan boiling systems is made which highlights the advantages of continuous vacuum pan systems, and which gives an indication of the current status of continuous pan boiling in the cane sugar industry.

INTRODUCTION

The crystallization of sugar in vacuum pans has been the last unit operation in sugar processing to be converted from batch to continuous operation. Although the first patent for a continuous vacuum pan was awarded in 1932 to Werkspoor, it is really only in the last 15 years that continuous pan boiling has become a practical proposition (Rouillard10).

The fact that it has taken so long to make the transition to continuous operation means that there have been some substantial problems in the way of successfully realizing continuous pan boiling. Consideration of what these problems are and how they have been resolved provides a good framework for assessing continuous pan boiling operations. The purpose of this paper is to look at the features required of successful continuous pans and how they need to be operated to give acceptable results. Assessment of the advantages and disadvantages in relation to batch pan boilings is also covered, which provides an overview of the current status of continuous pan boiling.