



# PROCESS ECONOMICS PROGRAM

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Menlo Park, California  
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## Abstract

Process Economics Program Report No. 145

### BATTERY LIMITS COST ESTIMATING

(April 1982)

This report presents a method of estimating battery limits field costs in which field cost elements are related to equipment capacity and operating conditions rather than to equipment costs. We believe our method will avoid the major errors that sometimes occur when factoring methods that depend on equipment costs are used, but do not expect our method to provide estimates having an accuracy better than  $\pm 20\%$ .

Our method is concerned with individual equipment modules and is based on simplified general design and cost equations for each field cost element. If piping and instrument costs are important, a piping and instrument diagram is needed, as well as an estimate of piping lengths and complexities. We have prepared these for the most frequently encountered equipment in a fluid process plant.

The equations are sufficiently numerous as to be practically used only with a computer program. In such a case, the process engineer need not be concerned with them; only process data (and in some instances flange pressure ratings) inputs are required.

On the basis of a limited comparison, we believe our method predicts higher field costs than do the well-known factoring methods, all of which are based on data more than 15 years old. In part this appears to be due to increased use of central motor control and the availability of more sophisticated instrumentation.

Report No. 145

# **BATTERY LIMITS COST ESTIMATING**

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**April 1982**

A private report by the  
**PROCESS ECONOMICS PROGRAM**

Menlo Park, California 94025

For detailed marketing data and information, the reader is referred to one of the SRI programs specializing in marketing research. The CHEMICAL ECONOMICS HANDBOOK Program covers most major chemicals and chemical products produced in the United States and the WORLD PETROCHEMICALS Program covers major hydrocarbons and their derivatives on a worldwide basis. In addition, the SRI DIRECTORY OF CHEMICAL PRODUCERS services provide detailed lists of chemical producers by company, product, and plant for the United States and Western Europe.

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