



Technical Article

Computer Assisted Terminal Operations Management Systems

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This paper describes an integrated computer facility supporting the functions and responsibilities of shift operations scheduling maintenance and management using real-time interactive techniques. The functions and responsibilities as related to coal export terminals are specifically addressed although these functions would be equally applicable to other terminal configurations and other commodities.

A discussion of the resulting benefits is presented:

- throughput efficiency.
- long-term planning and scheduling, using simulation.
- operations monitoring and protection.
- demurrage/dispatch optimization.
- preventative maintenance.
- operational productivity

Recently there have been two significant changes in our continuously evolving industrial world: the decline of oil as a cheap and abundant energy source and the advent of computers and electronics as tools available for almost every conceivable computation and data handling need.

These two factors, although unrelated, will change the activity of coal handling terminals dramatically in the future. Because of the decline in oil production, coal will increasingly be used as an energy source at least until alternative energy sources are developed and matured. This increase in coal utilization is causing a flurry of activity in the development of import and export terminals, which form a vital link in the transportation chain. Because of the continually escalating capital costs of these terminals, the equally inflationary operating and labour costs, and the competitive markets which the terminals serve, an efficient, well operated terminal is a necessity. A typical import or export terminal can be operated at a more profitable level by designing and installing a computer system which assists in the control of the terminal, provides a comprehensive management reporting system and also enhances operations through on-line modelling of terminal activities.