



Dispatch



170-ton ore haulage truck in operation.

Computer-based haulage truck scheduling is more than ten years old, but there have been few successful installations. The DISPATCH system at the Tyrone mine has proved that such a system can work. Mine haulage has been improved more than 10 percent as a result of implementing DISPATCH.

Large scale open pit mining operations have four options for haulage truck scheduling. They are:

1. Locked Out: A truck is assigned to a particular shovel and dump point.

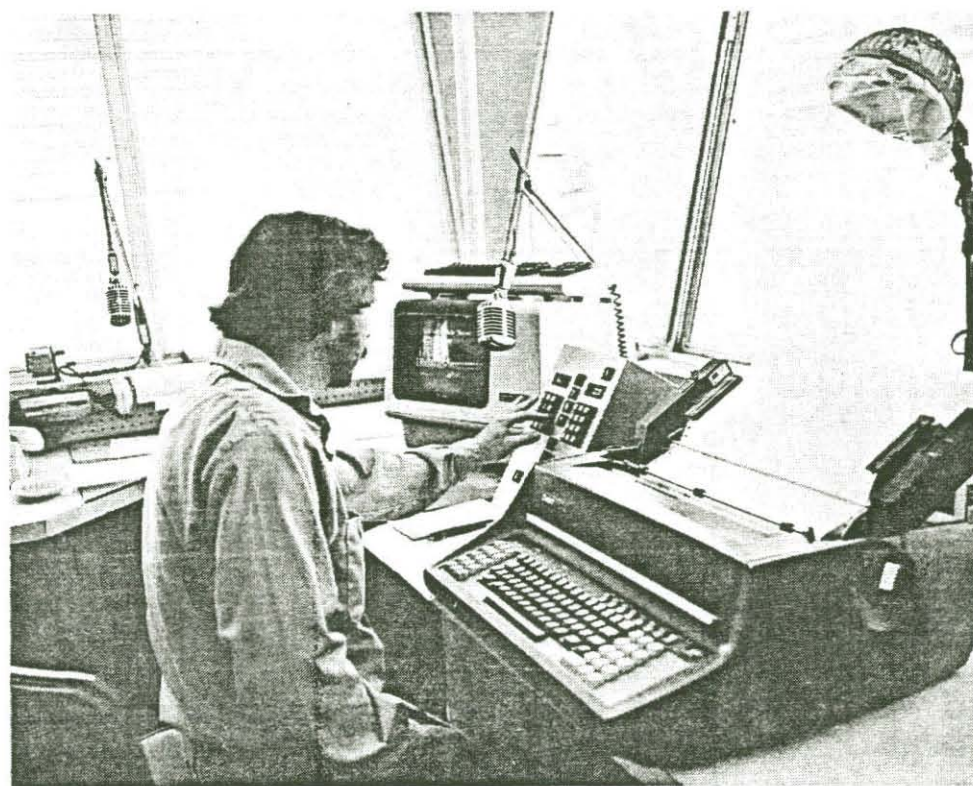
2. Radio Dispatched: A dispatcher makes a visual estimate of the operations and directs a truck to a specific shovel by radio message. This procedure is used as a backup system for DISPATCH.

3. Computer Assisted: A dispatcher uses computer data to send a truck to a designated shovel or dump point.

4. DISPATCH: A truck driver receives instructions on the truck control panel to proceed to a shovel or dump point.

Basically, DISPATCH is relatively simple. The main components are the computer located in the general office building; equipment in the dispatch tower to provide information to the computer; a radio data link, and small transceivers on each piece of equipment. The computer stores information on shovel location, haulage road distances, and the number of hours each truck has been operated since fueling.

Here is an example of how DISPATCH works: Assume that truck No. 219 is being loaded with leach-grade material by shovel No. 12. As soon as the truck is loaded, the shovel operator pushes a button that indicates the material type—in this case "leach," and also punches an "OK" button to signal that loading has been completed. The computer receives the information and determines that dump No. 210 is available for use. The computer lights up the word "leach" and also displays "210" on the truck control panel. The driver proceeds to leach dump No. 210. Upon arrival he presses the "arrive" button. By the time the truck has been unloaded, the computer will have provided one of several different



Tyrone Branch's Brandon Cotton operates the computer terminals in the dispatch tower.



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assignments. DISPATCH may direct the truck driver to return to shovel No. 12, go to another shovel, or go to the fuel dock.

DISPATCH operates around the clock. It is used for the efficient operation of 20 haulage trucks and nine shovels by constantly calculating optimum scheduling by using data such

as truck travel time and weather conditions.

DISPATCH's success has been proved by the 10 percent production increase. Part of the increased production is attributed to uniformity in dispatching. Dispatchers have been freed from managing shovel assignments and are able to concentrate their efforts on overall mine operations. DISPATCH alerts them of developing problems so early corrective action can be taken. Misroutes have been practically eliminated because

assignments are displayed on truck control panels for the duration of each trip.

Another major advantage of DISPATCH is its reporting capability. Mine status reports can be generated on demand and management has access to up-to-date mine operating information never before available. DISPATCH is a significant improvement over the other systems. Equally important, the system has received employee acceptance. ■