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## Trencher Digs Holes Without Cutting Utility Lines

Has your power ever been interrupted because a nearby construction crew inadvertently cut a cable? The **Soft Trencher** avoids this serious problem by excavating sites safely and continuously without the possibility of damage to existing underground utility lines.

The machine is able to do this because of its noncontact form of digging—a combination of high-speed air jets and pneumatic vacuum removal (right).

EPRI co-developed the equipment with a research team from Battelle Memorial Institute, Columbus, Ohio, and Concept Engineering Group Inc., Pittsburgh.

The trenching system performs four basic functions. It breaks up soil across the width and depth of a trench, conveys the material from the trench to the surface, transports the material to a dump truck or other desired location, and advances in the direction the trench is



being cut.

An operator views the progress from a remote control display box. When buried utilities are encountered, the machine excavates around them, without the need for costly manual digging.

A self-propelled, rubber-tired vehicle, the trencher can dig a trench from 1- to 6-ft. wide and up to 10-ft deep.

Though digging trenches for underground utility installation or maintenance is the Soft Trencher's principal use, it offers several attractive features that may be appropriate for the cleanup of environmental waste sites.

For example, it can easily remove shallow-layered soil, isolate the operator from hazardous sites, and accommodate a variety of sensors for the detection of toxic substances or radiation.

Its soft air jets would not be harmful to buried waste containers and the machine could be modified to separate items by heating the soil for volatile removal, using vapor traps and filtration systems.

Other potential applications include bulk material handling and loading, and railway bed cleanup and material recovery.

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