

Air Pollution

Steelworkers know about air pollution. In October of 1948 a temperature inversion trapped the smoke and dust from zinc smelters and railroad locomotives in Donora, Pennsylvania. By the time it was over, 20 people had died from breathing polluted air. More than six thousand suffered lung problems. Shortly afterward, the Donora smelters shut down forever.

Today the air is cleaner, but is it clean enough? Union members must contend with dirty air in many of the plants where they work. And what children breathe outside the plant is similar to what their parents breathe inside the plant. A great deal of pollution is also caused by non-industrial sources, like automobiles, power plants, and waste incineration.

Some pollutants are especially common:

- ◆ **Sulfur dioxide**, emitted by power plants, nonferrous smelters and coke batteries, causes severe respiratory problems and contributes to acid rain.
- ◆ **Oxides of Nitrogen**, from auto exhaust and industrial plants, cause lung irritation, increase susceptibility to viral infections, and are a secondary cause of acid rain.
- ◆ **Particulates**, tiny particles of dust from many industrial sources, also cause lung damage.
- ◆ **Carbon monoxide**, mostly from automobiles, affects the blood's ability to carry oxygen, thereby leading to heart disease.
- ◆ **Hydrocarbons**, from automobiles, chemical plants, spray painting and many other sources, react with other chemicals and sunlight to produce urban smog and cause breathing problems.
- ◆ **Ozone** is formed in the atmosphere by reactions between hydrocarbons and oxides of nitrogen. Thirty miles above the Earth, naturally-occurring ozone helps protect us from harmful solar radiation. But at ground level, ozone formed from pollutants is a corrosive poison, irritating the respiratory system and aggravating heart and lung disease.
- ◆ **Air toxics** are thousands of especially dangerous chemicals such as benzene and lead, mostly emitted from industrial plants. They cause a variety of diseases, including cancer.

New laws in both countries have led to somewhat cleaner air. Automobiles produced in 1990, for example, emit much less pollution than their 1970 counterparts. But our air is still harmful. In 1989, for example, 119 urban areas in the United States, home to half the country's population, violated annual air pollution standards. Canada has fewer air pollution problems, due to its lower population density and cooler climate, but many Canadian cities also exceed air pollution limits.

And the improvements have slowed. With one exception, emissions of the most serious air pollutants in the United States have diminished only slightly or not at all since 1975. (The exception is lead, which dropped by 93% when it was phased out of gasoline.) Millions of North Americans are still threatened by polluted air.