

THE CURRENT SITUATION IN AIR POLLUTION CONTROL  
BY LOCAL AUTHORITIES

L.E. TUCKER

This review will deal with the air pollution control situation as it exists in Johannesburg, and will be related, where applicable, to other parts of the country. There are four major areas of activity that are receiving attention; they are industrial pollution, commercial and domestic premises, Bantu townships and vehicle emissions. The S.A. Railways with their own peculiar problems are not subject to legislative control and will not be considered.

INDUSTRIAL POLLUTION.

Leaving aside the gross industrial pollution from scheduled processes that are under the control of the State Department of Health, smoke from factories using boilers is perhaps the easiest of urban pollution problems to solve. Industry has accepted smoke control mainly because of the savings inherent in the proper combustion of fuel. Regulations made in terms of Section 18 of the Act are now enforced in 56 municipalities, so that smoke from industrial boilers is now a minor source of contamination. A further 33 municipalities use the law to control the installation of new appliances and to handle smoke nuisances.

DOMESTIC PREMISES.

Dwelling houses, blocks of flats, hotels and office buildings may be categorised together since they are all best controlled by the use of smoke control zones. Zone orders allow only the very lightest of smoke emissions from all chimneys other than those in industrial areas. The policy in Johannesburg is to create smoke control zones at regular intervals until by the middle of 1977 the whole of the White area of the city will be subject to the prohibition. At present seven zones are in operation covering about 30 000 dwelling houses and about 3 000 buildings.



Only 29 municipalities are using smoke control zone orders and most of these are limiting the effect of the orders to new houses and buildings. Although having declared the whole of their municipal areas as zones, existing premises have been excluded. This is a reasonable policy with which to start since it prevents new houses from contributing to the pollution burden, but it should be followed immediately with a programme to cover all existing premises within a specified period.

Experience so far has shown that the public have been extremely co-operative in complying with zone orders and only a very few have required gentle reminders. The probable reason is that almost everyone is now pollution conscious and will accept limitations for the common good.

#### BANTU TOWNSHIPS.

When Johannesburg's White suburbs are essentially smokeless in 1977 it will logically be assumed that everyone in the city will enjoy very much cleaner air. To a large degree this will be so, but there will be many living in close proximity to Soweto and Alexandra Township who will hardly notice the difference and who will be justifiably upset.

It is difficult right now to predict when it will be practical to introduce legislation for direct control of smokiness in Bantu townships. The solution is dependent on the supply of electricity to these areas and on the economic ability of the residents to afford its use. This may take some considerable time to achieve, but fortunately there is hope of a gradual improvement in smoke emission over the next five to ten years. It is already being brought about by the use of a new type of coal-fired cooking stove which produces only about 10 per cent of the smoke of a conventional stove. Most stove manufacturers are making the new type exclusively, and soon legislation will force them all to comply.

With only the "smokeless" models available, conditions should improve as stoves are replaced. Your association is actively pursuing a radio



publicity campaign to make the Bantu aware of the existence of the new stoves and their advantages which include economy of use.

#### VEHICLE EMISSIONS.

World attention to exhaust emissions from vehicles is increasing now that smoke from other sources has come under a high degree of control and vehicle populations are rising. In South Africa measurements taken in the largest cities have shown that vehicle pollution is substantial, but has not yet reached proportions which will cause alarm or require remedial measures.

In spite of this, regulations have been promulgated for the control of dark smoke from diesel-engined vehicles. Diesel smoke is considered by the lay public, emphatically and emotionally, albeit completely erroneously, to be the worst form of air pollution and of course it is probably the most obtrusive variety. Because of the public's attitude and because diesel smoke is relatively easy to prevent, Johannesburg is taking steps to curb smoky vehicles. Regulations for the purpose are also in force in Bloemfontein, Cape Town and Durban, and they will be made applicable shortly to many other local authorities throughout the country.

Problems of high altitude operation will be allowed for in the new regulations which will stipulate different density limits for towns at different heights above sea level. It is regretted that a less stringent limit will be imposed for the Witwatersrand but it is expected that the limit will be lowered at regular intervals to improve the situation without undue pressure on vehicle operators.

#### CONCLUSION.

The tempo of air pollution control is rapidly increasing and there is every reason to believe that pollution levels throughout the country will improve appreciably over the next five years. The use of electricity in Bantu townships is perhaps the most critical factor which may require some form of subsidy if realistic progress is to be made.



LOCAL AUTHORITIES CONTROLLING SMOKE EMISSION  
UNDER PART III OF THE AIR POLLUTION PREVENTION ACT.

Alberton	Kroonstad
Amanzimtoti	Krugersdorp
Bedfordview	Ladysmith, Natal
Bellville	Langebaan
Benoni	Lichtenburg
Bethal	Louis Trichardt
Bloemfontein	Mafeking
Boksburg	Meyerton
Brakpan	Middelburg, Transvaal
Brits	Divisional Council, Milnerton, Cape
Cape Town	Nelspruit
Cape Divisional Council, Cape Town	Newcastle
Carletonville	New Germany
Dundee	Nigel
Durban	Oudtshoorn
Durbanville	Divisional Council, Parow, Cape
Edenvale	Transvaal Board for the Devel- opment of Peri-Urban Areas, Pretoria
East London	Pietermaritzburg
Ermelo	Pietersburg
Estcourt	Piet Retief
Divisional Council, Fish Hoek, Cape	Divisional Council, Pinelands, Cape
Germiston	Pinetown
Goodwood	Port Elizabeth
Greytown	Potchefstroom
Heidelberg, Transvaal	Potgietersrus
Howick	Pretoria
Johannesburg	Queenstown
Kempton Park	Randburg
Kimberley	Randfontein
King William's Town	
Klerksdorp	



Roodepoort	Vanderbijlpark
Rustenburg	Velddrif
Saldanha	Vereeniging
Sandton	Verwoerdburg
Sabie	Virginia
Sasolburg	Vredenburg
Divisional Council, Simonstown, Cape	Vryheid
Springs	Warmbad, Transvaal
Stellenbosch	Welkom
St. Helena	Wellington
Tzaneen	Westonaria
Uitenhage	Witbank
Umhlanga	Worcester
Upington	

---

#### NOTES FROM OTHER COUNTRIES

##### ENGLAND

Mr. F.P. Williams, spoke in Chesterfield at a meeting of the East Midlands branch of the National Society for Clean Air. He said that there had been a sharp decrease in smoke concentrations over the years and they were less than half what they were in 1958. The East Midlands had dropped from 60 micrograms per cubic meter to 51 during 1972.

##### AUSTRALIA

An engineer proposes that old motor car tyres which are a litter problem and become a smoke problem when burned, should be frozen to  $-200^{\circ}\text{C}$  and then crushed in a crusher. The material can then be used for tennis court surfaces and other purposes.



FROM THE AIR TO THE WATER AND TO THE SOIL

AMERICA

Environmental legislation - and resulting Environmental Protection Agency regulatory efforts - has attempted to control specific pollutants or protect specific media without considering ultimate adverse effect on other environmental problems or ultimate costs of achieving promulgated standards, Sen. James A. McClure (R. - Idaho) charged in remarks before Air Pollution Control Association's Second Government Affairs Seminar in Washington, D.C. on March 27. Achieving air quality standards will probably increase costs of complying with water quality regulations, McClure predicted, adding standards have been set "so impossibly high that we may get only modest improvements in return for massive expenditures."

Despite EPA's optimism, adequate sulfur oxide emission control technology is not available, McClure said, and if such technology is developed and utilized to achieve present air quality standards, environmental benefits will be outweighed by degradation resulting from massive sludge accumulation. The granting of variances and extensions for the utility industry in complying with standards is an attempt "to save the reputations of various legislators and bureaucrats without actually penalizing industries for not doing the physically impossible."

As might be expected, McClure's faith in industry's environmental enthusiasm was not shared by environmentalists addressing the APCA seminar, including Natural Resources Defense Council attorney Richard E. Ayres who told session on heat and power generation that utilities, given their reluctance to develop scrubber technology, should not be granted variances to burn high-sulfur coal until good faith control effort is made.



EFFECTS OF THE GRASSING OF MINE DUMPS



A large and a small mine dump as they were in 1964.



The same scene in 1974. A portion of the Johannesburg Expressway can be seen in the middle distance.