TO BREATHE OR NOT TO BREATHE: HOW EFFECTIVE IS LEGISLATION GOVERNING AIR POLLUTION?

Prof Y. Burns
Dept of Public and International Law
University of South Africa

INTRODUCTION

The atmosphere is a natural resource upon which two-thirds of all biological species, including humans, are dependent for their survival and existence.[1] The alternative to breathing is a prospect relished by few and the fact of the matter is that there is no choice. Short of living on artificial respirators we are forced to inhale air as it is - regardless of its pollutant imperfections.

Much has been written of late about the right to a clean environment, but this is neither the time nor the place to become embroiled in this involved legal discussion. Suffice it to say that at common law a neighbour is required to tolerate reasonable but not excessive nuisance resulting from smoke emanating from his neighbour's property. Since common law did not provide an adequate foundation for the control of air pollution in our modern technological society, the Air Pollution Prevention Act 45 of 1965 was promulgated. This Act regulates the control of noxious and offensive gases emanating from industrial processes, the control of smoke and wind-borne dust pollution, and pollution emanating from diesel vehicles. The question is whether this legislative measure can adequately combat air pollution. It would appear not entirely, since the Act is in the process of being revised, the object apparently being to streamline the administrative structure by centralising the control of air pollution. This will mean that regional and local authorities will fall under the direct control of the Department of National Health and Population Development, which is the Department responsible for administering the Act.

At a press conference held during September 1990 the Department indicated that the following areas will receive priority in the future:

* residential areas without electricity;
* power station emissions;
* the paper industry;
* the petrochemical industry;
* the metallurgical industry;
* dust from mine dumps;
* wood processing plants;
* lead in petrol;
* smoke from smaller industries; and
* motor vehicle emissions.

Since I am sure that you are all familiar with the specific provisions of the Act, I am not going to discuss them in any detail, but will rather attempt to draw your attention to the shortcomings of the Act, and then put forward some proposals.

The control of air pollution in South Africa, which is directed at the source of the pollution rather than the regulation of the emission itself,[2] is less than ideal. For example, although industrial pollution is theoretically well controlled via the permit system[3] (the system whereby a scheduled process may not be carried on in the absence of a current or provisional registration certificate issued by the chief air pollution control officer) the success of the control measures depends largely on regular inspection of scheduled processes.[4] Although the holder of a certificate may have his certificate suspended or cancelled should he fail to comply with the stipulated conditions, the absence of the necessary manpower to carry out inspections to ensure compliance means that the threat of cancellation becomes virtually meaningless.

The chief officer may also direct the holder of a certificate to take additional steps to ensure the more effective prevention of the escape of gases by utilising a specified process or equipment. Here too, the success of the additional prescribed steps depends on regular inspections being carried out.

The advantage of the permit system is that the limits or guidelines laid down in each specific permit are easily adaptable to changing conditions, and that the severity of the measures may be tailored according to the proximity of the scheduled process to an urban area. A disadvantage is that these limits or guidelines are not subject to public scrutiny. In issuing a certificate the chief officer must be satisfied that the "best practicable means"[5] are being adopted to prevent or reduce to a minimum the escape of noxious or offensive gases into the atmosphere. This criterion involves a subjective evaluation on the part of the chief officer[6] and although the exercise of administrative discretionary powers is subject to judicial control, this control is limited to the determination of administrative validity. This means that the court can only enquire whether certain procedures have been followed. The courts will not alter policy decisions or substitute their opinion for that of the chief officer, but will refer the matter back to him for reconsideration where it is found that his discretionary power has been incorrectly exercised.

A further problem with regard to the control of discretionary powers is the question of legal standing - in other words who may bring the matter before the court in order to test the validity of any administrative power. Only persons who have a direct or substantial interest in the matter, usually manifested by way of prejudice or harm suffered, have the necessary legal standing to challenge the validity of the power exercised. This means that only

persons directly affected by the grant or refusal of a current or provisional registration certificate may take the matter on review to the Supreme Court.

Smoke control is exercised by local authorities at levels ranging from 1 to 3.[7]

Level 1 (sections 14, 15, 16, 17 and 23) relates to the manufacture or import[8], installation[9] and siting[10] of fuel burning appliances and the control of smoke or other products of combustion causing a nuisance.[11] This level usually applies to country regions which are not highly industrialised.

Level 2 (section 18) regulates smoke problems of a more serious nature, including smoke emitted by boilers and space heating appliances in flats, office buildings, light industries and the burning of waste.

Level 3 (sections 20-25) applies mainly to residential areas in which smoke control zones are established. In certain areas for example no one may permit the emission of smoke of a density or content which obscures light to an extent greater than 20%.

The policing of smoke control regulations is problematic since a large manpower resource is necessary. A further problem is that it is often unclear which authority - the chief officer at central level or the local authority - is responsible for smoke control in a particular area. It must be borne in mind that the control of pollution resulting from the combustion of fuels lies in the main in the hands of local authorities once the Minister has declared an area to be a smoke control zone, but that the Minister may transfer a local authority's power to the chief officer under certain circumstances.

Air pollution in Black townships such as Soweto and in the large squatter areas such as Crossroads, greater Durban and the Vaal Triangle, is a cause for great concern. Coal-burning stoves cause sulphur dioxide pollution, which is not only clearly visible but also injurious to health. Although research is currently being conducted into the production of a type of smokeless coal, it is submitted that the goal should be to widen the distribution of electricity to the population concentrated in Black areas. The challenge is to design a practical system of charging consumers for electricity, but in such a way that costs can be recovered.

The control of dust emanating from an industrial process[12] is regulated by way of prescribed steps or the adoption of the best practicable means. The chief officer may call no owners of premises to take certain prescribed steps or adopt the best practicable means to prevent dust pollution from causing a nuisance to adjacent owners. The arguments raised with regard to the policing of scheduled processes, ie the shortage of manpower to monitor pollution, and the question of the subjectively phrased discretionary power, also apply in the sphere of dust pollution control.

Although the owner of a mine that is likely to cease operations within five years[13] may not dispose of any assets, unless he has obtained a certificate to the effect that the necessary steps have been taken to prevent dust pollution, the question is whether this preventative measure is effective in the current unstable economic climate where a mine's economic base may change dramatically within a matter of months.

Pollution emanating from motor vehicles is regulated in accordance with an emission standard, and enforcement is achieved by way of impromptu inspections on public roads. However, effective control of these emissions depends largely on the vigilance of local authorities and on regular inspections, and it would appear that it is only excessive emissions which are controlled.

Although the Road Traffic Act 29 of 1989 empowers the Minister of Transport and Post and Telecommunications Affairs to regulate the control of emissions from petrol driven vehicles, no regulations have as yet been promulgated. Catalytic converters, which are currently used in Europe to control nitrogen oxide emissions, have not as yet been introduced into South Africa. It is rumoured that the implementation of measures to control the percentage of lead in petrol will be a costly exercise, since the installation of such a device could amount to as much as R2 000 per vehicle.

To my mind, a major shortcoming of the Act is that the penalties for a contravention of any provisions are relatively light - a fine of R500 or imprisonment for period of six months in the case of a first conviction and a fine of R2 000 or imprisonment for a period of one year for a second conviction. Although the man in the street may think twice about contravening the Act, the relatively light penalty will in all probability not have a deterrent effect on industry.

A problem which has also occupied scientists of late is that of acid rain deposits, ie emissions of sulphur dioxide (SO_2) and nitrogen oxide (NO_2) travelling through the atmosphere which undergo a chemical change and return to earth as acids or acid-forming compounds.[14] Scientists argue that acid rain is as yet not cause for alarm in South Africa since emissions are low; there are no significant lake areas which can be affected, and forest areas are relatively sparse and neighbouring territories are unlikely to be affected. They suggest that since our industrial development is not as advanced as that of of other western countries, the country should not be burdened with costly emission standards at this stage.[15]

Although "acid rain" is neither defined nor specifically referred to in the Act, the Minister may amend the list of scheduled processes and declare any gas to be noxious or offensive, thereby controlling the emission of gases which fit the description of acid rain.

Although the Act does not make provision for the protection of the ozone layer, steps are being implemented to prevent its depletion.[16] The Montreal Protocol[17], to which South Africa is a party, calls for the control of CFC emissions by any means including the control of its production and use. During October 1990, the Minister of National Health and Population Development announced a national action plan and strategy to monitor the production of CFCs in South

Africa. This included the labelling of ozone depleting substances as well as the phasing out and ultimate prohibition of CFCs.

The greenhouse effect is another cause of concern. This is caused primarily by factories which spew gases into the atmosphere,[18] the excessive use of CFCs and the depletion of the earth's ozone layer. Projections indicate that the accumulation of excess carbon dioxide and other gases in the atmosphere could raise the earth's average temperature by 3 to 8 degrees by the middle of the next century. This increased temperature could cause the oceans to rise, flooding coastal areas and ruining agricultural land through salinisation.[19]

RECOMMENDATIONS

The protection and conservation of the South African environment is less than ideal and a short and long term solution to environmental issues must be sought. In this regard the recent trend towards the introduction of a policy of integrated pollution control has much to recommend it.[20] This approach, which was put forward by a member of the Royal Commission proposes the establishment of a single, unified pollution inspectorate with adequate powers to implement this IPC, and the introduction of a coherent regulatory system. The Commission was also of the opinion that the concept of "best practicable means" should be expanded to that of "best practicable environmental option" (BPEO). In accordance with the latter option a systematic approach to decision-making is adopted - the practicability of all reasonable options is examined, and the environmental impact plays a major role in reaching the final decision.

The introduction of an integrated pollution control policy in South Africa would have the advantage that a body would be created, to which all complaints and enquiries could be addressed, which would have the power to impose reasonably heavy penalties in appropriate cases. The advantage of the system is that the policing of pollution is investigated and penalised independently of the department concerned or the body responsible for the issue of the permit.

Another possibility would be the creation of the office of environmental ombudsman, which, because of its independence from government authority, would go a long way towards de-politicising environmental action.

The office of ombudsman has certain inherent characteristics. For example, the ombudsman who is generally appointed by and is responsible to parliament, should ideally be a person who commands the respect of both the public and the administration. Both the public and the administration should view the ombudsman as an independent appointee in the sphere of the environment, whose objective is the reconciliation of such conflicting interests as the protection and conservation of the environment, economic interests of industry and the protection of public health.

The creation of such an office will bring with it the involvement of the public who will direct complaints at the ombudsman who investigates the matter and makes certain recommendations. In this way the inherent limitations of the *locus standi* requirement would be overcome since concerned environmentalists and ordinary members of the public will be involved in the monitoring of pollution and other environmental issues.

The ombudsman's function is the resolution of environmental issues by way of negotiation rather than confrontation. Although he cannot reverse administrative decisions and cannot usually direct that a specific administrative act be carried out to remedy a complaint, the matter will be given a public airing which is very often the most effective way of resolving disputes of this nature.

It is submitted that the office of environmental ombudsman will do much to resolve environmental disputes. Access to the ombudsman will also alleviate the public's dilemma as to which authority to approach regarding environmental issues as a whole and air pollution in particular, and since publicity forms an integral part of an ombudsman's function, environmental issues, including impact studies, will be subjected to public scrutinity and debate. The office of environmental ombudsman, coupled with the institution of an environmental court, which will be a specialised court dealing with environmental issues only, will do much to resolve disputes in the field of the environment.

It is of interest that the Constitution of the Republic of Namibia makes provision for the appointment of an ombudsman. His many diverse functions include the duty to investigate complaints concerning the over-utilisation of living natural resources, the irrational exploitation of non-renewable resources, the degration and destruction of ecosystems and failure to protect the beauty and character of Namibia. Although time alone will tell whether this ombudsman will effectively assist in the protection and conservation of the Namibian environment, I am of the opinion that this is the correct route to follow.

At present there is much talk of the incorporation of environmental considerations into a future South African constitutional dispensation. Laudable as it may be to include environmental issues, the inclusion will have limited effect in practice since a constitutional guarantee does not necessarily ensure judicial enforcement. Furthermore, what is the use of the right of judicial review if only a limited number of persons may avail themselves of this right, and what is the point of providing environmental remedies if only the wealthy are able to contest environmental issues in court? All these issues must be addressed and in my view the only resolution to the problem will lie in introducing practical legislative measures such as widening the scope of the legal standing requirement, or the introduction of a class action, whereby a number of interested parties may be joined as litigants in an environmental issue, thereby overcoming the cost of litigation.

In conclusion, it must be remembered that since air pollution knows no boundaries, the co-operation of neighbouring states is absolutely essential. At the domestic constitutional level, however, the recognition of environmental principles, and the creation of the office of ombudsman and an environmental court, coupled with a

revised statute which makes provision for a centralised administration, will do much to improve the problems attendant on the control of air pollution.

NOTES

1. See C W Louw and P J Odendaal "Ons Atmosfeer en die Kwesbaarheid daarvan": *The Clean Air Journal* Vol 7 No 8 (1989) 4.
2. The adoption of an emission standard to control noxious or offensive gases has been considered impracticble in South Africa. See in this regard Haliday Papers CSIR Conference "The Implications of Air Pollution Control" (1964) 9 : 3-4.
3. The carrying on of a scheduled process in the absence of a current registration certificate, and the erection, alteration or extension to existing buildings or plants in the absence of a provisional certificate are prohibited. S9.
4. At present there are 69 scheduled processes listed in the Second Schedule to the Act.
5. S10. According to the Department of Health and Population Development the adoption of the best practicable means implies that cost does not play a role where the health of humans is concerned, but that it should be considered in all other cases. See Press Release September 1990.
6. In issuing a provisional registration certificate the chief officer must consider issues such as the nature of the process, the locality, the purposes for which the premises are used, whether the opporation of the process will conflict with any existing or proposed town-planning scheme. S10(4).
7. The concurrence of the local authority is required to declare a smoke control area. S14. In certain instances concurrence is not required, for example where smoke causes a nuisance and the local authority in question has not taken reasonable steps to prevent a continuation of the nuisance. S14(6).
8. The manufacture or importing of any fuel burning appliance for use in a dwelling house which does not comply with stipulated requirements is prohibited in the absence of written authority. S14A.
9. The installation of fuel burning appliances in or on any premises is prohibited unless the appliance can be operated continuously without emitting dark smoke or smoke darker than that prescribed by regulation. Allowances are made for the emission of darker smoke during the starting up or breakdown of the appliance. The installation of any fuel burning appliance designed to burn pulverised solid fuel; to burn solid fuel in any form at a rate of 100 kilograms or more per house, or to subject solid fuel to any process involving the application of heat, is also prohibited, unless the appliance is provided with effective appliances to limit the emission of grit and dust. S15. The provisions of this section do not apply to a fuel burning appliance in a dwelling home.
10. The site of fuel burning appliances and construction of chimneys is also regulated under the Act, in that a local authority may not approve the construction of a chimney which emits smoke which is prejudicial to public health, or is a nuisance to occupiers in surrounding areas. S16.
11. The local authority may prohibit the emission or emanation from any premises of smoke which is of a darker colour or greater density than that specified, by way of notice of abatement. Periods during which a furnace is overhauled or where a breakdown or disturbance occurs, are excluded.
12. S28. The industrial processes which most commonly cause nuisance problems and which are not covered by Part II of the Act are, for example, sand-blasting operations, dry powder spray-painting, woodworking and carpentry shops and the handling of various chemicals in dry powder form.
13. The Act makes provision for the creation of a Dust Control Levy Account and the administration of this account. The purpose of the account is to meet the cost of dust abatement measures where the person required to take the measures is deceased or a corporate body has ceased to exist. S30.
14. See Wetstone and Rosencranz *Acid Rain in Europe and North America.* Compounds giving rise to acid rain may be produced in several scheduled processes, for example gas liquor processes, nitric acid processes, hydrocarbon refining processes, benzene processes, acid sludge processes, power generation processes, producer gas processes and gas and coke processes. The definition of "noxious or offensive gases" also consists of a list of compounds which fit the description of acid rain, although it fails to include nitrogen compounds, which are important.
15. See Ashby "Acid Rain: Solution or Dissolution" *South African Public Law* (1987) (2) 140.
16. The depletion of the ozone layer is attributed to the over-use of the atmosphere-destroying chlorofluorocarbons (CFCs) which emanate from the manufacture of plastic foam, packaging and cleaning solvents for computer chips, aerosol spray cans and the coolants used in refrigerators and air conditioners.
    Chlorine is released when CFC molecules break up, which then destroy ozone molecules. These ozone molecules are vital to the well-being of plants and animals, since they absorb ultraviolet rays. Increased ultraviolet radiation to the surface of the earth is associated with increased rates of skin cancer in human beings, decreased yields of crops and plankton in the oceans, which ultimately poses a threat to life and the environment.
17. Montreal Protocol on substances that deplete the Ozone Layer Final Act, 1987, UNEP.
18. The real culprits are carbon dioxide (CO_2) and gases such as methane and nitrogen oxides which are released in large quantities when wood and fossil fuels such as coal, oil and natural gas are burned. Increased industrialisation has meant that carbon dioxide has been released faster than plants and oceans, which absorb the gas, can handle.
19. British, American and Soviet scientific data have shown that the decade of the 1980s has been the warmest in over a century. According to the findings of the Climatic Research Unit at the University of East Anglia in the United Kingdom, 1987 has been recorded as the warmest year thus far. "Its getting Hot" *UN Chronicle* (vol 25) 2 June 1988 45.
20. See the address by the Earl of Cranbrook at the National Society for Clean Air Annual Conference held in Cape Town on 9 November 1989 in which he discussed the development of a policy of Integrated Pollution Control (or IPC) in the United Kingdom.