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Enforcement of air quality legislation in South Africa – October 2008

An overview prepared for the **UNEP Eastern Africa Workshop on Better Air Quality in Cities** on 21-23 October 2008¹

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Introduction

This document is an overview of the South African Environmental Management Inspectorate (locally known as the “Green Scorpions”) and their role in the enforcement of air quality legislation in South Africa.

Part 1 of this document a short overview of the current statutory framework for air quality in South Africa.

Part 2 briefly describes the background to the establishment of the Environmental Management Inspectorate (EMI) in 2005, and provides an overview of the legislative framework for the functions, mandate, powers, training and designation of Environmental Management Inspectors (EMIs).

Part 3 considers EMIs’ role in monitoring compliance with and enforcing air quality legislation currently in effect. Part 4 describes the Inspectorate’s most recent compliance and enforcement project, namely Operation Ferro and the National Refineries Environmental Compliance Project.

Part 5 looks at key challenges in air quality enforcement, including the need for specialised air quality enforcement training for EMIs, and Part 6 is a hypothetical case study for effective air quality enforcement when the National Environmental Management, Air Quality Act, 2004 (AQA) is fully implemented.

Part 1: The current statutory framework for air quality management in South Africa

In South Africa, the environment is governed by framework legislation known as the National Environmental Management Act, 1998 (Act 107 of 1998) (“NEMA”). NEMA sets out a series of environmental management principles that apply to the interpretation and application of all legislation that may affect the environment. Since 1998, various specific environmental statutes that fall under the NEMA framework have been promulgated, including the National Environmental Management: Biodiversity Act, 2004 (Act 10 of 2004), the National Environmental Management: Protected Areas Act, 2004 (Act 57 of 2004) and the National Environmental Management: Air Quality Act, 2004 (Act 39 of 2004) (“AQA”).

Before AQA was promulgated in 2004, the national legislation that governed South Africa’s air quality was the Atmospheric Pollution Prevention Act (Act 45 of 1965) (“APPA”). This Act suffered from many shortcomings, including the absence of national air quality standards, and the absence of appropriate compliance and enforcement provisions. For example, under APPA, contravention of a condition of a permit was not a criminal offence, and no punitive action could therefore be taken against a permit holder that contravened its permit.

In 2004, AQA was promulgated. New provisions in this Act include:

- a national air quality framework;
- the establishment of national, provincial and local ambient air quality and emission standards;
- declaration and management of priority areas for areas where air quality is of particular concern;
- listed activities that require an atmospheric emissions licence;
- listing of controlled emitters and controlled fuels; and

- a range of new criminal offences.

AQA is currently only partly in effect and APPA continues to be implemented, while national, provincial and local government officials are, amongst other things:

- completing a national, multi-year project to prepare all old licences under APPA for conversion to atmospheric emission licences under AQA; and
- developing national ambient and emission standards.

AQA is expected to come into full operation in September 2009.

A key issue to understand is that AQA itself makes no provision for the compliance monitoring and enforcement of its own provisions – these provisions are located in NEMA as framework legislation, where provision is made for the statutory designation of Environmental Management Inspectors (EMIs) to monitor compliance with and enforce AQA. Only EMIs can monitor compliance with and enforce AQA.

More details on the compliance and enforcement provisions in both APPA and AQA in Part 3 below.

Part 2: The establishment of the Environmental Management Inspectorate (“the Green Scorpions”)²

Prior to 1994, pollution and waste legislation and enforcement did not receive significant attention from policymakers, lawmakers and government in South Africa; such attention as was given to environmental matters was largely channelled to the protection of natural resources. This resulted in an inadequate and inconsistent legislative framework for pollution and waste matters, inappropriate skills and the lack of functional specialisation and totally inadequate human resource capacity for compliance monitoring and enforcement.

The discovery of serious mercury contamination at the Thor Chemicals plant outside Durban in the early 1990s created significant public awareness around the risks posed by inadequate pollution and waste management in South Africa, and the finding of the Davis Commission of Enquiry that government was partly accountable for the situation at Thor contributed to a groundswell of public frustration around inadequate regulations. Community activism in the heavily industrialised South Durban basin since the 1990s also had a major impact on building impetus around compliance and enforcement of pollution and waste legislation.

It was this awareness and activism that informed the Consultative National Environmental Policy Process (CONNEPP) that started in 1995, which eventually resulted in the promulgation of NEMA in 1998. Yet it was only in 2003 that the first set of comprehensive compliance and enforcement provisions were incorporated into NEMA, and this amendment only came into effect on 1 May 2005.

This amendment finally established the Environmental Management Inspectorate, now informally known as the “Green Scorpions”. The amendment made provision for the statutory designation of Environmental Management Inspectors (EMIs) with standard compliance monitoring and

² This section relies on extracts from Craigie, F, Fourie, M and Snijman, P.J. “Environmental Compliance and Enforcement Institutions in South Africa” in Kotze L and Paterson A (eds) Environmental Compliance and Enforcement in South Africa: Legal Perspectives (forthcoming) Juta, Cape Town.

enforcement powers. Officials in national, provincial and even local government could be designated as EMIs, with different specific environmental legislation to enforce. Therefore the Inspectorate brought together environmental enforcement officials from national, provincial and municipal government, and broke through the traditional separation between the protection of different aspects of the environment: the Inspectorate now includes park rangers and conservation officers, air quality officers, marine and coastal enforcement officers, pollution and waste enforcement officials and officials monitoring urban developments.



The first EMIs designated by the Minister of Environmental Affairs and Tourism – June 2006

Functions and mandate

The following officials may be designated as EMIs:

- by the Minister: officials in DEAT and other organs of state;
- by provincial ministers for the environment, known as MECs: officials in provincial environment departments and provincial organs of state, and municipalities.

EMIs must monitor compliance with and enforce one or more pieces of national environmental legislation, known as “specific environmental management Acts” (SEMAs). These SEMAs include AQA. EMIs are also empowered to enforce any authorisations issued under their mandated legislation, including permits and licences such as atmospheric emission licences under AQA.

Powers

This section provides an overview of all powers that can be conferred on EMIs. The EMI regulations³ provide for a ranking system which categorises powers into five ranks, Grade 1 having all the possible EMI powers and Grades 2 to 4 being conferred with a range of specific powers in each Grade.

General Powers of EMIs⁴

An EMI mandated to enforce AQA may:

- question a person about any act or omission in respect of which there is a reasonable suspicion that it might constitute an offence, a breach of AQA or a breach of a term or condition of an Atmospheric Emission Licence (AEL) under AQA or “instrument”⁵ issued in terms of those acts;
- issue a written notice to a person who refuses to answer questions (in terms of above) requiring the person to answer questions;
- inspect or question a person about a document, book or record or any written or electronic information which may be relevant to the act or omission described above, or to which AQA relates;
- copy or make extracts from any document, book or record or any written or electronic information or remove such information in order to make copies;
- require a person to produce or deliver to a place specified any information or document;
- inspect, question a person and if necessary, remove any specimen, article, substance or other item which, on reasonable suspicion, may have been used in committing an offence, breaching AQA or breaching a term or condition of a permit, authorisation or instrument issues in terms of those acts;
- take photographs or make audio-visual recordings of anything or any person that is relevant for the purposes of an investigation;
- dig or bore into the soil;
- take samples;
- remove any waste or other matter deposited or discharged in contravention of the law or condition of a permit; and
- carry out any other duty not inconsistent with NEMA and any other duty that may be prescribed in terms of AQA.

In addition to these powers, an EMI (within his/her mandate) has all the powers assigned in terms of chapters 2, 5, 7 and 8 of the Criminal Procedure Act (No. 51 of 1977) (“the CPA”) to a police official who is not a commissioned officer.⁶ These chapters deal with search warrants, entering of premises, seizure, forfeiture and disposal of property connected with offences as well as powers relating to arrest, issuing of written notices to appear in court and the issuing of admission of guilt fines.⁷

³ Regulation GG 28869 GNR 494 of 2 June 2006

⁴ S31H of NEMA

⁵ “Instrument” likely includes enforcement tools like compliance notices (NEMA’s Section 31L) or Pollution Prevention Plans under AQA.

⁶ In the NEMA Amendment Bill published for comment in September 2006, the status of EMIs as peace officers is clarified by inclusion of a new sub-clause stating that EMIs are, for the purposes of the enforcement of NEMA and a specific environmental management Act, peace officers as contemplated in the Criminal Procedure Act.

⁷ Since the admission of guilt fines (Section 56 of the CPA) that can be issued by peace officers (EMIs in this case) are limited to R2 500, they will only be relevant for insignificant offences under NEMA, AQA (or APPA), and only after the Minister has identified them by regulations in terms of Section 34G of NEMA.

Seizure of items⁸

Sections 30 to 34 of the CPA apply to the disposal of anything seized in terms of NEMA. Furthermore, the EMI may request the person who was in control of an item immediately before seizure, to take it to a place designated by the EMI, and if the person refuses to do so, the EMI may do so. The EMI also has the power to remove a part of a vehicle, vessel or aircraft that has been seized in order to safeguard that object⁹. Any item seized must be kept in such a way that it is secured against damage.



Media coverage after a national compliance and enforcement event by the Green Scorpions – March 2007

⁸ S311 of NEMA

⁹ See S34F of NEMA: if a vehicle, vessel or aircraft has been seized and is kept for the purposes of criminal proceedings, the owner may at any time apply to a court for the release of the item. A court may release such item on the provision of security determined by the court which must at least be equal to the sum of the market value of the item; the maximum fine that a court may impose for the alleged offence and costs and expenses incurred or reasonably foreseen to be incurred by the State in connection with prosecuting the offence and recoverable in terms of NEMA (although the court has the power to release the item on provision of security of a lesser amount).

*Powers to stop, enter and search vehicles, vessels and aircraft*¹⁰

An EMI may, without a warrant, enter and search any vehicle, vessel or aircraft, or search any pack animal, on reasonable suspicion that such an object:

- is being or has been used or contains anything which is being used or has been used to commit an offence or breach of AQA or condition of an authorisation issued under AQA; or
- contains or conveys a thing which may serve as evidence of such offence or breach.

An EMI may, without a warrant, seize anything contained in the vehicle, vessel, aircraft or pack-animal that may be used as evidence in the prosecution in respect of an offence in terms of AQA.

Furthermore, the EMI may, for the purpose of searching the vehicle, vessel, aircraft or pack-animal, at any time and without a warrant, order the driver to stop or the pilot to land the aircraft or if necessary and possible, force the driver to stop or pilot to land.

Application may be made to the Provincial Commissioner of Police for written authorisation in terms of section 13(8) of the South African Police Service Act (No. 68 of 1995) to establish a roadblock or checkpoint (an EMI has, within his/her mandate) all the powers of a member of the SA Police Service in terms of section 13(8)).

*Routine inspections*¹¹

An EMI may, at any reasonable time, without a warrant, enter and inspect any building, land or premises (and with a warrant¹², any residential premises) for the purposes of ascertaining compliance with AQA or a term or condition of an authorisation issued in terms of AQA. An EMI can only enter residential premises without a warrant if the person in control of the premises consents or there are reasonable grounds to believe that a warrant would be issued, but that the delay in applying for the warrant would defeat the object of the entry or inspection. During a routine inspection, an EMI may seize anything that may be used as evidence in the prosecution of an offence.

*Power to issue compliance notices*¹³

An EMI may issue a compliance notice in the prescribed form if there are reasonable grounds to believe that a person has not complied with a provision of AQA or with a term or condition of an AEL under AQA or instrument issued in terms of those acts.

On good cause shown, an EMI may vary a compliance notice and extend the period within which a person must comply. A person who receives such a notice must comply with the notice within the time period stated therein unless the MEC has agreed to suspend the operation of the notice in circumstances in which the person is objecting to the compliance notice. An objection can be lodged in writing with the MEC against the issuing of compliance notice within 30 days of receipt of such notice. After considering such objection, the MEC may confirm, modify or cancel the notice or any

¹⁰ S31J of NEMA

¹¹ S31K of NEMA

¹² A magistrate may issue such a warrant only on written application by the EMI setting out under oath that it is necessary to enter and inspect the residential premises for the purposes of ascertaining compliance.

¹³ S31L, M and N of NEMA

part of it and must specify the period within which the person must comply where it is confirmed or modified.

*Duty to produce documents*¹⁴

NEMA places a duty on a person to whom a permit, licence, permission, certificate, authorisation or any other document has been issued in terms of AQA, to produce that document at the request of an EMI.

Additional enforcement provisions

In addition to standardising enforcement powers, NEMA's new Chapter 7 provides for a set of new criminal offences and other enforcement provisions. New criminal offences include giving false information to an EMI, or failing to comply with a compliance notice, which can be issued by certain EMIs when that EMI has reasonable grounds for believing that a person has not complied with environmental legislation, or with a term of a permit issued under that legislation.

Importantly, NEMA now provides that all offences under NEMA or any specific environmental management Act are now Schedule 1 offences under the Criminal Procedure Act, 1977. (Schedule 1 offences include treason, murder, rape and robbery and provide law enforcement officials greater powers, for example power of arrest, in respect of these crimes.)

Other interesting new enforcement provisions include:

- the power for items used to commit environmental crimes to be forfeited to the State;
- the power of a court to order that up to ¼ of the fine levied on an offender be paid to the person whose evidence led to the conviction or who assisted in bringing the offender to justice; and
- the power of a court convicting a person of an environmental crime to withdraw any permit or authorisation under NEMA or an AEL under AQA (or registration certificate under APPA) if the rights under that permit had been abused, to disqualify that person from obtaining another authorisation for up to five years, and to order that all other permitting authorities be notified of such disqualification.

EMI Bridging Training and designation

In terms of Section 31E of NEMA, the Minister may prescribe, amongst other things, training that must be completed by EMIs. Accordingly, the EMI Regulations provides that "designating authorities may designate persons referred to in section 31B or 31C of the Act as [EMIs] only if such persons have completed any relevant training course approved by the Director-General."

From 2005-6, this course was what was known as EMI Bridging Training – designed to prepare existing enforcement officials for their new powers and responsibilities as EMIs. This training course was developed with the input of the U.S. Environmental Protection Agency and the U.K. Environment Agency, and 450 officials attended this training from November 2005 to June 2006. This 11-day EMI Bridging Training covered the following issues:

- introduction to South African law (including Constitutional, Administrative, Criminal and Environmental law)
- EMI powers and obligations

¹⁴ S31P of NEMA

- integrated environmental management
- basic health & safety
- routine inspections
- investigations and court action
- networks, resources and inter-personal skills

Note that EMI Bridging Training did not provide for any specialised training in air quality compliance monitoring and enforcement.

EMI Basic Training

From 2007, an improved, expanded training course known as EMI Basic Training was rolled out at three tertiary institutions in South Africa: the University of Pretoria, the University of South Africa and the Cape Peninsula University of Technology. This training course consists of approximately 12 weeks' distance learning and 3 weeks' contact teaching, spread out over a 6 month period. The course consists of three sessions:

- Session 1: Legal context for environmental compliance and enforcement
- Session 2: Becoming an EMI (mandate, functions, duties and powers, networks and resources, ethics, hostile people and situations)
- Session 3A: Environmental quality compliance and enforcement (alternative to session 3B) with a comprehensive practical exercise that includes testifying in a court case
- Session 3B: Biodiversity, marine and conservation enforcement (alternative to session 3A)

Like the EMI Bridging Training, EMI Basic Training also does not provide for any specialised training in air quality compliance monitoring and enforcement.



A mock trial during the EMI Basic Training – June 2007

Part 3: EMIs' role in monitoring compliance with and enforcing air quality legislation

This part looks at enforcement powers under current legislation (APPA), as well as AQA.

The Atmospheric Pollution Prevention Act, 1965 (APPA)

APPA, which remains in effect as at October 2008, has some of the following features:

- the roleplayers are the Chief Air Pollution Control Officer and inspectors, all employees of the Department of Environmental Affairs and Tourism (note that EMIs were never empowered to enforce APPA);
- it regulates atmospheric pollution by smoke, dust control and vehicle emissions; and
- in relation to the control of noxious or offensive gases, APPA provides for a list of “scheduled processes” in its Second Schedule.

APPA prohibits the carrying on of a scheduled process, or the erection of a building or plant for the purpose of carrying on a scheduled process, or altering an existing permitted building, without a registration certificate (Section 9(2)). Doing so is a criminal offence, with a penalty of R10 000¹⁵ or six months' imprisonment on a first conviction, and R20 000¹⁶ or one year imprisonment on a second conviction.

Note that contravening the terms of a registration certificate is not a criminal offence, and APPA makes no provision for an administrative fine. However, the CAPCO may serve a notice to ensure more effective operation of appliances for prevention of escape of noxious or offensive gases, or more effective prevention of escape of noxious or offensive gases by means of other improved process of equipment.¹⁷ An additional obstacle to enforcement is Section 12(1), which provides that all registration certificates make “due allowance” for unavoidable escape of noxious or offensive gases during start-up or breakdown.

The National Environmental Management: Air Quality Act, 2004 (“AQA”)

AQA is a radical departure from APPA. As mentioned above, it provides for national ambient air quality norms and standards to be declared by the Minister of Environmental Affairs and Tourism. The first national ambient air quality standards were published for comment in June 2006.

The AQA roleplayers include:

- a National Air Quality Officer in the Department of Environmental Affairs and Tourism (DEAT);
- a Provincial Air Quality Officer in each province;
- an Air Quality Officer in each municipality;
- an Emission Control Officer, an air quality expert that the Air Quality Officer may require certain facilities to employ. Such an Emission Control Officer must:
 - work towards cleaner production;
 - take reasonable steps to ensure compliance; and
 - promptly report non-compliance to licensing authority.

¹⁵ R500, increased to R10 000 as read with the Adjustment of Fines Act, 1991.

¹⁶ R1000, increased to R20 000 as read with the Adjustment of Fines Act, 1991.

¹⁷ Section 12(3) of APPA

Note, however, that only mandated EMIs, appointed in terms of NEMA, can enforce AQA.

AQA provides for a long list of new criminal offences.¹⁸ These include:

- conducting a listed activity without an AEL (not yet in effect);
- contravening or failing to comply with a condition or requirement of an AEL (not yet in effect);
- emission of air pollutants at concentrations above emission limits specified in an AEL as a result of listed activity (not yet in effect);
- manufacturing, selling or using any appliance or conduct activity declared as a controlled emitter, that does not comply with set standards (not yet in effect);
- operating a controlled emitter when emissions from that controlled emitter do not comply with standards (not yet in effect);
- failing to do take all reasonable steps to prevent the emission of any offensive odour¹⁹ caused by an activity on premises (in effect);
- failure by the owner of a mine likely to cease operations within five years to notify the Minister, and advise of plans for rehabilitation or area and for the prevention of dust pollution (in effect);
- not submitting or implementing pollution prevention plans when required to do so (not yet in effect);
- not submitting an atmospheric impact report when required (not yet in effect);
- supplying false or misleading information in an application for an AEL (including for transfer, variation or renewal) (not yet in effect);
- supplying false or misleading information to an air quality officer (in effect); and
- contravening or failing to comply with a condition subject to which exemption to an AQA provision was granted under Section 59 (in effect).

The penalties stipulated in AQA (Section 52) are an unspecified fine or 10 years' imprisonment, or both. The fine, the maximum of which is fixed at R200 000²⁰ as a result of the operation of the Adjustment of Fines Act, 1991, must be determined considering the following factors:

- the severity of the offence – potential or actual impact on health, well-being, safety and environment;
- monetary or other benefits which accrued through commission of offence;
- the extent of the person's contribution to overall pollution load of area under normal working conditions.

These provisions must also be read with NEMA's extension of liability provisions in Section 34.

Other enforcement tools include:

- an atmospheric emission impact report (AQA Section 30): if an air quality officer reasonably suspects a contravention of AQA or AEL conditions, and that such contravention or failure has had, or may have, a detrimental effect on the environment, including health, social conditions, economic conditions, ecological conditions or cultural heritage, or has contributed to the degradation of ambient air quality, he/she can call for an atmospheric emission impact report; and

¹⁸ Section 51 of AQA

¹⁹ "Offensive odour" is defined as "any smell which is considered to be malodorous or a nuisance to a reasonable person".

²⁰ New legislation currently before Parliament proposes increasing this penalty substantially.

- Pollution Prevention Plan (AQA Section 29): the Minister or MEC may require a person conducting a listed activity that emits priority air pollution to prepare a Pollution Prevention Plan.

Part 4: Operation Ferro and the National Refineries Environmental Compliance Project

In 2007-8, despite the fact that AQA was not fully in effect yet, the Environmental Management Inspectorate rolled out two joint national compliance and enforcement projects in two key industrial sectors, the iron and steel, ferroalloy and refineries industries. Iron and steel, ferroalloy and the refinery sectors were prioritised in this environmental compliance campaign as their industrial processes may contribute significantly to pollution (particularly air pollution) if not mitigated and managed properly. The same industry sectors are also currently undergoing a review of all their air pollution permits by the Department of Environmental Affairs and Tourism.

The Inspectorate embarked on a series of compliance inspections in these industry sectors in February 2007, and since then has conducted comprehensive, baseline compliance inspections at 11 sites in Gauteng, Mpumalanga, Northwest and KwaZulu-Natal. Inspections have been conducted jointly by Inspectors from the Department of Environmental Affairs and Tourism and provincial environment departments, as well as officials from municipalities and the Department of Water Affairs and Forestry.

Out of the 11 sites inspected by April 2008, only one was found to be in substantial compliance with environmental legislation and permits. All others were in serious contravention of environmental legislation, including air quality legislation, despite the fact that many of these facilities still had their old permits under APPA. Both criminal and administrative enforcement action was instituted against most of these facilities, in accordance with a Practice Notice on the Principles of Enforcement of Environmental Legislation, including Criteria for Criminal Prosecution and the Provision of Zero Tolerance Offences published by DEAT in 2008. Administrative enforcement included compliance notices and directives to implement major environmental improvement programmes, including new emissions control project to control emissions to air.

Part 5: Key challenges in air quality enforcement

The full commencement of AQA will address a number of existing legislative gaps and obstacles currently in APPA. In addition, the APPA review project currently underway will go a long way to improve the quality and effectiveness of emissions authorisations.

However, particularly now that air quality legislation provides for meaningful criminal offences, EMIs will have to develop comprehensive, robust evidence-gathering skills and expertise. Not only will EMIs have to comply with ordinary criminal rules of maintaining a chain of custody and collecting evidence that proves all the elements of a criminal offence beyond reasonable doubt, but evidence of excessive air emissions has a number of inherent difficulties.

Such difficulties include:

- the current lack of reliable self-monitoring of relevant pollutants by facilities;
- the relatively complex, relatively expensive, sampling required to prove contraventions, such as:
 - ambient monitoring;

- dispersion models;
- chemical fingerprinting for particulates;
- comparative surveillance;
- diffusive samplers (for volatile organic compounds (VOCs) and semi-VOCs); and
- stack monitoring, which will have to be in place for a significant period, and implemented during operations.

From the foregoing it will be apparent that external expertise will be required to assist EMIs on a regular basis. Procurement of external expertise is already complicated by the reality of conflicts of interest experienced by the relatively small group of consultants with such expertise, and it is hoped that the full commencement and implementation of AQA will create sufficient incentive for this consultancy sector to develop significantly in the next few years.

More importantly, specialised training will be required for EMIs who have to enforce AQA. Whereas EMI Basic Training will provide EMIs with a basic understanding of what evidence is required, and legally robust methods for collecting such evidence, it will not cover any of the complexities described above. In addition, a methodology will have to be developed around the use of appropriate and effective enforcement tools provided by AQA.

EMIs enforcing AQA will also have to be given access to and training in the use of the sampling equipment listed above.

Another difficulty is the generic problem of skills retention, and incentives will have to be developed to attract staff from industry to become EMIs in government employ, and to retain EMIs who have received specialised training.

An area which is receiving significant attention from DEAT, working in collaboration with Justice College and the National Prosecuting Authority, is the training and support for prosecutors, and awareness-raising among magistrates who will preside over criminal prosecutions in terms of AQA.

Part 6: A hypothetical case study for effective enforcement of AQA

The hypothetical case study below is included to illustrate how AQA, once fully operational, could be enforced by a designated and trained EMI, using the new databases and information resources facilitated by the implementation of AQA.

Although a significant body of work remains before the case study could become reality, there is no question that it will soon be possible. The effective implementation of AQA relies heavily on the capacity of EMIs to carry out their compliance monitoring and enforcement functions, and specialised training and support for EMIs will therefore have to receive proper attention in the next two to three years to ensure success.

Nivi Dlamini is an EMI employed by the Free State provincial environment department, mandated to enforce NEMA and the AQA. Nivi routinely inspects three industrial facilities in her region per month, prioritised in terms of strategic plan based on provincial priorities.

There is a general concern over high SO₂ levels in the region, picked up through ambient monitoring, which significantly exceeds national and provincial ambient standards for SO₂.

Six months ago, the Steelco facility in Bloemfontein was issued with a new atmospheric emission licence under the AQA for carrying out a listed activity. The furnaces used by

Steelco are declared controlled emitters. To qualify for the new licence, Steelco also had to do an EIA under NEMA. Steelco has an ISO 14001 accredited environmental management system.

One morning, as she always does, Nivi logs onto the live South African Air Quality Information System (SAQIS). She uses the data sniffer, which detects an anomaly in the reporting for Steelco – in this case, an unusually consistent pattern of emissions.

Using her EMI powers (NEMA Section 31K), Nivi undertakes an inspection of the Steelco site. After inspecting their own monitoring records held on site (NEMA Section 31H(1)(c)(ii)), she arranges for a day's in-stack monitoring to take place, after instructing the operations manager to make no significant changes to operation levels (NEMA Section 31H(1)(i)). The operations manager must comply with her request, or commit a criminal offence (NEMA Section 34A(d)).

The next day, Nivi compares the stack monitoring results to the ambient monitoring data in the area (after discussing weather conditions with the local weather station), and concludes that Steelco is not only emitting significantly more SO₂ than it is allowed in its permit, but it has incorrectly been recording its emissions.

Nivi interviews the operations manager (NEMA section 31H(1)(a)), who (after being warned) explains that he had no choice but to record lower figures, otherwise he would not qualify for his performance bonus and would be unable to pay for his children's school fees.

Steelco and/or the operations manager have committed at least six criminal offences:

- *not complying with conditions of its permit (AQA Section 51(e))*
- *exceeding the levels of SO₂ in its permit for a listed activity (AQA Section 51(3))*
- *non-compliance with standards set for emissions from controlled emitter (AQA Section 51(2))*
- *not complying with the conditions of its environmental authorisation (NEMA Section 24F)*
- *supplying false information to an EMI (NEMA Section 34A(1)(c) and to the Air Quality Officer for the area (AQA Section 51(j)).*

Nivi prepares a detailed case file with all the evidence (affidavits, interview tapes, stack monitoring results), which she hands over to the National Prosecuting Authority for prosecution. She also prepares and issues a compliance notice with detailed steps which Steelco must take to bring its SO₂ emissions within limits (NEMA Section 31L). If Steelco fails to comply, it would commit another criminal offence (NEMA Section 31N). Finally, she reports Steelco to its ISO 14001 certification body for unreported non-compliance. The certification body immediately suspends Steelco's certification.

In the face of a water-tight criminal case and a trained prosecutor, Steelco pleads guilty to all charges, and is levied with a fine of R2 million. The operations manager (since fired) has to do 200 hours of community service. In exchange for indemnity from prosecution (the managing director could be criminally liable in terms of (NEMA Section 34(7))), the managing director agrees to become a state witness in a subsequent prosecution against Steelco's main competitor, on the basis of reliable evidence of the method used by its main competitor to hide its SO₂ emissions from authorities. In compliance with the compliance notice, Steelco installs an additional fluegas desulphurisation plant which significantly reduces its SO₂ emissions.

The area Air Quality Officer recognises Steelco's compliance in a programme of public recognition as a significant achievement (AQA Section 31). Steelco's ISO 14001 certification is reinstated.

Conclusion

Compliance monitoring and enforcement of environmental legislation poses ongoing challenges, many of which are generic to most countries. A particular challenge remains the prioritization of environmental crimes and enforcement cases by other institutions in the justice system, including state attorneys, prosecutors and the judiciary.

Many of these difficulties are intensified in the context of air quality enforcement cases, which are often complicated by the highly technical nature of the evidence required to prove non-compliance. Key elements of a successful air quality compliance and enforcement programme are:

- appropriate air quality legislation with offence and compliance and enforcement provisions that are water-tight and easily implementable;
- comprehensive and specialised training on the collection of evidence by Inspectors to prove air quality contraventions;
- although this remains an ongoing challenge, trained and specialised prosecutors and state attorneys who understand and can communicate the complexities of air quality contraventions; and
- the political will to take enforcement action against big industrial facilities that are exceeding legal limits, despite their contribution to the economy and development.