

## **MEMORANDUM**

### **REPRESENTATIONS AND OBJECTIONS: ON LISTED ACTIVITIES AND ASSOCIATED MINIMUM EMISSION STANDARDS PUBLISHED IN TERMS OF SECTION 21 (specifically category 6: subcategory 6.2 Printing Works) OF THE NATIONAL ENVIRONMENTAL MANAGEMENT : AIR QUALITY ACT 39 OF 2004**

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#### **In terms of Sections 21 and S57 of the NATIONAL ENVIRONMENTAL MANAGEMENT: AIR QUALITY ACT 39 OF 2004**

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#### 1. INTRODUCTION

- 1.1 The Atmospheric Pollution Prevention Act 45 of 1965 (“APPA”) has been the overarching legislation governing the control and regulation of airborne emissions. APPA sought to regulate industrial pollution by scheduling 72 industrial processes which produced ‘noxious and offensive gases’. These scheduled industrial processes were contained in the Second Schedule of APPA which flagged those activities having potentially more significant air quality related impacts and hence required specific regulation and controls, (registration certificates containing emission or process limits).
- 1.2 Scheduled processes in terms of APPA could not be undertaken unless a registration certificate (or provisional one) had been obtained or applied for. Before granting such a certificate, the relevant authorities had to be satisfied that the best practical means were being adopted to reduce to a minimum the escape into the atmosphere noxious or offensive gasses produced or likely to be produced by the scheduled process in question.
- 1.3 Printing<sup>1</sup> was not listed as a scheduled process under the APPA and was not regulated in terms of APPA.

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<sup>1</sup> Printing in South Africa includes a range of different processes which will be described later. These processes use different technologies, inks and printing plates. Not all of the six major printing processes in South Africa will have an impact on air quality, as different types and volumes of organic solvents are used. Both the Department’s description of ‘printing works’ and the lack of definition of solvents will be dealt with in the technical section of this memorandum.

- 1.4 The National Environmental Management: Air Quality Act 39 of 2004 (“NEM:AQA”) commenced on the 11 September 2005. Certain sections of the Act were not brought into effect, and in terms of section 62 of NEM:AQA, pending the listing of activities by the Minister in terms of section 21 of the NEM:AQA the scheduled processes in terms of the Second Schedule to APPA would be regarded as listed activities.
- 1.5 In terms of section 21 of the NEM: AQA, the Minister may publish a list of activities which result in atmospheric emissions and which the Minister reasonably believes have, or may have, a significant detrimental effect on the environment, including health, social conditions, economic conditions, ecological conditions or cultural heritage.
- 1.6 Section 22 of the NEM:AQA stipulates that no person may conduct a listed activity without a provisional atmospheric emission licence or an atmospheric emission licence under the Act (section 61 of the NEM:AQA deals with the transitional provisions regarding existing registration certificates in terms of APPA).
- 1.7 The Minister of Water and Environmental Affairs has in terms of section 21 (1) (a) of the NEM:AQA, published a proposed list of activities and associated minimum standards (GN 1001 of 24<sup>th</sup> July 2009) (“the Notice”).
- 1.8 In terms of section 21 (3) of the NEM:AQA, the Notice must establish minimum emission standards in respect of a substance or mixture of substances resulting from a listed activity and identified in the Notice, including -
  - (i) the permissible amount, volume, emission rate or concentration of that substance or mixture of substances that may be emitted; and
  - (ii) the manner in which measurements of such emissions must be carried out.
- 1.9 In terms of section 21 (4) (a) of the NEM:AQA, before publishing the Notice, the Minister must follow a consultative process in accordance with section 57 of the NEM:AQA. This process requires the Minister to give notice of the

proposed exercise of her power in respect of the listing of activities in the Gazette and in at least one newspaper distributed nationally.

1.10 This Notice must:

- (a) Invite members of the public to submit to the Minister, within thirty (30) days of publication of the Notice in the Gazette, written representations on or objections to the proposed exercise of the power; and
- (b) contain sufficient information to enable members of the public to submit meaningful representations or objections.

1.11 These steps have been concluded through the publication of the Notice (Gazette number 32434, Notice No. 1001 of 24<sup>th</sup> July 2009, and the publication of an advert in the Sunday Times on 27<sup>th</sup> July 2009).

1.12 Printing has (subcategory 6.2) been included as a listed activity and accordingly has had trigger thresholds, emission concentration limits and monitoring requirements proposed to the industry. This memorandum sets out the representations and objections to 'sub category 6.2 – Printing works' set out in the Notice on behalf of the Packaging Council of South Africa (PACSA), the Plastic Converters Association of South Africa (PCASA) and the Printing Industries Federation of South Africa (PIFSA).

## 2. BACKGROUND AND INFORMATION ON THE PRINTING INDUSTRY

2.1 The representations and objections in this document are made on behalf of the following associations, the Packaging Council of South Africa (PACSA), the Plastic Converters Association of South Africa (PCASA) and the Printing Industries Federation of South Africa (PIFSA). This document deals with both procedural objections as well as technical submissions to the Notice. It is necessary due to the very diverse and complex nature of the printing industry in South Africa to set out a brief background to the associations, and the economic value of the printing industry, as well as a description of various printing processes which are extensively used in South Africa.

2.2 PACSA represents the packaging industry and its converter members produce packaging from all raw materials including paper, plastic, metal and

glass. The association's members account for over 70% of the turnover of the packaging industry of South Africa.

- 2.3 PCASA represent the interest of members who convert various plastic raw materials into a myriad of different products many of which are printed. The association represents 310 corporate members which employ over 22 000 people in various non management roles.
- 2.4 PIFSA is a trade organisation with 820 members representing manufacturing printers and suppliers to the trade as well as the interests of the printing industry in general. This covers all printing processes and the majority of printed products.
- 2.5 Whilst there is some overlap of membership in the three abovementioned organisations, their activities cover most of the printing activities undertaken in South Africa.
- 2.6 The packaging and paper industries are significant sectors of the South African economy, converting over 4 million tons of materials in South Africa at a value of R61.5 billion in 2007. Although it is not possible to give accurate employment numbers due to the extremely short 30 day comment period<sup>2</sup>, the associations have estimated that there are more than 50 000 people directly employed in permanent jobs in these sectors. (These figures reflect the contribution of packaging and paper to the printing industry and do not include other forms of industry such as textile which would also significantly contribute to the printing industry).
- 2.7 The printing industry is not only a significant contributor in the economic sector, it is also extremely diverse and complex, providing a wide range of jobs in both the skilled and unskilled sectors. The complexity and diversity arises from the various products and processes used. Not all companies involved in the packaging and printing sectors are printers, but the vast bulk of packaging and paper products delivered to final consumers is printed in one form or another.

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<sup>2</sup> There are approximately 2000 individual industries in South Africa which are involved in some form of printing.

2.8 There are six major types of printing in South Africa. These are lithographic, flexographic, gravure, letterpress, screen and digital. All these processes are unique in their technology, but ultimately involve placing an ink or coating onto a surface.

2.9 It is necessary to describe each of these different processes to illustrate the complexity and diversity of the printing industry in South Africa:

- **Lithographic printing** is a technique that relies on the fact that oil and water don't mix to control ink application. A plate, most often an aluminium sheet, is used on the printing press to carry the image, and is prepared by creating an area that will accept oil-based ink. This image is transferred to a rubber blanket in the case of offset printing. It is the rubber blanket that transfers the image to the substrate. During printing the plate is moistened with a fountain solution which is primarily water based and does not adhere to the image areas, and oil based inks, which adhere to the image area and are repelled by the fountain solution. Lithographic printing is used for high quality jobs such as magazines, catalogues, and art reproduction as well as folding cartons for products such as toothpaste, washing detergents and cereal boxes. The lithographic plate is commonly made of aluminium and is relatively flat, not raised or recessed as in the following two processes. Lithographic printing can either be sheet fed or web-based which uses reels. Web printing can be further broken down into coldset, commonly used for newspapers, or heat set which is used for long run publications and magazines.
- **Flexographic printing** uses a flexible printing plate with a raised image to place ink onto a substrate. Traditionally flexographic printing has used fast evaporating inks. This makes flexographic printing ideal for printing on non-porous substrateS such as plastic bags and food packaging. Flexographic printing is often used in the manufacture of labels, food wrappers, plastic bags and cardboard packaging.
- **Gravure printing** uses an image that is recessed into the printing cylinder or sleeve with indentations which pick up the ink and apply it

to the substrate. Gravure printing cylinders or sleeves consist of a steel roller coated in copper (which is etched) and then chrome plated. Due to the expense and durable nature of gravure cylinders the process is most often used for long run printing jobs, such as printing wall paper, magazines, cigarette cartons, certain labels and special items such as money.

- **Letterpress printing** is very similar to flexographic with the primary difference being that the printing plate in letterpress is rigid. Letter press was once the most common form of printing but its popularity has declined due to its slower speed relative to the other printing processes. Letterpress printing can be used to print books, business cards and brochures, but is more often used for embossing and foiling in South Africa using metal dyes.
- **Screen printing** is the most versatile of the printing processes in that it is capable of placing ink on almost any surface imaginable, from paper to masonry. Screen printing uses a “screen” with an image overlaid to control the amount and location of the ink applied to the surface. Because of screen printing’s inherent flexibility it is used to produce a diverse set of products such as clothing, billboards, art books and electronic circuits.
- **Digital printing** occurs on non-impact, primarily electrostatic printers. Digital printing encompasses everything from photocopying to printing on a home printer and includes both labels and ink jet technology. The high quality and speeds that digital printing is starting to achieve allow it to supplant small lithographic presses for some work. Wide format machines can produce large posters, indoor and outdoor signage, textile printing and limited addition art prints becoming a possible rival to screen printing for small runs.

2.10 It has been necessary to set out the different types of printing in some detail as it illustrates the diversity of the printing industry and the importance of the industry in everyday life, in that almost every product we use is printed in some form or another. The various processes and diversity in technology is

also relevant when considering the definition proposed in the Notice, as well as issues relating to technical evaluations. This will be dealt with in the technical evaluation.

### 3. PROCEDURAL : CONSULTATIVE PROCESS

3.1 The most important legal aspect of general administrative law in South Africa is the constitutional right to administrative justice as enshrined in our Constitution and elaborated upon in the Promotion of Administrative Justice Act 3 of 2000 (hereinafter referred to as PAJA).

3.2 Section 33 of the Bill of Rights in the 1996 Constitution contains the right to just administrative action.

*“33 (1) Everyone has the right to administrative action that is lawful, reasonable and procedurally fair.*

*(2) Everyone whose rights have been adversely affected by administrative action has the right to be given written reasons.*

*(3) National legislation must be executed to give effect to this right, and may provide for reasonable measures to alleviate the administrative and provincial burden on the state”.*

3.3 In addition to the right to administrative justice, the Constitution itself advances a number of other important democratic values which are important and relevant to administrative law. These include the promotion of public participation in the process of law-making and governmental decision making; the promotion of rational decision making as opposed to the arbitrary exercise of public power, and provisions designed to ensure openness and responsiveness, features essential to the legitimacy of and public confidence in the administration. Importantly the Constitution encourages accountability and a ‘culture of justification’<sup>3</sup>.

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<sup>3</sup> This term was developed by Mureinik. Etienne Mureinik ‘A Bridge to Where? : Introducing the Interim Bill of Rights’ (1994) 10 *SAJHR* 31

- 3.4 In order for there to be effective administration, one needs to have evidence that everyday decision-making powers of government reflect the values enshrined in the Constitution: in other words is government ‘responsive’<sup>4</sup> to the people? As Mureinik states, the concept of ‘responsive government’ includes accountability and participation. Participation in a decision that affects one means an opportunity to affect its content and to influence the outcome.
- 3.5 Accountability means that government has to justify its decisions to the people whom they govern. Connected with participation and accountability is the rationality review (one of the components of reasonableness), which has been described<sup>5</sup> as “a powerful force in support of accountability, participation and good government”.
- 3.6 For administrative action to be rational, there must be skilled decision makers who are properly informed, and administrative action must be accompanied by accessible procedures, the giving of reasons and the opportunity for testing rationality.
- 3.7 S33 (1) of the Constitution gives everyone the right to administrative action that is lawful, reasonable, and procedurally fair. Section 3 of PAJA states that administrative action which adversely affects the rights or legitimate expectations of any person must be procedurally fair.
- 3.8 Procedural fairness in the form of *audi alteram partem* (hear the other side) is concerned with giving people an opportunity to participate and influence decisions that affect them.
- 3.9 The objection to this procedural process relates to the consultative process which took place between February 2008 and May 2009 between government authorities (the Department of Environmental Affairs); their consultants, Standards South Africa (‘STANSA’) (a division of the SABS which sets

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<sup>4</sup> The term ‘responsive government’ is a term used by Mureinik. See Mureinik “Reconsidering Review: Participation and Accountability” 1993 pg 35 Administrative Law Reform

<sup>5</sup> Mureinik E “Rationality Review: Participation and accountability” 1993 Administrative Law Reform pg 36.

various standards) and numerous stakeholders, in a process referred to as the standards setting process.

- 3.10 The process of establishing minimum emission standards and identifying listed activities was initiated by the development of the National Framework for Air Quality Management which was published on 11 September 2007. A standard setting process was then undertaken from February 2008 to May 2009, in line with the process outlined in the National Framework for Air Quality Management (“National Framework”).
- 3.11 The facts below will highlight in detail that the entire printing industry, represented by the associations described in paragraph 2 above were not part of the consultation process, which appears to have involved numerous meetings which took place over almost 2 years to formulate, debate and then establish minimum emission standards and identify various listed activities in terms of the tools outlined in the National Framework.
- 3.12 Due to the significant implications for industry, a number of industry bodies and individual industries were invited to take part in the consultative process and put forward their concerns and comments. Subject to what is stated in the next paragraph but one hereof, each major industry appears to have been represented, enabling them to be advised of the potential standards which would be set and allowing them to submit comments in relation to those emission standards, as well as the determination of trigger thresholds and listed activities which would be included.
- 3.13 Sectors and industries such as the petrochemical sector, power generation, steel and engineering industries, pulp and paper manufacturing industries, chemical industry, cement industry, ferro-alloys producers and boilers manufacturing industries were all involved in the detailed consultative process, which involved numerous monthly working group meetings.
- 3.14 Whilst the Department of Environmental Affairs (hereinafter “the Department”) may have made an effort to include and involve as many stakeholders as possible in the process, a large sector of industry was excluded from this process - the printing industry. This appears to be as a result of ‘printing works’ being added as a category to the S21 listed activities at the “11<sup>th</sup> hour”.

- 3.15 The exclusion of the printing industry from the entire two year consultation process with STANSA, the Department and the other stakeholders is unfair administrative action. The facts set out below clearly highlight this:
- 3.15.1 APPA which was the overarching legislation governing the control and regulation of airborne emissions sought to regulate industrial pollution by scheduling 72 industrial processes which produced 'noxious and offensive' gases.
- 3.15.2 Printing was not listed as a scheduled process under APPA and was not regulated in terms of APPA. A printing activity such as letterpress printing or screen printing was therefore not considered as a process which was required to be regulated in terms of APPA.
- 3.15.3 Therefore, while other industries were identified as far back as 1965 as undertaking activities which would, or could have a detrimental effect on the environment, printing was not identified as an activity which would, as a result of its emissions, be required to be regulated by air quality legislation.
- 3.15.4 This would mean that while associations, industry bodies and individual industries involved in printing might be interested and aware of the implications and changes brought about by the commencement of the NEM:AQA, it would not be an immediate cause for concern or an appreciation of direct implications for the industry. There was no indication at this time, or even at the time of the development of the National Framework published on the 11 September 2007, that the Department had any intention of including printing, as a listed activity or that it in fact considered printing, as an activity which could have a significant detrimental effect on the environment.
- 3.15.5 The National Framework was published as 11 September 2007. The purpose of the National Framework was 'to achieve the objectives of the NEM: AQA and to provide a medium to long term plan of the practical implementation of the NEM:AQA'.

- 3.15.6 The tools for implementation of the National Framework are set out in Chapter 5. Point 5.2 records the following:  
*“Informed decision making is fundamental to good governance and decisions can only be informed if decision shapers and decision makers have ready access to accurate, relevant, current and complete information. Constructive participation in, and implementation of, air quality management matters are also dependent on the same information”.* And  
  
*“Implicit in this right (Constitutional right to access to the information, and S31 of the National Environmental Management Act 108 of 1998 relating to access to information) is that all South Africans shall have access to air quality information and that access shall be facilitated by the AQA and through the National Framework. In order to uphold this right and effectively address the air quality information requirements contained in the AQA, the national department, in partnership with the South African Weather Service (SAWS), will establish the South African Air Quality Information System (the SAAQIS), and develop guidance manuals and publications to provide support to AQO’s and air quality information to a wider audience.”*
- 3.15.7 Listed activities and related emission standards are dealt with in section 5.4.3.5 of the National Framework. The Department’s Standards Project Objectives are set out in Section 5.4.3.5 (pg 54 and 55) of the National Framework which records the following:  
*“Although this project will only be concluded in 2008, it has already compiled an indicative list of activities for consideration as listed activities in order to initiate the required listing process (see Table 26). At this early stage of the project, this list is neither exhaustive nor definitive and, as yet, does not make mention of the size or scope of activities to be considered as this work will be done by the project.”*
- 3.15.8 Printing was not included in this list. In a letter from the Department, Peter Lukey (Chief Director : Air Quality Management and Climate Change Management, National Air Quality Officer) (“Lukey”) states the following:

*“the process of identifying activities was started as long ago as 1965 as witnessed by the second schedule of the APPA. The process was then revitalised during the highly participatory development of the National Framework for Air Quality Management which was published on 11 September 2007.”*

He has also suggested that the National Framework “alluded to components” of the printing sector being identified as listed activities in terms of Table 26. Lukey refers to the references to ‘dyes and pigments’ and paper, pulp and board manufacturing activities’ which are listed as initial industrial categories to be considered in Table 26 of the National Framework. A copy of the letter is annexed marked annexure ‘A’.

- 3.15.9 While it is noted that this list was merely an indicative list of activities for consideration ‘which was neither exhaustive nor definitive’ most of the industries considered were either listed as Scheduled processes in APPA and were therefore aware they would be included or considered in the section 21 listed activities, or were informed through the National Framework process, which indicated an initial list of individual categories to be considered.
- 3.15.10 For example the wood products industry is listed in Table 26 of the National Framework as industrial category number 9 (including paper, pulp and board manufacturing activities). In the second schedule of APPA these activities were listed as items 67 and 68, ‘wood burning and wood-drying processes and paper and pulp processes’. Members of both pulp and paper are represented by PAMSA – the Paper Manufacturers Association of South Africa.
- 3.15.11 As these activities were identified in APPA and the National Framework initial list, as an industry, members of both the pulp and paper industry were consulted by members of the Department and encouraged to be part of the SABS standard-setting process undertaken from February 2008 to May 2009. Most of the industries had been involved in the public participation process related in the promulgation of the NEM: AQA and the National Framework.

- 3.15.12 We have been advised by a number of the associations which represent the various industries that they became part of the SABS standards setting process merely by the fact that their information was recorded on the Department's information data system, as they were involved in the meetings with the Department in regard to the NEM: AQA and the National Framework.
- 3.15.13 As printing was never regulated by APPA, and they were never advised that the Department intended to regulate the industry in respect of air emissions, as an industry it was not necessary for them to be involved in the development of the National Framework. As a result individual industries and the associations representing the printing industry did not form part of the Department's original 'data base'. The printing industry was also not approached by the Department to be involved in the standards-setting process, or the various working and steering groups set up by STANSA.
- 3.15.14 The printing industry was not invited to attend the formal workshops or 'formal multi-stakeholder process' – which was the SABS standard setting process. An invitation was apparently extended by the SABS on 28 February 2008 to all interested parties to be part of the standard setting process. PACSA, PCASA and PIFSA confirm that they did not receive a copy of this notice. They represent the majority of the packaging, plastic and printing industries in South Africa, and presumably if one of their members had received a copy of this Notice it would have been forwarded to one of these associations.
- 3.15.15 It seems apparent that an invitation was not extended to members of the printing industry; or their associations to attend the standard setting process in February 2008, as at this time the Department had no intention of including printing as a listed activity. It would be pointless for an entire sector to attend workshops to debate emission standards with the Department's consultants and STANSA if there were no standards affecting them to be debated.

- 3.15.16 With the greatest respect to Lukey, it is difficult to see how the indicative list of activities in Table 26 of the National Framework “alluded” to the printing sector being included as a listed activity in terms of S21 of the NEM:AQA. Firstly the printing industry has never been classified, nor does it consider itself to be part of the chemical industry. The printing industry does not manufacture chemicals – they are purchased in the form of inks and organic solvents and processed with a variety of other materials; nor do they utilize chemicals in sufficient quantities to be included in the chemical sector or under ‘dyes and pigments’. Secondly, ‘paper, pulp and board manufacturing activities’ constitute an entirely separate category, which, if it included any printing would exclude a vast section of the printing industry, where printing occurs on packaging and other materials. In addition this category was originally listed in APPA as a Scheduled process where printing was never regulated as a category or subcategory.
- 3.15.17 Lukey, in his letter dated 20 August 2009 (Annexure ‘A’), also refers to the quarterly publication of newsletters which are published on the SAAQIS website. He records the following:  
*“Please note that our listed activities and minimum emission standards development work was recorded in the November 2007, January 2008, and March 2009 editions of the NAQO News”.* Notably, however, none of these newsletters make any reference to printing, or the inclusion of printing works as a listed activity.
- 3.15.18 In light of the significant implications this would have for the printing industry, it is surprising that the newsletters did not highlight the Department’s intention to include printing works as a listed activity.
- 3.15.19 It is important to set out the sequence of events leading to the inclusion of printing works as a sub-category in the Notice.
- 3.15.20 In February 2008 a meeting was held at Paarl Media with members of Paarl Media, and (it appears) officials of the Department. PACSA, PIFSA, or PCASA cannot confirm whether the standard-setting process was discussed at this meeting or whether the printing industry was invited to any meetings. None of the representatives of these

associations was present at this meeting. However, Paarl Media is a member of PIFSA, and presumably if they had been informed at that stage that printing had been included as a listed activity (or that this was the Department's intention), and invited to the Standards setting process and workshops, they would have either 1) attended the workshops themselves, or 2) informed the association to which they belong.

- 3.15.21 It seems unlikely that if they had been informed by the Department at this time (February 2008) and in light of the significant implications, they would not have attended the meetings or informed anyone else in the industry. The more likely scenario is that the inclusion of printing works, as a listed activity in the NEM:AQA was never addressed at this meeting.
- 3.15.22 In fact, the meeting of February 2008 and subsequent discussions between the Department and Paarl Media seems to have dealt with whether Paarl Media's Regenerative Thermal Oxidising (RTO) Unit (which is used to reduce VOC's) was a Scheduled process in terms of APPA, an whether Paarl Media should be required to register the unit with the Department in terms of Section 10 of APPA.
- 3.15.23 Annexed marked 'B' is a letter from the Department of Environmental Affairs and Tourism (signed by Mazwi Lushaba: Director, Air Quality Management) to Paarl Media dated **2<sup>nd</sup> June 2009**.

In the letter the following is recorded:

*"After careful consideration of the facts and representations of Paarl Media the Department does not consider the RTO unit to be a scheduled process. However, the Department has identified this as a shortcoming of the current schedule relating to Scheduled Processes, and as such made recommendations for the inclusion of printing works to be included in the schedule of Listed Activities: defined in terms of Section 9 of the National Environmental Management : Air Quality Act 39 of 2004. The Department apologizes for the delay in reaching this decision but the matter was extremely technical and required the consultation of numerous officials, both inside and*

*outside of the Department. We thank Paarl Media for the manner in which the Department engaged on this matter and hope that this decision has clarified any uncertainty". (Emphasis added)*

- 3.15.24 The knowledge that the Department intended to include printing in the schedule of listed activities was therefore only made known in June 2009, after receipt of the letter, marked as Annexure 'B'.
- 3.15.25 On 6 May 2009, Louise Moralee (Assistant Director – Commercial and Technical Services – PIFSA) was telephonically contacted by Mr Abednego Baker from the Department. He informed her that he wanted to meet with the association so that various environmental issues in relation to the printing industry could be discussed. We have been advised that he did not discuss or inform Moralee that the Department intended to include printing as a listed activity in terms of the NEM:AQA. Although Moralee suggested a follow up meeting she heard nothing further about the meeting or possible engagements with the Department and the printing industry.
- 3.15.26 During June 2009 Paarl Media forwarded the letter received from DEAT dated 2<sup>nd</sup> June 2009 (annexure 'B') to Erich Kühl – PIFSA Commercial and Technical Director. The letter was sent to inform the printing industry that it appeared that the Department, despite no other notification to the industry intended including printing as a listed activity. This also clearly shows that if, as Lukey alleges this had 'been discussed in February 2008, and the industry had been invited to participate in the standard setting process' Paarl Media would have immediately alerted PIFSA, who would have attended the meetings, and represented the industry on the standard setting process.
- 3.15.27 On the 7<sup>th</sup> July 2009 an urgent letter was sent to the Department for the attention of Mr Lushaba from PIFSA. The letter was also copied to Gregory Scott at the Department. The letter sets out the factual background as set out above and highlights PIFSA's concern about the inclusion of printing as a listed activity. The letter however, also addresses the willingness of the printing sector to engage with the Department in relation to the various processes used by the printing

industry and levels of emissions. A copy of this letter is annexed marked Annexure 'C'.

- 3.15.28 On the 7<sup>th</sup> July 2009 Moralee received an email from Scott of the Department. Attached to the email was a draft copy of the AQA Implementation: Listed Activities and Minimum Emission Standards – Draft Schedule for Section 21: Air Quality Act, Revision 2.0 (02 July 2009). This was the **first draft** of listed activities and minimum emission standard document which **included printing works as a category**. Moralee was also invited to attend a meeting with Lushaba and members of the Department on 24<sup>th</sup> July 2009. A copy of the Draft Schedule – Revision 2.0 (02 July 2009) for 21 of the Air Quality Act for the Listed Activities and Minimum Emission Standards is annexed marked Annexure 'D'. At the meeting with the Department on the 24<sup>th</sup> July 2009 Moralee was simply handed a copy of the Notice and advised that the association could submit their comments to the Department in the 30 day notice period.
- 3.15.29 The AQA Implementation: Listed Activities and Minimum Emission Standards: Draft Schedule for section 21 Air Quality Act, Revision 1.0 dated 27 February 2008 did not include printing works as a category. Presumably at this time, the Department had no intention of including printing works as a listed activity to the Schedule. A copy of the Draft Schedule (Revision 1.0) is annexed hereto marked Annexure 'E'.
- 3.15.30 It is important to note that printing works was not included as a listed activity in the Draft Schedule; Revision 1.0 dated 27 February 2008 as the Department alleges that it discussed the standard setting process with Paarl Media and that the industry was invited to participate in the standard setting process. The standard setting process began in February 2008, when an invitation was sent out to all stakeholders and interested affected parties. It seems doubtful that the Department would have invited an entire industry to participate in a very intensive standard setting process which consisted of monthly working group meetings and additional steering group meetings, when there were no standards in place to debate, and when printing had not been included in the Schedule of listed activities.

- 3.15.31 The Department's last minute decision to include printing works in the Schedule of listed activities in terms of NEM:AQA is clearly shown in Annexure 'F'. This letter is dated 10<sup>th</sup> October 2008. The letter is addressed to Richard Sadiki – SABS Standards Division from Peter Lukey. The letter contains an annexure with various submissions to the 'SABS TC 146-SC C: Source Emissions'. The annexure provides information and submissions relating to definitions, changes of emission limit values and the addition of printing works as a listed activity (see page 6 of Annexure F).
- 3.15.32 The following is recorded in Annexure 'F':  
*"As part of the ongoing discussions on minimum emission standards for Listed Activities, the department hereby provides its directions to the subcommittee on source emission standards (see attached Annexure 'A'). The annexure attempts to provide direction in respect to the differentiation of new and existing facilities, compliance time frames as well as to other items highlighted in past meetings. I trust that these directions are of use to the committee and subcommittee and pledge our continued support to the important work being conducted by the committee and subcommittee with a view to meeting our January 2009 deadlines".*
- 3.15.33 This letter was not publicly available on the Departments website, nor was it referred to in any of the newsletters published on the SAAQIS. Its contents were consequently not known to the printing industry at large until very recently.
- 3.15.34 Although it contained important information which would significantly affect an entire printing industry (see Annexure 'F' pg 6 – Description: Printing works, Revision : large scale operations within the country) this information was not sent to or addressed to any of the printing associations, or even individual industries such as Paarl Media, which had been in discussions with the Department in relation to their RTO, and presumably air emissions relating to printing.

- 3.15.35 It appears that the Department had no intention of engaging or consulting with members of the printing industry. The 'directions' were sent to the SABS Standards Division in October 2008, and the Department requested that the SABS try to meet their January 2009 deadlines. It is doubtful that an industry of over 2000 separate individual members could meaningfully engage STANSA on the thresholds, emission standards and activities in two months, when other sectors of industry had been involved in consultative working groups for a considerable period of time, (almost 2 years).
- 3.16 While Lukey, in Annexure 'A' sets out the Department's detailed consultative procedure in regard to the proposed listed activities and associated minimum emission standards the following must be noted in terms of the printing industry:
- 3.16.1 Printing was not a scheduled process in terms of APPA. As there was no intention (until at least approximately February 2008) to consider including printing as an activity which may have a significant detrimental effect on the environment, the Department or its consultants did not formally or actively engage the printing industry in any meetings, consultations or the standard-setting process in relation to the NEM: AQA; the National Framework, or the formulation of the final draft of the listed activities and minimum emission standards in terms of section 21 of the NEM:AQA.
- 3.16.2 The associations representing the various sectors of the printing industry, or various individual industries (such as Paarl Media, Nampak, Afripack, Astrapak) did not receive any invitation (formally or informally) from the SABS on the 25 February 2008 to be part of the standard setting process.
- 3.16.3 There was no information available on the website which alerted the printing industry that it was being included as a 'new activity' in terms of section 21 of NEM:AQA.
- 3.16.4 A member of the printing industry, Paarl Media was only informed in June 2009 that the Department intended including printing as a listed

activity in terms of NEM:AQA. Officially, printing was only listed as an activity in the AQA Implementation: Listed Activities and minimum emission standards – Revision 2.0 (02 July 2009) Draft Schedule.

- 3.16.5 The standard setting process which was used to actively engage industry and other interested and affected parties took place from February 2008 to May 2009.
- 3.16.6 The entire printing industry was excluded from this consultative process.
- 3.17 The printing sector in South Africa has been in operation since the 19<sup>th</sup> Century and spans the complete range of printing processes. It is a complex and diverse sector. For example, the packaging and paper industry plays a significant economic role, converting over 4 millions tons of material at a value of approximately R61.5 billion (2007). The Department's actions in directing the SABS Standards Committee to add printing works as a listed activity, and the failure of the Department, its consultants and the STANSA to consult with the printing industry timeously is unreasonable and procedurally unfair.
- 3.18 The printing industry was not involved in the process of debating the relevant issues relating to the activities and setting of standards. Every other major industry affected by the intended promulgation of the listed activities and emissions standards in terms of Section 21 has had an opportunity of 2 years to engage with STANSA in regular meetings, as well as prepare themselves for potential economic impacts relating to those standards. In addition most of these industries have, since the commencement of APPA been constantly engaged with the Department in relation to emissions. It is unfair therefore to fail to engage and consult with an industry, where the setting of standards and inclusion of printing as an activity will have significant implications, and where every other industry has been given ample opportunity to provide comments and submissions and obtain information from both the Department and STANSA.
- 3.19 It is unfair and unreasonable to expect the printing industry to canvas members, send out surveys and provide accurate and credible data to

address their concerns and submit meaningful objections in 30 days, without detailed information being provided, on how the Department formulated the trigger thresholds, emission standards and monitoring requirements in relation to the listed activity included in the Notice.

#### 4. TECHNICAL OBJECTIONS AND COMMENTS

4.1 The following submissions raise some of the technical and scientific comments and queries which the printing industry, on behalf of the associations would like to address, and would like the Department to provide a detailed response and information in response thereto.

4.2 This memorandum must not be construed as being conclusive, either in the sense that it purports to identify all significant technical or scientific issues, or that the industry is capable within 30 days of reaching anything but preliminary observations and comments on the issues identified below.

4.3 In light of the time constraints and exigencies inherent in preparation of this memorandum, it will be necessary to expand on these issues once application and information is received from the Department or its consultants in relation to each issue.

#### 4.4 Determination of Trigger Thresholds and Lack of Definition of Solvent

4.4.1 The Department is requested to provide the rationale behind the determining of the proposed 25 tons per annum of solvent use threshold.

4.4.2 The European Commission (EC Directive 1999/13/13) cites the equivalent solvent consumption minimum thresholds for a variety of pertinent printing activities of between 15 and 30 tons of solvent per annum (e.g. Heatset web offset printing: >15 tons per annum; Publication rotogravure: >25 tons per annum; etc). The Department is requested to provide information on what the South African threshold value was based, and whether the value was based on health or environmental protection values, and whether or not these values were based on risk assessments.

- 4.4.3 The EC Directive 1999/13/13 has declared that solvent consumption as a trigger threshold should be defined as the total input of organic solvents into a facility, **less any Volatile Organic Compounds that are recovered for reuse**. Please provide clarification as to whether the proposed threshold of the solvent consumption takes into account solvent recovery/recycling processes. This is an important consideration in light of the direction that integrated waste management practice in South Africa has taken. The National Environmental Management: Waste Act 59 of 2008 specifically sets out at section 2 that one of the objectives of the Act is to protect health, well-being and the environment by providing reasonable measures for *inter alia* reducing, reusing, recycling and recovering waste. A specification pertaining to recovered solvent may result in increased recycling initiatives within the industry. The Department is requested to comment on whether this was considered in the preparation of the proposed threshold.
- 4.4.4 A different approach to threshold determination is taken in terms of the Danish EPA's Guidelines for Air Emission Regulation (2002), which highlights the consideration for emission mass flow. The mass flow is essentially a calculation of the amount (mass-based, rather than concentration based) of pollutant that is emitted from a facility per unit time. It is this factor, rather than a raw materials consumption value which is used as a potential trigger for the required air pollution controls and limits. While it is noted that these two principles are related, it appears that the latter example provides a more directly practical threshold (i.e more directly representative of what is being discharged to the environment). Please provide a reasonable explanation as to why the Department used the threshold of solvent consumption as opposed to emission mass flow to trigger the limits set out in the Notice.
- 4.4.5 The Notice does not include a definition of solvent. A "solvent" can be a liquid or gas that dissolves a solid, liquid or gaseous solute resulting in a solution. By definition, water is a solvent. We submit that the Notice must provide a clear definition for solvent.

#### 4.5 Determination of Proposed Emission Limits

As the printing industry has not been involved in the SABS standard-setting process, or any consultations relating to the inclusion of printing as a listed activity with emission standards, the rationale behind the determination of the proposed emission limit values must be provided for consideration. It should be clarified as to whether the emission limit values were based on risk assessment procedures, and if so, the assumptions and / or conservatisms which were utilized in the process. Given the significant variability in the industry (site, discharge characteristics, receiving environment etc.) there would have had to be several assumptions made while determining appropriate emission limits. In order to comment on the proposed emission limits it is necessary to review the risk assessment procedures, if any, as well as to be advised of the assumptions made while determining the appropriate emission limits.

#### 4.6 Comparison of Proposed South African Emission Limits with International Standards and Guidelines

Equivalent international emission limits guidelines were reviewed for comparison with the proposed South African limits:

4.6.1 The European Directive (EC Directive 1999/13/13/) provides the following printing industry specific limits:

<b>Activity</b> (solvent consumption threshold in tonnes per year)	<b>Category Threshold</b> (solvent consumption in units of tonnes per year)	<b>In-Stack Emission Limit in Waste Gases</b> (mg C/Nm <sup>3</sup> )
Heatset web offset printing (>15)	15-25	100
	>25	100
Publication rotogravure (>25)	>25	75
Other rotogravure, flexography, rotary screen printing, laminating or varnishing units (>15), rotary screen printing on textile and cardboard (>30)	15-25	100
	>25	100
	>30	100

- 4.6.2 The first point which must be noted is that the European Directive distinguishes between various types of printing. This is important as in South Africa the printing sector spans a complete range of printing processes, however not all of the six major printing processes may have an impact on air quality. For example normal sheet-fed Lithographic printing may have very little in the way of harmful emissions as is the case with Digital printing whereas Web, Heatset, Gravure and Flexographic printing contribute to emissions. In sub category 6.2 of the Notice 'printing works' is simply described under the description as the following:  
*"Processes in which publication, rotogravure, product and packaging rotogravure, wide web flexographic printing presses or any other printing methods are operated".*
- 4.6.3 There is no clear indication as to what is meant by 'other printing methods' and is clearly too vague to be enforced. These printing processes operate in a similar manner (this is described in detail in paragraph 2.9 of this memorandum) and according to the rules of statutory interpretation (*eiusden generis* rule) where general words in a statute follow specific words, those general words are interpreted in light of the specific words. In terms of this rule, 'any other printing methods' would refer to printing processes similar to those described above, and would exclude other printing processes which differ from these processes. The request is made that a description of printing works be adequately set out in the Notice.
- 4.6.4 The distinction of different types of printing is seen in the VOC regulatory guide for China<sup>6</sup> where only owners of lithographic heatset website printing machines are required to install emission control devices. These devices ensure that emissions of VOC's do not exceed 100mgC/Nm<sup>3</sup>, without dilution. It must also be noted that this limit is similar to that of the EC, and is also expressed in units of **mgC/Nm<sup>3</sup>**.

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<sup>6</sup> The country with the highest population in the world, and consequently one of those suffering most seriously from different forms of pollution, especially air pollution.

- 4.6.5 A review of the Intergovernmental Panel on Climate Change (IPCC) documents revealed a focus on issues pertaining to specific compounds or groups of compounds (such as methane, Chlorofluorocarbons, Hydrofluorocarbons and Hydrochlorofluorocarbons) rather than total VOC's. These types of compounds are generally not used or emitted as part of printing operations. Specifically, the IPCC regards these compounds or groups of compounds as important in climate change and these compounds are generally not emitted during printing operations.

#### 4.7 Units of Reporting

It is important to note that the units of reporting differ between the EC Directive and the proposed South African standard.

- 4.7.1 It is important that the Department clarify how the units for reporting emission concentrations were finalised. In the Department's directive to the SABS Standards Division which is attached\* hereto marked Annexure 'F', the unit of reporting was recorded as total volatile organic carbon, '**calculated as total carbon**'. In subsequent revisions (including the final draft contained in the Notice) the phrase '**calculated as total carbon**' had been excluded from the listing. Both the European and Chinese limits have standardised practice by reporting VOC concentrations as **carbon equivalents (mgC/Nm<sup>3</sup>)**.
- 4.7.2 The Department must advise and clarify why the unit for reporting emission concentrations no longer includes '**calculated as total carbon**' and whether this removal was due to an oversight and if not, the reason for its removal. It is important to determine whether the proposed limits are expressed in units of carbon equivalent or total VOC's as indicated in the final Notice. Some of the primary VOC's emitted by the printing industry have carbon ratios (the relevant amount of carbon to other elements in the molecule) which when reporting measured concentrations as carbon equivalent, could reduce reported concentrations in some instances by more than 30% (see example tabulated below). This may have a knock-on cost effect

in terms of levels of emission reduction required, and possible costs related to non-compliance with limits.

Compound	Chemical Formula	Mass Fraction of Carbon (as a % of Total Mass)
Ethyl Acetate	C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	55.5%
Methoxy Propanol	C <sub>4</sub> H <sub>10</sub> O <sub>2</sub>	53.3%

4.7.3 The Department is requested to clarify the basis of setting the proposed limits as concentration units (as opposed to mass flows / loads). While it is acknowledged that internationally the majority of stack emission limits are set in terms of mass concentration (which has been proposed in terms of the Notice) there is potentially a significant shortcoming of this measurement method as it does not necessarily provide an indication of the impact that the source may have on the environment. An example is cited here to illustrate the point.

Scenario 1:

A small diameter (eg. 500mm diameter) vent may be discharging **50mg/Nm<sup>3</sup>** of VOC's at a velocity of 1metre/ second. This equates to emitting **9.8mg/second** of VOC's into the atmosphere.

Scenario 2:

A large diameter (eg. 1.5m diameter) vent may be discharging the same concentration of **50mg/Nm<sup>3</sup>** of VOC's at the same velocity of 1metre/second. This however equates to emitting **88.4mg/second** of VOC's into the atmosphere.

In both of the above scenarios, the in-stack concentration would be **considered compliant** with the proposed limits, however the difference in absolute emission load discharged to the atmosphere could be significant. Only evaluation of mass flow may be directly related to potential environmental impacts.

While it is acknowledged that the proposed reporting requirements (part 2; section 6) will require the provision of volumetric flow rates of sources (which will enable mass flow to be calculated) it is not clear how these will be related or applied in terms of the regulation and the Department needs to clarify this.

#### 4.8 Total Volatile Organic Compounds versus Specific Compounds

4.8.1 VOC's are acknowledged to propose potential harm to the environment and human health at high enough concentrations, and furthermore can contribute to ground level Ozone formation and smog. There is however also information suggesting that exposure to different compounds may result in varying impacts (in terms of the nature and severity thereof).

4.8.2 The Department is requested to confirm whether consideration was given to the varying toxicities of specific VOC's (with particular relevance to those compounds typically emitted by the printing industry) in the process of setting the proposed limits. The Australian National Pollutant Inventory (NPI) for example, has compiled a data base of substances which have undergone a hazard rating/ scoring process. The hazard rating scores were based on the EC Risk Phrases (EC directive) and other toxicity/ experimental data:

- A score of 3 represents very toxic to health or environment;
- A score of 2 represents toxic to health or environment;
- A score of 1 represents harmful to health or environment; and
- A score of 0 would only be assigned if evidence exists indicating negligible toxicity.

According to the Australian NPI (2006), Ethyl Acetate's (a commonly used solvent in the printing industry) health and environmental hazard rating were scored as follows:

- Health Rating Hazard (scale of 0-3): Ethyl Acetate registers 0.7.

- Environmental Rating (scale of 0-3): Ethyl Acetate registers 1.0.

The total hazard score for Ethyl Acetate was found to be 1.7. This is relatively low compared with other VOC's such as Benzene (3.3) and Toluene (2.6).

The same point of relevant toxicity may be demonstrated by the fact that South African (and indeed international) occupational exposure limits are very different for each VOC.

- 4.8.3 South Africa currently only has ambient limits for a relatively small number of criteria pollutants. Currently none of these are VOC. The draft amendments to the list of criteria pollutants has been recently released, and only Benzene has been identified for inclusion to the list at this stage. The Department is requested to advise whether human health risk (receptive based exposure) was evaluated for total VOC exposure in the process of setting the proposed in-stack emission limits, and if this is the case, to what extent was the variability of VOC's used across the industry accounted for?

#### 4.9 Costs of Implementing Emission Controls Across Industry

##### 4.9.1 Options for Emission Reduction

While there may be a number of possible VOC emission reduction measures which may be employed across the industry in order to ensure compliance with the proposed limits, these have practical and cost related constraints / limitations and in some instances may not be economically feasible for introduction in the printing industry. We submit that the Department has not taken this into account in the inclusion of printing works as a listed activity and even with the compliance time frames the technology necessary in order to reduce emissions across industry in terms of the limits set out in the Notice will significantly affect industry. The cost implications will be dealt with in paragraph 4.9.3 of this memorandum.

4.9.2 A brief summary of the options for emission reduction and their constraints / limitations is provided below:

4.9.2.1 **Reducing emissions at source** through material substitution (with substances with lower VOC content and more efficient operations) is typically the first step of a reduction process. The use of alternative, lower VOC material may result in inferior product grades (specifically packaging orientated processes) where performance or quality requirements are strict. Presently there very few water based ink systems which will successfully adhere to plastic. Although some of these water based inks are available they are not in general use. A change from a solvent ink to a water based ink would require testing on an array of different products, a financial provision in case of failure and an understanding of the quality required by the client and the delivery of such by the ink system. In addition, UV inks cannot be used where printed products come into direct contact with food products.

Where changes could be made, for example in the metal can production, where flat sheet coatings could be replaced with water based coatings, the food can internal lacquers require a three year pack test. UV-cured lacquers cannot be used for food contact applications. In addition some of the equipment would have to be modified to be able to operate with the substituted material and this has implications in terms of cost.

The Department is also requested to comment on whether they took into consideration total volatile organic compounds versus specific compounds (Refer to paragraph 4.8). This would focus potential reduction strategies. In the event that specific VOC's (of great environmental or health concern) have been identified, it would be more beneficial to target reduction of these certain compounds rather than potentially energy and resource intensive **overall** VOC reduction.

#### 4.9.2.2 **End-of-pipe solutions**

These aim to reduce the amount of pollutants emitted to the atmosphere either by reducing specific pollutants of concern, or by converting these to less harmful products. The three technologies namely Activated Carbon Adsorption, Chemical Absorption and Condensation Systems are reliant to a large extent on gas stream residence time within a sorbent medium. As typical exhaust gas streams from printing facilities would be of high volume / velocity, it would be difficult to implement these specific technologies in the printing industry. In order for the equipment to allow for adequate pollutant removal from the gas stream, the equipment would need to be of a very large size (possibly difficult to retrofit at existing facilities).

In addition secondary control of VOC's may be necessary, for example in the activated carbon adsorption it may be necessary to regularly regenerate the carbon adsorption systems or replenish their systems with fresh carbon. The activities entailed in both of these options need to be carefully managed or risk ultimate (and unacceptable) emissions of VOC's to the atmosphere. The control of VOC's emitted during the regeneration phase is usually by means of condensation or incineration. The chemical absorption technology will regularly generate liquid effluent and it will be necessary to dispose of that liquid effluent. In addition in the condensation systems, refrigeration or cryogenic techniques may be necessary to control some of the non-condensable VOC's.

Incineration can also be used as an end of pipe solution. It involves the combustion (the subsequent destruction) of VOC's by means of equipment such as flares. The particular technology will generally be selected based on the concentration (as a percentage of the lower explosive limit (LEL)) of VOC's in the gas stream. If the VOC loading of the gas stream is not steady or insufficient to maintain combustion, then a supplementary fuel (such as liquid petroleum gas) might be required to maintain the oxidation process **(in such instances**

**the environmental impact from the burning of supplementary fuel may even overshadow any environmental benefits associated with VOC reduction).**

Oxidation: Thermal oxidisers are the most prevalent form of pipe control implemented globally in the printing industry. Oxidation processes are similar to, and can achieve similar reduction efficiencies compared with incineration systems, but operate on the principle of thermal or catalytic oxidation (rather than combustion in a strict sense) of VOC's. Thermal oxidisers heat the gas stream to 800 to 1300 degrees centigrade (usually by means of non contact burners) to convert the VOC's to harmless compounds. Catalytic oxidisers operate at relatively low temperatures (lower heating fuel costs) but require periodic replenishment of catalyst material (usually expensive material such as platinum, palladium or rhodium).

#### 4.9.3 Cost Implications

- 4.9.3.1 The cost implication associated with implementation of emission control technology necessary to ensure compliance with the proposed limits is expected to be significant. We submit that the Department has not considered the costs associated with the technology in relation to the proposed limits as even with the compliance time frames set out in the Notice and the postponement of compliance time frames set out in section 4 of the Notice compliance with the proposed limits in most cases is not economically viable for most printing operations in South Africa.
- 4.9.3.2 It is anticipated that the method of thermal oxidation will be the most suitable for the majority of facilities. Furthermore, it is envisaged that it will be the most practical and financially feasible solution to introduce a single control device (able to handle the cumulative VOC laden discharge from the facility with all individual sources ducted into this equipment) instead of a single controlled device at each source.

- 4.9.3.3 At current rates, a small unit may cost between two to three million Rand, a medium size unit approximately six million Rand and a large unit up to fifty million Rand (these prices are indicative of the emission control equipment only i.e. no ducting etc.) It appears that a medium size unit will be adequate for most printing facilities. This means that for some printing operations in South Africa which have from between five to ten factories, the cost to comply with the proposed limits will be between thirty and sixty million Rand.
- 4.9.3.4 In addition to the cost of the emissions control equipment itself, there is also a need for facilities to undertake significant modifications to their existing extraction systems. Ventilation ducting will need to be realigned so that all sources are tied to a central duct leading to the control equipment. This will involve significant additional cost and will require temporary shut down (production losses of facilities during the installation phase).
- 4.9.3.5 The continuous maintenance of the emission control equipment will also have operational phase cost implications. These may be associated with supplementary fuel (in the case of incinerators or oxidisers), sorbent media replenishment / regeneration and possibly waste disposal / treatment (in the case of adsorption / absorption methods) and general preventative maintenance (i.e. servicing and calibration) activities.
- 4.9.3.6 The capital outlay and associated continuous costs may prove prohibitive to many of the affected facilities, particularly the smaller operations.
- 4.9.4 Costs of Implementing Confirmatory Emission Monitoring Across Industry

The additional costs associated with routine compliance monitoring in terms of complying with the proposed limits must also be considered.

There are two main factors which have not been made clear in the draft Notice, and the interpretation of which will have a bearing on the cost of annual testing. The Department is requested to consider these issues and to provide an explanation on the following:

- In the event that the facility has more than one source discharge point (e.g there are ten vents, each discharging air from an individual printing machine) is it a requirement to have all sources tested during each monitoring exercise, or will a representative number of samples be adequate?
- Printing works typically have a range of air emission discharge points from their facilities. For example, the primary source may be the printing machine exhaust vents, while others may include general ventilation ducts or exhausts from other ancillary activities (such as equipment washing machines). It should be clarified whether emissions generated by ancillary activities will be required to comply with the proposed limits.

## 5. CONCLUSION

It is therefore submitted that –

- 5.1 The late inclusion of the printing industry as a whole in the proposed range of listed activities has resulted in unfair administrative action, with serious adverse effects on the industry if the unfair process is not remedied by an adequate extension of time within which to investigate the proposals, interact with the department and other stakeholders and role players, and to consider at greater length and make submissions in greater detail.
- 5.2 The preliminary technical issues raised above indicate the wide-ranging potential for adverse economic impacts on the industry of what is now proposed, and clearly indicate the need for a more detailed appraisal of the impact of the Act and the regulations on the industry and the “best practice” approach that should be adopted. In addition, serious consideration needs to be given to the provision and extension of a suitable ‘window’ period prior to the full implementation of the standards to this industry.

- 5.3 The Department should accede to the request for a reasonable extension of time for such consultations and interaction to take place and a period of at least six months is proposed in this regard.

DATED at DURBAN on this 24<sup>th</sup> day of August 2009

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