

**Submission  
No 145**

**INQUIRY INTO PERFORMANCE OF THE NSW  
ENVIRONMENT PROTECTION AUTHORITY**

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**Date received:** 29/08/2014

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**Submission to the  
Performance of the New South Wales Environment Protection Authority Inquiry  
General Purpose Standing Committee Number 5  
Legislative Council  
Parliament of New South Wales  
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Over the last twenty or so year I have been involved in many issues concerning Sydney Water's North Head Waste Water Treatment Plant (NHWWT). Since on many occasions I have been informed by the staff of Sydney Water that "this is all that we are required to do" and when asked as who was the authority for generating and enforcing the "requirement", the answer was inevitably, the EPA. In the course of my activities, I have become aware that there were many deficiencies in how the EPA operates and its technical expertise.

It became clear as the result of the *NSW Ombudsman: Results of investigation* into the EPA, August 2013, Report, that the EPA is effectively unable to investigate and regulate agencies which are part of the NSW Government and has to resort to negotiate an 'acceptable' solutions. Whilst I can understand that the fining or prosecution of one government agency by another can be problematic, the Premier's Memorandum (M1997-26 Litigation Involving Government Authorities, Premier & Cabinet, 8 October 1997) actually enforces this solution. An excellent discussion of the problem and possible solutions are provided on pages 23 to 29 of the above-mentioned Ombudsman's Report. However, I believe that there is another, equally important problem.

Over the years the EPA in its various guises has either been a government department or part of one. This means that it is not independent of government policies, priorities or direct control. Therefore at times, a regulation required to protect the community or the environment might be vetoed by the Government because, for example a large expenditure of governmental funds is required. Similarly, other agencies of the Government, which find the implementation of a particular regulation "inconvenient" for whatever reason, bring pressure through the treasury or in other ways to prevent the implementation of necessary regulations to prevent degradation of the environmental or harm to the community. I am aware that the present NSW Government has given the EPA more independence, but I do not believe that it has gone sufficiently far.

Unless the EPA is made totally independent of Government policies and priorities by beeing given guaranteed funding, it cannot act as a guardian of the environment and the health and well being of the community, or be an impartial and fearless adviser to the Government. Models such as the Ombudsman, ICAC and the Auditor General at the NSW State Government level exist and the EPA should join them.

Another problem also exists. I believe that the EPA does not always have the technical expertise to deal with the many different physical measurements that are made under its jurisdiction. I am a retired Professor of Mechanical Engineering who specialises in Fluid Mechanics, Thermodynamics and Heat Transfer. Despite my many years in retirement, I have remained active in research as I am an Honorary Visiting Professor at UNSW and am an Adjunct Professor at UTS. I have an expertise in slurry flows and the measurement of concentration of solids in two phase flow. On a number of occasions I have questioned the methodology used to measure some quantities at NHWWT, in particular the difficult of

measuring solids transport rate in the influent and the effluent from the plant. When I demonstrated by simulations that the techniques used could not lead to accurate measurements, I was told that the procedures had been approved by the EPA and that closed further discussion on the issue. I did not pursue the matter further, but noted that some years ago results for annual loads of solids were quoted to ridiculous accuracy on the EPA website, which would have made the EPA look ludicrous to anyone who had an understanding of engineering measurements.

The above general comments are supplemented by particular comments on one aspect of the North Head Waste Water Treatment Plant in which the EPA was not involved, but according to the reasons for its creation it should have had a significant input. For some decades the strong odours emanating from the NHWWTP have generated significant adverse reactions in the Manly community. Over the years piecemeal measures have been implemented, but a holistic approach has not been adopted, despite the existence of a highly publicised Odour Management Plan. The latest development in the ongoing saga is the installation of the replacement NSOOS Scrubber. It is clearly stated in the REF that the completed project will not meet the odour emission criteria set in the Guidelines formulated by the EPA. Despite many objections to the proposal presented in the REF, the Decisions Report on the NSOOS Scrubber at NHWWTP reaffirmed that the design presented in the REF would stand. Notwithstanding the non-compliance and reasoning that ‘merely’ Guidelines are involved, the EPA has not been consulted, nor did it make any comment although it is the regulator. Below I examine in some detail the manner in which the EPA does not meet its obligations using the Replacement NSOOS Scrubber as an example. They clearly illustrate that the EPA’s mandate is not to protect the environment, but to help the Government to manage it, the ways that suit its policies. I have attempted set out my comments in terms of the objectives of the EPA, in the same order as they appear on the website [http://www.austlii.edu.au/au/legis/nsw/consol\\_act/poteaa1991485/s6.html](http://www.austlii.edu.au/au/legis/nsw/consol_act/poteaa1991485/s6.html).

#### **OBJECTIVE a-**

**To protect, restore and enhance the quality of the environment in New South Wales, having regard to the need to maintain ecologically sustainable development.**

A correspondent to The Manly Daily on 18<sup>th</sup> of July, 2013 wrote: “It is a fact that the effluent from the plant (NHWWTP) meets the Environmental Protection Authority’s licence standard – but what is not generally known is that the standards have not been upgraded since they were set in 1976 – over 36 years ago. ... Sydney boasts of its world status but its infrastructure is third World with respect to its sewage treatment.” (see Appendix) The North Head Waste Water Treatment Plant is the fourth largest sewage treatment plant in Australia and being situated on North Head, one of Sydney’s most iconic touristic points, it is inconceivable that this issue is not raised as a priority by the EPA so as “[t]o protect, restore and enhance the quality of the environment in New South Wales”. Could it be that “maintain ecologically sustainable development” actually means “provided it does not cost anything” or words to that effect?

Further, it should be noted that standards have significantly changed since 1976. It is no longer acceptable to treat the biosphere as an infinite sink for the disposal of wastes created by humans that the lax requirements of the licence issued in 1976 allows. Surely the failure of the EPA to insist on rising standards for effluent disposal to the ocean and pollutant emissions to the atmosphere is indicative of a lack of concern for the environment and the health of the community. It is interesting to note that plans for greatly improved standards have been mooted by NSW Governments on many occasions, only to be abandoned. If there

had been an independent EPA, standards would have risen which governments would have had to implement with a consequent reduction in the pollution load to the environment.

#### **OBJECTIVE b**

**To reduce the risks to human health and prevent the degradation of the environment, by means such as the following:**

The NSW POEO Act 1997 requires that odours offensive to the senses of human beings must not be discharged beyond the boundaries of premises. Offensive odour is defined on the website <http://www.epa.nsw.gov.au/waste/envguidlms/compostingglossary.htm>:

***“Offensive odour means an odour:***

- a. that, by reason of its strength, nature, duration, character or quality, or the time at which it is emitted, or any other circumstances:*
  - i. is harmful to (or is likely to be harmful to) a person who is outside the premises from which it is emitted, or*
  - ii. interferes unreasonably with (or is likely to interfere unreasonably with) the comfort or repose of a person who is outside the premises from which it is emitted, or*
- b. that is of a strength, nature, duration, character or quality prescribed by the regulations or that is emitted at a time, or in other circumstances, prescribed by the regulations”*

It appears that parts a(i) and (b) of the above definition of an offensive odour are covered by Objective b of the EPA, but a(ii) is not covered, but should be.

Does Objective b mean that *“the comfort or repose of a person who is outside the premises from which it is emitted”* is not relevant and it only becomes relevant if there is a *“risks to human health”*? What is meant by the word *“reduce”* in *“reduce the risks to human health”*? What is an acceptable level of risk and who sets it? These words and other words need to be strictly defined in the ACT or the Regulations so that there can be no doubt as to how they should be applied.

#### **OBJECTIVE b1**

**To promote pollution prevention**

The Review of Environmental Factors and the Decision Report on the North Head Wastewater Treatment Plant (NHWWTP) Replacement NSOOS Scrubber reflect Sydney Water’s belief that the EPA will not pursue them in enforcing pollution prevention odour levels emitted from the plant. The fact that after the completion of the project, emission will be higher than they were in 2004 is touted as a “slight improvement”. As is discussed below, the fact that there will be sensitive receptors within the 2 ODU contour, is used as a reason for having the proposed levels of pollution. Sydney Water continues to claim that it has a long-term plan, but has not shared it with the community. Incidentally, how can Sydney Water’s solution at present being installed which will see “up to 129 000 litres per day of dilute sulphuric acid discharged into the ocean, compliant? Is any of this of interest to the silent EPA?

#### **OBJECTIVE b2**

**To adopt the principle of reducing to harmless levels the discharge into the air, water or land of substances likely to cause harm to the environment.**

*“The principle of reducing to harmless levels the discharge into the air, water”* has clearly not been applied at North Head WWTP. As mentioned above, Sydney Water is well aware that many sensitive receptors will be affected by the odour emissions after the replacement Scrubber has been commissioned as they affirm that in the Decision Report that *“the submissions [to the REF] incorrectly state that the proposal is inconsistent with the framework and odour assessment criteria, because there is a school and hospital in the 2 odour unit contour. The framework doesn’t prohibit sensitive receptors in this contour but indicates there is a higher likelihood that people who are sensitive to odour may be within that area.”* I have no idea what the last sentence is intended to mean. It seems to indicate that Sydney Water interprets the guidelines to be better fulfilled by having a great number of sensitive receptors within the 2 ODU contour. In fact the guidelines specify the exact opposite. Surely the “answer” provided by Sydney Water should ring bells somewhere in the EPA.

This matter of sensitive receptors within the 2 ODU contour was raised at a meeting in April this year between representatives of the Manly Community and senior staff from the EPA. This meeting had been convened as a direct result of a recommendation made by the Ombudsman in the Report mentioned above. The comment by EPA staff was that, since the EPA had only issued *guidelines* concerning odour levels, no action could be taken if the guidelines were not followed. This is in conflict with the “no offensive odour outside the boundary” of the POEo Act 1997 already mentioned and the fact that the 2 Odour Units per cubic metre is able to smelt by everyone, as is confirmed in the guidelines themselves.

The Manly Daily headline *“It doesn’t take an engineer to smell the problem”* (see Appendix) clearly states the problem is not new. Cr Cathy Griffin said in a recent Manly Council meeting, *“People continued to complain of unpleasant smells emanating from the plant. The odour plume blows over Eastern Hill and into Balgowlah Heights. There is a serious odour problem.”* Despite twenty years of continual complaints, the uncompleted Sydney Water five-year odour management Plan started in 2011 (reference <http://www.abigroup.com.au/ProjectDetail.aspx?PageID=88&ProjectID=200>), means that residents continue to suffer the consequences of the offensive odours. The majority of the complaints coming to the Manly (see appendix) are related to this issue. In the article *“Bad smell at North Head”* from 29<sup>th</sup> June 2011, the odour issue is reinforced by the comment: *“Of all local complaints that find their way to the office here at the Daily, the smell coming from North Head is one of the most consistent”*.

The citizens of Manly have done everything possible to ensure that there is “no offensive odour outside the boundary of the NHWWTP” through processes engaging with Sydney Water, the EPA, and finally the Ombudsman over at least the past two decades. Indeed it should not be up to the people to relentlessly pursue authorities to enforce “the principle of reducing to harmless levels the discharge into the air”, but rather once the issue has been brought to its attention, it is the EPA’s responsibility to actually guarantee that the environment is not being harmed by Sydney Water’s WWTP odour releases.

### **OBJECTIVE b3**

#### **To minimise the creation of waste by the use of appropriate technology**

The REF and Decision Report makes it clear that the reduction of odour, which is waste from the treatment process, is not an objective from the North Head NSOOS Scrubber Replacement Project. Therefore there will be an investment in technology, the new scrubber, but no specific intention of minimising the creation of waste. Similarly the discharge of large

quantities of dilute sulphuric acid from the operation of the biofilters is hardly minimising “the creation of waste”. Is the EPA in agreement?

#### **OBJECTIVE b4**

##### **To regulate the transportation, collection, treatment, storage and disposal of waste**

The transport of biosolids from the North Head Sewage Treatment Plant has been another issue for residents, tourists and businesses on the route the biosolids trucks take to their destinations. The extremely smelly biosolids are transported by approximately two 32 tonne trucks per day. It should be noted that odour control consists of spraying the load and truck with an “deodouriser” to suppress odours during transport. This procedure is often inadequate to prevent a trail of very unpleasant odour in the wake of the truck. Obviously, despite numerous complaints, this is acceptable to the EPA.

#### **OBJECTIVE b5**

##### **To encourage the reduction of the use of materials, encouraging the re-use and recycling of materials and encouraging material recovery**

This is done to a minor degree by Sydney Water, as is shown by solids being captured from the influent which are beneficially used. However the recovery rate is very low, leading to a waste of a valuable resource. The energy recovery from the effluent by the hydraulic turbine installed in the drop shaft is another example. It is interesting to note that this was done some 20 years after I had recommended it to Sydney Water as one of their consultants on energy saving.

#### **OBJECTIVE b6**

##### **To adopt minimum environmental standards prescribed by complementary Commonwealth and State legislation and advising the Government to prescribe more stringent standards where appropriate**

I was involved in a community consultation with Sydney Water on Project North Head. This had been intended as a means of improving the performance of the plant to meet future load increases without breaching the EPA Licence requirements. The large group of volunteers who attended were told in 2002 that there would be no requirement from the EPA for a reduction in the concentration of solids and grease in the effluent until at least 2023. This shocked us all as this would mean that the licenced levels would have been the same for nearly 50 years. The community representatives argued forcefully that full secondary treatment was the minimum acceptable outcome, but that was rejected as being unacceptable and a 50% capture rate was all that the Sydney Water representatives would consider. The project was terminated in 2003 and replaced by the PAR project. This was carried out in two part, with an unchanged capture rate. As may be seen from my comment about Objective b8, the idea that oceans are infinite sinks has not been abandoned by either Sydney Water or the EPA.

#### **OBJECTIVE b7**

##### **To set mandatory targets for environmental improvement**

There are no clear targets for allowable odours emanating from the NHWWTP. There is a statement in the licence that there must be an ongoing decrease in pollution levels from the NHWWTP, however, there are no “*mandatory targets for environmental improvement*”. Indeed, this requirement must be the reason that despite the fact that the installation of the

Replacement Scrubber will lead to odour levels higher than those that pertained in 2004, in both the REF and the Decisions Report it is claimed that there will be a “slight improvement”. There will be a “slight improvement” because the performance of the present scrubber has deteriorated to the point that it just had to be replaced. This seems to me to be the sort of spin that I would expect a fearless protector, not manager, of the environment, the EPA, to defend us from.

**OBJECTIVE b8-**

**To promote community involvement in decisions about environmental matters**

I have been involved with Sydney Water for a long time. I gave up when I was told that the EPA had concluded that upgrading the ocean plants was “not a priority”. Whilst I understand that funds have to be allocated to the most urgent needs, however the fact that the upgrade of the Ocean plants has “disappeared from the radar” is absolutely unbelievable. Community consultation, as far as I am concerned is treated as a joke.

**OBJECTIVE 11-**

**To ensure the community has access to relevant information about hazardous substances arising from, or stored, used or sold by, any industry or public authority**

I am aware of useful information on the EPA website.

**OBJECTIVE 12-**

**To conduct public education and awareness programs about environmental matters.**

Does this still happen?

MD 19, 6, 2012

## NORTH HEAD

# It doesn't take an engineer to smell the problem

Steven Deane

odour management program. Sydney Water established the \$30 million five-year program in 2011. It said it would reduce the risk of odour from its three plants affecting the surrounding communities.

Yet the council claimed utility to start work on its

planning for the program at North Head had not started. Councillor Griffin said people complained of unpleasant smells emanating from the plant.

"The odour plume blows over Eastern Hill and into Balgownie Heights, there's a serious odour problem,"

she said. "So we want (Sydney Water) to fix it. We're not engineers, but we know when something smells."

Sydney Water managing director Kevin Young recently wrote to the council to explain the issue. In the letter, Mr Young

said the plant used hydrogen sulphide in its operations which had a high odour impact and could be easily detected at low levels.

While Sydney Water monitors these levels, the public will also be able to see them for themselves. The utility will publish

this data on its website from July 1, said Mr Young.

A Sydney Water spokeswoman said yesterday that a business case was currently being prepared to seek approval to commence the planning phase for North Head Wastewater Treatment Plant.



Marcy Dancy 29/10/2011

-EDITORIAL BELOW

## EDITORIAL

### BAD SMELL AT NORTH HEAD

Of all the local complaints that find their way to the office here at the *Daily*, the smell coming from North Head is one of the most consistent. Locals are constantly raising the issue and for years there has been no adequate answer. But the revelation that potentially toxic mercury was discharged from the facility in 2009/10 goes well beyond an unpleasant stench.

Mercury poisoning in humans has been linked to the consumption of fish carrying high levels.

Sydney Water is understandably playing down the issues at North Head and says it has just completed \$150m upgrades to the facility.

That might be the case, but Manly Mayor Jean Hay is reflecting broader public opinion in her calls for closure of the facility or, at least, a stricter screening process. There's too much at stake.

18-7-13

## **Standards are really quite Third World**

TONY Burns and Doug Robertson (Conversations, July 13/16) raise the question of North Head sewage treatment plant deficiencies.

It is a fact that the effluent from the plant meets the Environmental Protection Authority's licence standard – but what is not generally known is that the standards have not been upgraded since they were set in 1976 – over 36 years ago.

Sydney Water reported that in the year ending June 30, 2011, it captured just over 30 per cent of the solid matter from the incoming sewage stream and it managed to capture around one quarter of the oil and grease, the remainder was dumped into the ocean.

This is a disgraceful record for any city, let alone a major world city – consider what would happen if Paris or London allowed 70 per cent of sewage solids to be dumped into the Seine or the Thames.

Sydney boasts of its world status but its infrastructure is Third World with respect to its sewage treatment. Come on, Sydney, you can do better.

**BEVERLEY TREVENEN, Manly**