

Submission

No 21

INQUIRY INTO MANAGEMENT OF DOMESTIC WASTEWATER

Organisation: BioSeptic
Name: Mr Bob Martin
Date Received: 16/12/2011

Mr. Chris Patterson MP
Chairman
The Committee on Environment and Regulation
Legislative Assembly
Committee on Environment and Regulation
Parliament of New South Wales

13th December 2012

Dear Sir,

RE: SUBMISSION TO THE ENQUIRY INTO THE MANAGEMENT OF DOMESTIC WASTEWATER.

Introduction

Although I understand that the main focus of the enquiry may be the inappropriate application of wastewater on food crops, this submission will address the terms of reference with particular regard to domestic aerated wastewater treatment systems (AWTS).

Executive summary

Rather than write an executive summary as time is short, I have provided a summary of the main points of this submission in the conclusion.

My credentials:

- I am the owner of BioSeptic Pty Limited, an accredited manufacturer of an aerated wastewater treatment system (AWTS).
- I was the President and a foundation member of the AWTS Manufacturer's Association (AWTSMA) until it was disbanded.
- As President I was consulted about the wording of certain wastewater management legislation. I was closely involved with other manufacturers and NSW Health during the AWTS re accreditation process in 1999 and 2000.
- I was a member of the WS13 committee that wrote AS/NZS1546.1 Septic tanks and AS/NZS1546.3 AWTS.
- I commenced business in the AWTS industry in November 1986 and so I have 25 years experience of onsite domestic wastewater treatment and disposal in NSW and Australia.

Submission

I have responded to the letter points in the invitation letter.

a) The adequacy of safeguards to ensure food safety, and to protect against the risk of localised contamination, in food production areas;

Although I have not had time to particularly researched every document before making this submission I recall from memory and experience, that it is stated in every State and National regulation, and included in every Council Approval for the installation of a Sewage Management Facility, of which an AWTs is one type, that it is prohibited to dispose of treated wastewater onto food crops or where animals graze. Therefore the safeguards currently exist and any transgressions should be reported to the regulator, which NSW Health states is the local council.

A casual enquiry of our AWTs service technicians today, as to whether applying treated waste water to food crops was a frequent, unusual or rare occurrence, reports that the occurrence is very rare in the AWTs serviced by this company. Nobody could think of a recent occurrence. However, I would not be surprised to discover that it is being practised by a few market gardeners in south west Sydney. Only this week our salesmen had to inform potential clients that they must relinquish part of their market garden if they wish to build a new house and install a BioSeptic system.

b) The appropriateness of current regulatory arrangements in relation to the management of domestic wastewater

Unless it has been changed, I remember that the regulation that currently regulates the disposal of wastewater requires the council **to consider** the *Environment & Health protection Guidelines – Onsite Sewage Management for Single Households (OSMSH)*, a.k.a the Silver Book. I am proud to write that the word consider was included at my suggestion, otherwise at the time I felt that councils could elect to ignore the Guideline. I have seen a reference on a website somewhere that the Guideline is being reviewed, but as far as I am aware without any industry participation. The Guideline is quite comprehensive and if it were reviewed and brought up to date as necessary it could be applied as a regulation. This would create an opportunity to improve the consistency standard of onsite wastewater disposal in NSW.

The most common problem that is often discussed in the industry is that the requirements for wastewater disposal are not just different between councils they are sometimes different between individual council officers.

Trying to explain why a client cannot have the simpler and therefore cheaper disposal field of their neighbour over the road in a different Local Government Area (LGA) is an interesting experience. I have not had time to fully check the Silver Book, but it offers the advice that the means to dispose of wastewater should be based on catchments and soil types. We find that the quite small LGAs adjacent to Sydney all have differing disposal area requirements, but in a drive through the area one would observe that the lot sizes, houses and topography are very similar in each LGA.

If the LGAs could agree on a common policy it would be a great benefit to site and soil assessment practitioners, AWTs manufacturers, installers of disposal areas and create far less confusion for the householder who as a ratepayer could expect a better service.

The new proposed requirement by the Sydney Catchment Authority (SCA) for a final inspection of a wastewater treatment before occupation of the dwelling is similar to the

requirements in some other States. The proposed complexity of the SCA requirements and the high qualifications of those able to undertake the inspections will greatly increase costs, but it could be done for a lesser cost increase if an education programme was introduced to upgrade and licence AWTs service providers or disposal field installers to undertake such inspections. The SCA scheme concentrates on the disposal rather than the treatment of wastewater. I am concerned that geotechnical engineers will be required to authorise matters outside of their area of expertise. A function that has previously resulted in a badly designed sewage system.

As an aside, it is important to understand that the treatment of waste water and its disposal are two distinctly separate disciplines.

c) The adequacy of inspection procedures and requirements to report incidents

Here is the real problem.

A huge amount of work goes into providing all of the slightly different information required by the 170+ councils in NSW. However it does not matter what level of detail and complexity is required because once the approval is granted, the system is installed and if the owner elects to seek a final council inspection, then it will be some time, if ever, before that system is inspected again.

Councils are obliged to make regular inspections of onsite sewage management facilities (SMF), but there are few inspections undertaken. In 1998 Part 3 of the Local Government (Approvals) Regulation 1993 was amended to provide performance standards for councils to manage domestic SMFs (*Page 21 On-site Sewage Management for Single households 1998*).

Ten years ago a number of councils in southwest Sydney received Sydney Catchment Authority funding to make inspections. They also made a charge on all households with a SMF to fund the council's SMF management programme. When the SCA funding stopped the regular inspections ceased, but the householder charge remained. Please be aware this is a very general view from my memory and experience, the real situation as reported by councils may vary. However, today there is little evidence of regular house by house inspections. There may be occasional random reactionary inspections.

My company receives a number of enquiries to repair broken AWTs equipment. Householders want to buy spare parts and chlorine with which to service their own AWTs; they refuse offers to enter into a service contract with my company. If councils are supposed to maintain a SMF register and householders are supposed to make a quarterly maintenance report to the council, why are these systems that do not submit the required report not detected by the relevant council?

Here is a record of one event. A client enquired how to repair an air blower as he could no longer hear it working. Our database revealed that he had elected not to renew the service agreement and that the system had operated unattended for six years, but the absence of the quarterly report to council had not created any interest from the council. Another general instance is anecdotal and is where householders who want a new irrigation pump to be installed as the system was now flooded. The usual comment here is, "it works really well, the blower stopped a few years ago, but it kept on pumping out, we are really happy with it". Why are these systems and their delinquent householders not detected?

Most councils are appreciative of being told when a client ceases to renew their AWTs service agreement as it can take swift action. However after a recent violent visit from a client, who considered that "we had doxxed him into the council" which had resulted in a visit to his site that discovered a lot of other misdemeanours, we are about to seek a letter from

each council requesting us to continue to advise the council of the non renewal of a service agreement. Fortunately it was proven that the council visit had not been triggered by our note. However if councils wish to receive this advice, which we are happy to provide, we may need some sort of protection in this litigious world.

Ongoing field sampling of AWTs

I would like the Enquiry to recognise a simple fact about wastewater treatment:

If the treated water from an AWTs conforms to the specified performance standard, then its disposal is less of a problem than if it does not conform to the correct standard.

Unfortunately in NSW there is no onsite sampling of treated water discharged from an AWTs. If the AWTs is not functioning correctly and it is not being serviced then it is most probable that no one will ever know as there are so few inspections.

I remember from when I owned a Brisbane based AWTs company, that the Queensland local councils conducted an annual property inspection which included taking a grab sample from each AWTs. The council requirements varied but the sample was often analysed for:

- Clarity, (if the clarity was about 300mm or above, then it was most probable that the BOD₅ was <20mg/L). They ceased testing for BOD₅ as it was expensive and the results were not known for about a week.
- Free chlorine
- Thermotolerant coliforms (these are indicator organisms and used as a measure of the *possible* pathogens in the water.

The parameters were not very stringent, but they provided a good indication of the efficiency of the system.

The renewal of the annual licence procedure as I remember it was:

First sample passes the test – annual licence renewed for a year.

First sample failed - the householder was required to have the system made good and a subsequent sample was taken,

Second sample passes - annual licence renewed for a year. The householder paid a fee to cover the sampling costs.

Second sample failed - the householder was required to have the system made good and a subsequent sample was taken.

Third sample passes - annual licence renewed for a year. The householder paid a higher fee to cover the sampling costs.

Third sample failed - the householder was required to convert to a pump out by tanker system that disposed of all of the wastewater off site. This was a very expensive option.

Whether this testing is still happening I do not know. I tried to find out, but there was no time to chase the information.

The annual testing and the need to comply with the conditions of approval guaranteed that the householder made sure their AWTs was serviced and looked after properly. I was told at the time by my Brisbane manager that the testing created a lot of interest and that

neighbours would gather to compare results and sometimes made it into a competition to see who had the best results. **The annual testing process created positive householder involvement.**

This all happened about ten years ago. As far as I am aware no similar programme is undertaken in NSW. If the Enquiry wishes to know more, Caboolture Shire, Beaudesert, Caloundra City and Brisbane City councils undertook these tests. I have just reviewed the ten year old file and it was a very useful report on the performance of the AWTs and the efficiency of the service technicians.

Brisbane City Council produced an excellent CD of how it managed its domestic on-site sewage management facilities. If one cannot be obtained from Brisbane City Council I have a copy that can be borrowed by the Enquiry.

There have been a few sampling efforts in NSW, with the major one being undertaken by Camden Council in 1996 and one by all of the AWTs manufacturers in 2001. Maybe it is time to look again. The problem being one of cost and deciding how is funded. The cost has to be borne by the end user in some way; it is only a matter of deciding how that cost is charged. In Queensland I think that the annual testing was funded by the council in some way.

AWTS Servicing

In NSW prior to about 1988 only the manufacturer could service their AWTs. After that time NSW Health allowed other agencies to service AWTs. No real controls or qualifications were placed on the many individual service providers that appeared. Like all industries some practitioners were very good, some average and some not so good.

Again it pays to look back to Queensland where in the late 1990s the State regulator at the time arranged with the industry and the Queensland plumbers' licensing board to create a restricted drainers licence in about six weeks. A TAFE course was created and all service providers had to be licensed. The course developed over time.

For the Enquiry's information an accreditation granted by the Western Australia Government contains the following two conditions:

- 2.2 Installation of each XXX AWTs shall be carried out only by installers authorised by XXX Pty Ltd (the manufacturer).
- 3.1 The Local Government shall require the owner/occupier of a premise to enter into a 3 monthly service contract with a representative of XXX Pty Ltd (the manufacturer).

Having this condition will ensure that the installation and servicing will be performed responsibly as there is only one company responsible if it is not performed correctly. Whether or not the preservation of householder health overrides any parts of the Trade Practice Act is a matter for the Enquiry to consider. However we all live on the same island so something should be able to be done.

I have attended many talk fests in NSW to try and arrange a similar training course, even applying as the AWTsMA President for State funding which was granted and provided to a training organisation. I am not sure where that information is now.

There are some private AWTs service provider trainers. I engaged one firm for a fee of \$6000.00 to provide training days for all of my staff, including arranging a general

information evening for the employees' families, council officers and local plumbers. The general background information and theory was excellent, but after lifting the lids of a tank in order to be shown how to service an AWTs system, we were told, "well you guys know more about how to service an AWTs than I do". So I am concerned about the level of training being provided to independent service provider.

My Service Manager has been in the AWTs servicing business for nearly ten years and trains our new employees. Not all of them make the grade and some are let go after a few weeks, even though when we advertise for septic tank service technicians we are never overburdened with applicants.

In response to me informing him of this enquiry he asked this question. How is someone, usually without any previous experience able to pay the fee to attend a three day course and then be qualified to service an AWTs? In my company, and making a generalised observation, a new technician has received two weeks practical training before being allowed to go to site to change an air blower. A new technician is not allowed to undertake an independent service until he has been trained on the job for a month. Our service technicians are not considered to be truly knowledgeable until they have been on the job for six months and are not considered able to undertake every situation until after they have eighteen months experience.

We are able to exercise control by rotating the technicians around the service areas. The service manager undertakes performance reviews to ensure the quality of the work. Good quality work keeps the client happy and complies with the conditions of approval.

Licensed service providers

If there was some form of accountability of service providers then we would be moving the industry to a higher level. I know that such licensing would be welcomed by many of the more interested council officers and some of the manufacturers.

One of the problems of honest reporting is the risk that a client will look for the more obliging service provider. If all service providers were licensed at either an individual or corporate level in a similar way to plumbers and electricians and there was a threat to the licence and hence the livelihood, there would be less of a risk of sub standard work.

As an example of honest reporting, about ten years ago my company purchased over a hundred AWTs service contracts from another company as that company wished to cease its servicing business, most were not BioSeptic systems, but an alternative AWTs brand. At the initial service it was discovered that a lot of the systems had been not working correctly for a long time, but were all consistently reported to the owner and the council as operating correctly. Rather than spend money to repair the systems most elected to find another service provider.

Third Party certification

The seventh dot point on page 35 of the OSMSH Guideline (Silver book) states that one of the goals for developing an on-site sewage management strategy is:

- to consult local plumbers and service agents and **to specify qualifications for third party certification of maintenance work and compliance with approval standards**

Let us consider the second part first.

In order to be accredited to manufacture an AWTs a company has to have a Product Certification accreditation to AS/NZS1546.3:2008 AWTs. BioSeptic's accreditation is in the letterhead of this submission. If a company is so accredited it is audited every year against that Standard. This requires demonstration to the auditor that the AWTs is manufactured to the tested design. Under Product Certification the tested type design is frozen and all manufactured product must not vary from the tested design. This ensures that all AWTs will produce treated water to the performance standard. The audit takes a full day and the auditor inspects every part of the operation and at the end I receive a report that the company is correctly, or not, manufacturing product as it should. It is a wonderful and important management tool.

Part of the audit involves questioning the service department members and an inspection of the service records. Are the AWTs being serviced on time, have any consistent equipment failures been observed, if so what was the remedial action? If as a manufacturer one was to fall down on the servicing it could have an impact on the ongoing manufacturing accreditation.

Licensed plumbers and electricians are required to have their work inspected by the relevant authority. Why are there no controls placed on independent service providers?

Local service provider and regulator meetings

The first part of the seventh dot point above is to consult local plumbers and service agents.

I have great respect for plumbers as my son is one and I have employed many over the years. It should be noted that it is a drainer not a plumber that installs SMFs. Also very few have any knowledge or are interested in SMFs.

However I really recommend that there are localised meetings between councils and service providers, whoever they may be. There was a well attended meeting about five or more years ago in Liverpool which was interesting and the councils went away to undertake some of the work that they had been obliged to do since 1998. Unfortunately there was not another one. There was one in the last year near Canberra which was poorly advertised, so many missed that one.

If the service providers and the regulators meet say once a year, then it breaks the ice and both sides can realise that each has a job to do. It is easier to discuss site issues with someone when one has just spent an hour with that person at a meeting. As I suggested to a local council officer a few weeks ago the regulator would need to initiate the meeting as there is no vehicle by which the industry could initiate a meeting.

For the record, I wish it to be known that in order to write this submission I spent an hour speaking on the phone to a local council officer. We have known each other since 1987, but it had been many years since we had spoken to each other. We share similar views about the industry and it was great to discuss ways to improve the industry.

Conclusion

There is a lot more I would like to say, but time is not available. I was going to provide some published papers on the industry, but there is no time left before the deadline for this submission. I can furnish them if required.

I have waited over twenty years for an Enquiry such as this. I have been informed that its primary function is not to specifically look at AWTs, but I hope that it is able to execute some of the proposals in this submission.

Please contact me if you require any additional information. I would appreciate being informed of any public hearings as I would like to attend as an observer.

Summary

- 1 Update as necessary or select the more pertinent parts of the On-site Sewage Management Guideline and make them into a regulation.
- 2 Make the requirements for an application to install a septic tank consistent throughout NSW or at least by catchment.
- 3 Enforce the regular annual inspection of all sewage management facilities.
- 4 Require by State regulation the annual sampling and compliance testing of all AWTs and other forms of non passive sewage management facilities.
- 5 Make the servicing of AWTs a licensed trade.
- 6 Require AWTs service providers to have third party certification (quality assurance) of their work.
- 7 Provide at least annual meetings at a local level between AWTs service providers and the regulators.

Yours faithfully,

A handwritten signature in black ink that reads "Bob Martin". The signature is written in a cursive, slightly slanted style.

Bob Martin
Director
BioSeptic Pty Limited.