

Melbourne Water Works Approval Application – Eastern Treatment Plant,
Carrum: EPA Licence No. EM35642

Clean Ocean Foundation submissions

1. Introduction

1. Clean Ocean Foundation (“the Foundation”) has been invited, pursuant to s.20B of the *Environment Protection Act, 1970*, to present a submission in objection to the application the Environment Protection Authority of Victoria (“the EPA”) has received from Melbourne Water to issue a Works Approval for the upgrade of the Eastern Treatment Plant in Carrum (“ETP”) and the continued discharge of treated effluent to Bass Strait from the South East Outfall at Boags Rocks, Gunnamatta.
2. The Foundation is incorporated as an association in Victoria. It has been registered as an environmental organization by Environment Australia and has achieved peak status in representing the views of the community, especially the Mornington Peninsula community, in relation to the future of the ETP and the Boags Rocks licence. A list of the persons and organizations which have specifically consented to being represented by the Foundation at this conference is attached as Appendix 1.
3. The Foundation objects to the Works Approval application. This objection is based on the predominant view of the community that outfall discharge under the Boags Rocks licence is inappropriate. This view derives from the following self-evident propositions:
 - i. Discharging treated effluent in an area which supports beneficial uses and which is adjacent to a primary recreation zone does not satisfy the State Environment Protection Policy (Coastal Waters) of 1988 (“the SEPP”). The discharge causes pollution, is harmful to edible fish and crustaceans and impacts adversely on water-based recreation.
 - ii. Water is a scarce, valuable and finite resource. As the technology exists to treat effluent to potable standard, the

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ETP effluent should be re-used either to replenish existing limited supplies of potable water or provide a substitute to preserve those supplies.

- iii. A valuable, scarce resource should not be wasted by simply being discharged into the ocean.
4. Melbourne Water is a statutory authority of the State of Victoria. It was originally constituted as the Melbourne and Metropolitan Board of Works (“MMBW”) in 1890. The *Melbourne and Metropolitan Board of Works Act, 1958* vested Melbourne’s water supply and sewerage works on the Board upon trust “... *for the purposes ... of providing for the sewerage and drainage of the metropolis*”.
5. According to MMBW’s historians Dingle and Rasmussen in Vital Connections; Melbourne and its Board of Works (McPhee Gribble; 1991), the MMBW acquired additional powers to make industries pay for the collection and disposal of wastes in 1979. After a Federal Parliamentary report in 1982 strongly criticizing inadequate toxic-waste disposal throughout Australia, the MMBW transferred the monitoring of industrial waste disposal to the EPA (page 379).
6. In 1992, the name of MMBW was changed to become Melbourne Water Corporation. Trading as Melbourne Water, it continues to hold the State’s metropolitan water supply and sewerage works upon that pre-existing public statutory trust. Today, Melbourne Water’s operations are primarily governed by the *Melbourne Water Corporation Act, 1992* and the *Water Industry Act, 1994*.
7. Melbourne Water must “*as far as practicable, perform its functions in a manner consistent with sound commercial practice*” (see s.12 of the *Melbourne Water Corporation Act*). It must also act only in accordance with a corporate plan (s.41) approved by the State Treasurer and the Minister for Conservation and Environment. Nevertheless, Melbourne Water is not, and does not represent the Crown.

8. Accordingly, since 1891, Melbourne Water has been responsible for the management of Melbourne's wastewater, sewerage and trade waste. It utilizes two major waste treatment plants, one of which is the ETP. The operation of the ETP involves the waste being treated and then discharged to the ocean via the outfall located just below the low-water mark at Boags Rocks. Boags Rocks is located within the Mornington Peninsula National Park and is immediately adjacent to the primary recreation area of Gunnamatta Beach and the beachside suburb of St Andrews. A map showing the location of the Boags Rocks outfall and the extent of the 4 km littoral mixing zone is attached as Appendix 2.
9. Originally, the then MMBW was obliged to apply to the EPA for a licence pursuant to the *Environment Protection Act 1970* to discharge the waste into the ocean at Boags Rocks. This licence was first granted on 15 August 1975 and was formally transferred to Melbourne Water on 26 June 1992. On 15 March 1988, the State Environment Protection Policy (Waters of Victoria) ("the SEPP") came into effect. This policy requires the EPA "... shall ensure that any works approval, licence or licence amendment which is granted is consistent with this policy". In the Foundation's submission, the Boags Rocks licence does not comply with and is therefore in breach of the SEPP.
10. On 11 June 1993, the Boags Rocks licence was revoked under s.20(9)(b) of the Environment Protection Act. New conditions were imposed under s.20(9)(c), including a requirement that strategies be developed for reducing the quantities and toxicity of the waste. Melbourne Water and the EPA have been continuously renegotiating the Boags Rocks licence ever since.
11. The EPA is to be commended for continuing to press Melbourne Water for compliance with the SEPP. This pressure has led to the commissioning of many reports, in particular:
 - South Eastern Effluent Ocean Outfall Study (Camp Scott Furphy/Consulting Environmental Engineers, November 1992);

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- Eastern System Strategy, South Eastern Outfall Background Review (Andrew Dunn, July 1995);
- Eastern Treatment Plant Effluent Disposal Review (D A Lord & Associates, March 1996);
- CSIRO Final Report, Environmental Impact Assessment and Review of Effluent Disposal Options for Eastern Treatment Plant (CSIRO Environmental Projects Office, June 1999).

These reports, together with others, are available and will be referred to in what follows.

12. The Boags Rocks licence has always allowed Melbourne Water to discharge up to 770 megalitres per day of ETP effluent from the outfall. In September 1994, Melbourne Water and the EPA entered into a Memorandum of Understanding in which the only reference to the outfall was the parties' agreement to "*... jointly sponsoring a process to reduce community concerns relating to the Boags Rocks outfall*" (Dunn, page 27).
13. In June 1995, Melbourne Water's official view was outlined in a letter to the EPA, namely: "*... in the medium to long term the outfall at Boags Rocks will have to be extended*". In July 1995, the parties agreed (Licence clause 4.21, since deleted) that Melbourne Water must: *a)... undertake and complete an investigation and consultation program, by 30 June 1998, to evaluate treatment, re-use and outfall extension options to improve environmental performance. b) By December 31 1998, the licence holder must submit a report to the Authority for approval, which addresses Melbourne Water's preferred option/s, works program/s and time frame/s for the implementation of option/s as referred to in sub-clause (a). c) The implementation of the approved program of works/processes, as referred to in sub-clause (b), must be completed by 30 June 2002.* (Dunn, page 29)
14. This has resulted in Melbourne Water producing a compendium of material entitled "Sustainable Resource Management at Eastern Treatment Plant: Information in Support of a Works Approval Application" ("SRMETP") which identifies two potential further

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initiatives for amelioration of the discharge impacts in an attempt to comply with the SEPP, namely, tertiary treatment and outfall extension. The costing put forward in the SRMETP for these two initiatives amounts to \$216 million.

15. In anticipation of a Works Approval, Melbourne Water embarked upon a community consultation process that resulted in community unrest. As a result, the EPA took control of the Boags Rocks licence review process.
16. In cases that amount to a “special problem”, the EPA may co-opt a panel of experts (s.13(h)). This has occurred. This panel has specific terms of reference; including, *“advise the Authority on community views and aspirations in relation to the ocean discharge of treated effluent and attitudes to its alternative use”*.
17. On 19 December 2001, Melbourne Water applied for works approval for “upgrade of treatment process to facilitate increased recycling and address environmental impact of effluent discharge. The commencement date for the proposed works is 30 June 2002 and the completion date is 30 June 2008.
18. The panel has conducted an informal consultative process and has now been given the responsibility of convening this s.20B conference. Section 20B of the *Environment Protection Act* provides that the EPA may *“... if it is of the opinion that a conference of persons concerned in any matter under consideration by the Authority may assist in a just resolution of the matter, invite all or any of the interested parties to a conference.”*
19. The following submission will demonstrate that the Boags Rocks outfall is operating in contravention of the SEPP. It shall also identify the relevant factors the EPA can take into account when assessing the present works approval application and concludes that the EPA must introduce a sunset clause into the Boags Rocks licence that prohibits discharge of any effluent after 31 December 2010.

2. Environment Protection of Coastal Waters

1. In 1997, the Victorian Coastal Strategy was endorsed under Part 3 of the *Coastal Management Act 1995*. It sets out the Vision for the Coast as being that “... *the coast of Victoria will be a pleasure to experience by both present and future generations respected by all and recognized as one of the nation’s icons.*”
2. The Victorian Coastal Strategy builds upon the environment protection policies that protect the coastal waters of Victoria. The primary protection policy is the SEPP, which is attached as Appendix 4.
3. The SEPP applies to all surface waters in Victoria, including the ocean area of Boags Rocks (see clause 5 of Part II). The overall goal of the SEPP is to “... *attain and maintain levels of water quality which are sufficient to protect the special beneficial uses of the surface waters of the policy area*” (see clause 4 of Part I). “Beneficial use” is defined in the SEPP to mean “... *a use of the environment or any element or segment of the environment that is conducive to public benefit, welfare, safety, health or aesthetic enjoyment and which requires protection from the effects of waste discharges, emissions or deposits*”.
4. Under the *Environment Protection Act 1970*, the SEPP is required to establish the basis for maintaining environmental quality sufficient to protect existing and anticipated beneficial uses (see s.18 of the Act). The Act further requires that any “... *discharge or deposit of wastes into waters of the State of Victoria shall at all times be in accordance with declared State environment protection policy specifying acceptable conditions for the discharge or deposit of wastes into waters in the environment and shall comply with any standards prescribed therefore under this Act*” (s.38).
5. The *Environment Protection Act 1970* contains the general prohibition on pollution of waters. Section 39(1) states: “*A person shall not pollute any waters so that the condition of the waters is changed as to make or be reasonably expected to make those*

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waters - noxious or poisonous; harmful or potentially harmful to the health, welfare, safety or property of human beings; poisonous, harmful or potentially harmful to animals, birds, wildlife, fish or other aquatic life; poisonous, harmful or potentially harmful to plants or other vegetation; or, detrimental to any beneficial use made of those waters”.

6. Under the Environment Protection Act 1970, premises from which waste is or is likely to be discharged into any waters are identified as “schedule two premises”. The ETP is a “schedule two premises”. Section 20 of the Act prohibits the discharge or deposit from any schedule two premises of any waste into any waters unless the discharge or deposit is licensed under this Act. Accordingly, the EPA is empowered to grant Melbourne Water licenses to discharge into the ocean, so long as the licence and its conditions are consistent with and not in breach of the SEPP.
7. The waters of Victoria are also protected from the marine dumping of wastes through Federal legislation. The Offshore Constitutional Settlement of 1979 was a result of the Commonwealth government being awarded territorial jurisdiction over all coastal waters of Australia from the low water mark (see, *Seas and Submerged Lands Case* (1975) 8 ALR 1) by the High Court of Australia. As Victoria is a party to the Settlement, it is able to enact its own environmental protection legislation. As a result, the Commonwealth has not legislated to protect state coastal waters from pollution discharged from land-based outfalls. Federal approval would, of course, be required for any proposal to extend the outfall.
8. Further relevant environmental protection policies and legislation are found in the National Parks Act 1975. The Secretary of Parks Victoria is required by section 17 of that Act to ensure that the Mornington Peninsula National Park is controlled and managed in a manner that will preserve and protect the park in its natural condition for the use, enjoyment and education of the public.

3. The Special Problem of Boags Rocks

1. The ocean and beaches of and adjacent to Boags rocks are beneficially used for surfing, swimming, diving, beach walking, beach fishing, horse riding and general day use and picnicking. The surrounding land area is within the perimeters of the Mornington Peninsula National Park, which encourages aesthetic enjoyment of its adjacent ocean waters.
2. According to Dunn (1995), “ ... *it is recognized that continued effluent disposal from Eastern Treatment Plant will be a controversial issue*” (page v). Even as far back as 1995, Dunn noted that extensive research would be needed, including a survey of marine habitats and flora and fauna offshore from Boags rocks, the likely dispersal patterns and break down of floatable solids, the pathogen content of waste water discharges and die off rates in the environment and commencement of a major toxicant bio-accumulation study and ecological risk assessment.
3. Following from this recommendation, Melbourne Water commissioned two parallel reports. First, the CSIRO Final Report and, second, the Monash University literature review on the health effects of ocean outfalls and the results from Melbourne Water’s routine *E.coli* sampling. The SRMETP is primarily based on the findings of these reports.
4. The Chair of Environmental Projects Office Steering Committee for the CSIRO, Dr Nan Bray, in introducing the CSIRO report, stated, “... *environmental issues are invariably complex and usually defy simple remedies. The situation at Boags rocks is certainly no exception*”. The report goes on to conclude that the results of the parallel projects “... *show that the licence requirements are being met except in two regards. One is exceedance of the permitted levels of undissociated ammonia outside the allowed mixing zone. The other is a failure to determine whether the impact of the treated waste water discharge on the rocky and sandy intertidal biological assemblages of Bass Strait is increasing or decreasing*” (see, page 57).

5. The Foundation considers that this conclusion is an understatement because the clause 1.5 of the Boags Rocks licence prohibition on visible litter and objectionable odours is continually breached and because that conclusion is referring to the requirements of a licence which itself did and still does not meet the conditions of the SEPP. This point is best illustrated by the map attached as Appendix 4.
6. The map shows the Boags Rocks dissolvable solids mixing zone and also identifies the main beneficial uses within that mixing zone and its contiguous littoral zone. In addition, the map identifies the proximity of the relevant residential areas. These areas suffer from more than just the objectionable odour, they also suffer from pollution of resident's rainwater tanks. The atomization of waste in a high-energy surf and wind environment is a recognized phenomenon. In 1977, a paper published in the USA Journal of Science (Vol. 198; November), it was established that the air just above the ocean could be up to 200 times more polluted than the ocean itself. This is due to the action of air bubbles, attracting viruses and bacteria as they rise to the surface where they form a fine, heavily polluted mist. The report concluded; *“(n)ot only can virus be transferred from the sea to the atmosphere, but its concentration in the aerosol can be many times higher than in the main body of seawater”*.
7. Clause 16 of the SEPP is headed “Mixing Zones”. It states that a mixing zone shall not be designated in four circumstances, two of which are relevant to the Boags Rocks licence.
8. First, “(a) mixing zone shall not be designated in areas important for primary contact recreation” (clause 16(a)(iii)). As the map at Appendix 4 clearly shows, the Boags Rocks licence mixing zone for dissolvable solids encompasses many beneficial use areas, most of which involve primary contact. Attached as Appendix 5 is a letter the Foundation received from Marlee Horobin, a 13 year old student. This letter starts:

“(l)ast Sunday, my family and I went for the short drive down to Gunnamatta to go surfing. After great surf and a fun

day we went back home. Not long after I noticed and felt a sharp pain in my ear, I went down to the local doctor and he confirmed it was a slight ear infection, which is due to pollution in the water. I then knew it was from the waste pipes directing to the water of Gunnamatta. I didn't stop thinking about how terrible it was that they were using a beautiful place as a dumping ground for waste".

The Foundation requested the Surfrider Foundation provide it with any information as to the health impact of the outfall. The "Gunnamatta Beach Survey" was conducted by Surfrider during 1999 and the results of that survey are attached as Appendix 6. The Foundation has made "Medical Response Forms" available to the public, and received approximately 100 responses. All of these are attached as Appendix 7, together with a bar chart that indicates the break-down of the responses by type of disease contracted. In summary of these two surveys, our submission is that any pronouncement that the dissolved solid mixing zone is "safe" is not credible.

9. Second, "(a) mixing zone shall not be designated in recognized spawning areas of aquatic species"(clause 16(a)(iii)). Attached as Appendix 8 is a letter the Foundation has received from the Eastern Zone Rock Lobster Association which states that the ocean area within the dissolved solid mixing zone is a recognized spawning and nursery area for the commercial rock lobster industry.
10. Even were a mixing zone to be a permitted environmental protection measure under the SEPP, clause 16(a)(i) goes on to provide that designation of a mixing zone is subject to the further requirement. The SEPP requires that "... there must be **no** adverse effect on any protected beneficial use within the segment concerned as a result of the presence of the mixing zone". In "Part III – Beneficial Uses to be Protected", the SEPP identifies water based recreation as a protected beneficial use. Primary contact (swimming), secondary contact (boating) and aesthetic enjoyment are protected beneficial uses of the coastal segment and the general

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surface waters segment of the Policy Area (see, clause 7, Table 1). The Foundation submits that the Beach Survey and the Medical Response Forms show there is a significant adverse effect on these protected beneficial uses. The SEPP requires that there be “**no adverse effect**”. This is a mandatory requirement. It does not say “no unreasonable adverse effect”, it says “no adverse effect”.

11. Clause 16(c) (viii) of the SEPP states that “*(w)ithin each mixing zone, waste discharges shall not cause ... contamination of fish or crustacea which causes them to be unacceptable in commercial markets*”. The seafood contamination assessment undertaken by the CSIRO followed a confidential report prepared for it by Brady and Fabris of the Marine and Freshwater Resource Institute, entitled Seafood Contaminant Levels. The Brady and Fabris report used the following species; *Notablus tetricus* (wrasse), *Haliotis rubra* (abalone) and *Pyura stolonifera* (cunjevoi). Notwithstanding the exceedance of toxicant levels in the abalone (nickel), the report recommended that any meaningful toxic bioaccumulation study use translocated mussels (*Mytilus edulis*) because the species used were not suitable for commonsense reasons including the migratory nature of wrasse and the dearth of information as to the ability of those species to bioaccumulate or metabolise the toxicants.
12. Unfortunately, the CSIRO in the later study ignored this recommendation, used the same original species and not relocated mussels and concluded that the results of its analysis must be seen as “descriptive rather than inferential” (page 33, CSIRO Report). According to Melbourne Water in the SRMETP, this amounts to a “pronouncement” that the relevant seafood is safe (see page 28). Not only was this pronouncement not made, contaminated seafood breaches the SEPP.
13. And, clause 17 of the SEPP states “*(w)ater discharges shall not display acute toxicity*”. Waste is deemed to be acutely toxic if “... *more than 50% of a representative test species nominated by the Authority die within a 96 hour toxicity test using 100% waste*”. This simple testing procedure does not appear to have been

followed. Rather, the acute tests used in the bioassay involved various concentrations of effluent in order to show the “no observed effect concentration” (NOEC). The only species that did not die in undiluted effluent were the macroalga in the fertilization period. The CSIRO concluded that 300:1 diluted effluent has no significant measurable effect, but their report does not provide any guidance whatsoever as to whether any species can withstand 96 hours in undiluted effluent. Instead, the CSIRO report states “(i)t could be useful to quantify exposure by some combination of average dilution and contact time” (see, page50). The question remains therefore; why did the CSIRO not use the combination of “undiluted” and “96 hours” set out in the SEPP?

14. Clause 17 goes on to state “*(w)aste discharges shall not be licensed unless there is adequate dilution and toxicant degradation to ensure no chronic or sub-lethal effects on ecosystems outside of the specified mixing zone*”. What constitutes a chronic or sub-lethal effect is not defined. What is clear is that the effluent plume exhibits 11:1 dilution and, at times, the average dilution contour of 20:1 extends up to 1.5 to 2 km each side of the outfall, well outside the present chronic mixing zone (see, Summary of VIMS Model of the Transport and Dispersion of treated Wastewater Discharged at Boags Rocks in the South East Outfall Study). The NOEC dilutions only provide an indicator of what dilutions are safe, not whether the undiluted effluent is toxic. For scallop larvae, for example, a dilution of 200:1 is needed before the larvae are not affected.
15. The mixing zones contained within the Boags Rocks licence do not comply with the SEPP. In fact, the Boags Rocks licence itself provides direct evidence of this problem. Clause 1.7 of the licence states “*the following mixing zones are applicable for the specified water quality indicators within the designated areas in the waters of Bass Strait where the protection of beneficial uses cannot be guaranteed due to the licensed discharge of treated wastewater*”.

In addition, both the Lord Report (page iv) and the VIMS study identify that the effluent plume at times extends offshore beyond the dissolvable solids mixing zone. This itself is a breach of both the Boags Rocks licence conditions and the SEPP, even if it is assumed that the EPA mixing zone designation itself is consistent with the SEPP.

16. The special problems of the Boags Rocks outfall then are primarily centred on the environmental and health impact of the outfall in an area of high beneficial use, next to a seaside suburb and within a national park. Together, these problems have led to a significant groundswell of community opposition to the continued discharge of effluent from Boags Rocks. This opposition is exacerbated by a perceived reluctance on behalf of the Victorian government and its instrumentalities to make a commitment to ending the practice of marine dumping of effluent. Over the last few years, community opposition has evolved from being focused mostly on environmental and health grounds to being also concerned about the obvious waste of the re-usable water resource.
17. Melbourne Water is now considered to be cynically exploiting the ocean to disperse the waste. This behaviour impacts adversely on Melbourne Water's attempts to promote water saving techniques which are, in light of the continued operation of the Boags Rocks outfall, seen by the community to be lacking in credibility. For the Victorian community, Boags Rocks is indeed a special problem. The EPA is to be commended for recognizing this.

4. Relevant Considerations and the EPA's five issues

1. In exercising its jurisdiction under the Environment Protection Act to direct that a licence issue and upon what conditions, the EPA may only take certain considerations into account. In *Phosphate Co-operative Co. of Australia v. Environment Protection Authority of Victoria* (1977) 138 CLR 134, Stephen J held that

“... the essential nature of the Task which the Act calls upon the Authority to perform by means of its licensing powers is to control the discharge, emission and depositing of wastes into the environment to the extent necessary to prevent the occurrence of what the Act defines as pollution. That being the work of the Authority, to be achieved by the exercise of its licensing powers, its concern is with regulation and control of the extent to which wastes are discharged which may adversely affect the environment and not with the economic consequences of preventing or restricting their discharge”(page 137).

2. Section 13(1)(b) of the *Environment Protection Act 1970* relevantly empowers the EPA,

“to be responsible for and to co-ordinate all activities relating to the discharge of wastes into the environment and for preventing or controlling pollution”.

There is no provision in the Act that allows continued discharge of pollution merely because the promoter of the pollution creating scheduled premises says that it intends to pollute less at some undefined point in the future. By section 20C of the Act, the EPA is required to have regard to relevant SEPPs and to ensure that the licensed discharge is consistent with the SEPP.

3. In the Foundation's submission, the current Boags Rocks licence is itself inconsistent with the SEPP (see paragraphs 3.5 to 3.15 above), the less onerous Boags Rocks licence requirements are themselves not being met (see paragraph 3.4 above) and the pollution of this area of coastal water is not being controlled in the manner required by the Act.

4. The ETP Panel has identified five key issues that must be considered in determining the future of the outfall.

5. *1. The Sheer Volume Of Treated Effluent Discharged At Boags Rocks.*

In the Foundation's submission, the fact that there is a lot of effluent is not a relevant consideration for the grant of a discharge licence. Rather, the history of the outfall shows the original discharge was around 60 megalitres a day. Today, the average daily discharge is around 400 megalitres. No strategy employed by the EPA to date has reduced the daily discharge and in fact the licence allows for the discharge of up to 770 megalitres a day. The only way for the EPA to reduce the quantity of effluent is to reduce the permitted quantity of discharge in the licence.

6. *2. The Sustainable Management Of The Biosolids (Dried Sludge) Extracted At The Carrum Plant.*

Approximately 250,000 tonnes of biosolid waste is presently stored at the ETP and is subject to clauses 1.10 to 1.19 in the Boags rocks licence. These clauses relate to the control of pollution emitted from the waste on-site at the ETP. The biosolid problem is beyond the scope of the Foundation's consideration of the Boags Rocks outfall and is certainly not relevant to the grant of a licence to discharge at Boags Rocks.

7. *3. The Quality Of Any Effluent, Albeit A Significantly Reduced Volume, That Is Discharged To The Marine Environment.*

This issue is a relevant consideration and involves the manner in which Melbourne Water is required to treat the waste before it is permitted by the EPA to be discharged. In the Foundation's submission, the treatment required must be treatment to potable standard and this should be a requirement of the licence. This is technically feasible (see CSIRO Final Report – Re-use options at page 53; and see, abstracts from papers delivered to the Enviro2002 conference last week now handed up; and see further, an article from Chemical Engineering in Australia concerning the operation of a potable plant in Caboolture in Queensland). And, it is the only way to achieve consistency with the SEPP because

potable wastewater would not adversely impact upon the beneficial uses in the Boags Rocks area. For example, there would be no need for a dissolved solids mixing zone, no need for a nutrient mixing zone and no need for a chronic toxicant mixing zone.

8. *4. The Need To Locate Decision Making About The Future Of The Eastern Treatment Plant In The Context Of Government Policy For Sustainable Management Of The Whole Water Cycle.*

This issue is not a relevant consideration. There is no mention in the Environment Protection Act or the SEPP of unpublished government policies providing grounds for granting a discharge licence.

9. *5. The Desirability Of Finding Partners For The Development And Management Of The Sewage Assets Treated By The Eastern Treatment Plant.*

This issue is not a relevant consideration. There is no mention in the Act or the SEPP of unspecified potential recycling businesses providing grounds for a discharge licence.

10. As the EPA is restricted to considerations that protect the environment, the Boags Rocks licence must be amended to reduce the area of the mixing zones, decrease the volume of effluent, increase its quality and eventually eliminate the use of the outfall altogether. Accordingly, an appropriate restatement of the relevant issues would be:

- what reduction should there be to the quantity of effluent before the effluent is permitted to be discharged;
- what increases in quality of the effluent should be required before the effluent is permitted to be discharged;
- if mixing zones are required, how will they comply with the SEPP;
- by what date should the outfall be closed.

11. The issues identified by the Panel are clearly of immense significance to the Victorian and Australian communities and are self-evident in their urgency having regard to the long-term sustainable environmental needs of the nation. What is required is clear vision and leadership together with a determination to achieve a co-ordinated societal response to the water cycle needs of Victoria. Steps are being taken through WaterSmart's current inquiry, The Murray River Darling Basin Authority's proposed buy-back of irrigation licenses, the re-direction of river flows into the Snowy, Melbourne Water's call for an expression of interest into aquifer recharging etc.. What is readily apparent from the issues identified by the Panel and implicit in the above programs are the self-evident propositions we outlined in the introduction; water is a scarce, finite and valuable resource.

5. Options for potable re-use not considered

1. The CSIRO investigated fourteen possible approaches to volume reduction. One option reviewed was an indirect potable re-use scheme. Unfortunately, rather than review the various options for re-use of the reclaimed potable water, the review was limited to transferring the potable water to Cardinia Reservoir. The capital cost of treatment and piping to Cardinia was estimated at approximately \$500 million and the study concluded that the discharge of effluent could be reduced by around 95%. Even though the CSIRO Report acknowledges that this “could provide a total solution, which could eventually lead to no ocean discharge” (page 52), no further analysis of this option has been undertaken. Rather, this option was considered to be impractical because of community views concerning adding treated effluent to the urban water supply.
2. In the Foundation’s submission, indirect potable re-use should have been more generally considered. Wastewater treated to potable standard can be used for irrigation or aquifer storage in addition to recharge of environmental flows and water storage replenishment. The Foundation agrees with the CSIRO Report that the “benefit of this proposal is that any capital expenditure is there for the long term” (see page 53).
3. In the Foundation’s submission, failure to adequately consider the only option that would inevitably lead to closure of the Boags Rocks outfall is an example of a phenomenon known as “locked-in failure”. This occurs where necessary infrastructure decisions are not meaningfully considered because of the political appeal of short-term stopgap solutions. Another example of this phenomenon is the outfall itself.

6. Regulatory change

1. The special problem of the Boags Rocks outfall can only realistically be amended by amending the licence to set in place a date by which closure of the outfall must be achieved. The effect of that will be to require Melbourne Water to upgrade the ETP effluent to a potable standard and this objective can be embodied in the licence as one of the “Licence Objectives”
2. To achieve reduction in the quantity of effluent, the Boags Rocks licence should be amended to progressively introduce decreases in the permitted flow. For example, the reference to 770 megalitres maximum daily flow in the licence can be amended to become a reference to 350 megalitres and next year the figure could be dropped even further. By way of a further example, “load-based licensing” could be introduced. This would allow for penalties whenever the daily flow exceeded the reduced flow target in the amended licence and provide Melbourne Water with a commercial incentive to explore and exploit potable re-use options.
3. By far the most important regulatory change is the introduction of a closure date into the Boags Rocks licence. It is not acceptable for the EPA to be satisfied with Melbourne Waters’ 1% effluent re-use to date and to expect that eventually re-use will allow for closure of the outfall. Rather, a licence termination or sunset clause should be incorporated into the licence stating that no permission to discharge from Boags Rocks will be granted after 31 December 2010.
4. It is clear that, unless the EPA amends the Boags Rocks licence, the quantity of the effluent flow from the outfall will continue at current levels, or, more probably, continue to substantially increase for many years
5. In conclusion, the Foundation submits that the EPA has breached the *Environment Protection Act 1970* and the SEPP by granting the Boags Rocks licence. These breaches carry the risk of the EPA or Melbourne Water or both becoming liable for any damage or

nuisance caused by the unlawful pollution. The EPA is restricted in the considerations it can take into account when determining whether to grant a discharge licence and the conditions thereof (see Chapter 4 above). The Foundation urges the Panel to recommend to the EPA that it return to its stated objective of protecting the environment, introduce a closure date into the Boags Rocks licence and solve the special problems it has created to date.

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CLEAN OCEAN FOUNDATION
15 April 2002