

Save Our Shoreline

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14th June 2010

Dr. Tim du Feu
Head of Water Resources
Planning and Environment Department
Howard Davis Farm
Trinity
Jersey

Dear Tim,

Re: Application Number DP(B)2009/03/01 – Application for Energy from Waste Plant – Cooling Water

Re: Application Number DP(B)2009/03/02 - Application for Energy from Waste Plant – Interceptor

Re: Application Number DP(B)2009/03/03 - Application for Energy from Waste Plant – Interceptor

Re: Application Number DP(B)2009/04/01 – Application for La Collette Power Station, Cooling Water Pump House backwash

Re: Application Number DP(B)2009/04/02 – Application for La Collette Power Station, Cooling Water Pump House Interceptor

This submission is the representation from Save Our Shoreline.

SOS submit the following concerns, questions and observations on the above applications. Our recommendations are included. We begin with immediate questions asked by Mrs Lara Luke, our Pollution Consultant, following the meeting last week with 'the Ramsar Management Authority 'Technical Sub Group'. We trust that all operators will address the points in full before any decisions are reached.

QUESTIONS

Re: Application Number DP(B)2009/03/01 – Application for Energy from Waste Plant – Cooling Water

The points made below are the representation from Save Our Shoreline which are to be taken into account with reference to the above application:

- Why does this application for a discharge notice have the same reference number as the one made by SBC Limited last year?
- With reference to the amine biocide that is currently in use by the JEC, we find that the information supplied with the application on this chemical is lacking in several areas.
- Where are the toxicology reports and the risk assessment of the effects of this chemical on the marine biota surrounding the site?
- At what concentration or dilution is this substance a skin irritant? Could it affect the swimmers nearby?
- What if any are the potential chemical reactions with other substances that could occur – worse case scenario.
- Application is not filled out correctly, Part A not completed, there are no details of the length of outfall and distance and depth relative to low water mark as the discharge is to coastal waters.

- What alternatives to using this chemical have been considered?
- Why is a substance which is classed as dangerous to the environment being allowed to pass in to controlled waters?
- Does this biocide bioaccumulate?
- In accordance with Article 4(2) of Regulation (EC) No 2032/2003, biocidal products containing active substances for which a non-inclusion decision was taken shall be removed from the market. Amine is a substance that is due to be phased out of sale during 2011.
- How can a walk over survey assess possible chemical degradation of the area?
- What is the molecular mass of this chemical, how will it disperse in the environment and what is the LD50 of this substance?
- What is the potential chemical loading of the area during its active period taking into account the fact that it will be in the environment and has the biodegradability: 64% (28 days).
- The maximum temperature rise of the trade effluent to be discharged is 12°C, however where are the average/ambient sea temperatures, and what are the likely effects from the difference in temperatures on coastal waters of the Ramsar site and the marine biota?
- How will this discharge affect the large part of the Islands shellfish which is stored in viviers (sea-water tanks) on the Victoria Pier, also the adjacent area to the west of La Collette (Elizabeth Castle) shellfish is also stored in nourrices (floating viviers) considering the high toxicity to aquatic organisms?

Re: Application Number DP(B)2009/03/02 -

and

Application Number DP(B)2009/03/03 - Application for Energy from Waste Plant – Interceptor

The points made below relating to the two applications above, are the representation from Save Our Shoreline which are to be taken into account with reference to the above application:

- What precautionary measures will be used to prevent accidental chemical or oil spills?
- Application is not filled out correctly, Part A not completed, there are no details of the length of outfall and distance and depth relative to low water mark as the discharge is to coastal waters.

Re: Application Number DP(B)2009/04/01 – Application for La Collette Power Station, Cooling Water Pump House backwash

and

Application Number DP(B)2009/04/02 – Application for La Collette Power Station, Cooling Water Pump House Interceptor

The points made below relating to the two applications above, are the representation from Save Our Shoreline which are to be taken into account with reference to the above application:

- With reference to the amine biocide that is currently in use by the JEC, we find that the information supplied with the application on this chemical is lacking in several areas.
- Where are the toxicology reports and the risk assessment of the effects of this chemical on the marine biota surrounding the site?
- At what concentration or dilution is this substance a skin irritant? Could it affect the swimmers nearby?
- What if any are the potential chemical reactions with other substances that could occur – worse case scenario.
- Application is not filled out correctly, Part A not completed, there are no details of the length of outfall and distance and depth relative to low water mark as the discharge is to coastal waters.
- What alternatives to using this chemical have been considered?
- Why is a substance which is classed as dangerous to the environment being allowed to pass in to controlled waters?
- Does this biocide bioaccumulate?

- In accordance with Article 4(2) of Regulation (EC) No 2032/2003, biocidal products containing active substances for which a non-inclusion decision was taken shall be removed from the market. Amine is a substance that is due to be phased out of sale during 2011.
- How can a walk over survey assess possible chemical degradation of the area?
- What is the molecular mass of this chemical, how will it disperse in the environment and what is the LD50 of this substance?
- What is the potential chemical loading of the area during its active period taking into account the fact that it will be in the environment and has the biodegradability: 64% (28 days).
- The maximum temperature rise of the trade effluent to be discharged is 12°C, however where are the average/ambient sea temperatures, and what are the likely effects from the difference in temperatures on coastal waters of the Ramsar site and the marine biota?
- How will this discharge affect the large part of the Islands shellfish which is stored in viviers (sea-water tanks) on the Victoria Pier, also the adjacent area to the west of La Collette (Elizabeth Castle) shellfish is also stored in nourrices (floating viviers) considering the high toxicity to aquatic organisms?
-

(Lara Luke Dip Poll Con (Open) BSc (Hons) Env Studies
Pollution Consultant, Save Our Shoreline.

OBSERVATIONS

1. TTS discharge application: Discharge of run off water from EfW:

Run off will at times be immense at times of heavy rain, given the roof area. We note that run off will be harvested from the building roofs, but the overflow will be piped to the discharge point in the culvert at the northern end of the site. We note that the system has limited capacity and we see this as a planning oversight. We feel that overflow will happen often and water will inevitably spill onto the site. The potential for rainwater to become polluted by inevitable spills of on site oil and chemical pollutants is very real. Will the contaminated run off be directed into the foul sewers and how will it be treated? Where will it eventually exit into the marine environment?

Will water used for washing down plant and floors be directed to the foul sewers, in which case, where will the water be treated, how and where?

2. JEC discharge permit applied for:

Following correspondence with your department we note that the JEC did not have an independent impact Assessment carried out on the use of Seatreat 6 (Nalco 73520) amine biocide treatment to their system. Our query on that had this reply:

[As mentioned, the use of biocide was encompassed within the deemed discharge permit and would have been assessed by the Jersey Electric Health, Safety & Environmental Engineer](#)

This does not class as an independent assessment and we believe is historic, going back to earlier decades, where the use of chemicals was not controlled and standards were not as strict as today (e.g. Public Services methods of disposing of incinerator ash on the beach on the Waterfront).

SOS believe the time has come for a re-evaluation of the use of biocide amines in the marine environment, particularly in the sensitive Ramsar Areas. The JEC is using a deemed permit conditions (reference DPE2200001137) issued on 4th December 2000 and we feel this practice is not acceptable in 2010.

The JEC discharge point no 2 at the back of Victoria Pier is adjacent to the intake pump of the viviers which collects water that may well contain JEC discharge treated water. There may be higher concentrations of biocide at this point. Indeed at the intake point at St.Helier Harbour the 'backwash' water used to keep the intake free of weed could contain concentrations of 1.7 ppm. This is many hundreds of times in excess of the quoted 'safe' 0.02 /0.03 ppm. Our question as to whether testing of viviers water for biocide amines has been done perhaps shortly after dosing?

3. TTS discharge application: Discharge of cooling water from JEC culvert:

It is plain that TTS are expecting this permit to be 'rubber stamped'. They would have known how much cooling water they would need and at what temperature it would exit the culvert so it could have been part of the Planning conditions. Going back to the transcripts of meeting with Planning & Environment and TTS in July and September 2009, there was considerable discussion on the subject of discharge permits. We attach the relevant references to refresh memories.

Note: We submit that TTS are relying on existing 'deemed' discharge permit conditions for both the culvert and the JEC chimney (the next phase). Can we expect a discharge permit to be applied for using the JEC chimney 'within the deemed discharge permit'? If so this will not be acceptable.

As to the volume of warmed water, treated by the JEC before entering the plant using Nalco Seatreat6. The volumes quoted are 60,000 cubic metres a day, 24 hrs a day 7 days a week. This equates to 13.2 million gallons a day or the volume of 24 Olympic swimming pools. TTS argue that the strong tidal flow will dissipate the biocide quickly and this volume of water will not change the marine environment.

We believe that this is not the case. The culvert exits into the bay in an area which dries out twice a day for many hours. On neap tided the flow is slack. This area is already degraded as evidenced by the Plymouth Marine Laboratory report entitled 'Review of the current ecological status of the SE coast Jersey Ramsar Site' commissioned by WEB and the Environment Department and published in October 2009 (and not made public until very recently). The report recommends: **'protecting environmental quality across beaches and coastal waters is a highly significant component of maintaining the island's prosperity, and the Ramsar designation is a key tool to assist Jersey government in achieving this.'**

Even if the water were not treated the volume of water carrying a temperature uplift on ambient seawater temperatures of anywhere between 8°C and 12°C (depending on operational circumstances) would alone have an impact on the eco systems of bay. It is noted that the departments feel that there will be no impact therefore there would be no need to inform Ramsar. We disagree, even on precautionary grounds and, dare we say so, on grounds of common politeness given that Jersey is a signatory to the Convention and has recently been requested by Tobias Salathé, Senior Adviser, Ramsar Directorate, to provide a report of the likely effects of EfW on the Ramsar Site.

RECOMMENDATIONS

1: That the practice of pumping biocide into the marine environment be stopped and another method found.

2: That before any discharge permits be given on the cooling water for EfW, an Independent Environmental Impact Assessment be undertaken on the likely impact of pumping 13.2 million gallons of heated (and biocide treated) water a day into Havre des Pas bay.

Only when pertinent facts are established, safety issues agreed, we suggest, can consents be given.

We have this week also heard from Mr. Rob McInnes, of Bioscan UK, independent adviser to the Environment Scrutiny Panel who says this: **'Given the recommendations provided in the Scrutiny Review report, the appropriate regulation of any discharge consents is an opportunity for P&E to demonstrate that they have taken on board the suggestions made and that the discharge of potentially damaging substances to the marine environment is avoided'**.

Yours Sincerely

David Cabeldu
Co-ordinator
Save Our Shoreline
www.jerseyinperil.com

Below: Excerpts from two Scrutiny hearings 2009 (relevant to Discharge permits)

8/07/09 Ramsar Review (Planning & Environment) excerpt:

The Deputy of St. John:

Yes, who is responsible for issuing and policing consents to discharge in Jersey?

Mr. W. Peggie:

Environmental Protection. Planning and Environment.

The Deputy of St. John:

That is part and parcel of your department, is it not? Yes. What are the details of the existing formal consent to discharge into the Ramsar site from the J.E.C. (Jersey Electricity Company) power station?

Mr. W. Peggie:

Again, a prepared answer. "In accordance with the Water Pollution (Jersey) Law 2000, schedule 5 a deemed discharge permit, reference DPE2200001137, which was issued to the Jersey Electricity Company in respect of the power station at La Collette on 14th December 2000. This was in response to an application received from the company on 17th November 2000. The deemed permit allows the applicant to continue to make a discharge in accordance with their application until such time as the regulator is satisfied, then a more specific certificate will be issued. The application submitted was for the potential discharge of residual chemicals from the various treatment processes onsite which includes, biocides to control the marine growth within the cooling system in the discharge pipes, scale and corrosion and deposition inhibitors to prevent build-ups and prolong the life of the cooling system, boiler washing treatment chemicals, chemicals to treat boiler steam condensate, oxygen scavenger treatment, boiler water internal treatment chemicals, diesel treatment chemicals and chemicals to pre-treat the reverse osmosis of coagulants. It should be stressed that the above chemicals are those which are applied as part of the treatment processes at the power station and do not reflect the concentration of determinants entering the environment. Many of these materials may not be present in the discharge at all but their inclusion in the discharge permit application is in line with the precautionary principles. Environmental Protection worked closely with the J.E.C. in respect of this application and together successfully removed some of the potential contaminants from the original application which is now regulated under trade effluent consents.

Mr. R. McInnes:

So there are no actual levels specified in terms of hydro chemical levels or thermal levels in terms of actual values?

Mr. W. Peggie:

They are under review constantly and we have now knocked down about 15 of the 20 applied chemicals that were required or were specifically ...

Mr. R. McInnes:

But within the consent, are there actual chemical levels set?

Mr. W. Peggie:

Not determinant levels, no.

The Deputy of St. John:

Why did anyone not, in the Planning and Environment Department, identify that the representation of facts regarding discharge consents were at best disingenuous and, at worst, simply incorrect?

Mr. R. McInnes:

I think there is something like 23 occasions where there is reference made to the existing consent. There are no details given on that consent anywhere within the E.S. and it says that the discharges will be within terms of that consent but if that consent has no actual level, well, first of all it is not specified and then

secondly it does not have any levels, then it seems somewhat disingenuous to say: "We are going to be matching that consent" when the consent first of all has not been explained.

Mr. W. Peggie:

I think it is fair to say that that is an aspirational statement which reflects the fact that they will indeed meet those consent levels because by the time the applications were required ... or by the time that the discharge is required a consent will have been drafted in order to ensure that it adequately reflects the need to protect the environment outside.

Mr. R. McInnes:

So that will be done retrospectively?

Mr. W. Peggie:

No, it will be done prior to discharge but it requires more work on behalf of T.T.S. and on behalf of our department to collaborate together to work out exactly what they are proposing to discharge the discharge.

Mr. R. McInnes:

Right, okay, that is dealt with, okay, that is dealt with sufficiently within the E.S. not to warrant a reserve matters issue?

Mr. W. Peggie:

I think it is a requirement of the water pollution law that a discharge consent specifically for that site will be required, so it is something that we would expect the applicants to undertake anyway.

Mr. R. McInnes:

Right, okay.

The Deputy of St. Mary:

Can you confirm about the J.E.C. discharges that are now approved under this deemed permit? You said that the various chemicals may not be present, implying that they may be present. I mean, just confirming that all 20, I think you said ...?

Mr. W. Peggie:

That is correct. There are somewhere in the region of 20 chemical determinants that were applied for within the confines of the application for that consent. We have worked with J.E.C. to remove the majority of those and continue to do so to ensure that they have got a workable permit for ultimate discharge so, while we are including these chemicals from the discharge consent application perspective, on a precautionary principle to ensure that if they exceed we are going to have levels of these sorts of things going out of the site, then we know what they are.

Mr. R. McInnes:

In terms of thermal discharge?

Mr. W. Peggie:

That is included as well.

Mr. R. McInnes:

Right, can we get those details tomorrow?

Mr. W. Peggie:

Thermal is dealt with in 16(4)(2) in the E.S.

The Deputy of St. John:

Okay, no factual values are provided in the E.S. regarding thermal discharges to the marine environment. Were these covered as part of the scoping exercise? If so, were they in the documented evidence?

Mr. W. Peggie:

I refer you to 16(4)(2) for thermal discharge. Again, let me just clarify whether ... we can discuss whether there is any more specific requirement there under. No direct thermal discharge to the water.

The Deputy of St. Mary:

So does the thermal discharge from the J.E.C. come under that consent we have just been talking about or is that also no consent? It comes under the 2000 consent?

Mr. W. Peggie:

J.E.C. does.

The Deputy of St. Mary:

The thermal?

Mr. W. Peggie:

Yes.

The Deputy of St. John:

Okay, you do not look happy with that answer.

Mr. W. Peggie:

I am still intrigued about your prior question in respect of the treatment of thermal discharge which I think has been adequately alluded to in 16(4)2 in the E.S.

Mr. R. McInnes:

I think, again, it comes down to providing empirical evidence to substantiate statements. Given there is monitoring at the power station of thermal discharge, it is alluding to the point we were making earlier on about having some sort of ... if a member of the public picks up an E.S., they should be able to say: "That is the existing thermal discharge; X degrees and the new discharge will be Y degrees and Y is less than X so there is no problem."

Mr. W. Peggie:

Which I accept it cannot be picked up from the E.S. itself but can be picked up from background detail.

Mr. R. McInnes:

No, not at all. But it cannot even be picked up from understanding the consent because the consent does not have an actual value for thermal discharge.

Mr. W. Peggie:

Not yet but there is a proposed ...

Mr. R. McInnes:

But that that is an exercise that is going to come; this is part of the E.S., so you cannot predicate an E.S. on a decision that might be made in the future; it has got to be based on the facts now, otherwise, the E.S. is flawed. So one would expect to have, even if it is not a consented value at least the range of values of the thermal discharge and what the proposed new thermal discharge might be but, again, it is the transparency of the data presentation. I hope that clears the confusion.

Mr. W. Peggie:

Yes, I understand where you are coming from.

18/09/09 Ramsar Review (TTS) excerpt:

Mr. J. Richardson:

I also think we had to consider the scale of impact, potential impact, from the E.f.W. (Energy from Waste) discharge compared to the last 40 years of discharge from the Jersey Electricity Company.

The Deputy of St. Mary:

Any other questions?

Mr. R. McInnes:

Can I just pick up on that one? You said against the baseline surely? Yes, and that baseline exists then to be able to do that?

Mr. J. Richardson:

Jersey Electricity Company has been discharging there for 40 years.

Mr. R. McInnes:

So the change of having the new Energy from Waste plant, the change on that baseline that you just said that has been happening for all these years, would have been assessed?

Mr. W. Gardiner:

No, the Jersey Electricity Company power station was in place before the Ramsar designation was set so it is part of the Ramsar baseline. Our approach to cooling water is set out very clearly in the environmental statement. The impact of the Energy from Waste facilities is less than 10 per cent of the consented level identified for the J.C.(?) power station, the level of operation of the J.C. power station is produced and any subsequent discharge from the Energy from Waste facility is subject to a discharge consent application so the environmental statement sets out the principles. The detail will be determined through a discharge consent application.

Mr. R. McInnes:

From our previous discussions, Mr. Gardiner, we discussed the discharge consent issue. I think it is somewhere around about 23 times it is referred to in the E.S. discharge consent. The new Energy from Waste plant would not breach the existing discharge consent. Do you accept that as being correct?

Mr. W. Gardiner:

That is the approach we have been taking.

Mr. R. McInnes:

It is also correct that the discharge consent has no contamination levels set in either temperature or concentrations?

Mr. W. Gardiner:

My understanding is the written discharge consent does not have those levels, but there has been a lot of correspondence between the Environment Regulator and the company concerned which we are not party to which defined very clearly what levels are acceptable and what are not.

Mr. R. McInnes:

When the E.S. says it will not exceed the existing levels within the discharge consent or not, and it will comply with the existing discharge consent, there is no commitment there in terms of a thermal limit or a concentration limit because there are no levels set?

Mr. W. Gardiner:

There are no levels set in the written documentation is my understanding but there is a good understanding from the Environment Regulator and discussions took place between themselves and the Environment Regulator to identify what the scale and impact of both those factors would be from the Energy from Waste facility and, therefore, the principle that we have set out in the approach set up within the Environment Statement was accepted as reasonable by the Environment Regulator but, as I have said, that would be subject to a detailed application discharge consent.

Addendum to the representation from Save Our Shoreline dated 14th June 2010.

Nalco Amine Biocides

1: Most of the Nalco Amine products rely on bentonite clay deactivation processes before safe discharge. Is this the case here and where and how is it performed? If not then why not? (Most seem to need a 5:1 dosing regime into the final efflux to fit American EPA requirements).

2: LD50 is an extreme measure in this context surely the LC 0.5 or suchlike is more appropriate measure, but where is the data to support this in the application?

3: We are told that the JEC Health and Safety Officer has assessed the use of Nalco Seatreat6.

a) Was this assessment carried out prior to the 'deemed' permit issued in 2000?

b) Were regular updates carried out as time went by and regulations and awareness of the marine environment improved?

c) Is the JEC Safety Officer qualified in Marine biology / toxicology? If not, which sources did he rely on? If Nalco, please see recent criticism of Nalco on their lack of human safety testing/data with regard to the current Gulf of Mexico oil disaster (use of untested oil dispersants. Link from our web site).

contd:

Application Number DP(B)2009/03/01 – Application for Energy from Waste Plant – Cooling Water Water Temperature and oxygenation issues:

Heat. We would suggest that in this context (Ramsar) that this is in fact a very major issue. What is important here is not the general heat rise but the induced oscillations between temperatures at certain times. At neap tides a pool of slightly elevated temperature water could sit in the area for days, and at other times be purged almost immediately.

Take a scenario of a seemingly insignificant interstitial archianellid such as *Protodrilus symbioticus* (a species that few people would have realise even existed) some 300m from the discharge point, on a normal April day, on a spring tide.

When the tide is up it will be at 10°C with 100% saturation of oxygen, when the tide goes down it will either remain in those conditions, stream dependent, or immersed in 22°C with only 33% saturation. This bring the anoxic level to the surface of the sand and they all die at that point.

Although *Protodrilus* is not well known to the general public, it shows how this discharge can have unseen negative effects its a good one. And and of course it could well have an LD50 dose of amines on it as well.

We can't see how this fits 'wise use'?

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