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July 13, 2015

Jeannie Townsend
Clerk to the Board
1001 I Street, 24th Floor
Sacramento, CA 95814



Dear Ms. Townsend:

Subject: Comment Letter – Once Through Cooling Policy Mitigation Fee Delegation Resolution

The Los Angeles Department of Water and Power (LADWP) appreciates the opportunity to comment on the recently noticed Once Through Cooling (OTC) Policy (Policy) mitigation fee delegation resolution. LADWP is thankful for the State Water Resources Control Board (SWRCB) staff for taking the time to work on the mitigation fee required by the Policy. The Policy requires that interim mitigation fees be paid for those units utilizing OTC until these units are in compliance with the Policy. Per Section 2. C. (3) , of the Policy, the interim mitigation fee becomes effective as of October 1, 2015.

LADWP will have 7 units remaining on OTC as of October 1, 2015, and then six as of December 31, 2015. LADWP has chosen a compliance path that completely eliminates OTC, thereby eliminating all impingement and entrainment impacts, as LADWP implements its compliance schedule and takes each unit off OTC in a carefully sequenced plan. A sequenced plan is necessary because LADWP's power plant sites are constrained and all units must remain available until new units are in service.

LADWP is unique among California utilities impacted by the OTC elimination requirement: It is its own balancing authority and must oversee generation, transmission and distribution facilities and operations.

LADWP's OTC units are designated "reliability must run" units; they must remain available and operational to ensure LADWP's compliance with the reliability standards set forth by the North American Electric Reliability Corporation.

These units are also critical to maintaining voltage support and balance to LADWP's entire electric power system. The western and southern portions of LADWP's service

territory are situated in a power “cul-de-sac” that cannot be fully supplied by power imported from long-distance transmission lines or other local generation. The nearby OTC stations are the only resources that can supplement the imported power necessary for reliable supply to these areas. As LADWP works toward a 33% Renewable Portfolio Standard (RPS), dependable, quickly available power sources – primarily LADWP’s OTC units - are necessary to integrate intermittent renewable power.

LADWP provides the following comments:

General Comments

It appears that the policy mixes OTC mitigation and desalination mitigation. It is important to consider facility lifespans for each when determining the mitigation fee. All fossil-fueled OTC power plants have a transition to non-OTC or closure date planned. Desalination plants are just now being built with, presumably, multiple decade lifespans. Therefore, seawater withdrawal mitigation is necessarily different for each. The Expert Review Panel II (ERP II) was convened to discuss seawater withdrawal mitigation fees for both OTC and desalination, but the information sheet and supporting documents do not differentiate between the two, especially as it pertains to project timelines.

Specific Comments

Information Sheet Item 3.

The management and monitoring fee is proposed as an alternative for depreciation of the mitigation project under the assumption that management and monitoring would ensure the mitigation is successful and compensatory. Facility owners who choose to support the State’s preferred mitigation alternative will pay for mitigation per paragraph 2. C. (3)(e) of the Policy. There are likely to be projects undertaken by the California Coastal Conservancy (CCC), such as land acquisition, which may have very limited need for monitoring. There are also likely to be projects that may require extensive monitoring for a short period of time relative to the potential life of the project. Therefore, an escalator for monitoring and management such as the 10% figure proposed in 2012 seems more appropriate.

Furthermore, the life span of the mitigation project will undoubtedly exceed the 2–15 years that interim mitigation is needed for each facility. There is no accounting for the value of many of these projects which could continue in perpetuity.

Taking the average entrainment fee calculated from recently completed projects is in fact the simplest approach. This is a point where the blanket application of the mitigation fee concept is being applied to OTC and desalination without accounting for the lifespan

of each. Similarly, the timeline to begin the mitigation project is not a critical issue to OTC facility owners. Predicting when the CCC may initiate a project with these funds may not be possible given the range of potential factors that will undoubtedly factor into the project selection and timeline. Ultimately, the actual funds the CCC will receive are directly tied to the cooling water volumes circulated by each OTC facility subject to interim mitigation. Weather conditions and power demand will also dictate this and ultimately dictate the mitigation fee the CCC receives. Therefore, facility owners should not be required to pay a premium for hypothetical situations and be responsible for compensating the State under the OTC policy requirements using present day dollars.

With regards to the \$0.80 per pound of impingement charge, the valuation includes indirect value to the economy which is not included in the entrainment mitigation, therefore LADWP believes that the number should be closer to \$0.41.

Comments on Appendix 1.

Appendix 1 was prepared by Dr. Peter Raimondi and served as the supporting material for the information sheet released by the State. Here the concepts of monitoring, maintenance, and remediation were introduced. These were departures from prior mitigation fee calculation guidance documents released by the SWRCB staff. During the Desalination Policy consideration period, the ERP considered mitigation for desalination intake. Dr. Raimondi derived a cost range of \$1.66 to \$3.28 per 10⁶ gallons based on four wetland restoration and one artificial reef project. The average cost was \$2.45 per 10⁶ gallons. To calculate the costs per 10⁶ gallons, Dr. Raimondi used the following formula:

Cost per 10⁶ gallons = Project cost / flow volume (mgd) / 365 days

In addition, Dr. Raimondi factored in (1) a cost escalator of 3% per year, and (2) an estimated project half-life.

For Huntington Beach Generating Station (HBGS), the costs he used were as follows:

Project cost = \$4,927,650

Flow volume = 126.5 mgd

The cost per 10⁶ gallons was: \$106.7 per 10⁶ gallons.

Dr. Raimondi further applied a 3% annual escalator to account for the time from when the costs were derived and 2012. For HBGS, this increased the cost to \$116.62 per 10⁶ gallons. Lastly, he divided the cost per 10⁶ gallons by the estimated half-life of the restoration project (50 years) to derive the final cost of \$2.33 per 10⁶ gallons per year. If one closely looks at his table in the ERP document, it does not look like the full table was included. The key includes blue cells for "cost projection" that are not shown.

In the updated 2015 document issued by the SWRCB, Dr. Raimondi's table differs in the following ways:

1. The fee has increased because more years have progressed since the 2009 cost estimate. The \$116.62 above is now \$147.73.
2. The life of the restoration project is now 30 years instead of 50 years, but this could be changed. If you are required to pay for maintenance and monitoring, then presumably a wetland restoration project should last much longer than 30 years. Dividing \$147.73 by 30 yields \$4.92 per 10^6 gallons for the HBGS.

Dr. Raimondi also adds:

1. A 10-25% "management and monitoring fee" (M&M) is included. Dr. Raimondi does not cite how he derived the 10-25% range, but 20% appears to be on the high end. At Malibu Lagoon, monitoring estimates ranged from 0.4% to 1.2%. The 10 – 25% for M&M is not appropriate because the costs are already conservative and the projects will provide benefits for decades that would far exceed the costs of monitoring.

Therefore, using data in Dr. Raimondi's examples, the \$4.92 for HBGS would be equivalent to:

- $\$4.92 \times 126.5 \text{ mgd} \times 365 \text{ days} = \$227,169$
- $\$0.80 \text{ per pound impinged} \times 2,686 \text{ pounds per year} = \$2,148.80$
- $20\% \text{ M\&M} = 45,863.56$

Total cost would be \$275,181.36 per year, or \$5.95 per 10^6 gallons.

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In closing, LADWP also attaches the technical memorandum dated July 10, 2015, by John Steinbeck¹. LADWP suggests that the SWRCB may want to employ a resource economist to better determine the mitigation fee approach. LADWP sincerely appreciates the efforts involved in drafting the proposed resolution for the OTC mitigation fee. LADWP looks forward to working with SWRCB staff on finalizing a fee that will be used to benefit the environment.

If you have any questions or require additional information, please contact Ms. Katherine Rubin of the Environmental Affairs Division at 213-367-0436.

Sincerely,



Mark Sedlacek
Director, Environmental Affairs

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Enclosure

c: Ms. Felicia Marcus, Chair, SWRCB
Ms. Fran Spivy-Weber, Vice Chair SWRCB
Ms. Tam Doduc, SWRCB
Ms. Dorene D'Adamo, SWRCB
Mr. Steven Moore, SWRCB
Ms. Katherine Rubin, LADWP

¹ SWRCB Expert Review Panel Member 2011 and 2012.



TECHNICAL MEMORANDUM

July 10, 2015

To: Ms. Katherine Rubin, LADWP
Cc: Mr. Shane Beck, MBC Applied Environmental Sciences
Mr. Eric Miller, MBC Applied Environmental Sciences
From: John Steinbeck, TENERA Environmental
Subject: Comments on recent mitigation fee proposal from SWRCB
Document: ESLO2015-13

This memorandum provides comments on the information in Appendix 1 of the Proposed Resolution Delegating Authority to the Executive Director to Approve Interim Mitigation Measures under the Once-Through Cooling Policy Information Sheet published by the State Water Resources Control Board (SWRCB) in June 2015 (2015 Proposal). My comments on the approach provided in Appendix 1 are based on my experience working on the SWRCB Expert Review Panel (ERP) in 2011 and 2012 that produced the original mitigation fee proposal (2012 Proposal).¹ The mitigation fee proposal from 2012 was reviewed and discussed by the members of the ERP.

It is unclear whether the 2015 Proposal received the same level of review that occurred for the 2012 Proposal. There are no references provided in the report. This is important because of the changes in at least three of the assumptions in the 2015 Proposal.

The first assumption is related to the life of the projects. As stated in the 2012 Proposal “. . . I made the (very) simplifying assumption that the half-life of the restoration or mitigation project was 50 years. (Note that this assumption, along with discounting rate is adjustable in the model). Half-life is the midpoint in the expected life of the restoration project and is the point where the resource value conveyed is expected to be 50% of as-built, in the absence of further funding. This is an important assumption and one that should be discussed. The main implication of this assumption is that it affects the discounting of the fee.” This assumption affects the period of time that a project is providing value and the declining value of the benefits with time. It is not related to the “degradation of the mitigation project over time”, as stated on page 3 and 9 of the 2015 Proposal. There is no indication that the change in the half-life of the project in the 2015 Proposal from 50 to 30 years was discussed since, as stated in the 2012 Proposal, the value is critical to the calculations. In fact, a properly designed mitigation project should continue to

¹ Mitigation and Fees for the Intake of Seawater by Desalination and Power Plants. Final report submitted to Dominic Gregorio, Senior Environmental Scientist, Ocean Unit, State Water Resources Control Board (SWRCB) in fulfillment of SWRCB Contract No. 09-052-270-1, Work Order SJSURF-10-11-003. By: Michael S. Foster, Gregor M. Cailliet, John Callaway, Peter Raimondi, and John Steinbeck. 14 March 2012.

provide benefits in perpetuity, but during the ERP discussions in 2011–2012 we agreed that 100 years was a reasonable time period to use in the calculations. In rereading the 2012 Proposal, I now see that the concept of discounting and degradation are somewhat confounded in the text. In fact no discounting is applied in the calculations.

As indicated above, discounting should be applied to account for the declining value of a project with time. The discounting is not related to the “degradation” of the project. Using the logic on page 3, there would be no discounting applied to the fee if the initial costs included maintenance and monitoring. In reality, the discounting occurs due to the time value of the money. A dollar today is worth more than a dollar next year, and the standard value for annual discounting applied in similar restoration projects is 3.0%.

It is unclear in the calculations whether the Estimated Annual Costs are averaged based on the expected life of the plant or the mitigation project. Based on the assumption that the mitigation project is fully replacing the entrainment losses after 5 years, the costs would be divided by the life of the intake – not the mitigation. If this is the case, then the mitigation fee needs to be adjusted based on the projected life of an individual project, and it makes no sense to calculate an “average” fee.

In its current form, the approach does not provide any accommodation for the time value of the project. For example, if the life of a project is 100 years, the total value of \$1 in mitigation at the start of a project will provide with a discount rate of 3% over \$30 dollars in benefits (value). In actuality, with 3.0% discounting, it will take several hundred years before the value approaches zero. Conversely, the cost of completing the same mitigation project would increase over time. If the inflation rate is assumed to equal the discount rate, the Estimated Costs at Time of Projection would be divided by the projected years of the project impacts to determine an annual cost. As noted above, this will be project dependent. The methodology does not account for the continued value of the project that could extend out over several decades (100 years in the 2012 Proposal).

This interpretation of the fee ties into the second assumption in the approach related to the costs of monitoring and management. For the 2012 Proposal, we assumed a cost of ~10% to cover management of the projects, although the final report included a range from 10–25% to cover the costs of monitoring the success of a project. The addition of this to the final costs is problematic since the facilities paying into the state fund will have no control over the success of the project. Therefore, this presents two scenarios. The first scenario is based on the approach provided in the 2015 Proposal where a markup is added to the cost to cover monitoring and management. This additional funding helps ensure that the mitigation project is providing 100% of the necessary benefits over the life of the intake (**Figure 1**). The second scenario would provide funding for the mitigation project which at the completion of construction would start declining in value (**Figure 2**). In both scenarios, the benefits need to include the time out to the effective life of the project (100 years in the 2015 Proposal).

The third change in the 2015 proposal relates to the escalation in the mitigation costs at a rate of 3% per year for 5 years to account for the “cost projection year”. There is no economic justification for doing this. The economic role of cost escalation in determining the entrainment fee is to adjust estimated costs from the date of the mitigation cost estimate to the year 2015. For example, the mitigation cost estimate for the Moss Landing Power Plant was derived in the year

2000, and the ERP II final report escalates these costs at a rate of 3% per year from a cost of \$15.1 million in the year 2000 to \$23.5 million in the year 2015. One way of understanding the economic rationale for this approach is that the cost escalator essentially accounts for price inflation in the economy: Between 1999 and 2014, price inflation occurred in the U.S. economy at an annual rate of 2.4%. There is no commensurate justification for escalating cost in the entrainment fee calculation for 5 additional years beyond 2015 to account for the “cost projection year”. If entrainment fees commence in 2015 and are adjusted annually for inflation, the entrainment fees paid in 2015 grow over time to match the escalation in mitigation cost. The suggested discount rate for natural resource damage assessment provided by NOAA (1999) is 3%, which implies a rate of return in alternative investment that exactly offsets the assumed escalation in cost. Escalating costs for 5 years in the basis of the entrainment fee and also adjusting the fee upwards each year to account for inflation amounts to double-counting. An economically accurate entrainment fee is based on 2015 mitigation costs (per MG of intake), adjusted annually for inflation.

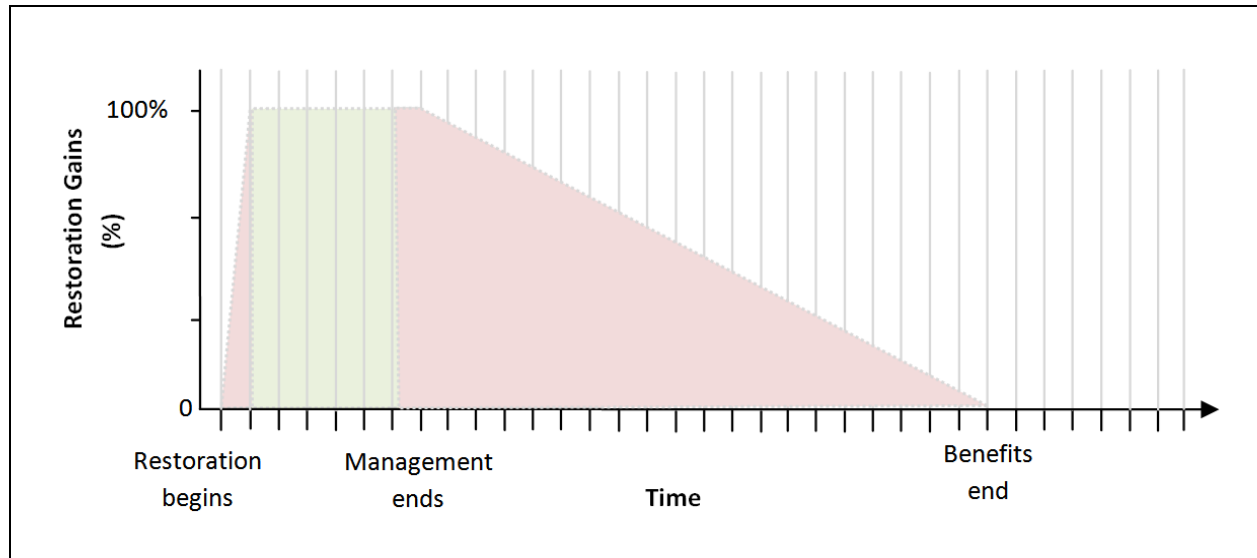


Figure 1. Model of restoration gains with monitoring over the life of the project. Only the gains in green are accounted for in the approach presented in the 2015 Proposal.

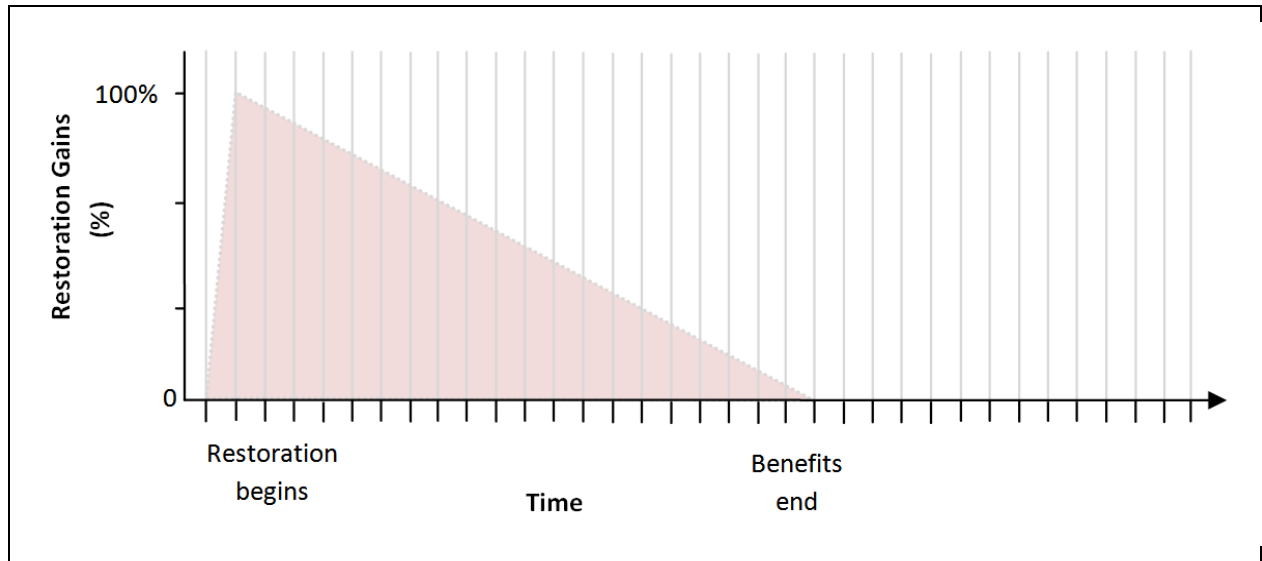


Figure 2. Model of restoration gains with no monitoring over the life of the project.