POSEIDON WATER

Appendix JJ
Appendex A Errata

Renewal of NPDES CA0109223
Carlsbad Desalination Project

Appendix A - Errata

Expanded Carlsbad Desalination Project

Compliance with the Amendment to the Water Quality Control Plan for Ocean Waters of California Addressing Desalination Facility Intakes and Brine Discharges

August 2016

Appendix A
Expanded Carlsbad Desalination Project
Compliance with the Amendment to the Water Quality Control Plan for Ocean Waters of California Addressing Desalination Facility Intakes and Brine Discharges

Ocean Plan Section	Applicable	Key Recommendations, Conclusions, and Findings	RCF Ref
III. M. Implementation Provisions for Desalination Facilities			
e. Mitigation			
(7) For conditionally permitted facilities or expanded facilities, the regional water boards may:			RCF 76
(b) Require additional mitigation when making a new Water Code section 13142.5(b) determination for any additional mortality of all forms of marine life resulting from the occurrence of the conditional event or the expansion of the facility. The additional mitigation must be to compensate for any additional construction, discharge, or other increases in intake or impacts or an increase in intake and mortality of all forms of marine life.	Yes	The impacted area of the marine environment and mitigation requirements for the existing CDP are shown in Table 7~~6~~. The impacted area of the marine environment and mitigation requirements for the Expanded CDP with an assumed 100% mortality are shown in Table 8~~7~~. As noted in Tables 7~~6~~ and 8~~7~~, the expansion of the CDP does not result in any additional mortality of all forms of marine life. The previously approved mitigation is adequate for both exiting and expanded CDP.	RCF 78

Table 7.
Existing CDP Impacted Area and Mitigation Requirements

Impact	Impacted Area	Mitigation Required	Confidence Limit	Reference
100% mortality of all form of marine life entrained by 304 mgd intake	113 acres[1]	55.4 acres[2]	80%	Page 20 of Appendix 2 of Appendix K
4.5 kg/day of impingement	11 acres	11 acres	NA	
Zone of Initial Dilution semicircle extending 1,000 feet off the discharge structure	36 acres`	0 acres	NA	
Total	**160 acres**	**66.4 acres**		

1. See Appendix R, page 11.
2. See Appendix R, page 14.

Table 8.
Expanded CDP Impacted Area and Mitigation Requirements Assuming 100% Mortality

Impact	Impacted Area	Mitigation Required	Confidence Limit	Reference
100% mortality of all form of marine life entrained by 299 mgd intake a less 1% credit for 1 mm screening technology per Section (e).1.a. above which provides: The regional water board may apply a one percent reduction to the APF acreage calculated in the Marine Life	84.3 acres[1]	64.5~~65.1~~ acres	95%	Page 8 of Appendix K

Mortality Report to account for the reduction in entrainment of all forms of marine life when using a 1.0 mm slot size screen.					
0 kg/day of impingement	0 acres	0 acres	NA	0.5 fps through-screen velocity coupled with fish return system is considered best available technology for impingement control.	
Brine Mixing Zone semicircle extending 656 feet off the discharge structure	15.5 acres	1.6 ~~15.5~~ acres	NA	Per Ocean Plan Section L.M.2.e.(2).(b).(vi)., the Regional Board may apply a mitigation ratio based on the relative productivity of the impacted habitat. The mitigation ratio shall not be less than one acre of mitigation habitat for every ten acres of impacted open water or soft bottom habitat. As noted in Table 7 of Appendix A, a 10:1 ratio was used by the Coastal Commission for the open ocean habitat impacted by the Project based on the relative productivity of the impacted open ocean habitat to the expected productivity of the intertidal wetlands restoration project to be constructed under the MLMP. For consistency purposes, the same rationale should be applied to the soft bottom habitat within the BMZ as allowed under the Ocean Plan. With this correction, the acres of intertidal wetlands to be provided as mitigation for the soft bottom habitat within the BMZ would be 1.6 acres rather than 15.5 acres as previously indicated.	
Total	**99.~~85~~ acres**	**66.1 ~~80.6~~ acres**			

1. See Appendix K, page 8.

3 Receiving Water Limitation for Salinity			
d. The owner or operator of a facility that has received a conditional Water Code section 13142.5(b) determination and is over 80 percent constructed by [the effective date of this plan] that proposes flow augmentation using a surface water intake may submit a proposal to the regional water board in consultation with the State Water Board staff for approval of an alternative brine mixing zone not to exceed 200 meters laterally from the discharge point and throughout the water column. The owner or operator of such a facility must demonstrate, in accordance with chapter III.M.2.d.(2)(c), that the combination of the alternative brine mixing zone and flow augmentation using a surface water intake provide a comparable level of intake and mortality of all forms of marine life as the combination of the standard brine mixing zone and wastewater dilution if wastewater is available, or multiport diffusers if wastewater is unavailable. In addition to the analysis of the effects required by chapter III.M.2.d.(2)(c), the owner or operator	Yes	Poseidon has received a conditional Water Code section 13142.5 (b) determination and the CDP is over 90% complete with construction. Poseidon proposes flow augmentation using a surface water intake and is requesting the Regional Water Board in consultation with the State Water Board staff approve of an alternative brine mixing zone not to exceed 200 meters (656 ft.) laterally from the discharge point and throughout the water column. Poseidon has demonstrated in accordance with chapter III.M.2.d.(2)(c), that wastewater dilution is not available, and that the combination of the alternative brine mixing zone and flow augmentation using a surface water intake provide a comparable level of intake and mortality of all forms of marine life as the combination of the standard brine mixing zone with a multiport diffuser. In addition to the analysis of the effects required by chapter III.M.2.d.(2)(c), Poseidon also evaluated the individual and cumulative effects of the alternative brine mixing zone on the intake and mortality of all forms of marine life. The evaluations indicate that the proposed discharge would not result in hypoxic conditions outside of the alternative brine mixing zone. Poseidon understands that if an alternative brine mixing zone is approved by the Regional Water Board, the alternative distance and the areal extent of the alternative brine mixing zone shall be used in lieu of the standard brine mixing zone for all purposes, including establishing an effluent limitation and a receiving water limitation for salinity, in chapter III.M.	RCF 91

	must also evaluate the individual and cumulative effects of the alternative brine mixing zone on the intake and mortality of all forms of marine life. In no case may the discharge result in hypoxic conditions outside of the alternative brine mixing zone. If an alternative brine mixing zone is approved, the alternative distance and the areal extent of the alternative brine mixing zone shall be used in lieu of the standard brine mixing zone for all purposes, including establishing an effluent limitation and a receiving water limitation for salinity, in chapter III.M.			