



Duke Energy North America

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July 1, 2002

Mr. William J. Keese
Chairman and Presiding Member
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

California Energy Commission
Docket Unit, MS-4
Attn: Docket No. 00-AFC-12
1516 Ninth Street
Sacramento, CA 95814-5512

**RE: Morro Bay Power Plant Habitat Enhancement Proposal
Docket No. 00-AFC-12**

Dear Mr. Keese:

This letter responds to the Committee's June 27, 2002 Scheduling Order setting forth the Committee's schedule for review of Duke Energy Morro Bay LLC's ("Duke") Habitat Enhancement and Aquatic Filter Barrier Proposals for the modernized Morro Bay Power Plant ("MBPP"). The Order directs Duke, by July 1, 2002, to specify the precise portions of the record which describe the Habitat Enhancement Proposal ("HEP"), and allows Duke to supplement the existing record with such additional information as Duke may wish to file at this time.

Accordingly, the first section of this letter identifies the portions of the record that describe Duke's voluntary HEP. In general, the existing record on the HEP consists of a series of letters that were submitted to the Central Coast Regional Water Quality Control Board (Regional Board), letters to members of the California Energy Commission ("CEC"), selected portions of Duke's written testimony on Group IV Issues and rebuttal testimony, various Regional Board staff reports, and the other documents identified below. The second section of this letter presents a summary of the HEP. Before providing this information, however, we wish to address a few procedural matters.

PRELIMINARY PROCEDURAL MATTERS

Data Adequacy. It is our understanding that the purpose of this July 1 submittal is to facilitate CEC staff's and Intervenor's ability to formulate data requests specific to Duke's voluntary HEP. While Duke concurs that it is reasonable to provide staff with

further opportunity to obtain additional information on the HEP, Duke remains of the view that both staff and the Intervenor could prepare data requests on the basis of the information already contained in the record.

Upon recommendation of CEC staff, Duke's Application for Certification ("AFC"), including the information on habitat enhancement, was deemed data adequate by the Commission on January 10, 2001. Among staff's data adequacy determinations specific to biological resources was that the AFC adequately addressed "all measures proposed to avoid and/or reduce any adverse impacts" and "all measures proposed to mitigate any adverse impacts, including any proposals for offsite mitigation." (Data Adequacy Recommendation for the Morro Bay Power Plant, November 21, 2000, at p. 40). Despite a lengthy discovery period following this determination, Duke did not receive a single data request on the HEP during the ensuing year-long discovery period.¹

Nevertheless, we appreciate that the contours of the HEP, as described in the existing record, may be confusing to those who have not closely tracked its development. In response to suggestions and recommendations made by Regional Board staff and developments in our own understanding of the hydrodynamic and biological processes at issue, the Morro Bay HEP has necessarily evolved over time. It is critical that all parties understand that additional details regarding the HEP will be forthcoming over the next few weeks. Regional Board staff and Duke, and their respective technical experts and consultants, are continuing to work closely together to refine all aspects of the HEP and to identify specific projects that are suitable for inclusion in the program.

Record for CEC Staff Analysis. In accordance with the June 27 Scheduling Order, Duke has until August 9 to submit its responses to any forthcoming data requests and supplementary direct testimony on the HEP. As a result of the ongoing work with the Regional Board, it is Duke's expectation that substantial additional information will be available by that date. It is our understanding that the record for purposes of CEC staff's technical analysis of the HEP will consist of the following: (1) the existing record, as described in this letter; (2) the supplemental information contained in this letter; (3) the additional information that will be docketed by Duke on or before August 9, 2002; and (4) the information that will be presented during the upcoming data response workshop tentatively scheduled for August 19, 2002.

Relevance of Supplemental HEP Data to CEC Process. While Duke is certainly willing to provide CEC staff with additional information on the HEP, and will do so, we do not believe this information is actually necessary to the CEC's process.

First, the Scheduling Order correctly notes that Duke is proposing the HEP and the pilot AFB in order to address the "Best Technology Available" (or BTA) requirements of section 316(b) of the Clean Water Act, as administered by the Regional Board. While Duke agrees that the Committee has an obligation to make a determination that the

¹ A more detailed discussion of this issue is found in Applicant's Response to CAPE's Objection to Consideration of Duke's Habitat Enhancement Proposal at Upcoming Evidentiary Hearings, dated June 3, 2002.

project complies with all applicable laws, including the federal Clean Water Act, we believe the Regional Board has the primary statutory responsibility to determine whether the HEP meets the requirements of section 316(b). Given the voluntary nature of the HEP, and its relationship to section 316(b) of the Clean Water Act, it is imperative that Duke work closely with, and take direction from, Regional Board staff to ensure the Board's satisfaction with all elements of the HEP and implementation of BTA. Necessarily, the process is a collaborative one, and the details of the HEP will continue to be refined as technical and other information becomes available through the Regional Board process.

Having already determined that the AFC is data adequate, and having substantial evidence in the administrative record that habitat enhancement programs may be implemented in lieu of alternative cooling technologies to meet the BTA requirements of the Clean Water Act, the CEC may — and indeed should — look to the Regional Board permit process to flesh out the details of the HEP. Assuming the proposed NPDES permit for MBPP finds that the HEP satisfies the requirements of section 316(b) and incorporates the HEP into the enforceable provisions of the permit, we believe that the CEC's LORS determination with respect to the Clean Water Act should be based on those Regional Board findings. While the Regional Board staff has not yet issued a draft NPDES permit, it is certainly Duke's expectation, based on the content of the May 9, 2002 staff report, the direction provided by the Regional Board members to the staff at the May 30, 2002 workshop and the Regional Board staff's testimony before the Committee on June 6, 2002, that the staff strongly prefers the HEP over any form of alternative cooling.²

Second, the Scheduling Order further states that:

“since Applicant's proposals may also be evaluated as mitigation of a significant environmental impact under the California Environmental Quality Act (CEQA), the Committee expects the parties to examine Applicant's proposals according to the standards and guidelines of CEQA.”

Duke does not agree with this statement in that the MBPP modernization project will not have any potential to cause a significant environmental impact to marine biological resources as defined under CEQA. This conclusion is based on the following incontrovertible facts: (1) that, regardless of which historical time period is used for purposes of comparing the operations of the modernized plant with the operations of the existing plant, *the modernized plant will use significantly less cooling water than the existing plant* under any reasonable operating scenario, and (2) Duke has voluntarily agreed to accept permit conditions limiting its maximum daily and annual average daily flows to 475 MGD and 370 MGD, respectively. Since entrainment is directly related to the amount of cooling water used by the plant, the modernized plant will result in an

² Regional Board staff has expressly stated that “the watershed and Estuary would realize a greater long-term benefit through habitat enhancement [than through implementation of other alternatives].” Regional Board Staff Report, May 9, 2002, at p. 2.

improvement over the baseline condition. Consequently, mitigation is not required under CEQA.

SECTION I — IDENTIFICATION OF HEP

As required by the Scheduling Order, this section identifies the precise portions of the existing administrative record that contain a description of the HEP. These documents have either been officially docketed with the Commission, or copies have been provided to CEC staff, either directly or indirectly. With the exception of the two most recent documents, we are confident that all of the documents identified in the table below have been readily available for staff’s review. For the convenience of all parties and as a courtesy, Duke intends to docket all of the documents identified in the table below, as a single collection, to avoid any possible confusion over the content of the record to date.

DATE	DESCRIPTION
10/00	Duke Energy Morro Bay LLC Application for Certification
5/01	Preliminary Staff Assessment for the MBPP, pps. 8, 61, 79-80, 84, 86
5/23/01 and 7/6/01	Central Coast RWQCB, Staff Reports for Regular Meeting of July 12, 2001: Status Report on Duke Energy’s Proposal to Modernize the Morro Bay Power Plant and Renew their NPDES permit
8/13/01	Letter from Roger Briggs, Executive Officer, Central Coast Regional Board, to William Keese, CEC, regarding habitat enhancement (CEC Docket # 21,880 and Exhibit 150)
8/31/01	Letter from Roger Briggs, Executive Officer, Central Coast Regional Board, to elected officials O’Connell and Maldonado re potential alternatives to dry cooling, AFB and habitat enhancement
9/17/01	Letter from Roger Briggs, Executive Officer, Central Coast Regional Board, to William Keese, CEC, re Site-Specific CEQA Analysis and NPDES Permit Schedule
10/26/01	Letter from Andrew Trump, Duke Energy, to Roger Briggs, Executive Officer, Central Coast Regional Board, re timing and BTA issues (Docket # 22,904)
11/6/01	Central Coast RWQCB, Staff Report for Regular Meeting of December 7, 2001: Status Report on Duke Energy’s Proposal to Modernize the Morro Bay Power Plant and Renew their NPDES permit
11/21/01	Duke Energy’s Proposed Conditions of Certification for Marine Biology (Docket # 23,153 and Exhibit 245)
11/27/01	Letter from Wayne Hoffman, Duke Energy, to Roger Briggs, Executive Officer, Central Coast Regional Board, transmitting proposed marine biology conditions for

	inclusion in the NPDES permit for the MBPP (Exhibit 246)
3/13/02	Letter from Wayne Hoffman and Andrew Trump, Duke Energy, to Roger Briggs, Executive Officer, Central Coast Regional Board, entitled Morro Bay Power Plant Modernization Project, NPDES Permit – Habitat Enhancement Program Proposal, with attached flow chart entitled Habitat Enhancement Program (HEP) Implementation Flow Chart (docketed with CEC 5/7/02)
4/4/02	Letter from Andrew Trump, Duke Energy, to Roger Briggs, Executive Officer, Central Coast Regional Board, entitled Morro Bay Power Plant Modernization Project, NPDES Permit – Habitat Enhancement Program Proposal
4/24/02	Letter from Wayne Hoffman, Duke Energy, to Roger Briggs, Executive Officer, Central Coast Regional Board, entitled Morro Bay Power Plant Modernization Project Habitat Enhancement Proposal — Status Report on Habitat Equivalency Analysis
5/1/02	Letter from Andrew Trump, Duke Energy, to Roger Briggs, Executive Officer, Central Coast Regional Board, and Steve Larson, Executive Director, CEC, entitled Morro Bay Power Plant Modernization Project, NPDES Permit – Habitat Enhancement Program Proposal (Docket # 25,478)
5/9/02	Central Coast RWQCB, Staff Report for Regular Meeting of May 30, 2002: Status Report on Duke Energy’s Proposal to Modernize the Morro Bay Power Plant and Renew their NPDES permit. Request for Direction from the Regional Board.
5/13/02	Applicant’s Testimony on Group IV Issues, pps. 82-94
5/13/02	Applicant’s Group IV Testimony, Appendix D, Attachment 1, pps. 65-68 (relating to AFB) Applicant’s Group IV Testimony, Appendix D, Attachment 2, pps. 69-72 (relating to AFB)
5/23/02	Letter from Andrew Trump, Duke Energy, to Roger Briggs, Executive Officer, Central Coast Regional Board, entitled MBPP — Information for the Board, including 4 attachments: (A) Building Blocks for MBPP NPDES Permit; (B) HEP: Sedimentation Control and Restoration of Marsh and Marine Habitats in Morro Bay; (C) Comparison of Cost Estimates; and (D) Key Observation Points #7 and #14 of the MBPP with and without Air Condensators (docketed with CEC 5/23/02, see Exhibit 268)
5/24/02	Applicant’s Rebuttal Testimony on Group IV Issues (includes 5/23/02 information package submitted to Regional Board)
5/30/02	Duke Energy’s Presentation at May 30 Regional Board Workshop

6/3/02	Applicant's Response to CAPE's Objection to Consideration of Duke's Habitat Enhancement Proposal at Upcoming Evidentiary Hearings
6/11/02	Philip Williams & Associates Draft Report entitled Morro Bay Sedimentation: an investigation of estimated future Bay deposition based on a refinement of PWA's earlier sediment study of 1988
6/27/02	E-mail from Michael Thomas, Central Coast RWQCB, to Wayne Hoffman, Duke Energy, summarizing PWA and Tetra Tech tasks relating to HEP

SECTION II
SUMMARY OF HEP — ORIGINAL CONCEPT TO CURRENT PROPOSAL

In its Scheduling Order the Committee identifies a number of factors which it believes should be included in an adequate HEP proposal. These include: (1) a description of the HEP, which must be adequate to actually compensate for the environmental impact, if feasible, and which meets “constitution requirements for nexus and proportionality;”³ (2) identification of the goals and objectives to be achieved by the HEP; (3) performance standards for accomplishing the goals and objectives; (4) identification of how the HEP will be enforced through permit conditions or other measures; (5) a reporting and monitoring program to ensure that the specific elements of the HEP are met; (6) contingency plans that may be implemented if performance standards are not met; and (7) substantiated cost estimates and an enforceable payment schedule.

Duke's May 1, 2002 letter to Roger Briggs and Steve Larson sets out the following guiding principles for the HEP:

1. The HEP should have concrete objectives for habitat enhancement to mitigate any entrainment impacts of the MBPP cooling water intake system.
2. The HEP should demonstrate a strong nexus between MBPP cooling water intake entrainment impacts and proposed mitigations.
3. The HEP should build upon efforts currently underway to improve the Morro Bay Estuary, especially by the National Estuary Program (NEP).
4. The HEP should promote expanded aquatic habitat while maintaining the existing diversity within the Morro Bay Estuary.

³ We are not certain what the Committee intends by its reference to “constitutional requirements for nexus and proportionality.” Under Clean Water Act section 316(b), a restoration program or HEP that is offered to satisfy the BTA requirements of the Act must have a nexus to the adverse environmental impacts caused by the power plant's cooling water intake structure.

5. The HEP should be managed by an independent organization with direction from the Regional Board and the CEC and with input from Duke Energy, other public agencies, and the public. Constructive input from the public should be encouraged.
6. The HEP should have sufficient monitoring and evaluation components to ensure that the predicted performance of chosen projects can be gauged and adjustments made, as necessary. The evaluation metric, however, must relate to the effectiveness of the chosen project and not to a specific species or abundance of any species.
7. The HEP's mitigation fund should be capitalized at a level to offset possible marine biological impacts from the MBPP's cooling water intake, assuming that it operated at its maximum capacity within its water permit limits. The HEP should have a mechanism to adjust either funding levels or performance targets between the assumed maximum water usage and the actual water usage.

As can be seen from the foregoing, Duke and the Committee share a similar perspective on the basic components of a HEP. There is already substantial information addressing most of these elements in the existing record, and Duke is continuing to work with the Regional Board through the NPDES permitting process to flesh out the HEP framework that has been presented. Additional information will be provided to the Committee as it becomes available, recognizing the August 9 deadline for Duke responses and supplementary direct testimony contained in the Committee's Order. However, given our contention that the Committee's review of the HEP is not properly driven by CEQA, Duke does not believe CEC staff (or the Committee) requires the same level of detailed information that the Regional Board needs to make its BTA determination under section 316(b). As discussed above (and as was done in the Moss Landing proceeding), we believe the Committee should defer to the Regional Board's technical expertise on the detailed aspects of the HEP. To this end, CEC staff is not required to analyze the HEP *de novo*, without regard to the Regional Board's parallel efforts.⁴

The discussion that follows addresses the factors identified by the Committee in the Scheduling Order to the extent that we are able to do so at this time.

Brief Review of Legal Framework for HEP. Clean Water Act section 316(b) requires that the location, design, construction and capacity of cooling water intake structures reflect the best technology available (BTA) for minimizing adverse environmental impact. EPA has long interpreted this statutory requirement to require consideration of both technological and economic feasibility, as well as non-water quality-related impacts, in determining BTA for a given facility. Alternatives whose costs are "wholly disproportionate" to the environmental benefits to be gained, or whose non-water quality-related impacts cannot adequately be addressed, are considered "infeasible" or "not available" and thus do not qualify as BTA. The administrative record demonstrates

⁴ This collaborative process between the Regional Board and CEC staff is also consistent with the Memorandum of Agreement between the two agencies, dated November 4, 1998.

unequivocally that the alternative cooling methods recommended by CEC staff in the FSA (dry cooling and hybrid cooling) are not feasible for the Morro Bay project.

On December 18, 2001, EPA adopted Phase I regulations for implementing section 316(b) for “new facilities.”⁵ While these regulations do not apply to existing facilities such as the MBPP modernization project, they do provide certain benchmarks for interpretation of section 316(b). Specifically, the regulations allow NPDES permit writers to accept voluntary restoration measures in lieu of alternative cooling technologies or other operational changes when it is determined that such measures will maintain fish and shellfish in the water-body in an appropriate manner.⁶ The term “restoration” in the federal regulations includes habitat enhancement. Restoration programs are reviewed and approved on a case-by-case basis as a means of minimizing adverse environmental impacts from cooling water intake structures. Significantly, EPA has indicated that the success of restoration programs may be evaluated using either qualitative or quantitative criteria.

On April 9, 2002, EPA issued proposed Phase II regulations implementing section 316(b) for “existing facilities.” Newly constructed facilities that replace existing facilities (i.e., repowering projects) are considered “existing facilities” under the proposed regulations so long as the design intake flow is not increased to accommodate the intake of additional cooling water. Since the design intake flow for the modernized MBPP will not increase and the modernized plant will utilize less cooling water than the existing facility, the modernized MBPP is an “existing facility” under the proposed regulations. As in the case of “new facilities,” EPA indicated that restoration measures may be used in lieu of, or in combination with, other technological or operational measures to achieve BTA.

The proposed Phase II regulations contain an extensive discussion of restoration measures and the circumstances under which such measures constitute, or contribute to, a finding of BTA. For purposes of section 316(b) determinations, restoration measures include practices that seek to conserve fish or aquatic organisms, compensate for lost fish or aquatic organisms, or increase or enhance available aquatic habitat used by any life stages of entrained or impinged species.⁷ Essentially, EPA concludes that restoration measures which maintain fish and shellfish in the water body, including the community structure and function, at a comparable *or substantially similar* level to that which would be achieved through implementation of closed cycle recirculating cooling system

⁵ 66 Fed. Reg. 65280 (Dec.18, 2001).

⁶ Under well established principles of statutory construction and U.S. Supreme Court precedent, EPA has authority to interpret the CWA in a manner that allows impingement and/or entrainment effects to be offset in this manner.

⁷ Prior to the adoption of the new facility regulations, EPA allowed the use of restoration projects as part of BTA determinations at existing facilities where the cost of the proposed technology was considered to be wholly disproportionate to the demonstrated environmental benefits that could be achieved. Under EPA’s new approach, as embodied in both the Phase I rules and the proposed Phase II rules, restoration measures may be considered BTA, or a component of BTA, irrespective of cost of alternative technology.

technology, may be considered BTA. Key criteria include: appropriate consideration of all species of concern; identification of other stressors on these species unrelated to the withdrawal of cooling water (such as sedimentation); and identification of appropriate restoration measures that will compensate for losses in productivity associated with cooling water withdrawal (e.g., creation of new wetlands, restoration of degraded habitat, fish stocking, etc).

As mentioned above, EPA recognizes that, due to data and modeling limitations, as well as the inherent uncertainties associated with habitat enhancement programs and other types of restoration measures, it may be difficult to establish quantitatively that certain restoration measures adequately compensate for entrainment and impingement losses. Nevertheless, EPA states that there are several steps that can be taken to increase the certainty that the required level of performance can be attained, including detailed planning prior to initiation of restoration efforts and incorporating allowances or margins of error into plans that compensate for incomplete knowledge. In addition, EPA states that restoration measures can actually provide environmental benefits above and beyond those that would be provided by design and construction technologies and operational measures that focus solely on reducing impingement and entrainment. For example, habitat restoration may provide important ecological benefits beyond direct effects on fish and shellfish numbers, such as flood control, reduction in sedimentation, habitat for other wildlife species, and pollution reduction. These added benefits are another way of counteracting any inherent uncertainty in this type of project. As discussed below, Duke's HEP will contribute ecological benefits substantially beyond what is necessary to compensate for actual entrainment losses.

It is critical that the Committee understand that the data and modeling limitations and other uncertainties discussed above do *not* undermine the viability and efficacy of habitat enhancement and restoration programs as a means of offsetting entrainment losses. EPA explicitly recognizes these limitations in the Phase I and Phase II rules, but nevertheless continues to support the use of these programs as BTA given the superior ecological benefits that may flow from them. Habitat restoration is not like regulating emissions from an industrial facility, where specific pollutants can be measured and controlled down to parts per million or parts per billion. Rather, restoration programs are more qualitative in nature, and produce ecological gains that may be difficult to measure in precise quantitative terms. This fact does not alter the basic value of these programs, and CEC staff's attempt to characterize the HEP as fraught with uncertainty and delay stands in stark contrast to EPA's strong endorsement of these programs.

Policy Rationale for HEP. While Duke continues to believe that the modernized MBPP, as designed, constitutes BTA, we are prepared to implement a HEP on a voluntary basis, with the intention of further reducing any potential effects of entrainment on aquatic species, and to otherwise provide a positive contribution to habitat enhancement, restoration and conservation in the Morro Bay Estuary. We believe the benefits of the HEP will go far beyond what is legally required to offset power plant entrainment losses and will extend beyond the life of the modernized plant. Duke's proposal incorporates the intuitive qualities of the model used by Regional Board staff with an expanded

foundation of ecological and physical habitat processes. This additional coupling will allow us to identify specific habitat enhancement projects and evaluate their comparative benefits in a way much like the assessment that has resulted in the Elkhorn Slough Environmental Enhancement and Mitigation Plan under the guidance of Mark Silberstein.

The Development of the HEP and Evolving Role of the AFB. Duke recognizes that its HEP has been revised and refined over the course of this proceeding, and that the changes to the program may appear at first glance confusing. While most of the changes reflect technical, administrative and financial refinements and improvements to the program, some of them have represented actual changes in direction.

More specifically, Duke's original mitigation proposal was centered around the AFB, with habitat enhancement funding as a back-up in the event the AFB was determined to be infeasible for either technical or regulatory reasons (see Proposed Marine Biology Conditions for MBPP, November 21, 2001). In response to significant staff concerns about the feasibility of the AFB, Duke withdrew its AFB proposal, focusing instead on a full-fledged HEP as mitigation while reserving the option to pursue a pilot AFB under appropriate circumstances in the future (see Duke's March 13, 2002 letter to Roger Briggs). More recently, Duke reintroduced the concept of a pilot AFB project as part of the HEP out of a desire to advance the science surrounding this emerging impact avoidance technology (see Duke's May 23, 2002 letter to Roger Briggs).⁸ The role of the AFB in Duke's current HEP is discussed below.

Further, the Regional Board staff has required us to identify and develop a myriad of details related to the MBPP HEP prior to permit issuance, rather than deferring development of these details until after the permit has been issued. In the case of MBPP, the Regional Board is requiring Duke to identify specific projects and details relating to administration and governance of the HEP. While we believe both approaches are equally viable from a legal perspective, the MBPP approach necessarily appears more disjointed and complex at the outset of the permit proceeding. In any event, we are well beyond the formative stage, and the framework and many of the details of the MBPP HEP are now firmly established. The most comprehensive explanation of the HEP can be found in Duke's letters to the Regional Board dated May 1 and May 23, 2002, as summarized below.

Duke wishes to reassure the Committee that these changes in direction (as well as some of the other changes in HEP methodology) have been necessitated by the feedback we have received from Regional Board staff, by the evolution of our own understanding of the issues involved, and by the realities of project financing and schedule. This process has been a learning process for Duke and Regional Board staff, and has ultimately improved the overall quality of the HEP.

⁸ The AFB has recently been determined by the New York Department of Environmental Conservation to be BTA for Mirant's Bowline Generating Station on the Hudson River.

The Current “Project” Includes Only a Feasibility Study for Pilot AFB. Under Duke’s current HEP, Duke will undertake to study the feasibility of installing a pilot-scale AFB near the MBPP intake structure. This feasibility study will *not* involve any physical construction activities in the water body, nor does the study require any regulatory or other local governmental approvals. ***Duke is not at this time seeking any conditions of certification relating to the physical installation of the pilot AFB.*** Consequently, no CEQA review of the pilot AFB is required or appropriate at this time. Indeed, any attempt at CEQA review would be premature given that Duke does not know what the physical parameters of the pilot AFB would be, what permits are required and how long it might take to obtain them, and whether the AFB is even commercially viable.

If and only if Duke determines that a pilot-scale AFB is feasible — from a technical, commercial and permitting perspective — will Duke then consider whether it wishes to proceed with actual installation of the pilot project. If a decision is made to proceed, we will seek an amendment to the license at that time for the sole and limited purpose of including conditions relating to installation of the pilot AFB. Any required CEQA review would be conducted at that time. Assuming appropriate amended conditions of certification are issued and all required permits and other approvals can be obtained, Duke would proceed with installation of the pilot AFB. If the amended conditions of certification are unacceptable, or if required approvals cannot be obtained, Duke will not proceed with the pilot project. Similarly, if the process becomes too protracted and/or expensive, Duke may choose in its sole discretion to withdraw this element of the program altogether.

Thus, for the purposes of this proceeding now, the relevance of the AFB proposal lies solely in determining whether the Commission and the Regional Board support it in concept and, most importantly, whether the HEP may be designed to allow for the possibility of success in reducing entrainment through a proven AFB. If the pilot AFB is installed and is demonstrated to be effective in reducing entrainment, Duke would have the option at that time of proceeding with installation of a full-scale AFB (assuming, of course, that the full-scale project is also determined to be feasible). This decision would require the licensing proceeding to be reopened a second time. Under the HEP as outlined in our May 23, 2002 information package to the Regional Board, Duke would be entitled to a variable credit against supplemental HEP funding, depending on the degree of success of the AFB. A general description of the credit mechanism is contained in Section II.D. of the May 23 letter, under the heading “Supplemental HEP Funding.” Although the details of how the credit mechanism will work have yet to be resolved, in *no* case would the initial \$6 million commitment of HEP funds be reduced. Thus, the credit mechanism component of the HEP allows for the possibility of a successful AFB — ***it does not assume a successful AFB.***

Summary of Technical Elements of the HEP. The HEP is predicated on the fact that creation, restoration, and/or enhancement of habitat in Morro Bay, through any of a number of possible physical mechanisms, will increase biological productivity and diversity in the Estuary and thereby compensate for entrainment losses associated with operation of the modernized MBPP. Putting aside the debate over the level of

proportional mortality that may be occurring (17-33% vs. 7-10%), if one assumes that the larvae lost through entrainment represent a loss of energy and biological productivity in the Bay, this loss may be mitigated (compensated) by creating new opportunities (i.e., habitat) for replenishment of those resources. So long as suitable habitat exists, it will be occupied by the species that naturally occur in those ecological niches. Thus, creation of new habitat, or restoration or enhancement of degraded habitats, will offer new opportunities to these species, and biological productivity and diversity will necessarily increase. This linkage provides the necessary nexus between the entrainment mortality caused by the cooling water intake structure and the proposed HEP.⁹

Duke, the Regional Board staff and members of the Technical Working Group (“TWG”) have discussed at great length the various ecological models that may be used to calculate entrainment losses and to translate those losses into some form of common “currency” that may be used to calculate the amount of “compensation” that would offset those losses. This is not a precise science, and each of the models (Empirical Transport Model (“ETM”), Adult Equivalent Loss (“AEL”), Fecundity Hindcasting (“FH”) and Habitat Equivalency Analysis (“HEA”)) has different strengths and weaknesses. In all cases, the quality of output of the models depends on the quality and quantity of available data, and highly conservative assumptions are typically made where actual data may be lacking.

At the suggestion of Regional Board staff, and to address the primary problem threatening the Morro Bay Estuary — sedimentation — Duke’s HEP will focus primarily on projects that control or reduce sediment transport into the Bay and on restoration of historic bottom level elevations in the Bay to promote natural return of eelgrass beds, thus providing habitat for bay species. These projects may include erosion control projects along upland watercourses, construction of cache basins, swales and other sediment containment features, land acquisition for purposes of creating conservation easements and minimizing runoff from development activities, Bay dredging, control of Aeolian transport of sand from the sandspit, and others. A detailed discussion of the technical aspects of the HEP is presented in Attachment B to Duke’s May 23, 2002 information package to the Regional Board, entitled HEP: Sedimentation Control and Restoration of Marsh and Marine Habitats in Morro Bay.

It should also be noted that the Regional Board staff is working with Philip Williams & Associates, Ltd. (“PWA”) on the following specific tasks in conjunction with the MBPP HEP: (1) identifying and quantifying actions that will reduce sedimentation and extend the life of the Bay (including cost estimates for such actions); (2) identifying and

⁹ Based on the opinions of our biological experts and other available public information, Duke continues to believe that the MBPP (including the existing plant) is not causing an “adverse environmental impact” as that term is used in section 316(b). We continue to believe that this term requires evidence of at least localized population-level impacts caused by impingement or entrainment. The Comprehensive Conservation & Management Plan for Morro Bay Estuary prepared by the National Estuary Program identifies a number of factors that are adversely affecting the estuary, including sedimentation, nutrients, and heavy metals, and does not even mention the power plant as a stressor in the estuary.

quantifying in-situ restoration work that could be done in the Bay (including costs); and (3) further refining sedimentation rates for the watershed. In addition, Tetra Tech is working with the Regional Board in (4) describing other relevant estuarine habitat restoration work, including sedimentation reduction projects, that might be implemented; (5) researching other restoration projects done as mitigation for power plants impacts; and (6) identifying monitoring data on water quality and productivity trends associated with estuarine restoration work. The Regional Board expects to receive reports from both PWA and Tetra Tech by the end of July. Copies of these reports will be included in our August 9 submittal (or as soon thereafter as they become available).

Duke is also researching other projects where habitat enhancement programs have been implemented to offset power plant cooling water intake structure impacts, and will provide that information to the CEC staff as part of our August 9 submittal. We are also working on a performance monitoring program and will be discussing this issue at length with Regional Board staff. The results of this effort will also be included in our August 9 submittal to the CEC.

HEP Funding and Governance. The primary goal of the HEP is to offset the effects of power plant entrainment mortality through restoration and enhancement of Bay habitat. Duke believes that its HEP — with initial funding of \$6 million and supplemental funding of potentially as much as an additional \$12 million — will more than fully mitigate all entrainment mortality effects associated with operation of the MBPP,¹⁰ and will yield ecological benefits to the watershed and Estuary that will last far into the future (see Duke’s May 23, 2002 letter to Roger Briggs which specifically addresses supplemental HEP funding). Based on a habitat equivalency analysis (HEA) that is being conducted by ENTRIX, Inc. on behalf of Duke, Duke is confident that its HEP — even at the initial funding level of \$6 million — contains a very significant “safety margin.”¹¹ At the supplemental funding levels, this safety margin becomes even more significant. The ENTRIX work is ongoing, and we expect to submit a report to the Regional Board and CEC staff on or before August 9. It should be emphasized that Duke does not intend to offer the ENTRIX HEA work as an alternative to the Regional Board’s methodology, but only as a means of “truing up” or demonstrating the highly conservative nature of our HEP.

¹⁰ Impingement losses associated with MBPP have been determined to be insignificant.

¹¹ Preliminary results of the HEA indicate that many fewer acres of habitat would need to be provided to fully compensate for power plant entrainment losses than the many hundreds of acres contemplated by Regional Board staff. The approach utilized by the Regional Board staff assumes there is a direct correlation between the percentage of larvae lost and the amount of lost productivity in the Bay. For example, a PM of 10% would translate into a loss of 10% of the biological productivity of the Bay. The staff next assumes (for purposes of this example) that this lost productivity can be regained by restoring an area equivalent to 10% of the wetted surface area of the Bay, expressed in acre/years. Duke believes this approach incorporates an extremely large margin of safety into the assessment of the amount of mitigation needed to offset entrainment mortality effects.

Given the lack of scientific precision associated with many of the issues related to entrainment mortality and habitat restoration, Duke believes it is prudent to build safety margins into a habitat enhancement program. This has been done in the HEP. However, to the extent that we are able to demonstrate reductions in entrainment levels, either through reduced water usage or a successful demonstration of AFB technology, Duke is proposing that it receive a credit towards meeting supplemental funding levels. For example, if Duke were eventually to demonstrate the feasibility and success of full-scale AFB technology such that entrainment levels fell below a level of concern, we would expect a credit in supplemental HEP funding. Smaller, incremental reductions in entrainment levels (such as would be associated with reduced water usage) would yield smaller credits in overall funding levels.

Duke's May 1, 2002 letter to Roger Briggs and Steve Larson outlines, in considerable detail, our initial thoughts on issues relating to administration and governance of the HEP. In particular, we believe the HEP should be carefully coordinated with the activities of the National Estuary Program ("NEP") which already has substantial efforts underway to improve conditions in the estuary. We also believe the HEP should be managed by an independent, not-for-profit organization (such as the NEP) with direction from the Regional Board and the CEC, and input from Duke, other public agencies and the public. Projects will be selected and prioritized in accordance with specific criteria, with a preference for projects that have more specific and measurable performance objectives (e.g., "tons of sediment removed" or "acres of new eelgrass habitat established"). Obviously, there are more details to resolve, but review of our May 1 and May 23, 2002 letters will provide CEC staff with more than enough information to frame data requests on these issues.

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We trust that the foregoing information is responsive and useful to the CEC staff in preparing its data requests.

Very truly yours,

Andrew L. Trump
Director of Development

Cc: Mr. James Boyd
Mr. Gary Fay
Service List