LOZEAU DRURY LLP
T 510.749.9102
F 510.749.9103
1516 Oak Street, Suite 216
Alameda, Ca 94501
www.lozeaudrury.com
richard@lozeaudrury.com

BY HAND DELIVERY AND ELECTRONIC MAIL

December 8, 2008

Chairman Mike Kerns and Honorable Members of the
Sonoma County Board of Supervisors
Sonoma County Administration Building
575 Administration Drive, Room 100A
Santa Rosa, CA 95403
FAX (707)-565-3778
E-MAIL: vbrown@sonoma-county.org; mkerns@sonoma-county.org; tsmith@sonoma-county.org; pkelley@sonoma-county.org; mreilly@sonoma-county.org

Steven Woodside, County Counsel (swoodsid@sonoma-county.org)
Janice Atkinson, Clerk of the Board (thecountyclerk@sonoma-county.org)

RE: COMMENTS ON FEIR FOR DUTRA HAYSTACK LANDING ASPHALT AND RECYCLING FACILITY (SCH No. 2006022107)

Honorable Chairman Kerns and Members of the Board of Supervisors:

I am writing concerning the Final Environmental Impact Report ("FEIR") prepared for the Dutra Haystack Landing Asphalt and Recycling Facility (SCH No. 2006022107) ("Project") on behalf of the Petaluma River Council ("Council") and its members living in and around Petaluma, California and Sonoma County, and on behalf of Petaluma residents David Keller, Lindsay Mickles, Bill Kortum, Sheri Cardo, and Bruce Hagen. This comment letter supplements the Council's prior comments submitted on the DEIR for the same Project, and incorporates by reference all written and oral comments submitted on the Project.

Unfortunately, the FEIR fails to resolve the significant deficiencies raised in the Council's prior comment letter and the other comments submitted on the Project. The FEIR remains woefully inadequate. As a result of the failure to incorporate feasible mitigation measures and alternatives in violation of the California Environmental Quality Act ("CEQA") the Project will result in significant environmental impacts on the Petaluma river, animal and fish populations, air quality, water quality, and noise, among other

impacts. The Council therefore requests that the County prepare and circulate a Supplemental Draft Environmental Impact Report ("SEIR") to address the issues raised in this and other comments, and to require implementation of feasible mitigations and alternatives required by law.

The Petaluma River Council has been dedicated since 1991 to protecting, restoring and revitalizing the Petaluma River and its watershed. David Keller is a Petaluma resident and former City Council member. Lindsay Mickles is a Petaluma resident. Bill Kortum, is a lifetime resident of Sonoma County, a former Sonoma County Supervisor, and lives in the Petaluma Area. Sheri Cardo, is a resident of Petaluma and a former member of the Petaluma Animal Services Advisory Committee (with a professional interest in wildlife and domestic animals, and public open space); Bruce Hagen has been a resident of Petaluma since 1981, and was the former chairman and member of the Petaluma Recreation, Music and Parks Commission, and has been a columnist with the Argus-Courier since 1998 (collectively, "individuals."). The Council and the individuals support the continued successful industrial and commercial uses of the Petaluma River, which have been important parts of our history since before the City of Petaluma's incorporation in 1858. However, we believe that it is important to reduce the impacts of proposed projects such as the Dutra facility to the maximum extent feasible through the implementation of all feasible mitigation measures and alternatives. All of these individuals regularly use and enjoy Shollenberger Park. Unfortunately, the FEIR and the Dutra Project as proposed fail to meet these standards.

In particular, the EIR fails to adequately analyze and mitigate the following adverse impacts of the Dutra Project:

- **Air Quality**:
    - **PM-2.5**: The EIR fails entirely to quantify PM-2.5 (particulate matter under 2.5 microns in diameter). The Bay Area exceeds applicable ambient air quality standards for PM-2.5, and asphalt plants are major sources of PM-2.5.
    - **PM-10**: The EIR underestimates criteria pollutant and toxic air contaminant emissions by assuming only 10 hours per day of operation, rather than 12 hours or more, by failing to include off-site road-dust entrainment from truck traffic and other sources, and by other calculation errors. As a result, the EIR fails to identify significant emissions of PM-10 and fails to include feasible mitigation measures such as requiring Tier 3 emission controls for tugs and on-site trucks, natural gas powered light-duty yard equipment, electrification for tugs when at dock, and other measures.

- **NOx**: The EIR admits that the Project will have significant nitrogen oxide (NOx) impacts, but fails to include feasible mitigation measures such as Tier 3 emission controls for tugboats and on-site trucks, natural gas powered light-duty yard equipment, emulsified diesel fuel, electrification for tugs when at dock, and other measures.

- **ROGs**: The EIR significantly underestimates emissions of reactive organic compounds (ROGs, a/k/a VOCs). For example, the EIR's air quality section assumes that the Project will generate 174 truck roundtrips per day. (Draft EIR, Appendix D, Table D-16.) However, the EIR's traffic section estimates 750 truck roundtrips, per peak day. (*Ibid*.) Thus, emissions associated with truck traffic would be higher by a factor of 4.3. Other sources, such as the hot oil tank heater are ignored entirely. As a result, the EIR dramatically underestimates emissions of ROGs, NOx, PM-10, PM-2.5 and diesel engine exhaust and erroneously concludes that all except NOx are insignificant. Correct calculations show that all of these emissions exceed applicable significance thresholds.

- **Health Risk**: The EIR fails to include any health risk assessment ("HRA") whatsoever. Instead, it relies on an HRA prepared by the Bay Area Air Quality Management District ("BAAQMD"). However, BAAQMD analysis cited in the EIR failed to include emissions from trucks and tugboats. This omissions leads to a radical underestimation of diesel engine exhaust ("DEE"). DEE is one of the most hazardous compounds associated with the Project and is responsible for 70% of total airborne cancer risk in the state. The EIR ignores a more recent BAAQMD HRA that shows that the Project will have an acute health index of 0.97, and a cancer risk of over 19 per million at the point of maximum impact. According to BAAQMD, this level is "essentially at significance levels established by the District (*i.e.*, a hazard index of 1.0)." (*See* BAAQMD Broadbent Letter.) The cancer risk of 19 per million exceeds the BAAQMD's CEQA significance threshold of 10 per million. Nevertheless, the EIR disagrees with the BAAQMD's expert analysis and concludes (without support) that the acute health risk and cancer risk are insignificant. The EIR's conclusions are unsupported by any substantial evidence.

- **Worker Health**: The EIR fails entirely to calculate worker health impacts. Workers at the facility will be exposed to by far the highest levels of toxic chemical pollution. The EIR fails entirely to analyze this impact or consider feasible mitigations.

- o **Baseline**: The EIR uses the wrong CEQA baseline because it subtracts from the proposed Project's emissions the emissions from the long-since closed Dutra asphalt plant and the temporary Dutra asphalt plant, thereby significantly masking the Project's true emission levels. As a result, the EIR fails to identify and mitigate significant adverse impacts on air quality due to emissions of POM-10- and ROG.

- **Greenhouse Gases**: The EIR admits that the Project will have greenhouse gas emissions in excess of 8000 tons per year (TPY). This significantly exceeds the recently proposed California Air Resources Board CEQA significance threshold for emissions of greenhouse gases for industrial facilities of 7000 TPY. Nevertheless, the EIR fails entirely to analyze this impact, or to propose feasible mitigation measures, such as requiring higher-level biodiesel blends, electrification for tugs in dock, solar panels to supplement power needs, natural gas powered light-duty yard equipment, and other measures.

- **Birds and Noise**: The EIR's analysis of noise fails to evaluate in any meaningful way the severe impacts of loud noises on the existing egret/heron colony located on the northwestern edge of the proposed project. No effort is made to measure either exiting or expected noise levels form the project within the existing colony. No effort is made to address the up to 112 dB blasts of sirens from emergency vehicles exiting the proposed fire station on the colony. No effort is made to consider the loud noises associated with trucks entering and exiting the facility. The mitigation measures referenced in the EIR as mitigating any noise impacts on the colony to less than significant levels either do nothing to mitigate noise or address a very small range of the project's noise levels, leaving the vast majority of excessive noise in the colony created by the project unmitigated. Hence, the EIR's conclusion that noise impacts on the colony are less than significant with mitigation measures is not supported by substantial evidence or reason.

- **Alternatives**: The EIR's alternatives analysis is patently inadequate. For example, the EIR appears to acknowledge that the alternative site of the former Pomeroy Corporation's concrete manufacturing yard at 500 Hopper Street, Petaluma ("Pomeroy site") is an environmentally superior option, addressing many of the negative impacts identified for the proposed Petaluma Boulevard South site. The Pomeroy site would have significantly reduced impacts on, among other issues, noise, land use conflicts, birds and wildlife, aesthetics, and air pollution exposures. Nevertheless, the EIR rejects the Pomeroy site as infeasible because it is allegedly not available for sale. This is simply untrue. Our research proves that the Pomeroy site is currently available for sale at a reasonable market price. Thus, the EIR is simply false. The EIR also rejects a reduced size alternative as infeasible. However, there is absolutely no analysis

to support the conclusion that the reduced scale alternative would be infeasible either economically or technologically. Without such analysis the conclusion lacks substantial evidence.

A Supplemental Draft Environmental Impact Report ("SEIR") is required to analyze the above impacts, and impacts raised by other commenters, and to propose feasible alternatives and mitigation measures.

I. BACKGROUND

The Dutra Group proposes to construct the Dutra Haystack Landing Asphalt and Recycling Facility ("Project"). The Project would be located on a vacant 38-acre parcel adjacent to Highway 101 and the Petaluma River, in the southwestern portion of Sonoma County, approximately 35 miles north of San Francisco. (Draft Environmental Impact Report ("DEIR"), p. I-2.)

The County of Sonoma ("County"), as the lead agency under the California Environmental Quality Act ("CEQA") proposes to certify an Environmental Impact Report ("EIR") for the Project. (County of Sonoma, Dutra Haystack Landing Asphalt & Recycling Facility, Final Draft Environmental Impact Report, SCH# 2006022017, July 2008.) The Project would consist of the construction and operation of a counterflow drum mix asphalt plant and recycling facility. The Dutra Group ("Dutra" or "Applicant") would relocate its existing temporary asphalt batch plant at 1601 Petaluma Boulevard South to the 38-acre Project site generally known as Haystack Landing, which is located directly south of Petaluma and bordered by the Petaluma River, State Highway 101 and Petaluma Boulevard South. The Project would construct new barge offloading facilities on the Petaluma River; an overhead conveyor system; stockpiles of aggregates, sand, and recycled asphalt and concrete materials; an asphalt mixing and loading facility; and associated offices, truck scales, and support facilities. The Project also includes the construction and operation of a fire station. The facility is anticipated to process about 665,000 tons of material annually, including about 425,000 tons of raw aggregate and 75,000 tons of fine sand, both imported via barge from the Applicant's quarry in San Rafael. The Project would produce a maximum of 400 tons per hour ("tons/hour") of asphalt with an annual production limited by permit conditions to 225,000 tons per year ("tons/year"). Ten percent of the facility's annual production would consist of rubberized asphalt. (Draft EIR, p. III-45, Table III-2, note 1.)

II. LEGAL STANDARDS

CEQA requires that an agency analyze the potential environmental impacts of its proposed actions in an environmental impact report ("EIR") (except in certain limited circumstances). (See, e.g., Pub. Res. Code § 21100.) The EIR is the very heart of

CEQA. (*Dunn-Edwards v. BAAQMD* (1992) 9 Cal.App.4th 644, 652.) "The 'foremost principle' in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language." (*Communities for a Better Environment v. Calif. Resources Agency* (2002) 103 Cal. App. 4th 98, 109.)

CEQA has two primary purposes. First, CEQA is designed to inform decision makers and the public about the potential, significant environmental effects of a project. (14 Cal. Code Regs. ("CEQA Guidelines") § 15002(a)(1).) "Its purpose is to inform the public and its responsible officials of the environmental consequences of their decisions before they are made. Thus, the EIR 'protects not only the environment but also informed self-government.'" (*Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal. 3d 553, 564.) The EIR has been described as "an environmental 'alarm bell' whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return." (*Berkeley Keep Jets Over the Bay v. Bd. of Port Comm'rs* (2001) 91 Cal. App. 4th 1344, 1354 ("Berkeley Jets"); *County of Inyo v. Yorty* (1973) 32 Cal.App.3d 795, 810.)

Second, CEQA requires public agencies to avoid or reduce environmental damage when "feasible" by requiring "environmentally superior" alternatives and mitigation measures. (CEQA Guidelines § 15002(a)(2) and (3); See also, *Berkeley Jets*, 91 Cal. App. 4th 1344, 1354; *Citizens of Goleta Valley*, 52 Cal.3d at 564.) The EIR serves to provide agencies and the public with information about the environmental impacts of a proposed project and to "identify ways that environmental damage can be avoided or significantly reduced." (Guidelines §15002(a)(2).) If the project will have a significant effect on the environment, the agency may approve the project only if it finds that it has "eliminated or substantially lessened all significant effects on the environment where feasible" and that any unavoidable significant effects on the environment are "acceptable due to overriding concerns." (Pub.Res.Code § 21081; 14 Cal.Code Regs. § 15092(b)(2)(A) & (B))

While the courts review an EIR using an "abuse of discretion" standard, "the reviewing court is not to 'uncritically rely on every study or analysis presented by a project proponent in support of its position. A 'clearly inadequate or unsupported study is entitled to no judicial deference.'" (*Berkeley Jets*, 91 Cal. App. 4th at 1355 (emphasis added), quoting, *Laurel Heights Improvement Assn. v. Regents of University of California*, 47 Cal. 3d 376, 391 409, fn. 12 (1988)) As the court stated in *Berkeley Jets*, 91 Cal. App. 4th at 1355:

> A prejudicial abuse of discretion occurs "if the failure to include relevant information precludes informed decisionmaking and informed public participation, thereby thwarting the statutory goals of the EIR process." (*San Joaquin*

Raptor/Wildlife Rescue Center v. County of Stanislaus (1994) 27 Cal. App. 4th 713, 722]; *Galante Vineyards v. Monterey Peninsula Water Management Dist*. (1997) 60 Cal. App. 4th 1109, 1117; *County of Amador v. El Dorado County Water Agency* (1999) 76 Cal. App. 4th 931, 946.)

We have prepared these comments with the assistance of environmental scientists Dr. Petra Pless, D. Env., and Thomas A. Barnebey, Ph.D. Their comments are attached hereto as Exhibits A and B, and are incorporated herein in their entirety.

III. ALTERNATIVES ANALYSIS IS INADEQUATE

A. Legal Standards

An EIR must describe a range of reasonable alternatives to the Project, or to the location of the Project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. "An EIR's discussion of alternatives must contain analysis sufficient to allow informed decision making." (*Laurel Heights I*, 47 Cal.3d at 404.) An EIR must also include "detail sufficient to enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project." (*Id*. at 405.)

One of CEQA's fundamental requirements is that the DEIR must identify the "environmentally superior alternative," and require implementation of that alternative unless it is infeasible. (14 Cal.Code Regs. §1526.6(e)(2); Kostka & Zischke, *Practice Under the California Environmental Quality Act* §15.37 (Cont. Educ. Of the Bar, 2008).) Typically, a DEIR identifies the environmentally superior alternative, which is analyzed in detail, while other project alternatives receive more cursory review.

The analysis of project alternatives must contain an accurate quantitative assessment of the impacts of the alternatives. In *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 733-735, the court found the EIR's discussion of a natural gas alternative to a coal-fired power plant project to be inadequate because it lacked necessary "quantitative, comparative analysis" of air emissions and water use.

A "feasible" alternative is one that is capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors. (Pub. Res. Code § 21061.1; 14 Cal. Code Regs. § 15364.) California courts provide guidance on how to apply these factors in determining whether an alternative or mitigation measure is economically feasible.

The lead agency is required to select the environmentally preferable alternative unless it is infeasible. As explained by the Supreme Court, an environmentally superior alternative may not be rejected simply because it is more expensive or less profitable:

> The fact that an alternative may be more expensive or less profitable is not sufficient to show that the alternative is financially infeasible. What is required is evidence that the additional costs or lost profitability are sufficiently severe as to render it impractical to proceed with the project.

(*Citizens of Goleta Valley v. Bd. of Supervisors* (1988) 197 Cal.App.3d 1167, 1180-81; *see also*, *Burger v. County of Mendocino* (1975) 45 Cal.App.3d 322 (county's approval of 80 unit hotel over smaller 64 unit alternative was not supported by substantial evidence).)

As discussed below, the EIR fails to meet the legal standards for an adequate CEQA alternatives analysis.

B. Pomeroy Site

Several commenters on the draft EIR pointed out the availability of the former Pomeroy Corporation's concrete manufacturing yard at 500 Hopper Street, Petaluma ("Pomeroy site") as a feasible, and environmentally superior site for the proposed project. (FEIR, p. II-87; *Id*., p. II-187; *Id*., p. II-192; *Id*., p. II-196. *See also* Exhibit G (aerial photo).) In responding to those comments, the County acknowledges that "the Pomeroy site does meet many of the siting criteria for the proposed project, such as River Dependent Industrial zoning, a sheltered barge unloading/loading facility with deep water access, and a location near Lakeville Highway and US Highway 101." (FEIR, p. II-88.) The FEIR also agrees "that this alternative site would reduce or eliminate many of the project's significant impacts relative to noise, traffic impacts to Landing Way, light and glare impacts to Shollenberger Park and the egret/heron colony, loss of habitat, etc." *Id*. Despite these admitted benefits, the County rejects this site as infeasible based on two rationales. First, the County states that "the applicant does not own the Pomeroy site and there are no indications that the property owner is willing to sell the Pomeroy site." (FEIR, p. II-88 ("The applicant does not own the Pomeroy site and there are no indications that the property owner is willing to sell.")[1] Second, the County claims that, although the Pomeroy site is designated for River Dependent

[1] One of the County's Planning Commissioners went so far as to speculate at the hearing that he didn't think the site was realistic, as it had been purchased by a major developer to build houses and is outside County jurisdiction. (FEIR, p. II-196 (Commissioner Bennett).)

Industrial Zoning, a local plan of the City's -- the Central Petaluma Specific Plan (CPSP) – fails to list an asphalt production facility as an allowable use. (*Id*.)[2]

The County's conclusion that the Pomeroy site is infeasible is not supported by substantial evidence. The County contends that there is no evidence that the site is available for sale. The DEIR states: "the applicant does not own this parcel and the owner is apparently not willing to sell the property to the applicant." (DEIR, p. VII-13.) This statement appears to be false. A simple inquiry with the company that owns the Pomeroy site revealed that the Pomeroy site is indeed for sale. (See, Exhibit C.) Thus, the alternatives analysis is not only inadequate, it is false. A false alternatives analysis clearly fails to meet CEQA's legal requirement that a "discussion of alternatives must contain analysis sufficient to allow informed decision making." (*Laurel Heights I*, 47 Cal.3d at 404.) The EIR not only fails to facilitate informed decisionmaking, it actively misinforms the public concerning critical information.

As for the purported inconsistency with the City of Petaluma's local plan, again the County's FEIR provides inaccurate information. The asphalt plant as proposed for the Petaluma Boulevard South site needs 19 acres of land adjacent to the river. According to the CPSP, 110-acres of the 140-acre former Pomeroy site are zoned in the CPSP as River Dependent Industrial uses. (CPSP, Chapter 3, p. 37; *Id*., p. 38, Policy 5.1. (*see* Exhibit D) There are least 34 acres of the former Pomeroy Site remaining with River Dependent Industrial zoning. (*See* Exhibit G (Realist Listing (10/31/2008).) River Dependent Industrial is defined in the CPSP as "Heavy industrial manufacturing, raw material processing and related uses that require river access as an integral part of daily operations for the purpose of regularly shipping or receiving raw materials and finished products by water transport. Businesses that locate on properties with this designation shall be dependent on the Petaluma River for transporting a significant portion of its goods and materials." (CPSP, Chapter 3, p. 37 (Exhibit D).) Policy 5.1 of the CPSP establishes a specific policy to:

> Provide for continuation of the existing river-dependent industrial uses. The Specific Plan provides for continuation of the existing large, river dependent industrial users in this area and requires a similar type of subsequent use that is dependent on the river for transport of goods and materials.

[2] The FEIR asserts that "the Pomeroy site is located within the Central Petaluma Specific Plan (CPSP), and asphalt plants are not among the allowable uses listed in the Building Function Standards in Section 3 of the CPSP SMARTCode. To the contrary, the Building Function Standards list specifically does not permit "concrete, gypsum, and plaster product manufacturing" uses."

(CPSP, p. 37.) The River Dependent Industrial District is labeled D-3 in the CPSP and accompanying zoning. (*See* CPSP, Smartcode, Section 2.10, Zoning Map (attached as Exhibit E.) Contrary to the County's cavalier assertion in the DEIR, the CPSP specifically provides that industry engaged in "[c]oncrete, gypsum, and plaster product manufacturing" within the D-3 zone are "[p]ermitted subject to compliance with all applicable provisions of this Code. . ." (CPSP, Smartcode, § 3.10.030(A) & Table 3.1 (Allowed Building Functions and Permit Requirements) (attached as Exhibit F))

The County's claim that the entire Pomeroy site is zoned for Mixed Use in which "[c]oncrete, gypsum, and plaster product manufacturing" are prohibited is incorrect. Of the 140-acre Pomeroy site, only the southernmost 30-acres were not used by the Pomeroy Corporation and were zoned for new mixed use development. Policy 5.3 of the CPSP states:

> Allow for an intense Mixed Use development on land not utilized for industrial purposes. The southernmost 30 acres of the Pomeroy Corporation property have not been used by the company, and may be considered for new development. The plan allows for the redevelopment of this site consistent with the "smart code" regulations. Mixed use in this location would be an easy bicycle ride from many Petaluma neighborhoods, and could be accessible by the proposed passenger rail transit service.

(CPSP, Chapter 3, p. 38. *See also id*, p. 27 ("Except for designated Industrial areas, the plan establishes a single Mixed Use land use designation") (Exhibit D.) Unlike the currently proposed site, locating the project at the Pomeroy site would not require any changes to local zoning, meeting one of the project's primary objectives not met by the current proposed location. (DEIR, p. III-71.) The 19-acre proposed asphalt facility will fit very comfortably with buffer zones to spare, and consistent with the City of Petaluma's current zoning decisions on the 34-acre industrially-zoned former Pomeroy site adjacent to the Petaluma River.

It is well-established that off-site alternatives should be considered under CEQA. As the Supreme Court has explained, an EIR is required to explain in detail why various alternatives were deemed infeasible, and should explore the potential to locate the project somewhere other than proposed. (*Laurel Heights I*, 47 Cal.3d at 404-406; *Goleta Valley*, 197 Cal.App.3d 1180-81)

Not only does the EIR fail to provide substantial evidence to support the finding of infeasibility of the Pomeroy site, it provides apparently false information. Additional analysis is therefore required to consider this environmentally superior alternative before the Board may reject it. (Pub. Res. Code §21002; *Sierra Club v. Gilroy City Council* (1990) 220 Cal.App.3d 30, 31.)

C. Reduced Scale Alternative

The EIR also analyzes briefly a "Reduced Production Alternative" (Alternative B). Alternative B is essentially the same Project at the same location, but with approximately 25% reduced production capacity. This alternative would eliminate night-time operations at Area A, including barge off-loading, as well as night-time operations in Areas B and C.

The DEIR admits that Alternative B would reduce aesthetic impacts by lowering stockpiles and the conveyor system, and by reducing light and glare impacts related to night-time operations. (DEIR, p. VII-9.) The alternative would also reduce the Project air quality impacts by reducing air pollution. (Id.) "Alternative B would further reduce the project's significant but mitigable impact related to wildlife movement" by prohibiting night-time operations. (Id.) Alternative B would "reduce the project's impacts related to air quality, noise, aesthetics, and barge trips." (DEIR, p. VII-10) In particular, eliminating night-time operations would significantly reduce noise impacts. (Id.) Finally, Alternative B reduces traffic impacts by reducing truck and barge trips. The DEIR admits that Alternative B "appears to meet all of the project objectives." (Id. at VII-11)

Despite admitting that Alternative B reduces almost all of the Project's impacts below the levels of the Proposed Project, while meeting all of the Project objectives, the EIR fails to identify Alternative B as an "environmentally superior" alternative. Instead, the EIR selects Alternative D as the environmentally superior alternative. This conclusion lacks substantial evidence because all of the evidence in the record indicates that Alternative B is environmentally superior to the proposed Project – not Alternative D – in all respects.

The EIR claims that the former Pomeroy site ("Alternative D") would be the environmentally superior: "it has been determined that Alternative D would result in the least amount of adverse impacts and thus has been chosen as the environmentally superior alternative." (DEIR, p. VII-16.) The only change to the proposed project is to move the barge off-loading facility several hundred feet from Area A of the project to a site currently owned by an unwilling buyer along the shore immediately east of Area C. (DEIR, p. VII-13 – 14.) Under Alternative D, the facility would still cause serious aesthetic impacts to users of Shollenberger and other nearby areas. Under Alternative D, "[t]he barge off-loading facility and conveyor would still be highly visible by visitors to Shollenberger Park further south along the Park trail." (*Id*., p. VII-14.) Alternative D would still result in significant impact relative to scenic vistas and visual character" and "still emit new sources of light in an area that currently has no development, resulting in similar light and glare impacts compared to the project." (*Id*.) "As the construction footprint would be similar to the proposed project, Alternative D would result in similar

air quality impacts during construction as the proposed project" and "[g]iven that production levels would be the same as the project under Alternative D, this alternative would result in similar air quality impacts associated with the operational phase of the project." (*Id*.) "[C]ultural resource impacts associated with Alternative D would likely remain the same as the proposed project. . . ." (*Id*., p. VII-15.) The water quality concerns deemed less than significant by the EIR would remain so under Alternative D. (*Id*.) Alternative D "would not remove the project's inconsistencies with land use policies for criteria required for changing the land use designation from Limited Commercial to Limited Industrial." (*Id*.) And, "Alternative D would not substantially change the project's impacts related to traffic." (*Id*.)

The EIR can only point to two issues that Alternative D would improve upon from the asphalt plant as proposed – a claimed lesser impact from barge loading activities on the egret/heron colony and slightly mitigated noise impacts to the nearby residents. The EIR claims that "[b]y eliminating development in Area A of the Project site and not requiring a conveyor facility in Area B, the Pomeroy site would reduce the impacts of the Project with respect to biological impacts since it "reduces the project's significant impact to wildlife movement with regard to the existing egret/heron colony in Area B." (DEIR, p. VII-14.) First, this assertion is inconsistent with the EIR's conclusion that the noise, light and other impacts to the egret/heron colony will be less than significant after mitigation any way. However, as explained below, that conclusion is not based on substantial evidence. Thus, second, because the EIR's noise analysis is not based on any meaningful evaluation of the project's potential noise impacts to herons and egrets using the site, the County is not in a position to say whether moving only one of the many noise sources associated with the project (including, for example, the proposed fire station) would improve the rookery's chances of surviving. All other biological and wildlife impacts are the same for Alternative D as for the proposed project. (*Id*.) The DEIR notes also that by moving the conveyor and barge off-loading facility from Area A to a shore location adjacent to Area C, Alternative D would create a larger buffer between the operation and off-site residential uses along the River. However, "the modifications associated with Alternative D would reduce the project's impacts to noise, which in turn would reduce by not fully eliminate the project's significant and unavoidable land use compatibility impacts." (DEIR, p. VII-15.)

The County cannot credibly conclude supported by substantial evidence that the full suite of environmental improvements resulting from the Reduced Production Alternative C are less environmentally beneficial than the two marginal improvements over the proposed project that may result from selection of Alternative D. CEQA findings must be made for each identified significant impact and alternative, and must be supported by substantial evidence in the record. (*Sierra Club v. Contra Costa County* (1992) 10 Cal.App.4th 1212, 1222 1224.) Findings must present some explanation to supply the logical step between the ultimate finding and the facts in the record.

(*Topanga Assn. for a Scenic Community v. County of Los Angeles* (1974) 11 Cal.3d 506, 515.) When alternatives or mitigation measures are rejected as infeasible, the findings must reveal the agency's reasons for reaching that conclusion. Conclusory statements are inadequate. (*Village Laguna of Laguna Beach, Inc. v. Board of Supervisors* (1982) 134 Cal.App.3d 1022, 1034-1035.) Detailed findings force decision makers to draw legally relevant sub-conclusions which support their ultimate decisions. In so doing, the agency minimizes the likelihood that it will randomly leap from evidence to conclusions. (*Sacramento Old City Assn. v. City Council of Sacramento* (1991) 229 Cal.App.3d 1011,1034.)

The DEIR fails to meet these standards. The County's selection of Alternative D as the environmentally superior alternative is not supported by substantial evidence. The reader is left with no justification why the reduced scale alternative was rejected or not identified as an environmentally superior alternative over both the project as proposed as well as Alternative D. A new SEIR is therefore required to provide this analysis.

Furthermore, the DEIR provides absolutely no rationale for why Alternative B was not selected. Alternative B admittedly meets all of the Project objectives and has reduced impacts compared to the proposed Project. Thus, under CEQA, the lead agency is required to select that alternative unless it is "infeasible." (14 Cal.Code Regs. §1526.6(e)(2).) The DEIR does not even contend that Alternative B is infeasible, and there is no evidence in the record to support a finding of infeasibility.

In *Burger v. County of Mendocino* (1975) 45 Cal.App.3d 322, the court held that the county's approval of an 80 unit hotel project over a smaller 64 unit alternative was not supported by substantial evidence. The EIR discussed numerous adverse environmental effects that would be caused by the 80 unit project and recommended that the developer be allowed to construct a smaller 64 unit hotel so long as certain mitigation measures were completed, including relocation of some of the proposed buildings. In evaluating whether substantial evidence supported the county's rejection of the smaller alternative as economically infeasible, the court found that "there is no estimate of income or expenditures, and thus no evidence that a reduction of the motel from 80 to 64 units, or relocation of some units, would make the project unprofitable." Thus, the court identified three criteria that should be evaluated in a comparative analysis to determine whether a project alternative or mitigation measure would be economically feasible: (1) estimated income; (2) estimated expenditures; and (3) estimated profitability between the proposed project and alternative, with and without recommended mitigation measures. (See also, *County of El Dorado v. Dept. of Transp*. (2005) 133 Cal.App.4th 1376 (agency must consider smaller alternative to casino project).)

In this case, while the DEIR concludes that Alternative B meets all of the Project objectives, and has reduced environmental impacts compared to the Proposed Project, it does not select that alternative. Moreover, were the EIR to consider, as it must, an alternative located at the former Pomeroy site discussed above, that likely would lead to an even more environmentally superior alternative for the supervisors to consider. The selection of Alternative D as the environmentally superior alternative violates the mandates of CEQA. At the very least, further analysis is required of alternative B and a Pomeroy site alternative in an SEIR.

IV. THE DEIR FAILS TO ANALYZE AND MITIGATE ALL POTENTIALLY SIGNIFICANT IMPACTS

An EIR must disclose all potentially significant adverse environmental impacts of a project. (Pub. Res. Code § 21100(b)(1); 14 Cal.Code Regs. § 15126(a); *Berkeley Jets*, 91 Cal. App. 4th 1344, 1354.) CEQA requires that an EIR must not only identify the impacts, but must also provide "information about how adverse the impacts will be." (*Santiago County Water Dist. v. County of Orange* (1981) 118 Cal.App.3d 818, 831.) The lead agency may deem a particular impact to be insignificant only if it produces rigorous analysis and concrete substantial evidence justifying the finding. (*Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692.) The DEIR for this Project fails to do so.

Furthermore, CEQA requires public agencies to avoid or reduce environmental damage when "feasible" by requiring "environmentally superior" alternatives and mitigation measures. (CEQA Guidelines § 15002(a)(2) and (3); See also, *Berkeley Jets*, 91 Cal. App. 4th at 1354; *Citizens of Goleta Valley,* 52 Cal.3d at 564) As discussed below, the DEIR fails to analyze several highly significant environmental impacts, and fails to require feasible mitigation measures.

A. The EIR Fails to Properly Analyze Greenhouse Gas Emissions

The Draft EIR admits that the Project will generate 8060 tons per year (TPY) of greenhouse gas (CO2 equivalents). Nevertheless, the DEIR fails to perform any analysis of the Project's greenhouse gas ("GHG") impacts, and fails to impose any mitigation measures to reduce these impacts. The DEIR appears to conclude that no analysis is required because "no regulatory guidance or standard methodology yet exists for evaluating GHG emissions." (DEIR, p. V.B-37.) The DEIR also appears to conclude that the Project's GHG emissions are insignificant because the "project would account for only approximately 0.004 percent of the state's emission reduction goal of 174 million tons by 2020." (DEIR, p. V.B.-38.) This analysis is erroneous as a matter of law.

1. The Project's GHG Emissions Exceed State Significance Thresholds

The California Air Resources Board ("CARB") has recently adopted a draft CEQA Significance Threshold concluding that any project generating more than 7000 TPY of GHG emissions is significant under CEQA. (See, Exhibit H.) The Project's admitted emission level of 8060 TPY of GHG significantly exceeds CARB's CEQA significance threshold. Thus, the impact should have been analyzed and mitigated in the EIR. Furthermore, the San Diego Air Pollution Control District has adopted a draft CEQA significance threshold of 900 TPY of GHG. (Exhibit I) The Project's emissions vastly exceed that threshold. (See also, California Air Pollution Control Officers Association ("CAPCOA") White Paper on CEQA and Greenhouse Gases, see, summary at Exhibit J.)

The Governor issued an Executive Order on November 14, 2008 requiring all state agencies to consider the impacts of global warming and sea level rise on all projects proposed for areas vulnerable to sea level rise. (EXECUTIVE ORDER S-13-08.) Since the Project is proposed for the banks of the Petaluma River, close to the San Francisco Bay, it is vulnerable to sea level rise, and these impacts should be considered in an SEIR.

Also, on November 13, 2008 the Environmental Appeals Board ("EAB") of the US Environmental Protection Agency has recently concluded that CO2 may be a "regulated pollutant," and that therefore prevention of significant deterioration ("PSD") review , including best available control technology ("BACT")may be required for any project that generates more than 100 tons per year of CO2. (See, *In Re Deseret Power Electric Cooperative* Decision, EAB 07-03, Exhibit K.) The Project's 8000 tons per year far exceeds this level. The EIR makes no effort whatsoever even to consider BACT for GHG.

Under CEQA section 21092.1, recirculation is required when significant new information becomes available after the close of the public comment period, but before certification of the final EIR, and that new information reveals "a new substantial environmental impact," a "substantial increase in the severity of an environmental impact," or that "the draft EIR was so fundamentally and basically inadequate and conclusory in nature that public comment on the draft was in effect meaningless." (*Laurel Heights II*, 6 Cal.4th at 1130; CEQA Guidelines section 15088.5.)

The CARB CEQA Significance Threshold for GHG, the Governor's Executive Order, the San Diego Air Pollution Control District draft significance threshold, and the EAB decision in *Deseret* all constitute "significant new information" within the meaning of CEQA section 21092.1, requiring recirculation of an SEIR. The new information

became available after the close of the formal public comment period, but prior to certification of the EIR, and the new information shows that the Project will in fact have significant greenhouse gas impacts, contrary to the conclusory analysis in the EIR. Recirculation is therefore required under section 21092.1.

2. The Lack of Regulatory Guidance for Greenhouse Gases Does not Excuse the EIR's Lack of Analysis

The DEIR appears to conclude that no analysis of greenhouse gas is required because "no regulatory guidance or standard methodology yet exists for evaluating GHG emissions." (DEIR, p. V.B-37.) While there is currently little regulatory guidance of evaluating greenhouse gases, this does not relieve a lead agency of its statutory obligation under CEQA to determine whether or not a project's impacts are significant, and to impose feasible mitigation measures and alternatives. Significance thresholds are only "encouraged" under CEQA and are not a prerequisite to an impact analysis. (Guidelines § 15064.7.) In the absence of final thresholds and standards, lead agencies must rely on their own "careful judgment ... based to the extent possible on scientific and factual data" in determining whether a project's global warming-related impacts are significant. (Guidelines §15064(b); see also *Mira Mar Mobile Community v. City of Oceanside*, 119 Cal. App. 4th 477, 493 (2004) ("[A] lead agency must necessarily make a policy decision in distinguishing between substantial and insubstantial adverse environment impacts").) The court in *Keep Berkeley Jets Over the Bay* made clear that where there is not a "universally accepted" methodology, a lead agency must still "disclose all it can" about project's impacts and evaluate those methodologies that are available. (91 Cal. App. 4th at 1370.)

Indeed numerous agencies have analyzed greenhouse gas impacts and proposed mitigation measures for other projects, such as the Chevron Richmond Refinery expansion, and the ConocoPhillips Rodeo refinery expansion. (See, Comments of Dr. Pless.) Such analysis and mitigation is clearly feasible even in the absence of regulatory guidance. Under CEQA the lead agency must still make "a good faith effort" to fully disclose what they can about project impacts by providing data on emissions and use their own "careful judgment ... based to the extent possible on scientific and factual data" to determine whether the project's greenhouse gas impacts were significant. (Guidelines §§ 15151, 15064(b).) The EIR fails to meet these standards, and an SEIR is therefore required to analyze the Project's greenhouse gas impacts and to propose feasible mitigation.

3. The EIR's "De Minimis" Analysis is Contrary to Law

The DEIR appears to conclude that the Project's GHG emissions are de minimis because the "project would account for only approximately 0.004 percent of the state's

emission reduction goal of 174 million tons by 2020." (DEIR, p. V.B.-38.) This "drop in the bucket" approach has been rejected by the courts.

In *Communities for a Better Env 't v. Calif. Resources Agency*, the court specifically struck down a CEQA Guideline which provided that an EIR need not consider significant de minimis contributions to a cumulative impact. (103 Cal. App. 4th at 117.) While the court also noted that "one additional molecule" might not be considered a cumulative impact, this Project would generate far more than one molecule of greenhouse gas emissions. (*Id*. at 120.) Indeed, almost any project would appear insignificant, even an oil refinery or power plant, if compared to the entire statewide greenhouse gas emissions inventory.

To the contrary, CEQA requires an analysis of "cumulative impacts," or the impacts of a project together with other past, present and future projects. (CEQA Guidelines section 15130(a).) This is precisely the type of impact created by greenhouse gas emissions. CEQA section 21083, requires a finding that a project may have a significant effect on the environment if "the possible effects of a project are individually limited but cumulatively considerable. . . . 'Cumulatively considerable' means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects." "Cumulative impacts" are defined as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." (CEQA Guidelines section 15355(a).) "[I]ndividual effects may be changes resulting from a single project or a number of separate projects." (CEQA Guidelines section 15355(a).)

"The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time." (*CBE v. CRA*, 103 Cal.App.4th at 117.) A legally adequate cumulative impacts analysis views a particular project over time and in conjunction with other related past, present, and reasonably foreseeable probable future projects whose impacts might compound or interrelate with those of the project at hand. "Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time." (CEQA Guidelines § 15355(b).)

As the court recently stated in *CBE v. CRA*, 103 Cal. App. 4th at 114:

> Cumulative impact analysis is necessary because the full environmental impact of a proposed project cannot be gauged in a vacuum. One of the most important environmental lessons that has been learned is that environmental damage often

> occurs incrementally from a variety of small sources. These sources appear insignificant when considered individually, but assume threatening dimensions when considered collectively with other sources with which they interact.

(Citations omitted).

In *Kings County Farm Bureau v. City of Hanford*, 221 Cal.App.3d at 718, the court concluded that an EIR inadequately considered an air pollution (ozone) cumulative impact. The court said: "The [ ] EIR concludes the project's contributions to ozone levels in the area would be immeasurable and, therefore, insignificant because the [cogeneration] plant would emit relatively minor amounts of [ozone] precursors compared to the total volume of [ozone] precursors emitted in Kings County. The EIR's analysis uses the magnitude of the current ozone problem in the air basin in order to trivialize the project's impact." The court concluded: "The relevant question to be addressed in the EIR is not the relative amount of precursors emitted by the project when compared with preexisting emissions, but whether any additional amount of precursor emissions should be considered significant in light of the serious nature of the ozone problems in this air basin." (See also, *Friends of Eel River v. Sonoma County Water Agency*, (2003) 108 Cal. App. 4th 859 (EIR for a project that would divert water from the Eel River had to consider the cumulative impacts of the project together with other past, present and reasonably foreseeable future projects that also divert water from the same river system).)

The failure of the EIR to analyze the Dutra Project's individual and cumulative greenhouse gas emissions "makes the EIR an inadequate informational document." (*Eel River*, at 872.)

4. The EIR Improperly Fails to Impose Feasible Mitigation Measure to Reduce GHG Impacts

Because the EIR fails to identify GHG impacts as significant, it also fails to impose feasible mitigation measures. Dr. Pless outlines numerous feasible mitigation measure that should be required to reduce this Project's GHG impacts. These measures should either be required for the Project, or specific findings should be made explaining why each is infeasible. These measures should also be required as BACT under the federal clean air act's PSD provisions.

- Require use of higher levels of biodiesel fuel in heavy duty equipment, trucks and tugboats, up to 100%.
- Require use of natural gas-powered yard equipment where available.
- Require installation of solar photovoltaic panels to supplement power needs.

- Provide facilities on tugboats and dock to allow electrification of tugboats while at dock ("cold ironing").

While this list is not intended to be exhaustive, it contains measures that should be considered and evaluated for this Project.

B. The DEIR Fails to Accurately Analyze Operational Air Quality Impacts

As discussed in detail by Dr. Pless, the Draft EIR's operational air quality analysis is flawed because:

1. it uses the wrong CEQA baseline by subtracting emissions from the long-since closed Dutra facility and the temporary Dutra facility from the proposed Project's emissions;
2. it underestimate hours of operation by at least 20%;
3. it underestimates truck emissions by as much as 400%;
4. it fails to properly calculate tugboat emissions;
5. it fails to calculate off-site entrained road-dust;
6. it fails entirely to calculate emissions from sources such as the hot oil heater.

1. The EIR Uses the Wrong CEQA Baseline

The EIR uses the wrong CEQA "baseline." In all of the air pollution calculations, the EIR calculates the air pollution from the proposed Project, but then subtracts the emissions from "the five-year historic average production rate of 131,498 tons per year of asphalt and a maximum daily production rate of 2,000 tons per day that occurred at the original (now closed) facility and the temporary facility in Petaluma." (DEIR, p. V.B-23.)

This analysis is erroneous as a matter of law because it gives Dutra "baseline" credit for emissions from the temporary facility and even the closed former facility. Since Dutra is constructing an entirely new facility on a new parcel of property, this is a new project, not a modification, and the baseline is the condition that exists on the vacant parcel – zero. It is improper to give a company credit for emissions from a temporary facility or a closed facility.

As discussed in the comments of air quality expert Dr. Petra Pless, this correction reveals that the Project has numerous significant air quality impacts that are erroneously identified as insignificant in the EIR. The EIR masks these impacts and misleads the public about the Project's true impacts by using an erroneous baseline. These impacts must be analyzed and mitigated in an SEIR.

a. The CEQA Baseline

Every CEQA document must start from a "baseline" assumption. The CEQA "baseline" is the set of environmental conditions against which to compare a project's anticipated impacts. Section 15125(a) of the CEQA Guidelines (14 C.C.R., § 15125(a)) states in pertinent part that a lead agency's environmental review under CEQA:

> "…must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time [environmental analysis] is commenced, from both a local and regional perspective. This environmental setting will normally constitute the baseline physical conditions by which a Lead Agency determines whether an impact is significant." (Emphasis added.)

(*See*, *Save Our Peninsula Committee v. County of Monterey* (2001) 87 Cal.App.4th 99, 124-125 ("*Save Our Peninsula.*") As the court of appeal has explained, "the impacts of the project must be measured against the 'real conditions on the ground,'" and not against hypothetical permitted levels. (*Save Our Peninsula*, *supra*, 87 Cal.App.4th 99, 121-123.)

b. The Proper CEQA Baseline is Zero Because the Site of the Proposed Project is Vacant.

Dutra proposes to construct its Project on a vacant lot. There is no asphalt plant or any other facility currently operating on the site. Thus, the "real condition on the ground" is a zero baseline. The EIR misleads the public into thinking the Project's emissions will be much lower by subtracting maximum daily emissions from the closed asphalt plant and the temporary asphalt plant – neither of which exist on the site at all. As the court has explained, using such a skewed baseline "mislead(s) the public" and "draws a red herring across the path of public input." (*San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal.App.4th 645, 656.) Subtracting emissions from a plant that does not even exist anymore "failed to adequately apprise all interested parties of the true scope and magnitude of the Project." (Id. at p.657.)

The EIR's error is similar to that in *Woodward Park Homeowners v. City of Fresno ("Woodward*") (2007) 150 Cal.App.4th 683, 708-711.) In that case, a developer proposed to build a shopping mall on a vacant lot. The EIR erroneously used as a baseline an office park that was previously approved for the parcel as the baseline, and subtracted the difference. The court held that the baseline should have been zero since the property was actually vacant. Using the non-zero baseline for the vacant parcel misled the public into thinking the proposed shopping mall's impacts would be much less than they would be when compared to the existing vacant parcel.

c. There Should be No Baseline Credit for a Closed Facility on a Different Parcel

Even if it were appropriate to provide some level of baseline credit for the temporary Dutra facility (which it is not). There is absolutely no justification to provide baseline credit for the closed Dutra facility.

The EIR states that the baseline includes emissions "that occurred at the original (now closed) facility." (DEIR, p. V.B-23) As discussed above, CEQA requires the baseline to reflect the "real conditions on the ground," at the time that CEQA review commences. (*Save Our Peninsula*, *supra*, 87 Cal.App.4th 99, 121-123.) At the time that CEQA review commenced, the closed Dutra facility did not exist. It was not a "real condition on the ground." Thus, it should be excluded from any baseline calculation.

d. There Should be No Baseline Credit for a Temporary Facility on a Different Parcel

The EIR should also not provide any credit for emissions from the temporary Dutra facility. Even though the temporary facility did exist at the time that CEQA review commenced, the EIR makes clear that the temporary facility is operating on a three-year temporary lease, and that the landowner will not extend the lease term. (DEIR, p. III-37) Thus, the temporary facility is just that – temporary. In a short period of time, it will no longer exist. It is misleading to compare the emissions from a permanent project to those of a temporary project that will soon cease to exist.

A similar situation arose in the case of *Apartment Ass'n of Greater Los Angeles v. City of Los Angeles* (2001) 90 Cal.App.4th 1162, 1169. In that case, the city contended that a permanent home inspection program would have no impacts because the program was essentially the same as a temporary program that it was replacing, and that therefore no CEQA review was required. The court disagreed, holding that the very fact that one program was temporary and the other permanent made them different projects under CEQA. The court stated:

> a comparison of the interim and permanent programs shows they are not the same. The very fact one was temporary and the other is permanent is enough to distinguish them because the environmental impact of a short-term program may be much less significant than a program of indefinite duration. (Id.)

(*See also*, *Chamberlin v. City of Palo Alto*, (1986) 186 Cal.App.3d 181, 187, which held that a permanent traffic plan for a neighborhood in Palo Alto was a separate CEQA project from a very similar interim traffic plan for the same area.)

Similarly here, the temporary asphalt plant has very different impacts than a permanent plant, and a "short-term program may be much less significant than a program of indefinite duration." This is particularly true for toxic air pollutants. Health risk assessments take into account as a primary factor the length of time that a person is exposed to cancer-causing air pollutants. Thus, while it may be insignificant to be exposed to a particular carcinogen at a particular level for a three-year period, exposure to that same pollutant for 30 or 70 years at the exact same level may create a highly significant cancer risk. However, using the EIR's methodology, there would be no impact reported by extending a toxic exposure from three years to 70 years. It is entirely inappropriate from a technical standpoint to subtract the toxic air emissions of the temporary plant from those of the proposed permanent plant. Even if the emissions were exactly the same (which they are not), the permanent plant will have much greater cancer-causing potential due solely to its permanent nature. Subtracting the temporary facility's toxic emissions from the permanent facility's toxic emissions significantly understates the Project's toxic chemical impacts.

Once again, the baseline analysis misleads the public by masking the Project's true impacts. An SEIR is required to analyze the Project's impacts using the proper baseline methodology.

2. The Project Will Have Significant Criteria Air Pollutant Emissions, Contrary to the Conclusions of the EIR

Dr. Pless demonstrates that when corrected for the erroneous baseline, the Project will have significant impacts from Reactive Organic Compound (ROGs), particulate matter under 10 microns (PM-10), and Nitrogen Oxides (NOx). The EIR erroneously concludes that only NOx impacts will be significant and that ROGs and PM-10 will not be significant. Dr. Pless' calculations are summarized as follows:

Table 1:
Daily and average annual emissions from the proposed facility
and BAAQMD daily and annual significance thresholds

	PM10	**ROG**	**NOx**	**CO**
Daily emissions (lb/day)*	134	112	391	150
BAAQMD Threshold (lb/day)	80	80	80	550
Significant?	YES	YES	YES	no
Average annual emissions (ton/year)*	5.4	4.2	35	14
BAAQMD Threshold (ton/year)	15	15	15	n/a
Significant?	no	no	YES	n/a

* from Final EIR, Appendix B "Revisions to Air Quality Calculations," Table D-19

Table 1 demonstrates that emissions from the proposed facility when compared to a zero emissions baseline would exceed the BAAQMD's daily thresholds of significance for PM10, ROG, and NOx. The EIR identified NOx emissions as significant on both a daily and annual basis but due to its incorrect use of baseline emissions from the existing temporary facility failed to identify and properly mitigate the Project's significant maximum daily PM10 and ROG emissions.

Furthermore, Dr. Pless calculates that even if a baseline were used that subtracted emissions from the temporary Dutra facility, the Project would still have significant criteria emissions.

PM-2.5: First, the EIR fails entirely to calculate PM-2.5 emissions from the Project. The Bay Area fails to attain state and federal PM-2.5 standards. PM-2.5 is known to be one of the most deadly airborne pollutants, and can cause asthma, respiratory illness and premature death. Nevertheless, the EIR fails even to attempt to quantify the Project's PM-2.5 emissions. Dr. Pless concludes that the Project would have PM-2.5 emissions far above relevant significance thresholds. Therefore, PM-2.5 should have been disclosed as a significant adverse impact, and the EIR should have proposed feasible mitigation measures.

Entrained Road Dust: Dr. Pless also notes that the EIR fails entirely to calculate emissions from off-site entrained road dust. Entrained road dust is one of the major sources of particulate matter emissions. While the EIR calculates on-site entrained road dust, it fails entirely to calculate off-site entrained road dust. It is well-established that an EIR must consider both on-site and off-site impacts, both direct and indirect. (*Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692.) Dr. Pless' calculations show that off-site entrained road dust is actually a greater source of particulate matter pollution than on-site road dust. Dr. Pless calculates that based on BAAQMD emission factors, entrained PM10 road dust emissions due to truck travel on on-site paved roads from may be as high as 2,066 lb/day rather than 1.6 lb/day reported in the EIR, and 86.1 tons/year, rather than 0.5 tons/year reported in the EIR. This omission renders the particulate matter analysis inadequate. Correcting for this error, Dr. Pless concludes that the Project will have significant particulate matter emissions (PM-10 and PM-2.5), contrary to the conclusions of the EIR. As a result of this omission, the EIR fails to propose feasible mitigation measures to reduce the Project's particulate matter impacts.

Barge Traffic: The EIR erroneously concludes that the Project will generate 125 barge trips per year. Dr. Pless' calculations demonstrate that this conclusion is erroneous and that the Project is almost certain to generate much higher levels of barge traffic. As a result of this error, the EIR significantly underestimates Project impacts from barge traffic related to air pollution and other barge-related impacts.

Dr. Pless explains that the EIR states that the barges used to deliver raw aggregate and sand from the San Rafael quarry range in capacity from 800 to 4,000 tons and that approximately 125 barge trips would be required per year to deliver the 500,000 tons per year of raw materials. (Draft EIR, p. III-45.) These statements appear to be contradictory as it would take a minimum of 125 barge trips if all barges delivering had a capacity of 4,000 tons. If smaller barges were used, it would take more than 125 trips unless several smaller barges were pushed simultaneously by tugboat. Because emissions estimates from barge imports are based on 125 tugboat emissions, the emissions are significantly underestimated.

Further, the EIR states that tugboats would normally idle for two to six hours while the barge is unloaded, depending on the size of the barge. (DEIR, p. III_46) Yet, the EIR's emissions estimates are based on only two hours of idling of the tugboat's auxiliary engine. (Draft EIR, Appendix D, Table D-18.) Assuming the tugboat's auxiliary engine would idle for six hours during offloading, emissions per trip would increase would increase by a factor of three. For example, NOx emissions from the tugboat's auxiliary engine would increase from 2.8 to 8.3 lb/trip. The EIR should be revised to account for emissions from the up to six hours of idling that could occur during offloading of larger barges.

In addition to underestimating Project impacts, the inconsistent barge traffic description constitutes an inadequate project description. Under CEQA, the inclusion in the EIR of a clear and comprehensive description of the proposed project is critical to accurate analysis of impacts and meaningful public review. (*County of Inyo v. City of Los Angeles,* 71 Cal. App. 3d 185, 193 (1977) ("Inyo II").) The court in *Inyo II* explained why a thorough project description is necessary:

> A detailed or curtailed project description may stultify the objectives of the reporting process. Only through an accurate view of the project may affected outsiders and public decision-makers balance the proposal's benefit against its environmental cost, consider mitigation measures, assess the advantage of terminating the proposal (i.e. the no project alternative) and weigh other alternatives in the balance.

(71 Cal. App. 3d at 192-193.) "A curtailed, enigmatic or unstable project description draws a red herring across the path of public input." (*Id*. at 197-98; *see also San Joaquin Raptor Rescue Ctr*., 149 Cal. App. 4th at 655-57 (invalidating EIR for misleading project description).) Here, the EIR's project description falls short of this standard.

Hours of Operation: The EIR also underestimates Project emissions by underestimating maximum hours of operation. The EIR's calculations assume a maximum of ten hours of operation each day. However, the Project description makes clear that the Project may operate up to 12 or more hours each day. This error underestimates all Project emissions by 20% or more.

Dr. Pless explains that the EIR's maximum daily emissions estimates for the new facility are based on an asphalt concrete production of 4,000 tons/day calculated from the maximum hourly production of 400 tons/hour and 10 hours of operation per day. (Draft EIR, Appendix D, Tables D-15 and D-16.) However, the EIR proposes normal hours of operation of 6 AM to 6 PM, *i.e.* 12 hours of operation for the new facility. In addition, the EIR proposes "evening and weekend operations as needed, to allow prompt delivery of finished product for Caltrans, local agency or other construction projects, and to reduce traffic congestion and disruption that might be caused by highway paving or other construction projects during normal operating hours" thereby effectively removing any daily operating restriction. (Draft EIR, p. III-40.)

Increasing daily operations from 10 to 12 hours permits production of 4,800 tons/day of asphalt concrete, 20 percent higher than the maximum daily production of 4,000 tons/day assumed in the EIR. Evening operations "as needed could further increase the maximum daily asphalt concrete production. Emissions from the facility would increase accordingly. If, for example, the dryer at the new facility were operated for 12 hours per day rather than 10 hours per day, which is reasonably foreseeable under the proposed operating schedule, PM10 emissions from the dryer would increase by 20 percent from 108 pounds per day ("lb/day") to 129.6 lb/day. After subtracting the baseline PM10 emissions of 54 lb/day from the existing facility, PM10 emissions attributable to the Project are 75.6 lb/day for the dryer alone. According to the EIR, the Project's other emissions sources generate an additional 12 lb/day of PM10,[3] increasing total Project PM10 emissions to 87.6 lb/day, which exceeds the BAAQMD's daily threshold of significance for operational emissions of 80 lb/day by 10 percent. This constitutes a significant impact on air quality that was not identified in the EIR and has not been mitigated. Emissions in excess of the BAAQMD's daily threshold of significance indicate that exceedances of the state or federal 24-hour ambient air quality standards for PM10 are likely.

Thus, the miscalculation of hours of operation lead the EIR to erroneously conclude that PM-10 emissions will be insignificant when they will exceed BAAQMD

[3] *See* Draft EIR, Appendix D, Tables D-6, D-13, and D-19: [(proposed plant total PM10 emissions: 134 lb/day) – (proposed plant existing dryer PM10 emissions: 108 lb/day)] – [(existing plant total PM10 emissions: 70 lb/day) – (existing plant dryer PM10 emissions: 56 lb/day)] = **12 lb/day**.

thresholds, and leads to a significant underestimation of NOx, ROG, SOx and other emissions. In addition, the error clearly constitutes an inadequate Project description. Therefore, the EIR should be revised to account for those days when projects demand more asphalt concrete product than can be produced during 10 hours, and the EIR should propose feasible mitigation measures to reduce these impacts.

Truck Traffic: The air quality analysis of the EIR underestimates truck traffic by up to 430%, resulting in a 430% underestimation of air pollution emissions from trucks, including NOx, SOx, PM-10, PM-2.5, ROGs and Diesel Engine Exhaust ("DEE"). The EIR's air quality section estimates maximum daily emissions from truck engines based on 174 truck roundtrips per day. (DEIR, Appendix D, Table D-16) However, the EIR's traffic section estimates about 1,500 truck trips, or about 750 truck roundtrips, per peak day. (Id.) Thus, emissions associated with truck traffic would be higher by a factor of 4.3. To determine whether the Project would result in violations of short-term ambient air quality standards, emissions estimates must be based on this peak daily truck traffic. Further, the EIR fails to include emissions from worker vehicles in its estimates of maximum daily emissions.

Dr. Pless calculates that based on 750 truck roundtrips per day, truck combustion emission associated with import and export of materials would be 52.7 lb ROG/day, 215.8 lb CO/day, 770.6 lb NOx/day, 31.0 lb PM10/day, and 5.4 lb SOx/day.[4] The EIR must be revised to account for these emissions. Furthermore, the EIR fails to calculate emissions from truck idling, which is common as truck line-up at the facility.

The error in calculating truck traffic leads to an underestimation of Project emissions, as well as an inconsistent project description in violation of CEQA.

Hot Oil Tank Heater: The EIR fails entirely to calculate emissions from the hot oil tank heater. This device will use a 2.0 MMBtu/hr natural gas-fired burner to heat the oil. (DEIR, p. V.B-15.) Emissions will add significantly to overall Project emissions of NOx and other pollutants.

[4] Based on the EIR's emission factors for ROG, CO, NOx, PM10 and SOx and assuming 750 truck roundtrips per day and a roundtrip distance of 25 miles, maximum daily combustion emissions associated with truck traffic are:

	ROG	**CO**	**NOx**	**PM10**	**SOx**
Emission Factor (lb/vehicle mile traveled)	0.002812	0.011507	0.041101	0.001652	0.00029
Maximum daily emissions (lb/day)	**52.7**	**215.8**	**770.6**	**31.0**	**5.4**

Blue Smoke: Blue smoke, *i.e.* a haze of hydrocarbon droplets that frequently escapes from asphalt loadout, is the most common cause of odor complaints at asphalt facilities affecting both on-site workers and off-site receptors. The EIR states that the Project would be using an Astec fiber-bed mist collector at the load-out silos which "should eliminate nuisance odors and complaint." The EIR therefore concludes without further discussion that impacts related to odors would be less than significant. (DEIR, p. V.B.-36.)_

Dr. Pless concludes that this discussion fails to adequately disclose the potential nuisance problems associated with the Project. Dr. Pless states that observation of similar facilities indicate that trucks often leave asphalt facilities without properly covering their loads with tarps to reduce emissions. Also, roll-up door, or other doors often do not close properly or quickly enough to eliminate the release of blue smoke from the facility. Dr. Pless concludes that any problems with blue smoke escaping from the Project's loadout area would be exacerbated by local meteorological conditions. During the spring, summer and early fall, Central Valley thermals pull in the marine layer through the Bodega Gap northwest of Petaluma. As the winds enter the Petaluma River valley, winds are directed mostly east. These winds, reported at 20 to 30 miles per hour, typically pick up around noon and last until near sunset (and blow directly into Shollenberger Park.) Under these conditions, the strong winds could potentially overpower the capacity of the fans venting the asphalt loadout and allow blue smoke to escape.

Dr. Pless concludes that blue smoke from the facility may severely affect local air quality. Any release of blue smoke could affect residences and diminish the enjoyment of visitors to Shollenberger Park. The EIR should be revised to provide a more in-depth discussion of blue smoke problems and discuss which operating procedures would be undertaken to minimize release of blue smoke.

3. The Project Will Have Significant Adverse Health Impacts, Contrary to the EIR's Conclusions

The EIR contains no human health risk assessment ("HRA"), contrary to the mandates of CEQA. The courts have held that it is necessary to 'correlate adverse air quality impacts to resulting adverse health impacts." (*Bakersfield Citizens for Local Control v. Bakersfield* (2004) 124 Cal. App. 4th 1184, 1219) Instead, the EIR relies on an outdated HRA prepared by the BAAQMD, which has since been updated.

The EIR concludes that the Project will not have significant cancer or acute health risks. However, the HRA upon which the EIR relies did not take into account emissions from trucks, barges and tug boats, all of which are major sources of diesel engine exhaust ("DEE"). DEE has been identified by the State as a chemical known to

cause cancer in humans and is responsible for 70% of total airborne cancer risk statewide. BAAQMD prepared a revised HRA that is not mentioned in the EIR taking into account tugboat and truck emissions. The revised HRA concluded that the Project's acute hazard index would be 0.97—which is essentially equivalent to the significance threshold of 1.0 according to the BAAQMD. Nevertheless, the EIR erroneously concludes that the Project's acute hazard index is insignificant. The revised HRA also concludes that the Project's off-site cancer impact at the point of maximum impact is 19.4 per million, well above the BAAQMD CEQA significance threshold of 10 per million.

Furthermore, Dr. Pless concludes that even the revised BAAQMD HRA appears to underestimate the Project's health risk, because it uses an emission factor for tugboats that is 21% lower than reported in the final EIR, and fails to include the highly carcinogenic crystalline silica. Finally, the HRA fails to consider the cumulative impacts of the Project together with other sources of carcinogens in the area such as the nearby Highway 101 and other industrial facilities. Correcting for these factors, it is clear that the Project will have significant carcinogenic and non-carcinogenic health risks both individually and cumulatively.

Also, the EIR fails to analyze impacts on worker health at all. Workers are likely to be exposed to the highest levels of toxic emissions from diesel engine exhaust, blue smoke, crystalline silica and other sources. There is no exemption for worker health in CEQA. The Project's impacts on worker health must be analyzed in a SEIR.

4. The EIR Fails to Propose Feasible Mitigation Measures To Reduce the Project's Impacts

Dr. Pless concludes that there are numerous feasible mitigation measures that should be imposed to reduce the Project's significant, but undisclosed environmental impacts. CEQA requires public agencies to avoid or reduce environmental damage when "feasible" by requiring "environmentally superior" alternatives and mitigation measures. (CEQA Guidelines § 15002(a)(2) and (3); See also, *Berkeley Jets*, 91 Cal. App. 4th 1344, 1354; *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 564) The lead agency may not approve a project unless it finds that it has imposed all feasible mitigation measures. (Pub.Res.Code § 21081; 14 Cal.Code Regs. § 15092(b)(2)(A) & (B).) Additional mitigation measures must be analyzed in a SEIR. These include, but are not limited to the following:

- Electrical hookups for tugboats at the loading dock;
- Mandatory idling restrictions

- Requiring yard off-road equipment to be equipped with CARB-verified Tier 3 or Tier 4 emissions controls;

- Covered stockpile storage;

- Waste heat recovery and increased insulation of Project components;

- Requiring Dutra to purchase emission reduction credits to offset its pollution;
- Blue Smoke: Limit release of blue smoke by requiring tarping, and analyze the feasibility of an entirely enclosed facility;

- Solar and Wind Power: Require the applicant to install solar and/or wind turbines either on-site or off-site to offset greenhouse gas emissions;

- Fugitive dust control measures beyond those set forth in the EIR.

C. The EIR'S Noise Analysis Fails to Consider the Impacts of Noises from the Project, Including Fire Station and Truck Sirens, on the Heron and Egret Nesting Area

The EIR finds that noise impacts from the project on the egret and heron colony at the site will be significant but that proposed mitigations would reduce those impacts to a less than significant level. *See* DEIR, p. V.C-39 ("With implementation of the mitigation measures listed above, all potential impacts on biological and wetland resources would be mitigated to a level of ***less than significant***") (emphasis in original). The EIR severely downplays the seriousness of the project's noise impacts on the heron/egret rookery located on the northwestern edge of the project, by completely ignoring existing and expected sound levels at the rookery and completely ignoring loud noises in the rookery resulting from the proposed fire station, on-site truck operation, and the conveyor system. (*See* Exhibit B - Comments of T.A. Barnebey, Ph.D., Sound Solutions Acoustical Consulting Services (Dec. 4, 2008).) In addition, no substantial evidence supports the EIR's conclusion that the mitigation measures identified as addressing noise impacts on the rookery will reduce adverse noise levels to any meaningful degree. (*Id*.)

Colonial breeding sites (or rookeries) of great and snowy egrets and great blue herons, like the rookery at the site, are considered sensitive by the California Department of Forestry and Fire Protection, and these species tend to be highly sensitive to human intrusion and disturbance of nesting colonies. (DEIR, p. V.C-6.) Under CEQA, the County has to make a conscientious effort to collect relevant data or make inquiries to appropriate environmental and wildlife agencies having expertise on a

potential impact. (*See Berkeley Keep Jets Over The Bay Committee v. Board of Port Commissioners* (2001) 91 Cal.App.4th 1344, 1370.) The EIR makes no such effort. It's conclusion that a few partial or irrelevant mitigations reduce the project's noise impacts on the rookery to less than significant levels ignores most of the project's noise and is not based on substantial evidence.

1. The EIR Fails to Gather or Consider Actual Existing or Expected Noise Levels Within the Grove Sheltering the Heron/Egret Colony

As Dr. Barnebey observes, in preparing for the EIR, neither the County nor Dutra measured or calculated any existing noise levels or expected noise levels from the project at the egret/heron rookery. (Exhibit B, Barnebey Comment.) Although the ambient noise level measurement locations straddle the colony, they are at least 100 feet from the rookery. (DEIR, Att. H.) In terms of the project's anticipated noise levels, the closest receptor site measured or analyzed for noise levels is at least 250 feet away from the colony (Residence 3 – Bollard & Brennan Report 2004.) Of the facility operations for which noise levels were measured or projected, the barge off-loading area is only about 100 to 150 feet from the rookery. "[B]arge unloading activities generated noise levels of approximately 72 dB L50 and 80 dB Lmax at a distance of 100 feet from the barge unloading activities." (DEIR, p. V.1-17; *Id*., Att. H (Bollard & Brennan Report, p. 13).) Despite the close proximity of the rookery to the barge loading area, as well as other project components that will generate excessive noise, neither Dutra nor the County made any effort to determine a threshold of significance noise level for the rookery or the effect of expected increases in noise levels that will be experienced by birds using the rookery area. (Barnebey Comment.) There is no dispute that noise may have a significant impact on egrets and herons using the rookery and the absence of any effort by the applicant or the County to quantify and evaluate impacts of existing and expected noise levels in this sensitive area renders the EIR's impact analysis incomplete and legally inadequate.

2. The EIR Fails to Address Noise Levels in the Rookery that will be Generated by Alarms and Sirens at the Proposed Fire Station

In addition to ignoring noise levels within the rookery itself, and as pointed out by Dr. Barnebey, the EIR and the accompanying noise analyses also completely ignore extremely loud activities proposed for the project and those noises' adverse effect on the heron/egret rookery. (Exhibit B, Barnebey Comment.) The most significant example of this is the EIR's failure to specifically address noise associated with operating a proposed fire station about 50 feet from the rookery tree grove. (DEIR, p. III-43 (Figure III-16 (Site Development Plan); *See* DEIR, p. III-37 ("The project also includes construction and operation of a fire station facility for vehicle storage and training for the San Antonio Volunteer Fire Department.").) The new fire station would

be situated adjacent to the rookery and the entrance to the proposed facility. (DEIR, p. III-38.) Four vehicles would be stored at the new fire station. (DEIR, p. III-39 ("Four vehicles would be stored at the site; one Type-one Ladder Truck, one Type-three Engine, one Water-Tender, and one Rescue Squad.").) Approximately 150 times per year, alarms would sound and one or more of those emergency vehicles would rush from the new station to respond to calls. (DEIR, p. III-38.) The DEIR states that "Fire Department staff indicate that it is policy and practice to only use sirens when the emergency vehicles reach vehicular traffic on a busy street or intersection." Given that the facility itself expects to generate at peak times up to 60 truck trips per hour, it would seem likely that the exit/entrance to the facility shared with the fire station will be quite "busy" and emergency vehicles leaving the fire station will want to make sure truck drivers (themselves operating loud vehicles) are aware of them and use their sirens. In addition, two to three times per month, training related to "structure and wildland fire training, vehicle accident scenarios and other emergency medical responses" would be conducted at and around the new fire station. *Id*. Whether or not the anticipated training includes the use of sirens or other noise-generating activities is not described in the EIR. *Id*.

The DEIR does mention noise from fire trucks but only in the context of impacts to nearby residents. (DEIR, p. V.1-19.) Fire truck sirens generally produce noise levels of 108-112 dB at 50 feet. (*Id*.) Fire truck horns are almost as loud, producing blasts of 101-102 dB Lmax at 50 feet. (*Id*.) By failing to address the effect of this significant acute noise source proposed for the project on the egret/heron bird rookery, the EIR fails to comply with CEQA's requirement to evaluate all significant environmental impacts.

3. The EIR Fails to Address Noise Levels that will be Generated by the Project's Conveyer and On-Site Trucks and their Impact on the Egret/Heron Rookery

Other noisy components of the proposed project also are not addressed in the EIR, including the expected noise levels from operation of the conveyor and on-site trucks. At its apparently closest point, the conveyor will pass within 125 feet of the rookery. (DEIR, p. V-C-34 ("The alignment of the proposed conveyor would turn less than 125 feet from the edge of the colony").) The DEIR acknowledges that noise from the conveyor may have an adverse impact on birds using the rookery grove. (*See, id*. (the conveyor "would also generate noise during operation, which could be very disruptive if operated at night during the nesting season").) Nevertheless, the EIR's noise analysis fails to provide the reader or supervisors any idea what level of noise will be generated by that feature, including within the rookery area. (*See* DEIR, p. V.1-17-18.)

Similarly, although the EIR presented some analysis of off-site noises relating to the upwards of 60 trucks per hour that will be using the facility, no effort is made in the DEIR or accompanying noise analyses to quantify the expected noise levels of that many trucks leaving and entering the facility or the resulting impacts to noise levels in the rookery or at other locations. (Barnebey Comment; *see* DEIR, Att. H (Bollard & Brennan Report, p. 14) (proposed facility to "generate approximately 60 peak hour truck trips").)

Of particular concern is the failure of the EIR and noise analyses to consider truck noise at the entrance/exit to the facility, which is adjacent to the fire station and within about 100 feet or so of the rookery. Curiously, the noise analysis prepared for the project reviews off-site truck noise impacts, but fails to address the more relevant on-site truck noises, except perhaps some truck noises around the asphalt plant. (*See* DEIR, Att. H (Bollard & Brennan Report, p. 14); DEIR, p. V.1-14.) The DEIR states that noise levels at the asphalt plant, including trucks at that portion of the facility, are expected to generate 75 dB L50 and 85 dB L-max within 100 feet of the asphalt plant. (DEIR, p. V.1-14.) According to the DEIR, trucks will generate between 82 and 95 dB Leq at 50 feet. (*Id*., p. V.1-11 (Table V.1-7).) From these types of noise levels, one would expect that trucks entering and leaving the facility at the entrance 100 feet from the rookery would be creating bursts of very loud noise somewhere between 75 dB and 89 dB. (*See* DEIR, p. V.1-10 (noise level reduce approximately 6 dB per doubling of distance).) Given the entrance's proximity to the bird rookery, the absence of any discussion in the EIR of the obvious noise generated by hundreds of trucks a day rumbling past this location and accelerating onto the adjacent road, is a serious oversight under CEQA.

4. The Conclusion of the EIR'S Biological Impacts Section that Noise Impacts Along the Shoreline and Within the Rookery will be less than Significant after Mitigation is not Supported by Substantial Evidence

The EIR's cavalier mention of noise impacts on the egret/heron colony results in equally cavalier and unsupported assertions that mitigation measures with little relevance to most of the project's noise levels would adequately mitigate the project's expected noise impacts to the bird rookery. (DEIR, p. V.C-39 ("With implementation of the mitigation measures listed above, all potential impacts on biological and wetland resources would be mitigated to a level of *less than significant*").) Contrary to the EIR's noise discussion, the biological impact discussion at least mentions noise as an issue for the egret/heron colony and other wildlife at and adjacent to the proposed project site. However, the biological impact discussion only mentions noise issues in the vaguest sense, generally including noise amongst two or three other concerns for wildlife, including nighttime lighting and visual proximity. (*See, e.g.* DEIR, p. V.C-24 ("Proposed lighting, noise generated by the periodic operation of the off-loading facility and

conveyor, and vehicle equipment operation would all discourage foraging and possibly nesting along this segment of the River shoreline"); DEIR, p. V.C-34 ("Nesting, roosting, and foraging birds tend to be sensitive to human and vehicle intrusion, and other disturbance factors such as loud noises, night-time illumination, or other sudden factors to which they are not acclimated").) As mentioned above, no effort is made to quantify existing or future noise levels within the rookery area. (Barnebey Comment). Nor does the EIR attempt to compare any increased noise levels in and around the rookery to any thoughtful assessment of what level and kinds of noise may be harmful or disruptive to a bird colony such as exists at the site. (*Id*.) Readily available information indicates that "clear-cutting and construction near a colony are particularly damaging, and a 1000-foot buffer zone around colonies is recommended." (http://www.birdweb.org/birdweb/bird_details.aspx?id=41 (attached as Exhibit L).) Given this absence of any serious evaluation of the project's noise impact on the heron/egret rookery, it is not surprising that the mitigation measures referenced by the County as mitigating noise impacts on the colony do not achieve any such mitigation.

There is no substantial evidence referenced in the EIR to support a conclusion that the five mitigations relied upon to address the vague noise impacts mentioned in the EIR's discussion of biological impacts will in fact mitigate the project's severe noise impacts. Several comments raised concerns about the project's noise impacts on the egret/heron colony as well as impacts on Shollenberger Park and other areas. (*See* FEIR, p. II-49 (*Comment B1-8* – "Noise levels from the project are significant. . . . Noise issues are of particular interest in regard to the egret rookery on site, the deep-water seasonal pond at Shollenberger which is prime nesting habitat for many nesting species (it is located at noise-measuring site R6 and can extend down to R7 after wet winters), and the general disturbance to wildlife in other habitats along the river").) Responding to those comments, the EIR identifies five mitigation measures – BIO-4a through BIO-4e. (*Id*. (Response to Comment B1-8 – "The DEIR discusses the potential impacts of project-generated noise and night-time lighting on wildlife habitat and the egret/heron colony under Impact BIO-4. Mitigation Measure BIO-4a through 4e were recommended to address this potentially significant impact").) A sixth measure is added in the final EIR in response to comments regarding impacts to the colony. (FEIR, p. II-55.) A review of those six measures easily demonstrates that they will not mitigate the project's noise impacts on the rookery, Shollenberger Park and other wildlife.

The six referenced measures include:

1. retaining some eucalyptus trees adjacent to the rookery area;
2. make sure construction activities during the nesting season are "restricted away" from the egret/heron colony;
3. restrict some though not all barge off-loading at night during the nesting season;

4. design measures for the conveyor that would reduce its visibility from the colony area;
5. an employee education program to help prevent inadvertent disturbance to the egret/heron colony, and;
6. additional monitoring of the rookery and potential preparation of additional measures in the future.

Contrary to the EIR's claim of mitigation, these measures fail to address and do not substantially mitigate the noise impacts to the colony resulting from the project.

Trees do not mitigate noise. Mitigation Measure BIO-4a provides that "[p]roposed improvements at the entrance to the site and vicinity of the fire station shall be redesigned to retain most of the existing blue gum eucalyptus trees that provide visual screening of the existing egret/heron colony, including the row of three existing trees in the parking lot between the proposed fire station and the parking stalls to the south." (DEIR, p. V.C-26.) As the County's own consultants make clear, "the use of vegetation as a noise barrier should not be considered a practical method of noise control unless large tracts of dense foliage are part of the existing landscape." (App. H (Bollard & Brennan, p. 18). *See also* App. H (Rosen, Goldberg & Der, p. 11) ("Trees and vegetation are not normally relied upon for noise reduction. A stand of evergreen trees must be about 100 feet deep before a noticeable noise reduction is reliably achieved, and site constraints make this measure impractical").) The EIR's reliance on mitigation measure BIO-4a to mitigate noise is not based on any substantial evidence. (*See* DEIR, p. II-55, II-76.)

Construction of the project is expected to take only one or two months once approvals are in place. (DEIR, p. III-58.) The proposed asphalt plant is intended to operate, presumably, for three or more decades. Mitigation Measure BIO-4b does claim to restrict construction in the project's Area A and the portion of Area B including the proposed fire station during the egret and heron nesting season (February 15 through August 31). (DEIR, p. V.C-36.) The noise reduction resulting from this limited construction restriction fails to address all relevant construction noises from the project. For example, the restriction does not include any limit on construction vehicles using the nearby entrance. Construction during the nesting season is not limited on the remainder of Area B or any portion of Areas C and D. Trucks and other vehicles working on the construction of these areas will be passing by the rookery area. Because the EIR fails to provide any information about the expected noise levels in the rookery resulting from on-site trucks and other construction activities, one has no way of knowing whether the proposed construction restriction will have any meaningful reduction in noise levels at the rookery area. Overall, the limited scope of the construction restriction coupled with the absence of any information regarding the remaining noise levels during the nesting season do not support a conclusion that

Mitigation Measure BIO-4b will effectively mitigate noise impacts at the rookery from the project.

Mitigation Measure BIO-4c limits but does not prohibit barge off-loading operations at night. DEIR, p. V.C-37. Nor are any barge off-loading events for daylight hours restricted in any way. If the noise generated by barge off-loading during the day, estimated at about 72 dB L50 and 80 dB Lmax at a distance of 100 feet, is enough to disturb or eliminate the rookery, then somewhat reduced frequency of noise events at night is hardly a mitigation of noise from that portion of the facility. (*See* DEIR, p. V.1-17.) Notably, other aspects of the facility will not be shut down at night, including the very noisy asphalt production plant, trucks entering and leaving the facility, and the fire station. Mitigation Measure BIO-4c limited restriction on one aspect of the project does not mitigate most of the project's expected noise impacts and whether it mitigates the project's noise impacts at all is not revealed by any substantial evidence.

Mitigation Measure BIO-4d focuses on visual impacts of the conveyor, providing that "[t]he conveyor shall be designed as close to the ground as possible within 300 feet of the colony." (DEIR, p. V.C-37.) Nothing in the discussion or common sense would suggest that the height of the conveyor would meaningfully affect the noise levels from its operation.

Mitigation Measure BIO-4e does nothing to address any significant noise associated with the project. The measure states that "[a]n employee education program shall be prepared and implemented to prevent inadvertent disturbance to the egret/heron colony during the nesting season (February 15 through August 31)." (DEIR, p. V.C-37.) How this program will reduce the noise from barge unloading, a fire station, 60 trucks an hour entering and leaving the facility, a conveyer system, recycling facility and asphalt production plant is inexplicable.

Lastly, Mitigation Measure BIO-4f added in the FEIR does not address noise impacts. FEIR, p. II-55. Future mitigations to be devised by the project applicant's biologist do not yet mitigate anything and require the reader to speculate what, if any, noise mitigations could save the rookery once this very noisy facility goes on line. *See, e.g.); Sundstrom v. County of Mendocino (1988) 202 Cal.App.3d 296, 308-309.)*

In conclusion, the EIR fails to marshal substantial evidence to conclude that "[c]ollectively, these measures would mitigate potential impacts on the colony and other sensitive wildlife habitat in the vicinity to a level of less than significant, as concluded in the DEIR." (FEIR, p. II-77. *See also* FEIR, p. II-114; *Id*, p. II-75 ("Mitigation Measures BIO-4a through 4e have been designed to minimize disturbance in areas currently with little or no human activity, maintain the existing habitat conditions of the colony through protection of existing trees, and define appropriate restrictions on project operations

during sensitive nesting periods. While even greater setbacks would likely benefit the birds, they are not necessary to prevent a significant impact").)

V. CONCLUSION

The Petaluma River Council has faith that this process could work to create a project that would be acceptable to the Petaluma community. In order to achieve that goal, the County must fix the numerous errors evident in the EIR and circulate an adequate EIR that fully informs the community and the Supervisors of all of the project's true impacts and truly feasible alternatives. Given the serious environmental impacts threatened by the proposed asphalt plant, it is incumbent upon the County to make sure that it has seriously considered all mitigations and all alternatives and protect Petaluma's citizens and environment from unnecessary degradation.

Respectfully submitted,

LOZEAU DRURY LLP

Michael R Lozeau

Richard Drury
Michael Lozeau
on behalf of the Petaluma River Council

cc: David Keller

EXHIBIT A

Comments

on

Final Environmental Impact Report
Dutra Haystack Landing Asphalt & Recycling Facility
Impacts on Air Quality and Global Climate Change

Prepared for

Richard Drury
Lozeau | Drury LLP
1516 Oak Street, Suite 216
Alameda, CA 94501

Prepared by

Petra Pless, D.Env.
Pless Environmental, Inc.
440 Nova Albion Way, Suite #2
San Rafael, CA 94903

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COMMENTS

The County of Sonoma ("County"), as the lead agency under the California Environmental Quality Act ("CEQA") proposes to certify an Environmental Impact Report ("EIR") for the Dutra Haystack Landing Asphalt and Recycling Facility ("the Project").[1] The Project would consist of the construction and operation of a counterflow drum mix asphalt plant and recycling facility. The Dutra Group ("Dutra" or "Applicant") would relocate its existing temporary asphalt batch plant at 1601 Petaluma Boulevard South to the 38-acre Project site generally known as Haystack Landing, which is located directly south of Petaluma and bordered by the Petaluma River, State Highway 101 and Petaluma Boulevard South. The Project would construct new barge offloading facilities on the Petaluma River; an overhead conveyor system; stockpiles of aggregates, sand, and recycled asphalt and concrete materials; an asphalt mixing and loading facility; and associated offices, truck scales, and support facilities. The Project also includes the construction and operation of a fire station. The facility is anticipated to process about 665,000 tons of material annually, including about 425,000 tons of raw aggregate and 75,000 tons of fine sand, both imported via barge from the Applicant's quarry in San Rafael. The Project would produce a maximum of 400 tons per hour ("tons/hour") of asphalt with an annual production limited by permit conditions to 225,000 tons per year ("tons/year"). Ten percent of the facility's annual production would consist of rubberized asphalt.[2]

As discussed in the Comments below, the EIR for the Project is severely deficient because the EIR's project description is internally inconsistent and ambiguous (*see* Comment I); the EIR fails to assess Project impacts on air quality due to emissions of particulate matter with a diameter equal to or smaller than 2.5 micrometers ("PM2.5") (*see* Comment II); the EIR fails to adequately address potential odor impacts due to blue smoke (*see* Comment III); the EIR underestimates emissions from the Project and, as a result, fails to identify and adequately mitigate significant adverse impacts on air quality; and the EIR fails to adequately assess potential health risks (*see* Comment IV), cumulative impacts (*see* Comment VII), and greenhouse gas emissions (*see* Comment VIII). The EIR should be revised to address these issues and to require all feasible mitigation (*see* Comments VI and VIII.B) to reduce the Project's adverse impacts on the environment.

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[1] County of Sonoma, Dutra Haystack Landing Asphalt & Recycling Facility, Final Draft Environmental Impact Report, SCH# 2006022017, July 2008.

[2] Draft EIR, pp. III-37 through III-47.

I. The EIR's Project Description Is Internally Inconsistent and Ambiguous

CEQA requires that an EIR contain an adequate project description. Here, the EIR's project description is internally inconsistent and ambiguous.

I.A Operating Hours

The EIR proposes normal hours of operation of 6 AM to 6 PM, *i.e.* 12 hours of operation for the new facility. In addition, the EIR proposes "evening and weekend operations as needed, to allow prompt delivery of finished product for Caltrans, local agency or other construction projects, and to reduce traffic congestion and disruption that might be caused by highway paving or other construction projects during normal operating hours" thereby effectively removing any restriction on daily operating hours. Yet, the EIR estimates maximum daily emissions from the new facility based on only 10 hours of operation per day.[3] The EIR contains no explanation for this obvious discrepancy. Comment IV.B discusses the consequences of extended operating hours, *i.e.* more than 10 hours per day, on maximum daily emissions from the facility and the resulting significant adverse impacts on air quality.

I.B Barge Capacity

The EIR states that the barges used to deliver raw aggregate and sand from the San Rafael quarry range in capacity from 800 to 4,000 tons and that approximately 125 barge trips would be required per year to deliver the estimated 500,000 tons of raw materials per year.[4] These statements appear to be contradictory as it would take a *minimum* of 125 barge trips if all barges delivering raw materials had a capacity of 4,000 tons.[5] If smaller barges were used, it would take more than 125 trips unless several smaller barges were pushed simultaneously by one tugboat. Because emissions estimates from barge imports are based on 125 tugboat trips, it is imperative to clarify whether barges with a capacity of fewer than 4,000 tons would be used and whether more than one barge could be pushed by one tugboat.

Further, the EIR's project description states that while at the dock, the tugboat would idle for two to six hours while the barge is unloaded, depending on the size of

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[3] Draft EIR, Appendix D, Tables D-15 and D-16.

[4] Draft EIR, pp. III-45, V.B-9, V.J-14, V.J-31.

[5] 500,000/4,000 = **125**.

the barge.[6] Elsewhere, the EIR assumes an idling time of 2 hours without discussion of potentially longer idling time. (*See* also Comment IV.F.)

I.C Truck Trips

The EIR provides various numbers for the average annual and maximum daily truck traffic accessing the site. The traffic section calculates an average annual daily truck traffic of 250 roundtrips per day and a peak daily truck traffic of 750 roundtrips per day[7]; the air quality section variably relies on an average annual daily truck traffic of 176 and 200 roundtrips per day, *i.e.* 50 to 74 roundtrips per day fewer than identified in the traffic section. (*See* also Comment IV.C.) This discrepancy is based on the EIR's variable assumptions of truck capacity, which is used to calculate the number of trucks needed to import and export the estimated annual amount of materials. For example, the air quality section assumes a truck capacity of 23 tons per asphalt truck[8]; the traffic section assumes a truck capacity of 12 tons per asphalt truck.[9]

II. The EIR Fails to Assess Project Impacts due to PM2.5 Emissions

The air quality section of an EIR must provide adequate information regarding a project's potential impacts on local and regional air quality due to emissions of air pollutants. The Project would result in emissions of particulate matter with a diameter equal to or smaller than 2.5 micrometers, so-called fine particulate matter or PM2.5, from the operation of trucks, tugboats, asphalt plant, and yard equipment. The EIR identifies PM2.5 as a criteria air pollutant[10], summarizes state and federal PM2.5

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[6] Draft EIR, p. III-46.

[7] The average annual truck traffic assumes a continuous production without any seasonal changes. Because asphalt production is affected by the seasonality of the construction industry, estimates of daily emissions must be based on peak daily rather than annual average daily truck traffic. (*See* Comment IV.C.)

[8] Draft EIR, Appendix D, Table D-9, Footnote 8.

[9] Draft EIR, Table V.J-11, p. V.J-20.

[10] Criteria air pollutants include the six most common air pollutants in the U.S.: particle pollution (often referred to as particulate matter), ground-level ozone, carbon monoxide, sulfur oxides, nitrogen oxides, and lead. Congress has focused regulatory attention on these six pollutants because they endanger public health and the environment, are widespread throughout the U.S., and come from a variety of sources. Criteria air pollutants are responsible for many adverse effects on human health, causing thousands of cases of premature mortality and tens of thousands of emergency room visits annually. They also cause acid rain and can significantly harm ecosystems and the built environment. The U.S. EPA calls these pollutants "criteria" air pollutants because it regulates them by developing human health-based and/or environmentally-based criteria (science-based guidelines) for setting permissible concentrations of these substances in ambient air. The set of limits based on human health is called primary standards. Another set of limits intended to prevent environmental and property damage is called secondary standards.

ambient air quality standards, discusses the San Francisco air basin's compliance with these standards (state non-attainment, federal attainment), and discusses the health risks associated with PM2.5 in ambient air.[11] Yet, the EIR does not quantify PM2.5 emissions but only provides estimates for a coarser particulate matter size fraction, *i.e.* particulate matter with a diameter equal to or smaller than 10 micrometers, so-called respirable particulate matter or PM10. There is no discussion whatsoever of the Project's impacts on local and regional air quality due to emissions of PM2.5.

To understand the Project's potential individual and cumulative impacts on public health and welfare, it is important to understand the distinction between PM10 and PM2.5. Historically, health impacts due to particulate matter were regulated through ambient air quality standards for suspended particulate matter ("PM)", followed by regulations for PM10. However, a substantial amount of important new research has been published documenting new health impacts at much lower concentrations and for different size fractions of particulate matter than was previously known and reflected in ambient air quality standards. The U.S. Environmental Protection Agency ("U.S. EPA"), in its review and analysis of this new information, concluded that coarse and fine particles have fundamentally distinct physical and chemical properties and health effects, and thus should be separately regulated and measured so that effective control strategies could be developed. [12] To address this issue, the U.S. EPA and the California Air Resources Board ("CARB") promulgated ambient air quality standards for PM2.5 in 1997 and 2002, respectively. These standards are not subsets of the existing standards for PM10 but new standards for a separate pollutant with distinguishable impacts.

Since the U.S. EPA's review in the late 1990s, more than 2,000 peer-reviewed studies have been published validating earlier epidemiologic studies that link both acute and chronic fine particle pollution with serious morbidity and mortality. This research has also expanded the list of health effects associated with fine particle pollution and has identified health effects at considerably lower exposure levels than previously reported. Overwhelming scientific evidence shows that long-term exposure to fine particulate air pollution contributes to pulmonary and systemic oxidative stress, inflammation, progression of atherosclerosis, and risk of ischemic heart disease and death. A recent study found that each 10-$\mu g/m^3$ increase in PM2.5 air pollution was associated with approximately a six percent increase in cardiopulmonary mortality and an eight percent

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[11] Draft EIR, pp. V-B-2 through V.B-9.

[12] U.S. Environmental Protection Agency, Air Quality Criteria for Particulate Matter, Report EPA/600/P-95-001aF through 001cF, April 1996; U.S. Environmental Protection Agency, Air Quality Criteria for Particulate Matter, Second External Review Draft, March 2001.

increase in lung cancer mortality.[13] Short-term exposure is equally damaging and contributes to complications of atherosclerosis, such as plaque vulnerability, thrombosis, and acute ischemic events. The U.S. EPA concluded with respect to short-term exposure studies, that "epidemiological evidence was found to support likely causal associations between PM2.5 and both mortality and morbidity from cardiovascular and respiratory diseases."[14] In response to this new information, the U.S. EPA in September of 2006 tightened the federal 24-hour PM2.5 ambient air quality standard from 65 micrograms per cubic meter ("$\mu g/m^3$") to 35 $\mu g/m^3$.[15,16] (The EIR's summary table for state and national ambient air quality standards is dated November 2005 and fails to reflect this (and other) updated ambient air quality standard(s).[17])

A recently published study of almost 13,000 patients evaluated the role of exposure to PM2.5 in triggering acute ischemic heart disease events. This study found a sharply elevated risk of heart attacks for people with clogged arteries after just a day or two of short-term exposure to fine particulate matter.[18] One coauthor of the study stated that the results should prompt heart doctors to advise those with coronary heart disease to stay indoors as much as possible on particularly sooty days and that he was already changing his advice to patients based on the results even advising in severe cases to move to a less polluted environment.[19]

In CEQA documents, the significance of criteria air pollutant emissions is typically assessed by comparison of emissions from a project to a quantitative

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[13] A.A. Pope III, R.T. Burnett, M.J. Thun, E.E. Calle, D. Krewski, K. Ito, G.D. Thurston, Lung Cancer, Cardiopulmonary Mortality, and Long-term Exposure to Fine Particulate Air Pollution, Journal of the American Medical Association, v. 287, no. 9, pp. 1132-1141, 2002.

[14] U.S. Environmental Protection Agency, National Center for Environmental Assessment, Office of Research and Development, Provisional Assessment of Recent Studies on Health Effects of Particulate Matter Exposure, EPA/600/R-06/063, July 2006; http://www.epa.gov/oar/particlepollution/pdfs/ord_report_20060720.pdf, accessed December 5, 2008.

[15] U.S. Environmental Protection Agency, Office of Air Quality Standards and Planning, September 2006 Revisions to the National Ambient Air Quality Standards for Particle Pollution, September 200606.

[16] U.S. Environmental Protection Agency, National Ambient Air Quality Standards for Particulate Matter, Final Rule, Federal Register, 40 CFR Part 50, Vol. 71, No. 200, pp. 61144-61233, October 17, 2006.

[17] Draft EIR, Table V.B-1, p. V.B-5.

[18] Pope C.A. III, Muhlestein J.B., May H.T., Renlund D.G., Anderson J.L., Horne B.D., Ischemic Heart Disease Events Triggered by Short-Term Exposure to Fine Particulate Air Pollution, Circulation, No. 114, pp. 2443–2448; abstract available at http://circ.ahajournals.org/cgi/content/abstract/114/23/2443, accessed December 5, 2008.

[19] Los Angeles Times, Dire Health Effects of Pollution Reported, Diesel Soot from Construction Equipment Is Blamed for Illnesses and Premature Deaths, December 6, 2006.

significance thresholds established by the local air district and/or by modeling resulting concentrations of a particular pollutant in ambient air to determine whether project emissions would result in a violation (or contribute to an existing violation) of an ambient air quality standard. The Bay Area Air Quality Management District ("BAAQMD") has not yet developed significance thresholds for PM2.5. Thus, the Project's impacts of PM2.5 emissions on air quality can only be assessed by ambient air quality modeling or by reference to other air district's significance thresholds for PM2.5. The South Coast Air Quality Management District ("SCAQMD") has developed a regional threshold for PM2.5 emissions of 55 pounds per day ("lb/day"), based on the 10 tons/year standard established by the U.S. EPA's *Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards*, to assist lead agencies in determining the significance of PM2.5 emissions from a project.[20] The EIR should be revised to quantify PM2.5 emissions from the Project and compare emissions to the SCAQMD's significance threshold to determine whether it is likely that the Project would contribute to the existing regional air quality problems, namely the air basin's non-attainment status with the state annual ambient air quality standard for PM2.5, by significantly increasing PM2.5 concentrations in ambient air. The revised EIR should include ambient air quality modeling for PM2.5 to determine whether the Project would result in any localized exceedances of state or federal ambient air quality standards.

III. The EIR Fails to Adequately Address Potential Odor Impacts due to Blue Smoke

Blue smoke, *i.e.* a haze of hydrocarbon droplets that frequently escapes from asphalt loadout, is the most common cause of odor complaints at asphalt facilities affecting both on-site workers and off-site receptors. The EIR states that the Project would be using an Astec fiberbed mist collector at the loadout silos which "should eliminate nuisance odors and complaint." The EIR therefore concludes without further discussion that impacts related to odors would be less than significant.[21] This discussion fails to adequately disclose the potential nuisance problems associated with the Project.

David Keller of the Petaluma River Council recently visited an asphalt plant in Corona, California, operated by American Asphalt, which is similar to the proposed Project. Mr. Keller noticed that none of the about dozen trucks he observed at the asphalt loadout tarped their loads. When asked about this practice, the assistant operations manager on site stated that drivers were required to cover the load by the

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[20] South Coast Air Quality Management District, Final –Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, October 2006; http://www.aqmd.gov/CEQA/handbook/PM2_5/finalAppB.doc, accessed December 5, 2008.

[21] Draft EIR, p. V.B-36.

South Coast Air Quality Management District ("SCAQMD") but that there was no enforcement by the facility. As a result, every new load of hot asphalt left a large cloud of blue smoke as trucks left the loadout tunnel, drove over to the checkpoint, and then left the asphalt plant property.[22] The same problem would likely occur at the Project because the trucks transporting asphalt are not owned by the Applicant who would therefore not be able to adequately enforce tarping requirements. Further, Mr. Keller observed that the roll-up doors at the loadout tunnel were not closed after trucks entered the tunnel, which allowed blue smoke to escape during the entire loading period.[23]

Any problems with blue smoke escaping from the Project's loadout area would be exacerbated by local meteorological conditions. During the spring, summer and early fall, Central Valley thermals pull in the marine layer through the Bodega Gap northwest of Petaluma. As the winds enter the Petaluma River valley, winds are directed mostly east. These winds, reported at 20 to 30 miles per hour, typically pick up around noon and last until near sunset (and blow directly into Shollenberger Park.) Under these conditions, the strong winds could potentially overpower the capacity of the fans venting the asphalt loadout and allow blue smoke to escape.

If blue smoke would escape from the facility it may severely affect local air quality. Winds would carry any emissions directly into Shollenberger Park. Any release of blue smoke could affect residences and diminish the enjoyment of visitors to Shollenberger Park. The EIR should be revised to provide a more in-depth discussion of blue smoke problems and discuss which operating procedures would be undertaken to minimize release of blue smoke.

IV. The EIR Fails to Identify Significant Adverse Impacts on Air Quality Because It Underestimates Project Operational Emissions

The EIR finds that Project-related operational emissions of nitrogen oxides ("NOx") would exceed the BAAQMD's daily and annual significance thresholds. The EIR concludes that emissions of particulate matter smaller than 10 micrometers ("PM10"), reactive organic gases ("ROG"), sulfur oxides ("SOx"), and carbon monoxide ("CO") would not be significant.[24] As discussed in the following comments, the EIR's conclusions with respect to the significance of criteria pollutant emissions other than NOx are erroneous because they were based on an erroneous baseline. As a result, the

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[22] Personal communication with David Keller, Petaluma River Council, December 6, 2008.

[23] *Ibid*.

[24] Draft EIR, p. V.B-30.

EIR fails to identify and mitigate significant adverse impacts on air quality and global climate change, as discussed in Comment IV.A. Further, even if the baseline were correct, the EIR's emission estimates were flawed because they rely on an incorrect assumption regarding operating hours and because they failed to account for a number of emissions sources associated with the Project, as discussed in Comments IV.B through IV.I. As a result, the emissions estimates presented in the EIR are underestimated and fail to reveal the full extent of the Project's impacts on air quality.

IV.A Air Quality Analysis Relies on an Erroneous Baseline

The EIR evaluates the Project's impacts on air quality as the net increase in emissions from the new facility, which will be located on a different parcel of land, compared to the emissions from the existing (temporary) facility as the baseline. This evaluation used the five-year historic average production rate of 131,498 tons of asphalt per year and a maximum daily production rate of 2,000 tons per day that occurred at the original (now closed) facility and the temporary facility.[25] The EIR provides no support for these figures. (The County adopted a Mitigated Negative Declaration and approved the temporary facility at 1601 Petaluma Boulevard South on June 26, 2005. The asphalt plant previously operated for twenty years within the former Dutra Quarry in Petaluma, which has now been reclaimed for a residential project.[26])

The EIRs use of the five-year historic average production rate and the maximum daily production rate that occurred at the original (now closed) facility and the existing temporary facility as a baseline is erroneous for a number of reasons. First, the Applicant is constructing an entirely new facility on a new parcel of property. Therefore, the Project is a new project, not a modification of an existing project, and the baseline is the condition that exists on the vacant parcel, *i.e.* zero emissions. Second, the existing temporary facility operates under a temporary use permit, with the Applicant leasing a portion of its former quarry site for a period not to exceed three years.[27] The County has indicated that it is not possible for the Applicant to get an extension on the lease.[28] Thus, upon expiration of the temporary use permit and the end of the lease, the existing temporary facility will cease operations whether the Project will be approved or not and emissions will cease at that time. Historic emissions from the existing temporary facility can therefore not be used a baseline. Impacts on air quality for the Project must therefore be evaluated as the net increase of emissions from the new facility compared to a zero emissions baseline. Third, even if one were to use historic emissions from the existing

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[25] Draft EIR, p. V.B-23.

[26] Draft EIR, p. III-37.

[27] Ibid.

[28] Draft EIR, p. VIII-6.

temporary facility as a baseline, emissions from the original (now closed) facility cannot be included in the five year average historic production rate. CEQA requires the baseline to reflect the "real conditions on the ground," at the time that CEQA review commences. At the time the CEQA review for the Project commenced, the original facility at Dutra's former quarry was closed and should therefore not be considered in the analysis.

Table 1 summarizes the daily and average annual emissions from the proposed facility as estimated by the EIR.

Table 1:
Daily and average annual emissions from the proposed facility
and BAAQMD daily and annual significance thresholds

	PM10	**ROG**	**NOx**	**CO**
Daily emissions (lb/day)*	134	112	391	150
BAAQMD Threshold (lb/day)	80	80	80	550
Significant?	YES	YES	YES	no
Average annual emissions (ton/year)*	5.4	4.2	35	14
BAAQMD Threshold (ton/year)	15	15	15	n/a
Significant?	no	no	YES	n/a

* from Final EIR, Appendix B "Revisions to Air Quality Calculations," Table D-19

Table 1 demonstrates that emissions from the proposed facility when compared to a zero emissions baseline would exceed the BAAQMD's daily thresholds of significance for PM10, ROG, and NOx, by 68, 40, and 389 percent, respectively.[29] The EIR identified NOx emissions as significant on both a daily and annual basis but due to its incorrect use of baseline emissions from the existing temporary facility failed to identify that daily PM10 and ROG emissions would also be significant. As a result, the EIR failed to properly mitigate the Project's significant maximum daily PM10 and ROG emissions.

In addition, as discussed in Comments IV.B through IV.I below, the EIR's emissions estimates are severely underestimated. Thus, Project emissions would result in even higher exceedances of the BAAQMD's thresholds of significance than shown in Table 1. Exceedance of the BAAQMD's thresholds suggests that the Project may result in violations of ambient air quality standards. Therefore, the EIR must be revised to acknowledge these significant impacts and require additional mitigation measures to reduce these impacts to the extent possible. Due to the substantial exceedances of the BAAQMD's thresholds of significance, the EIR should include ambient air quality modeling for all criteria pollutants to evaluate the severity of impacts on local and regional ambient air quality.

[29] PM10: 134/80 = **1.68**; ROG: 112/80 = **1.4**; NOx: 391/80 = **4.89**.

IV.B Estimates of Daily Project Emissions Are Not Based on Maximum Daily Hours of Operation

The EIR's daily emissions estimates for the new facility are based on an asphalt production of 4,000 tons/day calculated from the maximum hourly production of 400 tons/hour and 10 hours of operation per day.[30] However, as discussed in Comment I.A above, the EIR proposes normal hours of operation of 6 AM to 6 PM, *i.e.* 12 hours of operation for the new facility. In addition, the EIR proposes "evening and weekend operations as needed, to allow prompt delivery of finished product for Caltrans, local agency or other construction projects, and to reduce traffic congestion and disruption that might be caused by highway paving or other construction projects during normal operating hours" thereby effectively removing any daily operating restriction.[31]

Increasing daily operations from 10 to 12 hours permits production of 4,800 tons/day of asphalt[32], 20 percent higher than the maximum daily production of 4,000 tons/day assumed in the EIR.[33] Evening operations "as needed could further increase the maximum daily asphalt production. Emissions from the facility would increase accordingly. If, for example, the dryer at the new facility were operated for 12 hours per day rather than 10 hours per day, which is reasonably foreseeable under the proposed operating schedule, PM10 emissions from the dryer would increase by 20 percent from 108 lb/day[34] to 129.6 lb/day.[35] After subtracting the baseline PM10 emissions of 54 lb/day from the existing facility, PM10 emissions attributable to the Project are 75.6 lb/day for the dryer alone. According to the EIR, the Project's other emissions sources generate an additional 12 lb/day of PM10[36], increasing total Project PM10 emissions to 87.6 lb/day, which exceeds the BAAQMD's daily threshold of significance for operational emissions of 80 lb/day by 10 percent.[37] (Additional operation of the facility in the evening could further increase maximum daily

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[30] Draft EIR, Appendix D, Tables D-15 and D-16.

[31] Draft EIR, p. III-40.

[32] (12 hours) × (400 tons/hour) = **4,800 tons/day**.

[33] 4,800/4,000 = **1.2**.

[34] (10 hours/day) × (400 tons/hour) × (PM10 emission factor: 0.027 lb/ton) = PM10 emissions: **108 lb/day**.

[35] (12 hours/day) × (400 tons/hour) × (PM10 emission factor: 0.027 lb/ton) = PM10 emissions: **129.6 lb/day**.

[36] *See* Draft EIR, Appendix D, Tables D-6, D-13, and D-19: [(proposed plant total PM10 emissions: 134 lb/day) – (proposed plant existing dryer PM10 emissions: 108 lb/day)] – [(existing plant total PM10 emissions: 70 lb/day) – (existing plant dryer PM10 emissions: 56 lb/day)] = **12 lb/day**.

[37] 87.6/80 = **1.1**.

emissions.) This constitutes a significant impact on air quality that was not identified in the EIR and has not been mitigated. Emissions in excess of the BAAQMD's daily threshold of significance suggest that exceedances of the state or federal 24-hour ambient air quality standards for PM10 are likely.

Therefore, the EIR should be revised to provide an estimate for maximum daily hours of operation including those days when projects demand more asphalt than can be produced during the proposed normal operating schedule of 12 hours per day.

IV.C Maximum Daily Combustion Emissions from Truck Activities Are Underestimated

The EIR's estimates maximum daily emissions from truck engines exporting aggregate, sand, recycled asphalt, and asphalt are based on 174 truck roundtrips per day.[38] This assumption severely underestimates the Project's maximum daily emissions associated with import and export of materials via truck. Due to the seasonality of the construction industry, the number of trucks accessing the facility will vary widely. The EIR's traffic section estimates about 1,500 truck trips, or about 750 truck roundtrips, per peak day.[39] Thus, emissions associated with truck traffic would be higher by a factor of 4.3.[40] To determine whether the Project would result in violations of short-term ambient air quality standards, emissions estimates must be based on this peak daily truck traffic. Further, the EIR fails to include emissions from worker vehicles in its estimates of maximum daily emissions.

Based on the EIR's emissions calculations and assuming 750 truck roundtrips per day, truck combustion emission associated with import and export of materials would be 52.7 lb ROG/day, 215.8 lb CO/day, 770.6 lb NOx/day, 31.0 lb PM10/day, and 5.4 lb SOx/day.[41] The EIR must be revised to account for these emissions.

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[38] Draft EIR, Appendix D, Table D-16.

[39] *Ibid.*

[40] 750/176 = **4.3**.

[41] Based on the EIR's emission factors for ROG, CO, NOx, PM10 and SOx and assuming 750 truck roundtrips per day and a roundtrip distance of 25 miles, maximum daily combustion emissions associated with truck traffic are:

	ROG	CO	NOx	PM10	SOx
Emission Factor (lb/vehicle mile traveled)	0.002812	0.011507	0.041101	0.001652	0.00029
Maximum daily emissions (lb/day)	**52.7**	**215.8**	**770.6**	**31.0**	**5.4**

IV.D The EIR Fails to Account for Extended Truck Idling Emissions

The EIR's emission estimates for truck exhaust are based on California Air Resources Board's emission factors for Southern Sonoma County, year 2008.[42] These emission factors include start, running and idling exhaust averaged for all vehicles in Sonoma County for regular traffic. They do not account for extended periods of idling that may occur at the Project.

Based on Mr. Keller's observations during his visit to American Asphalt's facility in Corona, trucks do not turn off their engines while they are being loaded with asphalt. Mr. Keller also observed up to four idling trucks queuing up slowly to the asphalt loading tunnel before being loaded or unloaded on what appeared to be a day with moderate production.[43] Extended periods of idling can release substantial amounts of diesel particulate matter in a small area and may result in CO hotspots in the area. Such extended idling emissions from trucks have not been accounted for in the EIR's emissions estimates. The EIR should be revised to include idling emissions from trucks in its emissions estimate and to determine the associated health risk in a health risk assessment.

IV.E Entrained Dust PM10 Emissions from Vehicle Travel on Paved and Unpaved Roads Are Underestimated

When a vehicle travels paved or unpaved roads, particles are pulverized by the force of the wheels, lifted and dropped from the rolling wheels, and lifted from the road surface due to strong air currents behind the vehicle. This 'entrained' road dust contributes 41 percent of the Bay Area air basin's total particulate matter inventory; 35 percent from paved roads and 6 percent from unpaved roads.[44] The EIR's emission estimates for the Project include entrained road dust PM10 emissions from *on-site* vehicle travel on paved and unpaved roads but fail to account for entrained dust PM10 emissions from *off-site* vehicle travel on paved roads, *i.e.* entrained road dust from truck traffic and worker vehicle travel[45] on local streets and highways. These *off-site* emissions associated with raw materials and asphalt import and export constitute the majority of entrained road dust emissions associated with the Project. (*See* Comment IV.E.2.) Further, as discussed in Comment IV.E.1, the EIR's estimates for emissions for *on-site*

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[42] Draft EIR, Appendix D, Table D-16, Footnote.

[43] Personal communication with David Keller, Petaluma River Council, December 6, 2008.

[44] BAAQMD 2006 entrained dust from paved roads: (paved roads emissions: 76.08 tons/day) / (total emissions: 215.08 tons/day) = **0.35**; BAAQMD 2006 entrained dust from unpaved roads: (unpaved roads emissions: 12.27 tons/day) / (total emissions: 215.08 tons/day) = **0.06**.

[45] Draft EIR, Appendix D, Table D-9.s

vehicle travel on paved roads are considerably underestimated because assumptions of daily truck traffic rely on average rather than maximum daily truck traffic.

IV.E.1 Entrained Dust PM10 Emissions from Vehicle Travel on On-site Paved Roads Are Underestimated

The EIR estimates for entrained dust PM10 emissions from vehicle travel on on-site paved roads are based on 174 trucks per day for export of 4,000 tons of asphalt plus an additional 26 trucks.[46] Again, this figure by far underestimates the daily truck traffic that would access the site and, therefore, entrained road dust PM10 emissions associated with truck travel on-site. As mentioned in Comment IV.C above, the EIR's traffic section estimates about 1,500 truck trips per peak day, or about 750 truck roundtrips. Therefore, in order to estimate maximum daily emissions from the Project, which are necessary to determine whether the Project would result in violations of short-term ambient air quality standards, emissions estimates must be based on peak daily truck traffic.

Further, the EIR's emission estimates rely on a silt loading factor of 0.015 grams per square meter ("g/m^2") allegedly recommended by the BAAQMD. This is incorrect. The BAAQMD specifically recommends a default value for silt loading of 0.015 g/m^2 for "limited access road ways" not for roads at an industrial site.[47] Silt loading on roads at industrial sites is typically considerably higher. To put the value chosen by the EIR into perspective, the BAAQMD's recommended silt loading values for public paved roads with fewer than 5,000 vehicles per day ranges from 0.4 to 3.0 g/m^2 for normal and worst-case conditions, respectively.[48] Obviously, industrial sites processing sand and aggregate will have a higher silt loading than public paved roads. The BAAQMD specifically states "silt loading from asphalt facilities range from 79 to 193 grams per square meter, with a mean of 120 grams per square meter."[49] Because the equation used to determine emissions from paved roads is proportional to the silt loading of the road, the EIR's assumption of 0.015 g/m^2 substantially underestimates emissions.

Revising the EIR's estimates for a peak day, *i.e.* assuming 750 truck roundtrips per day and silt loading of 120 g/m^2, and otherwise using all of the EIR's assumptions, increases entrained PM10 road dust emissions due to truck travel on on-site paved

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[46] *Ibid*, Footnote 8.

[47] BAAQMD, Engineering Evaluation Template, Hot Mixing Asphalt Facilities; http://www.baaqmd.gov/pmt/handbook/s11c02ev_old.htm, accessed December 5, 2008.

[48] *Ibid*.

[49] *Ibid*.

roads from 1.6 lb/day to 2,066 lb/day and from 0.5 tons/year to 86.1 tons/year.[50] While the equation used to calculate fugitive dust emissions from paved roads has been criticized for not being accurate and the data set for silt loading values determined for industrial facilities is limited, the EIR's emissions estimates are clearly underestimated and fail to disclose the extent of fugitive dust emissions from the Project.

IV.E.2 Entrained Dust PM10 Emissions from Vehicle Travel on Off-site Paved Roads Are Not Accounted For

As mentioned above, the EIR's emission estimates for the Project fail to account for entrained dust PM10 emissions from *off-site* vehicle travel on paved roads,[51] *i.e.* entrained road dust from truck traffic and worker vehicle travel on local streets and highways. Using the same methodology used by the EIR to estimate entrained road dust PM10 emissions from *on-site* paved roads and using the most conservative silt loading for off-site roads, *off-site* entrained dust PM10 emissions attributable to the Project on a peak day with 750 vehicles can be estimated at 10.8 lb/day; average annual PM10

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[50] Maximum daily entrained road dust PM10 emissions for truck travel on off-site paved roads based on 750 truck roundtrips per day and a silt loading value of 120 g/m^2 and otherwise based on the EIR's assumptions:

E = (average roundtrip distance) × (daily number of roundtrips) × (PM10 emission factor)

The entrained road dust PM10 emission factor for truck travel on paved roads can be calculated based on the same equation used by the EIR, which is based on the following empirical equation contained in U.S. EPA's *Compilation of Air Pollutant Emission Factors*:

$$EF = (0.016) \times (\text{silt loading}/2)^{0.65} \times (\text{average vehicle weight on road}/3)^{1.5}$$
$$= (0.016) \times ((120\ g/m^2)/2)^{0.65} \times ((25\ \text{tons})/3)^{1.5} = 5.5\ \text{lb PM10/vehicle mile traveled}$$

Assuming 750 truck roundtrips on a peak day and otherwise relying on the EIR's assumptions results in entrained road dust PM10 emissions of:

$E_{peak\ daily}$ = (average roundtrip distance) × (daily number of roundtrips) × (PM10 emission factor)
= (0.5 miles)× (750 roundtrips/day) × (5.5 lb PM10/vehicle mile traveled)
= **2,066 PM10 lb/day**

Maximum annual entrained road dust PM10 emissions from truck travel on off-site paved roads for the Project can be calculated based on the average annual daily trips ("AADT") as:

$E_{average\ annual} = E_{peak\ daily}$ × (250 working days/year) / (2,000 lb/ton)

$E_{average\ daily}$ = (average roundtrip distance) × (daily number of roundtrips) × (PM10 emission factor)
= (0.5 miles)× (250 roundtrips/day) × (5.5 lb PM10/vehicle mile traveled)
= 688.7 PM10 lb/day

$E_{average\ annual} = E_{peak\ daily}$ × (250 working days/year) / (2,000 lb/ton) = **86.1 ton PM10/year**

[51] *See* Draft EIR, Appendix D, Table D-9.

emissions based on AADT can be estimated at 0.4 tons/year.[52] These emissions must be added to the maximum daily and annual average emissions estimates summarized in Table 1.

IV.F The EIR's Estimates of Maximum Daily Aggregate Handling Emissions Fail to Account for the Entire Volume of Aggregate Handled

The EIR's estimates of maximum daily emissions from aggregate handling only accounts for 3,760 tons of aggregate per day, sufficient to produce 4,000 tons of asphalt per day.[53] The EIR does not account for aggregate handling associated with export of aggregate, sand and recycled asphalt.

IV.G The EIR Fails to Account for Wind Erosion from Storage Piles

The EIR's emission estimates for fugitive dust PM10 emissions from stockpiles include estimates for aggregate handling, *i.e.* emissions associated with drop operations

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[52] The entrained road dust PM10 emissions for truck travel on *off-site* paved roads can be calculated based on the same equation used by the EIR to calculate *on-site* emissions, which is based on the following empirical equation contained in U.S. EPA's *Compilation of Air Pollutant Emission Factors*:

$$EF = (0.016) \times (\text{silt loading}/2)^{0.65} \times (\text{average vehicle weight on road}/3)^{1.5}$$

However, the silt loading and average vehicle weight depends on the type of road and is different from *on-site* conditions. Silt loading for paved roads and statewide average vehicle weight can be obtained from the California Department of Transportation's *California Road Dust Scoping Report (*UC Davis-Caltrans Air Quality Project, UC Davis Contract No. 43A0014, February 28, 2000; available at http://aqp.engr.ucdavis.edu/Documents/DraftRoadDustreport.pdf, accessed December 3, 2008). For freeways, the silt loading is 0.02 g/m^2, considerably lower than for any other road type; the statewide average vehicle weight for California is assumed to be 2.4 tons. Therefore, the entrained road dust PM10 emissions factor can be calculated as follows:

$$EF = (0.016) \times ((0.02\ g/m^2)/2)^{0.65} \times ((25\ \text{tons})/3)^{1.5} = 0.0006\ \text{lb PM10/vehicle mile traveled}$$

Assuming 750 truck roundtrips on a peak day and otherwise relying on the EIR's assumptions results in entrained road dust PM10 emissions of:

$$\begin{aligned} E_{\text{peak daily}} &= (\text{average roundtrip distance}) \times (\text{daily number of roundtrips}) \times (\text{PM10 emission factor}) \\ &= (25\ \text{miles}) \times (750\ \text{roundtrips/day}) \times (0.0006\ \text{lb PM10/vehicle mile traveled}) \\ &= \mathbf{10.8\ PM10\ lb/day} \end{aligned}$$

Maximum annual entrained road dust PM10 emissions from truck travel on off-site paved roads for the Project can be calculated based on the average annual daily trips ("AADT") as:

$$\begin{aligned} E_{\text{average daily}} &= (\text{average roundtrip distance}) \times (\text{daily number of roundtrips}) \times (\text{PM10 emission factor}) \\ &= (25\ \text{miles}) \times (250\ \text{roundtrips/day}) \times (0.0006\ \text{lb PM10/vehicle mile traveled}) \\ &= 3.6\ \text{PM10 lb/day} \end{aligned}$$

$E_{\text{average annual}} = E_{\text{peak daily}} \times (250\ \text{working days/year}) / (2{,}000\ \text{lb/ton}) =$ **0.4 ton PM10/year**.

[53] Draft EIR, Appendix D, Table D-9.

onto the stockpiles, but fail to account for wind erosion of the uncovered stockpiles.[54] The BAAQMD recommends calculation of PM10 emissions from storage piles based on an equation contained in the U.S. EPA's *Compilation of Air Pollutant Emission Factors* ("AP-42").[55] The BAAQMD provides an emission factor of 1.7 pounds of PM10 per acre and day.[56] The Project would have several acres of stockpiles for raw materials. Emissions due to wind erosion from these uncovered stockpiles could therefore be substantial and must be included in the EIR's emission estimates.

IV.H Tugboat Emissions May Be Underestimated

The Project would import 500,000 tons/year of aggregate and sand from the San Rafael quarry via barges on the Petaluma River. The EIR's emissions estimates are based on a maximum daily materials import via barge of 4,000 tons/day assuming one tugboat per barge.[57] However, as pointed out in Comment I.B above, barge capacities range from 800 to 4,000 tons. Unless one tugboat could push/pull five 800 ton barges, it would require more than one tugboat to import 4,000 tons of materials.[58] Because the EIR's emissions estimates are based on the assumption that each tugboat roundtrip would deliver 4,000 tons of material per to the site, emissions associated with tugboat engines could be considerably higher than assumed by the EIR.

Further, the EIR states that tugboat would normally idle for two to six hours while the barge is unloaded, depending on the size of the barge.[59] Yet, the EIR's emissions estimates are based on only two hours of idling of the tugboat's auxiliary engine.[60] Assuming the tugboat's auxiliary engine would idle for six hours during offloading, emissions per trip would increase would increase by a factor of three. For example, NOx emissions from the tugboat's auxiliary engine would increase from 2.8 to 8.3 lb/trip. The EIR should be revised to account for emissions from the up to six hours of idling that could occur during offloading of larger barges.

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[54] Draft EIR, Appendix D, Table D-9.

[55] Bay Area Air Quality Management District, Permit Handbook, 11.2 Asphalt (Hot Mix) Facilities, September 10, 2008; http://www.baaqmd.gov/pmt/handbook/rev02/PH_00_05_11_02.pdf, accessed December 5, 2008.

[56] *Ibid,* p. 3.

[57] Draft EIR, Appendix D, Table D-7.

[58] Draft EIR, p. III-45.

[59] Draft EIR, p. III-46.

[60] Draft EIR, Appendix D, Table D-18, Assumptions; the Final EIR's revised Table D-18 shows the same values for emissions from the auxiliary engine.

Finally, the EIR's emissions estimates for material import via barge are based on Tier 2 emission factors for tugboat main and auxiliary engines, yet, the EIR does not require that tugboats in fact meet Tier 2 requirements. Thus, emissions from tugboats could be considerably higher than estimated by the EIR.

IV.I The EIR Fails to Account for Emissions from Hot Oil Tank Heater

The hot oil tanks would use a 2.0 MMBtu/hr natural gas-fired burner to heat the oil.[61] Emissions from this burner have not been included in the emissions estimates, presumably, because the burner is exempt from permitting under BAAQMD Rule 2-1, Section 114.1.2 for burners below 10 MMBtu/hr.[62] BAAQMD Rule 2 implements the Federal New Source Review and Prevention of Significant Deterioration requirements under the Clean Air Act and contains requirements for Best Available Control Technology ("BACT"). However, for purposes of CEQA review *all* emissions must be accounted for, no matter how small, because the contribution of many small emissions sources may contribute to total Project emissions exceeding the BAAQMD's thresholds of significance or contributing to local exceedances of ambient air quality standards. Further, even though this 2.0 MMBtu/hr burner would be a comparatively small emissions source, it should nonetheless comply with BACT to minimize the Project's significant emissions of NOx, which will contribute to the region's existing extreme ozone problem.

V. The EIR Fails to Adequately Assess Health Risks Associated with the Project

The EIR does not contain a health risk assessment as is customary for projects emitting toxic air contaminants. Instead the EIR cites to a health risk screening analysis conducted by the BAAQMD in support of an air permit for the proposed facility. The EIR fails to include this health risk screening analysis in an appendix. According to the EIR, the BAAQMD's health risk screening analysis found that the Project's estimated maximum cancer risk at a production capacity of 880,000 tons per year was 6.6 in one million (6.6×10^{-6}), which is lower than the commonly accepted threshold of 10 in one million (10^{-5}). According to the BAAQMD policies, this risk level is considered acceptable if the sources meet current toxic best available control technology ("TBACT"). The EIR reasons that because the Project's annual production of asphalt would be limited to 225,000 tons/year, the excess cancer risk calculated by BAAQMD may be as much as four times the risks of the proposed plant.[63] (The EIR contains no

[61] Draft EIR, V.B-15.

[62] Draft EIR, p. V.B-15.

[63] Draft EIR, p. V.B-33.

discussion of Project's acute or chronic cancer risks.) According to BAAQMD, this health risk screening analysis did not include emissions from diesel trucks and tugboats. Therefore, the EIR's conclusion that the Project would not result in a significant incremental cancer risk is unsupported.[64]

The BAAQMD recently completed an updated health risk assessment evaluating the impacts of toxic air contaminant emissions from the asphalt plant (drum mixer, silo filling, truck loadout, and yard equipment emissions) and associated tugboats and trucks for the currently proposed Project. The findings of this health risk screening analysis indicates that impacts at the location of the maximally exposed individual receptor ("MEIR") would be 5.1 in one million for incremental cancer risk, a chronic hazard risk of 0.004 and an acute hazard index of 0.6. At the off-site point of maximum impact ("PMI"), the health risk assessment finds an incremental cancer risk of 19.4 in one million, a chronic hazard index of 0.08 and an acute hazard index of 0.97.[65] The BAAQMD states that the findings of the health risk screening analysis "indicate that the acute health risks associated with toxic air contaminant emissions from the Project [0.97] are essentially at significance levels established by the District (*i.e.*, a hazard index of 1.0)."[66] Thus, the EIR failed to identify a significant impact due to toxic air contaminant emissions. With respect to chronic and non-chronic cancer risks, the BAAQMD concludes that are less than the respective significance levels of 10 in a million and a hazard index of 1.0.[67]

However, it appears that the information provided to the BAAQMD is inconsistent with the information provided in the Final EIR, likely leading to underestimates of emissions and, consequently, health risks. For example, the BAAQMD's health risk screening analysis is based on an emission factor for tugboats of 1.4 lb of diesel particulate matter emissions per trip[68]; the Final EIR's revised air quality analysis is based on an emission factor 1.7 lb diesel PM10 per trip[69], a 21 percent higher emission rate than assumed in the BAAQMD's analysis. Further, as demonstrated on

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[64] Jack Broadbent, Bay Area Air Quality Management District, Letter to Steve Dee, Sonoma County, Permit and Resources Management Department, Re: Dutra Haystack Landing Asphalt & Recycling Facility Final EIR, October 9, 2008 ("BAAQMD Broadbent Letter").

[65] Enclosure to BAAQMD Broadbent Letter: Bay Area Air Quality Management District, Health Risk Screening Analysis, Evaluation of Toxic Air Contaminant Impacts for California Environmental Quality Act (CEQA) for Dutra Materials, Asphalt Plant, Barge, and Truck Traffic, Permit Application #010901, October 1, 2008.

[66] *See* BAAQMD Broadbent Letter.

[67] *See* BAAQMD Broadbent Letter.

[68] *See* Enclosure to BAAQMD Broadbent Letter, Table 1.

[69] Final EIR, Appendix B, Table D-18.

Comment III, the EIR underestimated emissions from several sources. Presumably, the Applicant provided the BAAQMD with the same information to conduct its updated health risk screening analysis. In addition, the EIR fails to explicitly require several assumptions it relies upon to calculate emissions. For example, tugboat emissions are based on Tier 2 emission factors, yet the EIR does not require the Applicant to only operate tugboats that comply with Tier 2 requirements. The BAAQMD noted this omission and "strongly recommend[s] that, as the Lead Agency, the County impose detailed operating conditions to reflect the scenario utilized to calculate emissions for the Project, such as the use of tugboats with engines certified by the EPA as Tier-2, or lower-emitting (*e.g.*, specifying engine size, hours of operation, etc.)."[70] It is therefore likely that the BAAQMD's most recent health risk screening analysis does not portray the full risk associated with Project emissions.

The cancer risk at the PMI, the point of maximum impact, of 19.4 in one million by far exceeds the accepted significance threshold of 10 in one million. Based on the UTM coordinates contained in the BAAQMD's screening health risk analysis, it appears that the PMI is located on the eastern shore of the Petaluma River, not far from the location of the MEIR. The County should provide assurance that in the future no residences would be permitted to locate in an area where the significance threshold is exceeded. Since, the area northeast of the proposed project site is vacant the EIR should explain how the lead agency will prevent residential and sensitive receptors from locating in this area in the future.

Further, dust generated at asphalt plants is known to contain crystalline silica, which can cause silicosis. Silicosis is a disabling, nonreversible and sometimes fatal lung disease caused by overexposure to respirable crystalline silica and may cause respiratory tract cancer. The EIR contains no discussion of the health impacts of silica emissions.

Finally, concentrations of particulate matter and silica would likely be highest on the Project property where Project employees and the drivers of the trucks importing and exporting raw materials and finished products would be exposed to these toxic air contaminants. The EIR does not discuss the health risk for on-site workers. The BAAQMD's screening health risk assessment only analyzes potential health risks to off-site workers but does not address potential health risks to on-site workers. There is no exemption in CEQA or in the CEQA Guidelines for worker impacts. Workers are entitled to the same protection as anyone else under CEQA and, therefore, the potential health risks on on-site workers due to Project emissions must be evaluated.

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[70] *See* BAAQMD Broadbent Letter.

The EIR should be revised to include a fully documented health risk assessment based on revised emissions estimates as discussed in the comments above. This health risk assessment should contain isopleth maps for each set of modeling runs (course, refined receptor grids) so that the public can verify that the sources and receptors were placed properly, and that the health risk is described accurately in the text of the health risk assessment. The isopleths maps should also include the location of cancer risk for the maximally exposed individual receptor ("MEIR"), the maximally exposed individual worker ("MEIW") for both on-site and off-site workers, and the PMI as well as the location where the highest non-cancer chronic and acute indices would occur.

VI. Additional Mitigation for Project Operations Is Feasible

Numerous additional mitigation is available that would considerably reduce emissions of criteria pollutants, toxic air contaminants including diesel particulate matter, and fugitive dust from operations of the Project.

In its comments on the Final EIR, the BAAQMD, as the agency entrusted with protecting the region's air quality, specifically recommended "appropriate enclosure of the facility; maintaining properly tuned engines; minimizing the idling time of diesel-powered equipment to two minutes; using alternative powered construction equipment (i.e., natural gas, electric); using add-on control devices, such as diesel oxidation catalysts or particulate filters, for facility-owned, and independent operator owned, on-road trucks and off-road equipment; limiting the operating hours of heavy-duty equipment; and requiring that the operator of the tugboat fleet be committed to using new Tier-3 engines as soon as available as a condition of approval. The Project owner/operator should provide justification for a finding that any of these potential strategies or measures is deemed infeasible."[71]

Additional measures are discussed below. In addition, many mitigation measures that are feasible to reduce greenhouse gas emissions would also reduce the Project's criteria air pollutant emissions. These are addressed in Comment VIII.B below.

VI.A Electrical Hookup for Tugboats at Loading Dock

The tugboats would normally idle for two to six hours while the barge is unloaded, depending on the size of the barge.[72] The use of electrical hook-ups for tugboats at the new loading dock could eliminate criteria pollutant and diesel particulate emissions from the tugboat's auxiliary engines while unloading the barges.

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[71] *See* Broadbent Letter.

[72] Draft EIR, p. III-46.

VI.B Mandatory Idling Restrictions

Emissions from trucks and on-site yard equipment should be limited by imposing mandatory idling restriction to 2 minutes.

VI.C Yard Off-road Equipment

The EIR requires as Mitigation Measure AQ-2a that off-road equipment used on-site shall use 2007 emission standards to be met by upgrading to newer vehicles or retrofitting engines using CARB-verified retrofit technologies.[73] This mitigation measure is not specific enough and does not require the most stringent emission standards. The EIR should be revised to explicitly require that all off-road equipment meet U.S. EPA Tier 3 or, where available, Tier 4 emissions standards for new off-road equipment.

VI.D Covered Stockpile Storage

The Project proposes storage of raw materials in uncovered stockpiles up to 40 feet in height.[74] Emissions associated with these stockpiles could be reduced by constructing dividers between or, preferably, covers over the stockpiles.

VI.E Waste Heat Recovery and Increased Insulation of Project Components

The Project could potentially reduce its consumption of natural gas by incorporating heat recovery technologies into the Project and by increasing the insulation on its project components to decrease heat loss. For example, the Project would employ a 10-MMBtu/hr burner to heat the asphalt oil in the storage tanks. A waste heat recovery system could eliminate the separate asphalt oil heater by using process heat to heat the asphalt oil storage tanks. Increased insulation on the storage tanks could reduce heat loss from the storage tanks, particularly during the cooler season. The EIR should be revised to explore potential energy savings that could be achieved with waste heat recovery and increased insulation of project components.

VI.F Offsets

The Applicant should explore the option of voluntarily purchasing emission reduction credits ("ERCs") available through the BAAQMD to offset NOx and other

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[73] Draft EIR, p. V.B-31.

[74] Draft EIR, p. III-39.

criteria pollutant emissions that cannot be reduced to levels below significance through other measures. The BAAQMD's emission bank has sufficient ERCs available.[75]

VI.G Blue Smoke

To limit the release of blue smoke from the facility, the County should require the Applicant to enforce that all trucks loaded with asphalt at the facility would be tarped immediately. The Applicant should also explore the feasibility of enclosing the entire asphalt production facility.

VI.H Solar and Wind Power

The Applicant should explore the feasibility of installing wind turbines and solar panels either on- or off-site to compensate for releases of greenhouse gas emissions for natural gas and fossil-fuel generated electricity.

VI.I Fugitive Dust Control Measures

Dust is generated by hauling and handling aggregate, sand and finished product on site. This dust adheres to trucks and is deposited on public streets or blown off of uncovered truck beds. A layer of dust is often present on streets around asphalt facilities, which is suspended by winds and by vehicles. The following mitigation measures are feasible, frequently required at similar facilities, and should be required to reduce the Project's significant PM10 emissions:

- Install wheel washers and use them on all vehicles exiting the facility;
- Cover the beds of all trucks servicing the facility;
- Control vehicle speed to less than 5 mph on paved and unpaved roads;
- Water spray with chemical dust suppressants on unpaved roads;
- Control dust from stockpiles by watering, dust-suppressant chemicals, or cover as necessary to minimize emission from these sources;
- Continuously sweep the area around the facility when it is in operation;
- Implement an aggressive in-plant dust control program.

[75] BAAQMD, Emission Bank Status Emission Reduction Credits Available (tons/yr), November 13, 2008; http://www.baaqmd.gov/pmt/emissions_banking/banking.htm, accessed December 5, 2008.

VII. Cumulative Impacts

The Bay Area air basin is currently in nonattainment for the state PM10 standard and the state and national ozone standards. The EIR recognizes that the proposed Project, in combination with pending development elsewhere in the City of Petaluma or Sonoma County, would contribute to the cumulative degradation of regional air quality. The EIR makes no attempt to address or quantify the cumulative impacts on air quality and human health due to Project emissions of criteria air pollutants and toxic air contaminants but rather summarily concludes that because the Project has individual significant air quality impacts (due to NOx emissions), it would also be cumulatively significant.[76] This discussion is entirely inadequate as it fails to disclose to the public just how severe these impacts when considering the combined effects of the Project together with existing and future Projects. At the very least, the EIR should address the cumulative impacts due to criteria pollutant and toxic air contaminant emissions from the nearby Shamrock Materials aggregate off-loading and distribution facility and the Sonoma Marin Area Rail Transit ("SMART") train, which would pass adjacent to the Project. The Project by itself would result in an acute hazard index of 0.97, which is essentially identical with the significance threshold of 1.0. Considering the proximity of the Shamrock Materials facility and the SMART train to the Project, it is very likely that cumulative emissions would result in acute health hazards. Similarly, the cumulative cancer risk from all emissions sources may well exceed applicable thresholds of significance. These and other cumulative impacts must be adequately discussed and disclosed to the public.

VIII. The EIR Fails to Adequately Address and Mitigate Greenhouse Gas Emissions

The EIR presents an estimate of total project-generated greenhouse gas emissions of 8,060 metric tons of CO_2 equivalent per year ("$MTCO_2$-eq/year") but falls short of assessing the significance of these emissions, claiming that a significance determination with respect to GHG emissions would be speculative and premature because no accepted methodology or standards exist for evaluating greenhouse gas emissions in the context of land use permitting and CEQA analysis.[77]

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[76] Draft EIR, p. V.B-37.

[77] Draft EIR, pp. V.B-37 – V.B-39.

VIII.A Methodology and Significance Thresholds for Assessing Impacts of Greenhouse Gas Emissions

The EIR fails to acknowledge several guidance documents that were available at the time of its preparation. For example, the Governor's Office of Planning and Research ("OPR") has published an advisory on addressing greenhouse gas emissions in CEQA documents. The Advisory calls for each lead agency to develop its own approach to performing climate change analysis for projects that generate GHG emissions applying a consistent approach based on the best available information.[78] Another guidance document, the White Paper published by the California Air Pollution Control Officers Association ("CAPCOA"), provides a common platform for public agencies to ensure that greenhouse emissions are appropriately considered and addressed under CEQA while programs, regulations, policies, and procedures established by the California Air Resources Board ("CARB") and other agencies to reduce greenhouse gas emission programs are being developed. This White Paper offers three alternative programmatic approaches air districts and lead agencies can pursue toward determining whether greenhouse gas emissions are significant. These approaches include a) no quantitative significance threshold, b) a zero emissions threshold, and c) a non-zero threshold. The lowest proposed non-zero threshold in this White Paper is 900 $MTCO_2$-eq/year.[79]

Based on these proposed options, the County of San Diego recently established interim guidelines for determining significance of greenhouse gas emissions with a significance threshold of 900 $MTCO_2$-eq/year, about one tenth of the Project 's emissions of 8,060 $MTCO_2$-eq/year.[80] The California Air Resources Board recently invited comment on its proposal for recommended approaches for setting interim significance thresholds for greenhouse gas emissions under CEQA consistent with the CAPCOA and OPR recommendations.[81] This proposal recommends a significance threshold for

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[78] State of California, Governor's Office of Planning and Research, Technical Advisory, CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review, June 19, 2008; http://opr.ca.gov/index.php?a=ceqa/index.html, accessed December 3, 2008.

[79] California Air Pollution Control Officers Association, CEQA & Climate Change, Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act, January 2008; http://www.capcoa.org/ceqa/CAPCOA%20White%20Paper%20-%20CEQA%20and%20Climate%20Change.pdf, accessed December 3, 2008.

[80] County Of San Diego, Department of Planning and Land Use and Department of Public Works, Climate Change Land Use and Environment Group, Draft Interim Guidelines For Determining Significance, circulated for public review October 23, 2008 to November 21, 2008; http://www.co.san-diego.ca.us/dplu/docs/bpr/cc-report-format.pdf, accessed December 3, 2008.

[81] California Air Resources Board, Preliminary Draft Staff Proposal, Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act, October 24, 2008; http://www.opr.ca.gov/ceqa/pdfs/Prelim_Draft_Staff_Proposal_10-24-08.pdf, accessed December 3, 2008.

industrial facilities of 7,000 $MTCO_2$-eq/year for operational emissions (excluding transportation). The Project's estimated operational greenhouse gas emissions of 8,060 $MTCO_2$-eq/year (excluding transportation) exceed this proposed threshold by about 15 percent.[82]

The EIR notes that the Project's use of a 20-percent biodiesel blend in on-site mobile equipment (loader, tractor, excavator, trucks, welder), required by Mitigation Measure AQ-4, would reduce greenhouse gas emissions from these sources by 27 $MTCO_2$-eq/year[83] compared to the use of regular diesel, which amounts to 0.3 percent of the Project's total greenhouse gas emissions.[84] The EIR requires no further mitigation to reduce greenhouse gas emissions from the Project beyond compliance with "any applicable future strategies adopted by CARB through promulgated regulations."[85] This requirement does not qualify as mitigation as compliance with CARB promulgated regulations is mandatory.

VIII.B Feasible Mitigation Measures to Reduce Greenhouse Gas Emissions

There are many siting, design and construction measures that could be incorporated into the Project to reduce future greenhouse gas emissions from buildings and transportation. Many of these measures would also reduce the Project's operational criteria pollutant emissions. Therefore, feasible measures that would reduce greenhouse gas emissions and criteria pollutant emissions from Project operations are addressed jointly below. Most of these measures also provide other environmental benefits, *e.g.* reduced impacts on stormwater runoff or on biological resources.

In considering which mitigation measures to implement, the Applicant has many resources available. It can consider, for example, the dozens of measures set out in CAPCOA White Paper or those developed by other municipalities, counties, and air districts and required in CEQA documents for other projects. The Attorney General for California has also compiled a long list of mitigation measures for greenhouse gas emissions.[86] In addition, the following comment discusses the feasibility of off-site mitigation.

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[82] (7,000 $MTCO_2$-eq/year) / (8,060 $MTCO_2$-eq/year) = **1.15**.

[83] Draft EIR, p. V.B-38.

[84] (27 $MTCO_2$-eq/year) / (8,060 $MTCO_2$-eq/year) = **0.003**.

[85] Draft EIR, p. V.B-39, Mitigation Measure AQ-5.

[86] State of California, Department of Justice, The California Environmental Quality Act, Addressing Global Warming Impacts at the Local Agency Level; http://ag.ca.gov/globalwarming/pdf/GW_mitigation_measures.pdf, accessed December 5, 2008.

Off-site Mitigation

Where on-site options for greenhouse gas mitigation have been exhausted, the Applicant should consider the feasibility of undertaking or funding off-site mitigation. The Applicant could, for instance, participate in the Chicago Climate Exchange or discuss funds or programs with the local air district. Such programs or funds have recently become a common element for purposes of greenhouse gas mitigation.

For instance, Chevron has agreed to pay at least $1.5 million into a carbon offset fund that the SCAQMD will administer to mitigate greenhouse gas emissions from an expansion project at its El Segundo Refinery.[87] In September 2007, ConocoPhillips agreed to mitigate the increased greenhouse gas emissions from the company's planned refinery expansion in Rodeo, Contra Costa County. In the settlement, ConocoPhillips agreed to fund a greenhouse gas reduction grant program to be administered by the BAAQMD. In December 2007, the Attorney General reached an agreement with the Port of Los Angeles under which the port will conduct a comprehensive inventory of port-related greenhouse gases—tracking these emissions from their foreign sources to domestic distribution points throughout the United States. In March 2008, the Attorney General and Great Valley Ethanol entered into an agreement that requires the company to mitigate greenhouse gas emissions resulting from a corn-based ethanol plant that it plans to build in Hanford. In May 2008, the San Diego Airport Authority agreed to undertake a variety of innovative measures to reduce emissions of greenhouse gases and other pollutants at Lindbergh Field as part of its near-term and long-term development plans. In August 2008, Cilion agreed to mitigate a portion of the greenhouse gas emissions emitted from its proposed 55 million gallon per year corn ethanol production plant in Kern County. In September, 2008, the Attorney General reached a settlement agreement with the City of Stockton and the Sierra Club under which the city will adopt a Climate Action Plan designed to reduce sprawl and increase infill development, promote public transit and encourage more energy-efficient buildings.[88]

Similar programs, including a reasonable financial commitment by the Applicant to purchase carbon credits, are feasible here and should be evaluated in a revised EIR to reduce the Project's contribution to global climate change.

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[87] South Coast Air Quality Management District, Final Environmental Impact Report, Chevron Products Company El Segundo Refinery, Product Reliability and Optimization Project, SCH No. 2007081057, May 2008, p. 5.27-28; www.aqmd.gov/ceqa/documents/2008/nonaqmd/chevron/PRO/ch5.pdf, accessed September 8, 2008.

[88] State of California, Department of Justice, California Environmental Quality Act; http://ag.ca.gov/globalwarming/ceqa.php, accessed December 5, 2008.

Petra Pless, D.Env.

440 Nova Albion Way
San Rafael, CA 94903
(415) 492-2131 phone
(815) 572-8600 fax
petra@ppless.com

Dr. Pless has over 10 years of experience in environmental consulting conducting and managing interdisciplinary environmental research projects and preparing and reviewing environmental permits and other documents for U.S. and European stakeholder groups. This broad-based experience includes air quality and air pollution control; water quality, water supply, and water pollution control; biology; public health and safety; and noise studies. National Environmental Policy Act ("NEPA"), California Environmental Quality Act ("CEQA"), and Clean Air Act ("CAA") review; industrial ecology and risk assessment; and use of a wide range of environmental software.

EDUCATION

Doctorate in Environmental Science and Engineering (D.Env.), University of California, Los Angeles, 2001

Master of Science in Biology, Technical University of Munich, Germany, 1991

PROFESSIONAL HISTORY

Pless Environmental Consulting, Principal, 2008–present

Environmental consultant, Sole Proprietor, 2006–2008

Leson & Associates (previously Leson Environmental Consulting), Kensington, CA, Environmental Scientist/Project Manager, 1997–2005

University of California Los Angeles, Graduate Research Assistant/Teaching Assistant, 1994–1996

ECON Research and Development, Environmental Scientist, Ingelheim, Germany, 1992–1993

Biocontrol, Environmental Projects Manager, Ingelheim, Germany, 1991–1992

REPRESENTATIVE EXPERIENCE

Air Quality and Pollution Control

Projects include CEQA/NEPA review; attainment and non-attainment new source review ("NSR"), prevention of significant deterioration ("PSD") and Title V permitting; control technology analyses (BACT, LAER, RACT, BARCT, MACT); technology evaluations and cost-effectiveness analyses; criteria and toxic pollutant emission inventories; emission offsets; ambient

and source monitoring; analysis of emissions estimates and ambient air pollutant concentration modeling. Some typical projects include:

- Critically reviewed and prepared technical comments on the air quality, biology, noise, water quality, and public health and safety sections of CEQA/NEPA documents for numerous commercial, residential, and industrial projects (*e.g.*, power plants, airports, residential developments, retail developments, hospitals, refineries, slaughterhouses, food processing facilities, printing facilities, quarries, and mines).
- Critically reviewed and prepared technical comments on the air quality and public health sections of the Los Angeles Airport Master Plan (Draft, Supplement, and Final Environmental Impact Statement/Environmental Impact Report) for the City of El Segundo. Provided technical comments on the Draft and Final General Conformity Determination for the preferred alternative submitted to the Federal Aviation Administration.
- For several California refineries, evaluated compliance of fired sources with Bay Area Air Quality Management District Rule 9-10. This required evaluation and review of hundreds of source tests to determine if refinery-wide emission caps and compliance monitoring provisions were being met.
- Critically reviewed and prepared technical comments on Draft Title V permits for several refineries and other industrial facilities in California.
- Evaluated the public health impacts of locating big-box retail developments in densely populated areas in California and Hawaii. Monitored and evaluated impacts of diesel exhaust emissions and noise on surrounding residential communities.
- In conjunction with the permitting of several residential and commercial developments, conducted studies to determine baseline concentrations of diesel exhaust particulate matter using an aethalometer.
- For an Indiana steel mill, evaluated technology to control NOx and CO emissions from fired sources, including electric arc furnaces and reheat furnaces, to establish BACT. This required a comprehensive review of U.S. and European operating experience. The lowest emission levels were being achieved by steel mills using selective catalytic reduction ("SCR") and selective non-catalytic reduction ("SNCR") in Sweden and The Netherlands.
- For a California petroleum coke calciner, evaluated technology to control NOx, CO, VOCs, and PM10 emissions from the kiln and pyroscrubbers to establish BACT and LAER. This required a review of state and federal clearinghouses, working with regulatory agencies and pollution control vendors, and obtaining and reviewing permits and emissions data from other similar facilities. The best-controlled facilities were located in the South Coast Air Quality Management District.
- For a Kentucky coal-fired power plant, identified the lowest NOx levels that had been permitted and demonstrated in practice to establish BACT. Reviewed operating experience of European, Japanese, and U.S. facilities and evaluated continuous emission monitoring data. The lowest NOx levels had been permitted and achieved in Denmark and in the U.S. in Texas and New York.
- In support of efforts to lower the CO BACT level for power plant emissions, evaluated the contribution of CO emissions to tropospheric ozone formation and co-authored report on same.

- Critically reviewed and prepared technical comments on applications for certification ("AFCs") for numerous natural-gas fired, solar, and geothermal power plants in California permitted by the California Energy Commission. The comments addressed construction and operational emissions inventories and dispersion modeling, BACT determinations for combustion turbine generators, etc.
- Critically reviewed and prepared technical comments on draft PSD permits for several natural gas-fired power plants in California, Indiana, and Oregon. The comments addressed emission inventories, greenhouse gas emissions, BACT, case-by-case MACT, compliance monitoring, cost-effectiveness analyses, and enforceability of permit limits.
- For a California refinery, evaluated technology to control NOx and CO emissions from CO Boilers to establish RACT/BARCT to comply with BAAQMD Rule 9-10. This required a review of BACT/RACT/LAER clearinghouses, working with regulatory agencies across the U.S., and reviewing federal and state regulations and State Implementation Plans ("SIPs"). The lowest levels were required in a South Coast Air Quality Management rule and in the Texas SIP.
- In support of several federal lawsuits filed under the Clean Air Act, prepared cost-effectiveness analyses for SCR and oxidation catalysts for simple cycle gas turbines and evaluated opacity data.
- Critically reviewed draft permits for several ethanol plants in California, Indiana, Ohio, and Illinois and prepared technical comments.
- Reviewed state-wide average emissions, state-of-the-art control devices, and emissions standards for construction equipment and developed recommendations for mitigation measures for numerous large construction projects.
- Researched sustainable building concepts and alternative energy and determined their feasibility for residential and commercial developments, *e.g.*, regional shopping malls and hospitals.
- Provided comprehensive environmental and regulatory services for an industrial laundry chain. Facilitated permit process with the South Coast Air Quality Management District. Developed test protocol for VOC emissions, conducted field tests, and used mass balance methods to estimate emissions. Reduced disposal costs for solvent-containing waste streams by identifying alternative disposal options. Performed health risk screening for air toxics emissions. Provided permitting support. Renegotiated sewer surcharges with wastewater treatment plant. Identified new customers for shop-towel recycling services.
- Designed computer model to predict performance of biological air pollution control (biofilters) as part of a collaborative technology assessment project, co-funded by several major chemical manufacturers. Experience using a wide range of environmental software, including air dispersion models, air emission modeling software, database programs, and geographic information systems ("GIS").

Water Quality and Pollution Control

Experience in water quality and pollution control, including surface water and ground water quality and supply studies, evaluating water and wastewater treatment technologies, and identifying, evaluating and implementing pollution controls. Some typical projects include:

- Evaluated impacts of on-shore oil drilling activities on large-scale coastal erosion in Nigeria.
- For a 500-MW combined-cycle power plant, prepared a study to evaluate the impact of proposed groundwater pumping on local water quality and supply, including a nearby stream, springs, and a spring-fed waterfall. The study was docketed with the California Energy Commission.
- For a 500-MW combined-cycle power plant, identified and evaluated methods to reduce water use and water quality impacts. These included the use of zero-liquid-discharge systems and alternative cooling technologies, including dry and parallel wet-dry cooling. Prepared cost analyses and evaluated impact of options on water resources. This work led to a settlement in which parallel wet dry cooling and a crystallizer were selected, replacing 100 percent groundwater pumping and wastewater disposal to evaporation ponds.
- For a homeowner's association, reviewed a California Coastal Commission staff report on the replacement of 12,000 linear feet of wooden bulkhead with PVC sheet pile armor. Researched and evaluated impact of proposed project on lagoon water quality, including sediment resuspension, potential leaching of additives and sealants, and long-term stability. Summarized results in technical report.

Applied Ecology, Industrial Ecology and Risk Assessment

Experience in applied ecology, industrial ecology and risk assessment, including human and ecological risk assessments, life cycle assessment, evaluation and licensing of new chemicals, and fate and transport studies of contaminants. Experienced in botanical, phytoplankton, and intertidal species identification and water chemistry analyses. Some typical projects include:

- For the California Coastal Conservancy, San Francisco Estuary Institute, Invasive Spartina Project, evaluated the potential use of a new aquatic pesticide for eradication of non-native, invasive cordgrass (*Spartina spp.*) species in the San Francisco Estuary with respect to water quality, biological resources, and human health and safety. Assisted staff in preparing an amendment to the Final EIR.
- Evaluated likelihood that measured organochlorine pesticide concentrations at a U.S. naval air station are residuals from past applications of these pesticides consistent with manufacturers' recommendations. Retained as expert witness in legal proceedings.
- Prepared human health risk assessments of air pollutant emissions from several industrial and commercial establishments, including power plants, refineries, and commercial laundries.
- Managed and conducted studies to license new pesticides. This work included the evaluation of the adequacy and identification of deficiencies in existing physical/chemical and health effects data sets, initiating and supervising studies to fill data gaps, conducting environmental fate and transport studies, and QA/QC compliance at subcontractor laboratories. Prepared licensing applications and coordinated the registration process with German licensing

agencies. This work led to regulatory approval of several pesticide applications in less than six months.

- Designed and implemented database on physical/chemical properties, environmental fate, and health impacts of pesticides for a major European pesticide manufacturer.
- Designed and managed toxicological study on potential interference of delta-9-tetrahydro-cannabinol in food products with U.S. employee drug testing; co-authored peer-reviewed publication.
- Critically reviewed and prepared technical comments on applications for certification for several natural-gas fired, solar, and geothermal power plants and transmission lines in California permitted by the California Energy Commission. The comments addressed avian collisions and electrocution, construction and operational noise impacts on wildlife, risks from brine ponds, and impacts on endangered species.
- For a 180-MW geothermal power plant, evaluated the impacts of plant construction and operation on the fragile desert ecosystem in the Salton Sea area. This work included baseline noise monitoring and assessing the impact of noise, brine handling and disposal, and air emissions on local biota, public health, and welfare.
- Designed research protocols for a coastal ecological inventory; developed sampling methodologies, coordinated field sampling, determined species abundance and distribution in intertidal zone, and analyzed data.
- Designed and conducted limnological study on effects of physical/chemical parameters on phytoplankton succession; performed water chemistry analyses and identified phytoplankton species; co-authored two journal articles on results.
- Conducted technical, ecological, and economic assessments of product lines from agricultural fiber crops for European equipment manufacturer; co-authored proprietary client reports.
- Developed life cycle assessment methodology for industrial products, including agricultural fiber crops and mineral fibers; analyzed technical feasibility and markets for thermal insulation materials from plant fibers and conducted comparative life cycle assessments.
- Conducted and organized underwater surveying and mapping of plant species in several lakes and rivers in Sweden and Germany as ecological indicators for the health of limnological ecosystems.

PRO BONO ACTIVITIES

Founding member of "SecondAid," a non-profit organization providing tsunami relief for the recovery of small family businesses in Sri Lanka. (www.secondaid.org.)

PROFESSIONAL AFFILIATIONS

Association of Environmental Professionals

SELECTED PUBLICATIONS

Leson G. and Pless P., Hemp seeds and hemp oil, in: Grotenhermen F. and Russo E. (Eds.), Cannabis und Cannabinoids, Pharmacology, Toxicology, and Therapeutic Potential, The Haworth Integrative Healing Press, New York, 2002.

Leson G., Pless P., Grotenhermen F., Kalant H., and ElSohly M., Evaluating the impact of hemp food consumption on workplace drug tests, Journal of Analytical Toxicology, Vol. 25, No. 11/12, pp. 1-8, 2001.

Leson G. and Pless P., Assessing the impact of THC uptake from hemp oil cosmetics on workplace drug testing, Report to the Agricultural Research and Development Initiative, Morris, MB, 2001.

Pless P., Technical and environmental assessment of thermal insulation materials from fiber crops, doctoral dissertation in Environmental Science and Engineering, University of California, Los Angeles, 2001.

Center for Waste Reduction Technologies in the American Institute of Chemical Engineers, Collaborative Biofilter Project, Technical Report, co-author with Leson G. of sections 'Compound Database,' 'Design Manual,' and 'Literature Database,' 1998.

Hantke B., Domany I., Fleischer P., Koch M., Pless P., Wiendl M., and Melzer M., Depth profiles of the kinetics of phosphatase activity in hardwater lakes of different trophic level, Archives Hydrobiologia, vol. 135, pp. 451–471, 1996.

Hantke B., Fleischer P., Domany I., Koch M., Pless P., Wiendl M., and Melzer M., P-release from DOP by phosphatase activity in comparison to P-excretion by zooplankton: studies in hardwater lakes of different trophic level, Hydrobiologia, vol. 317, pp. 151–162, 1996.

Pless P., Untersuchungen zur Phytoplanktonentwicklung im Herrensee (investigations on phytoplankton succession in an oligotrophic hardwater lake), Master of Science thesis in biology with focus on botany/ecology/limnology, Technical University of Munich, Germany, 1991; graduated with first class honors.

EXHIBIT B

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SOUND SOLUTIONS
acoustical consulting services

4 December 2008

Lozeau | Drury LLP
1516 Oak Street, Suite 216
Alameda, California 94501

ATT: Michael R. Lozeau

RE: Comments on the Noise Analysis in the Draft Environmental Impact Report on the Proposed Dutra Materials Haystack Landing Project, Petaluma, Sonoma County, California

1. Introduction

This note is in response to your questions about the possible incompleteness of the subject noise analysis. The following comments are based upon a review of Sections V.C and V.I of the Draft Environmental Impact Report[1] (DEIR), as well as two noise studies cited in the DEIR as support documents[2,3]

2. Impact Criteria

Table NE-2 in the Sonoma County General Plan includes limits on the values of several descriptors. Until September 2008, limits were applied to L_{50}, L_{25}, L_8, L_2, and L_{max} during any one hour period. In the recently updated General Plan, adopted in September 2008, the limit on L_{max} was eliminated, but the limits on the other four descriptors remain. The project noise level estimates in the subject DEIR list only the L_{50} descriptor. For example, see Tables V.I-10, V.I–11, V.I-12. This implies that the impacts of short duration events producing relatively high sound levels have not been completely analyzed. Such events would be expected in connection with the operations proposed.

3. Fire Station

Although activities at the proposed fire station are described, there is no quantitative analysis of potential noise impacts. The high levels of sound at 50 feet from a fire siren or truck horn are mentioned, but sound levels at noise sensitive locations due to sirens and horns are not tabulated or assessed. Training and emergency response operations are expected to be intermittent, but experience with similar facilities suggests that relatively high sound levels could be produced for short periods. A more complete analysis would include estimates of such sound levels, and assessment in terms of all of the descriptors in the Sonoma County standards (General Plan Table NE-2).

[1] "Dutra Haystack Landing Asphalt & Recycling Facility Draft Environmental Impact Report", Sonoma County Permit & Resource Management Department, January 2008

[2] "Environmental Noise Analysis, Dutra Materials Haystack Project", prepared by Bollard & Brennan, Inc., submitted to Dutra Materials, 15 September 2004

[3] "Noise Attenuation and Mitigation Plan for the Dutra Haystack Landing Facility, prepared by Rosen, Goldberg & Der, submitted to Dutra Group, 12 May 2006

5330 Winter Creek Road / Santa Rosa, CA 95404 / 707.523.0131 (tel) / 707.523.0803 (fax) / ssacs@ss-acs.com

4. Egret/Heron Colony

This wildlife colony is not included among the noise sensitive locations denoted R1 through R7, which are analyzed in the DEIR noise section. No estimated sound levels are given, no impact criteria are suggested, and the effects of mitigation measures are not tabulated. Therefore, there is no quantitative basis for the conclusion that the impact would be "less than significant".

The absence of a complete analysis of short duration, high sound level events (see "2. Impact Criteria" above) is especially of concern in connection with birds. Such events would be expected to be associated with the fire station adjacent to the colony, with asphalt plant equipment, and with heavy trucks entering and departing the site in the vicinity of the fire station. That birds can be disturbed by infrequent, sudden loud noises is evidenced by the fact that such sounds have been used to repel birds where they have become a nuisance.

5. Mitigation Measures and the Egret/Heron Colony

The physical mitigation measures, e.g., sound barriers, proposed are apparently intended to mitigate impacts at the noise sensitive locations analyzed. Since the Egret/Heron colony is not one of those locations, it is not clear whether these measures would benefit the colony.

Administrative mitigation measures are also discussed, e.g., restricting the hours of certain operations. However, in the absence of a detailed analysis of potential noise impacts on the colony, it is not possible to conclude that the residual impact of the sounds remaining after the administrative restrictions are in place would be less than significant.

6. Conclusions

The DEIR noise analysis is incomplete in several respects: (1) in assessing impacts, it does not consider all of the county standards, (2) there is no quantitative assessment of potential noise impacts due to operations at the proposed fire station, or asphalt trucks passing by it, (3) there is no quantitative assessment of noise impacts on the Egret/Heron colony, and (4) the proposed mitigation measures have not been shown to result in less than significant impact on the Egret/Heron colony.

I hope these remarks are helpful. Please contact me if questions arise.

T. A. Barnebey, Ph.D
Principal Consultant.

TAB/Dutra Asphalt Plant/L1/email

STATEMENT OF QUALIFICATIONS: ENVIRONMENTAL ACOUSTICS

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CONSULTATION AND DESIGN SERVICES

Sound Solutions is qualified to provide services in the following areas:

Environmental Noise Measurements Measurements of environmental noise descriptors such as L_{dn}, CNEL, SENEL, and percentile levels can be provided. In addition, spectral analysis is available when needed.

Environmental Noise Modeling and Prediction Calculations of noise levels due to planned facilities can be provided, based upon measurements of existing noise sources, manufacturers' noise emission data, etc.

Noise Impact Assessments When applicable noise exposure standards exist, assessment entails a comparison between expected noise levels and the standards in question. When no standards exist, or when existing standards are not expected to be adequate, appropriate standards can be developed.

Noise Mitigation Measures Noise attenuations produced by barriers, commercial silencers and buildings can be calculated, and appropriate mitigation measures can be specified.

Environmental Impact Reports Reports are prepared in compliance with California State guidelines for noise studies as parts of environmental impact reports, or other appropriate formats. Reports include explanations of acoustical terminology and implications of findings expressed in non-technical terms. When appropriate, graphical presentations of results are provided, e.g., noise contour figures.

Litigation Preparation and Expert Witness Testimony Technical advice can be provided regarding noise impact assessment and noise code compliance. Depositions and trial testimony as an expert witness in acoustics can be scheduled as needed.

REPRESENTATIVE PROJECTS

Noise Element, City of Calistoga General Plan
Measurements of existing noise levels and projections of future noise environments were provided. A desire by the city to preserve the existing quiet environment led to the development of noise exposure standards which are more stringent than usual.

Jane's Meadows Subdivision: Motor Vehicle Noise
This development consists of 68 single family dwellings. On-site measurements were used to determine existing traffic noise levels. Future noise levels were projected from existing levels and expected increases in traffic volumes near the site. Mitigation measures were designed as needed to meet applicable noise exposure standards. Jane's Meadows is a representative of the dozens of residential developments for which Sound Solutions has provided traffic noise analyses and mitigation recommendations.

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REPRESENTATIVE PROJECTS (continued)

Barnes Meadow Subdivision: Railroad Noise
Sound levels produced by operations on a railroad line near the project site were measured. Average noise levels were determined from the measurement data and the railroad schedule. A noise assessment report was provided, which included evaluations of alternative mitigation measures.

Spring Meadows Unit #5 Subdivision: Aircraft Noise
The proposed subdivision is located adjacent to a general aviation airport. Impacts of aircraft noise were evaluated with the help of noise measurements on the site. Alternate mitigation schemes were analyzed and specified.

Sonoma County Main Adult Detention Facility: Construction Noise
County personnel expressed concerns about noise from this major construction project adjacent to existing county court and office buildings. Measurements were made of the noise outputs of construction activities typically expected to occur, including heavy earth moving operations and pile driving. The data was used to develop noise profiles associated with the project at several locations around the site. Each profile expressed projected average (Leq) daytime sound levels as a function of project phase over the lifetime of the project. The profiles were used to evaluate effects on the existing environment and to assess high impact areas. They also formed the bases of mitigation recommendations. This work was done for the Sonoma County Administrator's Office.

Streamside Place
This is a mixed use project incorporating a large grocery store and multifamily housing. The acoustical analysis considered potential noise impacts on future residents due to equipment and activities at the new store, as well as the impacts from traffic noise on the nearby arterial. The study resulted in measures to control noise due to refrigeration equipment, arrivals and departures of large diesel trucks, and unloading activities.

Days Inn Hotel
This is a multi-story hotel proposed for a redevelopment area. Impacts of noise due to a freeway and a railroad line were evaluated. Noise mitigation measures were specified.

Larkfield Shopping Center
Noise impacts due to the proposed expansion of a shopping center were evaluated. Measurements were made of the noise outputs of vehicles and equipment expected to be used. These included refuse trucks and compactors. The data was used to project the noise environment expected upon completion of the expansion. The projections formed the basis for mitigation recommendations.

Daily Planet Nightclub
A nightclub featuring loud pop music was proposed in an existing older building. City planners expressed concern about noise impacts. Sound level data from previous projects was used as the basis for calculations predicting exterior noise levels. Recommendations for containing sound within the building shell were made to nightclub owners. The nightclub is now operating with no noise complaints from neighbors.

Oakmont Sewage Treatment Plant
Noise levels due to the plant were measured in the surrounding area where residential development was proposed. Noise exposure standards and appropriate mitigation measures were developed and specified.

McPhail Cement Batch Plant
Sound level measurements at a facility similar to a proposed plant were used to evaluate potential noise impacts. An impact and mitigation report was prepared.

TECHNICAL PERSONNEL

T. A. Barnebey, Ph.D., Principal

Dr. Barnebey has been active in acoustics as a professional consultant and university lecturer since 1974. He founded Sound Solutions in August 1978. His background includes various phases of community noise assessment, room and building acoustics, sound reinforcement system design, and noise control in commercial, industrial and residential settings. He has successfully worked with architects, developers, contractors, government officials, industrialists, church officials and private citizens to measure, evaluate and improve acoustical environments.

As a past faculty member in the Physics and Astronomy Department at Sonoma State University, Dr. Barnebey has taught courses on environmental acoustics and the physics of music.

Dr. Barnebey has presented papers on applied acoustics to professional and academic societies. Typical of these was an article about the interfacing of acoustical measuring equipment with personal computers presented at NOISE-CON 85, a national conference on noise control engineering held at The Ohio State University.

Education

B.A. Physics, 1964, University of California, Los Angeles
M.S. Physics, 1966, University of California, Los Angeles
Ph.D. Physics, 1971, University of California, Los Angeles

Professional Organization Affiliations

Acoustical Society of America
Institute of Noise Control Engineering (affiliation certified by examination)
American Institute of Architects (Professional Affiliate, Redwood Empire Chapter)
American Physical Society

FACILITIES

The acoustic measurement instrumentation used by Sound Solutions is centered around a combination real time audio analyzer/ANSI Type 1 sound level meter interfaced with a microcomputer. The system may be used for field tests and measurements as well as for off site analysis of events recorded on tape.

The functions which can be performed by this measurement/analysis system include: (1) Measurement of statistical noise level descriptors, e.g., Leq, SENEL, and percentile levels. (2) Determination of long term averages, e.g., Ldn and CNEL, from noise level measurements and operation data such as traffic volumes, railroad passby numbers, and aircraft flyby statistics. (3) Measurement of the noise attenuations produced by noise barriers, buildings and other mitigators.

Other, simpler sound level measuring equipment is also available for field use when sophisticated measurements are unnecessary.

Accelerometer equipment is available for vibration measurements. Vibration data can be collected and analyzed by computer with the help of the analyzer/microcomputer system described above.

Computer calculations and models are often used to predict sound levels. Sound Solutions personnel are experienced with computer programming in applied acoustics. Custom programs can be written for specific projects when appropriate. These programs and models have proven to be useful and efficient analysis tools.

EXHIBIT C

DECLARATION OF DAVID KELLER

I, David Keller, declare as follows:

1. I have personal knowledge of all the facts stated herein and, if called as a witness, could and would testify competently thereto.

2. I reside at 1327 I St., in Petaluma, California. I am a retired member of the City Council, currently operate a small business in town, and serve as director of the Petaluma River Council. From 1996-2003, including during my tenure on the Petaluma City Council, I served as co-Chair of the Central Petaluma Specific Plan Citizens' Advisory Committee that oversaw the development of the Central Petaluma Specific Plan ("CPSP"), adopted unanimously by the Petaluma City Council on June 2, 2003.

3. I have previously submitted comments to the County on the Dutra Haystack Landing Asphalt and Recycling Facility proposed for 3355 Petaluma Boulevard South. My comments included information regarding the feasibility and desirability of the County considering as a prime alternative industrially-zoned property located at 500 Hopper Street in Petaluma.

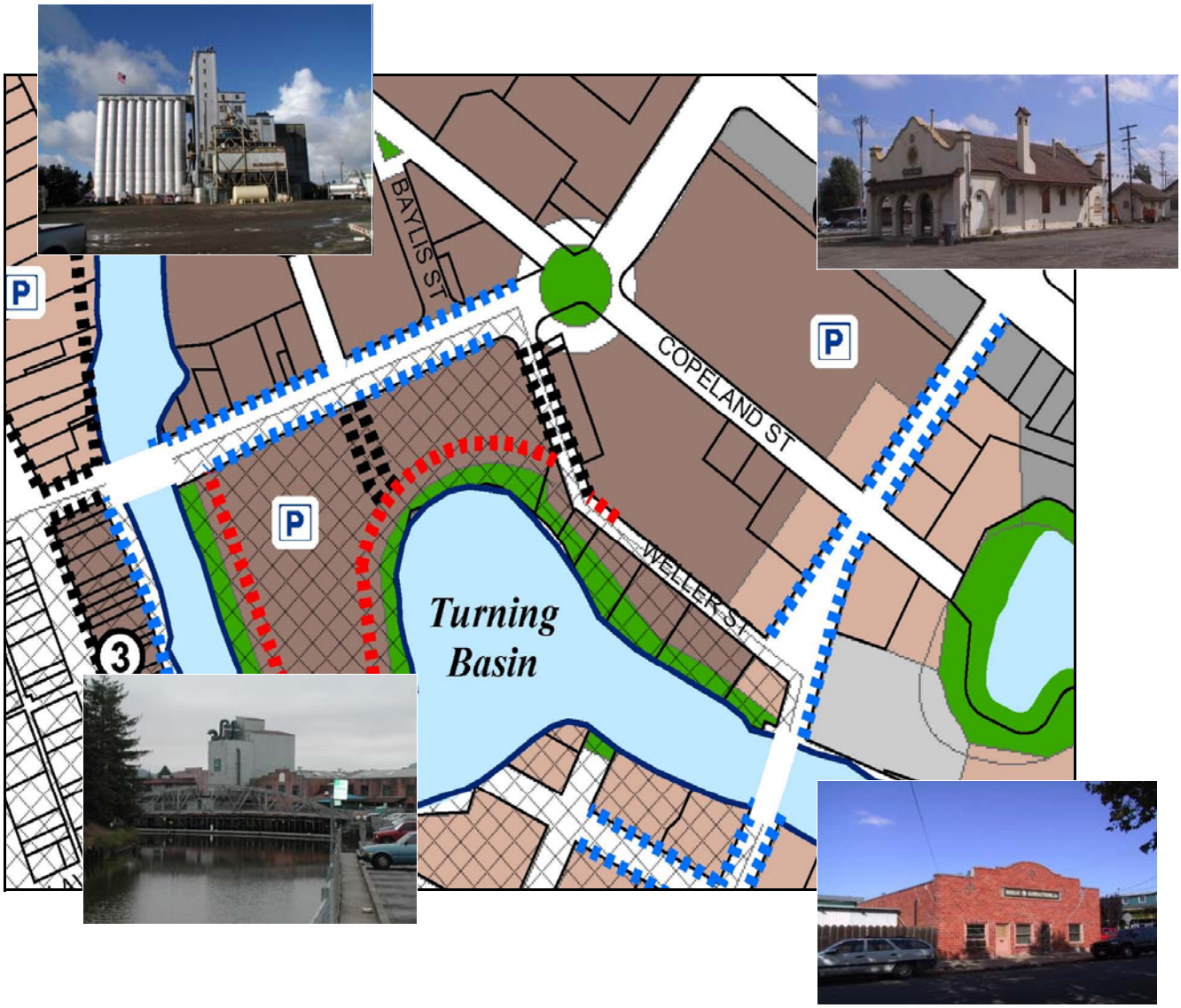
4. According to Realist, an on-line property-listing service, the property at 500 Hopper Street is identified as assessor's parcel number 136-010-024. The parcel is approximately 34 acres in size. The current City of Petaluma General Plan has incorporated the CPSP. In the CPSP and now the General Plan, the entire 34-acres parcel is zoned as River Dependent Industrial.

5. On December 3rd, I telephoned the Washington Division of URS Corporation, the current owner of the Pomeroy Corporation and the 500 Hopper Street parcel. The person I spoke with in the URS Washington Division referred me to the company's land management office based in Boise, Idaho and provided me a telephone

David Keller

EXHIBIT D

CENTRAL PETALUMA SPECIFIC PLAN



City of Petaluma
Adopted June 2, 2003

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Appendix "A" SmartCode©

Appendix "B" Architectural Guidelines

Central Petaluma Specific Plan

ADOPTED JUNE 2, 2003

RESOLUTION 2003-105 N.C.S.

Petaluma City Council

David Glass, Mayor

Keith Canevaro

Mike Harris

Mike Healy

Bryant Moynihan

Mike O'Brien

Pamela Torliatt

3. LAND USE

Existing Land Use

Central Petaluma contains a range of commercial and industrial uses that reflect the city's growth as an agricultural and industrial services center oriented to the river and rail, and later to the highway. Much of the land area is vacant or underutilized, which is particularly unusual for an area that is located adjacent to a downtown and within the geographic heart of the city. The longevity of many uses and the relatively unchanged nature of the area are also characteristic features of land uses within Central Petaluma. Several large industrial operations have been in place for many years, and some lands have served support and warehousing functions since the turn of the century.

Four specific districts with similar groupings of land use characterize Central Petaluma. These include the North River area, the Turning Basin area, the Riverfront Warehouse District, and the Lower Reach. The North River area contains a significant concentration of large agricultural industrial businesses, specifically Hunt and Behren's, Dairymen's Feed and Supply Cooperative, and the Clover-Stornetta creamery (which is outside the study area, but relevant in terms of context). Both Hunt and Behren's and Dairymen's Feed are grain milling operations that serve agricultural industries and have long been established in Petaluma; Hunt and Behren's was established in 1921, and Dairymen's Feed has been in its current location since 1959. Both operations receive grain shipments by rail and truck, process the grain into feed, and distribute the product by truck. Hunt and Behren's has a retail facility onsite, but Dairymen's Feed does not; they distribute feed to their cooperative owners. Much of the receiving and distribution activity takes place in the early morning hours. There are also significant manufacturing uses within the North River area, including Spectrum Naturals, served by existing rail spurs. Presently, activities include the pressing and bottling of cooking oils and the manufacturing of ceramics and water purification products. Other large users include the Long's and Kragen's shopping center oriented to East Washington Street.

Petaluma Boulevard North is primarily dedicated to retail uses, many of which provide automotive services. Retail uses in the immediate vicinity of the Petaluma Boulevard North and Washington Street intersection are a transitional link between the historic downtown Petaluma area on the south side of Washington Street and the more automotive service-oriented uses further north along Petaluma Boulevard North. The turn-of-the-century buildings, which are rela-

tively large in area, primarily contain dining, drinking and entertainment uses (i.e., billiard hall, batting cages, night club), home furnishing stores, and antique and thrift shops. The remainder of the Petaluma Boulevard North corridor in this area is primarily dedicated to automotive services.

The Turning Basin, bounded by East Washington, Lakeville Street, D Street and the river lies at the heart of the study area as well as the city as a whole. Much of this area is vacant or underutilized property undergoing transition. The currently vacant Petaluma train depot is located on an undeveloped city block traversed by several track lines, including a drill line that diverges from the main line at Jefferson Street, crosses East Washington and the Petaluma River in the vicinity of Copeland Street, and rejoins the main line north of the study area. Moving west toward the river, the next block is also largely vacant, with the exception of a small parking area associated with the adjacent Golden Eagle Shopping Center and Riverhouse Restaurant, and a refrigeration equipment business in a structure facing Copeland Street.

Across Weller Street along the riverfront, most of the land area is dedicated to the Golden Eagle Shopping Center, which is oriented to East Washington Street. This center contains approximately 70,000 square feet of buildings on a 7.3-acre site. Originally constructed in 1974 on the site of the historic Golden Eagle Mill, the Golden Eagle Shopping Center is developed in a U-shaped configuration oriented to East Washington Street and away from the riverfront. The center has become more successful since construction of the pedestrian bridge to the downtown and reorientation of the back buildings (Dempsey's and J. M. Rosen's Waterfront Grill) to the river. These buildings were formerly difficult to lease, as they had difficulty drawing shoppers back from the main anchor and parking area. The remainder of the riverfront along Weller Street is occupied by the recently renovated Riverhouse Restaurant and Inn, which is a relocated Victorian structure used for the past decade or so as a restaurant, warehouse structures near D Street, and a woodworking shop.

The Riverfront Warehouse District comprises the west side of the river, from D Street to McNear Hill. It is bordered on the east by the river, on the north by D Street, on the west by Petaluma Boulevard South, and on the south by McNear Hill. In the area between D Street and Foundry Wharf, the grid of local streets provides the basic organizing structure for an unusually high mixture of industrial, commercial and residential land uses. Currently, about 50 percent of this area is in light industrial or warehouse

retail use, contained primarily within the large buildings that mark the river's edge with a bold, repeating pattern south of the D Street Bridge. While primarily concentrated along the river, some type of industrial use occurs on all but one of the district's blocks. Single-family residential uses, mostly clustered on three blocks at the southern end, occupy another 20 percent of the land. About half of the remaining 30 percent consists of currently vacant parcels, located primarily in the central part of the district. The other 15 percent is composed of assorted office, retail, restaurant, service and lodging uses scattered along Petaluma Boulevard South and at Foundry Wharf. Between Foundry Wharf and McNear Hill, land uses are larger in scale, and are composed of a combination of industrial and service commercial uses oriented to Petaluma Boulevard South.

Foundry Wharf is a project that initiated a change in the perception of the area by introducing mixed uses within a rehabilitated stove factory with smaller new buildings overlooking the river. Maintaining a genuine diversity of uses within an eclectic group of structures has served to enhance, rather than dilute, the district's unique character, and has provided a successful example of nontraditional, mixed-use office and industrial space. Other changes are likely to occur within the area, particularly immediately adjacent to the river. The Lower Reach contains the majority of land focused around the lower reach of the Petaluma River. The area is bounded by the Petaluma River, Lakeville Street, and Highway 101 and is traversed by the railroad, which divides the area into two distinct areas: the riverfront, and the Lakeville Street corridor.

The riverfront in this area is utilized by three large industrial enterprises associated with the construction industry: Jerico Products, Shamrock Materials, and Pomeroy Corporation. These uses are much different in character than the agricultural industrial uses north of Washington Street; they are larger in terms of land area, many of their operations are conducted outside, and as a result, they generate more noise and dust than uses conducted inside buildings. These industries are primarily water dependent and rely in varying degrees on the supply of raw materials by barge. As a result, they form an important part of the economic justification for periodic dredging of the river by the United States Army Corps of Engineers. Transportation linkages by truck and to the nearby rail tracks are also important to these industries. In addition to significant land resources, these three businesses also own portions of the McNear Channel, which is used for barging material to these sites.

The McNear Peninsula south of Jerico Products comprises approximately 28 acres of undeveloped land owned by the City of Petaluma, Jerico, Miller McNear, and the Pomeroy Corporation. This area is designated as a city park site in the Petaluma General Plan. The City of Petaluma wastewater treatment facility, corporation yard, and animal shelter are located on approximately 11 acres adjacent to the Pomeroy site. Along the Lakeville Street corridor, auto-oriented retail uses predominate. Many of the uses are service commercial in nature, including storage lockers, storage yards, automotive services and repair, as well as general retail.

Market Overview

Sonoma County was one of the fastest growing areas of Northern California during the 1980s, and Petaluma participated in this growth. During this period of fairly rapid growth, the Petaluma economy experienced a steady transition away from its agricultural heritage of poultry and egg production to providing housing and services for residents who worked in San Francisco and Marin County, and even as far as the East Bay. As the economy changed, so did the industrial sector, which was historically dependent upon the processing and distribution of agricultural products. However, Petaluma still boasts a very viable and important agricultural industrial sector that supports an equally viable agricultural community in the nearby unincorporated areas of southern Sonoma and western Marin counties.

The recession of the early 1990s, which severely affected most of California, slowed growth in Sonoma County and Petaluma. However, the dislocation caused by that recession also accelerated the pace of structural change in the Northern California economy. After economic recovery occurred first on the national level and then more recently on the state level, high-technology firms stepped up their search for locations outside of "Silicon Valley". The out-migration from Santa Clara County was caused by a scarcity of industrial land and high labor costs because of strong job growth and little new affordable housing construction. Many Northern California communities have captured some of this Silicon Valley spillover, and communities offering a high quality of living are particularly attractive to these highly skilled entrepreneurs and employees. Throughout this period, Petaluma and other areas of Sonoma County have seen the development and continuing evolution of "Telecom Valley", the design and manufacture of telecommunications systems and software, as well as growth in the bio-tech sector of the economy. In the Central Petaluma area, there is the potential to accommodate the expansion, relocation, consoli-

dation, and modernization of Petaluma's existing industrial and distribution firms, as well as to develop a new high-image and prestigious technology park, taking advantage of the river as an amenity

Central Petaluma could also become a very desirable mixed use area of neighborhood, enjoying proximity to the downtown and river. The plan's development regulations greatly expand the range of principally permitted uses in the area beyond those currently found in the City's Zoning Ordinance. These new regulations support expanded retail, office, dining and lodging opportunities throughout the Specific Plan area and simplify the entitlement process.

An entertainment/cinema complex would provide considerable synergy to the restaurants and specialty shops that currently exist in the downtown. An entertainment retail/cinema complex that is integrated with restaurants, shops and public parking, developed around a waterfront promenade and/or open space surrounding a newly improved Turning Basin area, could prove to be highly successful. Such a "centerpiece" project would expand the trade area served by Central Petaluma. In addition, the demand for hotel rooms in Petaluma is expected to increase by 280 to 290 rooms and could be accommodated within Central Petaluma, if quality sites are available.

Conceptual Approach

The extent of vacant and underutilized land within the heart of the city creates the opportunity to complete a fragmented urban pattern, intensify activities, and create stronger linkages with surrounding neighborhoods and the downtown. In pursuing these opportunities, the land use recommendations of the Specific Plan place a greater value on mix and intensity than on limiting activities to single-purpose functions within specific locations. Allowances for new types and arrangements of activities are encouraged within buildings that can be adapted for different purposes and evolve over time.

Each area of Central Petaluma has its own characteristic mix of land uses, and it is important that these unique identities are reinforced. At the same time, there are some common elements and activities that assert themselves throughout the recommended land use program. First, the plan is aimed at supporting existing viable industrial uses, from the feed mills in the northern reaches to the small-scale manufacturers and craftspersons in the Riverfront Warehouse District, to the large-scale construction industries on the east side of the river from D Street to the freeway. Compatibility of new uses with these existing

industrial uses is a priority. The plan incorporates policies to minimize potentially negative impacts associated with noise, light and glare, and truck traffic, and policies to promote positive environmental impacts via amenities and incentives which encourage walking and bicycling within the entire area. It requires that new uses recognize the potential impacts through disclosure statements and other such methods. The Specific Plan gives a greater priority to industrial use and the existing agricultural support uses than is currently reflected in the City's General Plan, which, for example, designates both Hunt and Behren's and Dairymen's Feed for mixed use. In addition, the Specific Plan provides for lands currently zoned for industrial use to be transformed into an employment use in the southern portion of the area, but only along with careful consideration of issues related to continued dredging of the Petaluma River.

The Specific Plan encourages land use flexibility, recognizing that Central Petaluma is different from other parts of the city, and that a clear distinction between living and working environments is less important than intensity and character. The opportunity to build new, more flexible building prototypes that allow mixed uses within a single structure or which foster live/work environments is well suited to this part of the city and is encouraged in this plan. Furthermore, the ability to build more intensely is also advocated by this plan through recommendations for greater densities, mixed use incentives, and the development of structured parking facilities.

Ground floor retail use is added to the mix of uses encouraged within the area. Priority is placed on retail adjacent to the Turning Basin, where entertainment, dining and complementary retail uses will enliven the riverfront and support the adjacent downtown. Much of the Turning Basin is already in retail use associated with the Golden Eagle Shopping Center. The plan recommends that these uses be reconfigured to create a much stronger orientation to the river and a more public-spirited sense of place. Retail uses in this location would be oriented to entertainment and dining, creating a more extroverted and lively edge along the riverfront. On the east side of the river, entertainment, dining and lodging uses are allowed, along with office uses that are also oriented to the river. Cinemas, theaters, lodging, nightclubs, restaurants, cafes, a brew pub and fresh produce markets are all examples of the types of activities that can be attracted to this area. On both the west and east sides of the Turning Basin, the intensification of retail uses and the creation of a pedestrian/bicycle environment depends upon the provision of facilities that provide secure parking for

vehicles and bicycles, and safe and direct routes that serve the shared needs of new uses. The implementation of plans for a heritage trolley operation on the P. &S.R. trackage could act as a highly visible catalyst, stimulating a broad range of uses in the North of Washington Street, Turning Basin and Riverfront Warehouse Districts.

In the areas surrounding the Turning Basin, new uses are proposed that will require reconfiguration of infrastructure for improved access and orientation to the river. On these adjacent parcels, efforts will be required to focus the energies of individual property owners to realize development of a more intensive nature than elsewhere in the city. Densities and development standards are more urban than suburban in character. Incentives will be required to stimulate investment in more innovative building forms. The City can demonstrate its commitment to the area through the improvement of streets, open spaces and shared parking facilities.

South of D Street, on the east side of the river, a somewhat different land use approach is taken. Along Lakeville Street, the commercial orientation would remain, but the focus would be on attracting smaller national chains and creating a shopping corridor that serves the broader community. Two new transit centers are envisioned as catalysts to help establish a new role for Lakeville Street and reorient the commercial uses within the area. In the southern portion of the planning area, new employment uses are planned on a site that has not been in active industrial use for years.

The Land Use Map

Except for designated Industrial areas, the plan establishes a single Mixed Use land use designation that represents the overall mix of land uses envisioned for the entire planning area. The appropriate mix of uses for each planning area is based on the existing character and future development potential for each. The intent of a single Mixed Use land use designation is to emphasize the Plan's central theme of promoting mixed use throughout the Specific Plan area and to insure that new development and redevelopment is consistent with that theme. Instead of a more traditional land use map with multiple land use designations and related definitions, this plan uses the "smart code" found in Appendix "A" to address the details of new development and redevelopment potential and to provide maximum flexibility for future development consistent with the policies of the Specific Plan. It is the intent of this Specific Plan that designated industrial lands, recognized by the Specific Plan as important to the character of the area and the local economy (the feed mills, raw materials processors, manu-

facturers, etc.), shall remain as designated and that any use of those properties in the future must be of a similar river-dependent or agricultural support use as those that presently occupy those sites. The purpose of this intent is to insure to the greatest extent possible that those uses that are so vital to the local economy and important to the character of the area continue to have the potential to operate in conformance with City land use regulations and to support subsequent use of those sites only for businesses that continue the long tradition of agricultural support and commercial river traffic.

Mixed Use:

This designation allows for a variety of residential, commercial office, retail and industrial uses consistent with the respective development regulations established within the Central Petaluma Specific Plan area. The intent of this designation is to promote mixed use throughout the area and, depending on the parcel and its surroundings, vertical mixed use (i.e., a mix of uses within the same structure) wherever possible.

River-Dependent Industrial:

Heavy industrial manufacturing, raw material processing and related uses that require river access as an integral part of daily operations for the purpose of regularly shipping or receiving raw materials and finished products by water transport. Businesses that locate on properties with this designation shall be dependent on the Petaluma River for transporting a significant portion of its goods and materials.

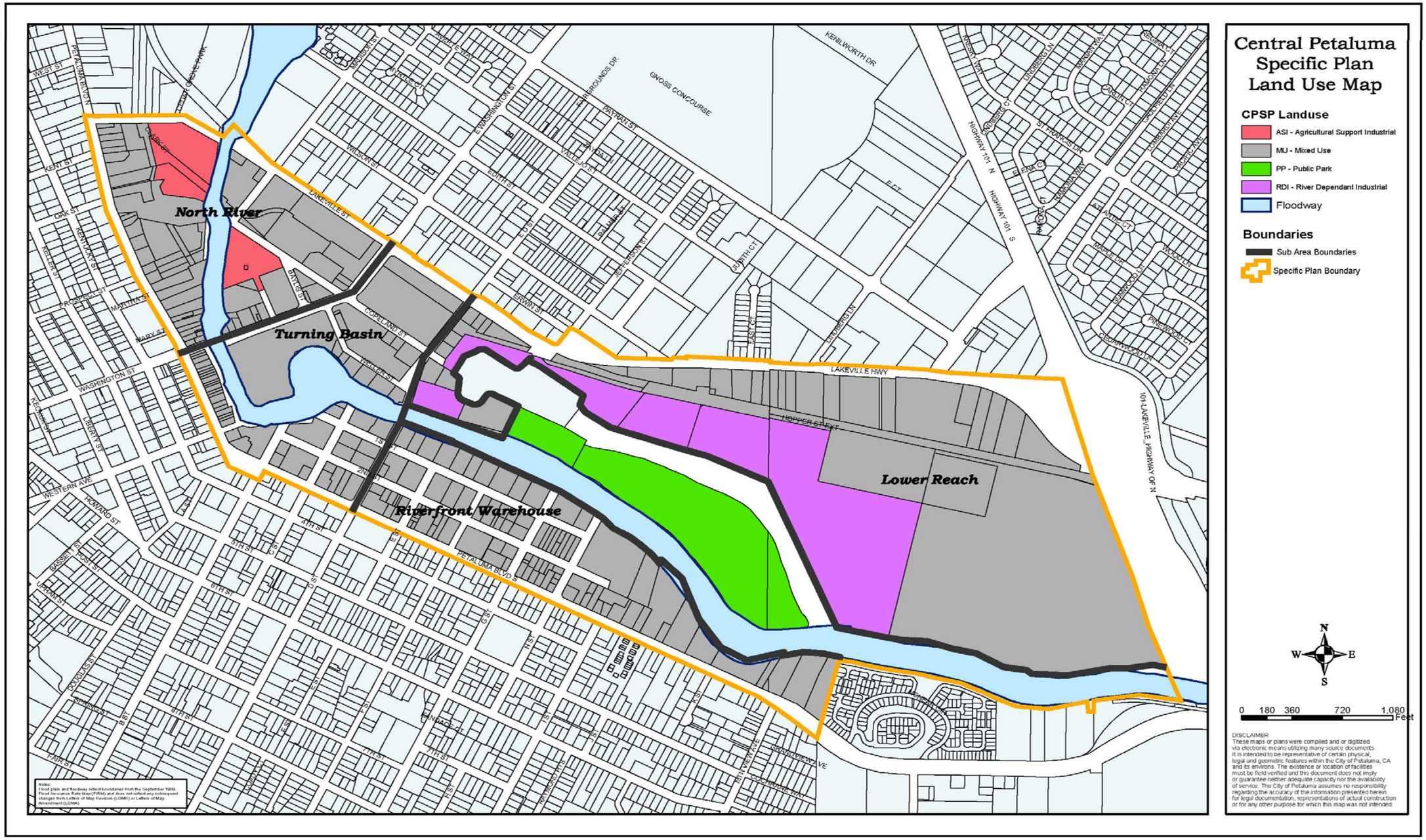
Agricultural Support Industrial:

Food processing, feed mills and related industrial uses which provide direct support to agricultural uses located in the Petaluma area. Agricultural uses include traditional dairy and poultry operations, but may also include organic farming and food processing and any other related uses that in the determination of City decision-makers are consistent with supporting local agricultural production.

Land Use Goals

Goal 1: Support existing viable uses, and provide for new uses that complement and complete the urban fabric.

There are a number of existing viable industrial uses within Central Petaluma that contribute substantially to the identity of the area and the economy of the city and region. New development within Central Petaluma should not be at the expense of these existing businesses. Rather, compatibility of new uses with these long-established uses


Central Petaluma Specific Plan Land Use Map
CPSP Landuse
ASI - Agricultural Support Industrial
MU - Mixed Use
PP - Public Park
RDI - River Dependant Industrial
Floodway
Boundaries
Sub Area Boundaries
Specific Plan Boundary
North River
Turning Basin
Riverfront Warehouse
Lower Reach
LAKEVILLE ST
LAKEVILLE HWY
PETALUMA BLVD S
HOPPER STREET
GNOSS CONCOURSE
KENILWORTH DR
HIGHWAY 101 N
HIGHWAY 101 S
WASHINGTON ST
WESTERN AVE
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E
S
0 180 360 720 1,080
Feet
DISCLAIMER
These maps or plans were compiled and or digitized via electronic means utilizing many source documents. It is intended to be representative of certain physical, legal and geometric features within the City of Petaluma, CA and its environs. The existence or location of facilities must be field verified and this document does not imply or guarantee neither adequate capacity nor the availability of service. The City of Petaluma assumes no responsibility regarding the accuracy of the information presented herein for legal documentation, representations of actual construction or for any other purpose for which this map was not intended.

INSERT LAND USE MAP HERE

should be emphasized.

Goal 2: Provide for a mix of new uses.

New uses should be encouraged on vacant and underutilized parcels and on properties that are key in reorienting this area to the river. A broad spectrum of uses is envisioned, including those that are nontraditional, unique and unusual in nature, and which can contribute to the role of this area as the focal point of the community.

Goal 3: Encourage intensification appropriate to the area's central location.

The urban infill of lands within Central Petaluma is a priority, with future development having an intensity that is higher than elsewhere in the city in order to create a greater focus within the area, support the investment in transit facilities, and provide for pedestrian and bicycle-oriented activities that are linked with the surrounding neighborhoods and districts.

Goal 4: Encourage flexibility in building form and in the nature of activities to allow for innovation and the ability to change over time.

The land use plan objectives and policies are intended to provide a broader framework for a variety of activities in the future. Large areas devoted to specialized or single-purpose functions are discouraged in favor of a mix of uses. Variations of the mix of uses set forth in the "smart code" would be supported to the extent that they are consistent with the larger objectives set forth for the planning area. Building forms that are capable of being used for a variety of uses over time are encouraged.

Goal 5: Orient activities to the Petaluma River.

Land use patterns should be oriented to the Petaluma River, focusing development toward the edge and providing for continuity of activities along it. Water-oriented, water-dependent and water-related uses should be given the highest priority along the riverfront, and the future navigability of the river to the Balshaw Bridge should not be compromised by development.

District Objectives and Policies

<u>North River Area</u>

The area to the north of East Washington Street contains agricultural industrial uses that are dependent on both rail and truck access, and which form landmarks within the city along the river. There are auto-oriented retail uses along East Washington Street, and restaurant, antique and service-oriented retail uses occur along Petaluma Boulevard North.

OBJECTIVE 1: Provide for a mixture of industrial, office, retail, and compatible residential development.

The plan calls for increasing the intensity and mix of land uses in this area to create a vital mixed-use zone that is linked to the downtown and the nearby planned transit center. New development will be focused along East Washington Street, which is envisioned as a tree-lined boulevard that is attractive to pedestrians and bicyclists. Residential development is designated and along the river behind Petaluma Boulevard North. While new residential uses are proposed within the area, the plan seeks to maintain the existing viable industries and minimize potential incompatibilities between uses.

Policy 1.1: Support the existing industrial uses.

The plan places a priority on supporting the existing industries, which are well established and economically viable. The introduction of new uses into this area is predicated on the understanding that the industrial operations will remain, and new uses need to be carefully considered to ensure their compatibility with the ongoing industrial activities.

Policy 1.2: Provide for a significant component of new housing within the area.

Another key land use objective of the Central Petaluma Specific Plan is to establish a significant component of new housing near the downtown and the proposed transit center. In addition to providing needed housing, residential development can add vitality and interest to this area by introducing activity during both daytime and nighttime hours. New residents within this area would also support downtown retail businesses, and residential uses foster the highest transit usage of all land uses. Within this area, there are undeveloped contiguous parcels that are large and have river frontage, which can add amenity to the new residential development. It is anticipated that residential development will occur in a mixed-use configuration with retail and/or office uses.

Policy 1.3: Provide for residential housing types that are compatible with the existing industrial businesses.

New higher density housing is allowed within this area to complement the downtown and the future transit center and to create an environment that is active during both daytime and nighttime hours. However, new housing should be sited and designed in consideration of the existing industrial and rail operations within the area. Appropriate housing types such as live/work housing, which has precedent in industrial areas,

are encouraged as well as townhouses and courtyard housing. In addition, site planning and design mechanisms, such as noise insulation, setbacks, screen walls, and orienting buildings away from industrial uses, should be provided to minimize impacts and land use conflicts between new residential uses and industrial operations. Appropriate studies (i.e., noise, odors, toxics) should be undertaken on a site-by-site basis as new development is proposed.

Policy 1.5: Allow new office development.

Office development is permitted in this area, and is particularly encouraged near the transit station in order to provide the opportunity for employees and office patrons to use rail or bus transit.

Policy 1.6: Encourage pedestrian oriented land use.

Encourage pedestrian oriented land use by allowing low parking to floor area ratios, emphasizing pedestrian and bicycle access and orientation toward the river and the proposed heritage trolley on the P. & S. R. tracks.

Turning Basin East

This area lies at the geographic heart of the city, bounded by East Washington Street, Lakeville Street, D Street, and the Petaluma River. The geometry of the river is the most distinct characteristic of this area. At this location, the river bends northward, and the channel has been widened to allow vessels to change direction in the river channel. The historic Petaluma Train Depot is another noteworthy feature in this area. Overall, this area has relatively few property owners and several significant vacant or underutilized parcels that are strategically located with respect to the Petaluma River, the downtown and the train depot. The depot block is undeveloped, as is much of the adjoining block between Weller and Copeland.

OBJECTIVE 2: Create an intense mixed-use district oriented to the river and the proposed transit station.

This area, generally located east of the Turning Basin, has enormous potential to become a new river-oriented public gathering place in Petaluma. Toward this end, the plan calls for a mixture of retail, office, residential and transit uses developed at higher densities in order to promote a lively pedestrian and transit environment. It is envisioned that the Petaluma riverfront will become a significant public activity center within the planning area and the community as a whole and a car will not be seen as a necessity.

Policy 2.1: Create an active, publicly oriented commercial center at the riverfront.

Through the redevelopment and reconfiguration of this area, a new public gathering place will be created at the riverfront, where Petalumans can enjoy the river and special activities and events can be accommodated. Active, publicly oriented uses (i.e., ground-level retail) should be encouraged along the riverfront to enliven the planned open space areas.

Policy 2.2: Preserve and rehabilitate the Petaluma Train Depot as the city's primary transit center.

The Petaluma Train Depot, an important civic landmark, is generally closed to public use. With the proposed future passenger rail service along this line and the eventual relocation of the city's bus transit hub to the station, the plan proposes to use these buildings and the site once again as a passenger terminal. In addition to passenger waiting areas, restrooms, and information and ticketing services, concessions such as a cafe, newspaper stand and bank teller machines should be sought to provide services to transit passengers. Bicycle parking, as well as bicycle related services (rental, repair, etc.) and bicycle taxis should also be provided in proximity to the station.

Policy 2.3: Provide for more intense retail uses oriented to the river.

The primary objective of the plan in this area is to create a new focus of activity at the water's edge that involves the interplay of retail and public space that are oriented to the water's edge. In order to achieve this objective, the plan envisions providing for a greater intensity of retail development in the Golden Eagle/ Weller Street area and reorienting development to take advantage of the waterfront setting. At the ground level, the riverfront should be lined with active shops, restaurants, entertainment, and possibly public/cultural uses that are pedestrian-intensive. Offices, multi-family residential uses and loft spaces are encouraged in the upper stories of retail buildings.

Policy 2.4: Promote mixed-use office development around the transit station.

The Petaluma Depot is planned as the primary intermodal transit station in Petaluma, and as a major destination within Sonoma County. The plan calls for the development of an employment-oriented mixed-use center, including offices and ground-level retail development, particularly leading toward the river. Upper floor residential development is also encouraged.

Policy 2.5: Encourage residential development on upper floors of commercial buildings.

Residential development is encouraged to be developed within this area in order to create an active daytime and nighttime environment. New residents would benefit from proximity to shopping, transit and recreational amenities.

Policy 2.6: Provide for the development of parking facilities.

Structured parking will be necessary in order to create an intense pedestrian oriented district, as envisioned in this plan. Ground floor uses that hide parking and create a vibrant street atmosphere shall be incorporated into the design of any new parking facility.

Turning Basin West

This area is a transitional area between the downtown and the Riverfront Warehouse District. The area is bounded by East Washington Street, Petaluma Boulevard, D Street and the Petaluma River, and includes a portion of the downtown and the area between B and D streets. The plan focuses on the area between B and D streets, which contains underutilized parcels currently used for car sales and services as well as parking and storage functions. The City maintains a fire station at the corner of D and Second streets, and there is a PG&E substation where D Street meets the river.

OBJECTIVE 3: Promote the development of retail, entertainment and related attractions that will establish a strong center focused on the Turning Basin and reinforce downtown businesses and new residential uses.

Within this area, there is an opportunity to establish new uses that can revitalize this segment of the waterfront and reinforce the downtown businesses. Opening up the riverfront for public enjoyment between the Petaluma Mill and the PG&E substation is also a key objective for this area.

Policy 3.1: Encourage the development of new entertainment uses, including a cinema.

The size of the existing blocks and the adjacency to performance venues elsewhere in the downtown make this area attractive as a location for entertainment uses A_cinema could become a major draw, attracting people to the larger downtown area at night and throughout the day. Other appropriate entertainment uses could include a jazz club, dance club, theater, and other types of entertainment uses. In order to attract a cinema and other entertainment uses to a downtown location, the City should consider incentives such as providing

parking and prohibiting the development of a new cinema complex within the city along the freeway.

Policy 3.2: Encourage the development of visitor lodging.

A small hotel or inn is another commercial use that would create a new focus of activity along the river and support the downtown retail district by attracting visitors to the area. A hotel or inn in this area could build on the amenity of the riverfront and the proximity of Petaluma's historic downtown.

Policy 3.3: Provide for office uses.

Office uses are permitted in the area, and are encouraged in order to provide additional activity and daytime patronage for downtown retail businesses.

Policy 3.4: Provide for support retail uses.

In addition to the Petaluma Mill and the existing downtown, intensive, small scale retail, including restaurants and small shops is encouraged in this area.

Policy 3.5: Provide for the development of parking facilities to serve the downtown and new uses.

Structured parking will be necessary in order to create an intense pedestrian oriented district, as envisioned in this plan. Ground floor uses that hide parking and create a vibrant street atmosphere shall be incorporated into the design of any new parking facility.

Policy 3.6: Encourage the development of heritage trolley service.

Trolley service along the west side of the Turning Basin (which includes the trestle and Water Street segments of the historic trolley tracks) will enhance the waterfront experience in this area and provide a potential transit link between this area and the River Warehouse area to the south and the North River area across Washington Street.

Riverfront Warehouse District

The Riverfront Warehouse District is noteworthy for its distinctive mix of warehousing and industrial uses that coexist with a small colony of residential bungalows and homes. Foundry Wharf, located at Second and F streets, is a mixed-use office and light industrial development that has combined adaptive reuse of old structures and development of new buildings in an exemplary way. Between Foundry Wharf and McNear Hill, there is a combination of traditional industrial uses and highway-oriented commercial uses.

OBJECTIVE 4: Provide for a mix of compatible light industrial, office, retail and residential uses that main-

tains the unique character of the area.

The plan seeks to maintain the unique character and mix of uses in the Riverfront Warehouse District while allowing for new uses and activities. During the past several years, proposals for both new employment and new housing development in the Riverfront Warehouse District have been presented to the City. Consistent with these indications of the market for the area, the plan proposes to continue the well-established patterns of living and working in the area.

Policy 4.1: Allow office, research and development, and light industrial uses that are consistent and compatible with the existing use, scale and character of the area.

It is anticipated that the Riverfront Warehouse District would attract new office and employment uses that are drawn to the amenity of the riverfront and the unique character of the area. The area is expected to accommodate office and light industrial businesses within new or rehabilitated buildings.

Policy 4.2: Support existing river-dependent and agricultural support industrial uses.

The plan places a high priority on maintaining the existing industrial uses in Central Petaluma. In contrast to the agricultural and construction-related activities in other portions of the study area, industrial uses in this area are smaller in scale and are generally conducted within a building. Within the Riverfront Warehouse District, existing industrial users will maintain their status as legal conforming uses and be allowed to continue and expand if desired by the business owners. The introduction of new uses within this area is predicated on the understanding that the industrial operations will remain, and any new use must be compatible with the ongoing industrial activities. However, this area is also an historic residential area, as well. Therefore, new industrial uses must have business practices that are compatible with the existing residential character of the area.

Policy 4.3: Allow new housing within this area.

New housing that is complementary to the existing scale and character of the area is encouraged. In this area, a combination of townhouses and live/work lofts could be developed in new structures or through the rehabilitation of existing buildings. *(CDD, 3/02)* Housing would be most appropriately developed in the area between D and H streets, which is close to the downtown and recreational amenities such as Walnut Park and the river, or in the vicinity of McNear Hill.

Policy 4.4: Encourage development of heritage trolley service.

First Street between "C" and "H" Streets provides a unique opportunity to encourage land uses consistent with pedestrian, bicycle, street rail and automotive access. The existing historic rail features are a positive link between past and future intensive land uses in the Riverfront Warehouse District.

Policy 4.5: Expand the Riverfront Warehouse District.

South of Foundry Wharf, land between Petaluma Boulevard South and the river is designated as "Industrial" and "Thoroughfare Commercial" in the City's General Plan. The plan calls for expanding the mixed-use Riverfront Warehouse designation to include this area in order to provide for a more flexible mix of land uses in the area.

Lower Reach Area

The Lower Reach area includes the area on the east side of the river from D Street south to Highway 101. This area is the largest in the study area, comprising approximately 163 acres of land. The majority of the land area, utilizing all of the riverfront, accommodates three large industrial operations associated with the construction industry: Jerico Products, located on 8.3 acres at the head of the McNear Channel; Shamrock Materials, located on 4.6 acres between the McNear Channel and the railroad right-of-way; and Pomeroy Corporation, located on approximately 140 acres south of the Shamrock operations. On the west side of the railroad tracks, the City maintains approximately 11 acres of land, which are used for the wastewater treatment plant, city corporation yard and animal shelter.

OBJECTIVE 5: Expand the Lower Reach area as a center of employment, mixed use and region-serving commercial activity consistent with maintaining river-dependent industrial uses.

The Lower Reach area offers the greatest potential for redevelopment over the life of the Specific Plan. The plan accommodates the existing river-dependent industrial uses in the area, but also anticipates significant changes to the Lakeville Street corridor and at the southern end of the "Pomeroy property". Mixed Use and River-Dependent Industrial are the primary land use designations (this area also includes the proposed McNear Peninsula park designation).

Policy 5.1: Provide for continuation of the existing river-dependent industrial uses.

The Specific Plan provides for continuation of the existing large, river-dependent industrial users in this area and requires a similar type of subsequent use that is dependent on the river for transport of goods and materials.

Policy 5.2: Locate a transit station in the vicinity of the Caulfield Lane extension.

In the southern portion of the planning area, a new passenger transit station has been proposed by the City and the Sonoma-Marin Transportation and Land Use Study conducted by the Sonoma County Transportation Authority and the Marin Countywide Planning Agency. It is assumed that this station would include approximately 200 parking spaces for transit patrons. The station would be located adjacent to the railroad tracks and provide access via the proposed Caulfield Road extension.

Policy 5.3: Allow for an intense Mixed Use development on land not utilized for industrial purposes.

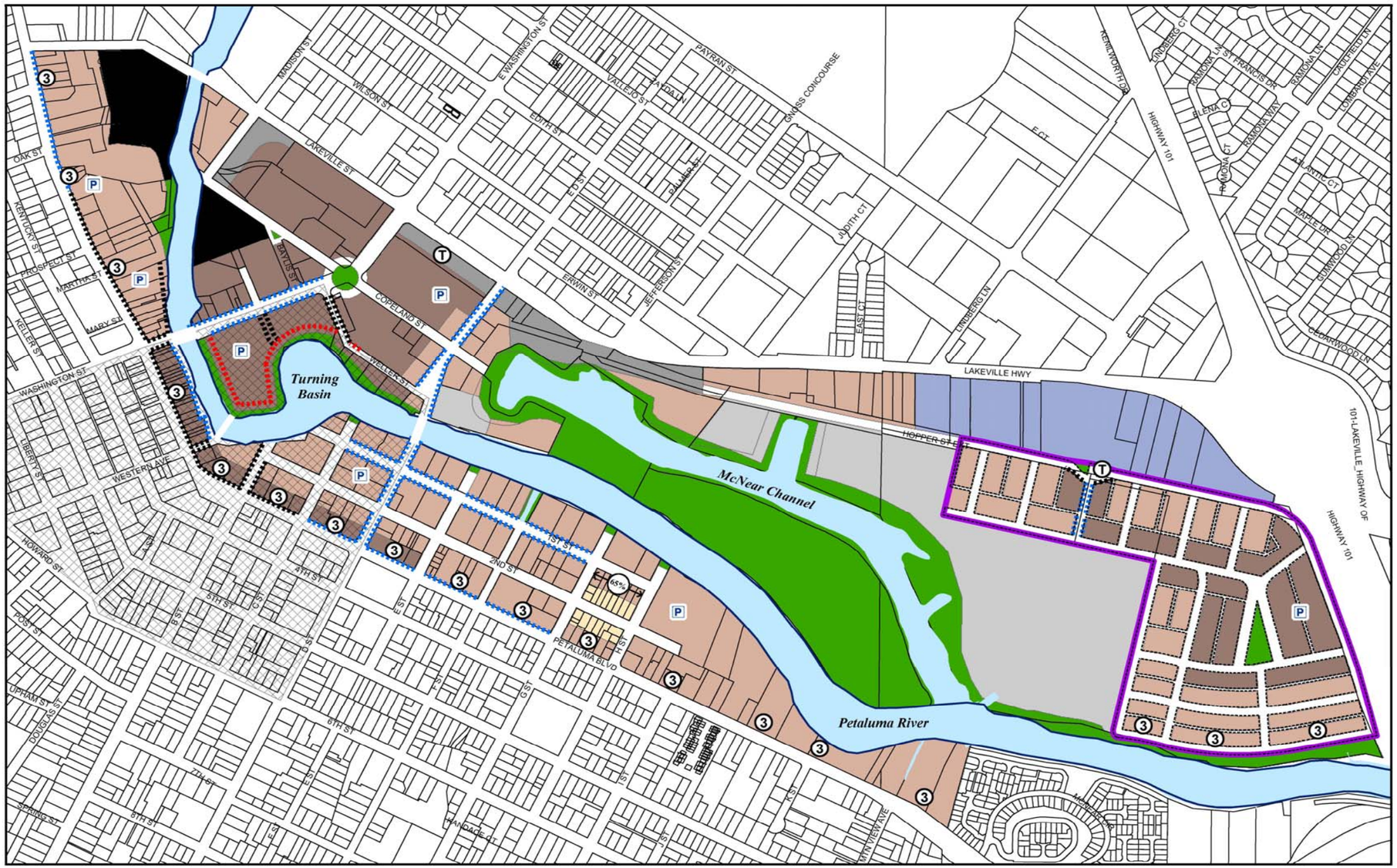
The southernmost 30 acres of the Pomeroy Corporation property have not been used by the company, and may be considered for new development. The plan allows for the redevelopment of this site consistent with the "smart code" regulations. Mixed use in this location would be an easy bicycle ride from many Petaluma neighborhoods, and could be accessible by the proposed passenger rail transit service. An employment destination at this location could capitalize on the amenity of the riverfront, incorporating public riverfront trails with restored riparian and/or wetland habitats. The plan encourages incorporating housing, restaurants, cafes, banking facilities, child care services, and showers and lockers and related services. Transportation alternatives are discussed in the Circulation element.

Policy 5.4: Provide for the continuation of thoroughfare-oriented retail uses along the west side of Lakeville Street from Lindberg Lane to the Highway 101 interchange.

Due to its location near a major freeway interchange, the plan provides for the continuation of thoroughfare-oriented commercial uses along the west side Lakeville Street in the vicinity of the Highway 101 interchange.

EXHIBIT E

Section 2.10 - Zoning Map



Central Petaluma Specific Plan Zoning Map

- URBAN GENERAL (T-4)
- URBAN CENTER (T-5)
- URBAN CORE (T-6)
- H.A.S. DISTRICT (D-1) (HISTORICAL AGRICULTURAL SERVICES)
- RAILROAD DISTRICT (D-2)
- R.D.I. DISTRICT (D-3) (RIVER DEPENDENT INDUSTRIAL)
- THOROUGHFARE DIST. (D-4)
- CIVIC SPACE
- THEATER DISTRICT **

** *Theater Combining District (see Article 19.7 - Petaluma Zoning Ordinance)*

Conceptual Area Boundary

The area inside the boundary is conceptual and only for the purposes of determining recommended zoning designations and street layout.

Refer to Thoroughfare Standards Key Map (sec. 5.10) for required and recommended streets and alleys, primary and secondary frontages, and terminated and deflected vistas.

Weller Street Alignment Option A

N
W E
S

0 140 280 560 840 Feet

DISCLAIMER
These maps or plans were compiled and or digitized via electronic means utilizing many source documents. It is intended to be representative of certain physical, legal and geometric features within the City of Petaluma, CA and its environs. The existence or location of facilities must be field verified and this document does not imply or guarantee neither adequate capacity nor the availability of service. The City of Petaluma assumes no responsibility regarding the accuracy of the information presented herein for legal documentation, representations of actual construction or for any other purpose for which this map was not intended.

FRONTAGE

- *Arcade or Gallery Required*
- *Shopfront & Awning, Arcade, or Gallery Frontage Recommended*
- *Shopfront & Awning, Arcade, or Gallery Frontage Required*

(3) *Maximun Building Height Allowed on this Road Frontage*

(P) *Preferred Location for Parking Structure (does not preclude other sites)*

(T) *Transit Stop*

(65%) *Minimum % required building frontage between arrows*

Notes:
1. Flood plain and floodway reflect boundaries from the September 1989 Flood Insurance Rate Map (FIRM) and does not reflect any subsequent changes from Letters of Map Revision (LOMR) or Letters of Map Amendment (LOMA).
2. Where no maximum building height is shown, refer to Urban Standards.
3. If Zoning Map requirements and Urban Standards conflict, the Zoning Map prevails.

EXHIBIT F

Section 3 - Building Function Standards

3.10.010 - Applicability of Building Function Standards

Parcels and buildings shall be occupied by only the land uses allowed by Table 3-1 within the zone applied to the site by the Zoning Map (Section 2.10 of this Code).

3.10.020 - Establishment of an Allowable Use

A. Any one or more land uses identified by Table 3-1 as being allowed within a particular zone may be established on any parcel within that zone, subject to the planning permit required for the use by Table 3-1, and compliance with all other applicable requirements of this Code.

B. Where a single parcel is proposed for development with two or more of the land uses listed in the table, the overall project shall be subject to the highest planning permit level required by the table for any individual use.

3.10.030 - Permit Requirements for Allowable Uses

Table 3-1 identifies the uses of land allowed by this Code in the zones established by Section 2, and the planning permit required to establish each use. Table 3-1 provides for land uses that are:

A. Permitted subject to compliance with all applicable provisions of this Code, and shown as “P” uses in the table;

B. Allowed subject to the approval of a Conditional Use Permit (Zoning Ordinance Section 26-500), and shown as “CUP” uses in the table; or

C. Not allowed within a specified zone, and shown as a “-” in the table.

Section 3. Building Function Standards

Table 3.1 Allowed Building Functions and Permit Requirements

Permitted (P); Conditional Use Permit Required (CUP); Not Permitted (—)

ASSEMBLY	T4	T5	T6	D1	D2	D3	D4
Bar/tavern/night club	CUP	CUP	CUP	—	—	—	CUP
Commercial recreation facility - Indoor	CUP	CUP	CUP	—	—	—	CUP
Commercial recreation facility - Outdoor	—	—	—	—	—	—	CUP
Community meeting facility	CUP	CUP	CUP	—	—	—	—
Conference/convention facility - 10,000 sf or less	P	P	P	—	—	—	P
Conference/convention facility - More than 10,000 sf	CUP	CUP	CUP	—	—	—	CUP
Fitness/health facility	P	P	P	—	—	—	P
Library, museum	P	P	P	—	—	—	—
School - Specialized education/training	P(1)	P(1)	P(1)	—	—	—	CUP
Sports and entertainment assembly facility	—	—	—	—	—	—	CUP
Studio - Art, dance, martial arts, music, etc.	P	P	P	—	—	—	P
Theater, movie	—	P(2)	P(2)	—	—	—	—
Theater, live performance	CUP	CUP	CUP	—	—	—	CUP
LODGING							
Bed and breakfast inn	P	P	P	—	—	—	—
Hotel or motel	—	P	P	—	—	—	P
RESIDENTIAL							
Emergency shelter	CUP	CUP	CUP	—	CUP	—	CUP
Home occupation	P	P	P	—	—	—	P
Live/work unit (3)	P	P	CUP	—	—	—	P
Multi-family housing	P(1)	P(1)	—	—	—	—	—
Residential in mixed use building (4)	P	P	P	—	—	—	P
Single-family dwelling	P(1)	P(1)	—	—	—	—	—
RETAIL							
Alcoholic beverage sales	CUP	CUP	CUP	—	—	—	CUP
Artisan shop	P	P	P	—	—	—	—
Auto parts sales	—	P	P	—	—	—	P
Building and landscape materials sales - Indoor	P	P	—	—	—	—	P
Building and landscape materials sales - Outdoor	—	—	—	—	—	—	CUP
Drive-through retail	—	—	—	—	—	—	P
Farm supply and feed store	P	P	—	—	—	—	P
Gas station	—	—	—	—	—	—	P
General retail - 10,000 sf or less	P	P	P	—	—	—	P
General retail - 10,001 to 50,000 sf	—	CUP	CUP	—	—	—	P
General retail - 50,001 sf or more	—	—	—	—	—	—	CUP
Groceries, specialty foods - 10,000 sf or less	P	P	P	—	—	—	P
Groceries, specialty foods - More than 10,000 sf	CUP	P	CUP	—	—	—	P
Restaurant, café, coffee shop	P	P	P	—	—	—	P
Shopping center	CUP	CUP	CUP	—	—	—	CUP

Notes:
(1) Use not allowed on a frontage where shopfronts are required.
(2) See Chapter 19.70, Theater Combining District, Petaluma Zoning Ordinance; See Zoning Map for district boundaries
(3) See Section 4.70.020.
(4) See Section 4.70.030.

Table 3.1 Allowed Building Functions and Permit Requirements

Permitted (P); Conditional Use Permit Required (CUP); Not Permitted (—)

SERVICES	T4	T5	T6	D1	D2	D3	D4
Adult day care - 6 or fewer clients, provided in a home	P	P	P	P	—	—	P
Adult day care - 7 or more clients	CUP	CUP	CUP	CUP	—	—	CUP
ATM	CUP	P	P	P	—	—	P
Bank, financial services	P	P	P	P	—	—	P
Business support service	P	P	P	P	—	—	P
Catering service	P	P	P	P	—	—	P
Child day care - Large or small family day care home	P	P	P	P	—	—	P
Child day care center	CUP(1)	CUP(1)	CUP(1)	CUP	—	—	CUP
Community service organization	CUP	CUP(1)	CUP(1)	CUP	—	—	CUP
Drive-through service	—	—	—	—	—	—	CUP
Equipment rental	—	—	—	—	—	—	P
Kennel, animal boarding	—	—	—	—	—	—	CUP
Maintenance/repair service - Equipment, large appliances, etc.	—	CUP	—	CUP	—	—	P
Maintenance/repair service - Client site services	CUP	P(1)	P(1)	P	—	—	P
Medical services - Clinic, lab, urgent care	—	P	—	P	—	—	P
Medical services - Doctor office	P(1)	P(1)	P(1)	—	—	—	—
Mortuary, funeral home	—	—	—	CUP	—	—	CUP
Office - Business/service/government	CUP	P	P	P	—	—	P
Office - Processing	—	CUP(1)	CUP(1)	CUP	—	—	CUP
Office - Professional	P(1)	P(1)	P(1)	P	—	—	P
Personal services	P	P	P	P	—	—	P
Personal services - Restricted	—	—	—	CUP	—	—	CUP
Public safety facility	CUP	CUP	CUP	CUP	—	—	CUP
Vehicle services - Major repair/body work	—	—	—	—	—	—	CUP
Vehicle services - Minor maintenance/repair	—	CUP	—	CUP	—	—	CUP
Veterinary clinic, animal hospital	—	—	—	CUP	—	—	CUP
TRANSPORTATION, COMMUNICATIONS & INFRASTRUCTURE							
Ambulance, taxi, or limousine dispatch facility	—	—	—	CUP	CUP	—	CUP
Broadcasting studio	—	CUP	CUP	CUP	—	—	CUP
Structured parking facility, public or commercial	P	P	P	CUP	CUP	CUP	CUP
Pipeline, utility transmission or distribution line	CUP	CUP	CUP	CUP	CUP	CUP	CUP
Telecommunications facility	—	CUP	CUP	CUP	CUP	CUP	CUP
Transit station or terminal	—	CUP	CUP	CUP	CUP	—	CUP
Utility facility (2)	—	CUP	CUP	CUP	CUP	CUP	CUP
Utility infrastructure (2)	P	P	P	P	P	P	P
Rail Facility (Freight handling & track maintenance)	—	—	—	—	P	—	—

Notes:
(1) Use not allowed on a frontage where shopfronts are required.
(2) Underground and Alleys only

Section 3. Building Function Standards

Table 3.1 Allowed Building Functions and Permit Requirements

Permitted (P); Conditional Use Permit Required (CUP); Not Permitted (—)

Industry, Manufacturing & Processing, Wholesaling							
	T4	**T5**	**T6**	**D1**	**D2**	**D3**	**D4**
Agricultural product processing	—	—	CUP(3)	P	—	P	—
Artisan/craft product manufacturing	P(2)	P(2)	P(2)	—	—	P	—
Chemical product manufacturing	—	—	—	—	—	CUP	—
Clothing and fabric product manufacturing	CUP	P(2)	CUP(3)	P	—	P	—
Concrete, gypsum, and plaster product manufacturing	—	—	—	—	—	P	—
Electronics, equipment, and appliance manufacturing	CUP	CUP(2)	CUP(3)	CUP	—	P	—
Food and beverage product manufacturing	CUP(2)	CUP(2)	CUP(2)	CUP	—	P	—
Furniture and fixtures manufacturing, cabinet shop	—	CUP	CUP(3)	CUP	—	P	—
Glass product manufacturing	CUP(2)	CUP(2)	—	—	—	P	—
Laboratory - Medical, analytical, research & development	—	P	—	P	—	P	—
Laundry, dry cleaning plant	—	—	—	CUP	—	CUP	—
Lumber and wood product manufacturing	—	—	CUP(3)	CUP	—	CUP	—
Machinery manufacturing	—	—	CUP(3)	—	—	P	—
Media production	P(1)	P(1)	P(1)	P(1)	—	P	P
Metal products fabrication, machine or welding shop	—	—	CUP(3)	—	—	CUP	—
Motor vehicles and transportation equipment	—	—	—	—	—	CUP	—
Paper product manufacturing	—	—	—	—	—	P	—
Photo/film processing lab	—	—	CUP	—	—	CUP	—
Plastics, synthetics, rubber product manufacturing	—	—	—	—	—	CUP	—
Printing and publishing	P(1)	P(1)	—	P	—	P	P
Recycling - Small collection facility	—	—	—	—	—	CUP	—
Research and development	P	P(1)	P(1)	P	—	P	P
Small product manufacturing	—	P(1)	CUP(3)	P(1)	—	P	—
Stone and cut stone product manufacturing	—	—	—	—	—	P	—
Storage - Outdoor storage yard as a primary use	—	—	—	—	—	CUP	—
Storage - Warehouse, indoor storage	—	—	—	—	—	P	—
Structural clay and pottery product manufacturing	—	—	—	—	—	P	—
Textile and leather product manufacturing	—	—	CUP	—	—	P	—
Wholesaling and distribution	—	—	CUP(3)	—	—	P	CUP

Notes:

(1) Use not allowed on a frontage where shopfronts are required.

(2) Permitted use if limited to a maximum of 5,000 sf on ground floor.

(3) Allowed in spaces of greater than 8,000 sf on ground floor.

EXHIBIT G

Property Details

For Property Located At
500 Hopper St
Petaluma, CA 94952-3351
Sonoma County

Owner Info:

Owner Name:	Pomeroy Corporation	Recording Date:	06/07/2001
Tax Billing Address:	Po Box 73	Annual Tax:	$56,955
Tax Billing City & State:	Boise Id	County Use Code:	Heavy Industry
Tax Billing Zip:	83729	Universal Land Use:	Heavy Industrial
Tax Billing Zip+4:	0073		

Location Info:

School District:	Petaluma	Panel Date:	09/29/1989
Census Tract:	1507.01	Flood Zone Code:	X
Carrier Route:	C035	Map Page/Grid:	465-E6
Flood Zone Panel:	0603790006C		

Tax Info:

Tax ID:	136-010-024	Improved Assessment:	$50,000
Tax Year:	2008	Total Assessment:	$5,250,000
Annual Tax:	$56,955	% Improv:	1%
Assessment Year:	2008	Tax Area:	003068
Land Assessment:	$5,200,000		

Characteristics:

Lot Sq Ft:	1481040	Lot Acres:	34

Last Market Sale:

Recording Date:	06/07/2001	Owner Name:	Pomeroy Corporation
Document No:	74313	Seller:	Owner Record
Deed Type:	Deed (Reg)		

Sales History:

Recording Date:	06/07/2001	08/22/1994
Buyer Name:	Pomeroy Corporation	Pomeroy Corporation
Seller Name:	Owner Record	Kasler Constructors
Document No:	74313	98913
Document Type:	Deed (Reg)	Grant Deed

The data within this report is compiled by First American CoreLogic from public and private sources. If desired, the accuracy of the data contained herein can be independently verified by the recipient of this report with the applicable county or municipality.

Live Search Maps

500 Hopper St, Petaluma, CA 94952-3351

My Notes

FREE! Use **Live Search 411** to find movies, businesses & more: **800-CALL-411.**

EXHIBIT H

California Air Resources Board

Preliminary Draft Staff Proposal

Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act

Released: October 24, 2008

DOCUMENT AVAILABILITY

Electronic copies of this document and related materials can be found at: http://www.arb.ca.gov/cc/localgov/ceqa/ceqa.htm. Alternatively, paper copies may be obtained from the Board's Public Information Office, 1001 I Street, 1st Floor, Visitors and Environmental Services Center, Sacramento, California, 95814, (916) 322-2990.

For individuals with sensory disabilities, this document is available in Braille, large print, audiocassette or computer disk. Please contact ARB's Disability Coordinator at (916) 323-4916 by voice or through the California Relay Services at 711, to place your request for disability services. If you are a person with limited English and would like to request interpreter services, please contact ARB's Bilingual Manager at (916) 323-7053.

DISCLAIMER

This preliminary draft proposal has been reviewed by the staff of the Air Resources Board and approved for publication. Approval does not signify that the contents necessarily reflect the views and policies of the Air Resources Board, nor does mention of trade names or commercial products constitute endorsement or recommendation of use.

ARB CONTACTS

Mr. Kurt Karperos, Chief
Air Quality and Transportation Planning Branch
Planning and Technical Support Division

Mr. Douglas Ito, Manager
SIP and Local Government Strategies Section
Planning and Technical Support Division

Air Resources Board
P.O. Box 2815
Sacramento, California 95812

Website: http://www.arb.ca.gov/cc/localgov/ceqa/ceqa.htm

ARB STAFF PROJECT TEAM

Jeannie Blakeslee, Lezlie Kimura, Leslie Krinsk, Esq.,
Kyriacos Kyriacou and Jamesine Rogers

Reviewed and approved for distribution by: Lynn M. Terry, Deputy Executive Officer

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ATTACHMENT B: PRELIMINARY DRAFT PROPOSAL FOR RESIDENTIAL AND COMMERCIAL PROJECTS

INTRODUCTION

Climate change is one of the most serious environmental problems facing the world, the United States, and California today. In this State, climate change already is impacting our coastlines, water supplies, agriculture, and public health, and putting millions of acres of forested land at increased risk of fire. These adverse effects will only increase in number and intensity if we do not promptly and substantially reduce pollution of the atmosphere with greenhouse gases (GHGs).

California law provides that climate change is an environmental effect subject to the California Environmental Quality Act (CEQA).[1] Lead agencies therefore are obligated to determine whether a project's climate change-related effects may be significant, requiring preparation of an Environmental Impact Report,[2] and to impose feasible mitigation to substantially lessen any significant effects.[3] Determining significance, however, can be a challenging task. Accordingly, the Governor's Office of Planning and Research in its June 2008 Technical Advisory, "CEQA and Climate Change,"[4] asked the Air Resources Board (ARB) to make recommendations for GHG-related thresholds of significance – identifiable benchmarks or standards that assist lead agencies in the significance determination.[5]

With this Staff Proposal, ARB staff is taking the first step toward developing recommended statewide interim thresholds of significance for GHGs that may be adopted by local agencies for their own use. The task that ARB staff is undertaking is, however, a limited one. Staff will not attempt to address every type of project that may be subject to CEQA, but instead will focus on common project types that, collectively, are responsible for substantial GHG emissions – specifically, industrial, residential, and commercial projects.[6] ARB staff believes that thresholds in these important sectors will advance our climate objectives, streamline project review, and encourage consistency and uniformity in the CEQA analysis of GHG emissions throughout the State.

Staff intends to make its final recommendations on thresholds in early 2009, in order to harmonize with OPR's timeline for issuing draft CEQA guidelines addressing GHG emissions[7] and to provide much needed guidance to lead agencies in the near term.

Public, stakeholder, and local lead agency participation is essential to the success of this project. ARB staff believes that the comment and feedback it receives, along with

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[1] Senate Bill 97, Public Resources Code, § 21083.05.
[2] California Code of Regulations, tit. 14, § 15064, subd. (f)(1).
[3] Id., § 15021, subd. (a)(2).
[4] See: http://opr.ca.gov/download.php?dl=ceqa/pdfs/june08-ceqa.pdf
[5] Id., § 15064.7, subd. (a).
[6] The collective greenhouse gas emissions from the industrial, residential and commercial sectors, together with the transportation sector, represent approximately 80% of the statewide greenhouse gas emissions inventory in 2004.
[7] See Senate Bill 97, Public Resources Code § 21083.05 (providing that draft guidelines are due June 1, 2009).

additional data and analyses, can form a body of evidence that lead agencies may rely on in adopting thresholds of significance consistent with ARB staff's recommendations.

Because the schedule is expedited, staff's recommendations must necessarily be interim and subject to review and revision as more information becomes available.[8]

BACKGROUND

Significance Under CEQA

A significant effect on the environment means a substantial, or potentially substantial, change in the environment caused directly or indirectly by the project.[9] The incremental effect of a project can be significant when it is cumulatively considerable – that is, when the effect is added to that of other past, present, and reasonably foreseeable probable future projects that also contribute to the problem.[10]

To streamline and facilitate consistency in the significance determination, the CEQA Guidelines[11] encourage agencies "to develop and publish thresholds of significance that the agency uses in the determination of the significance of environmental effects."[12] A threshold of significance is an identifiable quantitative, qualitative or performance level that marks the division between an impact that is significant and one that is not. A threshold of significance gives rise to a presumption, which can be rebutted by evidence that the threshold should not apply to a particular project.

Thresholds of significance must be supported by "substantial evidence." This does not mean that there is one best threshold. In CEQA, substantial evidence "means enough relevant information and reasonable inferences from this information that a fair argument can be made to support a conclusion, even though other conclusions might also be reached."[13]

Climate Change and GHG Thresholds of Significance

"The capacity of the environment is limited, and it is the intent of the Legislature that the government of the state take immediate steps to identify any critical thresholds for the health and safety of the people of the state and take all coordinated actions necessary to prevent such thresholds being reached."[14] But where should a threshold of significance be set for GHG emissions and climate change? This question can be answered only after considering the nature of the environmental problem.

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[8] ARB staff intends to monitor the implementation of thresholds that are adopted as a result of this process for effectiveness. In the same time frame as the update of the AB 32 Scoping Plan, staff intends to revisit its recommendations and to modify them if necessary.
[9] California Code of Regulations, title 14, §§ 15064, subd. (d), 15382.
[10] *Id.*, § 15355, subd. (b).
[11] Id., § 15000, et. seq.
[12] *Id.*, § 15064.7, subd. (a).
[13] *Id.*, § 15384, subd. (a).
[14] Public Resources Code, § 21000, subd. (d).

There is a scientific consensus that human activities, chief among them the burning of fossil fuels, profoundly affect the world's climate by increasing the atmospheric concentration of GHG beyond natural levels. Contributing additional GHG pollution to the atmosphere leads to higher global average temperatures, changes to climate, and adverse environmental impacts here in California and around the world.[15] Climate change, caused by "collectively significant projects taking place over a period of time[,]"[16] is a quintessential cumulative impact.

The experts tell us that an additional increase in global average temperatures of just 2 degrees Celsius (3.6 degrees Fahrenheit) is very likely dangerous.[17] With a 2 degree Celsius increase, disastrous effects become likely, including more extreme and more frequent severe weather, more wildfires, greater frequency of droughts and floods, rapid and higher sea level rise, and increased habitat destruction and extinctions.[18] These environmental effects will undoubtedly lead to serious economic, political, and national security disruptions.

In order to reduce the risk of dangerous climate change, we must stabilize atmospheric levels of GHGes at approximately 450 parts per million (ppm) by mid-century.[19] We are fast approaching this limit. Since the beginning of the industrial era, atmospheric concentrations of carbon dioxide, the primary GHG, have climbed to their highest point in the last half-million years, increasing from just under 300 ppm at the turn of the last century, to over 380 ppm today, and rising at about 2 ppm per year.[20]

In response to the challenge of climate change, California has taken a leadership role by committing to reduce its GHG emissions to 1990 levels by 2020 (about a thirty percent reduction in business-as-usual emissions in 2020) and to eighty percent below 1990 levels by 2050.[21] The latter target is consistent with the scientific consensus of the reductions needed to stabilize atmospheric levels of GHGs at 450 ppm by mid-century. Assembly Bill 32, the Global Warming Solutions Act of 2006, codifies the 2020 reduction

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[15] There is a large body of authoritative sources on the causes and current and projected impacts of climate change. An extended discussion of climate change is beyond the scope of this Staff Proposal. For additional information, ARB recommends the Fourth Assessment Report by the Intergovernmental Panel on Climate Change (IPCC) and, in particular, the IPCC's "Frequently Asked Questions," available at: http://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-faqs.pdf and the 2006 California Climate Action Team's Report to the Governor and Legislature, available at: http://www.climatechange.ca.gov/climate_action_team/reports/index.html.

[16] See California Code of Regulations, tit. 14, § 15355, subd. (b).

[17] See IPCC 4th Assessment Report, Working Group II, Summary for Policymakers, Figure 2, available at: http://www.ipcc.ch/graphics/graphics/ar4-wg2/jpg/spm2.jpg (chart showing global impacts at various temperature increases); California Climate Change Center, Our Changing Climate: Assessing the Risks to California (2008) at p. 15, available at http://www.energy.ca.gov/2006publications/CEC-500-2006-077/CEC-500-2006-077.PDF (chart showing impacts in California at various temperature increases.)

[18] *Id.*

[19] See IPCC 4th Assessment Report, Working Group III, Summary for Policymakers at p. 17, available at http://www.ipcc.ch/pdf/assessment-report/ar4/wg3/ar4-wg3-spm.pdf.

[20] IPPC 4th Assessment Report, Working Group I, Figure FAQ 2.1, available at: http://www.ipcc.ch/graphics/graphics/ar4-wg1/jpg/faq-2-1-fig-1.jpg.

[21] Executive Order S-03-05

target and charges ARB with development of a Scoping Plan to map out how the State will achieve this target, including regulatory, voluntary, and market-based mechanisms beginning in 2012.[22]

There is strong need, however, to aggressively address GHG emissions right now. The pollution we contribute to the atmosphere today will continue to have climate impacts for years, decades, and, in some cases, millennia to come. And the longer we delay in addressing the problem, the more we risk being unable to meet our climate objective. CEQA provides a mechanism that is independent of AB 32 through which lead agencies can begin immediately to reduce the climate change-related impacts of the projects that come before them.

What Type of Threshold is Appropriate?

Some have suggested that because of the need for urgent action and the uncertainty of the precise "tipping point" for dangerous climate change, any contribution of GHGs to the atmosphere may be significant – a so-called "zero threshold."

ARB staff believes that for the project types under consideration, non-zero thresholds can be supported by substantial evidence. ARB staff believes that zero thresholds are not mandated in light of the fact that (1) some level of emissions in the near term and at mid-century is still consistent with climate stabilization and (2) current and anticipated regulations and programs apart from CEQA (e.g., AB 32, the Pavley vehicle regulations, the Renewable Portfolio Standard, the California Solar Initiative, and the commitment to net-zero-energy buildings by 2020 (residential) and 2030 (commercial)) will proliferate and increasingly will reduce the GHG contributions of past, present, and future projects.

But any non-zero threshold must be sufficiently stringent to make substantial contributions to reducing the State's GHG emissions peak, to causing that peak to occur sooner, and to putting California on track to meet its interim (2020) and long-term (2050) emissions reduction targets. ARB staff believes that the preliminary interim approaches outlined in this Staff Proposal are consistent with these objectives.

RECOMMENDED THRESHOLDS – CONCEPTUAL APPROACH

ARB staff believes that different GHG thresholds of significance may apply to projects in different sectors. Two primary reasons that sector-specific thresholds are appropriate are: (1) some sectors contribute more substantially to the problem, and therefore should have a greater obligation for emissions reductions, and, (2) looking forward, there are differing levels of emissions reductions expected from different sectors in order to meet California's climate objectives. We also believe that different types of thresholds – quantitative, qualitative, and performance-based – can apply to different sectors under the premise that the sectors can and must be treated separately given the state of the science and data. A sector-specific approach is consistent with ARB's

[22] Health and Safety Code, § 38500, et. seq.

Proposed Scoping Plan. Consequently, the Staff Proposal takes different, although harmonious, approaches to setting thresholds for different sectors.

The attached flowcharts describe ARB staff's preliminary interim threshold concepts for two important sectors: industrial projects (**Attachment A**) and residential and commercial projects (**Attachment B**). The objective is to develop thresholds for projects in these sectors that will result in a substantial portion of the GHG emissions from new projects being subject to CEQA's mitigation requirement, consistent with a lead agency's obligation to "avoid or minimize environmental damage where feasible."[23] ARB staff is working on a proposal for an interim approach for thresholds for transportation projects and large dairies. Electricity generation is another sector where clarity is needed in the near term. The California Energy Commission (CEC) recently began a public process for identifying an approach for assessing the significance of GHG emissions from power plant projects. CEC staff anticipates concluding that work in Spring 2009.[24]

ARB staff's proposed recommendations for GHG thresholds address projects for which local agencies are typically the CEQA lead agency. In addition to the CEC, other State agencies also serve as lead agencies under CEQA. ARB is coordinating with these State agencies on their approaches to thresholds of significance.

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[23] California Code of Regulations, title 14, § 15021.

[24] The CEC adopted an Order Instituting Informational Proceeding on October 8, 2008 to address GHG emissions in power plant licensing cases: http://www.energy.ca.gov/ghg_powerplants/notices/2008-10-06_PROPOSED_GHG_CEQA_OII.PDF.

REQUEST FOR PUBLIC COMMENT

ARB staff believes that the concepts in this Staff Proposal can be further developed into interim thresholds of significance. However, staff recognizes that additional analyses and data are needed to fill in some of the blanks, and to understand how the thresholds will operate in the real world.

Comments on all aspects of the Staff Proposal are encouraged. In particular, ARB seeks the active participation of local lead agencies. Staff has identified a few questions to solicit public comment, but this list is not exhaustive.

- Will the recommended approaches have any unintended consequences, for example, encouraging the piecemealing of projects?

- As set out in the attachments to the Staff Proposal, staff proposes to define certain performance standards (*e.g.*, for energy efficiency) by referencing or compiling lists from existing local, State or national standards. For some sub-sources of GHG emissions (*e.g.*, construction, transportation, waste), ARB staff has not identified reference standards. How should the performance standards for these sub-sources be defined?

- Are any of the industrial, residential, or commercial project types eligible for categorical exemptions likely to contribute more significantly to climate change than staff's preliminary analysis indicates?

- For residential and commercial projects, staff has proposed that the GHG emissions of some projects that meet GHG performance standards might under some circumstances still be considered cumulatively considerable and therefore significant. What types of projects might still have significant climate change-related impacts?

ATTACHMENT A
Preliminary Draft Proposal for Industrial Projects

1. The project is exempt under existing statutory or categorical exemptions.

No

2. (a) The project meets both of the below minimum performance standards, or includes equivalent mitigation measures:

Construction

- Meets an interim ARB performance standard for construction-related emissions.

Transportation

- Meets an interim ARB performance standard for transportation.

AND

(b) The project, with mitigation, will emit no more than ~7,000 metric tons CO2e/yr from non-transportation-related GHG sources (which addresses ~90% of industrial sector GHG emissions). Includes:

- Combustion-related components/equipment;
- Process losses (fugitive, working, evaporative, etc.);
- Purchased electricity; and
- Water usage and wastewater discharge

No

3. Project will have significant GHG impacts. An EIR must be prepared and all feasible GHG mitigation measures implemented.

Yes ***Yes*** ***Yes***

Presumption of less than significant impacts related to climate change

Presumption of significant impacts related to climate change

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Preliminary Draft Proposal for Industrial Projects

Introduction

CEQA guidelines provide that thresholds of significance can be qualitative, quantitative, or in the form of performance standards. ARB staff's objective is to develop a threshold of significance that will result in the vast majority (~90% statewide) of the greenhouse gas (GHG) emissions from new industrial projects being subject to CEQA's requirement to impose feasible mitigation. ARB staff believes this can be accomplished with a threshold that allows small projects to be considered insignificant. ARB staff used existing data for the industrial sector to derive a proposed hybrid threshold. The threshold consists of a quantitative threshold of 7,000 metric tons of CO2 equivalent per year (MTCO2e/year) for operational emissions (excluding transportation), and performance standards for construction and transportation emissions.

The goal of this effort is to provide for the mitigation of GHG emissions from industrial projects on a statewide level. Over time, implementation of AB 32 will reduce or mitigate GHG emissions from industrial sources. Once such requirements are in place, they could become the performance standard for industrial projects for CEQA purposes. ARB staff intends to pursue this approach in conjunction with development of the regulatory requirements for industrial sources in the Proposed AB 32 Scoping Plan. Staff is proposing the use of a quantitative significance threshold at least until such time that performance standards, such AB 32 regulatory requirements, are in place to ensure mitigation of significant impacts of GHG emissions from projects in the industrial sector.

The performance standards are largely self explanatory and similar to the approaches proposed for residential and commercial projects. The method for deriving the quantitative aspect of the threshold warrants further explanation.

Technical foundation for proposed quantitative aspect of the threshold

Based on the available data, ARB staff found that for the industrial sector, small projects – defined as the portion of new projects that, when viewed collectively, were responsible for only a relatively small amount of emissions – could be allowed to proceed without requiring additional mitigation under CEQA. The question for ARB staff was what line divides these small projects from the rest of the projects that should undergo mitigation to achieve the larger environmental objective.

ARB decided to construct a representative small project and to estimate that project's expected emissions. First, ARB considered the common sub-sources of GHG emissions in the industrial sector. The four main broad emission categories and their approximate statewide contribution to GHG emissions from industrial facilities other than power plants are:

Category	MMTCO2e/year	Percent (%)
Combustion processes	70	63 %
Process Losses (evaporative, fugitive, working, etc.)	15	13 %
Purchased Electricity	18	17 %
Water Use and Wastewater Treatment	7	7 %

As the table indicates, GHG emissions from industrial sources are dominated by combustion emissions. To ensure that significant industrial emissions would be captured by the proposed threshold, ARB staff evaluated industrial boilers because they are a very common piece of equipment, are essential in many energy-intensive industries, and are a top contributor to industrial combustion emissions.

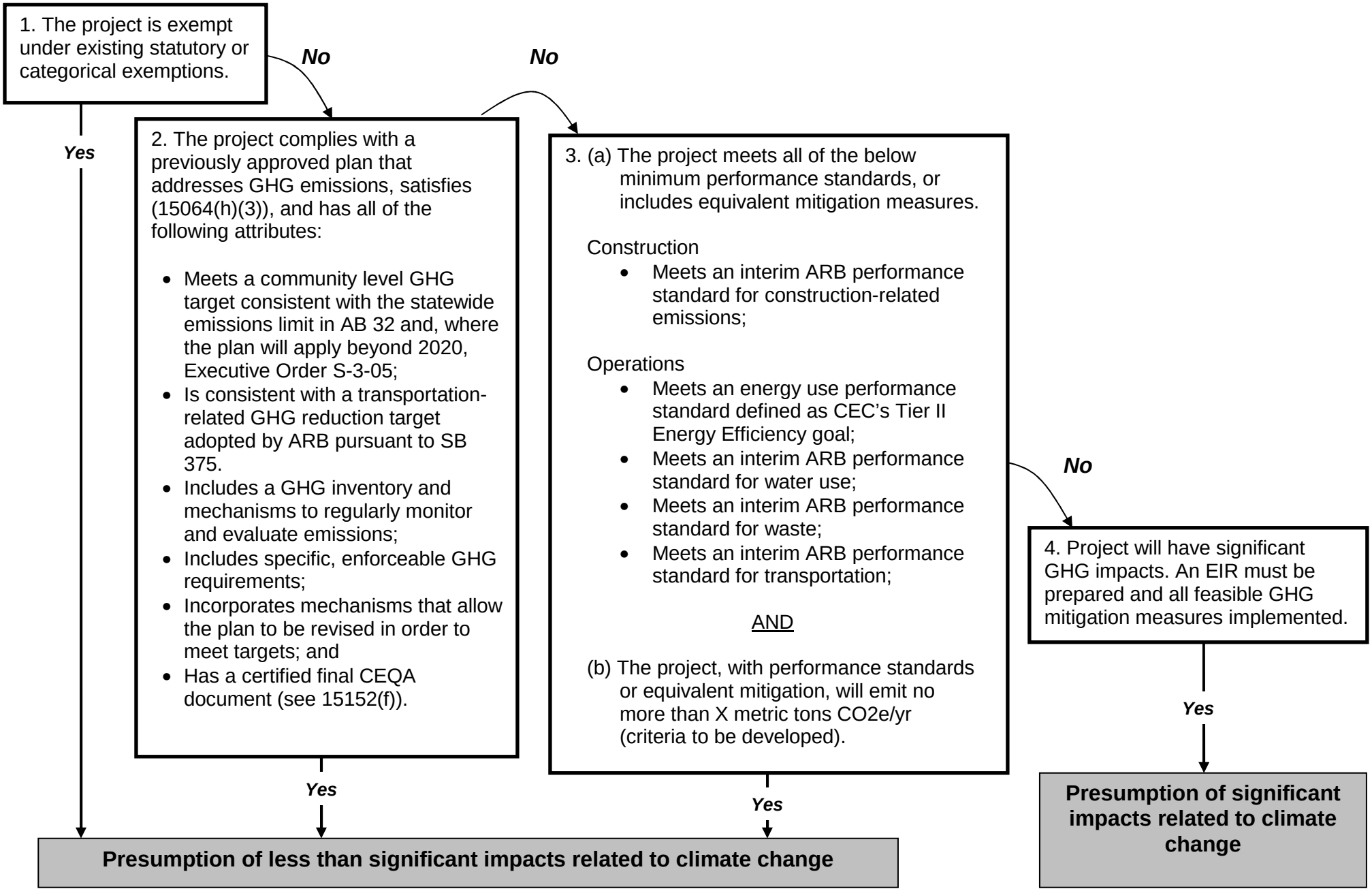
A recent comprehensive survey of industrial boilers by Oak Ridge National Laboratory[25] found that boilers with an input capacity of 10 MMBtu/hr or greater correspond to 93 percent of total industrial boiler input capacity. Based on this data, ARB staff used a natural gas boiler input capacity benchmark of 10 MMBtu/hr which equates to emissions of 4,660 MTCO2e/yr. This capacity benchmark defines a significant combustion source.

As shown in the above table, combustion processes account for 63 percent of the statewide GHG emissions from industrial facilities. Process losses, purchased electricity, and water use and water treatment account for the remaining 27 percent of emissions. Staff applied these proportions to the benchmark combustion emissions estimate (4,660 MTCO2e/yr). The result is an overall emissions estimate of approximately 7,000 MTCO2e/yr for a representative small project that accounts for the four main categories in the table above.

Based on the available data, staff believes that the 7,000 MTCO2e/year benchmark can be used to effectively mitigate industrial projects with significant GHG emissions.

[25] Characterization of the U.S. Industrial/Commercial Boiler Population, Energy, and Environmental Analysis, Inc. submitted to Oak Ridge National Laboratory, available at:: http://ww.eea-inc.com/natgas_reports/BoilersFinal.pdf.

ATTACHMENT B
Preliminary Draft Proposal for Residential and Commercial Projects



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Preliminary Draft Proposal for Residential and Commercial Projects

Introduction

CEQA guidelines provide that thresholds of significance can be qualitative, quantitative, or in the form of performance standards. ARB staff's objective is to develop a threshold for residential and commercial projects that will substantially reduce the greenhouse gas (GHG) emissions from new projects and streamline the permitting of carbon-efficient projects. To achieve this, staff's preliminary recommendation is to develop a threshold based on clear and stringent performance standards.

Performance standards will address the five major emission sub-sources for the sector: energy use, transportation, water use, waste, and construction. For the energy use performance standard, staff recommends reliance on the California Energy Commission's (CEC) Tier II Energy Efficiency standards for solar energy incentive programs. These standards are consistent with what is needed to meet the state's goal of zero net energy buildings and are continuously updated to reflect energy efficiency best practices. For the remaining sub-sources (water, waste, etc.), staff intends to compile benchmark performance standards as part of its final threshold recommendation. Projects may alternatively incorporate mitigation equivalent to these performance standards.

Staff recognizes that a substantial body of measures to address GHG emissions exists through programs like LEED, GreenPoint Rated, and the California Green Building Code. As work on performance standards moves forward, staff intends to make use of these projects.

In addition, staff proposes that a presumption of non-significance apply only to projects whose total net emissions, after meeting the performance standards or equivalent, are below a specified level. Staff proposes to develop this emissions level as part of its final threshold recommendation.

Discussion of Flow Chart

Box 1: In general, categorical exemptions will continue to apply.

Based on its preliminary analysis, ARB staff believes that projects described in CEQA's categorical and statutory exemption provisions (Articles 18 and 19 of the California Code of Regulations, title 14) will not interfere with achieving the objective to minimize emissions from new projects in this sector. GHG emissions from residential and commercial projects that are described in the categorical exemption language appear to be relatively small from a GHG perspective. For example, staff's preliminary analysis indicates that emissions from a project qualifying for the statutory infill project exemption (Cal. Code Regs., tit. 14, § 15195) will emit approximately 1,600 metric tons (MT)CO2e/yr. Staff believes

such infill projects represent some of the largest projects described in the exemption provisions. ARB staff expects to provide additional analyses to support a lead agency's determination that the GHG impact of these project types is less than significant. Staff invites the public and stakeholders to provide further evidence on the application of categorical exemptions to residential and commercial projects.

Box 2: If GHGs are adequately addressed at the programmatic level, the impact of certain individual projects can be found to be insignificant.

As OPR noted in its June 2008 Technical Advisory:

> CEQA can be a more effective tool for greenhouse gas emissions analysis and mitigation if it is supported and supplemented by sound development policies and practices that will reduce greenhouse gas emissions on a broad planning scale and that can provide the basis for a programmatic approach to project-specific CEQA analysis and mitigation…. For local government lead agencies, adoption of general plan policies and certification of general plan EIRs that analyze broad jurisdiction-wide impacts of greenhouse gas emissions can be part of an effective strategy for addressing cumulative impacts and for streamlining later project-specific CEQA reviews.

ARB staff encourages local agencies to take advantage of a programmatic approach to address climate change, consistent with existing law.

If a project complies with the requirements of a previously adopted GHG emission reduction plan or mitigation program that satisfies California Code of Regulations, title 14, section 15064(h)(3), and includes the attributes specified in that provision and Box 2, the lead agency may determine that the project's GHG impacts are less than significant with no further analysis required. Examples of plans that may satisfy this provision include Climate Action Plans incorporated into General Plans that have inventories, an emissions target, suites of specific and enforceable measures to reach that target, monitoring and reporting, and mechanisms to revise the plan to stay on target. Moreover, a prior EIR that "adequately addressed" climate change may be used for tiering purposes. (See Cal. Code Regs. tit. 14, § 15152.)

Box 3: Projects that meet performance standards, or include equivalent mitigation, can be found to be insignificant.

The threshold incorporates performance standards requiring carbon efficiency for each major sub-source of emissions from projects in these sectors. Provided they are set at a sufficiently stringent level, performance standards will dramatically reduce GHG emissions and promote a transition toward zero and low emission projects. In most cases, ARB staff expects that performance

standards will need to reach beyond current State mandates by a substantial amount, given that GHG emission reduction goals have not yet been adequately incorporated into State programs. Staff anticipates that performance standards will become more stringent over time.

ARB staff has identified the California Energy Commission's Tier II Energy Efficiency goals as an appropriate performance standard for energy use. Under State law, the CEC is required to establish eligibility criteria, conditions for incentives, and rating standards to qualify for ratepayer-funded solar energy system incentives in California. As part of this effort, the CEC establishes energy efficiency standards for homes and commercial structures, and requires new buildings to exceed current building standards by meeting Tier Energy Efficiency goals. CEC's Tier II Energy Efficiency goals will continue to be updated to achieve energy efficiency best practices, and are consistent with what is needed to meet the California Public Utilities Commission Strategic Plan goals of zero net energy buildings. Currently, the CEC's proposed guidelines for the solar energy incentive program recommend a Tier II goal for residential and commercial projects of a 30 percent reduction in building combined space heating, cooling, and water heating energy compared to the 2008 Title 24 Standards.[26]

For the remaining sub-sources, staff intends to compile benchmark performance standards as part of its final threshold recommendation. ARB staff believes that existing progressive green building standards provide a starting point for performance standards for transportation, water use, waste, and construction-related emissions. Existing green building rating systems like LEED, GreenPoint Rated, the California Green Building Code, and others, contain examples of measures that are likely to result in substantial GHG emission reductions from residential and commercial projects. The key to this approach will be identifying effective GHG reduction measures within these systems. ARB staff would like input from the public and stakeholders on appropriate performance standards for these sub-sources. Performance standards that already exist and have been proven to be effective – at the local, State, national or international level – are preferable.

Under staff's proposed approach, lead agencies would be allowed to find that a project's mitigation is "equivalent" to identified performance standards, thereby allowing for cost-effective and innovative approaches to reducing GHG emissions.

Staff believes that under some circumstances, projects that meet performance standards or include equivalent mitigation measures will have impacts that may still be cumulatively considerable and therefore significant. For this reason, staff recommends that, in addition to meeting performance standards or including

[26] Guidelines for California's Solar Electric Incentive Program Pursuant to Senate Bill 1 - SECOND EDITION - Draft Guidelines can be found at: http://www.energy.ca.gov/2008publications/CEC-300-2008-007/CEC-300-2008-007-D.PDF

equivalent mitigation measures, a project must also emit no more than “X” MTCO2e/yr. Criteria for determining this emissions level have yet to be defined. ARB requests public and stakeholder input on what types of projects might still have significant climate change-related impacts.

Box 4: Presumption of significant impacts.

If a project cannot meet the requirements in the previous boxes, it should be presumed to have significant impacts related to climate change. The lead agency must then prepare an EIR, or other appropriate document, and implement all feasible GHG mitigation measures.

EXHIBIT I

DRAFT

COUNTY OF SAN DIEGO

INTERIM GUIDELINES FOR DETERMINING SIGNIFICANCE AND REPORT FORMAT AND CONTENT REQUIREMENTS

CLIMATE CHANGE

LAND USE AND ENVIRONMENT GROUP

Department of Planning and Land Use
Department of Public Works

Circulated for Public Review
October 23, 2008 to November 21, 2008

APPROVAL

I hereby certify that these **Interim Guidelines for Determining Significance and Report Format and Content Requirements for Climate Change** are a part of the County of San Diego, Land Use and Environment Group's Guidelines for Determining Significance and Technical Report Format and Content Requirements and were considered by the Director of Planning and Land Use, in coordination with the Director of Public Works on the __th day of _____, 2008.

_____
ERIC GIBSON
Director of Planning and Land Use

_____
JOHN SNYDER
Director of Public Works

I hereby certify that these **Interim Guidelines for Determining Significance and Report Format and Content Requirements for Climate Change** are a part of the County of San Diego, Land Use and Environment Group's Guidelines for Determining Significance and Technical Report Format and Content Requirements and have hereby been approved by the Deputy Chief Administrative Officer (DCAO) of the Land Use and Environment Group on the __th day of _____, 2008. The Director of Planning and Land Use is authorized to approve revisions to these Guidelines for Determining Significance and Report Format and Content Requirements for Climate Change, except any revisions to the Guidelines for Determining Significance presented in Chapter 4.0 must be approved by the Deputy CAO.

Approved, Month XX, 2008

_____
CHANDRA WALLAR
Deputy CAO

DRAFT

COUNTY OF SAN DIEGO

INTERIM GUIDELINES FOR DETERMINING SIGNIFICANCE

CLIMATE CHANGE

LAND USE AND ENVIRONMENT GROUP

Department of Planning and Land Use
Department of Public Works

Circulated for Public Review
October 23, 2008 to November 21, 2008

EXPLANATION

These Interim Guidelines for Determining Significance for Climate Change and the information presented herein shall be used by County staff for the review of discretionary projects and environmental documents pursuant to the California Environmental Quality Act (CEQA). These Guidelines present a range of quantitative, qualitative, and performance levels for particular environmental effects. Normally, (in the absence of substantial evidence to the contrary), an affirmative response to any one Guideline will mean the project will result in a significant effect, whereas effects that do not meet any of the Guidelines will normally be determined to be "less than significant." Section 15064(b) of the State CEQA Guidelines states:

> "The determination whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on factual and scientific data. An ironclad definition of significant effect is not always possible because the significance of an activity may vary with the setting."

The purpose of these Guidelines is to provide for a consistent and objective evaluation of significant effects. These Guidelines are not binding on any decision-maker and do not substitute for the use of independent judgment to determine significance or the evaluation of evidence in the record. The County reserves the right to modify these Guidelines in the event of scientific discovery or alterations in factual data that may alter the common application of a Guideline.

LIST OF PREPARERS AND TECHNICAL REVIEWERS

County of San Diego

Mario Covic, Primary Author
Jason Giffen, Contributing Author
Jennifer Campos, Contributing Author

Climate Change Technical Review Panel

County of San Diego
Andy Hamilton, Air Pollution Control District
Esther Daigneault, Department of Public Works Environmental Services Unit
Thomas Duffy, Department of Public Works Environmental Services Unit

Consultants
Haseeb Quereshi, Urban Crossroads
Valorie Thompson, PhD., Scientific Resource Associated
Michael Hendrix, Chambers Group, Inc.
Alex Jewell, RBF Consulting
James Whalen, J. Whalen & Associates, Inc.

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List of Acronyms

APCD	Air Pollution Control District
AB 32	Assembly Bill 32 Global Warming Solutions Act of 2006
AG	Attorney General
ARB	Air Resources Board
ASTM	American Society of Testing and Material
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resource Board
CAT	Climate Action Team
CCAP	Center for Clean Air Policy
CCAR	California Climate Action Registry
CDFA	California Department of Food and Agriculture
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CF	Connectivity Factor
CH4	Methane
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
CNG	Compressed Natural Gas
CPUC	California Public Utilities Commission
CUFR	California Urban Forestry
DGS	Department of General Services
DOE	U.S. Department of Energy
DOF	Department of Finance
DPF	Diesel Particulate Filter
DWR	Department of Water Resources
E85	85% Ethanol
EEA	Massachusetts Executive Office of Energy and Environmental Affairs
EERE	Energy Efficiency and Renewable Energy
EIR	Environmental Impact Report
EPA	U.S. Environmental Protection Agency
EV	Electric Vehicles
FAR	Floor Area Ratio
GHG	Greenhouse Gas
GGEP	Greenhouse Gas Emissions Policy
GGRP	Greenhouse Gas Reduction Plan
GP	General Plan
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
IT	Information Technology
ITE	Institute of Transportation Engineers
LEED	Leadership in Energy and Environmental Design
LNG	Liquefied Natural Gas
MMT	Million Metric Tons
MW	Megawatts

N_2O	Nitrous Oxide
NO_X	Oxides of Nitrogen
NREL	National Renewable Energy Laboratory
OPR	State Office of Planning and Research
PFC	Perfluorocarbon
PM	Particulate Mater
ROG	Reactive Organic Gas
RPS	Renewable Portfolio Standards
RTP	Regional Transportation Plan
S-3-05	Executive Order S-3-05
SB	Senate Bill
SDCGHGI	San Diego County Greenhouse Gas Inventory
SO_x	Sulfur Oxides
SP	Service Population
SRI	Solar Reflectance Index
SWP	State Water Project
TAC	Toxic Air Contaminants
THC	Total Hydrocarbon
ULEV	Ultra Low Emission Vehicle
UNFCCC	United Nations Framework Convention on Climate Change
URBEMIS	Urban Emissions Model
USGBC	U.S. Green Building Council
VMT	Vehicle Miles Traveled

INTRODUCTION

This document provides guidance for evaluating the adverse environmental effects that a proposed land development project may have on global climate change (GCC) due to its emissions of greenhouse gases (GHGs). Most scientists believe that GCC is caused by GHGs, or gases that trap heat in the atmosphere. New development typically results in increased emissions of GHGs due to additional vehicular use, energy use, and other resource use. To help reduce GHG emissions in California, the California Global Warming Solutions Act of 2006 (AB 32) mandates significant reductions in GHGs. Senate Bill 97, enacted in 2007, amends the CEQA statute and clearly establishes that GHG emissions and the effects of GCC are appropriate subjects for CEQA analysis. It directs the State Office of Planning and Research (OPR) to develop draft CEQA Guidelines "for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions" by July 1, 2009 and directs the Resources Agency to certify and adopt the revised CEQA Guidelines by January 1, 2010. As additional guidance from the State is provided, these Guidelines will be updates as needed.

Although most projects have some potential to generate GHGs, these guidelines present screening criteria to identify the types of projects that will be required to prepare a Climate Change Analysis. Projects that would generate 900 metric tons or more of GHGs will be required to prepare a Climate Change Analysis and demonstrate that the project would not conflict with the goals and strategies established in AB 32 to reduce GHG emissions to 1990 levels by the year 2020. This screening criterion is based on the California Air Pollution Control Officers Association (CAPCOA) white paper which considered various methods of evaluating and addressing greenhouse gas emissions under CEQA to assist local governments in creating significance thresholds. According to the CAPCOA white paper, 900 metric tons of GHG emissions are generally produced by a 50 unit subdivision, a 35,000 square foot commercial or office center, or 11,000 square feet of retail.

In addition to analyzing project level GHG emissions, CEQA also requires that decision makers consider the potential impacts of Climate Change on a project. For example, a project located in a low lying coastal area may be inundated if the ocean levels continue to rise. However, due to the project specific nature of the potential effects of climate change on proposed projects, this document does not create a guideline for determining significance for the potential impact of Climate Change on a project. The Climate Change Report Format and Content Requirements require that the climate change analysis include a discussion of the potential impacts of Climate Change on the project.

1.0 GENERAL PRINCIPLES AND EXISTING CONDITIONS

GHGs have been at the center of a widely contested political, economic, and scientific debate surrounding GCC. Although the conceptual existence of GCC is generally accepted, the extent to which GHGs contribute to it remains a source of debate. The State of California has been at the forefront of developing solutions to address GCC. GCC refers to any significant change in measures of climate, such as average temperature, precipitation, or wind patterns over a period of time. Climate change may result from natural factors, natural processes, and/or human activities that change the composition of the atmosphere and alter the surface and features of the land. The accumulation of GHG emissions in the atmosphere has been associated with global warming, or an average increase in the temperature of the atmosphere near the Earth's surface. GHGs trap heat in the atmosphere, which in turn heats the surface of the Earth. Some GHGs occur naturally and are emitted to the atmosphere through natural processes, while others are created and emitted solely through human activities. The emission of GHGs through the combustion of fossil fuels (i.e., fuels containing carbon), in conjunction with other human activities, appears to be closely associated with global warming.

State law defines GHG as being any of the following compounds: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6) (Health and Safety Code, section 38505(g).) Carbon dioxide, followed by methane and nitrous oxide, are the most common GHGs that result from human activity.

1.1 <u>Sources and Global Warming Potentials of GHG</u>

The State of California GHG Inventory performed by the California Air Resources Board (CARB), compiled statewide anthropogenic GHG emissions and sinks. It includes estimates for CO_2, CH_4, N_2O, SF_6, HFCs, and PFCs. The current inventory covers the years 1990 to 2004 (Table 1 and 2). Data sources used to calculate this GHG inventory include California and federal agencies, international organizations, and industry associations. The calculation methodologies are consistent with guidance from the Intergovernmental Panel on Climate Change (IPCC). The 1990 emissions level is the sum total of emissions and removals from all sectors and categories in the inventory. The inventory is divided into seven broad sectors of economic activity within California. These sectors include: Agriculture; Commercial; Electricity Generation; Forestry; Industrial; Residential; and, Transportation.

Table 1 – State of California GHG Emissions by Sectors in 1990* (433 $MMTCO_2e$ Gross Emissions)

Sector	Total Emissions ($MMTCO_2e$)	Percent of Total Emissions
Agriculture	23.4	5%
Commercial	14.4	3%
Electricity Generation	110.6	26%
Forestry (excluding sinks)	0.2	<1%
Industrial	103.0	24%
Residential	29.7	7%
Transportation	150.7	35%
Forestry Sinks	-6.7	--

* The remaining 1.3 $MMTCO_2e$ are from unspecified fuel combustion which could not be attributed to an individual sector. Percents may not total 100 due to rounding.

Table 2 – State of California GHG Emissions by Sectors in 2004* (484 $MMTCO_2e$ Gross Emissions)

Sector	Total Emissions ($MMTCO_2e$)	Percent of Total Emissions
Agriculture	27.9	6%
Commercial	12.8	3%
Electricity Generation	119.8	25%
Forestry (excluding sinks)	0.2	<1%
Industrial	96.2	20
Residential	29.1	6%
Transportation	182.4	38%
Forestry Sinks	-4.7	--

* The remaining 16.0 $MMTCO_2e$ are from unspecified fuel combustion which could not be attributed to an individual sector. Percents may not total 100 due to rounding.

When accounting for GHGs, all types of GHGs emissions are expressed in CO_2 equivalents (CO_2e) and are typically quantified in metric tons (MT) or millions of metric tons (MMT). Each GHG has variable Global Warming Potential (GWP) and atmospheric lifetime. GWP is a measure of how much a given mass of greenhouse gas is estimated to contribute to global warming over a specific time interval. The time interval is defined by the atmospheric lifetime of the GHG, or the average time the

molecule stays stable in the atmosphere. The GWP is based on the atmospheric lifetime and the CO_2e which compares the gas in question to that of the same mass of carbon dioxide, which as a GWP of 1. The GWP and atmospheric lifetimes of common GHGs is provided in Table 3.

Table 3 - Global Warming Potentials and Atmospheric Lifetimes of Basic GHGs

GHG	Formula	100-year global warming potential*	Atmospheric lifetime (yrs)
Carbon dioxide	CO_2	1	Variable
Methane	CH_4	21	12 ± 3
Nitrous oxide	N_2O	310	120
Sulphur hexafluoride	SF_6	23,900	3 200

* The warming effects over a 100-year time frame relative to other greenhouse gases. (USEPA 2006)

In addition to the State of California GHG Inventory, a more specific regional GHG inventory was prepared by the University of San Diego School of Law Energy Policy Initiative Center[2]. This San Diego County Greenhouse Gas Inventory (SDCGHGI) is a detailed inventory that takes into account the unique characteristics of the region in calculating emissions. The GHG inventory calculated GHG emissions for 1990, 2006 and projected out for 2020. Based on this inventory and the emissions projections for the region, the study found that emissions of GHGs must be reduced by 33 percent below business as usual in order for San Diego County to achieve 1990 emissions levels by the year 2020. Businesses as usual, or forecasted emissions, are defined as the emissions that would have occurred in the absence of AB 32's mandated reductions. Construction of buildings using only Title 24 building standards (or simply relying on the 2006 version of the County Building Code) would create GHG emissions as forecasted.

Areas where feasible reductions can occur and the strategies for achieving these reductions are outlined in the SDCGHGI study and are used as the basis for determining whether a project would conflict with the goals of AB 32 in accordance with the interim guideline for determining significance established in this document. A summary of the various sectors that contribute to GHGs in San Diego County, total emissions, and the percent contribution for each sector is provided in Table 4.

[2] The document is titled, "San Diego County Greenhouse Gas Inventory: An Analysis of Regional Emissions and Strategies to Achieve AB 32 Targets" and is available online at http://www.sandiego.edu/epic/ghginventory/.

Table 4 – San Diego County GHG Emissions by Category (2006)*

Sector	Total Emissions (MMTCO2e)	Percent of Total Emissions
On-Road Transportation	16	46%
Electricity	9	25%
Natural Gas Consumption	3	9%
Civil Aviation	1.7	5%
Industrial Processes & Products	1.6	5%
Other Fuels / Other	1.1	4%
Off-Road Equipment & Vehicles	1.3	4%
Waste	0.7	2%
Agriculture/Forestry/Land Use	0.7	2%
Rail	0.3	1%
Water-Borne Navigation	127,000 metric tons	0.4%

* Energy Policy Initiative Center, University of San Diego School of Law

The sources of GHG emissions, GWP, and atmospheric lifetime of GHGs are all important variables to be considered in the process of calculating CO_2e for discretionary land use projects that require a climate change analysis.

2.0 EXISTING REGULATIONS AND POLICIES

All levels of government have some responsibility for the protection of air quality, and each level (Federal, State, and regional/local) has specific responsibilities relating to air quality regulation. GHG emissions and the regulation of GHGs is a relatively new component of air quality.

2.1 National and International Efforts

International and Federal legislation have been enacted to deal with climate change issues. In 1988, the United Nations and the World Meteorological Organization established the IPCC to assess the scientific, technical, and socioeconomic information relevant to understanding the scientific basis for human-induced climate change, its potential impacts, and options for adaptation and mitigation. The most recent reports of the IPCC have emphasized the scientific consensus that real and measurable changes to the climate are occurring, that they are caused by human activity, and that significant adverse impacts on the environment, the economy, and human health and welfare are unavoidable.

In October 1993, President Clinton announced his Climate Change Action Plan, which had a goal of returning GHG emissions to 1990 levels by the year 2000. This was to be accomplished through 50 initiatives that relied on innovative voluntary partnerships between the private sector and government aimed at producing cost-effective reductions in GHG emissions. On March 21, 1994, the United States joined a number of countries around the world in signing the United Nations Framework Convention on Climate Change (UNFCCC). Under the Convention, governments agreed to gather and share information on GHG emissions, national policies, and best practices; launch national strategies for addressing greenhouse gas emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change. Recently, the United States Supreme Court declared in the court case of Massachusetts et al. v. Environmental Protection Agency et al., 549 C.S. 497 (2007) that the EPA does have the ability to regulate GHG emissions. In addition to the national and international efforts described above, many local jurisdictions have adopted climate change policies and programs.

2.2 State Regulations and Standards

Assembly Bill 32, the California Climate Solutions Act of 2006[3]

In September 2006, Governor Arnold Schwarzenegger signed AB 32, the California Climate Solutions Act of 2006, into law. In general, AB 32 directs the CARB to do the following:

- Make publicly available a list of discrete early action GHG emission reduction measures that can be implemented prior to the adoption of the statewide GHG limit and the measures required to achieve compliance with the statewide limit;
- Make publicly available a GHG inventory for the year 1990 and determine target levels for 2020;
- On or before January 1, 2010, adopt regulations to implement the early action GHG emission reduction measures;
- On or before January 1, 2011, adopt quantifiable, verifiable, and enforceable emission reduction measures by regulation that will achieve the statewide GHG emissions limit by 2020, to become operative on January 1, 2012, at the latest. The emission reduction measures may include direct emission reduction measures, alternative compliance mechanisms, and potential monetary and non-monetary incentives that reduce GHG emissions from any sources or categories of sources that CARB finds necessary to achieve the statewide GHG emissions limit; and
- Monitor compliance with and enforce any emission reduction measure adopted pursuant to AB 32.

Regarding the first two bullets, CARB has already made available a list of discrete early action GHG emission reduction measures. CARB has also published a staff report titled

[3] Health and Safety Code Section 38500 *et seq*.

California 1990 Greenhouse Gas Emissions Level and 2020 Emissions Limit that determined the statewide levels of GHG emissions in 1990. CARB identified 427 million metric tons of CO2 as the total statewide aggregated greenhouse gas 1990 emissions level and 2020 emissions limit.

Senate Bill 97

Senate Bill 97, enacted in 2007, amends the CEQA statute to clearly establish that GHG emissions and the effects of GHG emissions are appropriate subjects for CEQA analysis. It directs OPR to develop draft CEQA Guidelines "for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions" by July 1, 2009 and directs the Resources Agency to certify and adopt the CEQA Guidelines by January 1, 2010.

Executive Order #S-3-05

Executive Order #S-3-05, signed by Governor Schwarzenegger on June 1, 2005, calls for a reduction in GHG emissions to 1990 levels by 2020 and for an 80 percent reduction in GHG emissions by 2050. Executive Order #S-3-05 also calls for the California EPA (CalEPA) to prepare biennial science reports on the potential impact of continued global warming on certain sectors of the California economy. The first of these reports, "Our Changing Climate: Assessing Risks to California", and its supporting document, "Scenarios of Climate Change in California: An Overview" (herein referred to as the Climate Scenarios report), was published by the California Climate Change Center in 2006.

State Standards Addressing Vehicular Emissions

Regulations aimed at on-road transportation emissions will be the primary source of emission reductions of GHGs by the year 2020. To this end, AB 1493, or the Pavley Bill, set the standard for new light-duty passenger vehicles. Once implemented, emissions from these vehicles are expected to be reduced in San Diego County by 21 percent by 2020. The federal Corporate Average Fuel Economy (CAFE) standard determines the fuel efficiency of certain vehicle classes in the United States. The current standard has remained largely unchanged since 1990. In 2007, as part of the Energy and Security Act of 2007, CAFE standards were increased for new light-duty vehicles to 35 miles per gallon by 2020. These increases in fuel efficiency translate into reductions of GHG emissions. In addition, the Low Carbon Fuel Standard (LCFS) was included in a California Governor's Executive Order that was promulgated in January 2007. This strategy addresses the type of fuel used in vehicles. Efficiency standards affect the total amount of fuel used, whereas the low-carbon fuel standard seeks to reduce the carbon content of the fuel, therefore reducing GHG emissions even if total fuel consumption is not reduced. The Low-Carbon Fuel Standard has been approved by CARB as a discrete early action item under AB 32 and implementing regulations are currently under development. It is assumed that the effects of the Low-Carbon Fuel Standard would be a 10% reduction in GHG emissions from fuel use by 2020.

2.3 Local Regulations and Standards

The County is working to develop a comprehensive strategy that will enhance the sustainability of County business operations and communities, building on the many energy efficient and environmentally sound practices already in place in County departments. Additionally, the County is working on a General Plan Update. The update is based on smart growth and land planning principles that will reduce Vehicle Miles Traveled (VMT), and thus result in a reduction of GHGs. This will be accomplished by locating future development within and near existing infrastructure. The General Plan Update will result in an implementation plan, with respect to the reduction of GHGs, which will include the following actions:

- Prepare a climate change action plan with a baseline inventory and emissions reduction targets for greenhouse gas emissions from all sources;

- Develop regulations and procedures to encourage the design and construction of new buildings in accordance with "green building" programs; and

- Develop regulations that encourage the use of energy recovery, as well as photovoltaic and wind energy in appropriate areas;

Currently, the County has a number of aggressive outreach and small business assistance programs that promote ways to reduce air and water pollution. This includes a Green Building Program which is designed to educate builders and provide incentives for the incorporation of green building standards (http://www.sdcounty.ca.gov/dplu/greenbuildings.html). Additionally, there are outreach programs that focus on the importance of reducing air quality impacts (lawn mower trade-in program) and reducing solid waste by recycling (compost bin give always and transfer station events).

The County is also making its own effort to reduce its carbon footprint. The County has various internal policies in place to reduce GHG emissions from County operations. The County Board of Supervisor's Policy B-67 requires that preference be given to products which conform to the Minimum Recycled Content Standards. This includes purchases and is used by the County of San Diego, its contractors, and its grantees in its procurement practices. Similarly, the County has established design standards (Board Policy G-15) for County facilities that set forth appropriate techniques, materials, and technology to improve public accessibility, energy performance, resource utilization, and the work environment. In the recent past, several county facilities have either been built to LEED standards or have incorporated renewable energy resources such as photovoltaics.

3.0. TYPICAL ADVERSE EFFECTS AND CLIMATE CHANGE ANALYSIS SCREENING CRITERIA

3.1 Typical Adverse Effects

The Climate Scenarios report, published in 2006 by the California Climate Change Center, uses a range of emissions scenarios developed by the IPCC to project a series of potential warming ranges (i.e., temperature increases) that may occur in California during the 21st century. Three warming ranges are identified: lower warming range [3.0 to 5.5 degrees Fahrenheit (^{o}F)]; medium warming range (5.5 to 8.0^{o}F); and higher warming range (8.0 to 10.5^{o}F). The Climate Scenarios report then presents an analysis of the future projected climate changes in California under each warming range scenario.

According to the report, substantial temperature increases would result in a variety of impacts to the people, economy, and environment of California. These impacts would result from a projected increase in extreme conditions, with the severity of the impacts depending upon actual future emissions of GHGs and associated warming. These impacts are described below.

Public Health

Higher temperatures are expected to increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to O_3 formation are projected to increase by 25 to 35 percent under the lower warming range and 75 to 85 percent under the medium warming range. In addition, if global background O_3 levels increase as is predicted in some scenarios, it may become impossible to meet local air quality standards. An increase in wildfires could also occur, and the corresponding increase in the release of PM2.5 (which can travel long distances depending on wind conditions) could further compromise air quality. The Climate Scenarios report indicates that large wildfires could become up to 55 percent more frequent if GHG emissions are not significantly reduced.

In addition, under the higher warming scenario, Los Angeles and Sacramento, by the year 2100, could experience as many as 100 more days per year with temperatures above90^{o}F and95^{o}F respectively. This is a large increase over historical patterns and approximately twice the increase projected if temperatures remain within or below the lower warming range. Rising temperatures will increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat.

Water Resources

A vast network of reservoirs and aqueducts capture and transport water throughout the State from northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada mountain snowpack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snowpack, increasing the risk of summer water shortages.

If GHG emissions continue unabated, more precipitation may fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90 percent. Under the lower warming scenario, snowpack losses are expected to be only half as large as those expected if temperatures were to rise to the higher warming range. How much snowpack will be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter climate projections, the loss of snowpack would pose challenges to water managers, hamper hydropower generation, and could eliminate all skiing and other snow-related recreational activities.

The State's water supplies are also at risk from rising sea levels. An influx of saltwater would degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality of water within the southern edge of the Sacramento/San Joaquin River Delta. The Delta accounts for a portion of San Diego County's water supply and is a major source of water for the State as a whole.

Agriculture

Increased GHG emissions are expected to cause widespread changes to the agriculture industry, reducing the quantity and quality of agricultural products statewide. Significant reductions in available water supply to support agriculture will impact production. Although higher CO_2 levels can stimulate plant production and increase plant water-use efficiency, California's farmers will face greater water demand for crops and a less reliable water supply as temperatures rise. Crop growth and development will change, as will the intensity and frequency of pest and disease outbreaks. Rising temperatures will likely aggravate O_3 pollution, which will in turn make plants more susceptible to disease and pests and interfere with plant growth.

Plant growth tends to be slow at low temperatures and increase up to a certain point with rising temperatures. Faster growth, however, can result in less-than-optimal development for many crops, thus decreasing the quantity and quality of yield for a number of California's agricultural products. Products likely to be most affected include wine grapes, fruits and nuts, and milk.

Ecosystems/Habitats

Continued global warming will likely shift the ranges of existing invasive plants and weeds, thus altering competition patterns with native plants. Range expansion is expected in many species while range contractions are less likely in rapidly evolving species with significant populations already established. Should range contractions occur, it is likely that new weed species will fill the emerging gaps. Continued global warming is also likely to increase the populations of many pests, lead to the emergence of new types of pests, and increase pathogen growth rates amongst these pests. The effects of these changes on ecosystems are largely unknown. The potential exists, however, for these changes to have significant impacts on the health of the various ecosystems located in the County and the State.

Moreover, continued global warming will alter natural ecosystems and biological diversity within the State. For example, alpine and sub-alpine ecosystems are expected to decline by as much as 60 to 80 percent by the end of the century as a result of increasing temperatures. The productivity of the State's forests is also expected to decrease as a result of global warming.

Wildland Fires

Global warming is expected to increase the risk of wildfire and alter the distribution and character of natural vegetation. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55 percent, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout the State. For example, an increase in precipitation (a potential result of a rise in temperatures) could lead to a 30 percent increase in southern California wildfires by the end of the century. In contrast, precipitation decreases could increase wildfires in northern California by as much as 90 percent.

Rising Sea Levels

Rising sea levels, more intense coastal storms, and warmer water temperatures will increasingly threaten the State's coastal regions. Under the higher warming scenario, sea level is anticipated to rise 22 to 35 inches by 2100. Elevations of this magnitude would inundate coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats.

3.2 Climate Change Analysis Screening Criteria

Discretionary (non-industrial) projects that are greater than or equal to the project sizes listed in Table 5 must perform a climate change analysis. The project sizes shown below represent the project sizes that are estimated to emit approximately 900 metric tons of GHGs. These emissions levels are based on the amount of vehicle trips each project type would generate, the typical energy and water use associated with these projects, and other factors. The need for a climate change analysis for project types not listed in Table 5 will be evaluated on a case-by-case basis, using the 900 metric ton figure as a general gauge for determining which projects will require an analysis.

The 900 metric ton screening threshold for determining when an air quality analysis is required was chosen based on available guidance from the CAPCOA white paper (http://www.capcoa.org/) on addressing greenhouse gas emissions under CEQA. The CAPCOA white paper references a 900 metric ton guideline as a conservative threshold for requiring further analysis and mitigation.

This approach ensures that new development with the potential to make cumulatively considerable contributions to climate change, will incorporate appropriate mitigation measures and not result in a conflict with the goals of AB 32.

Table 5 – Project Type Examples* that Require Climate Change Analysis and Mitigation Measures

Project Type	Project Size that Generates Approximately 900 metric Tons of GHGs per Year
Single Family Residential	50 units
Apartments / Condominiums	70 units
General Commercial Office Space	35,000 square feet
Retail Space	11,000 square feet
Supermarket / Grocery Space	6,300 square feet

* A determination on the need for a climate change analysis for project types that do not fit the categories in this table (mixed use/industrial) will be made on a case-by-case basis, based on whether a project could generate 900 metric tons or more of GHGs.

4.0 GUIDELINE FOR DETERMINING SIGNIFICANCE

The guideline for determining significance discussed below has been developed from AB 32. This guideline addresses the potential cumulative impacts that a project's GHG emissions could have on Climate Change. Since Climate Change is a global phenomenon, no direct impact would be indentified for an individual land development project. For projects that exceed the screening criteria detailed in Section 3.2, an affirmative response to the following Guideline will generally be considered a significant impact to climate change as a result of project implementation, in the absence of scientific evidence to the contrary:

- ***The project will conflict with the goals and strategies of AB 32 to reduce GHGs to 1990 levels by 2020.***

Projects that meet the criteria for conducting a climate change analysis will be required to perform a GHG inventory to determine GHG emissions associated with project implementation and operation under business as usual conditions. As stated earlier, business as usual is defined as the emissions that would have occurred in the absence of the mandated reductions. Based on the significance guideline, applicable projects will have to demonstrate how project design measures and/or mitigation measures will reduce GHG emissions to enable the region to reduce GHG emissions to 1990 levels by the year 2020. The SDCGHGI has prepared the most comprehensive assessment of the regions GHG emissions and has outlined an approach that will allow the region to achieve the 1990 levels by the year 2020.

According to the SDCGHGI, the region must reduce its GHG emissions by 33 percent from business as usual to achieve 1990 emissions levels by the year 2020. In order for projects to demonstrate that they do not conflict with the goals and policies of AB 32, those that exceed the screening criteria will need to prepare a climate change inventory

and demonstrate that the construction, operational, and vehicular emissions associated with the project will be reduced by 33 percent from business as usual emissions levels. According to the SDCGHGI, a majority of the region's emissions are attributable to on-road transportation. Similarly, a majority of emissions resulting from land development projects will often be attributable to on-road transportation emissions. According to the SDCHGHI study, the emissions reductions for on-road transportation will be achieved in a variety of ways, including through regulations aimed at increasing fuel efficiency standards and decreasing vehicle emissions.

5.0 STANDARD MITIGATION AND PROJECT DESIGN CONSIDERATIONS

In order to meet emissions reduction targets, the region will need to reduce VMT by 10 percent. Therefore, individual development projects will be required to demonstrate that project emissions associated with VMT will meet the 10 percent reduction while operational and construction emissions would need to be reduced by 33 percent below business as usual. Table 6 provides a summary of these general emissions reductions requirements for individual projects.

Table 6 – Required Emissions Reductions for Projects that Require Preparation of a Climate Change Analysis

	Construction and Operational Emissions	***On-road vehicular emissions***
Required Emissions Reductions	33 Percent of total Construction and Operational Emissions	10 Percent of total VMT

The Climate Change Report Format and Content Requirements further detail the methodologies, modeling and other requirements for a climate change analysis.

The following project design or mitigation measures are examples that may be applied to a project to reduce GHG emissions to at least 33% below BAU. Project mitigation or design measures will vary depending on the type project, the type of GHG emissions, and various other factors that would be detailed in the climate change analysis. It is not intended that each mitigation measure identified in this section be applied to every project or that the mitigation be written exactly as presented herein. Similarly, a project may require mitigation that is not specifically identified in this document. Table 16 in Appendix B of the CAPCOA white paper is devoted to mitigation measures[4] and is an excellent resource for additional mitigation measures. A non-exclusive list of mitigation measures are described below.

[4] See http://www.capcoa.org/ceqa/CAPCOA%20White%20Paper%20-%20CEQA%20and%20Climate%20Change.pdf for the CAPCOA White Paper and refer to Appendix B, Mitigation Measure Summary.

5.1 Generally Applicable Measures

Energy Efficiency

- Design buildings to be energy efficient. Site buildings to take advantage of shade, prevailing winds, landscaping and sun screens to reduce energy use.
- Install efficient lighting and lighting control systems. Use daylight as an integral part of lighting systems in buildings.
- Install light colored “cool” roofs, cool pavements, and strategically placed shade trees.
- Provide information on energy management services for large energy users.
- Install energy efficient heating and cooling systems, appliances and equipment, and control systems.
- Install light emitting diodes (LEDs) for traffic, street and other outdoor lighting.
- Limit the hours of operation of outdoor lighting.
- Use solar heating, automatic covers, and efficient pumps and motors for pools and spas.
- Provide education on energy efficiency.

Renewable Energy

- Install solar and wind power systems, solar and tankless hot water heaters, and energy-efficient heating ventilation and air conditioning. Educate consumers about existing incentives.
- Install solar panels on carports and over parking areas.
- Use combined heat and power in appropriate applications.

Water Conservation and Efficiency

- Create water-efficient landscapes.
- Install water-efficient irrigation systems and devices, such as soil moisture-based irrigation controls.
- Use reclaimed water for landscape irrigation in new developments and on public property. Install the infrastructure to deliver and use reclaimed water.
- Design buildings to be water-efficient. Install water-efficient fixtures and appliances.
- Use greywater. (Greywater is untreated household waste water from bathtubs, showers, bathroom wash basins, and water from clothes washing machines.) For example, install dual plumbing in all new development allowing greywater to be used for landscape irrigation.
- Restrict watering methods (e.g., prohibit systems that apply water to non-vegetated surfaces) and control runoff.
- Restrict the use of water for cleaning outdoor surfaces and vehicles.
- Implement low-impact development practices that maintain the existing hydrologic character of the site to manage storm water and protect the

environment. (Retaining storm water runoff on- site can drastically reduce the need for energy-intensive imported water at the site.)

- Devise a comprehensive water conservation strategy appropriate for the project and location. The strategy may include many of the specific items listed above, plus other innovative measures that are appropriate to the specific project.
- Provide education about water conservation and available programs and incentives.

Solid Waste Measures

- Reuse and recycle construction and demolition waste (including, but not limited to, soil, vegetation, concrete, lumber, metal, and cardboard).
- Provide interior and exterior storage areas for recyclables and green waste and adequate recycling containers located in public areas.

Land Use Measures

- Include mixed-use, infill, and higher density in development projects to support the reduction of vehicle trips, promote alternatives to individual vehicle travel, and promote efficient delivery of services and goods.
- Incorporate public transit into project design.
- Preserve and create open space and parks. Preserve existing trees, and plant replacement trees at a set ratio.
- Include pedestrian and bicycle-only streets and plazas within developments. Create travel routes that ensure that destinations may be reached conveniently by public transportation, bicycling or walking.

Transportation and Motor Vehicles

- Use low or zero-emission vehicles, including construction vehicles.
- Promote ride sharing programs e.g., by designating a certain percentage of parking spaces for ride sharing vehicles, designating adequate passenger loading and unloading and waiting areas for ride sharing vehicles, and providing a web site or message board for coordinating rides.
- Create car sharing programs. Accommodations for such programs include providing parking spaces for the car share vehicles at convenient locations accessible by public transportation.
- Create local “light vehicle” networks, such as neighborhood electric vehicle (NEV) systems.
- Provide the necessary facilities and infrastructure to encourage the use of low or zero-emission vehicles (e.g., electric vehicle charging facilities and conveniently located alternative fueling stations
- Build or fund a transportation center where various public transportation modes intersect.
- Provide shuttle service to public transit.
- Provide public transit incentives such as free or low-cost monthly transit passes.
- Promote “least polluting” ways to connect people and goods to their destinations.

- Incorporate bicycle lanes and routes into street systems, new subdivisions, and large developments.
- Incorporate bicycle-friendly intersections into street design.
- For commercial projects, provide adequate bicycle parking near building entrances to promote cyclist safety, security, and convenience. For large employers, provide facilities that encourage bicycle commuting, including, e.g., locked bicycle storage or covered or indoor bicycle parking.
- Create bicycle lanes and walking paths directed to the location of schools, parks and other destination points.
- Work with the school district to restore or expand school bus services.

6.0 REFERENCES

Anders, S.J., D.O. De Haan, N. Silva-Send, S.T. Tanaka, L. Tyner. San Diego County Greenhouse Gas Inventory: An Analysis of regional Emissions and Strategies to Achieve AB 32 Targets, September 2008.

California 1990 Greenhouse Gas Emissions Level and 2020 Emissions Limit. California Air Resource Board. 2007.

California Air Resources Board, URBEMIS2002 for Windows Version 9.2.4, 2007

California Climate Action Team's Final Report to the Governor and Legislature, March 2007

California Climate Action Registry, General Reporting Protocol, Version 2.2, March 2007

California Health and Safety Code Division 26; Parts 1-4 & 6;http://www.leginfo.ca.gov/

California Air Resources Board, Proposed Early Actions to Mitigate Climate Change in California. http://www.arb.ca.gov/cc/factsheets/support_ccoverview.pdf . April 20, 2007.

California Public Resources Code California Environmental Quality Act (Public Resource Code §21000-21178).

CEQA & Climate Change. California Air Pollution Control Officers Association, 2008. http://www.capcoa.org/

Intergovernmental Panel on Climate Change, Climate Change 2001: The Scientific Basis, Contribution ofWorking Group I to the Third Assessment Report of the Intergovernmental Panel on Climate. http://www.ipcc.ch/pub/reports.htm. 2001.

United States Code of Federal Regulations
Title 42; Chapter 55; National Environmental Policy Act**.** As amended http://www4.law.cornell.edu/uscode/42/ch55.html.
Title 42, Chapter 85, Subchapter 1,The Clean Air Act. http://www.epa.gov/oar/oaq_caa.html

United States Environmental Protection Agency. National Emission Standards For Hazardous Air Pollutants. Code of Federal Regulations. Title 40; Chapter 1; Part 6

EXHIBIT J

Potential Greenhouse Gas CEQA Significance Thresholds

In CAPCOA *CEQA & and Climate Change* document, a number of options regarding potential significance thresholds are described. Tables 1 and 2 below summarize the main characteristics of CAPCOA's significance threshold. These can be used as a starting point with regard to developing GHG CEQA significance thresholds for the district.

Table 1 – Statute and Executive Order Approach

Threshold Number	Description of Threshold
1.1	Project must reduce emissions compared to business as usual to be less than significant, two approaches: a. Project must reduce GHG emissions 33% compared to business-as-usual (2020 target) b. Project must reduce GHG emissions 80% compared to business-as-usual (2050 target)
1.2	All new projects must reduce GHG emissions compared to business-as-usual by a uniform percentage to be considered less than significant, e.g., 50%.
1.3	Projects must reduce GHG emissions compared to business-as-usual by a uniform percentage based on economic sector to be less than significant, i.e., different reductions required for different market sectors.
1.4	Uniform GHG emission reduction by region. Regional GHG reduction plan developed consistent with AB32 emission reductions, e.g., reduce GHG emissions 33% or 80% compared to business as usual. A project is not significant if its GHG emissions are consistent with plan.

Table 2 – Threshold Options

Threshold Number	Description of Threshold
2.1	This threshold employs a decision tree approach. First tier, no increase in GHG emissions, not significant. If GHG emissions greater than zero, tier two, use one of the following thresholds.
2.2	Establish a quantitative threshold based on capturing a percentage, e.g., 90%, of future discretionary projects, CAPCOA's threshold is 900 metric tons CO2e per year (equivalent to 50 houses or 30,000 square feet of commercial space, i.e., 90% of all projects are this size or greater). Projects less than this would not be significant.
2.3	This threshold is based on CARB's proposed mandatory reporting threshold of 25,000 metric tons of CO2e per year. Alternatively, use the Market Advisory Committee of 10,000 metric tons of CO2e per year. Projects less than either would not be significant.

Table 2 – Threshold Options (Concluded)

Threshold Number	Description of Threshold
2.4	This approach establishes a GHG threshold based on and analogous to a NOx/VOC criteria pollutant CEQA significance threshold and is established using the following four steps: a. Define NOx/VOC CEQA thresholds in tons per year (e.g., 10 t/yr) b. Define the regional NOx/VOC inventory in tons per year (e.g., annual NOx inventory for 2005 from 2007AQMP ~ 375,585 t/yr) c. Calculate percentage of NOx/VOC inventory the significance threshold represents (10 / 375,585 = 0.00003) to obtain "minimum percentage of regulated inventory" for NOx/VOC. d. Define California GHG emission inventory for 2004 in tons CO2e per year (499 MMT CO2e). Apply minimum percentage of regulated inventory to California GHG inventory for 2004 to develop a GHG threshold analogous to the CEQA Threshold (e.g., 0.00003 x 499 MMT = 14,970 metric tons CO2e per year = significance threshold).
2.5	Establish quantitative unit-based thresholds based on capturing a percentage, e.g., 90%, of future discretionary projects in specific market sectors (similar to 2.2 above). CAPCOA examples include: • 30,000 square-foot (SF) office =800 metric tons CO2e per year; • 30,000 SF retail = 2,500 metric tons CO2 per year: • 30,000 SF supermarket = 43,000 metric tons CO2e per year
2.6	This threshold would include tiered CEQA thresholds based on CEQA's definition of "projects with statewide, regional or areawide significance (§15206(b)), which include: • Residential development > 500 dwellings • Shopping center or business establishment employing > 1,000 persons or > 500,000 SF • Commercial office building employing >1,000 persons or > 250,000 SF • Hotel/motel > 500 rooms • Industrial, manufacturing or processing plant or industrial park employing > 1,000 persons or > 600,000 SF
2.7	Efficiency-based thresholds would be based on measurements of efficiency compared to intensity. Must be based on reasonable GHG emissions compared to business-as-usual.

CAPCOA also discusses a decision tree approach to determining significance (see Figure 1 in CAPCOA's *CEQA & and Climate Change* document). This approach establishes multiple methodologies or tiers to determine whether or not a project is significant. For example, tier 1 could be a zero threshold, e.g., does the project generate GHG emissions, if the answer is no, the project passes and is not significant. If the

project fails, it is subject to the tier 2 threshold, etc., until the project passes (not significant) or fails all tiers (significant). Some of the tiers could be equivalent to the thresholds in Tables 1 or 2.

Other potential significance thresholds are identified in Table 3.

Table 3 – Other Significance Threshold Options

Threshold Number	Description of Threshold
3.1	Establish a GHG threshold tied directly to an established CEQA criteria pollutant significance threshold. For example, using the SCAQMD's NOx significance threshold of 10 tons per year (55 pounds per day), calculate the corresponding CO2 emissions.
3.2	This threshold would establish an efficiency-based thresholds that must exceed established efficiency standards by a specified percent, e.g., 33%. This type of threshold appears to go beyond CAPCOA's 2.7 recommendation.

(e:/ceqa/greenhousegases/ghgsigthrsh/aat1-ghgtbl.doc)

EXHIBIT K

Filed
NOV 13 2008
Clerk, Environmental Appeals Board
INITIALS

(Slip Opinion)

NOTICE: This opinion is subject to formal revision before publication in the Environmental Administrative Decisions (E.A.D.). Readers are requested to notify the Environmental Appeals Board, U.S. Environmental Protection Agency, Washington, D.C. 20460, of any typographical or other formal errors, in order that corrections may be made before publication.

BEFORE THE ENVIRONMENTAL APPEALS BOARD
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C.

In re:	)	
Deseret Power Electric Cooperative	)	PSD Appeal No. 07-03
PSD Permit No. PSD-OU-0002-04.00	)	

[Decided November 13, 2008]

ORDER DENYING REVIEW IN PART AND REMANDING IN PART

Before Environmental Appeals Judges Edward E. Reich, Kathie A. Stein, and Anna L. Wolgast.

IN RE DESERET POWER ELECTRIC COOPERATIVE

PSD Appeal No. 07-03

ORDER DENYING REVIEW IN PART AND REMANDING IN PART

Decided November 13, 2008

Sierra Club seeks review of a prevention of significant deterioration ("PSD") permit that U.S. Environmental Protection Agency, Region 8 ("Region") issued to Deseret Power Electric Cooperative ("Deseret") on August 30, 2007. The permit would authorize Deseret to construct a new waste-coal-fired electric generating unit at Deseret's existing Bonanza Power Plant, located near Bonanza, Utah.

Sierra Club's petition raises two issues. First, Sierra Club argues that the Region's permitting decision violates the public participation provisions of Clean Air Act ("CAA" or "Act") section 165(a)(2), which require the Agency to consider "alternatives" to the proposed facility. Sierra Club contends that the Region erred by failing to consider alternatives to the proposed facility that are similar to alternatives U.S. EPA Region 9 recommended in comments on the draft environmental impact statement for a different facility, the White Pine Energy Station Project in Nevada.

Second, Sierra Club argues that the Region violated CAA sections 165(a)(4) and 169(3) by failing to apply "BACT," or best available control technology, to limit carbon dioxide ("CO_2") emissions from the facility. Sierra Club points to the Supreme Court's April 2007 decision in *Massachusetts v. EPA,* 549 U.S. 497 (2007), as establishing that CO_2 is an "air pollutant" within the meaning of the Act. Sierra Club contends that because CO_2 is an air pollutant, the permit violates the requirement to include a BACT emissions limit for "each pollutant subject to regulation under [the Clean Air] Act."

Sierra Club relies on Part 75 of Title 40 of the Code of Federal Regulations, which requires monitoring and reporting of CO_2 emissions and was adopted in accordance with section 821 of the Clean Air Act Amendments of 1990 ("1990 Public Law"). Sierra Club asserts that the word "regulation" has a "plain and unambiguous" meaning and that, consistent with this plain meaning, CAA sections 165 and 169, section 821 of the 1990 Public Law, and EPA's Part 75 regulations make CO_2 "subject to regulation" under the CAA.

The Region disagrees that the statutory text has a plain meaning and argues instead that the Agency had discretion to interpret the term "subject to regulation" and did so by adopting an historical interpretation of the term that was "reasonable" and

"permissible." The Region maintains that "EPA has historically interpreted the term 'subject to regulation under the Act' to describe pollutants that are presently subject to a statutory or regulatory provision that requires actual control of emissions of that pollutant." The Region contends that, notwithstanding the Supreme Court's decision, it does not have the authority to impose a CO_2 BACT limit because the Part 75 regulations only require monitoring and reporting of CO_2 emissions, not actual control. The Region argues further that the Part 75 regulations implementing section 821 of the 1990 Public Law are not "under" the CAA within the meaning of CAA sections 165 and 169 because section 821 is not part of the CAA.

By order dated November 21, 2007, the Board granted review of the CO_2 BACT issue while holding under advisement the "alternatives" issue. The Board received briefs on this issue from Sierra Club, the Region, and Deseret, and six amici briefs supporting Sierra Club's petition, and six amici briefs supporting the Region's decision. The Board held oral argument on May 29, 2008. The Board subsequently requested clarification of certain questions arising at the oral argument, and the parties completed briefing on September 12, 2008.

Held: The Board denies review of the Region's alleged failure to consider alternatives" to the proposed facility, but remands the permit to the Region for it to reconsider whether to impose a CO_2 BACT limit and to develop an adequate record for its decision.

- CAA section 165(a)(2), on which Sierra Club's alternatives argument relies, provides that a PSD permit may not be issued unless "a public hearing has been held with opportunity for interested persons * * * [to] submit written or oral presentations on the air quality impact of such source, *alternatives thereto* * * * and other appropriate considerations." This requirement, which the statute ties to the opportunity to comment on the draft permit, does not oblige the permit issuer to conduct an independent analysis of alternatives not identified by the public during the comment period. Here, Sierra Club does not contend that it or any other person identified during the public comment period the alternatives it raises in its petition. Further, Region 9's comments, although submitted in the White Pines Energy Center case after the close of the public comment period in the present case, do not, in any event, present grounds for raising this new issue or argument for the first time on appeal in this case.

- The Board rejects Sierra Club's contention that the phrase "subject to regulation" has a plain meaning and that this meaning compels the Region to impose a CO_2 BACT limit in the permit. On the contrary, the Board finds that the statute is not so clear and unequivocal as to preclude Agency interpretation of the phrase "subject to regulation under this Act," and therefore the statute does not dictate whether the Agency must impose a BACT limit for CO_2 in the permit. It does not appear that, when it enacted CAA sections 165 and 169 in 1977, Congress considered the precise issue before the Board in this case, or more significantly, drafted language sufficiently specific to address it. The Board also finds no evidence that Congress's use of the term "regulations" in

section 821 of the 1990 Public Law was an attempt to interpret or constrain the Agency's interpretation of the phrase "subject to regulation" as used in sections 165 and 169.

- The administrative record of the Region's permitting decision, as defined by 40 C.F.R. section 124.18, does not support the Region's view that it is bound by an Agency historical interpretation of "subject to regulation" as meaning "subject to a statutory or regulatory provision that requires actual control of emissions of that pollutant." The Region did not identify in its response to comments any Agency document expressly stating that "subject to regulation under this Act" has this meaning.

- The Board examines the two authorities the Region relied upon in its response to comments to support its contention that an historical interpretation exists. The Region argues that the constraining historical interpretation may be discerned by inference from the pollutants listed by name or descriptive category in the preamble to a 1978 Federal Register document in which the Agency first established an interpretation of the term "subject to regulation under this Act." The Region observes that all of these pollutants were subject to emissions control and none of the listed pollutants were subject only to monitoring and reporting requirements. However, the Board finds that this interpretation provides little, if any, support for the contention that the phrase applies only to provisions that require actual control of emissions. Instead, the preamble as a whole augers in favor of a finding that the Agency expressly interpreted "subject to regulation under this Act" to mean "any pollutant regulated in Subchapter C of Title 40 of the Code of Federal Regulations for any source type." In the 1978 preamble, the Administrator stated he was making "final" an "interpretation" he believed to be correct. While the Region correctly observes that the reference to Subchapter C was not repeated in the preamble to the 1993 rulemaking adding the Part 75 regulations, neither did the preamble expressly clarify or withdraw that earlier interpretation. Thus, whatever the Agency's intentions were relative to the Subchapter C reference in the 1978 preamble when it adopted the 1993 regulations, it did not express them.

- The second authority the Region relied upon in its response to comments as allegedly creating an historical interpretation was a 2002 rulemaking that codified the defined term "regulated NSR pollutant" to replace the previous regulatory language that was functionally equivalent to the statutory phrase "pollutant subject to regulation under this Act." The regulatory definition added in 2002 of "regulated NSR pollutant," however, is not limited to "actual control of emissions." The regulatory definition contains, as its fourth part, essentially the same phrase – "that otherwise is subject to regulation under the Act" – that the Region argues is ambiguous as a matter of statutory interpretation. There is no public notice in the 2002 final preamble (or in the 1996 preamble for the proposed rulemaking) of the interpretation the Region

now advocates, let alone anything approaching the same level of express notice and clear statement that is found in the preamble for the 1978 rulemaking. The preamble's list of pollutants, which the Region again argues creates the interpretation by inference, does not indicate that the list was provided as an interpretation of the defined term "regulated NSR pollutant." Neither the 2002 preamble nor the 1996 preamble for the proposed rulemaking expressly withdrew the 1978 interpretation. Thus, this rulemaking fails to establish or even support any binding historical interpretation.

- The Board also examines two memoranda not cited in the response to comments but set forth in the Region's appeal briefs that it contends made the Agency's interpretation "apparent to the regulated community and other stakeholders." These are a memorandum from Lydia N. Wegman, Deputy Director, Office of Air Quality Planning and Standards, U.S. EPA, *Definition of Regulated Air Pollutant for Purposes of Title V* (Apr. 26, 1993) and a memorandum from Jonathan Z. Cannon, General Counsel, U.S. EPA, to Carol M. Browner, Administrator, U.S. EPA, *EPA's Authority to Regulate Pollutants Emitted by Electric Power Generation Sources* (Apr. 10, 1998). These memoranda, however, do more to confuse the historical record of the Agency's interpretation than they do to show that it has been long-standing and consistent. They clearly are not sufficient to form an alternative basis for sustaining the Region's conclusion that its authority was constrained by an historical Agency interpretation.

- The Board rejects as not sustainable in this proceeding the Region's alternative argument – that any regulation arising out of section 821 cannot, in any event, constitute regulation "under this Act" because section 821 is not part of the CAA. While the Region now cites textual distinctions and legislative history to argue that the term "regulations" under section 821 does not constitute regulation "under this Act" for purposes of CAA sections 165 and 169, this argument is at odds with the Agency's prior statements regarding the relationship between section 821 and the CAA, including statements in EPA's Part 75 regulations, and these inconsistencies preclude the Board's acceptance of the Region's argument in this proceeding.

- Having determined that the Region has discretion under the statute to interpret the term "subject to regulation under this Act" and that the Region wrongly believed that its discretion was limited by an historical Agency interpretation, the Board remands the permit to the Region for it to reconsider whether to impose a CO_2 BACT limit and to develop an adequate record for its decision.

- In remanding this permit to the Region for reconsideration of its conclusions regarding application of BACT to limit CO_2 emissions, the Board recognizes that this is an issue of national scope that has implications far beyond this individual permitting proceeding. The Board suggests that the Region consider whether interested persons, as well as the Agency, would be better served by

the Agency addressing the interpretation of the phrase "subject to regulation under this Act" in the context of an action of nationwide scope, rather than through this specific permitting proceeding.

Before Environmental Appeals Judges Edward E. Reich, Kathie A. Stein, and Anna L. Wolgast.

Opinion of the Board by Judge Reich:

I. *INTRODUCTION*

Sierra Club seeks review by the Environmental Appeals Board ("Board") of a prevention of significant deterioration ("PSD") permit, number PSD-OU-0002-04.00 ("Permit"), that U.S. Environmental Protection Agency ("EPA"), Region 8 ("Region") issued to Deseret Power Electric Cooperative ("Deseret") on August 30, 2007. The Permit would authorize Deseret to construct a new waste-coal-fired electric generating unit at Deseret's existing Bonanza Power Plant, located near Bonanza, Utah.[1]

Sierra Club's petition raises two issues. Sierra Club argues that the Region violated the Clean Air Act ("CAA" or "Act") because its permitting decision failed to consider certain "alternatives" to the proposed facility that are similar to alternatives U.S. EPA Region 9 recommended in comments on a draft environmental impact statement in a different matter. Sierra Club also argues that the Region violated the Act because its permitting decision failed to require a best available control technology ("BACT") emissions limit for control of carbon dioxide ("CO_2") emissions. By order dated November 21, 2007, the Board granted review of the CO_2 BACT issue.[2] Order Granting Review

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[1] The Region has the responsibility for issuing this permit because the Bonanza Power Plant is located within the Uintah and Ourah Indian Reservation. CAA § 301(d)(4), 42 U.S.C. § 7601(d)(4).

[2] The procedural regulations governing this case allow any person who filed comments on the draft permit or participated in a public hearing on the draft permit to petition the Board to review any condition of the permit decision. 40 C.F.R. § 124.19(a).

(continued...)

(Nov. 21, 2007). The Board did not grant review of the "alternatives" issue but instead has held it under advisement.

As explained below in Part III.A, we now deny review of the first issue that the Region violated the Act by failing to consider the "alternatives" to the proposed facility that Sierra Club identifies in its petition. The statutory section Sierra Club relies upon, CAA section 165(a)(2), does not require the permit issuer to independently raise and consider alternatives that the public did not identify during the public comment period. Here, Sierra Club did not identify during the public comment period the alternatives it raises in its petition.

When the Board granted review of the second issue identified above, the CO_2 BACT issue, it set a briefing schedule to provide an opportunity, pursuant to 40 C.F.R. § 124.19(c), for interested persons to file briefs either in support of, or in opposition to, Sierra Club's contention that the Permit must contain a CO_2 BACT limit. The Board initially received a total of seven briefs in support of Sierra Club's Petition and eight briefs in support of the Region's permitting decision. The interested persons who filed briefs are identified below in Part II.B (Procedural Background). The Board held oral argument on May 29, 2008, and received additional post-argument briefing, which was completed on September 12, 2008.

As explained below in Part III.B, we conclude that we cannot sustain the Region's CO_2 BACT decision on the present administrative record, and therefore we remand this issue to the Region. Briefly, Sierra Club points to the Supreme Court's April 2007 decision in *Massachusetts v. EPA*, 549 U.S. 497 (2007), as establishing that CO_2 is an "air pollutant" within the meaning of the Act. Pet. at 3. Sierra Club contends that the Permit violates CAA sections 165(a)(4) and 169(3), which prohibit the issuance of a PSD permit unless the permit includes

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[2](...continued)
When the Board decides to grant review, section 124.19(c) provides that the persons who received notice of the draft permit shall be given notice of the Board's order and any interested person may file an amicus brief with the Board.

a BACT emissions limit for "each pollutant *subject to regulation under this Act*." CAA §§ 165(a)(4), 169(3), 42 U.S.C. §§ 7475(a)(4), 7479(3) (emphasis added).

Sierra Club preserved this issue for review[3] by stating in its comments on the draft permit that a requirement to set a CO_2 BACT emissions limit might be an outgrowth of the *Massachusetts v. EPA* case that was then still pending before the Supreme Court.[4] The Region responded to Sierra Club's comment by discussing the April 2007 Supreme Court decision in *Massachusetts v. EPA*, 549 U.S. 497 (2007), which held that CO_2 fits within the CAA's definition of "air pollutant," and explaining why it believed, notwithstanding this decision, that no CO_2 BACT limit was required in the Permit.

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[3] In order for an issue to be preserved for consideration on appeal, the regulations governing PSD permitting provide that the petitioner must demonstrate that "all reasonably ascertainable issues and * * * all reasonably available arguments" were raised by the close of the public comment period. 40 C.F.R. §§ 124.13, 19(a); *see also In re Kendall New Century Dev.*, 11 E.A.D. 40, 55 (EAB 2003) (denying review of a new argument raised for the first time on appeal). On this basis, we generally deny review where an issue was raised either not at all, or in only a general manner during the public comment period and new or much more specific arguments are introduced for the first time on appeal. *See In re Steel Dynamics*, *Inc.*, 9 E.A.D. 169, 230 (EAB 2000); *In re Florida Pulp & Paper Ass'n.*, 6 E.A.D. 49, 54-55 (EAB 1995); *In re Pollution Control Indus. of Ind.*, *Inc.*, 4 E.A.D. 162, 166-69 (EAB 1992); *see also In re Maui Elec. Co.*, 8 E.A.D. 1, 11-12 (EAB 1999).

[4] *See* E-mail from Utah Chapter of the Sierra Club, et al., to Mike Owens, U.S. EPA, Region 8, regarding Draft PSD Permit for Major Modifications to the Bonanza Power Plant in Utah, at 2. In our January 2008 decision in *Christian County Generation*, *LLC*, which also considered the Supreme Court's *Massachusetts* decision, we noted that petitioner's complete failure in that case to raise concerns during the public comment period regarding a BACT emissions limit for CO_2 precluded the petitioner from raising the issue for the first time on appeal. *In re Christian County Generation*, *LLC*, PSD Appeal No. 07-01, slip op. at 13, 19 (EAB Jan. 28, 2008), 13 E.A.D. at ___. We explained, by way of contrast, that Sierra Club's comments regarding Deseret's proposed facility modification in the present *Deseret* case were sufficient to alert the Region that the Supreme Court's decision in the pending *Massachusetts* case should be taken into account in its permitting decision. *Id.*, slip op. at 16.

Sierra Club, the Region, Deseret, and their supporting amici developed many of their arguments for the first time on appeal, and those arguments have continued to evolve during the course of this administrative appellate proceeding. While the Board normally will not entertain arguments raised for the first time on appeal, we have tailored our approach and somewhat relaxed that limitation because of the unique circumstances of this case. We have done this for two reasons. First and most important, during the comment period on the draft permit, the Supreme Court was still considering the threshold issue of whether CO_2 is an air pollutant. This led the parties to address the CO_2 BACT issue in a more cursory fashion than would otherwise be expected. Second, our order granting review recognized that this matter potentially raises issues of national significance and concluded that our decision may benefit from further briefing and argument, including from interested persons not yet before the Board in this matter. Order Granting Review at 2. The applicable procedural regulations require that the order granting review set a briefing schedule allowing any interested person to submit an amicus brief, 40 C.F.R. § 124.19(c), which implies that the Board may consider some augmentation of arguments when making its decision after granting review of a permitting decision. However, any augmentation must still be consistent with the regulatory requirement that the permit decision must be based on the administrative record defined by 40 C.F.R. § 124.18, which "shall be complete on the date the final permit is issued." *Id.* § 124.18(c). As we explain below, while we consider a number of legal arguments and supporting historical Agency legal memoranda that were not part of the record for the Region's permitting decision, ultimately we conclude that the Region's permitting decision cannot be sustained on the administrative record defined by section 124.18.

Although the Supreme Court determined that greenhouse gases, such as CO_2, are "air pollutants" under the CAA, the *Massachusetts* decision did not address whether CO_2 is a pollutant "subject to regulation" under the Clean Air Act. *Massachusetts v. EPA*, 549 U.S. 497, slip op. at 29-30 (2007); *In re Christian County Generation, LLC*, PSD Appeal No. 07-01, slip op. at 7 n.12 (EAB Jan. 28, 2008), 13 E.A.D. at ___. The Region maintains that it does not now have the

authority to impose a CO_2 BACT limit because "EPA has historically interpreted the term 'subject to regulation under the Act' to describe pollutants that are presently subject to a statutory or regulatory provision that requires actual control of emissions of that pollutant." U.S. EPA Region 8, Response to Public Comments (Permit No. PSD-OU-0002-04.00) at 5-6 (Aug. 30, 2007) ("Resp. to Comments"). We hold that this conclusion is clearly erroneous because the Region's permitting authority is not constrained in this manner by an authoritative historical Agency interpretation.

By our holding today, we do not conclude that the CAA (or an historical Agency interpretation) requires the Region to impose a CO_2 BACT limit. Instead, we conclude that the record does not support the Region's proffered reason for not imposing a CO_2 BACT limit – that although EPA initially could have interpreted the CAA to require a CO_2 BACT limit, the Region no longer can do so because of an historical Agency interpretation. Accordingly, we remand the Permit to the Region for it to reconsider whether or not to impose a CO_2 BACT limit and to develop an adequate record for its decision.

We also decline to sustain the Region's permitting decision on the alternative grounds the Region argues in this appeal. Sierra Club contends that regulations EPA promulgated in 1993 to require monitoring and reporting of CO_2 emissions, as required by section 821 of the public law known as the Clean Air Act Amendments of 1990, constitute "regulation" of CO_2 within the meaning of CAA sections 165 and 169. The Region argues that we should reject Sierra Club's contention on the grounds that those regulations are not "under" the CAA within the meaning of CAA sections 165 and 169 because section 821 is not part of the CAA. As we explain below, this argument is at odds with the Agency's prior statements regarding the relationship between section 821 and the CAA, including statements in EPA's Part 75 regulations, and these inconsistencies preclude our acceptance of the Region's argument in this proceeding.

In remanding this permit to the Region for reconsideration of the CO_2 BACT issue, we recognize that the issue of whether CO_2 is "subject

to regulation under [the] Act" is an issue of national scope and that all parties would be better served by addressing it in the context of an action of nationwide scope rather than in the context of a specific permit proceeding. We elaborate on this point below.

II. *BACKGROUND*

A. *Statutory and Regulatory Background and Identification of Issues*

Congress enacted the PSD permitting provisions of the CAA in 1977 for the purpose of, among other things, "insur[ing] that economic growth will occur in a manner consistent with the preservation of existing clean air resources." CAA § 160(3), 42 U.S.C. § 7470(3). The statute requires EPA approval in the form of a PSD permit before a "major emitting facility"[5] may be constructed in any area EPA has classified as either in "attainment" or "unclassifiable" for attainment of the national ambient air quality standards ("NAAQS"). CAA §§ 107, 160-169B, 42 U.S.C. §§ 7407, 7470-7492; *see also In re EcoEléctrica, L.P.*, 7 E.A.D. 56, 59 (EAB 1997); *In re Commonwealth Chesapeake Corp.*, 6 E.A.D. 764, 766-67 (EAB 1997). EPA's regulations further provide that a PSD permit is required before a "major modification" of an existing major stationary source. *See* 40 C.F.R. § 52.21(a)(2), .21(I).

The NAAQS are "maximum concentration 'ceilings'" for particular pollutants, "measured in terms of the total concentration of a pollutant in the atmosphere."[6] U.S. EPA Office of Air Quality Planning

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[5] A "major emitting facility" is any of certain listed stationary sources (including electric generating units) that emit, or have the potential to emit, 100 tons per year ("tpy") or more of any air pollutant, or any other stationary source with the potential to emit at least 250 tpy of any air pollutant. CAA § 169(1), 42 U.S.C. § 7479(1).

[6] EPA designates areas, on a pollutant-by-pollutant basis, as being in either attainment or nonattainment with the NAAQS. An area is designated as being in attainment with a given NAAQS if the concentration of the relevant pollutant in the ambient air within the area meets the limits prescribed by the applicable NAAQS. CAA § 107(d)(1)(A), 42 U.S.C. § 7407(d)(1)(A). A nonattainment area is one with ambient concentrations of a criteria pollutant that do not meet the requirements of the applicable

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& Standards, *New Source Review Workshop Manual* at C.3 (draft Oct. 1990) ("NSR Manual").[7] NAAQS have been set for six pollutants: sulfur oxides,[8] particulate matter ("PM"),[9] nitrogen dioxide ("NO_2"),[10] carbon

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[6](...continued)
NAAQS. *Id.* Areas "that cannot be classified on the basis of available information as meeting or not meeting the [NAAQS]" are designated as unclassifiable areas. *Id.* PSD permitting covers construction in unclassifiable areas, as well as construction in attainment areas. CAA §§ 160-169B, 42 U.S.C. §§ 7470-7492; *see In re Christian County Generation*, *LLC*, PSD Appeal No. 07-01, slip op. at 5, (EAB Jan. 28, 2008), 13 E.A.D. at ___ (citing *In re EcoEléctrica*, *L.P.*, 7 E.A.D. 56, 59 (EAB 1997); *In re Commonwealth Chesapeake Corp.*, 6 E.A.D. 764, 766-67 (EAB 1997)).

[7] The NSR Manual has been used as a guidance document in conjunction with new source review workshops and training and as a guide for state and federal permitting officials with respect to PSD requirements and policy. Although it is not a binding Agency regulation, the NSR Manual has been looked to by this Board as a statement of the Agency's thinking on certain PSD issues. *E.g.*, *In re RockGen Energy Ctr.*, 8 E.A.D. 536, 542 n.10 (EAB 1999); *In re Knauf Fiber Glass*, *GmbH*, 8 E.A.D. 121, 129 n.13 (EAB 1999).

[8] Sulfur oxides are measured as sulfur dioxide ("SO_2"). 40 C.F.R. § 50.4(c).

[9] "Particulate matter, or 'PM,' is 'the generic term for a broad class of chemically and physically diverse substances that exist as discrete particles (liquid droplets or solids) over a wide range of sizes.'" *In re Steel Dynamics*, *Inc.*, 9 E.A.D. 165, 181 (EAB 2000) (quoting 62 Fed. Reg. 38,652, 38,653 (July 18, 1997)). For purposes of determining attainment of the NAAQS, particulate matter is measured in the ambient air as particulate matter with an aerodynamic diameter of 10 micrometers or less, referred to as PM_{10}, and particulate matter with an aerodynamic diameter of 2.5 micrometers or less, referred to as $PM_{2.5}$. 40 C.F.R. §§ 50.6(c), .7(a).

[10] A facility's compliance with respect to nitrogen dioxide is measured in terms of emissions of any nitrogen oxides ("NO_X"). 40 C.F.R. § 52.21(b)(23); *see also In re Haw. Elec. Light Co.*, 8 E.A.D. 66, 69 n.4 (EAB 1998). "'The term nitrogen oxides refers to a family of compounds of nitrogen and oxygen. The principal nitrogen oxides component present in the atmosphere at any time is nitrogen dioxides. Combustion sources emit mostly nitric oxide, with some nitrogen dioxide. Upon entering the atmosphere, the nitric oxide changes rapidly, mostly to nitrogen dioxide.'" *Alaska Dep't of Envtl. Conservation v. EPA*, 540 U.S. 461, 470 n.1 (2004) (quoting Preservation of Significant Deterioration for Nitrogen Oxides, 53 Fed. Reg. 40,656, 40,656 (Oct. 17, 1988)).

monoxide ("CO"), ozone,[11] and lead. *See* 40 C.F.R. §§ 50.4-50.12. There is no NAAQS for CO_2.

Deseret's Bonanza facility is an existing "major stationary source," and Deseret's proposed new waste-coal combustion unit will be a "major modification" of that source as defined in 40 C.F.R. § 52.21. Final Statement of Basis for Permit No. PSD-OU-0002-04.00, Deseret Power Electric Cooperative, at 1 (Aug. 30, 2007) (hereinafter "Statement of Basis"). In addition, the Bonanza facility is located in an area designated as attainment for all pollutants covered by a NAAQS. *Id.* at 6. As such, the PSD permitting requirements apply to Deseret's proposed major modification of its Bonanza facility. There is no dispute as to any of these propositions.

Sierra Club's argument regarding the Region's consideration of "alternatives" to the proposed facility arises out of the Act's public participation provisions. Specifically, the Act requires that the PSD permitting decision must be made after an opportunity for public comment on the proposed permitting decision. In particular, the decision is to be made only after careful consideration of all consequences of the decision and "after adequate procedural opportunities for informed public participation in the decisionmaking process." CAA § 160(5), 42 U.S.C. § 7470(5). The CAA also requires the permitting authority to consider all comments submitted "on the air quality impacts of such source, *alternatives thereto*, control technology requirements, and other appropriate considerations." CAA § 165(a)(2), 42 U.S.C. § 7475(a)(2) (emphasis added).

The statute also prohibits the issuance of a PSD permit unless it includes "best available control technology," or BACT, to control emissions of "each pollutant subject to regulation" under the Act. CAA § 165(a)(4), 42 U.S.C. § 7475(a)(4). A central issue raised in Sierra Club's petition and subsequent briefing is whether CO_2 is a "pollutant

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[11] A facility's compliance with respect to ozone is measured in terms of emissions of volatile organic compounds ("VOCs") or NO_X. 40 C.F.R. § 52.21(b)(23).

subject to regulation under [the Clean Air Act]." *Compare* Pet. at 4 *with* Region's Resp. to Pet. at 1.

Determination of the PSD permit's BACT conditions for control of pollutant emissions is one of the central features of the PSD program.[12] *In re BP West Coast Prods. LLC*, *Cherry Point Co-Generation Facility*, 12 E.A.D. 209, 213-14 (EAB 2005); *In re Knauf Fiberglass*, *GmbH*, 8 E.A.D. 121, 123-24 (EAB 1999). "BACT is a site-specific determination resulting in the selection of an emission limitation that represents application of control technology or control methods appropriate for the particular facility." *In re Cardinal FG Co.*, 12 E.A.D. 153, 161 (EAB 2005); *In re Three Mountain Power*, *L.L.C.*, 10 E.A.D. 39, 47 (EAB 2001); *accord Knauf*, 8 E.A.D. at 128-29; *see also In re CertainTeed Corp.*, 1 E.A.D. 743, 747 (Adm'r 1982) ("It is readily apparent * * * that * * * BACT determinations are tailor-made for each pollutant emitting facility.").

The BACT permitting requirements are pollutant-specific, which means that a facility may emit many air pollutants, but only one or a few may be subject to BACT review, depending upon, among other things, the amount of projected emissions of each pollutant. NSR Manual at 4. Regulated pollutants emitted in amounts defined by the regulations as "significant" must be subject to a BACT emissions limit. *Id.* Deseret's proposed major modification to its facility will emit total PM, PM_{10}, SO_2,

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[12] Other PSD permitting requirements include a review of new major stationary sources or major modifications prior to construction to ensure that emissions from such facilities will not cause or contribute to an exceedance of either the NAAQS or any applicable PSD ambient air quality "increments." CAA § 165(a)(3), 42 U.S.C. § 7475(a)(3); 40 C.F.R. §§ 52.21(k)-(m). Air quality increments represent the maximum allowable increase in a particular pollutant's concentration that may occur above a baseline ambient air concentration for that pollutant. *See* 40 C.F.R. § 52.21(c) (increments for six regulated air pollutants). The performance of an ambient air quality and source impact analysis, pursuant to the regulatory requirements of 40 C.F.R. § 52.21(k), (l) and (m), as part of the PSD permit review process, is the central means for preconstruction determination of whether the source will cause an exceedance of the NAAQS or PSD increments. *See Haw. Elec.*, 8 E.A.D. at 73. There are no NAAQS or PSD increments for CO_2. In the present case, Sierra Club has not sought review of the Region's ambient air quality and source impact analysis.

NO_X, sulfuric acid mist ("H_2SO_4"), and CO in amounts qualifying as "significant" under 40 C.F.R. § 52.21(b)(23)(I). Statement of Basis at 18. There is no dispute that these pollutants are subject to regulation under the CAA, and the Permit contains BACT emissions limits for these air pollutants. Sierra Club does not challenge the Region's BACT determination for any of these pollutants. Instead, Sierra Club contends that the modification to Deseret's facility will emit a significant amount of CO_2 and that CO_2 is a regulated pollutant and, thus, the Permit must also contain a BACT emissions limit for CO_2. Deseret did not submit a proposed BACT determination for CO_2 in its permit application, and the Region did not make a CO_2 BACT determination as part of its permitting decision. Sierra Club argues that this constitutes clear error.

The PSD provisions were enacted as part of the Clean Air Act Amendments of 1977. *See* Clean Air Act Amendments of 1977, Pub. L. No. 95-95, 91 Stat. 685 (1977). Central to the parties' arguments in this case is a statutory phrase that appears in both CAA sections 165(a)(4) and 169(3), which provide that the permit must contain a BACT emissions limit for "each pollutant subject to regulation under this Act."[13] In 1978, the Agency promulgated regulations governing the PSD permitting process and, as part of the preamble for that 1978 rulemaking, the Agency stated it was making final an interpretation of what "subject to regulation under this Act" means relative to BACT determinations. *Part 52 – Approval and Promulgation of State Implementation Plans*, 43 Fed. Reg. 26,388, 26,397 (June 19, 1978). EPA set forth this interpretation in the preamble, but did not make it part of the regulatory text. Subsequently, Congress amended the CAA in 1990 and, as part of the public law enacting those amendments, in section 821, Congress required EPA to promulgate regulations providing for monitoring and reporting of CO_2 emissions.

Thereafter, EPA promulgated regulations in 1993 and in 2002. *Acid Rain Program: General Provisions and Permits*, *Allowance System*, *Continuous Emissions Monitoring*, *Excess Emissions and Administrative*

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[13] Clean Air Act Amendments of 1977, Pub. L. No. 95-95 § 127(a), 91 Stat. 685, 735, 741.

Appeals, 58 Fed. Reg. 3590 (Jan. 11, 1993); *Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NSR): Baseline Emissions Determination*, *Actual-to-Future-Actual Methodology*, *Plantwide Applicability Limitations*, *Clean Units*, *Pollution Control Projects*, 67 Fed. Reg. 80,186 (Dec. 31, 2002). Among other things, the 1993 rulemaking imposed in Part 75 monitoring and reporting requirements for CO_2, and the 2002 rulemaking created the regulatory defined term "regulated NSR pollutant." 67 Fed. Reg. at 80,240.

The parties' arguments in this case focus on these and other Agency historical statements allegedly interpreting the meaning of the statutory phrase "subject to regulation under this Act." We consider those arguments below in Part III.B.

B. *Procedural Background*

On November 1, 2004, Deseret submitted to the Region a revised application for a PSD permit to construct its proposed waste-coal-fired electric generating unit at its existing Bonanza power plant. The Region and Deseret exchanged information through June 2006, and, on June 27, 2006, the Region issued the draft permit and published notice of the opportunity for the public to submit comments on the draft permit. The public comment period closed on July 29, 2006. During the public comment period, the Utah Chapter of the Sierra Club, among others, submitted comments on the draft permit. In its public comments, Sierra Club stated, among other things, as follows:

> We believe that the EPA has a legal obligation to regulate CO_2 and other greenhouse gases as pollutants under the Clean Air Act. * * * This issue is now before the U.S. Supreme Court. If the Supreme Court agrees that greenhouse gases, such as CO_2, must be regulated under the Clean Air Act, such a decision may also require the establishment of CO_2 emission limits in this permit * * *.

E-mail from Utah Chapter of the Sierra Club, et al., to Mike Owens, U.S. EPA, Region 8, regarding Draft PSD Permit for Major Modifications to the Bonanza Power Plant in Utah, at 2.

On August 30, 2007, the Region issued its decision to grant Deseret's application for a PSD permit authorizing Deseret to construct its proposed waste-coal-fired electric generating unit at the Bonanza facility. The Region provided a response to Sierra Club's comments explaining, among other things, why the Region concluded that it is not required to establish a BACT emissions limit for CO_2 in the Permit. *See* Resp. to Comments at 5-9. The Region's response to public comments included a discussion of the Supreme Court's decision in *Massachusetts v. EPA*, 549 U.S. 497 (2007), which determined that greenhouse gases, including CO_2, "fit well within the Clean Air Act's capacious definition of 'air pollutant.'" *Id.*, slip op. at 29-30. The Region stated that the *Massachusetts* decision "does not require the Agency to set CO_2 emission limits," Resp. to Comments at 5, and that "EPA does not currently have the authority to address the challenge of global climate change by imposing limitations on emissions of CO_2 and other greenhouse gases in PSD permits," Resp. to Comments at 5.

On October 1, 2007, Sierra Club timely filed its Petition seeking review of the Region's decision to issue the Permit. On November 2, 2007, the Region filed its response to the Petition, and on November 16, 2007, Deseret filed a motion requesting that it be allowed to participate in this proceeding and file a response to the Petition (hereinafter, these documents will be referred to as the Region's or Deseret's "Resp. to Pet.," as appropriate). By order dated November 21, 2007, the Board granted Deseret's request, granted review, and set a schedule for further briefing and argument on Sierra Club's issue regarding BACT for controlling CO_2 emissions. *See* Order Granting Review (Nov. 21, 2007). The Board did not grant review of Sierra Club's issue regarding "alternatives" and, instead, has held that issue under advisement. *Id.* at 2 n.4.

The Board's order granting review invited briefing and argument on the CO_2 BACT issue from interested persons as provided in 40 C.F.R.

§ 124.19(c). Pursuant to that briefing schedule (as extended by subsequent order), in January 2008, the Board received from the following persons or groups a total of seven briefs in support of Sierra Club's contention that the Region erred by not requiring a CO_2 BACT limit: 1) Sierra Club, filing a brief further developing the arguments it made in its Petition; 2) Dr. James E. Hanson; 3) National Parks Conservation Association; 4) Physicians for Social Responsibility; 5) Center for Biological Diversity; 6) the Attorneys General of the States of New York, California, Connecticut, Delaware, Maine, Massachusetts, Rhode Island, and Vermont; and 7) a group of organizations that refer to themselves as the "Utah and Western Non-Governmental Organizations," which include Mom-Ease, Utah Physicians for a Healthy Environment, Wasatch Clean Air Coalition, Post Carbon Salt Lake, Grand Canyon Trust, Montana Environment Information Center, Wyoming Outdoor Council, and Western Resource Advocates. (Hereinafter, briefs filed by these persons will be referred to as the particular person's "Jan. Brief.")

The Board received from the following persons or groups a total of eight briefs in opposition to Sierra Club's contention that the Permit must contain a CO_2 BACT limit: 1) the Region (in which EPA's Office of Air and Radiation joined); 2) Deseret; 3) ConocoPhillips and WRB Refining; 4) The Heartland Institute; 5) National Rural Electric Cooperative Association; 6) the Utility Air Regulatory Group (hereinafter "UARG"); 7) a group of organizations with the American Petroleum Institute as the first named organization;[14] and 8) another group of organizations with the Competitive Enterprise Institute as the

[14] Other organizations in the group are as follows: American Chemistry Council, American Royalty Council, Chamber of Commerce of the United States, National Association of Manufacturers, National Oilseed Processors Association, and National Petrochemical & Refiners Association.

first named organization.[15] (Hereinafter, briefs filed by these persons will be referred to as the particular person's "Mar. Brief.")

In April 2008, the Board received reply briefs from Sierra Club and Physicians for Social Responsibility (hereinafter, Sierra Club's or Physician's for Social Responsibility's "April Reply"). On May 8, 2008, the Region moved to strike a portion of the April Replies to the extent that those briefs for the first time argued that CO_2 is regulated under landfill emission regulations promulgated under CAA section 111. The Board granted the motion to strike by order dated May 20, 2008.

On May 29, 2008, the Board held oral argument on Sierra Club's contention that the Permit must contain a CO_2 BACT limit. To obtain further clarification of questions arising during oral argument, the Board issued an order dated June 16, 2008, requesting further briefing from the Region and EPA's Office of Air and Radiation, which after requesting additional time, those offices filed on August 8, 2008 (hereinafter, the "Region's August Brief"). Responses to the Region's August Brief were received on or about September 12, 2008, from Sierra Club, Deseret, the American Petroleum Institute, Utah and Western Non-Governmental Organizations, and UARG.

C. *Part 124 Procedural Regulations and Standard of Review*

The regulations found at 40 C.F.R. part 124 govern EPA's processing of permit applications, including PSD permits, and appeals of those permitting decisions. *See generally* 40 C.F.R. pt. 124. The Part 124 regulations cover the processing of the permit application, including issuing a draft permit and providing notice to the public and opportunity for the public to submit comments on the draft permit. *Id.* §§ 124.3(a), .6(c), .10(a)(ii), .10(b), .12(a). The permit issuer must

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[15] Other organizations in the group are as follows: Freedomworks, National Center for Public Policy Research, American Conservative Union, American Legislative Exchange Council, Americans for Prosperity Foundation, Americans for Tax Reform, Citizens Against Government Waste, Congress of Racial Equality, Independent Women's Forum, Frontiers of Freedom Foundation, National Center for Policy Analysis, National Taxpayers Union, and The 60 Plus Association.

respond to all significant comments, *id*. § 124.17(a), and issue a final permit decision based on the "administrative record" as defined by regulation, *id*. §§ 124.15(a), .18(a). The administrative record for the final permitting decision must contain the administrative record for the draft permit as well as a number of other items, including all comments received during the public comment period, any written materials submitted at a hearing (if one is conducted), and the document setting forth the permit issuer's response to comments, all of which must be collected and considered by the permit issuer before the final permitting decision is made. *Id*. § 124.18(b)(1)-(7).

The regulations specifically provide that "[t]he record shall be complete on the date the final permit is issued." *Id.* § 124.18(c). Questions regarding completeness of the administrative record have arisen in situations where the permit issuer either failed to issue its responses to comments until after issuing its permitting decision or where the permit issuer has sought to introduce on appeal a new or additional rationale for its permitting decision or additional information supporting its permitting decision. In rare cases, the Board has allowed a rationale to be supplemented on appeal where the missing explanation was fairly deducible from the record. *See In re Steel Dynamics*, *Inc.*, 9 E.A.D. 165, 191 (EAB 2000). More typically, the Board has remanded the permit. *See*, *e.g.*, *In re Conocophillips Co.*, PSD Appeal No. 07-02, slip op. at 24-25 (EAB June 2, 2008), 13 E.A.D. __ (explaining that "allowing the permit issuer to supply its rationale after the fact, during the briefing for an appeal, does nothing to ensure that the original decision was based on the permit issuer's 'considered judgment' at the time the decision was made" (citing *In re Indeck-Elwood LLC*, PSD Appeal No. 03-04, slip op. at 29 (EAB Sept. 27, 2006), 13 E.A.D. at __)); *In re Prairie State Generation Station*, 12 E.A.D. 176, 180 (EAB 2005); *In re Gov't of D.C. Mun. Separate Sewer Syst.*, 10 E.A.D. 323, 342-43 (EAB 2002) ("Without an articulation by the permit writer of his analysis, we cannot properly perform any review whatsoever of that analysis * * *."); *In re Chem. Waste Mgmt*, 6 E.A.D. 144, 151-52 (EAB 1995); *In re Amoco Oil Co.*, 4 E.A.D. 954, 964 (EAB 1993); *In re Waste Techs. Indus.*, 4 E.A.D. 106, 114 (EAB 1992).

Within thirty days of the issuance of the final permit decision, any person who filed comments on the draft permit or who participated in the public hearing may appeal the Region's final permit decision to the Board. 40 C.F.R. § 124.19(a). "The Board's review of PSD permitting decisions is governed by 40 C.F.R. part 124, which 'provides the yardstick against which the Board must measure' petitions for review of PSD and other permit decisions." *In re Prairie State Generating Co.*, PSD Appeal No. 05-05, slip op. at 13 (EAB Aug. 24, 2006), 13 E.A.D. at ___ (quoting *In re Commonwealth Chesapeake Corp.*, 6 E.A.D. 764, 769 (EAB 1997)), *aff'd sub nom. Sierra Club v. EPA*, 499 F.3d 653 (7th Cir. 2007). The standard for review of a permit under part 124 requires the Board to determine whether the permit issuer based the permit on a clearly erroneous finding of fact or conclusion of law. 40 C.F.R. § 124.19(a); *In re Dominion Energy Brayton Point*, *LLC*, 12 E.A.D. 490, 509 (EAB 2006); *In re Inter-Power of N.Y.*, *Inc.*, 5 E.A.D. 130, 144 (EAB 1994); *accord*, *e.g.*, *In re Zion Energy*, *LLC*, 9 E.A.D. 701, 705 (EAB 2001); *In re Knauf Fiber Glass*, *GmbH*, 8 E.A.D. 121, 126-27(EAB 1999); *Commonwealth Chesapeake*, 6 E.A.D. at 769. The Board, in its discretion, may also evaluate conditions of the permit that are based on the permit issuer's "exercise of discretion or an important policy consideration." 40 C.F.R. § 124.19(a)(2). The petitioner must describe each objection it is raising and explain why the permit issuer's previous response to each objection is clearly erroneous or otherwise deserving of review.[16] *Indeck-Elwood*, slip op. at 23, 13 E.A.D. at ___ (citing *In re Tondu Energy Co.*, 9 E.A.D. 710, 714 (EAB 2001); *In re Encogen Cogeneration Facility*, 8 E.A.D. 244, 252 (EAB 1999)).

III. *DISCUSSION*

Sierra Club argues that the Region's permitting decision in the present case violates two PSD permitting requirements: the requirement

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[16] The Agency stated in the Federal Register preamble to the part 124 regulations that the "power of review 'should be only sparingly exercised,' and that 'most permit conditions should be finally determined at the [permit issuer's] level.'" *In re Cardinal FG Co.*, 12 E.A.D. 153, 160 (EAB 2005) (quoting 45 Fed. Reg. 33,290, 33,412 (May 19, 1980)); *accord In re Kawaihae Cogeneration Project*, 7 E.A.D. 107, 114 (EAB 1997).

set forth in the public participation requirements of CAA section 165(a)(2) to consider "alternatives" to the proposed facility, and the requirement pursuant to CAA sections 165(a)(4) and section 169(3) to apply BACT, or best available control technology, to limit CO_2 emissions from the facility. We discuss the "alternatives" issue next in Part III.A and the BACT issues below in Part III.B.

A. *Alternatives*

Sierra Club argues that the Permit should be remanded on the grounds that "in it, EPA has taken positions contrary to those it has recently taken in another coal-fired power plant permitting matter." Pet. at 9. Sierra Club argues that the Region erred by failing to consider, pursuant to CAA section 165(a), certain "alternatives" to the proposed facility that are similar to alternatives U.S. EPA Region 9 recommended in a different type of proceeding. Specifically, Sierra Club points to comments Region 9 submitted on the draft environmental impact statement for the White Pine Energy Station Project in Nevada.

Sierra Club does not argue that it, or any other person, submitted comments during the public comment period in this case identifying the "alternatives" to the proposed facility that it raises in its Petition. Instead, Sierra Club argues that it is entitled to raise the issue for the first time in its Petition on the grounds that Region 9 submitted its comments in the White Pine Energy Station case after the public comment period in the present case had closed.

The Region argues that Sierra Club has not satisfied the standards for granting review of this issue. Region's Resp. to Pet. at 21-30. We agree and deny review for the following reasons.

Sierra Club's argument relies on CAA section 165(a)(2), which provides that a PSD permit may not be issued unless "a public hearing has been held with opportunity for interested persons * * * to appear and submit written or oral presentations on the air quality impact of such source, *alternatives thereto*, control technology requirements, and other appropriate considerations." CAA § 165(a)(2), 42 U.S.C. § 7475(a)(2)

(emphasis added). In *In re Prairie State Generating Co.*, PSD Appeal No. 05-05, slip op. at 37-44 (EAB Aug. 24, 2006), 13 E.A.D. at __, *aff'd sub nom. Sierra Club v. EPA*, 499 F.3d 653 (7th Cir. 2007), we held that section 165(a)(2)'s requirement to consider alternatives, tied as it is by the statute to the opportunity for interested persons to comment on the draft permit, does not create an obligation for the permit issuer to "conduct an independent analysis of available alternatives" that were not identified by the public during the comment period. *Id.* at 39, 13 E.A.D. __. In contrast to the PSD provisions at issue in this case, the CAA clearly requires an independent review of alternatives for permits issued in nonattainment areas. CAA § 173(a)(5), 42 U.S.C. § 7503(a)(5). In *Prairie State*, we explained that "[b]ecause the CAA contains specific language for permits in nonattainment areas requiring the permit issuer to perform an analysis of alternative sites, sizes, and production processes, among other things, to determine whether the benefits of the proposed source outweigh its costs, and because similar specific language is not included for the issuance of a PSD permit, *compare* 42 U.S.C. § 7503(a)(5) *with id.* § 7475(a), the PSD permit issuer therefore is not required to perform an independent analysis of alternatives" in PSD proceedings. *Prairie State*, slip op. at 39, 13 E.A.D. at __.

Here, Sierra Club does not contend that the "alternatives" it identifies in its Petition were raised or identified by any interested person during the public comment period.[17] Pet. at 9-11. Notably, Region 9's comments submitted in the White Pine Energy Station matter were submitted to comply with Region 9's affirmative duty under CAA section 309 and section 102(2)(C) of the National Environmental Policy Act, 42 U.S.C. § 4332(2)(c). In contrast, as discussed above, CAA section 165(a)(2) does not impose a similar affirmative duty on the Region in the present PSD permitting context. Accordingly, we reject Sierra Club's Petition and deny review of this issue because CAA

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[17] Whether or not a petitioner raised an issue during the comment period is a threshold question that the Board considers prior to granting review. *In re City of Phoenix*, 9 E.A.D. 515, 524 (EAB 2000); *In re Rockgen Energy Ctr.*, 8 E.A.D. 536, 540 (EAB 1999).

section 165(a)(2)[18] does not impose upon the Region a duty to conduct an analysis of "alternatives" that were not identified by an interested person during public comment.[19]

B. *Best Available Control Technology Emissions Limit for Carbon Dioxide*

1. *Background and Overview*

CAA sections 165(a)(4) and 169(3) prohibit the construction of a major emitting facility unless, among other things, the permit for the facility contains a BACT emissions limit for "each pollutant subject to regulation under this Act." Clean Air Act Amendments of 1977, Pub. L. No. 95-95 § 127(a), 91 Stat. 685, 735, 741.[20] Sierra Club argues that the

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[18] Region 9's comments, although submitted in the White Pines Energy Station matter after the close of the public comment period in the present case, would not, in any event, present grounds for raising a new issue or argument for the first time on appeal in this case. All reasonably ascertainable issues or reasonably available arguments must be raised by the petitioner or another commenter by the close of the public comment period in order for such issues or arguments to be preserved for consideration on appeal. 40 C.F.R. §§ 124.13, .19(a); *see also In re Christian County Generation*, *LLC*, PSD Appeal No. 07-01, slip op. at 12 (EAB Jan. 28, 2008), 13 E.A.D. __; *In re Shell Offshore*, *Inc.*, OCS Appeal Nos. 07-01 & -02, slip op. at 52-53 (EAB Sept. 14, 2007), 13 E.A.D. __; *In re Kendall New Century Dev.*, 11 E.A.D. 40, 55 (EAB 2003). Sierra Club does not contend that the "alternatives" it identifies in its Petition became "reasonably available" or "reasonably ascertainable" for the first time after the close of the public comment period. The mere fact that Region 9 raised the same "alternatives" in comments that it submitted in another proceeding after the close of public comment in this proceeding is not sufficient to show that Sierra Club could not have raised those same alternatives during this proceeding's public comment period.

[19] Since we are denying review on procedural grounds, we need not address the significance, or even the relevance, of Region 9's comments on a different facility in a different legal context.

[20] The phrase "each pollutant subject to regulation under this Act" appears both in section 165(a)(4) and in section 169(3)'s definition of BACT, the latter of which states:

The term "best available control technology" means an emission

(continued...)

Region clearly erred in its permitting decision by failing to require a BACT emissions limit for control of CO_2 emissions under CAA sections 165 and 169. Pet. at 4.

In 2003, EPA reversed a position it took in 1998 and concluded that CO_2 is not an "air pollutant" as defined by CAA section 302(g) and, therefore, CO_2 falls outside the scope of EPA's authority to regulate under any of the CAA's programs, including the PSD provisions in the present case. *Compare* Memorandum from Robert E. Fabricant, General Counsel, U.S. EPA, to Marianne L. Horinko, Acting Administrator, U.S. EPA, *EPA's Authority to Impose Mandatory Controls to Address Global Climate Change under the Clean Air Act*, at 10 (Aug. 23, 2003) ("Fabricant Memo") *with* Memorandum from Jonathan Z. Cannon, General Counsel, U.S. EPA, to Carol M. Browner, Administrator, U.S. EPA, *EPA's Authority to Regulate Pollutants Emitted by Electric Power Generation Sources* (Apr. 10, 1998) ("Cannon Memo").

In April 2007, the Supreme Court rejected EPA's interpretation that CO_2 is not an "air pollutant" within the CAA's section 302(g) definition. *Massachusetts v. EPA*, 549 U.S. 497 (2007). The Court explained that CO_2, and other greenhouse gases, "fit well within the Clean Air Act's capacious definition of 'air pollutant,'" and thus "EPA

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[20](...continued)

> limitation based on the maximum degree of reduction of *each pollutant subject to regulation under this Act* emitted from or which results from any major emitting facility, which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such facility through application of production processes and available methods, systems, and techniques, including fuel cleaning, clean fuels, or treatment or innovative fuel combustion techniques for control of each such pollutant.

CAA § 169(3) (emphasis added). The Clean Air Act Amendments of 1977 used the article "this" in front of "Act." Pub. L. No. 95-95 § 127, 91 Stat. 735, 741. The parties in the present case frequently use the article "the" instead, or cite to the U.S. Code, which refers to "Chapter" instead of "Act."

has the statutory authority to regulate the emissions of such gases." *Id.*, slip op. at 29-30.

The *Massachusetts* case spoke directly to EPA's authority to limit air pollutant emissions from mobile sources under CAA section 202(a)(1). In the mobile source context, before limiting pollutant emissions, the Administrator must make a "judgment" that air pollution caused by the pollutant "'may reasonably be anticipated to endanger public health or welfare.'" *Id.*, slip op. at 30 (quoting CAA § 202(a)(1), 42 U.S.C. § 7521(a)(1)). The Court remanded the *Massachusetts* case for EPA to make further determinations with respect to that judgment and to "ground its reasons for action or inaction in the statute." *Id.*, slip op. at 32.

The provisions that Sierra Club points to in the present case, CAA sections 165 and 169, do not contain similar language requiring a public health or welfare "endangerment" finding under the PSD program as a precondition for the CAA's requirement that EPA apply BACT. Rather, as all parties recognize, for PSD purposes, the statutory language requires BACT "for each pollutant subject to regulation under this Act." *See*, *e.g.*, Sierra Club's Pet. at 4; Region's Resp. to Pet. at 5-6.

The parties and amici, however, vigorously dispute what "subject to regulation under this Act" means. The Region stated in its response to comments (which the Region issued after the Supreme Court issued the *Massachusetts* decision) that "EPA does not currently have the authority to address the challenge of global climate change by imposing limitations on emissions of CO_2 and other greenhouse gases in PSD permits." Resp. to Comments at 5. The Region explained that "EPA has historically interpreted the term 'subject to regulation under the Act' to describe pollutants that are presently subject to a statutory or regulatory provision that requires actual control of emissions of that pollutant." *Id.* at 5-6.

Sierra Club contends that this response to comments constitutes clear error. It asserts that "EPA can and must impose emissions limitations on CO_2 in PSD permits for new coal-fired power plants."

Sierra Club's Jan. Brief at 1. Sierra Club maintains that the "plain and unambiguous" meaning of "regulation" is broader than actual control of emissions and that "carbon dioxide has been *regulated* under the Clean Air Act since 1993." Pet. at 4. Sierra Club points to EPA's 1993 amendment of 40 C.F.R. Part 75 to, among other things, require monitoring and reporting of CO_2 emissions. *Id.* EPA promulgated the Part 75 regulations in response to Congress' direction in section 821 of the Clean Air Act Amendments of 1990, Pub. L. No. 101-549, 104 Stat. 2399, 2699 [hereinafter, "1990 Public Law"]. Sierra Club thus contends that the combination of CAA sections 165 and 169, section 821 of the 1990 Public Law, and EPA's Part 75 regulations makes CO2 "subject to regulation" under the CAA and therefore requires that the Permit contain a CO_2 BACT limit.

The basic question before the Board is whether the Region clearly erred by stating that it lacked the authority to impose a CO_2 BACT limit in the Permit. As explained more fully in Part III.B.2 below, we find that the statute is not so clear and unequivocal as to preclude Agency interpretation of the phrase "subject to regulation under this Act," and therefore does not dictate whether the Agency must impose a BACT limit for CO_2 in the Permit. More particularly, we reject Sierra Club's contentions that either the plain meaning of the statutory phrase "subject to regulation" as used in sections 165 and 169 or the meaning of the term "regulations" as used in section 821 negates the Agency's authority to interpret "subject to regulation" for purposes of the PSD program and compels an interpretation of the statute that necessarily requires that the Permit contain a CO_2 BACT limit.

In Part III.B.3, we conclude that the record of the Region's permitting decision does not support its contention that its authority is constrained by an historical Agency interpretation of the phrase "subject to regulation under this Act." The administrative record of the Region's permitting decision, as defined by 40 C.F.R. section 124.18, does not support the Region's view that the Agency's historical interpretation of "subject to regulation" means "subject to a statutory or regulatory provision that requires actual control of emissions of that pollutant."

In Part III.B.4, we reject as not sustainable in this proceeding the Region's alternative argument – that any regulation arising out of section 821 cannot, in any event, constitute regulation "under this Act" because section 821 is not part of the CAA. While the Region now cites textual distinctions and legislative history to argue that the term "regulations" under section 821 does not constitute regulation "under this Act" for purposes of CAA sections 165 and 169, the Agency's historical statements regarding section 821 are at odds with, and preclude our acceptance in this proceeding of, the interpretation the Region now advocates on appeal.

Finally, in Part III.B.5, we provide a summary of our conclusion that a remand is required, and we provide some direction to the Region regarding issues to consider on remand.

2. *Meaning of the Statutory Text*

We first "must decide, using the traditional tools of statutory construction, 'whether Congress has directly spoken to the precise question at issue.'" *Pharmanex v. Shalala*, 221 F.3d 1151, 1154 (10th Cir. 2000) (quoting *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 132 (2000)). The question before us is whether the text compels a particular meaning in the context of this case.

We begin by considering whether the statutory phrase "each pollutant subject to regulation under this Act," found at two places in the statute,[21] has a plain meaning. *Lee v. Mukasey*, 527 F.3d 1103, 1106 (10th Cir. 2008). Here, the parties and amici point to different dictionaries and definitions in arguing various potential "plain" meanings of "regulation."

For example, Sierra Club argues that "Webster's defines 'regulation' as 'an authoritative rule dealing with details or procedure; (b) a rule or order issued by an executive authority or regulatory agency

[21] CAA §§ 165(a)(4), 169(3), 42 U.S.C. § 7475(a)(4), 7479(3).

of a government and having the force of law.'" Pet. at 6.[22] Sierra Club thus argues that CO_2 is a regulated pollutant because of various requirements published in the Code of Federal Regulations calling for monitoring and reporting of CO_2 emissions. *Id.* at 5 n.2. In contrast, Deseret argues that because "*Black's Law Dictionary* defines 'regulation' as '[t]he act or process of *controlling* by rule or restriction,'" therefore, "[t]he plain meaning of 'regulation' requires control over what is regulated, and because monitoring and reporting procedures do not control carbon dioxide emissions, they do not subject carbon dioxide to 'regulation' for purposes of BACT." Deseret's Mar. Brief at 7-8[23] (quoting *Black's Law Dictionary* 1311 (8th ed. 1999) (emphasis and alteration by Deseret)).[24]

In its appellate briefs, the Region rejects the efforts of both Sierra Club and Deseret to press subtle variations in the dictionary definitions as the "plain meaning" of the statutory text. Instead, the Region states that the "citation of an alternative meaning from the same dictionary and a different definition from Webster's dictionary simply illustrates the ambiguity of the term rather than establishing a plain meaning." Region's Mar. Brief at 13. The Region explains that "[s]ince Congress adopted neither the Black's nor the Webster's definitions,

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[22] The Petition does not provide the citation for the quotes attributed to Webster's. However, Sierra Club's subsequent January Brief cites Merriam-Webster's Collegiate Dictionary 1049 (11th ed. 2005) for this quote.

[23] *See also* Deseret's Resp. to Pet. at 4-5.

[24] Deseret also points to *Webster's II New College Dictionary* as using the word "controlling" in defining "regulation." Deseret's Mar. Brief at 8 (discussing *Webster's II College Dictionary* 934 (1995)). Deseret also argues that the dictionary cited by Petitioner includes an alternative definition of "regulation" that, among other things, refers to regulation as meaning bringing "'under the *control* of law or constituted authority.'" *Id.* (quoting *Merriam-Webster's Collegiate Dictionary* 1049 (11th ed. 2005) (emphasis added by Deseret)). Deseret also argues that "[t]he plain meaning of the phrase 'subject to' also requires control * * *." Deseret's Mar. Brief at 8. Deseret observes that Webster's defines "subject" as "'being under domination, control, or influence (often fol. by *to*).'" *Id.* (quoting *Random House Webster's Unabridged Dictionary* 1893 (2d ed. 2001).

Congress clearly left a gap for EPA to fill in defining the meaning of the term 'regulation' as used in the phrase 'pollutant subject to regulation.'" Region's Resp. to Pet. at 13; *see also* UARG Mar. Brief at 22-23 (arguing that the phrase "'subject to regulation' is not clear on its face'"). Thus, on appeal, the Region does not contend that the interpretation it views as the Agency's historical interpretation is required by the statutory text, but instead is "reasonable" or "permissible" in light of the ambiguity identified by the alternative dictionary definitions Sierra Club and Deseret discussed. Region's Resp. to Pet. at 13; Region's Mar. Brief at 14-15; EAB Oral Argument Transcript at 51.

Upon consideration, we are persuaded that the Region's appellate contention is correct. A statutory plain meaning cannot be ascertained from looking solely at the word "regulation" to determine whether Congress, in enacting the statute in 1977, intended "subject to regulation"[25] to apply narrowly as Deseret contends to mean a provision that prescribes actual control of emissions of the pollutant, or more broadly as Sierra Club argues to embrace requirements for monitoring of pollutant emissions, among other things. It does not appear that, when it enacted CAA sections 165 and 169 in 1977, Congress considered[26] the precise issue before us, or more significantly, drafted language sufficiently specific[27] to address it.

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[25] The critical term here is "subject to regulation under this Act," and we do not accept Sierra Club's argument that the single word "regulation" can be extracted and parsed separate from that phrase, rather than focusing on the meaning of the phrase as a whole.

[26] The parties have not drawn our attention to any relevant legislative history concerning the meaning of "subject to regulation under this Act," and we have found none.

[27] As part of its argument, Sierra Club contends that the phrase "subject to regulation under this Act" must mean something different than what Congress defined "emissions limitation" and "emissions standard" to mean. *See* Pet. at 8 (discussing 42 U.S.C. § 7602(k)). It asserts the fact that Congress enacted both these two defined terms – which specifically speak to control of "the quantity, rate, or concentration of emissions

(continued...)

We reject Sierra Club's contention that the Region's interpretation "runs afoul of the holding in *Alabama Power Co. v. Costle*, 636 F. 2d 323, 403 (D.C. Cir. 1979)." Pet. at 9. *Alabama Power* rejected the "Industry Groups" effort to compel EPA "to lessen the regulatory burden" because, in their view, "subject to regulation" meant that BACT applied immediately only to the two pollutants, sulfur dioxides and particulates, which were already regulated by EPA's pre-existing PSD regulations. *Id.* The "Industry Groups" argued that, because CAA section 166 required EPA to complete studies before promulgating PSD regulations for certain pollutants identified in section 166, Congress did not intend those additional pollutants to be "subject to regulation" for purposes of applying BACT until those studies were completed. *Id.* The D.C. Circuit rejected the "Industry Groups" effort to compel a narrow interpretation, stating that "[t]he statutory language leaves no room for limiting the phrase 'each pollutant subject to regulation' to sulfur dioxides and particulates." *Alabama Power*, 636 F.2d at 406. All of the pollutants identified in section 166 and at issue in *Alabama Power* were already subject to regulation under other (non-PSD) provisions of the CAA. Region's Mar. Brief at 16 n.6 & at 28. The *Alabama Power* court thus did not consider, and therefore did not decide, Sierra Club's argument here in which it seeks to compel the Region to apply the PSD Program to a pollutant that is neither mentioned in CAA section 166 nor subject to emissions control under another provision of the Act.

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[27](...continued)
of air pollutants" – and did not use those terms in establishing the BACT requirement implies that Congress meant something different by the phrase it chose to use in sections 165 and 169. Even if this observation were correct, an issue we do not decide, it does not lead to the conclusion that the much broader meaning Sierra Club has put forward for the phrase "subject to regulation under this Act" is necessarily what Congress intended. As the Region observes, the meaning of "subject to regulation under this Act" that the Region has put forward differs from the defined terms without embracing the full breadth of the meaning that Sierra Club advocates. Region's Resp. to Pet. at 14 (noting that its interpretation would apply the control of ozone depleting substances through production or import restrictions that do not limit the quantity, rate, or concentration of emissions); Region's Mar. Brief at 22.

Further, we find that the lack of clarity of the phrase "subject to regulation under this Act" as applied in these circumstances is not definitively resolved by the terms of section 821 of the 1990 Public Law, as Sierra Club argues. *See* Pet. at 5-9; Sierra Club's April Reply at 3. As explained below, we conclude that in enacting section 821, Congress did not negate the Agency's authority or discretion to interpret CAA sections 165 and 169. This determination is distinct from the question of whether section 821 is part of the CAA, an issue that we do not decide here.

As noted above, the scope of PSD regulatory authority, as set forth in sections 165 and 169 of the CAA, extends to "any pollutant subject to regulation under this Act." Sierra Club argues that the use of similar, but not identical, language in section 821 of the 1990 Public Law, which requires the Agency to promulgate "regulations," constrains the Agency's ability to interpret sections 165 and 169.[28] Pet. at 5-9; Sierra Club's Jan. Brief at 16-18; Sierra Club's Apr. Reply at 3. That is, according to Sierra Club, the only supportable reading of sections 165 and 169 mandates that PSD regulatory authority extends to any pollutant subject to "a" or "any" regulation promulgated in the Code of Federal Regulations because that is the meaning of section 821's direction to promulgate regulations. The question before us is not whether this is a plausible reading, but rather whether Sierra Club's interpretation is compelled under the statutory terms. We conclude that the statutory language does not compel this meaning.

Our conclusion that the statutory language is broad enough to embrace different meanings, or shades of meaning, is consistent with the Supreme Court's observation in other contexts that the same or similar words may be construed differently "'not only when they occur in different statutes, but when used more than once in the same statute or even in the same section.'" *Envtl. Def. v. Duke Energy Corp.*, 549 U.S.

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[28] Although Sierra Club's argument primarily focuses on Congress's directive in section 821 of the 1990 Public Law that EPA promulgate "regulations" to implement that section's requirements, Sierra Club also points to Congress' similar instructions elsewhere that EPA promulgate "regulations" to implement various CAA provisions. *See*, *e.g.*, Pet. at 7-8 (citing references to "regulations" in CAA § 165(e)(1), 42 U.S.C. § 7475(e)(1)).

561, slip op. at 9 (2007) (quoting *Atl. Cleaners & Dyers*, *Inc. v. United States*, 286 U.S. 427, 433 (1932)). In reviewing the meaning of the phrase "subject to regulation under this Act" we do not confine ourselves "to examining a particular statutory provision in isolation." *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 132 (2000). Rather, "[t]he meaning – or ambiguity – of certain words or phrases may only become evident when placed in context * * *. It is a 'fundamental canon of statutory construction that the words of a statute must be read in their context and with a view to their place in the overall statutory scheme.'" *Id.* at 132-33 (quoting *Davis v. Mich. Dep't of Treasury*, 489 U.S. 803, 809 (1989); *see also Nat'l Ass'n of Home Builders v. Defenders of Wildlife*, __ U.S. __, 127 S.Ct. 2518, 2534 (2007) (explaining the Court would not construe the statute in that case to "implicitly abrogate or repeal" the operation of many mandatory agency directives and thereby create differing mandates). Here, the parties contest whether section 821 of the 1990 Public Law[29] must be viewed as part of the CAA and whether the terms of section 821 compel a particular meaning of the phrase "subject to regulation" for purposes of implementing sections 165 and 169.

Although there is a presumption that identical words used in different parts of the same statute[30] have the same meaning,[31] courts recognize that this presumption can yield to a different interpretation in appropriate circumstances. As Sierra Club acknowledges, "EPA may interpret the same word differently based on statutory context." Sierra Club's April Reply at 4 (citing *Envtl. Def. v. Duke Energy Corp.*, 549 U.S. 561, 127 S.Ct. 1423, 1433 (2007)); *see also* Sierra Club's Jan. Brief at 16.

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[29] Section 821 of the 1990 Public Law is included in the United States Code as a note attached to 42 U.S.C. § 7651k.

[30] For purposes of facilitating our analysis of Sierra Club's position on this issue, we assume that section 821 is part of the CAA although, as discussed subsequently in section III.B.4, we actually do not decide that issue.

[31] *Merrill Lynch*, *Pierce*, *Fenner & Smith*, *Inc. v. Dabit*, 547 U.S. 71, 86 (2006); *Comm'r v. Lundy*, 516 U.S. 235, 249-50 (1996).

As discussed above, the phrase "subject to regulation under this Act" is not so clear and unequivocal as Sierra Club suggests. While it may mean "subject to *a* regulation" as Sierra Club argues, the statute by its terms does not foreclose the narrower meaning suggested by the Region and Deseret, "subject to control" (by virtue of a regulation or otherwise). *Compare* Pet. at 5 n.2 & at 6 *with* Deseret's Mar. Brief at 7-8; Region's Mar. Brief at 13.

In arguing that sections 165 and 169 have only one proper interpretation, Sierra Club ignores the fact that section 821, which was enacted 13 years after sections 165 and 169,[32] uses different terminology, "regulations," from that used in the PSD provisions of sections 165 and 169, "subject to regulation."[33] We find no evidence that Congress's addition of section 821 in 1990 was an attempt to interpret or constrain the Agency's interpretation of the broader phrase "subject to regulation"

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[32] Congress' use of the term "regulations" in enacting section 821 in 1990 ordinarily would not be looked to as informative of what Congress intended when much earlier in 1977 it enacted the BACT requirement. *Int'l Bhd. of Teamsters v. Daniel*, 439 U.S. 551, 571 (1979) (Burger, C.J., concurring) (understanding of draftsman of amendment in 1970 "would have little, if any, bearing" on "construction of definitions enacted in 1933 and 1934"); *United States v. Price*, 361 U.S. 304,332(1960) ("The views of a subsequent Congress form a hazardous basis for inferring the intent of an earlier one.")

[33] We agree with the Region that the difference in terminology is potentially significant. Notably, when read in the context of the phrases in which they are used, possible alternative meanings of "regulation" and "regulations" become apparent. In the phrase "the Administrator * * * shall promulgate regulations * * * to require [sources to monitor CO_2]" in section 821, the term "regulations" is understood to be the end product of the administrative rule making process. Thus, Congress' direction that EPA promulgate "regulations" found at various places in the CAA and in section 821 is most naturally read to mean that Congress directed EPA to use its legislative rule making authority to implement the statutory requirements, filling in necessary specificity and detail. Section 112 of the Act uses the term "subject to regulations," referring to "regulations" in the plural. CAA sections 112(r)(3) and 112(r)(7)(F). This evidences that Congress may not have meant "subject to regulation" (singular) to have the same meaning.

as used in sections 165 and 169.[34] Sierra Club does not address the fact that section 821 bears no facial relationship to the PSD provisions of sections 165 and 169. Congress's subsequent use of the word "regulations" in a section of the 1990 Public Law that bears no explicit relationship with the earlier-enacted sections would not appear sufficient, on its own, to implicitly constrain EPA's authority to interpret the PSD provisions of section 165 and 169. This is particularly true where, as here, the two sections were enacted 13 years apart, bear no obvious relationship, and are not even placed in close proximity. Moreover, the Agency did determine, in 1978 that the phrase "subject to regulation under this Act" used in the PSD provisions requires interpretation to properly implement the PSD program, and Congress did not evidence an intent in section 821 to alter the Agency's determination.[35] Normally, more express terminology would be expected if Congress intended to alter an established meaning.[36]

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[34] *See* 136 Cong. Rec. H2915, 2934 (1990) (statement of Rep. Moorhead), *reprinted in* S. Comm. on Env't and Public Works, *Legislative History of Clean Air Act Amendments of 1990*, at 2986-87 (1993); 136 Cong. Rec. H2511, 2578 (1990) (statement of Rep. Cooper), *reprinted in* S. Comm. on Env't and Public Works, *Legislative History of Clean Air Act Amendments of 1990*, at 2652-53 (1993); 136 Cong. Rec. H2511, 2561-62 (1990) (statement of Rep. Moorhead), *reprinted in* S. Comm. on Env't and Public Works, *Legislative History of Clean Air Act Amendments of 1990*, at 2612-14 (1993).

[35] The preamble to the 1978 rulemaking stated that the Agency was advancing an interpretation, at least in part, to address inquiries from the public as to the meaning of the phrase "subject to regulation." *Part 52 – Approval and Promulgation of State Implementation Plans*, 43 Fed. Reg. 26,388, 26,397 (June 19, 1978). As explained below, we do not agree with the constrained reading of the 1978 interpretation that the Region now advances.

[36] *See Catron County Bd. of Comm'rs v. U.S. Fish & Wildlife Serv.*, 75 F.3d 1429, 1438-39 (10th Cir. 1996) (noting the difficulty in ascertaining Congressional intent from subsequent legislative action in the face of a pre-existing administrative or court precedent). We note that the circumstances of this case are an inverse of those at issue in a case cited by Sierra Club, *Merrill Lunch*, *Pierce*, *Fenner & Smith*, *Inc. v. Dabit*, 547 U.S. 71, 86 (2006). There, the Court found that a subsequently enacted legislative provision should be interpreted in light of, and consistent with, a pre-existing judicial interpretation of an earlier enacted phrase used in the same statute. To follow that logic, section 821 should be read consistently with any definitive interpretation of sections 165

(continued...)

Thus, we reject Sierra Club's argument that either the plain meaning of "regulation," or the wording of section 821, compels a particular interpretation of the phrase "subject to regulation under this Act" for purposes of the PSD provisions of sections 165 and169.

Accordingly, we next turn to the Region's arguments regarding the allegedly constraining effect of the Agency's "historical" interpretation.

3. *The Agency's Historical Interpretation of "Subject to Regulation"*

Because the statute does not compel Sierra Club's proffered interpretation, we now consider whether the Region correctly stated in its response to comments that a historical Agency interpretation of the phrase "subject to regulation" constrained its discretion to impose a CO_2 BACT limit in the Permit. As we explain below, the record for the Region's permitting decision is insufficient to support the Region's conclusion that its discretion is constrained in this manner.

Notably, the Region did not identify in its response to comments any Agency document expressly stating that "subject to regulation under this Act"[37] means "subject to a statutory or regulatory provision that requires actual control of emissions of that pollutant" (or any other clearly worded statement expressly connecting the meaning of the

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[36](...continued)
and 169. This also is not a circumstance where the language of the later enactment makes plain a Congressional intent to express an interpretation of the earlier enactment. *See*, *e.g.*, *Red Lion Broad. Co. v. FCC*, 395 U.S. 367, 380 (1969).

[37] A memorandum issued on April 26, 1993, by Lydia N. Wegman, Deputy Director, Office of Air Quality Planning and Standards, discussed below, did refer to the absence of "actual control of emissions" in connection with CO_2. Memorandum from Lydia N. Wegman, Deputy Director, Office of Air Quality Planning and Standards, U.S. EPA, *Definition of Regulated Air Pollutant for Purposes of Title V* (Apr. 26, 1993). The Region did not identify this memorandum in the Region's response to comments as support for the Region's decision, and we explain below in Part III.B.3.c that, at best, it provides only weak support for the interpretation the Region advocates.

statutory phrase to "actual control of emissions"). Instead, the response to comments derives by inference what the Region views as the Agency's historical interpretation. The Region, in its response to comments, cited as sources for what it referred to as the Agency's historical interpretation the Federal Register preambles for two Agency rulemakings – one issued in 1978 and the other issued in 2002. Resp. to Comments at 5-6.[38] Among other things, these rulemaking preambles listed pollutants, either by name or by descriptive category, that the Agency considered at the time to be subject to regulation for purposes of PSD permitting. The Region explains in its appellate briefs that the historical interpretation it believes constrains its authority may be discerned by observing that the listed pollutants were subject to emissions control and none of the listed pollutants were subject to only monitoring and reporting requirements. Region's Mar. Brief at 31, 43. In other words, the logic the Region apparently relied upon in its response to comments was an inference based on the regulatory status of the pollutants listed in the two rulemaking preambles and is not found in any affirmative or direct Agency statement. *See*, *e.g.*, *Id.* at 31 ("This list did not include carbon dioxide or any other pollutant that was not subject

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[38] In its response to comments, the Region identified the following as sources for what the Region characterized as EPA's historical interpretation: *Part 52 – Approval and Promulgation of State Implementation Plans*, 43 Fed. Reg. 26,388, 26,397 (June 19, 1978) (describing pollutants then subject to BACT requirements); *Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NSR)*, 61 Fed. Reg. 38250, 38,309-10 (proposed July 23, 1996) (listing pollutants then subject to PSD review); *Final Rule: Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NSR): Baseline Emissions Determination*, *Actual-to-Future-Actual Methodology*, *Plantwide Applicability Limitations*, *Clean Units*, *Pollution Control Projects*, 67 Fed. Reg. 80,186, 80,240 (Dec. 31, 2002) (defining term "regulated NSR pollutant" and stating that BACT is required for each regulated NSR pollutant).

In its response to comments, the Region also pointed to *In re North County Res. Recovery Assocs.*, 2 E.A.D. 229, 230 (Adm'r 1986), for the proposition as stated in that decision that "EPA lacks the authority to impose [PSD permit] limitations or other restrictions directly on the emission of unregulated pollutants." Resp. to Comments at 5 (quoting *North County*, 2 E.A.D. at 230); *see also* Region's Mar. Brief at 9. This quote from *North County* does not answer the question of what "pollutant subject to regulation" means.

to a statutory or regulatory provision that requires actual control of emissions of that pollutant.”).

The Region is correct that none of the Agency’s historical pollutant lists included pollutants that were regulated solely by monitoring or reporting requirements. Thus, such lists are not facially inconsistent with the interpretation that the Region articulated in its response to comments. However, the mere absence of inconsistency does not demonstrate that those historical lists constrained the Region to adhere to the interpretation it advocates, especially where, as here, the two preambles at issue do not purport to limit EPA’s PSD regulatory authority to those lists.

On appeal, the Region further asserts that “EPA has never interpreted” the phrase subject to regulation under the Act “to cover pollutants subject only to monitoring and reporting requirements.” Region’s Resp. to Pet. at 7-8. The Region also cites a number of additional documents not identified in its response to comments that it contends show the Agency had a “traditional practice” of treating “subject to regulation” as meaning “actual control of pollutant emissions.” Significantly, the Agency did not develop the factual predicates for these statements in the record of this permitting proceeding.

Thus, for the reasons explained in detail below, we cannot conclude on the record for the Permit in this case that the historical Agency statements the Region identified in its response to comments are sufficiently clear and consistent articulations of an Agency interpretation to constrain the authority the Region acknowledges it would otherwise have under the terms of the statute. Thus, we must find that the Region committed clear error.

a. *The Agency’s 1978 Federal Register Preamble*

We begin our analysis of the Agency’s historical interpretation by looking first at the statements the Agency made in 1978, essentially contemporaneous with the enactment of CAA sections 165 and 169.

Courts often accord a high degree of deference to agency interpretations that are made contemporaneous with the legislative enactment, especially when the agency clearly articulates and consistently follows the interpretation over a long period of time. *Rosette*, *Inc. v. United States*, 277 F.3d 1222, 1230 (10th Cir. 2002) ("great deference is given to the interpretation of a statute by the agency charged with its administration, this respect is particularly due where the administrative practice is a contemporaneous construction of the statute"); *New Mexico Envtl. Improvement Div. v. Thomas*, 789 F.2d 825, 831-32 (10th Cir. 1986) ("The court will defer to the agency's interpretation when an agency is charged with enforcing a statute, when such an interpretation is not contrary to clear statutory intent or the plain language of the statute, when the interpretation is contemporaneous with the legislation's enactment, and when such interpretation has been consistently adhered to by the agency over time.").

In 1978, soon after Congress amended the CAA to add the PSD provisions at issue in this case, the Administrator set forth in the preamble to a final rulemaking an interpretation of the meaning of "subject to regulation under this Act" as used in CAA sections 165 and 169. In the 1978 preamble, the Administrator stated as follows:

> Some questions have been raised regarding what "subject to regulation under this Act" means relative to BACT determinations. The Administrator believes that the proposed interpretation published on November 3, 1977, is correct and is today being made final. As mentioned in the proposal, "subject to regulation under this Act" means any pollutant regulated in Subchapter C of Title 40 of the Code of Federal Regulations for any source type. This then includes * * *.

Part 52 – Approval and Promulgation of State Implementation Plans, 43 Fed. Reg. 26,388, 26,397 (June 19, 1978).[39] The preamble went on to describe in general categories the pollutants then regulated in Subchapter C of Title 40. *Id.*

The Region's response to comments correctly pointed to the 1978 Federal Register preamble as establishing an Agency interpretation of "subject to regulation under this Act"[40] – the 1978 preamble expressly states that it "made final" an "interpretation" the Administrator concluded was correct. *Id.* This statement in the 1978 Federal Register also possesses the hallmarks of an Agency interpretation that courts would find worthy of deference – the Agency issued it with a high degree of formality (the Agency published notice of the proposed interpretation in the Federal Register, followed by a subsequent Federal Register notice finalizing the interpretation); the Agency received questions on the interpretation as part of the rulemaking process thus indicating that the Agency carefully considered the interpretation; the Administrator who is charged with implementing and enforcing the statute issued the interpretation; and the Administrator issued the interpretation relatively contemporaneous with the statutory enactment and along with the original regulations implementing the statute. *See*,

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[39] As background, in the preamble issued in 1977 for the proposed rule, the Administrator stated as follows:

> The Amendments require BACT for all pollutants regulated under this Act. Thus, any pollutant regulated in Subchapter C of Title 40 of the Code of Federal Regulations will be subject to a case-by case BACT determination. These include * * *.

Approval and Promulgation of Implementation Plans, 42 Fed. Reg. 57,479, 57,481 (proposed Nov. 3, 1977). The preamble went on to describe pollutants then regulated in Subchapter C of Title 40 with somewhat greater detail than the description in the 1978 final rulemaking preamble.

[40] The Region cited this 1978 Federal Register preamble as authority for what the Region described as the Agency's historical interpretation of the phrase "subject to regulation under this Act." Resp. to Comments at 5-6.

e.g., *Rosette*, 277 F.3d at 1230; *see also Skidmore v. Swift & Co.*, 323 U.S. 134, 140 (1944).

Nevertheless, we must reject the Region's current characterization of the Agency's 1978 preamble statement. The Region now contends that only the pollutants identified in the preamble by general category define the scope of the Administrator's 1978 interpretation. Region's Resp. to Pet. at 11 & n.6. However, as quoted above, the 1978 preamble stated that "'subject to regulation under this Act' means any pollutant regulated in Subchapter C of Title 40 of the Code of Federal Regulations" and introduced the list of pollutant categories with the word "includes."[41] That word generally "is not one of all-embracing definition, but connotes simply an illustrative application of the general principle." *Fed. Land Bank v. Bismarck Lumber Co.*, 314 U.S. 95, 100 (1941); *see also Chickasaw Nation v. United States*, 534 U.S. 84 (2001); *Penncro Assoc., Inc. v. Sprint Spectrum, L.P.*, 499 F.3d 1151, 1156 (10th Cir. 2007) ("Webster's defines the term 'to include' as meaning 'to place, list, or rate as a part or component of a whole or of a larger group, class, or aggregate.'" (quoting Webster's Third New International Dictionary 1143 (2002)). "We note that, generally, to say A includes B does not exclude the possibility that A also includes C and D." *Dishman v. UNUM Life Ins. Co. of Am.*, 269 F.3d 974, 989 (9th Cir. 2001). Nothing in the 1978 preamble (or the 1977 preamble to the proposed rule) indicates that the Agency intended to depart from the normal use of "includes" as introducing an illustrative, and non-exclusive, list of pollutants subject to regulation under the Act.

Thus, it strikes us as inappropriate to look to the pollutant categories that follow the word "includes" as providing a comprehensive list from which to discern an unstated, unifying rule (such as "actual control of emissions"). This is especially true where, to the contrary, a plain and more natural reading of the preamble's interpretative statement suggests a different unifying rule, i.e., the one expressly stated in the text

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[41] The preamble to the proposed rule issued in 1977 also introduced the pollutant list with the word "include." *See* note 39 above.

immediately preceding the list: "'subject to regulation under this Act' means any pollutant regulated in Subchapter C of Title 40 of the Code of Federal Regulations for any source type." 43 Fed. Reg. at 26,397.

Accordingly, the 1978 Federal Register preamble does not lend support to the Region's conclusion that its authority was constrained by an historical Agency interpretation to apply BACT only to pollutants that are "subject to a statutory or regulatory provision that requires actual control of emissions of that pollutant." Instead, the 1978 Federal Register notice augers in favor of a finding that, in 1978, the Agency interpreted "subject to regulation under this Act" to mean "any pollutant regulated in Subchapter C of Title 40 of the Code of Federal Regulations for any source type." 43 Fed. Reg. at 26,397.

When EPA issued regulations in 1993 implementing the 1990 Public Law and in particular section 821's CO_2 monitoring and reporting requirements, EPA did so by amending Subchapter C of Title 40 of the Code of Federal Regulations. *Acid Rain Program: General Provisions and Permits*, *Allowance System*, *Continuous Emissions Monitoring*, *Excess Emissions and Administrative Appeals*, 58 Fed. Reg. 3590, 3650 (Jan. 11, 1993). As a result of that rulemaking, the Subchapter C regulations now require CO_2 emissions monitoring (40 C.F.R. §§ 75.1(b), .10(a)(3)), preparing and maintaining monitoring plans (40 C.F.R. § 75.53), maintaining records (40 C.F.R. § 75.57), and reporting such information to EPA (40 C.F.R. §§ 75.60-.64), and those regulations provide that a violation of any Part 75 requirement "is a violation of the Act" (40 C.F.R. § 75.5(a)). Sierra Club points to this rulemaking in arguing that "carbon dioxide has been *regulated* under the Clean Air Act since 1993." Pet. at 4; *see also id.* at 5 n.2.

The Region observes that the reference the 1978 preamble made to Subchapter C of Title 40 of the Code of Federal Regulations was not repeated in the preamble to the 1993 rulemaking. The Region contends that this "is consistent with the Agency view that 'subject to regulation' describes only pollutants subject to regulations requiring actual control of emissions." Region's Resp. to Pet. at 11 n.6. The preamble to the 1993 rulemaking did not reaffirm the Agency's earlier 1978 statement

that "subject to regulation under this Act" means "any pollutant regulated in Subchapter C of Title 40 of the Code of Federal Regulations for any source type."[42] However, the 1993 preamble also did not expressly clarify or withdraw that earlier interpretation.[43] Whatever the Agency's intentions were relative to the Subchapter C reference in the 1978 preamble when it adopted the 1993 regulations, it did not express them.[44] Moreover, for the reasons discussed earlier in this section, the 1978 preamble provides little, if any, support for the Region's argument that it is bound by an historical interpretation. Because the Region did not rely on the 1978 preamble as the sole support for its characterization of the historical EPA interpretation, but also referred to the Agency's 2002 rulemaking, we consider it next.

b. *The Agency's 2002 Rulemaking*

In its response to comments, the Region pointed to the Agency's 2002 rulemaking as further support for its conclusion that an historical Agency interpretation of "subject to regulation under this Act" as meaning "subject to a statutory or regulatory provision that requires actual control of emissions of that pollutant" constrains its authority to impose a BACT emissions limit for CO_2. Resp. to Comments at 5-6.

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[42] 43 Fed. Reg. at 26,397.

[43] Without more, one could argue, as does Sierra Club, that based on the Agency's public interpretive statements and regulations as of the effective date of the 1993 rulemaking, CO_2 became subject to regulation under the Act in 1993 when the Agency included provisions relating to CO_2 in Subchapter C. We also recognize that one could argue, as does the Region, that the reference to Subchapter C in the 1978 preamble was only intended to apply to the then-current Subchapter C and not necessarily to any future additions to that Subchapter.

[44] In any event, in 1993, the Agency apparently would not have viewed CO_2 as a pollutant subject to regulation under the Act. As discussed in the following subpart, on April 26, 1993, Lydia N. Wegman, Deputy Director, Office of Air Quality Planning and Standards, issued a memorandum stating, among other things, that CO_2 is not an "air pollutant" as defined by CAA section 302(g). Memorandum from Lydia N. Wegman, Deputy Director, Office of Air Quality Planning and Standards, U.S. EPA, *Definition of Regulated Air Pollutant for Purposes of Title V* (Apr. 26, 1993).

The Region explained that the 2002 rulemaking "codified" the Agency's historical interpretation "by defining the term 'regulated NSR pollutant.'" *Id.* at 6. As we explain in this subpart, although the 2002 rulemaking did codify a definition for "regulated NSR pollutant," we are not persuaded that the Agency's 2002 rulemaking restricts the permitting authority the Region would otherwise have under the statute.

i. *The 2002 Rulemaking's Regulatory Text*

EPA included a definition for "regulated NSR pollutant" in the 2002 rulemaking and explained in the preamble that this definition "replaces the terminology 'pollutants regulated under the Act." *Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NSR): Baseline Emissions Determination*, *Actual-to-Future-Actual Methodology*, *Plantwide Applicability Limitations*, *Clean Units*, *Pollution Control Projects*, 67 Fed. Reg. 80,186, 80,240 (Dec. 31, 2002). Thus, the 2002 rulemaking did codify the term "regulated NSR pollutant" to replace the previous regulatory language that was functionally equivalent to the statutory phrase "pollutant subject to regulation under this Act." However, the regulatory text does not clearly articulate a definition limited to "actual control of emissions." Upon consideration, we are not persuaded that the Agency's statements regarding the regulatory definition have been sufficiently clear and consistent to limit the regulation's meaning and constrain the Region's authority in the manner the Region argues.

As the Region summarizes, the definition's text identifies pollutants falling within its scope "by referencing pollutants regulated in three principal program areas * * * as well as any pollutant 'that otherwise is subject to regulation under the Act.'" Region's Resp. to Pet. at 7 (quoting 40 C.F.R. § 52.21(b)(50)(i) - (iv)). The Region stated in its response to comments that "[a]s used in this provision, EPA continues to interpret the phrase 'subject to regulation under the Act' to refer to pollutants that are presently subject to a statutory or regulatory provision that requires actual control of emissions of that pollutant." *Id.* The Region's response to comments did not explain its rationale for reaching

this conclusion.[45] In its appellate briefs, although the Region contends that its interpretation of the definition can be discerned from the regulatory text, the Region also appears to acknowledge that the regulatory text is not sufficient, on its own, to establish the meaning the Region advocates. *Compare* Region's Resp. to Pet. at 7-8[46] *with* Region's Mar. Brief at 32.[47]

The difficulty the Region faces in relying on the regulatory definition's text is aptly described by Sierra Club: the definition "says nothing about CO_2 specifically" and the fourth part of the definition "merely parrots the statutory language, requiring BACT for '[a]ny pollutant that otherwise is subject to regulation under the Act.'" Sierra Club's Jan. Brief at 23 (quoting 40 C.F.R. § 52.21(b)(50)(iv)). The regulatory text simply does not refer to "actual control of emissions," and it contains essentially the same phrase – "subject to regulation under the Act" – that the Region argues is ambiguous as a matter of statutory interpretation. *See*, *e.g.*, Region's Resp. to Pet. at 13; Region's Mar. Brief at 13.

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[45] The Region stated, without elaboration, that "[b]ecause EPA has not established a NAAQS or NSPS for CO_2, classified CO_2 as a title VI substance, or otherwise regulated CO_2 under any other provision of the Act, CO_2 is not currently a 'regulated NSR pollutant' as defined by EPA regulations." Resp. to Comments at 6.

[46] In responding to the Petition, the Region states that "EPA has never interpreted" the regulatory provision "to cover pollutants subject only to monitoring and reporting requirements" and that when EPA adopted the regulatory definition, it published a list of pollutants described as "'currently regulated under the Act,'" which "did not include carbon dioxide or any other pollutant that was not subject to a statutory or regulatory provision that requires actual control of emissions of that pollutant." Region's Resp. to Pet. at 7-8. The Region argues that "[t]hrough the contemporaneous adoption of the regulatory language and publication of a definitive list of pollutants subject to regulation at the time, EPA established its interpretation of the phrase 'pollutant that otherwise is subject to regulation' in section 52.21(b)(50)(iv)." *Id.* at 8.

[47] In its March brief, the Region argues that the general words used in the last of the four- part regulatory definition are most naturally construed as applying only to pollutants similar to those identified by the first three parts of the definition.

The Region appears to contend that, although the phrase "subject to regulation" is ambiguous as a matter of statutory construction, the Agency resolved the ambiguity in the regulatory definition by including the statutory phrase as the last of a four-part definition. In particular, the Region argues that "EPA's interpretation of the last clause in the definition of 'regulated NSR pollutant' has *consistently* followed the rule of construction known as *ejusdem generis*, which provides that 'where general words follow the enumeration of particular classes of things, the general words are most naturally construed as applying only to things of the same general class as those enumerated.'" Region's Mar. Brief at 32 (emphasis added) (quoting *Am. Mining Congr. v. U.S. EPA*, 824 F.2d 1177, 1189 (D.C. Cir. 1987)).

The Region, however, has provided no evidence or citation supporting its assertion that, prior to the Region's appellate briefs in this case,[48] the Agency ever, much less "consistently," followed the *ejusdem generis* canon when interpreting the last clause of the regulatory definition. Accordingly, without any support for the Region's assertion, we cannot find that application of the *ejusdem generis* canon to the term "regulated NSR pollutant" has been the Agency's historical interpretation of this provision.

Moreover, the Supreme Court has recently explained that *ejusdem generis* and other similar statutory interpretive principals should not be "woodenly" applied every time a general phrase is used along with more limiting ones. *Ali v. Fed. Bureau of Prisons*, 128 S.Ct. 831, 841 (2008). Like other statutory interpretive canons, *ejusdem generis* should not be followed if there are good reasons not to apply it. *E.g.*, *Norfolk & W. Ry. Co. v. Am. Train Dispatchers' Ass'n*, 499 U.S. 117, 129 (1991). In other words, as a matter of statutory interpretation (or, here, regulatory interpretation), *ejusdem generis* functions as only one, and not necessarily the best, means for discerning the text's intent where the words do not have a plain meaning.

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[48] The Region introduced this argument for the first time in its March Brief – it did not include it in its response to comments or in its initial response to the Petition.

In the present context, we do not think it is appropriate to use the *ejusdem generis* canon to interpret an otherwise ambiguous or indeterminate[49] regulatory text. The Supreme Court observed recently that "the existence of a parroting regulation does not change the fact that the question here is not the meaning of the regulation but the meaning of the statute. An agency does not acquire special authority to interpret its own words when, instead of using its expertise and experience to formulate a regulation, it has elected merely to paraphrase the statutory language." *Gonzales v. Oregon*, 546 U.S. 243, 257 (2006).

The Region essentially argues that by "parroting" the statutory language as the last part of a four-part definition, EPA both exercised its expertise as to the first three parts of the definition and narrowed the meaning that could otherwise be accorded the parroted statutory phrase thereby supplanting its earlier interpretation of the statutory phrase set forth in the 1978 preamble. Without a clear and sufficient supporting analysis or statement of intent in the regulation's preamble, we cannot ground our decision on the *ejusdem generis* canon of interpretation to determine that the Agency did in fact exercise expert judgment in that manner. We thus conclude that the regulatory text, standing alone, is not sufficient to establish that the authority the Region admits it would otherwise have under the statute is constrained by the 2002 rulemaking such that the Region was required to apply BACT only to pollutants "subject to a statutory or regulatory provision that requires actual control of emissions of that pollutant." Resp. to Comments at 5-6.

ii. *Regulatory Text and Preamble Read Together*

In its appellate briefs, the Region does not rely solely on the regulatory text, but also argues that the meaning it advocates is apparent from reading the regulatory text in conjunction with statements made in the preamble to the 2002 rulemaking. Specifically, in responding to the

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[49] The *ejusdem generis* canon of interpretation is triggered only by uncertain text. *E.g.*, *Garcia v. United States*, 469 U.S. 70, 74-75 (1984); *Gooch v. United States*, 297 U.S. 124, 128 (1936).

Petition, the Region states that when EPA adopted the regulatory definition of "regulated NSR pollutant," it published a list of pollutants described as "'currently regulated under the Act,'" which "did not include carbon dioxide or any other pollutant that was not subject to a statutory or regulatory provision that requires actual control of emissions of that pollutant." Region's Resp. to Pet. at 7-8. The Region also cited, in its response to comments, the preamble to the proposed rulemaking, which contained a similar list of pollutants described as currently regulated under the Act. Resp. to Comments at 6 (citing *Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NSR)*, 61 Fed. Reg. 38250, 38,309-10 (proposed July 23, 1996)); *see also* Region's Resp. to Pet. at 9. Based on this background, the Region argues that "[t]hrough the contemporaneous adoption of the regulatory language and publication of a definitive list of pollutants subject to regulation at the time, EPA established its interpretation of the phrase 'pollutant that otherwise is subject to regulation' in section 52.21(b)(50)(iv)." Region's Resp. to Pet. at 8.

We are not persuaded that the publication of this pollutant list was sufficient to establish a definitive Agency interpretation of the fourth and last part of the regulatory definition allegedly constraining the authority the Region admits it would otherwise have under the same language in the statutory text. We do not see in either the 2002 final preamble, or in the 1996 preamble for the proposed rulemaking, any public notice of the interpretation the Region now advocates,[50] let alone anything approaching the same level of express notice and clear statement that is found in the preamble for the 1978 rulemaking, in which the Administrator stated he was making "final" an "interpretation" he believed to be correct. 43 Fed. Reg. at 26,397. Moreover, as explained *infra*, because the Agency did not seek comment on the regulatory definition, and in particular on part (iv) of the definition, it

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[50] We reject the Region's contention that Sierra Club is barred from contesting the Region's interpretation of 40 C.F.R. § 52.21(b)(50)(iv) on the grounds that it had an opportunity to contest that interpretation at the time the regulations were promulgated. Region's Resp. to Pet. at 8. As explained below, we find instead that the preamble did not provide notice of the interpretation the Region now advocates.

was reasonable for the public to conclude that the Agency was merely mirroring the statutory language, not narrowing or putting a particular gloss on it.

The Region explains in its appellate briefs that the Agency's use of an "actual control of pollutant emissions" interpretation in creating the 2002 preamble's pollutant list is apparent by observing that the listed pollutants were subject to emissions controls and that none of the listed pollutants were subject to only monitoring and reporting requirements. *See*, *e.g.*, Region's Mar. Brief at 31 ("This list did not include carbon dioxide or any other pollutant that was not subject to a statutory or regulatory provision that requires actual control of emissions of that pollutant."). The Region correctly states that the 2002 preamble's pollutant list did not include any pollutants that were regulated solely by monitoring or reporting requirements and, standing alone, the list is not inconsistent with the interpretation that the Region articulated in its response to comments. However, as noted in the previous section, the mere absence of inconsistency is not sufficient to show that the Region's permitting authority was constrained by the interpretation the Region advocates, particularly since the 2002 preamble does not contain any language clearly and unambiguously stating that the list was intended to be exclusive or to be an interpretation of the defined term.

The context of the pollutant list also does not indicate that the list was provided as an interpretation of the defined term "regulated NSR pollutant." Both the 1996 preamble for the proposed rulemaking and the 2002 preamble for the final rule included the pollutant list under a general discussion of regulatory changes made to exclude hazardous air pollutants listed under CAA section 112 from PSD review as required by the 1990 Public Law. 61 Fed. Reg. at 38,309-10; 67 Fed. Reg. at 80,239-40. Because the 1996 proposed rulemaking did not propose to promulgate "regulated NSR pollutant" as a defined term, the inclusion of the pollutant list in a discussion of hazardous air pollutants in the 1996 Federal Register cannot be viewed as indicating the Agency's interpretation of regulatory text. In the 2002 preamble, the pollutant list appears several paragraphs *before* the preamble discusses a commenter's suggestion to "amend the regulations to include a definition of pollutants

regulated under the Act." 67 Fed. Reg. at 80,239-40. Indeed, the 2002 preamble does not even mention in its narrative description the last part of the four-part definition. *Id.* at 80,240. This context, divorced as it is from any mention of the last clause of the regulatory definition, does not support the Region's contention that the pollutant list constituted the Agency's interpretation of the phrase "pollutant that otherwise is subject to regulation" in section 52.21(b)(50)(iv).[51] Because the Agency apparently chose not to make its interpretation explicit in the wording of the last part of the four-part definition, but instead chose to parrot the statutory language, which it now admits is potentially subject to a broader interpretation, the Agency failed to articulate, or give clear notice of its interpretation.

c. *The Wegman Memo and the Cannon Memo*

In its appellate briefs, the Region discusses two memoranda[52] EPA issued over the years that the Region describes as making the Agency's interpretation "apparent to the regulated community and other stakeholders." Region's Resp. to Pet. at 9; Region's Mar. Brief at 35-38, 41-42. The Region cites the following documents: 1) Memorandum

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[51] We reject the Region's contention that the list of pollutants set forth in the preamble provided notice to the public, as the Region now contends, of all pollutants falling within the definition of "regulated NSR pollutant." Region's Resp. to the Pet. at 8 & n.3.

[52] In its appellate briefs, the Region also cites two previous Board decisions as support for its interpretation of a historical Agency interpretation. Region's Resp. to Pet. at 10 (citing *In re Inter-Power of N.Y., Inc.*, 5 E.A.D. 130 (EAB 1994); *In re Kawaihae Cogeneration Project*, 7 E.A.D. 107 (EAB 1997)); Region's Mar. Brief at 38-41; *see also* UARG Mar. Brief at 34-36. We reject the Region's characterization of these decisions. The *Inter-Power* case involved a permit that was issued before EPA promulgated the part 75 CO_2 monitoring and reporting requirements in 1993. *Inter-Power*, 5 E.A.D. at 131 (noting that the permit was issued on October 26, 1992). The *Kawaihae* case also does not represent a determination by this Board regarding the meaning of "subject to regulation under this Act" in CAA sections 165 and 169 – the petitioner in that case raised concerns that the permit ignored greenhouse gas emissions "contrary to international agreements concerning global warming." *Kawaihae*, 7 E.A.D. at 132. The *Kawaihae* decision was also issued at a time when the Wegman Memo would suggest the EPA viewed CO_2 as not being an "air pollutant."

from Lydia N. Wegman, Deputy Director, Office of Air Quality Planning and Standards, U.S. EPA, *Definition of Regulated Air Pollutant for Purposes of Title V* (Apr. 26, 1993) ("Wegman Memo"); and 2) the 1998 Cannon Memo. *See* Region's Resp. to Pet. at 9-11. These memoranda, however, do more to confuse the historical record of the Agency's interpretation than they do to show that it has been long-standing and consistent.

The Region characterizes the Wegman Memo as describing "the scope of pollutants covered by the Title V program on the basis of a two-step line of reasoning." Region's Mar. Brief at 35. The Region acknowledges that, since the first step "interpreted the section 302(g) definition of 'air pollutant' more narrowly than the broad reading recently adopted by the Supreme Court, OAR and Region VIII do not dispute that Supreme Court decision casts doubt on the first premise of that memorandum." *Id.* at 36. The Region argues that the *Massachusetts* decision did not address the second step of the Wegman Memo's discussion and, thus, the second step "remains a viable interpretation of the phrase 'subject to regulation.'" *Id.*[53]

The Wegman Memo, however, offered no legal support or reasoned analysis for what the Region describes as the second step. The Region describes the second step as "starting after the first sentence in the second paragraph" of the Wegman Memo's discussion of the meaning of "air pollutant." Significantly, the second step, as the Region identifies it, is still part of the analysis of why CO_2 and methane do not come within the meaning of "air pollutant" as defined by CAA section 302(g). This is precisely the issue addressed by the Supreme Court in *Massachusetts*, and on which the Supreme Court held that a broader meaning was intended by Congress. *Massachusetts v. EPA*, 549 U.S. 497, slip op. at 29-30 (2007).

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[53] The Wegman Memo may also have been effectively negated, at least as to what the Region terms the first premise, by General Counsel Jonathan Z. Cannon's 1998 memo, which concluded that CO_2 falls within the definition of "air pollutant" under CAA section 302(g). Cannon Memo at 2-3.

Moreover, the Wegman Memo's second step, as the Region identifies it, began by stating that the memo's approach "would include, of course, all *regulated air pollutants* plus others specified by the Act or EPA rulemaking." Wegman Memo at 4 (emphasis added). The term "regulated air pollutants" as used in the Wegman Memo specifically referred to the definition set forth in 40 C.F.R. § 70.2. *Id.* at 1. The definition of "regulated air pollutant" in 40 C.F.R. § 70.2, by its plain terms, applies only to Part 70 permits and does not include the catch-all phrase at issue in this case specifically included in 40 C.F.R. § 52.21(b)(50)(iv). Thus, at best, the Wegman Memo does not appear to provide an interpretation that can be applied beyond the specific circumstances of the Title V program it expressly addressed.

The Wegmen Memo did state that because section 821 of the 1990 Public Law only required monitoring and reporting of CO_2 and did not require actual control of emissions, "these provisions do not preempt EPA's discretion to exclude these pollutants" from the definition of "air pollutant." Wegman Memo at 5. The memo then compared its approach to "the traditional practice of the prevention of significant deterioration (PSD) program," but provided no legal support or analysis for what it terms "the traditional practice" of the PSD program. *Id.* at 5. At bottom, the complete absence of any legal analysis supporting its conclusory statements, its questionable status in light of the *Massachusetts* decision, and its grounding in the Title V program rather than PSD make the Wegman Memo a weak reed to support an Agency historical interpretation.

The Cannon Memo, issued in 1998, stated that "[w]hile CO_2 emissions are within the scope of EPA's authority to regulate, the Administrator has made no determination to date to exercise that authority under the specific criteria provided under any provision of the Act." Cannon Memo at 5.[54] That memo arguably could support the Region's position that despite the CO_2 monitoring and reporting requirements promulgated in Part 75 in 1993, the Agency did not

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[54] General Counsel Gary S. Guzy defended the Cannon Memo during his tenure. UARG Mar. Brief at 25.

consider CO_2 to be "regulated" for purposes of the PSD program. However, the Cannon Memo was "formally" withdrawn by General Counsel Robert E. Fabricant. *See* Memorandum from Robert E. Fabricant, General Counsel, U.S. EPA, to Marianne L. Horinko, Acting Administrator, U.S. EPA, *EPA's Authority to Impose Mandatory Controls to Address Global Climate Change under the Clean Air Act* at 1 (Aug. 23, 2003). The Fabricant Memo concluded that EPA did not have the statutory authority to regulate CO_2. The reasoning of the Fabricant Memo was subsequently rejected and overruled by the Supreme Court in *Massachusetts v. EPA*, 549 U.S. 497, slip op. at 29-30 (2007). Thus, at bottom, both the Wegman and Cannon memos were either expressly withdrawn or in some manner subsequently significantly undermined.

Tellingly, the Region states on appeal that "[t]he Supreme Court decision effectively forced EPA to return to the interpretation (and distinction) reflected in the [Cannon Memo]." Region's Resp. to Pet. at 17. The Region, however, has not pointed to any instance where the Agency has announced its decision to return to, or to re-adopt, the Cannon Memo's analysis prior to the Region's appellate brief in this case. This chronology consists of the Fabricant Memo's reversal of the earlier Cannon Memo, followed by a Supreme Court decision that negated the Fabricant Memo. This history does not support an historical Agency interpretation.

In addition, it is questionable whether the Wegman Memo or the Cannon Memo can be viewed as articulating the Agency's interpretation of CAA sections 165 and 169, particularly since the Agency had already articulated an interpretation of those provisions in 1978. *See*, *e.g.*, *Farmers Tel. Co.*, *v. FCC*, 184 F.3d 1241, 1250 (10th Cir. 1999); *Alaska Prof'l Hunters Ass'n v. FAA*, 177 F.3d 1030, 1033-34 (D.C. Cir. 1999); *Paralyzed Veterans of Am. v. D.C. Arena L.P.*, 117 F.3d 579, 586 (D.C. Cir. 1997). The Cannon Memo did not mention the PSD provisions at issue in this case, and the Wegman Memo mentioned the PSD program only in passing as support for its approach, and did not state that it was announcing an Agency interpretation of the provisions at issue here.

Neither mentioned the Administrator's interpretation announced and made final in the 1978 Federal Register.

In sum, the Wegman Memo, the Cannon Memo, the 1996 preamble, and the 2002 rulemaking are, at best, weak authorities upon which to anchor the Region's conclusion stated in its response to comments that its authority to require a CO_2 BACT limit is constrained by an historical Agency interpretation of CAA sections 165 and 169. Accordingly, for the foregoing reasons, we conclude that the Region's rationale for not imposing a CO_2 BACT limit in the Permit – that it lacked the authority to do so because of an historical Agency interpretation of the phrase "subject to regulation under this Act" as meaning "subject to a statutory or regulatory provision that requires actual control of emissions of that pollutant" – is not supported by the record. Thus, we cannot sustain the Region's permitting decision on the grounds stated in its response to comments.

On appeal, but not in its response to comments, the Region suggests that its approach is grounded in a traditional practice of the PSD program. Specifically, the Region argues that its conclusion regarding the meaning of "the Agency's regulatory definition of 'regulated NSR pollutant' * * * is consistent with nearly *30 years of EPA practice* and is not precluded by the terms of the Clean Air Act." Region's Mar. Brief at 12 (emphasis added); *see also id.* at 6.[55] Authorities the Region cites do make reference to a "traditional practice." For example, the Wegman Memo states that its approach "is similar to the *traditional practice*" of the PSD program. Wegman Memo at 5 (emphasis added). Likewise, although the Cannon Memo does not specifically mention the PSD program, or sections 165 and 169, the broad statements of that memo also suggest the Agency has not treated CO_2 as a "regulated" pollutant

[55] Similarly, the Region argues that "EPA has never interpreted" the phrase subject to regulation under the Act "to cover pollutants subject only to monitoring and reporting requirements." Region's Resp. to Pet. at 7-8.

under any of the CAA provisions, including PSD.[56] Significantly for our purposes, however, neither memo cites to specific evidence of such a practice and the factual predicate for such a finding has not been developed in the record of the Region's permitting decision as defined by 40 C.F.R. § 124.18. *See*, *e.g.*, *In re ConocoPhillips Co.*, PSD Appeal No. 07-02, slip op. at 24-25 (EAB June 2, 2008), 13 E.A.D. __; *In re Indeck-Elwood*, *LLC*, PSD Appeal No. 03-04, slip op. at 29 (EAB Sept. 27, 2006), 13 E.A.D. __; *In re Gov't of D.C. Mun. Separate Sewer Sys.*, 10 E.A.D. 323, 342-43 (EAB 2002); *In re Chem. Waste Mgmt*, 6 E.A.D. 144, 151-52 (EAB 1995); *In re Amoco Oil Co.*, 4 E.A.D. 954, 964 (EAB 1993); *In re Waste Techs. Indus.*, 4 E.A.D. 106, 114 (EAB 1992).

Moreover, to the extent such a practice exists, the record for the Region's permitting decision does not include an analysis of whether recognizing such a practice as the Agency's interpretation of sections 165 and 169 would require withdrawal, amendment, modification, or clarification of the Agency's earlier interpretive statements. To the extent that any practice upon which the Region now relies is inconsistent with the Agency's previous interpretive statements published in the Federal Register, there is no analysis in the record regarding whether formalizing such a practice as a controlling interpretation may be accomplished through this permitting proceeding, which falls within the definition of an adjudication and licensing proceeding under the Administrative Procedure Act, 5 U.S.C. § 551, or whether a rulemaking under APA section 553 may be required. *See*, *e.g.*, *Farmers Tel. Co.*, *v. FCC*, 184 F.3d 1241, 1250 (10th Cir. 1999); *Alaska Prof'l Hunters Ass'n v. FAA*, 177 F.3d 1030, 1033-34 (D.C. Cir. 1999); *Paralyzed Veterans of Am. v. D.C. Arena L.P.*, 117 F.3d 579, 586 (D.C. Cir. 1997). Accordingly, we conclude that the Wegman Memo and Cannon Memos are not sufficient to form an alternative basis for sustaining the Region's conclusion that its authority was constrained by an historical agency interpretation.

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[56] UARG argues a similar point that "[s]ince at least 1993, [EPA] has consistently rejected any notion that CO_2 is subject to regulation for PSD purposes[.]" UARG Mar. Brief at 32.

4. *Whether EPA's CO_2 Monitoring and Reporting Regulations Are Not "Under" the CAA*

The Region argues, "even if the Board were to find error in EPA's historic interpretation and consider pollutants for which sources need only monitor and report emissions to be 'subject to regulation,' that premise alone would not make carbon dioxide regulated 'under the Act' for PSD purposes * * *." Region's Mar. Brief at 46. In particular, the Region argues that EPA's CO_2 monitoring and reporting regulations are not "under this Act" within the meaning of CAA sections 165 and 169 because section 821's text and context, including legislative history, demonstrates that Congress did not intend section 821 of the 1990 Public Law to amend the CAA and thus became part of the CAA. *Id.* at 45-53. If this interpretation were correct, it would support the Region's contention that section 821 is not a basis for finding that CO_2 is subject to regulation "under the Act."[57]

While section 821's text contains some features that support the Region's argument that Congress intended section 821 not to be part of the CAA, the text also contains some features that subvert the Region's contention. Significantly, as we explain below, the Agency's prior statements interpreting and applying section 821, including statements made in the Agency's regulations, are inconsistent with or contradict the interpretation advocated by the Region in this proceeding. Because the Region's and Sierra Club's arguments regarding section 821 have continued to evolve during the course of this appellate proceeding, it is clear that the Region did not fully consider these issues regarding section 821 in making its permitting decision. Further, the Agency has

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[57] This argument would not dispose of Sierra Club's contention that CO_2 is regulated under the CAA because CO_2 is regulated in some form under several State Implementation Plans promulgated under the CAA and approved by the EPA. Because, as discussed in the text, we do not sustain the Region's permitting decision on the alternative ground it argues, and because the Region did not have the opportunity to fully consider Sierra Club's arguments regarding the State Implementation Plans, we do not rule on Sierra Club's argument at this time, but instead direct that the Region consider in the first instance on remand the State Implementation Plans, along with other potential avenues of regulation of CO_2.

published in the regulations themselves interpretive statements that conflict with, or contradict, the interpretation the Region advocates on appeal. For these reasons, as well as the reasons articulated below, we decline to rely on the Region's interpretive arguments regarding section 821 as grounds to sustain the Region's permitting decision, and we remand the section 821 issues to the Region to consider more fully in making its permitting decision on remand.

In considering the parties' arguments regarding the import of section 821 in this proceeding, we observe at the outset that section 821 is not a model of drafting clarity. The reporter's notes for the United States Code compilation indicate that, in a number of respects, section 821's literal words are not what Congress apparently intended. For example, section 821 refers to Title V, which the reporter's notes state was probably intended to be Title IV; likewise, section 821 refers to CAA section 511, which the reporter's notes state was probably intended to be section 412. 42 U.S.C. § 7651k note. These obvious errors make more difficult the task of analyzing whether textual features the parties identify support the inferences regarding congressional intent they advocate.

In addition, section 821's text contains features both supporting and subverting the arguments the Region advances. For example, the language of the statute contains some indication that Congress did not intend section 821 to amend the CAA. Specifically, the Region correctly observes that numerous provisions of the 1990 Public Law expressly state an intention to amend the CAA, but that section 821 did not contain such language. Region's Mar. Brief at 47-48 (observing that sections 822 and 801 of the 1990 both stated "the Clean Air Act is amended * * *" but that no similar language is included in section 821); *see also* Deseret's Mar. Brief at 26-27; UARG's Mar. Brief at 8.[58] Similarly,

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[58] The Region argues that these distinctions show that "in passing the public law known as the Clean Air Act Amendments of 1990, Congress gave clear indication which sections were and were not to be treated as a part of the Clean Air Act, and this clear language trumps any presumption that section 821 is a part of the Act." Region's Mar. Brief at 48. The Region observes that this Congressional intent is recognized both

(continued...)

Deseret correctly observes that many of the 1990 Public Law's provisions containing language expressly amending the CAA also referred to the CAA as "this Act," whereas section 821 refers to the CAA as "the Clean Air Act," which may suggest that the CAA is a separate statute from section 821. Deseret's Mar. Brief at 27 (citing section 701 of the 1990 Public Law as an example of a provision that expressly amended the CAA and referred to it as "this Act"); *see also* UARG's Mar. Brief at 9-10. The Region, Deseret, and UARG also point to statements in the legislative history and other statements made after the 1990 Public Law was enacted, which they argue show that Congress did not intend section 821 to amend the CAA. Region's Resp. to Pet. at 18; Region's Mar. Brief at 46; Deseret Mar. Brief at 28-29; UARG Mar. Brief at 11-20.[59]

Sierra Club, however, correctly points out, based on the statutory text, that Congress intended section 821 to be enforceable under and otherwise entwined with the CAA, and in that sense arguably a part of the CAA. Specifically, section 821 of the 1990 Public Law made an enforcement provision of the CAA, section 412(e), "apply for purposes of this section [821] in the same manner and to the same extent as such provision applies" to monitoring and reporting required under CAA section 412. 1990 Public Law § 821(b). Based on this enforcement provision, Sierra Club argues that "Congress clearly intended section 821

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[58](...continued)
in the United States Code treatment of section 821 as a note attached to 42 U.S.C. § 7651k and in a publication issued by the House Energy and Commerce Committee in 2001. *Id.* (referring to H. Comm. on Energy and Commerce, *Compilation of Selected Acts within the Jurisdiction of the Committee on Energy and Commerce* 451-52 (Comm. Print 2001)); *see also* Deseret's Mar. Brief at 29-30.

[59] Deseret points to a statement by Congressman Cooper that section 821 "does not force [carbon dioxide] reductions." Deseret Mar. Brief at 28 (quoting W. Hein, *A Legislative History of the Clean Air Act Amendments of 1990* at 2985 (1998) (alterations made by Deseret)); *see also* Region's Resp. to Pet. at 18. Deseret also points to a letter that Congressman John Dingell sent to Congressman David McIntosh in 1999. Deseret Mar. Brief at 29 (citing Letter from John Dingell, Ranking Member, H. Energy and Commerce Comm., to Hon. David McIntosh, Chairman, Senate Subcomm. on Nat'l Econ. Growth, Natural Res. and Regulatory Affairs (Oct. 5, 1999)).

to be an enforceable part of the Act." Sierra Club's April Reply Brief at 17. Sierra Club argues further that section 821's monitoring requirements are intrinsic to the CAA in that they apply to sources regulated under CAA Title IV and are "inextricably tied to the framework in section 412 of the Act." *Id.* at 16-17.

In its appellate briefs, the Region responds to Sierra Club's observations regarding section 821's enforcement provision by suggesting that enforcement may proceed either under a theory that section 821 incorporates by reference the CAA's enforcement mechanisms or under a theory that section 821 expands the CAA's enforcement provisions to cover section 821's monitoring requirements. The Region contends that neither of these interpretations "make carbon dioxide regulated 'under the Act,' because such a result would be inconsistent with the clear Congressional intent to exclude the requirements of section 821 of [the 1990 Public Law] from the Clean Air Act." Region's Aug. Brief at 24.[60]

Against this background of a lack of legislative clarity as described above, the Agency's historical statements regarding section 821 preclude our acceptance of the interpretation the Region now advocates, at least in the context of this appeal. While the Agency has not heretofore expressly addressed the relationship between section 821 and the Clean Air Act, its past actions certainly seem to treat section 821 as if it were part of the Act. For example, the Agency did not distinguish between section 821 of the 1990 Public Law and the CAA (1) in statements EPA made when it issued regulations implementing the 1990 Public Law, (2) in the text of those regulations, and (3) in enforcing the regulation's CO_2 monitoring and reporting requirements. In a number of

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[60] The Region argues further that "enforcement does not automatically equate to 'regulation'" because "EPA has long-interpreted the phrase 'regulation' for PSD permitting purposes to require actual control of emissions of a pollutant." Region's Aug. Br. at 24 n.6. This argument, of course, begs the very question which we consider in Part III.B.3 above, namely whether the Agency in fact has clearly and consistently articulated an interpretation of "subject to regulation" as tied to "actual control of emissions." As discussed in that Part, we find that the record of the Region's permitting decision is not sufficient to support the Region's contention.

instances, EPA referred to section 821 of the 1990 Public Law as part of the CAA. For example, in EPA's 1991 notice of proposed rulemaking to implement part of the 1990 Public Law, EPA stated that the rule would "establish requirements for the monitoring and reporting of CO_2 emissions pursuant to *Section 821 of the Act*." *Acid Rain Program: Permits*, *Allowance Sys. Continuous Emissions Monitoring*, *and Excess Emissions*, 56 Fed. Reg. 63,002, 63,291 (proposed Dec. 3, 1991) (emphasis added).[61]

Further, in the text of the rule EPA promulgated in 1993, EPA referred to section 821 as part of the CAA: "The purpose of this part is to establish requirements * * * pursuant to *Sections 412 and 821 of the CAA*, 42 U.S.C. 7401-7671q as amended by Public Law 101-549 (Nov. 15, 1990)." 40 C.F.R. § 75.1(a) (emphasis added). The regulations also provide that a violation of the regulations is "a violation of the Act." 40 C.F.R. § 75.5(a).

In its brief before the Supreme Court in the *Massachusetts* case, the United States stated that "[t]hree provisions *added to the CAA in 1990* specifically refer to carbon dioxide or global warming," and the Agency identified "Section 821 of the CAA Amendments of 1990" as one of those provisions. Brief of the Federal Respondent at 26 in *Massachusetts v. EPA*, 549 U.S. 497 (2007) (No. 05-1120) (emphasis added).

The Region also acknowledges that EPA's enforcement actions have not distinguished section 821 as separate from the CAA. The Region states as follows:

> With respect to the CO_2 monitoring and reporting requirements in particular, EPA's pleadings in these enforcement actions generally exhibit the same imprecision found in EPA's references to section 821

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[61] In a subsequent rulemaking, EPA also referred to "Sections 412 and *821 of the Act*." 60 Fed. Reg. 26,510, 26,510 (May 17, 1995) (emphasis added); *see also Acid Rain Program: Continuous Emissions Monitoring*, 59 Fed. Reg. 42,509 (Aug. 18, 1994).

> CO_2 requirements in the preamble and regulatory text promulgating the CO_2 requirements in the Part 75 regulations. * * * EPA generally referred to the CAA § 113 authority to bring the claims but did not clarify exactly how the authority provided by CAA § 113 applied to enforce the specific requirements of section 821 of [the 1990 Public Law] and the corresponding regulations in Part 75 implementing these requirements.

Region's August Brief at 21. For example, in *In re Indiana Municipal Power Agency*, Docket No. CAA-05-2000-0016, Compl. ¶¶ 1, 4 (Sept. 29, 2000), U.S. EPA Region 5 stated that the case was "an administrative proceeding to assess a civil penalty *under* Section 113(d) of the Clean Air Act (the Act)" and that "[p]ursuant to *Section 412 and 821 of the Act*, 42 U.S.C. §§ 7401-7671q, as amended by Public Law 101-549 (November 15, 1990) the Administrator established requirements for the monitoring, record keeping, and reporting of * * * carbon dioxide emissions * * *." *Id.* (emphasis added); *see also In re IES Utilities*, *Cedar Rapids*, *Iowa*, Docket No. VII-95-CAA-111, Compl. ¶ 3 (June 15, 1995) (alleging that carbon dioxide emissions monitoring is required "*[u]nder Section 412 of the Act*, 42 U.S.C. § 7651k, and 40 C.F.R. Part 75" (emphasis added)).

We recognize that the Region argues in its August Brief that each of the enforcement actions it has identified arises in a context where the emissions source failed to comply with all of the Part 75 monitoring and reporting requirements and not just the CO_2 requirements and that, therefore, "EPA's citation of section 113 in these cases does not necessarily demonstrate that the Agency adopted any specific interpretation" regarding the precise relationship between section 821's enforcement authority and the Part 75 regulations. Region's Aug. Brief at 20-21. In its brief, the Region offers alternative theories to fill the gap: the Region suggests that enforcement may proceed either under a theory that section 821 incorporates by reference the CAA's enforcement mechanisms or alternatively under a theory that section 821 expands the CAA's enforcement provisions to cover section 821's monitoring requirements. *Id.* at 11-20.

With respect to the second of these alternatives, the Region argues that "expansion of the enforcement authority found in sections 412(e) and 113 of the Act * * * does not sweep either section 821 or the regulations implementing it into the Act." *Id.* at 19; *see also id.* at 24. The Region makes this argument despite the fact that EPA has invoked section 113 as the jurisdictional basis for enforcing Part 75 monitoring and reporting violations, including violations with respect to CO_2. The Region's proposition is not self-evident, and the only legal support the Region offers for this contention is that, in its view, "such a result would be inconsistent with the clear congressional intent to exclude the requirements of section 821 of [the 1990 Public Law] from the Clean Air Act." *Id.* at 24. This, of course, begs the very questions at issue regarding whether a Congressional intent on this question can be determined from the textual features identified above and whether the Agency's own previous interpretive statements that conflict with or contradict the interpretation the Region now advocates precludes our acceptance of the Region's current position.

In view of the foregoing, including the Agency's admission that even now it has not yet determined on what jurisdictional theory enforcement of Part 75 CO_2 requirements may proceed, we question how much respect or deference a reviewing court would give the interpretation the Region now advocates, particularly given the history of previous Agency statements regarding "section 821 of the Act."[62] It is well recognized that "the consistency of an agency's position is a factor in assessing the weight that position is due." *Good Samaritan Hosp. v. Shalala*, 508 U.S. 402, 417 (1993); *see also INS v. Cardoza-Fonseca*, 480 U.S. 421, 447 n.30 (1987) ("An agency interpretation of a relevant provision which conflicts with the agency's earlier interpretation is 'entitled to considerably less deference' than a consistently held agency view." (quoting *Watt v. Alaska*, 451 U.S. 259, 273 (1981))); *Southeastern Cmty. Coll. v. Davis*, 442 U.S. 397, 411 n.11 (1979) (fact that the agency's interpretation was "neither consistent nor longstanding" which "substantially diminishes the deference to be given to [the agency's] present interpretation of the statute"); *Gen. Elec. Co.*

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[62] 56 Fed. Reg. at 63,291.

v. Gilbert, 429 U.S. 125, 143 (1976) ("We have declined to follow administrative guidelines in the past where they conflicted with earlier pronouncements of the agency."); *Skidmore v. Swift & Co.*, 323 U.S. 134, 140 (1944) ("The weight of such [an administrative] judgment in a particular case will depend upon the thoroughness evident in its consideration, the validity of its reasoning, its consistency with earlier and later pronouncements, and all those factors which give it power to persuade, if lacking power to control.").

At the same time, we are mindful that the law does not require an agency to stand by its initial interpretations or policy decisions in all circumstances.[63] Instead, "an agency changing its course * * * is obligated to supply a reasoned analysis for the change beyond that which may be required when an agency does not act in the first instance." *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 42 (1983). However, as to the statements made in the text of the regulations, themselves, we question (but do not decide) whether such statements constitute "legislative rules," which Administrative Procedure Act section 553, 5 U.S.C. § 553, requires EPA to change only through a notice and comment rulemaking; or, alternatively, we question (but do not decide) whether the combined effect of these Agency statements constitutes an authoritative "interpretive rule" meeting the characteristics for which a notice and comment rulemaking would be required in any event if the Agency were to change the interpretation. *See*, *e.g.*, *Farmers Tele. Co.*, *Inc. v. FCC*, 184 F.3d 1241, 1250 (10th Cir. 1999); *Alaska Prof'l Hunters Ass'n v. FAA*, 177 F.3d 1030, 1033-34 (D.C. Cir. 1999);

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[63] We do, of course, recognize that if we were to adopt the Region's interpretation, that interpretation would not be a post hoc rationalization, but instead would be the final Agency action. *See*, *e.g.*, *Martin v. Occupational Safety & Health Review Comm'n*, 499 U.S. 144, 157 (1991) ("The Secretary's interpretation of OSH Act regulations in an administrative adjudication, however, is agency action, not a post hoc rationalization of it."). Although we have the authority to resolve legal questions on behalf of the Agency in issuing the Agency's final decision, even legal and interpretive questions are best resolved on the basis of a well-developed record. Here, the parties' arguments have continued to evolve and be refined during the course of this appeal, which presents a less than full foundation for resolving such questions.

Paralyzed Veterans of Am. v. D.C. Arena L.P., 117 F.3d 579, 586 (D.C. Cir. 1997).

5. *Summation Regarding the CO_2 BACT Limitation Issue*

As explained above, we conclude that the meaning of the term "subject to regulation under this Act" as used in sections 165 and 169 is not so clear and unequivocal as to preclude the Agency from exercising discretion in interpreting the statutory phrase. Thus we find no evidence of a Congressional intent to compel EPA to apply BACT to pollutants that are subject only to monitoring and reporting requirements. Nevertheless, as explained in detail above, we conclude that the Region's rationale for not imposing a CO_2 BACT limit in the Permit – that it lacked the authority to do so because of an historical Agency interpretation of the phrase "subject to regulation under this Act" as meaning "subject to a statutory or regulatory provision that requires actual control of emissions of that pollutant" – is not supported by the administrative record as defined by 40 C.F.R. § 124.18. Thus, we cannot sustain the Region's permitting decision on the grounds stated in the Region's response to comments.

We also decline to sustain the Region's permitting decision on the alternative grounds it argues in this appeal, that regulations promulgated to satisfy Congress' direction set forth in section 821 of the 1990 Public Law are not "under" the CAA. As we explain above, this argument is at odds with the Agency's prior statements regarding the relationship between section 821 and the CAA, including statements in EPA's Part 75 regulations, and those statements preclude our acceptance of the Region's argument in this proceeding.

Accordingly, we remand the Permit for the Region to reconsider whether or not to impose a CO_2 BACT limit in light of the Agency's discretion to interpret, consistent with the CAA, what constitutes a "pollutant subject to regulation under this Act." In remanding this Permit to the Region for reconsideration of its conclusions regarding application of BACT to limit CO_2 emissions, we recognize that this is an issue of national scope that has implications far beyond this individual

permitting proceeding. The Region should consider whether interested persons, as well as the Agency, would be better served by the Agency addressing the interpretation of the phrase "subject to regulation under this Act" in the context of an action of nationwide scope, rather than through this specific permitting proceeding.[64] In any event, the Region's analysis on remand should address whether an action of nationwide scope may be required in light of the Agency's prior interpretive statements made in various memoranda and published in the Federal Register and the Agency's regulations. The Region should also consider whether development of a factual record to support its conclusions may be more efficiently accomplished through an action of nationwide scope, rather than through this as well as subsequent permitting proceedings. *See*, *e.g.*, Kenneth C. Davis & Richard J. Pierce, Jr., 1 *Administrative Law Treatise* at 262-64 (3rd ed. 1994).

IV. CONCLUSION

For the reasons discussed above, we remand the PSD Permit U.S. EPA Region 8 issued to Deseret Power Electric Cooperative for its proposed new waste-coal-fired electric generating unit at its existing Bonanza Power Plant. On remand, the Region shall reconsider whether or not to impose a CO_2 BACT limit in the Permit. In doing so, the Region shall develop an adequate record for its decision, including reopening the record for public comment. Petitioners or other participants in the remand proceeding who are not satisfied with the Region's decision on remand may appeal the Region's determination to this Board pursuant to 40 C.F.R. § 124.19. Pursuant to 40 C.F.R. § 124.19(f)(1)(iii), appeal of the remand decision will be required to

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[64] Since these same issues have been raised in a multiplicity of permit proceedings, an action of nationwide scope would also seem more efficient than addressing the issues in each individual proceeding. Once the Agency's position is clearly established, it could then be implemented in the various individual permit proceedings, current and future, through the Part 124 procedures.

exhaust administrative remedies. Finally, for the reasons stated above, we deny review of the "alternatives" analysis issue Sierra Club raised in its Petition.

So ordered.

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing *Order Denying Review In Part And Remanding In Part* in the matter of Deseret Power Electric Cooperative, PSD Appeal No. 07-03, were sent to the following persons in the manner indicated:

By Inter-Office Mail:

Brian L. Doster
Kristi M. Smith
Elliot Zenick
Air and Radiation Law Office
Office of General Counsel
MC 2344A
Environmental Protection Agency
1200 Pennsylvania Ave., N.W.
Washington, DC 20460

By Pouch Mail:

Sara L. Laumann
Office of Regional Counsel (R8-ORC)
Environmental Protection Agency, Region 8
1595 Wynkoop Street
Denver, CO 80202-1129

By First Class Mail:

David Bookbinder, Esq.
Sierra Club
400 C Street, N.E.
Washington, DC 20002

Steffen N. Johnson, Esq.
Susan A. MacIntyre, Esq.
Luke W. Goodrich
Winston & Strawn, LLP
1700 K Street, NW
Washington, DC 20006

James H. Russell, Esq.
35 W. Wacker Drive
Chicago, IL 60601

Michael McCally, M.D. Ph.D.
Executive Director
Physicians for Social Responsibility
1875 Connecticut Ave., N.W., Suite 1012
Washington, D.C. 20009

Kristen Welker-Hood, D.Sc. M.S.N. R.N.
Director of Environment and Health Prog.
Physicians for Social Responsibility
1875 Connecticut Ave., N.W., Suite 1012
Washington, D.C. 20009

Joanne Spalding, Esq.
Sierra Club
85 Second Street, Second Floor
San Francisco, CA 94105

Kimberly Massicotte, Esq.
Matthew Levine, Esq.
Assistant Attorneys General
P.O. Box 120, 55 Elm Street
Hartford, Connecticut 06106

Gerald D. Reid, Esq.
Assistant Attorney General
Department of the Attorney General
State House Station #6
Augusta, Maine 04333-0006

Stephanie Kodish, Esq.
National Parks Conservation Association
1300 19th Street, N.W., Suite 300
Washington, D.C. 20036

James R. Milkey, Esq.
Assistant Attorney General
Environmental Protection Division
One Ashburton Place
Boston, MA 02108

Kassia R. Siegel
Center for Biological Diversity
P.O. Box 549
Joshua Tree, CA 92252

Edward Lloyd, Esq.
The Environmental Law Clinic
Morningside Heights Legal Services, Inc.
Columbia University School of Law
435 West 116th Street
New York, NY 10027

Michael J. Myers, Esq.
Morgan A. Costello, Esq.
Assistant Attorneys General
Environmental Protection Bureau
The Capitol
Albany, NY 12224

Susan L. Durbin, Esq.
Deputy Attorney General
California Department of Justice
1300 I Street, P.O. Box 9442550
Sacramento, CA 94244-2550

Tricia K. Jedele, Esq.
Special Assistant Attorney General
Department of Attorney General
150 South Main Street
Providence, RI 02903

Stephanie Kodish, Esq.
National Parks Conservation Association
706 Walnut Street, Suite 200
Knoxville, TN 37902

Kevin O. Leske, Esq.
Scot Kline, Esq.
Assistant Attorneys General
Office of the Attorney General
109 State Street
Montpelier, VT 05609-1001

Peter S. Glaser, Esq.
Troutman Sanders LLP
401 9th Street, N.W., #1000
Washington, D.C. 20004

Katherine D. Hodge, Esq.
Hodge Dwyer Zeman
3150 Roland Avenue
Post Office Box 5776
Springfield, Ill 62705-5776

Maureen Martin, Esq.
W3643 Judy Lane
Green Lake, Wisconsin 54941

Russell S. Frye, Esq.
FryeLaw PLLC
1101 30th St., N.W., Suite 220
Washington, D.C. 20007-3769

Kenneth A. Reich, Esq.
Richard A. Sugarman, Esq.
WolfBlock LLP
One Boston Place, 40th Floor
Boston, MA 02108

Rae E. Cronmiller, Esq.
Environmental Counsel
National Rural Electric Cooperative Assoc.
4301 Wilson Boulevard
Arlington, VA 22203

Norman W. Fichthorn, Esq.
Allison D. Wood, Esq.
James W. Rubin, Esq.
Hunton & Williams LLP
1900 K Street, N.W.
Washington, DC 20006

Dated: NOV 13 2008

Annette Duncan
Secretary

EXHIBIT L

Photo courtesy of Ilene Samowitz

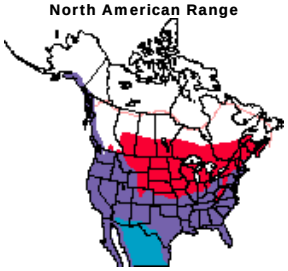
Great Blue Heron

Ardea herodias
Order: Ciconiiformes
Family: Ardeidae
Status: Common resident.

General Description

The familiar Great Blue Heron is the largest heron in North America. It is a large bird, with a slate-gray body, chestnut and black accents, and very long legs and neck. In flight, it looks enormous, with a six-foot wingspan. Adults sport a shaggy ruff at the base of their necks. A black eyebrow extends back to black plumes emerging from the head. Juveniles have a dark crown with no plumes or ruff, and a mottled neck. In flight, a Great Blue Heron typically holds its head in toward its body with its neck bent.

North American Range



Pictures

[Enlarge]

Habitat

Adaptable and widespread, the Great Blue Heron is found in a wide variety of habitats. When feeding, it is usually seen in slow-moving or calm salt, fresh, or brackish water. Great Blue Herons inhabit sheltered, shallow bays and inlets, sloughs, marshes, wet meadows, shores of lakes, and rivers. Nesting colonies are typically found in mature forests, on islands, or near mudflats, and do best when they are free of human disturbance and have foraging areas close by.

Behavior

Great Blue Herons are often seen flying high overhead with slow wing-beats. When foraging, they stand silently along riverbanks, lake shores, or in wet meadows, waiting for prey to come by, which they then strike with their bills. They will also stalk prey slowly and deliberately. Although they hunt predominantly by day, they may also be active at night. They are solitary or small-group foragers, but they nest in colonies. Males typically choose shoreline areas for foraging, and females and juveniles forage in more upland areas.

Diet

The variable diet of Great Blue Herons allows them to exploit a variety of habitats. This adaptability also enables them to winter farther north than most herons. Fish, amphibians, reptiles, invertebrates, small mammals, and even other birds are all potential prey of the Great Blue Heron. In Washington, much of their winter hunting is on land, with voles making up a major portion of their winter diet.

Nesting

Great Blue Herons usually breed in colonies containing a few to several hundred pairs. Isolated pair-breeding is rare. Nest building begins in February when a male chooses a nesting territory and displays to attract a female. The nest is usually situated high up in a tree. The male gathers sticks for the female who fashions them into a platform nest lined with small twigs, bark strips, and conifer needles. Both parents incubate the 3-5 eggs for 25-29 days. Both parents regurgitate food for the young. The young can first fly at about 60 days old, although they continue to return to the nest and are fed by the adults for another few weeks. Pair bonds only last for the nesting season, and adults form new bonds each year.

Migration Status

In parts of their range where food is not available in the winter, Great Blue Herons are migratory, and some may migrate to Washington from points farther north. Most of Washington's breeding population remains in the state year round. In parts of eastern Washington where the water freezes, Great Blue Heron populations concentrate along major rivers where food is available, or they hunt rodents on land.

Conservation Status

This highly adaptable species thrives in a wide variety of habitats over a broad range. Although Great Blue Herons are common and widespread, disturbance during a breeding season may lead to nest failure or colony abandonment. In April of 1999, 40% of the Seattle-area heron colonies were abandoned mid-season. This may have been caused by human disturbance or, as has recently observed in the Seattle area, by avaian predators. Bald Eagles, becoming increasingly more common with increasingly less foraging habitat, have taken to harassing Great Blue Herons on their colonies and feeding on the chicks. Adding to the impact, crows now wait on the sidelines and swoop in to take the remaining eggs once the eagles finish their meals. Another form of disturbance that is detrimental to herons on nesting colonies is noise. Clear-cutting and construction near a colony are particularly damaging, and a 1000-foot buffer zone around colonies is recommended. One change that has been noticed in Washington in recent years is that colonies that once numbered 100-200 nests are breaking up into smaller groups with 30-40 nests each.

When and Where to Find in Washington

Foraging Great Blue Herons are not hard to find in appropriate habitat throughout the year. Some prominent rookeries can be found on Samish Island between Samish Bay and Padilla Bay (Skagit County); at the Dumas Bay Sanctuary in Tacoma (Pierce County); by the Ballard Locks in Seattle, at Lake Sammamish State Park (both in King County); on Vancouver Lake (Clark County); and at Potholes WRA (Grant County). When observing Great Blue Heron rookeries, please keep in mind the 1000-foot disturbance buffer zone.

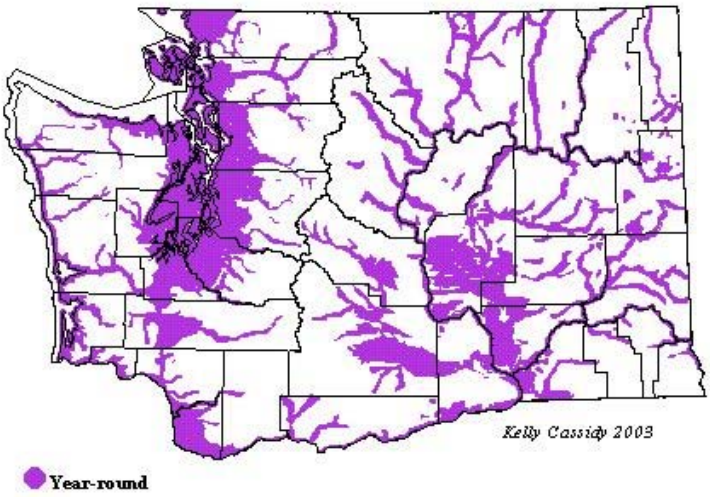
Click here to visit this species' account and breeding-season distribution map in *Sound to Sage*, Seattle Audubon's on-line breeding bird atlas of Island, King, Kitsap, and Kittitas Counties.

Abundance

C=Common; F=Fairly Common; U=Uncommon; R=Rare; I=Irregular

Ecoregion	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Oceanic												
Pacific Northwest Coast	C	C	C	C	C	C	C	C	C	C	C	C
Puget Trough	C	C	C	C	C	C	C	C	C	C	C	C
North Cascades	F	F	F	F	F	F	F	F	F	F	F	F
West Cascades	C	C	C	C	C	C	C	C	C	C	C	C
East Cascades	C	C	C	C	C	C	C	C	C	C	C	C
Okanogan	U	U	U	U	U	U	U	U	F	F	U	U
Canadian Rockies	F	F	F	F	F	F	F	F	F	F	F	F
Blue Mountains		R	F	F	F	F	F	F	F	U	R	R
Columbia Plateau	C	C	C	C	C	C	C	C	C	C	C	C

Washington Range Map



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