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REPLY OF BENICIANS FOR A SAFE AND HEALTHY COMMUNITY, CENTER FOR
BIOLOGICAL DIVERSITY, COMMUNITIES FOR A BETTER ENVIRONMENT,
NATURAL RESOURCES DEFENSE COUNCIL, SAN FRANCISCO BAYKEEPER,
SIERRA CLUB, AND STAND

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INTRODUCTION

In its Petition, Valero Refining Company asks the Surface Transportation Board to exercise jurisdiction over a refinery expansion project whose only connection to rail transportation is that the refinery will receive shipments by rail. That logic, if accepted, would vastly expand the Board's jurisdiction to any facilities — such as refineries, manufacturing plants, garbage dumps, and big-box retail stores — that propose to receive or ship goods by rail. Such a drastic expansion of the Board's jurisdiction is contrary to the law and the Board's prior decisions. Accordingly, Benicians for a Safe and Healthy Community, Center for Biological Diversity, Communities for a Better Environment, Natural Resources Defense Council, San Francisco Baykeeper, Sierra Club, and Stand (together, Benicians) oppose Valero's Petition for Declaratory Order.

The Board should reject Valero's argument that the Interstate Commerce Commission Termination Act (ICCTA) preempts the Benicia Planning Commission's denial of a use permit for Valero's proposed crude oil offloading facility at its refinery in Benicia, California (the Project). ICCTA limits the Board's jurisdiction to "transportation by rail carrier." 49 U.S.C. § 10501(a). Valero, an oil refining company, is undisputedly not a rail carrier. Further, Valero would not operate the Project as an agent for, or on behalf of, Union Pacific, the rail carrier that serves the refinery property. The Planning Commission's denial of the permit therefore falls beyond ICCTA's preemptive reach and the Board's jurisdiction.

Valero nonetheless argues that the Board should assert jurisdiction over the Project because a denial would *indirectly* "manage or govern" rail transportation by

preventing Valero from building the offloading rack, thus discouraging it from requesting shipments of oil by train. But ICCTA does not compel local approval of non-carriers' projects simply because those non-carriers wish to receive rail service. The Board evaluates whether a regulation "manages or governs" rail transportation only after it first determines that the project constitutes transportation by a "rail carrier." In any case, the denial of the refinery expansion does not prevent Valero from receiving, or Union Pacific from providing, common carrier service to the refinery.

Valero also argues that the Board should assert jurisdiction over the Project because the Planning Commission was concerned about the threat of explosive oil trains. But under ICCTA, the Commission's *reasons* for denying a permit for a non-carrier project are irrelevant. And even if the Planning Commission's reasons for denying the permit were somehow germane to the ICCTA analysis, the Commission cited numerous other reasons for denying the permit – such as increased air pollution from the refinery – that had nothing to do with Union Pacific's operations.

In short, ICCTA does not apply here because Valero is not a rail carrier. The application of the law to these facts is clear, so the Board should decline to open a proceeding and deny Valero's Petition for Declaratory Order.

BACKGROUND

Valero owns and operates an oil refinery in Benicia, California, a small city in the northeast San Francisco Bay Area. Reply, Ex. A, DEIR 3-3 fig.3-1.¹ The refinery currently

¹ Exhibit A includes excerpts from the Environmental Impact Report (EIR), which (footnote continued on next page)

receives crude oil by pipeline and ship, though it receives and exports many other products by rail, including petroleum products such as isobutane, liquefied propane gas, and petroleum coke. Pet. at 8 & n.25. Under its permit with the local air district, the refinery may process up to 165,000 barrels per day of crude oil. DEIR 3-2. The refinery is a major source of air pollution in the region. DEIR 4.1-8.

In December 2012, Valero applied for a City use permit to build an offloading rack and associated facilities to unload crude oil rail tank cars. Pet., Ex. 1. To build the Project, Valero would install an offloading rack, change the use of a floating-roof tank to store crude oil, build two offloading rail spurs, construct a 4,000-foot long oil pipeline, and relocate a tank farm dike wall, among other things. Pet., Ex. 1 at 7; DEIR 1-2. These facilities would be located on Valero's own refinery property. DEIR 3-2, 3-4 & fig.3-2. The Project site is in a 100-year floodplain as mapped by the federal government, DEIR 4.8-19, and is also just feet from Sulphur Springs Creek, which flows to the Suisun Bay, part of the larger San Francisco Bay, DEIR 3-4 to 3-5 & figs.3-1 & 3-2, 4.8-1.

As proposed, Valero would operate and control the Project; Union Pacific would simply deliver tank cars to the refinery property and then turn over operation of the trains to Valero for offloading. RDEIR 2-3, 2-20 to 2-21; FEIR 2.5-31. Valero would own or lease the tank cars used to carry the oil. RDEIR 2-8. The Project would allow Valero to unload 70,000 barrels of crude oil, roughly 100 tank cars, per day. Pet., Ex. 1 at 7. Although Valero refuses to disclose the types of oil it plans to import by rail, it has

comprises the Draft EIR (DEIR), Revised Draft EIR (RDEIR), and Final EIR (FEIR).

stated it intends to import light North American crudes (which include volatile Bakken crude from the Midwest), and it may also import heavy Canadian tar sands crudes. DEIR 3-22 to 3-24. Tar sands crude oil is one of the dirtiest types of oil on the planet.

The City's municipal code requires Valero to obtain a use permit before building the Project. DEIR 1-7. Valero also must obtain grading and building permits from the City, and, due to the local air pollution that may be associated with the refinery expansion, a permit from the local air district and a revision to its Title V Clean Air Act permit. DEIR 1-7. These discretionary decisions trigger the California Environmental Quality Act (CEQA). Cal. Pub. Res. Code § 21080(a).

The goal of CEQA is to “inform the public and its responsible officials of the environmental consequences of their decisions before those decisions are made.” *Marin Mun. Water Dist. v. KG Land Cal. Corp.*, 235 Cal. App. 3d 1652, 1660 (1991). To effect that policy, an agency with discretionary approval authority over a project must prepare an environmental impact report (EIR) when there is a “fair argument” that the project may cause significant environmental impacts. *Communities for a Better Env't v. S. Coast Air Quality Mgmt. Dist.*, 48 Cal. 4th 310, 319 (2010). The EIR must analyze all environmental impacts (including indirect and cumulative impacts), and incorporate all feasible mitigation measures for those impacts. Cal. Pub. Res. Code §§ 21002.1, 21061; Cal. Code Regs. tit. 14, §§ 15130, 15358.

Here, CEQA requires the City to analyze and, where feasible, mitigate not only the direct impacts of constructing the offloading racks, but also the indirect impacts of transporting and refining the oil. *See Marin Mun. Water Dist.*, 235 Cal. App. 3d at 1661

(explaining that EIRs must evaluate “secondary or indirect consequences,” which “may be several steps removed from the project in a chain of cause and effect” (internal quotation marks omitted)). That analysis is required even if some mitigation measures are legally infeasible due to federal preemption or other reasons.² See *City of Marina v. Bd. of Trustees of the Cal. State Univ.*, 39 Cal. 4th 341, 356 (2006).

The City released a Draft EIR, Revised Draft EIR, and Final EIR in 2014, 2015, and 2016, respectively. Many members of the public (including Benicians), the California Attorney General, and other government entities submitted comments explaining why the EIR was legally inadequate. Among other things, they explained that the EIR failed to properly analyze the potential increased air pollution and greenhouse gas emissions at the refinery, biological and water-quality impacts on Sulphur Springs Creek, and flood hazard impacts at the offloading rack. See, *infra*, pages 25-27.

In February 2016, after four nights of hearings, the Benicia Planning Commission unanimously denied the permit for the Project. Pet., Ex. 4 at 3, 5-6. Although the Commission was concerned about the hazards posed by oil trains, it was also concerned about a wide range of “on-site” impacts that had nothing to do with Union Pacific’s operations. It cited air pollution from the refinery, biological impacts of the Project’s construction near Sulphur Springs Creek, and hazards of building the Project in a 100-

² Because the Planning Commission denied the permit for the Project, any hypothetical mitigation measures the City could impose are not at issue here. In any case, ICCTA would not preempt any mitigation measures imposed on Valero as part of a conditional approval of the permit for the same reasons it would not preempt an outright denial of the permit.

year floodplain. Pet., Ex. 4 at 4-5. The Planning Commission ultimately found that the Project would be inconsistent with the City’s General Plan and “detrimental to the public health, safety, or welfare of persons residing or working in or adjacent to the neighborhood of the use, or to the general welfare of the city, as well as uprail communities.” Pet., Ex. 4 at 5.

Valero appealed the Planning Commission’s decision to the City Council, which held a series of hearings on the Project in the spring of 2016. The California Attorney General commented specifically on the preemption issue, explaining that ICCTA does not apply to the Project because Valero is not a rail carrier. Reply, Ex. B at 1, 3-4. On April 19, 2016, after Valero requested time to seek a declaratory ruling from the Board, the City Council deferred its decision on the Project until September 20, 2016. *See* Reply, Ex. C at 135, 150-52. Valero filed its Petition on May 31, 2016 – seventy-seven days after Valero first requested that the City Council defer its decision. *See* Reply, Ex. D at 114. In its Petition, Valero asks the Board to declare that the City’s authority over the Project is preempted by ICCTA.³ Pet. at 1.

LEGAL FRAMEWORK

ICCTA grants the Board “jurisdiction over transportation by rail carrier.” 49 U.S.C. § 10501(a); *see also id.* § 10501(b) (“[J]urisdiction of the Board over . . .

³ Valero’s Petition also discusses other projects not relevant to this proceeding. Pet. at 3-7; *see also* Letter from Jocelyn Thompson, Alston & Bird, to Cynthia T. Brown, STB (July 7, 2016) (discussing a different refinery project). Those projects, and their accompanying records, are not before the Board. Because the preemption inquiry is fact specific, the Board should decline to issue any rulings on other projects.

transportation by rail carriers . . . is exclusive.”). As the statute’s plain language makes clear, a project must *both* constitute “transportation” *and* be performed “by rail carrier” to come within the Board’s jurisdiction and trigger federal preemption. *See N.Y. & Atl. Ry. Co. v. Surface Transp. Bd.*, 635 F.3d 66, 71-72 (2d Cir. 2010); *SEA-3, Inc. – Pet. for Declaratory Order*, Docket No. FD 35853, 2015 WL 1215490, at *4 (STB Mar. 17, 2015).

ICCTA defines “rail carrier” to mean “a person providing common carrier railroad transportation for compensation.” 49 U.S.C. § 10102(5). “A common carrier railroad,” in turn, “is a well-understood concept . . . [that] refers to a person or entity that holds itself out to the general public as engaged in the business of transporting persons or property from place to place for compensation.” *Rail-Term Corp. – Pet. for Declaratory Order*, Docket No. FD 35582, 2013 WL 6078414, at *6 (STB Nov. 19, 2013) (internal quotation marks omitted). “Whether a particular activity is considered part of transportation *by rail carrier* under section 10501(b) is a case-by-case, fact-specific determination.” *Tex. Cent. Bus. Lines Corp. v. City of Midlothian*, 669 F.3d 525, 530 (5th Cir. 2012) (internal quotation marks omitted). To qualify, an activity must be performed directly by, or “under the auspices of,” a rail carrier. *SEA-3*, 2015 WL 1215490, at *4.

Whether a project constitutes “transportation by rail carrier” is a threshold inquiry in any ICCTA preemption analysis. If local government action does not target “transportation by rail carrier,” then the Board lacks jurisdiction over the project, and ICCTA preemption does not apply. *See N.Y. & Atl. Ry. Co.*, 635 F.3d at 71-75; *SEA-3*, 2015 WL 1215490, at *4-5. If, and only if, ICCTA applies does the Board proceed to

examine the scope of federal preemption. *See Tex. Cent. Bus. Lines Corp.*, 669 F.3d at 532; *N.Y. Susquehanna & W. Ry. Corp. v. Jackson*, 500 F.3d 238, 246, 252 (3d Cir. 2007).

There is a strong presumption against preemption in cases involving “zoning and health and safety regulation.” *See Fla. E. Coast Ry. Co. v. City of West Palm Beach*, 266 F.3d 1324, 1328-29 (11th Cir. 2001). Because of that presumption, the party contending that preemption applies has the burden of persuasion. *Id.* at 1329.

ARGUMENT

I. Valero is neither a rail carrier nor acting under the auspices of a rail carrier

It is undisputed that Valero, not Union Pacific, would construct, own, and operate the Project. RDEIR 2-3; FEIR 2.5-31. Valero is not a “rail carrier.” It does not “hold[] itself out to the general public as engaged in the business of transporting persons or property from place to place for compensation.” *Rail-Term Corp.*, 2013 WL 6078414, at *6 (internal quotation marks omitted). Nor has it obtained a license from the Board to operate as a rail carrier. *See* 49 U.S.C. §§ 10901, 10902; *Hi Tech Trans, LLC – Pet. for Declaratory Order – Newark*, STB Finance Docket No. 34192 (Sub-No. 1), 2003 WL 21952136, at *5 n.12 (STB Aug. 14, 2003) (“There are formal procedures that must be followed to obtain authority as a rail carrier from the Board.”). Indeed, Valero characterizes itself as a recipient, rather than a provider, of rail carrier service. *See* Pet. at 12-14. The Project would therefore not “be performed” by a “rail carrier.” *See* SEA-3, 2015 WL 1215490, at *4.

Valero also would not operate the Project under a rail carrier’s auspices. Activities are performed under a rail carrier’s auspices when “the rail carrier holds out

its own service through a third party that acts as the rail carrier's agent, or the rail carrier exerts control over the third party's operations." *SEA-3*, 2015 WL 1215490, at *4; *see, e.g., City of Alexandria – Pet. for Declaratory Order*, STB Finance Docket No. 35157, 2009 WL 381800, at *4 (STB Feb. 17, 2009). Here, Valero "would not be acting as an agent of [Union Pacific], and . . . [Union Pacific] would not control the operation of the unloading facilities." FEIR 2.5-31. Union Pacific admits that "[t]he [P]roject is being conducted under the auspices of Valero and not Union Pacific." Letter from Raymond A. Atkins, Union Pacific Railroad Co., to Cynthia T. Brown, STB, at 3 (June 17, 2016) [hereinafter Union Pacific Letter].

These concessions establish that the Project would not be performed under Union Pacific's auspices, and thus eliminate the need for further inquiry into this issue. *See SEA-3*, 2015 WL 1215490, at *4. Nonetheless, additional scrutiny of the record confirms this conclusion. For example, Valero would construct the Project entirely within its own property, *see* DEIR 3-2, 3-4 & fig.3-2; Valero would own or lease the tank cars used to deliver crude oil to the refinery, RDEIR 2-8; and Valero would maintain the "new equipment, pipelines, and associated infrastructure as well as new and realigned segments of existing railroad track within the Refinery boundary," RDEIR 2-3. And there is no evidence that Union Pacific would have contractual liability for the Project; that Union Pacific would hold out Valero's expanded refinery operations as part of Union Pacific's own services; that Union Pacific would set rates or receive fees for Valero's expanded refinery operations; that entities other than Valero would use the expanded refinery; or that the Project would advance Union Pacific's public functions

rather than Valero's private interests alone. *Cf., e.g., Tex. Cent. Bus. Lines Corp.*, 559 F.3d at 531-32; *Fla. E. Coast Ry. Co.*, 266 F.3d at 1336; *Town of Babylon & Pinelawn Cemetery*, 2008 WL 275697, at *3-4. "The facts of this controversy are not in dispute," Union Pacific Letter at 2, and confirm that Valero would not act under Union Pacific's auspices.

II. Because the Project would be performed neither by, nor under the auspices of, a rail carrier, it is not subject to the Board's jurisdiction or ICCTA preemption

A. An uninterrupted line of Board and court decisions makes clear that the Board lacks jurisdiction over the Project and that ICCTA does not apply

Because Valero's Project does not constitute transportation by a "rail carrier," the Board lacks jurisdiction over the Project, and ICCTA does not preempt the denial of the use permit for the Project. *See* 49 U.S.C. § 10501(a). In its recent *SEA-3* decision, the Board – under facts virtually identical to the ones here – reaffirmed that transportation "by rail carrier" is a prerequisite for Board jurisdiction and ICCTA preemption.

In that case, *SEA-3, Inc.*, a non-carrier, sought to construct additional rail berths at its propane transloading facility.⁴ *SEA-3*, 2015 WL 1215490, at *1. Pan Am Railways, a rail carrier, provided rail service to *SEA-3*'s facility, and the expansion would have enabled Pan Am to deliver additional propane to the facility. *Id.* After the local planning board approved *SEA-3*'s expansion project, the neighboring City of Portsmouth sought to overturn the approval, or, in the alternative, to require a study of the rail effects of the project. *Id.* at *2. *SEA-3* argued that Portsmouth was "attempting to regulate rail

⁴ "Transloading is the transfer of commodities between rail cars and trucks, a process used when the ultimate destination of a commodity is not served by a railroad." *Tex. Cent. Bus. Lines Corp.*, 669 F.3d at 528.

transportation by Pan Am,” *id.* at *3, and that “any attempts by localities or states to direct rail traffic or impose preclearance requirements on transload facilities are federally preempted under § 10501(b),” *id.* at *2.

Rejecting SEA-3’s arguments, the Board held that it lacked jurisdiction over SEA-3’s project and that SEA-3 had failed to demonstrate that ICCTA applied. *See id.* at *4-5. The Board explained that its jurisdiction only “extends to rail-related activities . . . if the activities are performed by a rail carrier, the rail carrier holds out its own service through a third party that acts as the rail carrier’s agent, or the rail carrier exerts control over the third party’s operations.” *Id.* at *4. “The record presented to the Board in this case,” the Board explained, “does not demonstrate that SEA-3 is a carrier or that it is performing transportation-related activities on behalf of Pan Am or any other rail carrier at the transload facility.” *Id.*

Here, as in *SEA-3*, there is no evidence that the activities at issue would be “performed by a rail carrier.” *See id.* On the contrary, the record clearly demonstrates that Valero, a non-carrier, would singlehandedly build and operate the Project. RDEIR 2-3; FEIR 2.5-31. Likewise, there is no evidence that a rail carrier would be “hold[ing] out its own service through a third party that acts as the rail carrier’s agent” or “exert[ing] control over the third party’s operations.” *See SEA-3*, 2015 WL 1215490, at *4. Instead, Valero has expressly denied any agency relationship with Union Pacific, and Union Pacific “would not control the operation of the unloading facilities.” FEIR 2.5-31. The record here, as in *SEA-3*, precludes a finding that the Board has jurisdiction or that ICCTA applies.

Valero clings to the dictum in *SEA-3* that if any “state or local entity were to take actions . . . that interfere unduly *with Pan Am’s common carrier operations*, those actions would be preempted under § 10501(b).” 2015 WL 1215490, at *6 (emphasis added); *see* Pet. at 19. But that dictum merely stands for the unremarkable proposition that state or local regulation of “transportation *by rail carrier*” would fall within the Board’s jurisdiction and be subject to § 10501(b) preemption. That hypothetical situation is not present here, as the Project would not be “performed by, or under the auspices of, a ‘rail carrier.’” *SEA-3*, 2015 WL 1215490, at *4. Similarly, in its letter to the Board, Union Pacific makes much of the proposition that state and local regulation may be preempted even if “a non-carrier seeks the permit.” Union Pacific Letter at 3. But that proposition goes no further than the familiar principle that a non-carrier’s project may fall within the Board’s exclusive jurisdiction if it is performed “under the auspices of” a rail carrier. *SEA-3*, 2015 WL 1215490, at *4. Those auspices are not present here.

While *SEA-3* is decisive on these facts, numerous other court and Board decisions are in accord. In *Hi Tech Trans, LLC v. New Jersey*, 382 F.3d 295 (3d Cir. 2004), the Third Circuit dismissed as “untenable” and “meritless,” *id.* at 310, a claim virtually identical to Valero’s claim here. The company Hi Tech, a non-carrier, operated a waste loading facility at a railroad’s rail yard. *Id.* at 298, 308. At the facility, Hi Tech unloaded trucks carrying trash, and then transferred the trash into railcars for shipment to disposal facilities. *Id.* at 299. Hi Tech claimed that ICCTA preempted the application of state solid waste regulations to the facility. *Id.* at 297. Dismissing Hi Tech’s contention, the Third Circuit held that “the most cursory analysis of Hi Tech’s operations reveals that

its facility does not involve ‘transportation by rail carrier.’ The most it involves is transportation ‘to rail carrier.’” *Id.* at 308. The court concluded that the “mere fact that the [railroad] ultimately uses rail cars to transport the . . . debris Hi Tech loads does not morph Hi Tech’s activities into ‘transportation by rail carrier.’” *Id.* at 309.

Both the Board and other courts have since affirmed “that there is, indeed, a difference between transportation *to* a rail carrier and transportation *by* a rail carrier.” *N.Y. & Atl. Ry. Co.*, 635 F.3d at 72-73 (emphases added); *see, e.g., J.P. Rail, Inc. v. N.J. Pinelands Comm’n*, 404 F. Supp. 2d 636, 650-52 (D.N.J. 2005); *CFNR Operating Co. v. City of Am. Canyon*, 282 F. Supp. 2d 1114, 1118-19 (N.D. Cal. 2003); *Tri-State Brick & Stone of N.Y., Inc. & Tri-State Transp. Inc. – Pet. for Declaratory Order*, STB Finance Docket No. 34824, 2006 WL 2329702, at *2, *6 (STB Aug. 11, 2006). The Board and courts have likewise recognized that the same difference exists between transportation “*from* a rail carrier” and transportation *by* a rail carrier. *See Tri-State Brick & Stone of N.Y., Inc. v. City of New York*, No. 05 Civ 7561 GBD, 2007 WL 735023, at *2 (S.D.N.Y. 2007); *see, e.g., Town of Babylon & Pinelawn Cemetery*, 2008 WL 275697, at *4. The decisions are consistent with the “cardinal principle of statutory construction . . . to give effect, if possible, to every . . . word of a statute.” *Bennett v. Spear*, 520 U.S. 154, 173 (1997) (internal quotation marks omitted); *see also Chamber of Commerce of U.S. v. Whiting*, 563 U.S. 582, 594 (2011) (“When a federal law contains an express preemption clause, we focus on the plain wording of the clause, which necessarily contains the best evidence of Congress’ preemptive intent.” (internal quotation marks omitted)).

Here, the facts clearly demonstrate that the Project involves nothing more than transportation “from” a rail carrier. Union Pacific’s sole connection to the Project would be its delivery of crude oil to the refinery. *See* RDEIR 2-3, 2-20 to 2-21; FEIR 2.5-31; Pet. at 2. Union Pacific’s transportation of goods to Valero’s Project is insufficient to “morph” Valero’s activities into “transportation *by* rail carrier” within the Board’s exclusive jurisdiction. *See* 382 F.3d at 309 (emphasis added).

SEA-3 and *Hi Tech Trans* demonstrate that the regulation of “transportation by rail carrier” is a prerequisite for any ICCTA preemption analysis. As the Second Circuit put it, “Both the courts and the STB . . . *consistently find* that to fall within the STB’s exclusive jurisdiction, the facility or activity must satisfy both the ‘transportation’ and ‘rail carrier’ statutory requirements.” *N.Y. & Atl. Ry. Co.*, 635 F.3d at 72 (emphasis added); *see, e.g., Fla. E. Coast Ry. Co.*, 266 F.3d at 1336-37; *Tri-State Brick & Stone of N.Y.*, 2007 WL 735023, at *1-2; *Grafton & Upton R.R. Co. v. Town of Milford*, 417 F. Supp. 2d 171, 175-79 (D. Mass. 2006); *J.P. Rail*, 404 F. Supp. 2d at 649-52; *CFNR Operating Co.*, 282 F. Supp. 2d at 1118-19; *Town of Babylon & Pinelawn Cemetery*, 2008 WL 275697, at *3-4; *Devens Recycling Ctr., LLC – Pet. for Declaratory Order*, STB Finance Docket No. 34952, 2007 WL 61948, at *2-3 (STB Jan. 10, 2007); *Tri-State Brick & Stone of N.Y.*, 2006 WL 2329702, at *3-6; *Town of Milford – Pet. for Declaratory Order*, STB Finance Docket No. 34444, 2004 WL 1802301, at *2-3 (STB Aug. 12, 2004); *Hi Tech Trans*, 2003 WL 21952136, at *3-5. In sum, because Valero’s refinery Project does not constitute transportation “by rail carrier,” ICCTA does not apply and the Board does not have jurisdiction.

B. Because Valero is not a rail carrier, it is irrelevant that the denial of the permit for the refinery Project may have indirect effects on rail traffic

Valero mistakenly urges the Board to bypass the threshold determination of whether ICCTA applies and proceed directly to determining whether the Planning Commission's permit denial "indirectly regulate[s] rail transportation," has the "effect of managing or governing rail transportation," or "unreasonably burden[s] interstate commerce." Pet. at 13-14 (internal quotation marks omitted). But the Board and courts use these tests to assess the scope (or "reach") of ICCTA preemption *only once it is clear that ICCTA applies*.

For example, in *New York Susquehanna and Western Railway Corp.*, the Second Circuit considered whether ICCTA preempted state regulation of transloading activities undertaken by a railroad company. The court first examined whether the company's activities were "[c]overed" by ICCTA. 500 F.3d at 246. Only after ascertaining that the activities constituted "transportation by rail carrier" did the court decide whether the regulations would have the "effect of managing or governing" or "unreasonably burden[ing] rail carriage." *Id.* at 252-54; *see also Padgett v. Surface Transp. Bd.*, 804 F.3d 103, 107-08 (1st Cir. 2015) (deciding that activities constituted "transportation *by rail carrier*" before considering whether health and safety regulations were preempted (internal quotation marks omitted)); *Tex. Cent. Bus. Lines Corp.*, 669 F.3d at 532 (concluding that "ICCTA preemption applies" before turning to assessment of "preemption's reach").

Valero has not cited a single case in which the Board or a court examined ICCTA's preemptive scope absent "transportation by rail carrier." In *Winchester*, a non-carrier operated a warehouse in the Town of Winchester. *Boston & Maine Corp. & Springfield Terminal R.R. Co. – Pet. for Declaratory Order (Winchester)*, Docket No. FD 35749, 2013 WL 3788140, at *1 (STB July 19, 2013). The rail carrier Pan Am "provide[d] common carrier rail transportation . . . to the warehouse." *Id.* Finding that the warehouse was being used as a freight yard in contravention of municipal zoning laws, the Town "direct[ed] that all rail traffic to the warehouse immediately cease and desist." *Id.* (internal quotation marks omitted). The Board held that the Town's order regulated transportation by Pan Am—a rail carrier—because it "*prohibit[ed] all rail traffic to the warehouse,*" and thus was preempted by ICCTA. *Id.* at *3 (emphasis added).

In *SEA-3*, the Board distinguished *Winchester* precisely on this ground, stating that *Winchester* involved "local regulation of the *railroad's* ability to conduct common carrier transportation." *SEA-3*, 2015 WL 1215490, at *5 (emphasis added). Likewise, in all other cases cited by Valero, the Board specifically found, or the facts made clear, that the activities included transportation by a rail carrier:

- The Board explained that *Norfolk Southern Railway Co. v. City of Alexandria*, 608 F.3d 150 (4th Cir. 2010), "involved local regulation of transloading performed by the rail carrier or under its auspices." *SEA-3*, 2015 WL 1215490, at *5; *see also City of Alexandria*, 608 F.3d at 154 (describing the rail carrier as the "operat[or]" of the transloading facility at issue).

- The Board similarly explained that *Joint Petition for Declaratory Order – Boston and Maine Corp. and Town of Ayer*, STB Finance Docket No. 33971 (STB May 1, 2001), “involved local regulation of transloading performed by the rail carrier or under its auspices.” *SEA-3*, 2015 WL 1215490, at *5.
- The Board cited *Green Mountain Railroad Corp. v. Vermont*, 404 F.3d 638 (2d Cir. 2005), as a case involving “transloading and temporary storage . . . by a rail carrier.” *Town of Babylon & Pinelawn Cemetery*, 2008 WL 275697, at *3; *see also* *Green Mountain R.R. Co.*, 404 F.3d at 640 (acknowledging that “Green Mountain is a ‘rail carrier’ as defined by the Termination Act”).
- The Board cited *Norfolk Southern Railway Co. v. City of Austell*, No. CIVA1:97-CV-1018-RLV, 1997 WL 1113647 (N.D. Ga. Aug. 18, 1997), as a case in which “jurisdiction was found and local regulations relating to transportation facilities preempted only when those facilities have been operated or controlled by a rail carrier.” *Hi Tech Trans, LLC*, 2003 WL 21952136, at *4; *see also* *City of Austell*, 1997 WL 1113647, at *1 (characterizing the plaintiffs as “common carriers by rail”).
- In *City of Auburn v. United States*, 154 F.3d 1025, 1028 (9th Cir. 1998), Burlington Northern and Santa Fe Railway, a rail carrier, claimed that ICCTA preempted local permitting for its rail line.
- In *CSX Transportation, Inc. – Petition for Declaratory Order*, STB Finance Docket No. 34662, at *2 (STB Mar. 14, 2005), the city passed an act that “would ban transportation of” certain hazardous substances and “any rail car that is ‘capable of containing’ such materials” within a certain geographical area.

Valero nonetheless urges the Board to apply the “managing or governing” test from these rail carrier cases to non-carrier projects if a denial would *indirectly* affect rail traffic. Pet. at 13-14. But it is irrelevant that denial of a non-carrier project would indirectly affect rail traffic. In *SEA-3*, for example, the City of Portsmouth’s success in blocking SEA-3’s proposed expansion of its propane transload facility would have had the effect of preventing Pan Am from increasing propane deliveries to the facility. *See* 2015 WL 1215490, at *1-2. That effect was irrelevant to the Board’s conclusion that ICCTA did not preempt Portsmouth’s actions. *See id.* at *3-4. Similarly, in *Hi Tech Trans*, New Jersey’s order that Hi Tech “cease and desist” operations at its waste transloading facility would have effectively halted rail shipments of waste to the facility. *See* 382 F.3d at 300-01. Again, that effect was irrelevant to the Third Circuit’s conclusion that ICCTA did not preempt the state regulations. *See id.* at 308-09. Indeed, this is the same fact pattern in every case in which the Board or a court found that the regulation was of a non-carrier. *See, e.g., N.Y. & Atl. Ry. Co.*, 635 F.3d at 68-69; *Fla. E. Coast Ry. Co.*, 266 F.3d at 1326-27; *Tri-State Brick & Stone of N.Y.*, 2007 WL 735023, at *1-2; *Grafton & Upton R.R. Co.*, 417 F. 2d at 172-73; *J.P. Rail*, 404 F. 2d at 642-43, 646; *CFNR Operating Co.*, 282 F. Supp. 2d at 1116; *Town of Babylon & Pinelawn Cemetery*, 2008 WL 275697, at *1; *Town of Milford*, 2004 WL 1802301, at *1-2. Thus, it cannot be that ICCTA preempts a local government’s regulation of a *non-carrier’s* actions simply because that regulation would effectively (but indirectly) lead to less train traffic.

Union Pacific argues, without offering any evidence, that state and local governments are, with “increasing frequency,” using conditions imposed on non-

carriers to regulate the railroads. Union Pacific Letter at 1; *see also* Letter from Theodore K. Kalick, Canadian National Railway Co., to Cynthia T. Brown, STB (July 5, 2016); Letter from Peter J. Shudtz, CSX Corp., to Cynthia T. Brown, STB (July 1, 2016). Similarly, Valero complains that local or state governments have exercised regulatory authority over other proposed refinery projects across the country. Pet. at 3-7. Rather than being a new “patchwork of state and local rules” that is “unsustainable,” Union Pacific Letter at 1, such state and local regulation of non-carrier operations has long existed without significant repercussions. Fifteen years ago, the Eleventh Circuit declared that “[a]llowing localities to enforce their ordinances with the possible incidental effects such laws may have on railroads would not result in the feared ‘balkanization’ of the railroad industry” because “[u]nlike direct regulation of railroads” regulation of non-carriers does not burden railroads “with the patchwork of regulation that motivated the passage of the ICCTA.” *Fla. E. Coast Ry. Co.*, 266 F.3d at 1339; *see also Dilts v. Penske Logistics, LLC*, 769 F.3d 637, 647 (9th Cir. 2014) (“The fact that laws may differ from state to state is not, on its own, cause for . . . preemption.”).

This result is also consistent with Congress’s will. “Congress intended the transportation and related activities undertaken by rail carriers to benefit from federal preemption but did not mean such preemption to extend to activity related to rail transportation undertaken by non-rail carriers.” *Grafton & Upton R.R. Co.*, 417 F. Supp. 2d at 176; *see id.* at 176-77 (rejecting a railroad company’s “assertion that it would have been ‘the truly affected entity’” with respect to a town’s prohibition of a non-carrier’s development of a rail yard). Put another way, ICCTA does not preempt local regulation

of a non-carrier's activities, even if it would preempt regulation of the same activities when undertaken by a rail carrier. *See Fla. E. Coast Ry. Co.*, 266 F.3d at 1336-37; *Grafton & Upton R.R. Co.*, 417 F. Supp. 2d at 176.

Besides being contrary to the plain language of the statute, interpreting ICCTA to cover non-carrier activities would add innumerable disputes to the Board's already crowded docket. *See Hi Tech Trans*, 382 F.3d at 309. If Valero's "reasoning is accepted, any nonrail carrier's operations would come under the exclusive jurisdiction of the STB if, at some point in a chain of distribution, it handles products that are eventually shipped by rail by a railcarrier." *Id.* That would subject a wide range of commercial and industrial facilities — such as refineries, manufacturing plants, garbage dumps, and big-box retail stores — to the Board's jurisdiction. The Board should "not accept the argument that Congress intended the exclusive jurisdiction of the STB to sweep that broadly." *Id.*; *accord CFNR Operating Co.*, 282 F. Supp. 2d at 1118-19. The law is clear that the Board need not, and should not, delve into an inquiry of the purported effects of the Planning Commission's permit denial.

III. The Planning Commission's denial of the permit for the refinery Project does not prevent Valero from receiving, or Union Pacific from providing, common carrier service

Contrary to Valero's claim, Pet. at 12-13, 18, the Planning Commission's denial of the use permit for the Project does not affect Valero's ability to receive common carrier service or prohibit Union Pacific from providing that service. Valero, citing 49 U.S.C. § 11101(a), argues that the denial of the Project impedes its "right" to common carrier service, *see* Pet. at 14, but that section states only that a "rail carrier" providing

transportation or service “shall provide the transportation or service on reasonable request.” It says nothing about whether a local government can deny, under its zoning laws, a non-carrier project that merely has an incidental relationship to transportation by a rail carrier. The only regulation at issue here is the City’s use permit for Valero’s offloading rack and related facilities on the refinery property. The Planning Commission’s denial of that permit does not affect Union Pacific’s provision of rail service to and from the refinery.

Thus, regardless of whether the Project is built, Valero may continue to import and export products via rail, as it currently does. *See* Pet. at 8 n.25; *see also* RDEIR 2-3. Indeed, Valero could request and receive crude oil tank cars at the refinery even if the Project is never built. That Valero could not offload and store the crude oil – either efficiently or perhaps at all – without the proposed refinery modifications might discourage Valero from requesting such service, but it in no way prohibits Valero from making, or Union Pacific from fulfilling, the request. The denial of the permit for the refinery Project “alters the incentives, but does not dictate the choices.” *See Fla. E. Coast Ry. Co.*, 266 F.3d at 1331 (internal quotation marks omitted).

In *Tri-State Brick and Stone of New York*, the Board confronted – and rejected – an argument that mirrors Valero’s argument here. In that case, petitioner non-carriers operated a transloading facility at a rail yard owned by the City of New York. 2006 WL 2329702, at *1-2. A railroad provided “rail service up to and into the [yard].” *Id.* at *2. When the city sought to evict petitioners from the yard, petitioners argued that the city could not interfere with their right to service from the railroad. *Id.* at *5. The Board

dismissed petitioners' contention, finding that the city's eviction of "a noncarrier occupant over whose activities the Board has no jurisdiction" did not interfere with common carrier service. *Id.* While recognizing that the petitioners could "demand service upon reasonable request," the Board stated that "that is not the issue here." *Id.* As the Board discerned, "Petitioners' concern is not that rail service at the Yard is being interrupted, but that their occupancy of the Yard . . . is being interrupted." *Id.*

Here, as in *Tri-State*, Valero's true concern is not interference with rail service to its refinery property, but rather interference with its desired use of the property. And as in *Tri-State*, the Planning Commission is not interfering with rail service "by using state or local laws to [prevent property use by] a noncarrier . . . over whose activities the Board has no jurisdiction." *See id.* (emphasis added); *see also* SEA-3, 2015 WL 1215490, at *5 (rejecting an argument that restrictions on non-carrier SEA-3's propane transloading facility would "impose restrictions on SEA-3's ability to use, and Pan Am's ability to provide, rail transportation").

Valero also cites the Board's *Winchester* decision to support its argument that the Planning Commission has denied it common carrier service, *see* Pet. at 14, but the facts in *Winchester* are materially distinguishable. In *Winchester*, the Board held that the "Town's orders *prohibiting all rail traffic* to the warehouse conflict with the federal right of [the non-carrier warehouse operator] to request common carrier service and the federal obligation of Pan Am, a rail common carrier, to provide that service." 2013 WL 3788140, at *3 (emphasis added). Here, in contrast, the Planning Commission's denial of a permit for the refinery Project does not constitute a prohibition on any rail traffic —

much less a prohibition on *all* rail traffic—to Valero’s refinery. In sum, the Planning Commission’s denial of the Project permit does not deny Valero’s ability to receive, or Union Pacific’s ability to provide, common carrier service to the refinery.

IV. The Planning Commission’s reasons for denying the permit are irrelevant, and, in any case, the Commission denied the permit for many reasons that had nothing to do with Union Pacific’s operations

At its heart, Valero’s argument is that the Planning Commission’s *reasons* for denying the permit for the Project were improper. But whether a non-carrier’s project constitutes transportation “by rail carrier” is an objective inquiry based solely on the nature and extent of the rail carrier’s role (if any) in the project. Here, Union Pacific’s attenuated relationship to the Project is inadequate to render the Project transportation “by rail carrier” within the Board’s jurisdiction. The Planning Commission’s reasons for denying the permit do nothing to change that.

Neither the Board nor the courts look to the local government’s motivations for a particular regulation when determining whether that regulation is preempted. In *SEA-3*, the non-carrier SEA-3 alleged that the City of Portsmouth’s “sole objective” in challenging the proposed expansion was “to prevent an increase in rail service to SEA-3 by blocking additional propane shipments from traveling through the City.” 2015 WL 1215490, at *5; *see also id.* at *2. Indeed, given that Portsmouth was an “uprail” city, it is hard to imagine what else the city could have been concerned about. The Board did not consider Portsmouth’s alleged motivations, however. Instead, consistent with the plain language of ICCTA, the Board based its determination solely on whether the project would be performed by, or under the auspices of, a “rail carrier.” *See id.* at *4-5.

Similarly, in *Florida East Coast Railway Co.*, the Eleventh Circuit explained that a city's "hostile motivation" for applying its zoning and licensing ordinances to a non-carrier's gravel distribution business on a rail carrier's property was "not relevant to" the court's preemption analysis. 266 F.3d at 1339 n.12. Rather, in holding that ICCTA did not preempt the city's actions, the court relied solely on the fact that the project was proposed by a non-carrier for private gain, and not for the benefit of a common carrier in its service of the public. *Id.* at 1336. Accordingly, the Planning Commission's reasons for denying the permit are plainly "not relevant to" the touchstone for Board jurisdiction: whether the Project constitutes transportation by a rail carrier. *See id.* at 1339 n.12.

Valero's suggestion that the Board should determine whether preemption applies based on the motivations of local decision-makers is also unworkable as a policy matter. There often may be no record of why a particular agency regulates a non-carrier. The substantial record about the issues considered by the Planning Commission in this matter is the result of CEQA, which requires analysis of all project impacts, including indirect impacts; a similar record will likely not exist for many other projects, especially those in other states. Further, what influences the vote of any one decision-maker may not be what influences the vote of another, or determines the decision of the agency as a whole. The Board should continue to determine whether ICCTA applies based on the objective identity of the regulated party (is it a rail carrier, or is it not?) rather than the varied and often unknowable concerns of state and local agencies.

However, even if the Planning Commission's reasons were somehow relevant to the ICCTA analysis – which they are not – the Commission denied the permit in significant part for reasons related to the numerous impacts from *Valero's* operations at the refinery site. Those reasons are independent from any concerns about oil trains on Union Pacific's tracks. Thus, even under *Valero's* incorrect new "reasons" test, ICCTA does not apply and cannot preempt the denial of the use permit for the Project.

Specifically, the Project would cause significant air quality and greenhouse gas impacts by increasing emissions from the refinery. The Project would allow *Valero* to unload, and thus refine, up to 70,000 additional barrels of crude oil per day.⁵ Pet., Ex. 1 at 7. By increasing the total amount of oil refined, the Project would increase air pollution and greenhouse gas emissions from the refinery. Furthermore, although *Valero* refuses to disclose the particular type of crude oil that it would import, the Project would almost certainly bring in volatile Bakken crude and/or dirty Canadian tar sands crude. See DEIR 3-22 to 3-24. Both of those types of crude would increase air pollution and greenhouse gas emissions at the refinery even if the total throughput remains the same. FEIR 2.5-224 to 2.5-236 (expert report explaining how changes in crude slate would affect refinery emissions).

⁵ Although the EIR claims that *Valero* would offset the 70,000 barrels per day brought in via rail by decreasing marine shipments by the same amount, the City would not *require* that reduction. See DEIR at ES-1 to ES-3, 1-1 to 1-2. And while the air district's permit limits the refinery to processing 165,000 barrels per day of crude oil, there is evidence that the refinery is currently operating at far below those levels and could thus increase the amount of oil it is refining. FEIR 3.5-16, 3.5-22; Reply, Ex. E (comment letters citing evidence that the refinery is processing only 114,443 barrels per day).

Construction and operation of the Project would also cause significant biological, water quality, and flood hazard impacts at Valero's property. The Project site is just feet from Sulphur Springs Creek, DEIR 3-4 to 3-5 & figs. 3-1 & 3-2, 4.8-1, which provides habitat for a variety of protected species, including the California red-legged frog, western pond turtle, tri-colored blackbird, yellow-headed blackbird, Suisun song sparrow, grasshopper sparrow, loggerhead shrike, yellow-breasted chat, San Francisco common yellowthroat, and short-eared owl. DEIR 4.2-27 to 4.2-28. The EIR recognized that construction of the offloading rack and other components of the Project could harm water quality in the Creek by causing sedimentation, DEIR 4.8-15, and it also stated that the noise, vibrations, visual disturbance, and increased human activity from construction could have a "substantial adverse indirect effect on nesting birds" if not properly mitigated. DEIR 4.2-28.

These "on-site" impacts were major areas of controversy during the public comment period. Benicians, the California Attorney General, and many others commented that the Project would increase air pollution and greenhouse gases at the refinery. FEIR 2.4-104, 2.4-108 to 2.4-110 (California Attorney General comments on refinery impacts); FEIR 2.5-157 to 2.5-165, 2.5-170 to 2.5-171 (Communities for a Better Environment (CBE) comments on refinery impacts); FEIR 2.5-91 to 2.5-97, 3.5-16, 3.5-21 to 3.5-22 (Benicians for a Safe and Healthy Community (BSHC) comments on refinery impacts); FEIR 2.5-195 to 2.5-205, 2.5-211, 3.5-43 to 3.5-44; Reply, Ex. E (Natural Resources Defense Council comments on refinery impacts). Two refinery experts also evaluated the EIR and found that the new crudes would lead to significant air quality

and greenhouse gas impacts at the refinery. FEIR 2.5-173 to 2.5-184, 2.5-222 to 2.5-236. Similarly, Benicians and others pointed out that the Project would cause significant biological and water-quality impacts on Sulphur Springs Creek, and would cause significant flood hazard impacts. FEIR 2.5-6, 2.5-8 (Martinez Environmental Group comments on impacts to Sulphur Springs Creek); FEIR 2.5-91 (BSHC comments on impacts to Sulphur Springs Creek); FEIR 2.5-99 to 2.5-100 (BSHC comments on flood hazards); FEIR 2.5-168 to 2.5-169 (CBE comments on impacts to Sulphur Springs Creek).

The Planning Commission was deeply concerned about these “on-site” impacts relating to Valero’s operations on the refinery property. In its resolution, the Planning Commission cited these impacts as reasons to deny the permit:

- “The EIR does not disclose all information necessary for complete evaluation of the air quality impacts of the project including the makeup of the crude oil associated with this project”
- “The . . . air quality, and greenhouse gas emissions analyses are insufficient.”
- “The project could potentially have negative biological impacts on Sulphur Springs Creek”
- “The project is located in the 100-year floodplain, which could increase the hazards related to an accidental spill on the property.”

Pet., Ex. 4 at 4-5.⁶ Although Valero suggests that some of these findings relate to off-site impacts, Pet. at 14-15, they also address concerns about on-site impacts. For example,

⁶ The Planning Commission also cited numerous general problems with the environmental review process, including that the EIR did not express the independent judgment of the City, did not state the City’s (as opposed to Valero’s) needs and objectives, and did not explain why economic benefits would outweigh the harmful environmental impacts. Pet., Ex. 4 at 4-5.

the air quality and greenhouse gas EIR sections are insufficient both in their analysis of refinery emissions (on-site impacts) and locomotive emissions (off-site impacts). (Indeed, the ambiguity here highlights the futility of attempting to discern and categorize the motivations of decision-makers.) The Planning Commission ultimately found that the Project would be inconsistent with the City's General Plan and would be "detrimental to the public health, safety, or welfare of persons residing or working in or adjacent to the neighborhood of the use." Pet., Ex. 4 at 5.

Whether the Project will increase refinery emissions, and whether the offloading rack will damage Sulphur Springs Creek or cause flood hazards, are matters beyond the Board's jurisdiction.⁷ These potential effects do not arise from transportation by a "rail carrier" any more than did the impacts of siting and operating the waste transloading facilities in *Hi Tech Trans*. See 382 F.3d at 309 (noting the "uniquely vexing problem of solid waste facilities in a densely populated state that has suffered the scourge of unregulated solid waste facilities for decades"). Valero effectively concedes that these concerns are outside of the Board's jurisdiction. See Pet. at 16 (claiming that Valero does not seek "an order declaring that the City's permitting authority over the construction and operation of the unloading rack itself is subject to ICCTA preemption"). These

⁷ Because Valero is not a rail carrier, the Board need not determine whether Valero's activities constitute "transportation." *Town of Babylon & Pinelawn Cemetery*, 2008 WL 275697, at *5 n.13. Regardless, it is clear that refining crude oil falls far outside the definition of transportation and thus is not governed by ICCTA. See *Town of Milford*, 2004 WL 1802301, at *2 (finding that "steel fabrication activities" by rail carrier "fall outside the definition of railroad transportation"); see also *Emerson v. Kansas City S. Ry. Co.*, 503 F.3d 1126, 1129 (10th Cir. 2007) ("While certainly expansive, this definition of 'transportation' does not encompass everything touching on railroads.").

reasons were adequate to deny the permit under local law. *See* Benicia Mun. Code § 17.104.060. To the extent Valero disagrees, that is an issue for the City Council and state courts to decide, not the Board.

In short, even if the Board were to adopt Valero's new and unsupported "reasons" test, it should nonetheless decline to find jurisdiction over this matter because the Planning Commission denied the permit on the basis of many reasons that had nothing to do with impacts along the rail line.

V. The Board should not open a proceeding because the law is clear

When the law is clear, the Board may decline to institute a proceeding. Here, the law is clear that the Board does not have jurisdiction. Accordingly, the Board should decline to institute a proceeding. *See, e.g., SEA-3*, 2015 WL 1215490, at *4 ("Where the law is clear, the Board may decline to institute a proceeding and instead provide guidance on the preemption issue presented, and it is appropriate to do so here."); *Tri-State Brick of N.Y.*, 2006 WL 2329702, at *6 ("Tri-State Transportation's activities do not rise to the status of a rail carrier. Thus, the Board does not have jurisdiction over Tri-State Transportation's activities Therefore, the petition to institute a declaratory order proceeding will be denied."); *Town of Milford*, 2004 WL 1802301, at *1 ("[T]here is no need for the Board to institute a proceeding, because it is clear that . . . the Board does not have jurisdiction over rail/truck transloading activities that are not performed by a rail carrier, or on behalf of a rail carrier . . . [and] the broad Federal preemption of section 10501(b) does not apply to activities over which the Board's jurisdiction does not extend."); *Hi Tech Trans*, 2003 WL 21952136, at *3 ("It will not be necessary for the Board

to institute a declaratory order proceeding here, because it is clear that the Board does not have jurisdiction over truck-to-rail transloading activities that are not performed by a rail carrier or under the auspices of a rail carrier holding itself out as providing those services.”). Further, opening a proceeding at this time would almost certainly ensure that the Board would not rule by September 20, 2016, the date the City Council is scheduled to reconvene to consider Valero’s appeal.

CONCLUSION

For the foregoing reasons, Benicians respectfully request that the Board decline to institute a proceeding and deny Valero’s Petition for Declaratory Order.

July 8, 2016

Respectfully submitted,



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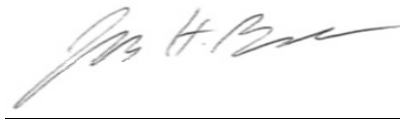
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BEFORE THE
SURFACE TRANSPORTATION BOARD

FINANCE DOCKET NO. 36036

EXHIBITS TO REPLY OF BENICIANS FOR A SAFE AND HEALTHY COMMUNITY,
CENTER FOR BIOLOGICAL DIVERSITY, COMMUNITIES FOR A BETTER
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List of Exhibits

- EXHIBIT A: Excerpts from the Draft EIR, Revised Draft EIR, and Final EIR for the Valero Benicia Crude-by-Rail Project
- EXHIBIT B: Letter from Kamala Harris, California Attorney General, to the City of Benicia (April 14, 2016)
- EXHIBIT C: Excerpts from Transcript of Benicia Planning Commission Meeting (April 19, 2016)
- EXHIBIT D: Excerpts from Transcript of Benicia Planning Commission Meeting (March 15, 2016)
- EXHIBIT E: NRDC et al. Comments on Final Environmental Impact Report for the Valero Benicia Crude-by-Rail Project (Feb. 8, 2016)

EXHIBIT A

Excerpts from the Draft EIR, Revised Draft EIR, and Final EIR for
the Valero Benicia Crude-by-Rail Project

VALERO BENICIA CRUDE BY RAIL PROJECT

Draft Environmental Impact Report
SCH # 2013052074
Use Permit Application 12PLN-00063

Prepared for
City of Benicia

June 2014



EXECUTIVE SUMMARY

ES-1 Introduction

This Environmental Impact Report (EIR) is an informational document that discloses to the public and to decision-makers the environmental effects of the proposed Valero Benicia Refinery's Crude by Rail project (Project). This Executive Summary includes the following sections:

- Introduction (ES-1)
- Project Objectives (ES-2)
- Project Setting and Location (ES-3)
- Project Description (ES-4)
- Alternatives (ES-5)
- Environmentally Superior Alternative (ES-6)
- Areas of Controversy and Issues to be Resolved (ES-7)
- Summary of Impacts (ES-8)

A comparative summary of the impacts of the Project and the alternatives to the Project is provided in Table 2-1, in Chapter 2. The EIR assesses the direct, indirect, and cumulative environmental impacts that could occur as a result of constructing, operating, and maintaining the Project. These analyses are based upon information submitted by Valero in its application for a Use Permit to the City of Benicia for the Project. This EIR is an informational document that, in itself, does not determine whether the Project should be approved, but informs local officials in the planning and decision-making process.

ES-2 Project Objectives

The Valero Benicia Refinery (Refinery) converts crude oil into finished products, including gasoline, jet fuel, liquefied petroleum gas, heating oil, fuel oil, asphalt, petroleum coke, and sulfur. The Project would provide an alternate means of delivering crude oil feedstock to the Refinery. The Project has the following objectives:

1. Allow for the delivery of up to 70,000 barrels per day of North American-sourced crude oil by rail.
2. Replace marine vessel delivery with rail delivery of up to 70,000 barrels per day of crude oil.

3. Mitigate project-related impacts.
4. Implement the Project without changing existing Refinery process equipment or Refinery process operations, other than operation of the Project components.
5. Continue to meet requirements of existing rules and regulations pertaining to oil refining including the State of California Global Warming Solutions Act of 2006 (AB 32).

ES-3 Project Setting and Location

The Refinery is located at 3400 East Second Street, an industrial area in the eastern portion of the City of Benicia, in Solano County. The Refinery lies in a general north-south orientation near and west of Interstate 680. The Refinery is located along the northern edge of the Suisun Bay below a low range of coastal hills. To the west of East Second Street is open space, and the closest residential areas are approximately 3,000 feet to the south and west of the Refinery, and approximately 2,100 feet to the northwest of the Project site. Refinery operations occupy approximately 330 acres of the 880 acre Valero property.

The Refinery dock is located on the Carquinez Strait between the Benicia-Martinez Bridge and the Port of Benicia wharf. The Refinery's marine terminal and pipeline to the Refinery provide access for receiving and shipping bulk cargoes by marine vessel. The existing Union Pacific Railroad (UPRR) rail line provides rail access for the Refinery and for the Benicia Industrial Park. The Benicia Industrial Park is located east and north of the Refinery. Presently, the Refinery uses tank cars to receive chemicals used in refining and to ship refined products from the Refinery.

A new tank car unloading rack capable of unloading two parallel rows of tank cars (one on each side) and transferring crude oil to the Refinery would be installed as part of the Project in the northeastern portion of the main Refinery property, between the eastern side of the lower tank farm and the fence adjacent to Sulphur Springs Creek.

The new tank car unloading facilities would include a liquid spill containment sump with the capacity to contain the contents of at least one tank car. In addition, the existing liquid spill containment for tanks abutting the tank car unloading facilities would be modified to allow installation of the unloading facilities. Part of the existing containment berm for the tank field would be removed and a new concrete berm would be constructed approximately 12 feet west of the existing earthen berm.

The Project would install approximately 8,880 track-feet of new track on Refinery property. Three new track turnouts and one crossover would be installed. The Project would also realign approximately 3,560 track-feet located on Refinery property.

New rail spurs and parallel storage and departure spur would be constructed between the eastern side of the lower tank farm and the western side of the fence along Sulphur Springs Creek.

Ancillary facilities affected by the Project would include crude oil offloading pumps and pipeline and associated infrastructure, spill containment structures, a firewater pipeline, groundwater wells, and a service road.

ES-4 Project Description

Overview

The purpose of the Project is to install new equipment, pipelines, and infrastructure to allow the Refinery to receive a portion of its crude oil feedstock deliveries by tank car.

The Project would allow Valero to accept up to 100 tank cars of crude oil a day in two 50-car trains. The trains would enter the Refinery on an existing rail spur that crosses Park Road. The crude oil unloaded from the tank cars would be pumped to the existing crude oil storage tanks in the Refinery via a new crude offloading pipeline, connected to existing piping located within the Refinery. Valero would ask UPRR to schedule Valero's trains so that none of them cross Park Road during the commute hours of 6:00 AM to 9:00 AM and 4:00 PM to 6:00 PM. Valero would operate the Project components 24 hours per day, 7 days per week, and 365 days per year.

Based on Valero's plans, the crude oil delivered by rail would displace up to 70,000 barrels per day of the crude oil that is presently delivered by marine vessels. Crude oil delivered to the Refinery by tank car would not displace crude oil delivered to the Refinery by pipeline.

The crude oil to arrive by tank car would originate at sites in North America and be shipped by UPRR. UPRR would transport tank cars on existing rail lines from sources in North America to Roseville, California, where the cars would be assembled into a train for shipment into the Refinery. Valero would own or lease the tank cars that would be used to transport crude oil from Roseville to Benicia. Under regulations adopted by the Pipeline and Hazardous Materials Safety Administration (PHMSA), crude oil shipped by rail must be shipped in tank cars built to the "DOT-111" specification. In 2011, the Association of American Railroads voluntarily imposed more stringent standards on the design of DOT-111 tank cars. Tank cars that meet these new standards are generally known by the number "1232," and are referred to herein as "1232 Tank cars." All DOT-111 tank cars ordered after October 1, 2011 must meet the standards for 1232 Tank cars. DOT-111 tank cars ordered before 2011 that do not meet the standards for 1232 Tank cars are commonly known as "legacy" DOT-111 tank cars. Valero has committed that, when the PHMSA regulations call for use of a DOT-111 car, Valero would use 1232 Tank cars rather than legacy DOT-111 cars. See Section 3.4.1.3, in the *Project Description* for further discussion of tank cars. UPRR owns and operates the locomotives that would be used to transport the tank cars from Roseville to Benicia.

The Project would not involve any changes to the existing Refinery operations or process equipment, other than the construction and operation of the Project components. The Project would not increase the amount of crude oil that can be processed at the refinery, or the amounts of petroleum products that can be produced. The Project does not propose any change to the Bay

CHAPTER 1

Introduction

1.1 Purpose of This Document

This Environmental Impact Report (EIR) discloses to the public and the City's decision-makers the environmental consequences of the proposed Valero Benicia Refinery's Crude by Rail project (Project). This document assesses the environmental impacts that might result from the Project, as it is described in the application to the City, as well as the cumulative environmental impacts in the vicinity of the Project area. The analysis and conclusions in this document do not require that the Project be approved or denied. Rather, this document provides information about the Project's environmental impacts to assist the City in deciding whether to approve the project. This document is based upon Valero's application and supplemental materials that Valero submitted to the City of Benicia and the Bay Area Air Quality Management District (BAAQMD).

1.2 Project Overview

The Project would allow the Refinery to receive crude oil by rail. Currently, these crudes are not readily accessible at the Refinery. The crudes would originate at sites in North America. Union Pacific Railroad (UPRR) would transport the crudes in tank cars using existing rail lines to Roseville, California, and then to the Refinery.

The Project involves the installation of a new tank car unloading rack, rail track spurs, pumps, pipeline, and associated infrastructure at the Refinery. The Project would allow the Refinery to accept up to 100 tank cars of crude oil a day¹ in two 50 tank car trains. The trains would enter the Refinery on an existing rail spur crossing Park Road outside the southern boundary of the Refinery. The crude oil unloaded from the tank cars would be pumped to the existing crude oil storage tanks in the Refinery via a new pipeline connected to existing piping infrastructure.

The Project would allow Valero to receive up to 70,000 barrels² per day of the crude oil by rail. Based on Valero's current plans, Valero would reduce its shipments of crude by marine vessel by the same amount. The crude oil delivered to the Refinery by tank car would not displace the crude oil delivered by pipeline.

Assuming an average ship holds 350,000 barrels, and the Project displaces the maximum of 70,000 barrels per day of waterborne crude, the Project could displace as many as 73 ship

¹ A day here is defined as a 24 hour period, midnight to midnight.

² One barrel = 42 gallons of crude oil.

deliveries per year. (70,000 x 365 days/yr / 350,000 barrels /average ship = 73 ships/year.) The Project could displace the total quantity of crude oil delivered by marine vessel to the Refinery by as much as 25,550,000 barrels in a 365 day year. Based on a three-year baseline period from December 10, 2009 to December 9, 2012, annual marine vessel deliveries could be reduced by as much as 82 percent.

The Project would not include, nor would it require, any changes to existing Refinery operations or process equipment, other than installation and operation of the Project unloading rack and other Project components. The Project would not change the Refinery's crude oil processing rate³ or increase the Refinery's air emissions, except for emissions from the unloading of crude.

The Project would consist of the following primary components:

- Installation of a single tank car unloading rack capable of offloading two parallel rows of 25 crude oil tank cars.
- Construction of two parallel, offloading rail spurs to access the tank car unloading rack along with a parallel departure track to store tank cars in preparation for departure, for a total of 8,880 track-feet of new track on Refinery property.
- Installation of approximately 4,000 feet of 16-inch diameter crude oil pipeline and associated components and pump infrastructure between the offloading rack and the existing crude supply piping.
- Replacement and relocation of approximately 1,800 feet of existing tank farm dikes.
- Relocation of an existing firewater pipeline, compressor station, and underground infrastructure.
- Relocation of groundwater wells along Avenue "A."
- Construction of a service road adjacent to the proposed unloading rack.

Construction activities are scheduled to begin in 2014 and are expected to take approximately 25 weeks. Implementation of the Project would result in the addition of approximately 20 new permanent refinery personnel (four crews of five).

1.3 Project Background

The City of Benicia, serving as Lead Agency under CEQA prepared an Initial Study (see Appendix A) in accordance with CEQA Guidelines Section 15063 to determine the potential environmental consequences of approval and implementation of the Project. The Initial Study concluded that although the Project could have a significant effect on the environment, there would not be a significant effect in this case because mitigation measures were added to the Project that would avoid or reduce all impacts to a less than significant level. Mitigation measures

³ The Refinery's crude oil processing rate is limited to an annual average of 165,000 barrels per day (daily maximum of 180,000 barrels per day) by BAAQMD permit. This permit limit would remain unchanged.

terms that allow the reader of this document who is unfamiliar with the refining industry to understand the basic operations within a refinery.

- **Chapter 9 – References:** Lists of references used in the entire document.
- **Appendices:** Project background information, including the Notice of Preparation, Initial Study / Mitigated Negative Declaration, Scoping Report, Areas of Controversy, and Technical Reports for Air Quality, Hazards, and Transportation.

1.9 Use of this Document by Agencies

In accordance with CEQA, as amended, the City of Benicia must consider the Project's environmental impacts as disclosed in this EIR before the City may approve Valero's application for a Use Permit. BAAQMD also may rely on this EIR when considering the Authority to Construct permit and when preparing amendments to the Refinery's Title V Permit.

1.10 Permits and Approvals

The Project will require permits and approvals before construction and operation can begin. Among them are the Use Permit as well as grading and building permits not covered by the Annual Permit Agreement with the City. A BAAQMD Authority to Construct permit would also be required. In addition, the Project will be included in the Refinery's Title V Permit at the time the Title V Permit is revised.

for shipment into the Refinery. Valero would own or lease the tank cars that would be used to transport crude oil. UPRR owns and operates the locomotive engines that would be used.

Implementing the proposed Project could reduce marine vessel delivery of crude oil by as much as 25,550,000 barrels in a 365 day year. Based on the three-year baseline period from December 10, 2009 to December 9, 2012 annual marine vessel deliveries could be reduced by as much as 82 percent.

The Project would not involve any changes to the existing Refinery operations or process equipment, other than the construction and operation of the Project components. The Project would not increase the amount of crude oil that can be processed at the refinery, or the amounts of petroleum products that can be produced. The Refinery's crude oil processing rate is limited to an annual average of 165,000 barrels per day (daily maximum of 180,000 barrels per day) by its Bay Area Air Quality Management District (BAAQMD) operating permit. The Project does not propose any change to this limit. The Project does not propose changes to the emissions limits in the current BAAQMD permits, although the Project does require approval of an Authority to Construct from the BAAQMD. In connection with this approval, the BAAQMD will consider locomotive emissions and tank car unloading emissions as may be caused by the Project.

3.1.2 Location

The Refinery is located at 3400 East Second Street, an industrial area in the eastern portion of the City of Benicia, in Solano County. The Refinery lies in a general north-south orientation near and west of Interstate 680. The Refinery is located along the northern edge of the Suisun Bay below a low range of coastal hills. To the west of East Second Street is open space, and the closest residential areas are approximately 3,000 feet to the south and west of the Refinery, and approximately 2,100 feet to the northwest of the proposed Project site. Figure 3-1 shows a location map of the region.

Refinery operations occupy approximately 330 acres of the 880 acre Valero property. The lands and facilities of the Refinery are depicted in Figure 3-2.

The Refinery dock is located on the Carquinez Strait between the Benicia-Martinez Bridge and the Port of Benicia wharf. The marine terminal for the Refinery and pipeline to the Refinery provide access for receiving and shipping bulk cargoes by marine vessel. The existing UPRR rail line provides rail access for the Refinery and for the Benicia Industrial Park. The Benicia Industrial Park is located east and north of the Refinery. Presently, the Refinery uses tank cars to receive chemicals used in refining and to ship refined products from the Refinery.

The Refinery and proposed Project site (within the Refinery) are zoned General Industrial. Present land use at the proposed Project site is petroleum refining and storage. Construction and operation of facilities associated with this proposed Project would be within the Refinery's property boundaries.

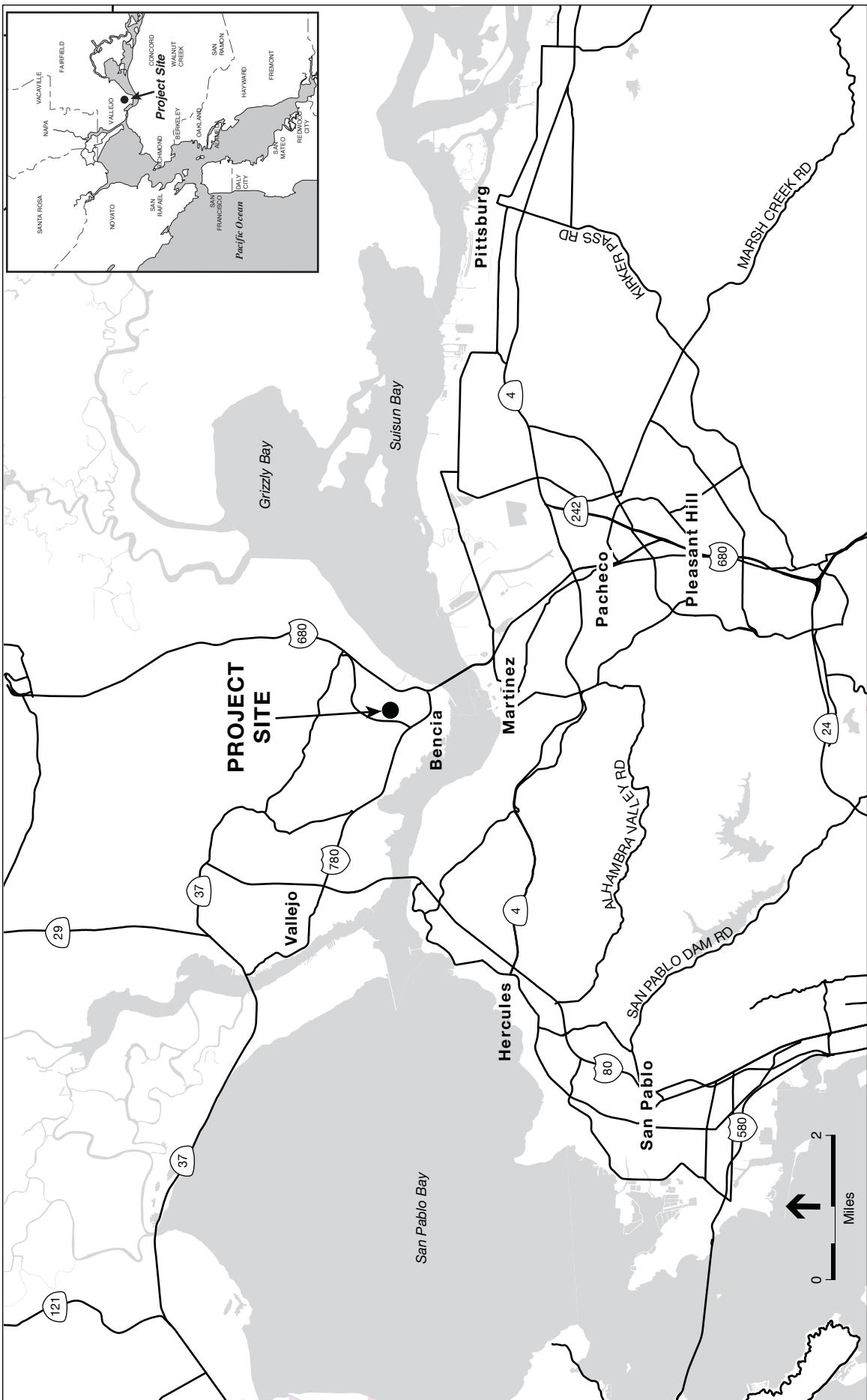


Figure 3-1

Project Location



Aerial Photo Source: © 2012 Google Earth Pro Ver 6.2.2.6613

LEGEND

PROPERTY BOUNDARY



SOURCE: ERM

Benicia Valero CBR . 202115.01

Figure 3-2
Valero Refinery Boundary

3.2 Project Objectives and Components

3.2.1 Project Objectives

The Valero Benicia Refinery converts a range of crude oil and other feedstocks into gasoline and other petroleum products. The Project would provide an alternate means of delivering crude oil feedstock to the Refinery. The Project has the following objectives:

1. Allow for the delivery of up to 70,000 barrels per day of North American-sourced crude oil by rail.
2. Replace marine vessel delivery with rail delivery of up to 70,000 barrels per day of crude oil.
3. Mitigate project-related impacts.
4. Implement the proposed Project without changing existing Refinery process equipment or Refinery process operations, other than operation of the Project components.
5. Continue to meet requirements of existing rules and regulations pertaining to oil refining including the State of California Global Warming Solutions Act of 2006 (AB 32).

As a result of implementation of the proposed Project, the Refinery would be able to continue to efficiently produce fuels and other petroleum products for the California market and would remain economically competitive.

3.2.2 Project Component Summary

The proposed Project is shown in Figure 3-3, and would consist of the following primary components:

- Installation of a single tank car unloading rack capable of offloading two parallel rows of 25 crude oil tank cars.
- Construction of two parallel, offloading rail spurs to access the tank car unloading rack along with a parallel departure track to store tank cars in preparation for departure, for a total of 8,880 track-feet of new track on Refinery property.
- Installation of approximately 4,000 feet of 16-inch diameter crude oil pipeline and associated components and pump infrastructure between the offloading rack and the existing crude supply piping.
- Replacement and relocation of approximately 1,800 feet of existing tank farm dikes.
- Relocation of an existing firewater pipeline, compressor station, and underground infrastructure.
- Relocation of groundwater wells along Avenue “A.”
- Construction of a service road adjacent to the proposed unloading rack.

same origin to the same destination. Manifest trains are express trains that carry a variety of different commodities in cars with different origins and different destinations. Local trains make multiple stops at terminals along the line. All of the trains carrying crude oil to the Refinery would be unit trains travelling from an oil producing region to the Refinery.

The passenger trains are scheduled to the minute. UPRR dispatches the passenger trains so as to meet these precise schedules. Freight trains do not typically run on regular schedules. In its normal course of operation, however, UPRR dispatches freight trains so as to avoid congestion that results in delayed deliveries.

If the Project were approved, Valero would ask UPRR to schedule Valero's unit trains so that none of them cross Park Road during the commute hours of 6:00 AM to 9:00 AM and 4:00 PM to 6:00 PM. UPRR has agreed to make all reasonable effort to comply with this request and, therefore, it is expected that Valero's unit trains will avoid crossing Park Road during the commute hours. UPRR has demonstrated the ability to regularly meet passenger train schedules -- the Capitol Corridor trains dispatched by UPRR are on time 97% of the time. One can assume that UPRR will have little difficulty scheduling trains around a three hour window and a two hour window, given their success in meeting the much more precise one-minute schedules required by Capitol Corridor. Moreover, UPRR currently avoids dispatching freight trains during the commute hours in order to ensure that freight trains do not delay the Capitol Corridor passenger trains. Valero's requested schedule, therefore, is consistent with UPRR's existing practice for dispatching freight trains.

Valero would schedule delivery of one train between the nighttime hours 8:00 PM and 5:00 AM, and a second train in the daytime hours (except during the commute hours). It would take Valero approximately 12 hours to unload each train and prepare the empty train for the return trip to Roseville. Thus, two trains would cross Park Road during the evening hours, and two would cross Park Road during the daytime hours other than the hours of 6:00 AM to 9:00 AM and 4:00 PM to 6:00 PM.

Operations noted in Steps 1 through 8 could occur at any time of day/7 days per week/365 days per year. These operations would be dynamic and subject to change based on changing business conditions.

The proposed Project could result in the addition of approximately 20 new permanent refinery personnel (four crews of five), spread among different work shifts (two shifts per day) and on different days (four crews per week).

3.5 Future Crude Oil Feedstock

The Project would allow Valero to receive North American crudes at the Benicia Refinery that currently have limited accessibility. There are many North American crudes available in the market today, with a wide range of weight and sulfur content. Available North American crudes are listed on Table 3-1.

**TABLE 3-1
AVAILABLE NORTH AMERICAN CRUDES**

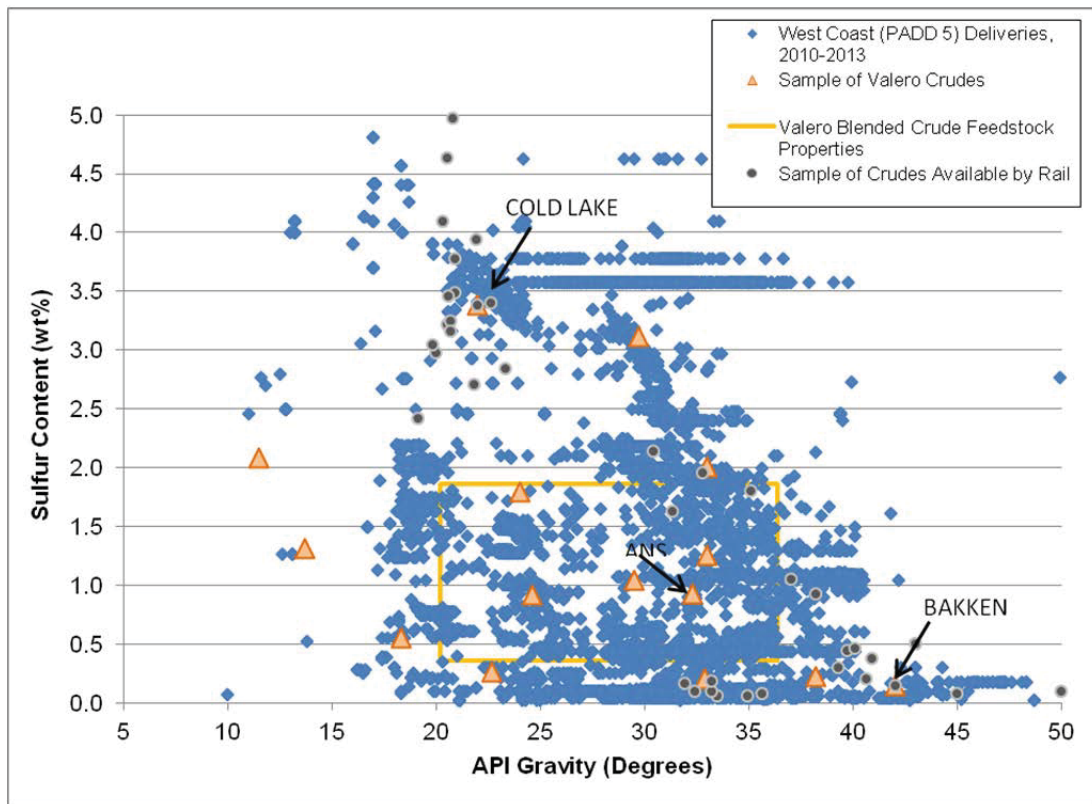
Type	Crude	Origin
Light Sweet	New Mexico Sweet	New Mexico
Light Sweet	Utah Sweet	Utah
Light Sweet	Bakken	North Dakota
Light Sweet	Canadian Manitoba Sweet	Canada
Light Sweet	Light Sweet Synthetic	Canada
Light Sweet	Husky Synthetic Blend	Canada
Light Sweet	Mixed Sweet Blend	Canada
Light Sweet	Niobar	Colorado
Light Sweet	Suncor Synthetic A	Canada
Light Sweet	Premium Albion Synthetic	Canada
Light Sweet	Long Lake Light Synthetic	Canada
Light Sweet	Sour Light Edmonton	Canada
Light Sweet	Shell Synthetic Light	Canada
Light Sweet	Syncrude Synthetic	Canada
Light Sweet	West Texas Intermediate	Texas
Light Sweet	Wyoming Sweet	Wyoming
Light Sour	Light Sour Blend	Canada
Light Sour	Peace River Sour	Canada
Medium Sour	Bow River South	Canada
Medium Sour	Sour High Edmonton	Canada
Medium Sour	Kearl Lake	Canada
Medium Sour	Midale	Canada
Medium Sour	Mixed Sour Blend	Canada
Heavy Sour	Albion Heavy Synthetic	Canada
Heavy Sour	Access Western Blend	Canada
Heavy Sour	Bow River North	Canada
Heavy Sour	Cold Lake	Canada
Heavy Sour	Cold Lake	Canada
Heavy Sour	Fosterton	Canada
Heavy Sour	Lloyd Blend	Canada
Heavy Sour	Lloyd Kerrobert	Canada
Heavy Sour	Suncor Synthetic H	Canada
Heavy Sour	Peace River Heavy	Canada
Heavy Sour	Smiley-Coleville	Canada
Heavy Sour	SHE	Canada
Heavy Sour	Western Canadian Blend	Canada
Heavy Sour	Western Canadian Select	Canada
Heavy Sour	Wabasca Heavy	Canada

SOURCE: McGovern, 2014 (See Appendix K)

Once the Project is complete, Valero plans to obtain North American crudes that are, on average, lighter and sweeter than Valero's current feedstocks. According to Valero, the North American crudes will be "Alaskan North Slope (ANS) look-alikes or sweeter" (Valero, 2013). As explained above, however, Valero selects crudes based on a range of variables that can change over time. Thus, the project could foreseeably result in Valero's purchase of any of the crudes listed above as well as others that might become available.

Moreover, Valero must blend its crude feedstocks to a narrow range of weight and sulfur content before processing. This constraint in turn limits the range of crude feedstocks that Valero can purchase. Although Valero can acquire individual crudes ranging from light sweet to heavy sour, the *average* weight and sulfur content of Valero's crude feedstocks over any given period of time must remain relatively constant.

Figure 3-11 displays the API Gravity and sulfur content of (1) all crudes delivered to west coast refineries over a three year period; (2) a sample of crudes purchased by Valero over that same period; and (3) a sample of North American crudes that would be available by rail if the Project were approved and constructed. As the Figure shows, North American crudes span a similar range of weight and sulfur content as crudes recently purchased by Valero, as well as all crudes recently purchased by west coast refineries. In any case, the average weight and sulfur content of all crudes purchased by Valero must remain within the yellow box.



SOURCE: Valero, 2013

Figure 3-11
West Coast Crude Deliveries and
Sample of Crudes Available by Rail

State air quality standards. Specifically, BAAQMD has the responsibility to monitor ambient air pollutant levels throughout the Bay Area and to develop and implement strategies to attain the applicable federal and State standards.

Authority to Construct/Permit to Operate

The BAAQMD requires that any person or facility that puts in place, builds, erects, installs, modifies, modernizes, alters, or replaces any article, machine, equipment, or other contrivance, the use of which may cause, reduce, or control the emission of air contaminants first secure written authorization from the BAAQMD in the form of an Authority to Construct Permit.¹ The BAAQMD implements the permit process through a pre-construction review and approval process that takes place after the equipment is designed, but before it is installed. The pre-construction review for new and modified sources applies to both stationary and portable sources of emissions that do not qualify for a permit exemption (BAAQMD, 2013). After an Authority to Construct has been issued and construction is complete, BAAQMD staff may inspect the facility in operation to verify that equipment performs as required. If it does, the BAAQMD issues a Permit to Operate, which may contain specific operating conditions for equipment. The permit must be renewed annually (BAAQMD, 2013). The Project would emit regulated, fugitive reactive organic gases (ROG) from unloading rack, pumps, and pipeline components, such as flanges and valves, and therefore the facility must obtain an Authority to Construct permit and Permit to Operate from the BAAQMD.

Title V Federal Operating Permit (Title V)

Title V of the 1990 federal CAA Amendments requires all major sources and some minor sources of air pollution to obtain an operating permit. A Title V permit grants a source permission to operate. The permit includes all air pollution requirements that apply to the source, including emissions limits and monitoring, record keeping, and reporting requirements. It also requires that the source report its compliance status with respect to permit conditions to the permitting authority. Under Title V of the federal CAA, any source that emits or has the potential to emit 100 tons per year or more of any criteria air pollutant is a major source and must obtain a Title V operating permit. Title V permits in the Bay Area are issued by the BAAQMD and implemented by Regulation 2, Rule 6 of the BAAQMD *Rules and Regulations*. The Refinery is a major facility and currently holds a Title V operating permit. Based on the BAAQMD's rules, the Project would qualify as a Minor Permit Revision of the Title V operating permit in accordance with Regulation 2-6-215 because it is not an administrative or significant permit revision. The proposed revisions are not considered to be administrative or significant because there are no proposed revisions that meet the definition for administrative revisions under Regulation 2-6-201 or that meet the definition for significant revisions under Section 2-6-226. Valero would submit a Title V permit modification application following receipt of the Authority to Construct permit for the Project.

New Source Review

New Source Review is a preconstruction permitting program established as part of the 1977 federal CAA Amendments. In the Bay Area, the BAAQMD has partial delegation to

¹ Unless the source is specifically excluded or exempt from permit requirements.

plans, policies, or regulations, or by the California Department of Fish and Wildlife, the National Marine Fisheries Service, or U.S. Fish and Wildlife Service;

- b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
- c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan.

4.2.4 Discussion of Impacts and Mitigation Measures

4.2.4.1 Project Study Area

- a) **Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife, the National Marine Fisheries Service, or U.S. Fish and Wildlife Service.**

The Project construction footprint lacks habitat for special-status species. However, a localized area surrounding the construction footprint has the potential for secondary Project-related disturbance (e.g., noise and vibrations) that could affect species present in the adjacent Sulphur Springs Creek riparian corridor. Sulphur Springs Creek is outside of the Refinery property but is adjacent to the northeastern Project boundary, and the riparian canopy extends to the property line. The creek is separated from the Refinery by a tall chain link fence. The vegetated bank extends approximately 65 feet before reaching the channel. Sulphur Springs Creek and its associated riparian corridor and in-stream marshes provide potentially suitable habitat for the following special-status species: California red-legged frog, western pond turtle, tri-colored blackbird, yellow-headed blackbird, Suisun song sparrow, Samuel's song sparrow, grasshopper sparrow, loggerhead shrike, yellow-breasted chat, San Francisco common yellowthroat, and short-eared owl.

California red-legged frog could use the Sulphur Springs riparian zone as a movement corridor. Breeding is unlikely due to urban runoff and high storm flows, and any individuals are likely to be transients that would not be disturbed by construction and operation of the Project. Western pond turtle may occur as a resident or transient in Sulphur Springs Creek, but breeding areas are more likely to occur upstream of the Project area where adjacent terraces and/or grasslands provide sandy egg-laying substrate. Like California red-legged frog, western pond turtle is

unlikely to be disturbed by construction and operation of the Project. Although the chain link fence is permeable to these species, there is no habitat in the Project area and no protective cover.

Suisun song sparrow is documented within coastal brackish marsh associated with downstream reaches of Sulphur Springs Creek and could occur (nest) in upstream Sulphur Springs Creek near the Project, as could Samuel's song sparrow, grasshopper sparrow, loggerhead shrike, yellow-breasted chat, and San Francisco common yellowthroat. Short-eared owls typically nest in grasslands and may forage in the riparian corridor but are not likely to nest there. Though brackish and salt marshes at the mouth of Sulphur Springs Creek provide habitat occupied by California black rail, California clapper rail, and salt marsh harvest mouse (CDFW, 2013a), only California black rail has the potential to occur in freshwater marshes of upstream Sulphur Springs Creek; this would be unlikely due to the small patch sizes of creek marshes and the industrial surroundings. Aside from the riparian corridor, nesting bird habitat would be limited to industrial areas. Peregrine falcons often nest on tall buildings, and their nests could occur on industrial buildings or rock outcrops associated with surrounding grasslands. American peregrine falcon is documented from undisclosed areas of Benicia (CDFW, 2013), but nests are not known to occur on Refinery structures. Thus, of the special-status species potentially present in the adjacent Sulphur Springs Creek riparian corridor, Project construction and operation is only likely to affect nesting birds, indirectly, as described below.

Impact 4.2-1: The Project could have a substantial adverse effect on nesting birds in the Sulphur Springs Creek riparian corridor. (*Less than Significant with Mitigation*)

The Project could have a substantial adverse indirect effect on nesting birds. The noise, vibrations, visual disturbance, and increased human activity associated with Project construction could result in nest failure (disturbance, avoidance, or abandonment that leads to unsuccessful reproduction), or cause flight behavior that exposes an adult or its young to predators such as Cooper's hawks (*Accipiter cooperii*). Nest failure is a possible but unlikely outcome of construction activities, since the baseline noise and activity levels at the Refinery would not be significantly increased by construction activities. However, if it were to occur, nest failure would be a significant effect under CEQA and a violation of California Fish and Game Code Sections 3503-3513 and the federal Migratory Bird Treaty Act. During operation, the noise, vibrations, visual disturbance, and increased human activity associated with the Project become part of the ambient environment, so any birds that subsequently nest nearby are presumed to be tolerant of the disturbance. Implementation of the following mitigation measure would reduce potentially significant construction-related effects on nesting birds to a less-than-significant level.

Mitigation Measure 4.2-1: Project construction activities should avoid the nesting season of February 15 through August 31, if feasible. If seasonal avoidance is not possible then no sooner than 30 days prior to the start of any Project activity a biologist experienced in conducting nesting bird surveys shall survey the Project area and all accessible areas within 500 feet. If nesting birds are identified, the biologist shall implement a suitable protective buffer around the nest and no activities shall occur within this buffered area. Typical buffers are 250 feet for songbirds and 500 feet for raptors, but may be increased or decreased according to site-specific, Project-specific, activity-specific considerations such as visual barriers between the nest and the activity, decibel levels associated with the activity, and the

4.8 Hydrology and Water Quality

4.8.1 Introduction

This section addresses potential changes in hydrology, water quality, groundwater, and flooding conditions that could result from implementation of the Project. This section describes the existing hydrologic setting; provides an overview of applicable federal, state, and local regulatory framework; presents an analysis of potential environmental impacts; and where appropriate, identifies suitable mitigation measures to reduce the intensity of potential impacts. Information sources used to prepare this section include documents from various local, state, and federal agencies, and numerous published documents and maps related to the topic.

4.8.2 Setting

4.8.2.1 Regional Setting

The Project site is located within the Valero Benicia Refinery, situated within rolling, low elevation hills (ranging up to 200 feet above mean sea level) along the northern shores of the Carquinez Strait and Suisun Bay, just to the west of the Sacramento-San Joaquin River Delta. Several small drainage catchments are located in the area and are referred to as the Lake Herman/Sulphur Springs Creek watershed. Lake Herman Reservoir, which impounds Sulphur Springs Creek, is located north of the Refinery. Below the reservoir, Sulphur Springs Creek traverses a narrow band of marshland and discharges to Suisun Bay. Along the eastern border of the Refinery, this creek flows through an engineered channel through the Benicia Industrial Park. Other small ephemeral tributaries to Sulphur Springs Creek flow from west to east near the Refinery property. Tidal marshlands lying near or below sea level characterize the Suisun Bay margin and represent the endpoints of the Napa Valley and Sonoma Valley alluvial plains, both located to the north and west of the Refinery.

The Refinery property is within the San Francisco Bay Area Hydrologic Basin and is bounded to the east by the Suisun-Fairfield Valley Groundwater Basin and to the west by the Napa-Sonoma Valley Groundwater Basin (Woodward-Clyde, 1993). The water bearing units within the region consists of Sonoma Volcanic rocks, Pleistocene alluvium, and recently deposited alluvium. Natural recharge is principally from infiltration of precipitation that falls on the valley floor and the surrounding hills within the drainage basin. Some limited infiltration occurs from streams in areas where the water table is lower than the stream channels. Regional groundwater flow (gradient) is generally from the recharge areas in the hills northwest of the Refinery toward the tidal marshes of Suisun Bay and the Carquinez Strait. Groundwater quality in the region ranges from generally good in the alluvial sediments to poor in the tidal marsh sediments. The groundwater in the estuarine sediments is brackish to saline (Woodward-Clyde, 1993).

Climate

The Project area is characterized by a Mediterranean climate with mild, wet winters and dry, warm summers. Both summer and winter temperatures are moderated by proximity to the

4.8.5 Discussion of Impacts and Mitigation Measures

a, f) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade water quality?

Impact 4.8-1: The Project would not violate any water quality standards or otherwise substantially degrade water quality. (*Less than Significant with Mitigation*)

Construction activities associated with the Project would require land disturbing activities such as grading, earthmoving, backfilling, and compaction. Additionally, Project construction would involve use of chemicals and solvents such as fuel and lubricating grease for motorized heavy equipment. Such construction activities could dislodge soil and cause sedimentation or inadvertent spills of construction related chemicals into waterways resulting in adverse water quality impacts. Sulphur Springs Creek is directly adjacent to the Project and these impacts could be significant in the immediate vicinity of construction activities as well as further downstream if Best Management Practices (BMPs) are not employed to minimize or avoid release of pollutants. Construction or grading activities occurring on land parcels of one acre or more in size are subject to a General Construction Permit under the NPDES permit program under section 402(p) of the federal Clean Water Act. However, the SFRWQCB confirmed that storm water runoff generated during Project construction activities would not require coverage under the General Permit for Construction Activities based on measures currently contained and required in Valero's SWPPP (RWQCB, 2013) for the Refinery property. Implementation of a storm water management plan (SWMP) as described below in Mitigation Measure 4.8-1 would ensure that the Project would not substantially degrade water quality, water quality standards, or waste discharge requirements during construction. Implementation of standard construction procedures and precautions would also ensure that the water quality impacts related to the handling of chemicals from Project construction would be less than significant.

Based on geotechnical information developed for the Project site (Valero, 2013), encountering groundwater during grading and excavation is not anticipated. As described in Section 4.8.2.2, Project Setting, the groundwater table varies across the Project area⁴ (URS, 2001; Stantec, 2010), but in general is approximately 10 feet below existing grade at the Project site. Additionally, the groundwater levels are likely to be lower than 10 feet below grade during summer months when the grading and excavation work are scheduled to occur (Valero, 2013). Therefore, it is anticipated that interception of the groundwater table during excavation and grading would be minimal. However, excavation during Project construction could intercept the shallow groundwater table at some locations and could require dewatering. Where groundwater is intercepted during construction, it will be extracted and contained in holding tanks and subsequently processed at the facility's wastewater treatment plant and discharged into the Carquinez Strait via a wastewater effluent outfall regulated under the Refinery NPDES permit. Impacts to water quality, water quality standards, or waste discharge requirements relating to construction dewatering of groundwater would be less than significant.

⁴ Depth to water at the Refinery ranges from 2 to 50 feet below ground surface (bgs) (URS, 2001).

h) Would the project place within a 100-year flood hazard area structures which would impede or redirect flood flows?

Impact 4.8-□: The Project could place structures within a 1□□-year flood hazard areas at risk. (Less than Significant)

Review of the Federal Emergency Management Agency (FEMA) Federal Insurance Rate Maps (FIRM) for the Project area indicate that the majority of the Project site along Sulphur Springs Creek and north of Bayshore Road is designated as “Zone RF”, a Special Flood Hazard Area (SFHA) that is within the 100-year flood zone (FEMA, 2013). The southern portions of the proposed rail alignment are in areas of minimal flood hazard or in Zone X, with some sections crossing Zone RF and Zone AE in the vicinity of Bayshore Road (FEMA, 2013). Construction of aboveground facilities within a flood hazard zone could potentially impede or redirect flood flows. Aboveground facilities that are not designed to withstand inundation can be damaged during flood events. Due to the Project being within a 100-year flood zone, Project components would be required to include in the design criteria flood hazard mitigation measures in accordance with the City of Benicia Floodplain Management Policy (City of Benicia, 1999). The flood hazard mitigation measures incorporated into the design criteria for the Project would comply with construction standards established by the California Building Code. Further, the Project elements are not habitable structures for human occupancy. Additionally, construction of new unloading facilities and rail track within the mapped 100-year flood hazard zone would be unlikely to displace floodwaters, raise flood elevations, create new flooding impacts (e.g., by causing flooding of existing facilities or structures that previously would not have been inundated), and/or exacerbate existing flooding problems (e.g., by increasing the severity or frequency of flooding relative to pre-Project conditions). Therefore, it is unlikely that the Project would substantially displace or redirect flood flows. The impact would be less than significant.

i) Would the project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

Impact 4.8-□: The Project could place people or structures within inundation areas for flooding. (Less than Significant)

The Project area is within the mapped dam inundation zone for Lake Herman Dam (ABAG, 1995). Although unlikely, catastrophic failure of this dam would potentially expose people or structures to a significant risk of loss, injury, or death involving flooding. However, all dams are routinely inspected and evaluated for seismic integrity as overseen by the California Division of Safety of Dams (DSOD). When a dam is found to have a failure potential, the water level behind the dam is reduced to allow for partial collapse without loss of water as required by DSOD (ABAG, 2013). Thus, the probability of dam failure resulting in significant loss, injury, or death is low (ABAG, 2013). Given the low risk of dam failure, and because the proposed facilities would be designed to withstand natural hazards, potential impacts related to dam failure are considered less than significant. According to maps compiled by the San Francisco Bay Conservation and Development Commission (BCDC), a projected sea-level rise of 55 inches by

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It is theoretically possible, due to track sharing agreements (also called “trackage rights”), for crude to be provided to the Refinery via any of the North American freight railroad tracks, which are shown in Figure 1-1, *North American Freight Railroads*. However, it is more likely that UPRR’s existing crude network (Figure 1-2, *Union Pacific Crude Network*) would be used to transport Project-related crude because the UPRR rail line already provides rail access for the Refinery and because Refinery personnel have indicated that the UPRR would serve the Project (see, e.g., ERM, 2013). Further, based on information provided in application materials submitted by Refinery personnel (ERM, 2013), the DEIR and this Revised DEIR assume for purposes of analysis that all Project-related crude would be routed through Roseville.⁴ Accordingly, this analysis focuses on the lines leading from Roseville toward the California border and points beyond from the north (Oregon to Roseville), northeast (Nevada to Roseville, Northern), and east (Nevada to Roseville, Southern). See Figure 1-3, *Uprail Routes*.



BNSF= BNSF Railway; CN= Canadian National Railway; CP= Canadian Pacific Railway; CSX= CSX Transportation; FFE= Ferromex (a contraction of Ferrocarril Mexicano or "Mexican Railway"); KCS/KCSM= Kansas City Southern Railway; NS= Norfolk Southern Railway; and UP= Union Pacific Railroad.

SOURCE: Association of American Railroads, 2014

Benicia Valero CBR . 202115.01

Figure 1-1
North American Freight Railroads

⁴ UPRR confirmed in November 2014, “There are currently no plans for any other service unit [besides Roseville] to provide crude trains to the Valero Benicia refinery.” (Valero, 2014)

3. Mitigate project-related impacts.
4. Implement the Project without changing existing Refinery process equipment or Refinery process operations, other than operation of the Project components.
5. Continue to meet requirements of existing rules and regulations pertaining to oil refining including the State of California Global Warming Solutions Act of 2006 (AB 32).

2.1.3 DEIR ES-3, Project Setting and Location

The Refinery is located at 3400 East Second Street, an industrial area in the eastern portion of the City of Benicia, in Solano County. The Refinery lies in a general north-south orientation near and west of Interstate 680. The Refinery is located along the northern edge of the Suisun Bay below a low range of coastal hills. See Figure ES-1, *Regional Location*. To the west of East Second Street is open space, and the closest residential areas are approximately 3,000 feet to the south and west of the Refinery, and approximately 2,100 feet to the northwest. Refinery operations occupy approximately 330 acres of Valero's 880 acre property.

The Refinery dock is located on the Carquinez Strait between the Benicia-Martinez Bridge and the Port of Benicia wharf. The Refinery's marine terminal and pipeline to the Refinery provide access for receiving and shipping bulk cargoes (including crude) by marine vessel. The existing Union Pacific Railroad (UPRR) rail line provides rail access for the Refinery and for the Benicia Industrial Park, which is located east and north of the Refinery. See Figure ES-2, *Valero Refinery Boundary*. Presently, the Refinery uses tank cars to receive chemicals used in refining and to ship refined products from the Refinery.

The Project site is located in the northeastern portion of the Refinery property, between the eastern side of the lower tank farm and the fence adjacent to Sulphur Springs Creek. See Figure ES-3, *Site Plan*. Existing facilities within the Project site include siding track and a liquid spill containment area (including an associated containment berm).

2.1.4 DEIR ES-4, Project Description

Valero proposes to install, operate, and maintain new equipment, pipelines, and associated infrastructure as well as new and realigned segments of existing railroad track within the Refinery boundary to allow the Refinery to receive a portion of its crude oil feedstock deliveries by tank car. More specifically, the Project would allow Valero to accept up to 100 tank cars of crude oil a day in two 50-car trains. The trains would enter the Refinery on an existing rail spur that crosses Park Road. Crude oil unloaded from the tank cars would be pumped to an existing storage tank in the Refinery via a new crude offloading pipeline. The amount of crude oil delivered by railcar would offset the amount of crude oil delivered by marine vessels. See generally ERM, 2012, ERM, 2013, Valero, 2013a, and Valero, 2013b.

using existing rail lines. Unit trains would consist of 50 or up to 100 tank cars (Valero, 2013c). 100-tank car trains would be transported with four locomotives and two buffer cars;³ 50-tank car trains would be transported with two locomotives and two buffer cars. Two 50-car trains would be dispatched from the Roseville Yard to the Refinery each day. UPRR would own and operate the locomotive engines. Valero would own or lease the tank cars. Valero proposes to use non-jacketed Casualty Prevention Circular (CPC)-1232-compliant tank cars. See DEIR Section 3.4.1.3, *Tank Cars*, for more information.

2.1.5 DEIR ES-5, Alternatives

This EIR considers one No Project Alternative and three project alternatives. Each is summarized below.

2.1.5.1 No Project Alternative

Under the No Project alternative, the Project would not be constructed, which would prevent crude oil from being transported to the Refinery via tank car and have no effect on the Refinery's existing ability to process crude oil received via other existing, approved mechanisms such as by marine vessel or pipeline. The Refinery's existing facilities at the site of the proposed unloading racks and spurs would remain. Air emissions (both criteria pollutants and greenhouse gases) from marine vessels that transport crude oil into the Bay Area Air Basin would remain unchanged, because there would be no reduction in marine vessel trips to the Refinery. Valero would not be able to achieve most of its Project objectives.

2.1.5.2 Alternative 1: Limiting Project to One 50-Car Train Delivery per Day

Under this alternative the Project would operate with a 50% reduction in the proposed number of train deliveries to the Refinery per day. Deliveries would be limited to a maximum of one⁴ 50-car train each day, containing a daily total of 35,000 barrels. This single train would be delivered during nighttime hours (between 8:00 p.m. and 5:00 a.m.) and once emptied, would depart the Refinery during nighttime hours and be returned to its origination point. All other aspects of this alternative would be the same as the Project. This alternative would not allow Valero to fully achieve the primary Project objectives 1 and 2, but would still fulfill Project objectives 3 through 5.

Any limitation on the volume of product shipped or the frequency, route, or configuration of such shipments is preempted under federal law. See Revised DEIR Appendix G. See also Valero's statement regarding preemption in Revised DEIR Appendix H. Thus, Alternative 1 is legally infeasible.

³ Railroads use "buffer" cars primarily to comply with U.S. Department of Transportation (USDOT) regulations regarding separation of occupied equipment (i.e., locomotives) from hazardous materials cars. Buffer cars provide no transportation function.

⁴ This means that one 50-car train would be delivered for unloading each day and after unloading the 50-car train would return to its origination point.

The crude oil to arrive by tank car would originate at sites in North America and be shipped by Union Pacific Railroad (UPRR). UPRR would transport tank cars from the points of origin in unit trains consisting of up to 100 tank cars (Valero, 2013c), four locomotives, and two buffer cars on a daily basis using existing rail lines from sources in North America to Roseville, California, from where the cars would be dispatched assembled into a train for shipment into the Refinery. Unit trains carry just one commodity, such as grain or crude oil. All of the cars in a unit train are shipped together from the same origin to the same destination. Alternatively, two trains per day of up to 50 tank cars each, with two locomotives and two buffer cars per train, would transport the crude to Roseville. Valero would own or lease the tank cars that would be used to transport crude oil. UPRR owns and operates the locomotive engines that would be used.

Implementing the proposed Project could reduce marine vessel delivery of crude oil by as much as 25,550,000 barrels in a 365 day year. Based on the three-year baseline period from December 10, 2009 to December 9, 2012 annual marine vessel deliveries could be reduced by as much as 82 percent.

The Project would not involve any changes to the existing Refinery operations or process equipment, other than the construction and operation of the Project components. The Project would not increase the amount of crude oil that can be processed at the refinery, or the amounts of petroleum products that can be produced. The Refinery's crude oil processing rate is limited to an annual average of 165,000 barrels per day (daily maximum of 180,000 barrels per day) by its Bay Area Air Quality Management District (BAAQMD) operating permit. The Project does not propose any change to this limit. The Project does not propose changes to the emissions limits in the current BAAQMD permits, although the Project does require approval of an Authority to Construct from the BAAQMD. In connection with this approval, the BAAQMD will consider ~~locomotive emissions and~~ tank car unloading emissions that would as may be caused by the Project.

2.4.2 Section 3.4.2.1, Tank Car Transport and Unloading

The description of Project operation, specifically the transport and unloading of tank cars, described in DEIR Section 3.4.2.1 (p. 3-20 et seq.) is supplemented to clarify potential train routes and the timing of deliveries. Exclusive federal jurisdiction over the regulation of some relevant railroad operations is noted.

The tank car unloading rack would accommodate up to 25 tank cars on each side at one time (up to two, 50 tank car “switches” per day would be transported to the rack by train). The tank cars would be emptied into a single pipeline located between the two rail spurs at slightly below ground level (see Figure 3-3). Each side of the rack would have 25 unloading stations, which would “bottom-unload” closed-dome tank cars using 4-inch-diameter hose, with dry disconnect couplings that would connect to a common header between the two sides of the rack (a check valve, connected to the top of each tank car via 2-inch-diameter hose would open to allow ambient air to enter during unloading and immediately close when unloading is finished). Three new pumps would be located on the western side of a new service road between Tanks 1720 and

1716. Two pumps operating in parallel would pump the crude oil from the unloading rack header via a new 16-inch pipeline. The third pump will be installed as a spare pump. This will facilitate periodic maintenance on the primary pumps. Once emptied, the 50 tank cars would be disconnected from the rack, moved to an on-site departure spur, and then replaced by another 50-rail-car switch.

A typical tank car handling scenario is described below:

1. Tank cars carrying crude oil destined for the Refinery arrive at ~~the~~ UPRR's J.R. Davis Yard in Roseville, California (the "Roseville Yard") ~~railyard~~ from a variety of potential North American crude sources including, but not limited to, locations in Texas, North Dakota, Oklahoma, New Mexico, or Canada (U.S. Energy Information Administration, 2015a, 2015b; see also, DEIR Appendix K).
2. UPRR-operated locomotives would move up to a 50 car unit train directly from the Roseville Yard ~~railyard~~ via UPRR mainlines to Benicia and then onto the Refinery unloading tracks on Refinery property, traveling at up to 50 miles per hour (mph) on the main line. When crossing Park Road at the Refinery property entrance, the trains would travel at approximately 5 mph.
3. Up to 25 tank cars would be positioned on the unloading tracks located on each side of the unloading rack. UPRR would leave its locomotives attached to each 25 tank car train.
4. UPRR would turn over operation of the trains to Valero for offloading.
5. A check valve would be installed onto each vent valve on the top of each tank car. The vent valve on the top of each tank car would be opened and the accompanying check valve would only allow fresh air into each tank car, and would prevent release of hydrocarbon fugitive emissions to the atmosphere. At each end car and on approximately every 8 tank cars in the 25 tank car string, a hose would be connected from the tank car's vent connection to a separate "equalization header." The equalization header would ensure the vapor spaces above the stored liquid crude in the tank cars is equalized between the tank cars. Individual drain hoses would be manually connected to the bottom of each tank car by on-site workers.
6. Valero would drain the contents of each tank car by gravity into a collection pipe (collection header) and then pump the contents directly into storage tankage located in the Refinery's crude oil storage tank field.
7. After the tank cars are emptied, the empty tank cars would be moved onto the departure spur on Refinery property adjacent to the unloading rack, where a train of up to 50 empty tank cars would be reassembled in preparation for transport off-site. Prior to departure, UPRR and Valero would conduct a safety inspection and ready the train for departure.
8. UPRR would transfer the empty 50 tank car train across Park Road and then east on the UPRR mainlines returning to ~~the~~ UPRR's Roseville Yard ~~railyard~~. UPRR would assemble up to a 100 empty tank car train and transfer it to accept new loads from the North American crude source.

UPRR owns and maintains a network of rail lines throughout California and the United States for the transport of crude (see Figure 1-2, Union Pacific Crude Network). This network includes the

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Use Permit Application 12PLN-00063

Prepared for
City of Benicia

January 2016



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Attorney General

State of California
DEPARTMENT OF JUSTICE

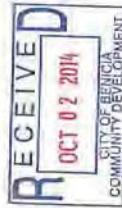


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October 2, 2014

Via U.S. and Electronic Mail

Amy E. Millon
Community Development Department
City of Benicia
250 East L Street
Benicia, CA 94510



RE: Attorney General's Comments on the Draft Environmental Impact Report for the
Valero Benicia Crude-By-Rail Project

Dear Ms. Millon:

Attorney General Kamala D. Harris submits the following comments on the Draft Environmental Impact Report (DEIR) for the Valero Benicia Crude-By-Rail Project (Project).¹ The Project proposes improvements to Valero's Benicia Refinery (Refinery) that, if approved, will allow Valero to receive and process up to 100 tank cars of crude oil by railway per day from North American sources.

With this and other projects like it, California is faced with a dramatic increase in the amount of highly-flammable crude oils proposed to be transported by rail throughout the State, the result of a recent oil boom from North American sources, including the Bakken shale in North Dakota and Canadian tar sands. According to the federal government, rail shipments of certain crude feedstocks, including Bakken shale, represent an "imminent hazard," such that a "substantial likelihood that death, serious illness, severe personal injury, or a substantial endangerment to health, property, or the environment may occur."² Indeed, accidents involving these trains have already resulted in catastrophic consequences, including one recent calamity that killed 47 people, incinerated an entire downtown area, and is expected to require the

¹ The Attorney General submits these comments pursuant to her independent power and duty to protect the environment and natural resources of the State. See Cal. Const., art. V, § 13; Gov. Code, §§ 12511, 12600-12612; *D'Amico v. Bd. of Medical Examiners* (1974) 11 Cal.3d 1, 1415. This letter is not intended, and should not be construed, as an exhaustive discussion of the DEIR's compliance with the California Environmental Quality Act.
² See U.S. Dept. of Transportation (DOT), Emergency Order: Petroleum Crude Oil Railroad Carriers, Docket No. DOT-OST-2014-0067 (May 7, 2014).

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expenditure of \$400 million in taxpayer funds to remediate its disastrous environmental impacts.³

In the face of this unprecedented risk, it is important that the infrastructure and facilities transporting and processing these feedstocks are specifically designed to present minimal risk to life, public and private property, and the environment. In particular, officials entrusted with protecting public health and safety must ensure that the hazards from these projects are fully and accurately assessed, and the identified risks are mitigated to the fullest extent possible by law.

Unfortunately, the DEIR for this Project fails to properly account for many of the Project's potentially significant impacts pursuant to the California Environmental Quality Act (CEQA). Specifically, the DEIR:

1. Underestimates the probability of an accidental release from the Project by considering only a fraction of the rail miles travelled when calculating the risk of derailment, by relying on a currently unenforceable assumption that newer, safer tank cars will be used, by failing to adequately describe the potential consequences of an accident resulting in a release of crude oil, and by improperly minimizing the risk to public safety from increased rail-use;
2. Improperly asserts that the proper baseline for the Project's impact on air emissions is determined by the Refinery's maximum permitted emissions;
3. Fails to analyze the impacts on air quality from the foreseeable change in the mix of crude oils processed at the Refinery;
4. Ignores reasonably foreseeable Project impacts by impermissibly limiting the scope of the affected environment analyzed to only the 69-mile stretch from Benicia to Roseville;
5. Fails to consider the cumulative impacts on public safety and the environment from the proliferation of crude-by-rail projects proposed in California; and
6. Employs an overly broad determination of trade secrets, which results in the nondisclosure of the types of crude oil to be shipped by rail and refined onsite. As a result, the DEIR fails to provide sufficient information for an adequate analysis of the safety risks from transportation or the air quality impacts from refining the new crude.

These issues must be addressed and corrected before the City Council of Benicia takes action pursuant to CEQA on the DEIR or the Project.

³ Fishell, "Quebec government seeking \$400 million for Lac-Mégantic rail disaster cleanup," *Bangor Daily News* (September 19, 2014).

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Crude-by-Rail in California

Background

From 2012 to 2013, crude-by-rail in California increased from one million barrels imported to 6.3 million barrels imported, a rise of 506%.⁴ This surge in the amount of crude-by-rail imports is replacing crude oil previously transported by ship or pipeline. The trend shows no sign of abatement, and the California Energy Commission projects that by 2016, the State will import up to 150 million barrels of crude-by-rail.⁵

Crude feedstocks from North American sources such as the Bakken shale in North Dakota and tar sands in Canada have only recently been introduced to refineries, made available by a combination of new extraction techniques and higher energy prices. Bakken crude is unlike other crude being produced or shipped in this country, and it presents an "imminent hazard" because it is more ignitable and flammable and thus more likely to cause large, potentially catastrophic impacts from a train crash or derailment.⁶ On the other end of the spectrum, crude oil extracted from Canadian tar sands is a low-grade, high sulfur feedstock that is not as volatile as light crudes like Bakken but contains chemical properties that make it particularly damaging to the environment when spilled and/or burned.⁷

This dramatic increase in crude-by-rail represents a new potential hazard to public safety and the environment in part because the crude oil is regularly transported by "high hazard flammable trains" (HHFT), which are trains comprising 20 or more carloads of flammable liquids such as crude oil.⁸ The DOT has determined that derailments of HHFTs will continue to be more severe, "involv[ing] more cars than derailments of other types of trains" because HHFTs are uniquely heavier and longer and therefore harder to control and less stable than other rail traffic.⁹

⁴ Interagency Rail Safety Working Group, Oil by Rail Safety in California (June 10, 2014) p.1.

⁵ *Id.*

⁶ See Pipeline and Hazardous Materials Safety Administration, Dept. of Transportation, Operation Safe Delivery Update (2014) p. 1. See also U.S. DOT Emergency Order, Petroleum Crude Oil Railroad Carriers, Docket No. DOT-OST-2014-0067 (May 7, 2014).

⁷ U.S. Dept. of Transportation, Draft Regulatory Impact Analysis, "Hazardous Materials: Enhanced Tank Car Standards and Operational Controls for High-Hazard Flammable Trains; Notice of Proposed Rulemaking." July 2014 [Docket No. PHMSA-2012-0082] (HM-251), p.81.

⁸ DOT proposed regulations define a "high hazard flammable train" as a train comprised of 20 or more carloads of Class 3 flammable liquids such as crude oil. 79 Fed.Reg. 45017 (August 1, 2014).

⁹ U.S. Dept. of Transportation, Draft Regulatory Impact Analysis, "Hazardous Materials: Enhanced Tank Car Standards and Operational Controls for High-Hazard Flammable Trains; Notice of Proposed Rulemaking." July 2014 [Docket No. PHMSA-2012-0082] (HM-251), p.24.

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This boom in crude oil being transported by rail has corresponded with a major increase in the number of accidents involving such trains. In 2013 alone, trains spilled 1.1 million gallons of crude oil, a 72% increase over the total amount of oil spilled by rail in the nearly four previous decades combined.¹⁰ Since the beginning of 2013, at least nine major accidents related to crude-by-rail have occurred. Among the most notorious include:

- **Lac Mégantic, Quebec**—On July 5, 2013, a train loaded with 72 tank cars of crude oil being transported from North Dakota to New Brunswick stopped on a track with a descending grade. The train later began rolling downhill toward the town of Lac-Mégantic, about 30 miles from the U.S. border. Near the center of town, 63 tank cars derailed, resulting in multiple explosions and subsequent fires. The accident killed 47 people and destroyed substantial sections of the town, causing the evacuation of 2,000 people. It was later determined that the crude oil released was more volatile than the transporter had originally reported to Canadian authorities.
- **Aliceville, Alabama**—On November 8, 2013, a train hauling 90 cars of crude oil from North Dakota to a refinery near Mobile derailed on a section of track through a wetland near Aliceville. Thirty tank cars derailed and a dozen of these burned. The derailment occurred on a shortline railroad's track that had been inspected and cleared only a few days earlier. The train was travelling under the speed limit for this track.
- **Casselton, North Dakota**—On December 30, 2013, an eastbound BNSF Railway train hauling 106 tank cars of crude oil struck a westbound train carrying grain that shortly before had derailed onto the eastbound track. Some 34 cars from both trains derailed, including 20 cars carrying crude, which exploded and burned for over 24 hours. About 1,400 residents of Casselton were evacuated.
- **Lynchburg, Virginia**—On April 30, 2014, 15 cars in a crude oil train derailed in Lynchburg's downtown area. Three cars caught fire, and some cars derailed into a river along the tracks. The immediate area surrounding the derailment was evacuated.¹¹

Crude-by-rail projects employing HHFT's continue to proliferate in California, and economic factors suggest that this trend will continue for the foreseeable future. This Project in Benicia is but one of *at least twelve* other crude-by-rail related projects that are either already

¹⁰ Tate, "More oil spilled from trains in 2013 than in previous 4 decades, federal data show," McClatchyDC (January 20, 2014).

¹¹ Crude-by-rail accidents have also occurred in Philadelphia, PA, Vandergrift, PA, and LaSalle, CO, in addition to the Canadian provinces of Alberta and New Brunswick. Congressional Research Service, "U.S. Rail Transportation of Crude Oil: Background and Issues for Congress" (May 5, 2014); Associated Press, "Colorado derailment: Six crude oil tankers jump track" (May 10, 2014).

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operational or being considered in California. In addition to Benicia, crude-by-rail projects exist in Richmond, Pittsburg,¹² Martinez, Santa Maria, Stockton, Los Angeles, Bakersfield (two projects), Wilmington (two projects), and Sacramento (two projects).¹³ If approved, these projects would cumulatively result in billions of gallons of crude oil being transported by HHFTs annually throughout California.

The Valero Benicia Crude-by-Rail Project

Valero has applied to the City of Benicia for a Use Permit to construct improvements and install equipment that would allow the existing Refinery to begin receiving and refining crude feedstocks by rail, at a level of 100 tank cars daily. The crude-by-rail would be delivered in two, 50 car trains each day to the Refinery, totaling 70,000 barrels of North American crudes. The crude-by-rail deliveries would purportedly replace crude oil feedstocks currently arriving by ship. The significant components of the Project, as presented in the DEIR, include construction of offloading racks, rail spurs and new truck, and additional supply piping from the rail spur to the Refinery. (DEIR 3-5).

Comments on the DEIR

The DEIR fails to adequately analyze the Project's impacts to up-rail communities.

The DEIR employs improper standards of significance, unenforceable mitigation measures, and inadequate analyses to conclude that the Project will not have a significant impact on "up-rail" communities, including those communities located between Roseville and Benicia through which HHFTs will pass if the Project is approved. This analysis, broken up in the DEIR into five subsections, is defective in the following areas:

(1) The probability of an accidental release of crude oil from a train

The DEIR employs a flawed quantitative analysis to conclude that the probability of an accidental release of crude oil from a train is only one in 111 years. (DEIR App. F). First, because the DEIR limits its analysis to only the 69 mile rail stretch from the Union Pacific Railroad ("UPRR") Roseville Terminal to Benicia, it severely underestimates the risk of an accident related to the Project. The tank cars containing crude oil do not originate in Roseville, they are delivered by rail from particular sources, including North Dakota and Canada. While the precise route from these sources throughout North America to the Refinery may be somewhat indeterminate, the potential rail routes from within the California borders to the Roseville terminal are limited to a handful of options, and an assessment of these foreseeable impacts using

¹² The Attorney General submitted a CEQA comment letter on the Recirculated DEIR for the WestPac Pittsburg Energy Infrastructure Project on January 15, 2014.

¹³ Hays, Kristen. "Factbox - California crude slates and oil-by-rail projects," Reuters (September 10, 2014).

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reasonable assumptions of future crude oil sources should have been performed. This is particularly true given that, despite claiming that the routes are too speculative to analyze for purposes of public safety, the DEIR does, in fact, analyze these very routes in its discussion of both air quality impacts (DEIR 4.1-22) and greenhouse gas emissions (GHG) (DEIR 4.6-9).

Second, the DEIR's risk analysis assumes that Valero will only transport crude oil in newer model "1232" tank cars, which reduces the estimate of public health risks to up-rail communities. These newer, presumptively safer tank cars, however, are not required by current federal regulations.¹⁴ The DEIR presents no evidence to support the assumption that only the newer tank cars will be used, because Valero only makes a voluntary commitment to upgrade its tank cars, a commitment that appears to be unenforceable as the Project is now proposed. Such an unenforceable mitigation measure and/or condition of Project approval is a violation of CEQA's requirement that these commitments be "fully enforceable through permit conditions, agreements, or other legally binding instruments."¹⁵ The City of Benicia itself asserts that it is preempted from enforcing Valero's obligation to use the newer and safer rail cars and states that it "must rely on the federal authorities to ensure that any such risks are mitigated as appropriate."¹⁶ (DEIR 4.7-20). But, since DOT regulations currently allow use of DOT-111

¹⁴ 49 C.F.R. 179. On August 1, 2014, the DOT published a Notice of Proposed Rulemaking seeking comments on new tank car standards for the transport of materials such as crude oil and ethanol. The proposed rules include a variety of options for phasing out the currently-used DOT-111 tank cars in favor of safer tank cars such as the 1232 tank car, or other improved designs. It is unclear when these new regulations might take effect, but the earliest proposal for the elimination of DOT-111 tank cars to transport crude oil is 2017, and oil corporations are advocating for additional delay due to the increased costs associated with upgraded tank cars and a shortage of supply of 1232 tank cars. See 79 Fed. Reg. 45016 (August 1, 2014).

¹⁵ CEQA Guidelines, Cal. Code Regs., tit. 14, § 15126.4, subd. (a)(2).

¹⁶ We do not express an opinion regarding whether Benicia's legal analysis is correct. The extent that federal law, including the Interstate Commerce Termination Act (ICTTA), preempts a state or local jurisdiction's ability to minimize impacts associated with rail transportation projects has not been definitively determined by the courts. "The circuits appear generally, for example, to find preemption of environmental regulations, or similar exercises of police powers relating to public health and safety, only when the state regulations are either discriminatory or unduly burdensome." *Fogay Enters. v. BNSF Ry.* (D.C. Cir. 2010) 602 F.3d 444, 451. The Ninth Circuit has most recently determined that, "Generally speaking, ICTTA does not preempt state or local laws if they are laws of general applicability that do not unreasonably interfere with interstate commerce." *Association of American Railroads v. South Coast Air Quality Management Dist.* (9th Cir. 2010) 622 F.3d 1094, 1097-1098. Nonetheless, California law on rail preemption issues is currently in flux. See *Town of Alhambra, et al. v California High-Speed Rail Authority* (2014) 228 Cal.App.4th 314 (request for depublication filed September 22, 2014); see also *Friends of Eel River v. North Coast Railroad Railroad Authority, et al.* (September 29, 2014) First Appellate District, Case No. CIV1103605. Factors relevant to Benicia's ability to exercise its police powers to lessen the Project's significant impacts would likely hinge upon,

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tank cars for these purposes, there is no reasonable expectation that DOT (or any entity other than Benicia) would enforce Valero's commitment to use the 1232 cars. Furthermore, the DEIR provides no evidence that Valero has enough stock of the upgraded 1232 tank cars (a scarce commodity) to completely avoid use of the older DOT-111 legacy cars.¹⁷

Finally, the analysis is flawed because it only considers crude oil releases of over 100 gallons as significant, despite the potential for significant impacts due to a crude oil spill of less than 100 gallons. (App. F-2). Given the volatility and flammability of the crude feedstocks to be imported, combined with the potential ignition sources during a derailment, the DEIR's decision to ignore the impacts associated with a release of less than 100 gallons is unsupported.

(2) *The consequences of a release*

The DEIR's analysis recognizes that serious, even catastrophic, consequences may occur from a release (and conflagration) of crude oil during a train accident. Among the potential impacts, the DEIR acknowledges that: (1) a release in any area could require a significant hazardous materials cleanup; (2) a release in an urban area that were to ignite and/or explode could result in property damage and/or injury and/or loss of life; and (3) a release into the Suisun Marsh could result in significant damage to biological resources. The costs borne by the California taxpayer from such a calamity could be substantial, given the DOT's recent acknowledgment that the insurance policies currently carried by crude-by-rail transporters are typically insufficient to cover even a moderate crude-by-rail accident, much less a major disaster involving significant releases.¹⁸ Nevertheless, the DEIR declares these potential consequences to be insignificant under the flawed quantitative risk assessment above.

Even if the risk analysis were supportable, the DEIR provides no explanation for why the potential for a major catastrophe involving crude-by-rail, even once every 111 years, is an insignificant impact. The DEIR, other than a brief mention, gives little consideration to the potentially serious, even catastrophic, impacts that a release of highly volatile and flammable crude oil would have on communities and the environment. The DEIR also gives no consideration to the public health and safety risks presented by the proximity of 27 schools located within ¼ mile of the UPRR rail line between Roseville and Benicia along which HHFTs

(...continued)

amongst other things: (1) whether any proposed condition unreasonably burdens rail transportation, (2) whether the condition is one of general applicability, and (3) whether the project proponent is a "rail carrier" subject to federal law.

¹⁷ Despite Benicia's assertion that it is preempted from enforcing such a mitigation measure, nothing precludes Benicia and Valero from executing an agreement to convert Valero's voluntary commitment to one that is enforceable under CEQA. Should Benicia and Valero come to such an agreement, the assumption of use of exclusively 1232 tank cars could become supportable.

¹⁸ Wolfe, "DOT: Rail insurance inadequate for oil train accidents," PoliticoPro (August 6, 2014).

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will travel. (DEIR 4.7-23-24). The federal government has declared that the shipment of Bakken crude represents an "imminent hazard" because it is unlike other materials being shipped by rail. These particular high-risk characteristics must be considered to adequately support a determination of no significant impact.

(3) *The reduction in the risk of accidental releases from a marine vessel, based on the reduction in marine trips that would be caused by the Project*

The risks associated with a release of crude oil in the ocean are fundamentally different than the risks associated with crude-by-rail travelling long distances through urban communities and environmentally sensitive lands. Nevertheless, the DEIR gives qualitative "credit" from the decrease in ship miles travelled and uses that "credit" to lower the Project's overall risk. Any benefit to up-rail communities from a reduction in ship use 50 to 100 miles away is tenuous at best and can not reasonably be factored into the risk equation for the Project.

(4) *The recent history of accidents involving DOT-111 tank cars carrying crude oil*

The DEIR implies that since the majority of previous major accidents involving crude-by-rail involved DOT-111 tank cars, those accidents are comparatively of little significance because Valero has committed to using only the newer, safer 1232 tank cars. (DEIR 4.7-19). Setting aside the issue of the enforceability of this "commitment," the DEIR provides no evidence to support a determination that these HHFT accidents would have been of a substantially smaller scope had 1232 tank cars been used. In fact, as the DEIR recognizes, just a few months ago, a 1232 tank car ruptured and released crude oil during an HHFT derailment at low speeds in Lynchburg, Virginia. (DEIR 4.7-19). The safety benefit of using 1232 tank cars for HHFTs is currently the subject of significant scientific and regulatory debate and should not be given substantial consideration in a qualitative risk analysis.

(5) *The regulatory requirements designed to prevent releases and/or mitigate the consequences in the event of a release from trains*

The DEIR unreasonably relies on both recently promulgated regulations as well as speculative future regulatory changes as a significant factor for determining that the Project will cause no significant impact. The efficacy of new DOT regulations is yet to be determined, and crude-by-rail accidents continue to occur. Furthermore, the DEIR's determination of no significance relies in part on *future* DOT HHFT tank car regulations possibly being "more stringent" than even the 1232 tank car standards, an uncertain result given that the regulatory changes are not final.¹⁹ (DEIR 4.7-19). In short, future changes made by DOT to regulations for

¹⁹ The DOT regulatory proposals are the subject of extensive industry group interest. See Vantuono, William C., "DOT crude oil NPRM: Will cooler heads prevail?" Railway Age (August 7, 2014) [During a recent crude-by-rail forum, one industry insider declared that he believed, "the final draft of the [Notice of Proposed Rulemaking on High-Hazard Flammable (continued...)]

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crude-by-rail are speculative, and their potential effectiveness is currently the subject of considerable disagreement amongst various stakeholders.

By employing an incorrect baseline, the DEIR minimizes potential impacts to air quality.

Under CEQA, the project baseline against which project emissions are measured is "normally" defined as the physical conditions of the environment as it exists at the time of publication of the Notice of Preparation ("NOP") of the project EIR or at the time the environmental analysis commenced.²⁰ Courts have held that an agency has discretion to select an alternative baseline, but only if its choice is supported by substantial evidence, such as when existing conditions are not representative of "generally existing" or "historic" conditions.²¹ Thus, except in limited circumstances, CEQA does not allow an existing facility to define the project baseline by what it *could* emit, only what it *actually does* emit. As the Supreme Court found in *Communities for a Better Environment (CBE) v. South Coast Air Quality Management District* (2010) 48 Cal.4th 310, 322, "[a]n approach using hypothetical allowable conditions as the baseline results in 'illusory' comparisons that 'can only mislead the public as to the reality of the impacts and subvert full consideration of the actual environmental impacts,' a result at direct odds with CEQA's intent."²²

Here, the DEIR concludes that the project will have no significant impact on air quality because, even if Refinery emissions were to increase under the Project, those increased emissions would not exceed the maximum emissions allowed under existing permit limits (or "maximum permitted emissions"). Rather than using a baseline describing "existing conditions," Benicia incorrectly uses the maximum permitted emissions as the baseline, asserting that this is proper because Valero holds permits for the Refinery's process equipment issued pursuant to a 2003 EIR for the Valero Improvement Project (VIP).²³ (DEIR C.1-3).

(...continued)

Trains and DOT 111 tank cars] could be more friendly to shippers than the first proposal." Railway Age's Editor-in-Chief stated that this assertion, "helped affirm our view that the final version of the DOT's safety rules may include some changes to the ones proposed on July 23."

²⁰ See CEQA Guidelines, Cal. Code Regs., tit. 14, § 15125, subd. (g).

²¹ For example, in *Fairview Neighbors v. County of Ventura* (1999) 70 Cal.App.4th 238, the court approved a baseline that reflected maximum permitted use ("daily truck trips"), because there was record of actual daily truck trips meeting and even *exceeding* what was allowed under the current permit. The court reasoned that use of actual traffic counts would be "misleading and illusory." *Fairview Neighbors*, *supra*, at p. 243.

²² *CBE, supra*, at p. 322, citing *Environmental Planning Information Council v. County of El Dorado* (1982) 131 Cal.App.3d 350, 358.

²³ The baseline actually used in the DEIR is unclear, since the DEIR alternatively claims that the baseline is both maximum permitted operations and annual average emissions, depending on the section. (DEIR 4.1-10-11). This comment addresses the DEIR's assertion, made repeatedly on (continued...)

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There is no evidence, however, that the Refinery has ever operated at maximum permitted emissions levels since the VIP was completed, and Benicia does not attempt to justify that the permitted capacity reflects existing physical conditions. Under well-established CEQA case law, this approach to baseline emissions is improper.

Further, the DEIR's discussion of the CBE decision mischaracterizes and misinterprets the California Supreme Court's holding. (DEIR C.1-2). The section to which Benicia cites merely allows a projected maximum baseline for projects that were *exempt from CEQA review entirely* either (1) as a modification of a previously analyzed project,²⁴ or (2) as the continued operation of an existing facility without significant expansion of use.²⁵

Benicia has not, nor can it, claim that either of these two exemptions to CEQA apply here. To the contrary, the Project gives Valero the ability to process a crude feedstock with chemical properties never contemplated during previous project review that the Refinery, as currently constructed, cannot readily access. (DEIR 1-1). As in *CBE*, this qualifies as a new project subject to CEQA review for the first time. Similarly, Benicia cannot claim that the Project constitutes the continued operation of an existing facility without significant expansion. The 2003 VIP DEIR specifically excluded expansion of the refinery to use crude oil feedstocks delivered by rail from the impact analysis of the project.²⁶ Therefore, pursuant to the *CBE* holding, without any substantial evidence to support use of a baseline constituting maximum permitted emissions, the proper baseline from which to compare air quality emissions is the Refinery's existing conditions.

The DEIR fails to adequately analyze the potential air quality impacts from new crude feedstocks.

The DEIR fails to include supportable analysis that Refinery emissions will not increase upon Project completion. Although acknowledging that the North American crude feedstocks that could be delivered upon Project completion may be of higher gravity and sulfur content than the crudes currently processed, the DEIR nevertheless asserts that the Project will not result in air quality impacts, based on the assumption that – through blending – the average API gravity and sulfur levels of the crude slate that would be processed upon Project completion would remain within the same range as the crude slate previously processed at the Refinery. (DEIR 3-24, 4.1-

(...continued)

DEIR 4.1-11 and in Attachments C.1 and C.2, that the proper baseline is maximum permitted operations and not existing conditions.

²⁴ CEQA Guidelines, Cal. Code Regs., tit. 14, § 15162.

²⁵ CEQA Guidelines, Cal. Code Regs., tit. 14, § 15301.

²⁶ See VIP DEIR 3-52 and 4.8-14. ("Transportation accidents related to railcar shipments of volatile hydrocarbon liquids can result in fires or explosions. However, the VIP will not increase the rail shipment of these materials.")

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17). This conclusory assertion is not supported by substantial evidence or any analysis. Even if the crude-by-rail processed by the Refinery is blended to the existing range of gravity and sulfur content, studies show that certain North American crudes often contain higher levels of other pollution-causing chemicals that would persist at higher levels despite blending to meet existing gravity and sulfur limits.²⁷ The DEIR does not assess this possibility and its effects, nor does it disclose the composition of the expected crude slate to allow proper public scrutiny. (DEIR 3-14).

The Project as defined in the DEIR impermissibly limits the geographic scope and ignores foreseeable, significant impacts that will occur beyond the Project's arbitrary boundaries.

By limiting the analysis to only the 69-mile rail section from the UPRR Roseville Terminal to Benicia and excluding the thousand-plus mile rail trip from the crude source to Roseville, the DEIR violates CEQA by not analyzing the Project's foreseeable impacts, including impacts along hundreds of miles of track within California. In evaluating the significance of a Project's environmental effects, the lead agency must consider not only direct physical changes, but also reasonably foreseeable indirect physical changes to the environment.²⁸ CEQA further defines "environment" as "the physical conditions that exist within the area that will be affected by the proposed Project."²⁹

The DEIR largely ignores the Project's impacts up-rail from Roseville, claiming that analyzing the potential impacts along these routes would be "speculative," because future crude oil feedstocks could originate from multiple North American sources. (DEIR 4.7-1). However, it is a *certainty*, not speculation, that the Project will result in HHFTs traveling long distances with the potential to create significant environmental impacts before reaching the Roseville Terminal, and, pursuant to CEQA, an analysis of these potential impacts is necessary. While the particular routes may not yet be determined, there are a limited number of potential paths for trains to travel by rail to the Refinery, and the DEIR elsewhere makes similar projections for the purposes of studying air quality and GHG impacts, approximating that HHFTs will travel 195 miles from the California border to the Refinery. (DEIR 4.6-9). Instead of limiting the analysis of impacts along these routes to only air quality impacts, the DEIR should have used comparable estimates to analyze all of the Project's potential impacts. By arbitrarily setting the Project boundary at the UPRR Roseville Terminal, the DEIR fails to analyze reasonably

²⁷ For example, tar sands bitumens contains 102 times more copper, 21 times more vanadium, 11 times more sulfur, six times more nitrogen, 11 times more nickel, and 5 times more lead than conventional heavy crude oil. These pollutants contribute to smog, soot, acid rain, and odors that affect residents nearby. R.F. Meyer, E.D. Attanasi, and P.A. Freeman, "Heavy Oil and Natural Bitumen Resources in Geological Basins of the World," U.S. Geological Survey Open-File Report 2007-1084 (2007) p. 14, Table 1 (*available at*: <http://pubs.usgs.gov/of/2007/1084/>).

²⁸ CEQA Guidelines, Cal. Code of Regs., tit. 14, § 15064, subd. (d).

²⁹ Pub. Resources Code, § 21060.5.

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foreseeable impacts related to the transport of crude oil by HHFTs over those significant distances.

The DEIR fails to consider foreseeable cumulative impacts and risks

The DEIR impermissibly narrows the scope of potential cumulative impacts analyzed. Under CEQA, a DEIR first considers whether the combined effects from both the proposed project and other projects would be cumulatively significant. If the answer is affirmative, the DEIR must consider whether the proposed project's incremental effects are cumulative and considerable.³⁰ Absent this analysis, piecemeal approval of multiple projects with related impacts could lead to severe environmental harm.³¹

Despite the "imminent hazard" that the transport of certain crudes present and the substantial proliferation of crude-by-rail projects throughout California, the DEIR relies on its flawed analysis, discussed above, to determine that no significant cumulative impacts exist to up-rail communities from an increased risk of crude-by-rail accidents. The DEIR further declares that:

[F]or the Project to make a cumulatively considerable contribution to the impact of hazards, two or more events (from the Project and another cumulative project) would have to occur at the same time and affect the same places. The likelihood of such a cumulative accident event would be even smaller than the estimated low probability of a Project-related accident and spill."³² (DEIR 5-17).

This limited analysis of only a so-called "cumulative impact event" involving the Project and "another cumulative project" ignores the entirety of the cumulative impacts caused by a large rise in the number of HHFTs traveling through both highly populated and environmentally sensitive areas and the corresponding increase in the risk of an accident. As the DEIR's own analysis demonstrates, the risk of a derailment and accident involving HHFTs escalates with a corresponding increase in the number of miles travelled and the number of train cars on the tracks. (DEIR App. F-3). Despite the substantial increase in both of these metrics, the DEIR dismisses any cumulative impact as irrelevant unless it also directly involves a derailment from one of the listed projects. But the potential cumulative impacts go far beyond these "cumulative impact events," to the combined higher safety risks from increases in other train cars (carrying crude oil or not) and increases in truck crossings. For example, the 2013 crude-by-rail derailment and fire in Casselton, ND, was caused when a train transporting grain derailed onto a second track into the path of an HHFT, which had too little time to stop before crashing into the grain train.³³ The possible impact of a similar accident is completely ignored in the DEIR's cumulative impacts analysis. Only by focusing exclusively on these "cumulative impact events"

³⁰ CEQA Guidelines, Cal. Code Regs., tit. 14, § 15130, subd. (a).

³¹ *San Joaquin Raptor/Wildlife Rescue Ctr. v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 720.

³² 79 Fed.Reg. 45019 (August 1, 2014).

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and not the larger cumulative increased risks to up-rail communities from a dramatic upsurge in HHFT's and other train traffic does the DEIR determine that the Project will have no significant cumulative impacts.

The cumulative impacts analysis is also deficient because it fails to consider the severity of the cumulative impacts, a necessary component of CEQA analysis.³³ Here, the extraordinary flammability and volatility of the crude oil feedstocks merits discussion given the serious, potentially catastrophic, impacts related to an HHFT accident. As a result, there is no basis for the DEIR's conclusion that the project will not cause any significant cumulative impacts.

An overly broad grant of trade secret protection prevents adequate public review of potential significant impacts.

The DEIR frustrates the purpose of CEQA by not disclosing information regarding the particular crude oil feedstocks expected to be delivered upon Project completion. Instead, the DEIR classifies *all* information regarding the characteristics of *past, present, and future* crude oil refined onsite as a "trade secret" exempt from disclosure under CEQA.³⁴ This missing information includes the weight, sulfur content, vapor pressure, and acidity of these crude oil feedstocks, information critical for an adequate analysis of the Project's impacts, particularly with regard to public safety and air quality.

This broad grant of trade secret protection directly conflicts with recent 2014 decisions by both the DOT and the California Governor's Office of Emergency Services (OES) that information about the specific characteristics of crude oil currently traveling by rail are not protected trade secrets and should be publicly released.³⁵ Indeed, OES has published disclosures of crude-by-rail shipments of Bakken crude oil by Burlington Northern Santa Fe Railroad (BNSF) associated with a different project.³⁶ This failure of transparency in the DEIR is particularly improper given that, under the same DOT Emergency Order that compelled BNSF's disclosure, Valero must submit to OES the withheld information regarding the properties of crude feedstocks imported by rail, and OES will then release it to the public. Benicia's

³³ CEQA Guidelines, Cal. Code Regs., tit. 14, § 15130, subd. (b).

³⁴ See DEIR 1-5 and Appendix D: Discussion of Confidential Business Information. Trade secrets are exempt from disclosure pursuant to CEQA. (Pub. Resources Code, § 21160). California law defines a "trade secret" in the Government Code. (See Gov't Code, § 6254.7, subd. (d).)

³⁵ See OES website, "Public Records: Bakken Shipment Notices & Correspondence" (*available at: www.caloes.ca.gov/HazardousMaterials/Pages/Oil-By-Rail.aspx*); see also Tate, "Norfolk Southern sues to block disclosure of crude oil shipments," Miami Herald (July 27, 2014).

³⁶ *Id.*

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nondisclosure of this information deprives both the public and Benicia officials of the informed decision making process that is the "heart" of CEQA.³⁷

The DEIR's public disclosure of the crude oil as simply "Alaskan North Slope (ANS) look-alikes or sweeter" does not allow for an accurate public review of Benicia's analysis regarding the significance of the Project's impacts. (DEIR 3-24). The undisclosed properties of the Refinery's projected crude feedstocks are necessary to assess the volatility and flammability of the particular types of crude-by-rail, crucial factors in any determination that no significant impact exists. As the DEIR itself explicitly recognizes, "the consequences of a release of crude oil for a rail tank car depend on the properties of the crude oil..." (DEIR 4.7-13). In other words, potential releases associated with transporting and storing crude will vary based on the crude's chemical composition, including the contaminants it contains, its sulfur content, and whether it is blended with other chemicals. Nonetheless, and despite this acknowledgment, the DEIR includes no information regarding the characteristics of the crude oil that could be transported by rail upon Project approval, undermining CEQA's purpose by precluding any ability by the public or government officials to assess the true nature of the Project's risks and impacts.

Furthermore, the failure to disclose the characteristics of the crude oil to be processed at the Refinery infects the air quality analysis and subsequent determination that the crude-by-rail will cause no significant impacts to Refinery emissions. As only one example, the determination that any difference in crude feedstocks created by the Project will not cause a significant impact is based in part on a comparison of API gravity and sulfur content of "various specific crudes that Valero has purchased in the past three years." (DEIR Figure 3-8, 3-13). The DEIR discloses no information regarding the frequency that these "various" crudes were processed at the Refinery or how and why these particular crudes were chosen as representative of Refinery emissions. Without explanation that these particular crude feedstocks are an appropriate proxy for the crude oil to be processed after Project completion, the determination of no significant impact is not supported by substantial evidence.

³⁷ *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 392.

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Conclusion

We urge the City of Benicia to revise the Project's DEIR to address the deficiencies explained in this letter so that the City Council and general public are provided a full and accurate accounting of the Project's environmental impacts.

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We appreciate your consideration of these comments.

Sincerely,



SCOTT J. LICHTIG
Deputy Attorney General

For KAMALA D. HARRIS
Attorney General

cc: Paul King, California Public Utilities Commission
Alice Reynolds, California Environmental Protection Agency
Thomas Campbell, Governor's Office of Emergency Services

Comment Letter B3



To: City of Benicia
250 East L Street
Benicia, Ca. 94510

Attn: Amy Million, Principal Planner, Community Development Department
(amillion@ci.benicia.ca.us)

Re: Brad Kilger, City Manager (bkilger@ci.benicia.ca.us)
Valero Refinery Crude by Rail Project

Permit #: 12PLN-00063

Date: September 5, 2014

From: James Neu / Martinez Environmental Group
3334 Ricks Ave.
Martinez, Ca. 94553
jneuses2@gmail.com

Ms. Million and Mr. Kilger,

Please address my/our concerns and comments on the Valero Refinery Crude by Rail Project Environmental Impact Report and incorporate them into the public record. Please address any questions and sections marked by an *.

Thank you for your time and I/we look forward to your response to our concerns.

James Neu

Martinez Environmental Group

1.10 Permits: This project will require permits and approvals before construction and operation can begin including a use permit, grading and building permits that will require regular inspections. As the project progresses, inspections of on site grading, mechanical, electrical, pipe fitting, form framing, dewatering, storm water management, and railroad track laying will need to be performed by certified building, mechanical, electrical inspectors and civil, mechanical, and electrical engineers as well as railroad inspectors.

Sections 3.6 Project Construction, 3.6.1 Schedule, 3.6.3 Construction Labor Force, 3.7 Federal Preemption of Railroad Regulation:

None of the sections listed above or any section within the EIR address the labor force of qualified inspectors that will be needed for the inspection process of this project.

*Does the City of Benicia Engineering Department have all the certified inspectors and engineers to perform all the different types of inspections required for a project of this magnitude or will the city contract this out to a private engineering firm?

*If this part of the construction process will be contracted out, who pays for these services and what are the detailed economic estimates for these services and impacts to city staff?

*Does the City of Benicia have an inspector qualified in track inspection?

This project has a construction timeline of six months.

*If the city has qualified inspectors, will this project impact their services in fulfilling other city obligations, or will temporary staff need to be hired?

*How many existing inspectors have prior experience of construction projects of this magnitude?

*A detailed description of inspection services should be addressed in the EIR.

3.4.1.1 Tank Car Unloading Rack: The new crude oil unloading rack will be capable of unloading two parallel rows of 25 tank cars according to Figure 3.3, x-section BB totaling 50 cars on the unloading rack. A liquid spill containment sump with the capacity to contain the contents of one car will be at the rack. A roadside curb will be provided on the downhill east side

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of the rack nearest the property line at Sulphur Springs Creek. In addition, a tank spill containment berm uphill and west of the unloading rack will be removed and modified to allow for the new unloading rack.

A typical rail tank car holds 30,000 gallons of liquid and there will be 50 rail cars at the unloading rack at one time. There will be a total of 1,500,000 gallons of liquid at the rack with a sump that has the capacity to contain approximately 30,000 gallons. The EIR does not address the capacity of the sump specifically or to contain or pump the 1.5 million gallons at the rack to another storage facility in case of an emergency. The EIR does not specifically address the modified containment berm and whether it would accommodate the 1.5 million gallons of liquid on the rack plus the size of the tanks up hill of the unloading rack.

*These issues of containment, sump capacity in relation to rail car volume and alternate storage need to be addressed and specified.

The unloading rack is directly uphill, 24' from the property line, and less than 60' from the Sulphur Springs Creek. A significant leak breaching the unloading rack would immediately drain into the Sulphur Springs Creek and consequently into the adjacent marsh and Carquinez Strait.

There is no tidal gate at the mouth of Sulphur Springs Creek. Other than the sloped unloading rack and the sump, there isn't any containment berm or wall between the unloading rack and the creek.

*The National Transportation Safety Board (NTSB) recommends to the Federal Rail Administration (FRA) to ensure rail carriers that carry petroleum products have adequate response capabilities to address worst-case discharges of the ENTIRE QUANTITY of product carried on a train. This was not done in the EIR for the unloading rack area.

*This concern of contamination of hazardous material into the creek, Suisun Marsh and Carquinez Strait from a failure of containment at the rack needs to be addressed in the EIR.

*A design change at the rack site needs to accommodate a perimeter capable of holding the amount of oil in the loaded cars at the rack.

3.3.1.1 Types of Crude Oil: The EIR goes to great lengths describing the different types of crude oils refined at the Valero refinery and how a mix of light, sweet, and heavy crudes are blended in the Valero refinery process. Valero selects crudes based on a range of variables that can change over time and may choose any feedstock from Table 3-1. Heavier crudes are diluted with other chemicals, diluted bitumens (dilbits), to make them flow easier and have to be heated to flow. Table 3-1 lists 38 different North American crudes available to Valero, almost half of which are categorized as heavy sour crude.

On July 1, 2014, Senator's Miller, Matsui, Thompson, and Garamendi, issued a letter to

Secretary of Transportation, Anthony Foxx, requesting a rulemaking that requires stripping out the most volatile elements of crude oil before it is loaded into tank cars. Should this rule be implemented, the use of dilbits and heat would be necessary to get the heavier crudes out of the tank cars.

There is no mention of a heating unit at the rack to remove heavier crude oils from the rail cars. -

*Should the refinery receive heavier crudes by rail, how will they get it from the rail cars and into the refinery for processing?

*Will there be a heating unit installed at the unloading rack now or in the future?

*Why was this aspect of transporting heavier crudes by rail not discussed or addressed in the EIR, whether it was in the immediate plan or future plans?

3.3.2.1 Crude Oil Processing: The EIR states that Valero currently exports petroleum coke and LPG from the refinery to off site customers. Twelve rail cars loaded with petroleum coke leave the refinery to the AMPORTS Benicia Terminal daily where the product is loaded into storage silos and is eventually loaded into marine vessels for export. The Valero Improvement Project

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*Positive Train Control was not mentioned in the EIR and should be addressed as a measure to curb track deficiencies and prevent derailments with locations specified in the EIR.

Electronically-Controlled Pneumatic Brakes (ECP) instantly signal a brake application to all cars which provides faster application of brakes and reduces the chances of brake failure and crude oil trains represent the ideal application of this new technology. It is recommended by the OGI by Rail Safety in California Governor's Report that ECP monitors should be installed every 40 miles of track.

*Union Pacific Railroad (UPRR) is not part of the Valero EIR as it never mentions the number of locomotives that will be necessary to transport the 50 rail tank cars of crude oil. Will it be the same number of locomotives from where the train enters the state, reduced up rail at a distribution yard east of Valero and how many will be used to remove the empty rail cars?

*How many ECP monitors are on the UPRR tracks between Roseville and Benicia?

*ECP was not discussed in the EIR and should be addressed as a measure to mitigate the risks of run a way trains and its effectiveness in bringing crude by rail into the project.

*The EIR fails to address where two 50 car trains or more full of crude oil will be sided should there be an unexpected shutdown, emergency, or maintenance at the refinery which would require holding trains off project site for an undetermined amount of time.

*The Azol Martinez Rail Yard is the overflow siding area for the UPRR Benicia - Martinez area and the siding of 100 loaded crude oil tank cars was not addressed in the EIR as to how or if this facility will be used.

*Will these trains be held up rail at sidings along the Suisun Marsh, Roseville Yard, Yolo or Sacramento sidings?

3.6.2 Site Preparation: Most of this project's construction will take place along Avenue A;

between the tank farm and property fence along Sulphur Springs Creek. The EIR construction schedule timeline is for construction to begin in fall 2014 and be completed in late 2014 or early 2015, last approximately 25 weeks or 6 months, with two 10 hour shifts per day, seven days per week.

According to the EIR, the new track area will need an excavation of 16,000 cu.yds. cut volume and fill volume of 2000 eu. yds., the containment berm area will need an excavation of 3,000 cu.yds. cut volume, the new rail unloading rack will require an excavation of 1,500 cu.yds. cut volume giving the project a net cut volume of 18,500 cu.yds.

Environmental Impact 4.2-2: According to the California Department of Fish and Wildlife or U.S. Fish and Wildlife, the project could have a substantial adverse effect on the Sulphur Springs Creek riparian corridor from excessive sediment loads generated by grading and other soil - disturbing activities adjacent to the creek that are carried into the stream. The EIR states the proposed project construction would occur primarily during the low flow period of April 15 through October 15 when rainfall is not anticipated and the transport of sediments by surface flow would be unlikely.

*This mitigation statement in the EIR contradicts the proposed project construction schedule and needs to be addressed in detail.

*A solution needs to be established that falls within the mitigation measures proposed in the EIR before this project can be approved.

*Therefore, it should be documented, to mitigate adverse effects on the riparian habitat from project sediment run off, the proposed project construction schedule would be allowed from APRIL 16 THROUGH OCTOBER 14.

4.2.4.1 Project Study Area, Environmental Impact 4.2-1: The EIR states the project could have a substantial adverse indirect effect on nesting birds due to noise, vibrations, visual disturbances and increased human activity associated with project construction. This could result in nest

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failure such as nest abandonment which would lead to unsuccessful reproduction or cause flight behavior that exposes an adult or it's young to predators.

Mitigation Measure 4.2-1 states project construction activities should avoid the nesting season of February 15 through August 31. This mitigation statement in the EIR contradicts the recommended project construction schedule of Environmental Impact 4.2-2 above and needs to be addressed in detail.

*A solution needs to be established that falls within the mitigation measures proposed in the EIR before this project can be approved.

*Therefore, it should be documented, to mitigate adverse indirect effects on nesting birds due to construction activity associated with the project, the proposed construction schedule would be allowed from SEPTEMBER 1 THROUGH FEBRUARY 14.

However, due to the Environmental Impact 4.2-2 above, where stated mitigation measures to limit sediment runoff, construction is allowed to be from April 16 through October 14. This conflicts with bird nesting mitigation dates of construction to be allowed from September 1 through February 14 and only allows construction of the project from September 1 through October 14.

*Therefore, according to dates recommended in the EIR, it should be documented to mitigate sediment runoff into riparian habitat and to mitigate construction noise, vibration, and visual activity which would have an adverse affect on nesting birds, construction of the project can only be allowed from SEPTEMBER 1 THROUGH OCTOBER 14.

*Considering this project is scheduled to last 25 weeks or 6 months, and can only be active from September 1 through October 14 due to biological mitigation measures recommended in the EIR, it will take this project 4 years to be completed.

4.1 Air Quality: The U.S. Environmental Protection Agency (EPA) has identified criteria air pollutants that are a threat to public health and welfare. Examples of criteria within the Valero project area are ozone, nitrogen dioxide, carbon monoxide, particulate matter, and sulfur dioxide. A system that utilizes a combination of fence line, community, and mobile monitoring should be required to adequately define exposures during normal operations and when upsets and accidents occur. Fence line monitoring would be to identify non-routine emissions during normal operation, while community monitoring would be utilized to develop special gradients of chronic exposures. Mobile monitoring would be used to supplement on going monitoring during major upsets and incidents and to help develop information on spatial variability with volatile organic compounds (VOC) being the primary focus.

The closest BAAQMD air monitoring station to the Valero project is 5.5 miles upwind in Vallejo which monitors carbon dioxide, nitrogen oxide and particulate matter. Air monitoring as part of the project was not discussed in the EIR.

*The following air monitoring methodology should be implemented as part of the project and addressed in the EIR:

*Information should be provided to the community through a well designed web site that provides appropriate context with a means for the public to provide their observations and should be informed of actions taken in response to their observations.

*A regular review of available instrumentation should occur with a methodology to cost effectively update the in place network.

*Lines of communication should be established between industry, the community, and regulators to ensure appropriate value is provided by the developed network.

*Emissions from coker units, storage tanks, pressure valves, couplers, and by passes should be monitored, documented and regulated.

*Simultaneous detection of benzene, carbon dioxide, chlorine, ozone, phenol, p-xylene, sulfur dioxide, toluene should be collected on a real time basis.

2.5.4 Letter B4 – Responses to Comments from Union Pacific Railroad

- B4-1 UPRR’s work with federal agencies with regulatory oversight and other stakeholders is acknowledged. UPRR’s safety record and work with emergency responders along its rail lines to provide training for first responders also is acknowledged.
- B4-2 The FRA’s Action Plan for Hazardous Materials Safety (including as revised in June 2015⁶) and the voluntary agreement among major freight railroads and the DOT to implement new operating practices for moving crude oil by rail are acknowledged. However, for purposes of providing a conservative analysis (i.e., one that provides a realistic worst-case or greater-impact result so as not to under-represent potential effects), this EIR does not rely on the ameliorative effects of regulatory efforts that have not been finalized or voluntary efforts that are not independently enforceable to avoid or reduce potential significant impacts.
- B4-3 Regarding the role of preemption in the City’s consideration of potential effects of the Project, see DEIR Section 3.7, DEIR Appendix L, and Revised DEIR Appendices G and H.
- B4-4 See Response B4-3.
- B4-5 UPRR’s position regarding the federal preemption of regulation by the City of the proposed unloading rack at the Valero Refinery is acknowledged. Nonetheless, CEQA is triggered by the City’s discretionary decision-making processes such as for the authorization requested by Valero in Use Permit Application 12PLN-00063 and clearly applies here because: 1) Valero would own and operate the unloading facilities, 2) in constructing and operating the facilities, Valero would not be acting as an agent of UPRR, and 3) UPRR would not control the operation of the unloading facilities. On similar facts, decisions of the Surface Transportation Board and the courts make clear that preemption under the ICCTA applies to local and state regulation of unloading facilities if and only if the railroad owns and operates the facilities or the facilities operator is an agent of the railroad. See, e.g., *New York and Atlantic Railway Company v. Surface Transportation Board* (2nd Cir. 2011) 635 F.3d 66; *Florida East Coast Railway Company v. City of West Palm Beach* (11th Cir. 2001) 266 F.3d 1324.

⁶ FRA, 2015. Federal Railroad Administration’s Action Plan for the Safe Transportation of Energy Products (STEP). [<https://www.fra.dot.gov/Elib/Document/14478>]. Revised June 2015.

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Considering the fragility and on-going volatility of oil markets and contradictory estimations for shale reserves' potential asset recovery and the continuance of current favorable pricing, perhaps Valero doesn't look beyond a few years. However, these "beyond CEQA" economic considerations are implicit in Project Objectives and would likely color projections for determining an estimate of the Valero CBR Project lifespan as well as near-term and future Project-related environmental impacts and risks to public safety and public health. (see this Response, Section 2, Subsection 6)

a.) What is the Project's lifespan? A project's timeframe, beyond construction phases, is a typical CEQA topic for development projects of a magnitude that would foreseeably result in serious adverse and significant impacts, which may increase cumulatively over time. The DEIR curiously omits any discussion of the Applicant's expectations for the Project's operational "life" or duration. Why is this? The DEIR nowhere references the topic, yet specific questions are posed by Scoping Comments about the Project's intended life-span.³⁶ There is no reason that the Applicant's aim to enhance "options" for transport and processing should prevent or proscribe DEIR discussion of the Project's operational life-span.

The regulatory framework for the Project is in the midst of major rule changes expected within the first two years of the Project's proposed construction. Those changes in requirements would likely affect DEIR estimates and evaluations of impacts during initial years of operation. (see this Response, Section 2, Subsection 3)

To evaluate the full scope of the Project's effects, decision-makers and the public need to know the Project's projected life-span to enable evaluation of the amount of added cumulative daily risks to safety and public health posed over a given time by the "Project impacts + Refinery impacts" that the community would endure given that the likelihood of serious consequences to public health and safety (Refinery processing accidents, emissions increases and rail accidents) would also foreseeably increase and accrue over time, as well as risks and dangers of spills in Sulphur Springs Creek and Suisun Marsh that would also affect Suisun Bay.

b.) The procedures for off-loading crude from 50 tank cars is described in such a way as to seem "risk free." [Project Description, 3.4.2.1] Especially given the proximity of the crude offloading rail racks to Refinery storage tanks (just above the terminal to the west) and to Sulphur Springs Creek, (immediately beyond the terminal and Refinery fence line to the east), it is disconcerting that there is no particular description of potentially serious accidents and the possible degrees of their severity, should Bakken or tar sands be spilled, let alone, if a "Bakken fire" occurs at or near the Refinery in a major derailment scenario. (see this Response, Section 2, Subsection 9)

The Draft Report must address a foreseeable *credible* "worst case" scenario that would take place in the Industrial Park, for the sake of public protection and emergency planning. The DEIR describes that the berm constructed to catch potential spills at the proposed rail

³⁶ See Scoping Report - pages 638, 608, 622, 857 - where the question of the Project lifespan is raised in comments on the IS/MND and is of obvious concern.

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off-loading terminal on Refinery property would be constructed to contain about 1-1/2 tank cars of crude spilled. If there were to be more tank cars involved in the vicinity of the terminal, severe impacts to Sulphur Springs Creek could occur. There is currently no gate installed (as was historically true) that would possibly prevent spilled volumes of oil from flowing into Suisun Bay. Wildlife inhabits the area and fish, frogs and other critters wander "up stream" toward the area of the proposed rail terminal. The DEIR must estimate the risk without underestimating the spillage (or fire and explosion) possible.

c.) About crude quality: The DEIR's discussions on the subject of the crude slate's optimal "blend" characteristics do not account for the array of other chemical constituents of those imported crudes that could potentially affect processing, increase emissions and risk increased corrosion, accidents and fires.³⁷ Claiming federal protection for Valero's proprietary trade secrets concerning chemical constituents ("qualities") of crudes that would likely be imported by the Project, the DEIR limits and/or avoids disclosure of specific information on qualities of available domestic and Canadian crudes. Yet such pertinent information can be found in the public domain online and is, therefore, "no secret."³⁸ The DEIR's avoidance of any specifics that would bear on impact analysis points to a primary defect: the Draft Report cannot be considered sufficiently complete as CEQA requires for public understanding of the full extent of Project operations and the nature and severity of its potential impacts.

It is published information that other regional refiners are currently processing Bakken oil and Canadian tar sands.

The pretense that the DEIR maintains about trade secret protections only adds to the deceptions of the Project Description. Bakken and tar sands must be discussed in regard to their specific properties, especially considering that the percentages of each crude included in the daily throughput could increase variably.

The DEIR's claim that information regarding a specific crude's characteristics is proprietary business information protected under trade secret law, is confirmed by the SJM McGovern Report, which was submitted directly to the City and dated June 11, 2014, by Dr. Stephen J. McGovern, PE., The McGovern Report is reproduced in Appendix K. The Report and the DEIR's reasons for non-disclosure of crude qualities rest erroneously

³⁷ See Phyllis Fox Report on the IS/MND; also Ms. Fox's Comment Letter on the Valero CBR Project DEIR.

Appendix B. CD ONLY "Scoping Report;" scroll down until it is located. The Report was not submitted as part of Scoping, so it should be relocated to its own Appendix in a revised DEIR.

³⁸ Examples: for tar sands "Cold Lake" Material Safety Data Sheet: <https://msdsonline.com/pdf/7librarID=HTT25&pageID=3&nw=true&autoOpen=false>. Also, from CrudeMonitor.ca. Characteristics of Bakken oil can be found in Congressional Research Services "Crude Oil Properties Relevant to Rail Transport Safety: In Brief, Feb. 18, 2014: <https://www.hsdl.org/?view&did=751042>. Also, WSI, "Bakken Shale Oil Carries High Combustion Risk" Feb. 23 2014: <http://online.wsj.com/news/articles/SB1000142405270304834704579401353579548592>. Also, Crude Oil Material Safety Data Sheets, "Bakken Crude Oil" from Keystone XL Pipeline Project doc, "Appendix Q." <http://keystonepipeline-xl.state.gov/documents/organization/221243.pdf>; also MSDsonline.com: <https://msdsonline.com/msdsonline-search/?SearchTerm=BAKKEN-CRUDE+OIL-&SearchSuggestID=0&ReturnNarrowResult=true&NarrowFile>

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on federal trade secret law, which the Applicant states protects the corporation's competitive edge in the market. Yet this withholding denies the public specific information that would give insight into the degree of difference represented by unconventional oils being sourced from domestic shale formations and Canadian tar sands that would be relevant to evaluations of risks, public health and public safety hazards and threats to the environment resulting from spills and/or fires and explosions, either during transport, offloading, storage or during Refinery processing.

Valero management has publicly spoken of the feasibility of blending and processing a variety of North American-sourced crudes. As listed in the DEIR, [Table 3-1, Available North American Crudes] there are 38 crudes that could be imported that Valero insists would be able to "fit" into their daily blends' "range" of API Specific Gravity and TAN that would match the current configuration of the Refinery. Of the 38 listed, only 6 are from the U.S., including Bakken oil from North Dakota's Bakken shale formation and Texas' Eagle Ford, also extracted from shale rock. Both of these crudes, termed "light tight oil" by the industry, are right now abundantly available. At this time, Bakken is said to be favorably priced (or discounted) relative to other domestic sources. In various public statements, Valero has admitted that Bakken oil is a very likely choice for import under the Project, and the DEIR says the same. Given its relative pricing advantage, availability and accessibility by rail, what's left for the DEIR not to say about Valero's intent to access and process Bakken – the date at which the VCBR Project would be said to be able to begin to receive deliveries?

However, among the 38 crudes named in Table 3-1, there are 22 from Canada – much heavier and "dirtier" varieties developed from Western Canada's tar sands deposits, those crudes generically called "tar sands." All tar sands crudes, such types as Western Canada Select or Cold Lake, are "developed" oils, e.g. created by taking very heavy, metals-laden, tar-like viscous bitumen derived from Alberta's vast tar sands deposits and mixing it with other lighter liquid petroleum products, thus involving a secondary "upgrading" process to liquefy the bitumen enough to allow it to flow for transport via pipelines, railcars or marine vessels for delivery to refiners.³⁹ Known chemical constituents of various tar sands dilbits besides great amounts of sulfur are toxic heavy metals including arsenic, cadmium, nickel, vanadium and lead.

The DEIR avoids discussion of tar sands almost completely, despite the fact that under the Project's built-in flexibility for transport options and the indefinite Project timeframe, importing tar sands could certainly become a live "option" even within a year of Project construction that would provide for rail imports.

The VCBR DEIR refers to objectives of the Valero Improvement Project, permitted in 2003, that were described in the VIP DEIR of 2002, which sought to maximize flexibility

³⁹ "Tar Sands: Dirty Oil and the Future of a Continent," Andrew Nikiforuk, 2010; David Suzuki Foundation; a highly informative resource on tar sands mining and its consequences from Canada's preeminent investigative journalist living in Calgary.

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to allow for processing "crude blends that are heavier and more sour than previous blends, reduce the use of gas oil as a feedstock, and increase the maximum crude oil throughput." [Project Description, 3.3.2.1. Crude Oil Processing, p. 3-12]. This statement invites the inference that given other factors, Canadian tar sands would likely be imported by the Project sooner or later, as the Goodman Group projected in comments submitted on the Initial Study in 2013.⁴⁰

However, the DEIR sows confusion regarding the range of "flexibility" the Project allows and what risks such flexibility portends for both rail transport and processing of "likely crudes" to be imported. Foreseeable operational effects on public safety and health, both locally and regionally, potentially pose substantial risks to humans, wildlife, air quality, sensitive lands and waters and the climate owing to Project operations, whether in the immediate months of construction and post construction, and thereafter, over time.

The DEIR shows on several graphs the ranges of weight and sulfur content of crudes that the Refinery is configured to process and has been historically delivered, and also all others available on the West Coast to refiners and their locations on the "sweet to sour" graph scale. In the second figure, North American crudes that are available by rail are shown on a similarly scaled graph. It appears from a reading of both graphs that Valero is able to make crudes that lie "outside" the range of their optimal feedstock blend "fit" into it, since, according to the graph, the Refinery has taken delivery of a number of crudes sourced "outside the blend box." [Figure 3-9 West Coast Crude Deliveries Compared to Valero's Typical Crudes and Blended Crude Feedstock Capability; Project Description 3.3.2.2. Crude Feedstocks, p. 3-12; and also, Figure 3-11 West Coast Crude Deliveries and Samples of Crudes Available by Rail; Project Description, 3.5 Future Crude Oil Feedstock, p.3-24]

Under the Project, therefore, it is possible that by a careful balancing of qualities, "very sweet to very sour" and "very light to very heavy," Valero would be able to process nearly all or any one of the available North American-sourced crudes that they consider "price-advantaged" and that are "available" and accessible." The DEIR claims, without evidence, that the only constraint on processing much heavier or very light oils is that in blending them, the general "average weight and sulfur content of Valero's crude feedstocks over any given amount of time must remain relatively constant." [Project Description, 3.5 Future Crude Oil Feedstock, p. 3-22].

Other variables mentioned by the DEIR's Project Description that would influence Valero's choice of crudes are implicit in Project Objectives; but those listed are "externalities" to a CEQA review: accessibility, availability, price, market conditions, end products desired. Yet if weight and sulfur content are considered the only, and very manageable, key chemical processing factors determining choices of domestic and Canadian sourced crudes for their optimal "blend" range, then the other "external" variables become the most important to Valero in making their decisions about crude imports. **Valero made it clear in their official presentations that even crudes with extreme API Specific Gravity and TAN can be considered "manageable" if blended with**

⁴⁰ Goodman Group Report, DEIR, CD ONLY. Appendix B. Scoping Report

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other mitigating ingredients, so that crudes at the outer ranges of characteristics “sweet to sour” can be made to fit into their crude slate “blend.” Thus, it can be inferred that, within the Project framework, *since crude deliveries could be made by one or another transport option in the future* (rail, marine vessel, pipeline), the “quality” factors most important to Valero in choosing crudes to be imported, must be accessibility and price per barrel.

Why doesn’t the DEIR make this clear? The DEIR points out that the Refinery operations are “so complex” that a mathematical model is used “to determine the most profitable operating strategy.” The general description goes on to list variable “inputs” to the model, including existing “configuration and constraints of the refinery, crudes available, market demands, product prices and product specifications.” [3.Project Description, 3.3.1.3 Refinery Optimization, p. 3-10]

Reflected in the VCBR DEIR, the VIP’s key Objectives were then, and now, remain:

“... to provide ability to process lower grades of raw material” and “provide greater flexibility in refinery operations.” [VIP DEIR Oct. 2002, Project Objectives and Components, p.3-3].

The VIP DEIR also states,

“The VIP changes would allow the refinery to purchase and process additional volumes of lower-grade raw materials (crude oils and gas oils). In general terms, the refinery would be able to increase this percentage to about 60%, raising the average sulfur content of the imported raw materials from current levels of about 1 – 1.5% up to future levels of about 2 – 2.5%. With the increase in maximum crude rate, there would also be an opportunity for the refinery to reduce processing of gas oil when economics favor the substitution of crude oil.” [VIP DEIR, 3.4.2 Feed Stock Discussion, p 3-20]

The ramifying effects of the level of flexibility provided by VIP that the currently proposed VCBR Project reflects are not discussed in the DEIR with regard to public safety and public health risks and impacts that would be foreseeable and occur over an indefinite time into the future.

Thus, on face, these several statements drawn from the VIP DEIR reflect the importance Valero continues to place on maximizing flexibility for processing a variety of lower quality raw materials including more varieties of both heavy sour crudes, as well as even lighter, sweeter crudes than Alaska North Slope crude. (VIP ostensibly retooled the Refinery to accommodate a greater variety of heavy sulfur-laden crudes, since the Refinery had originally been built and configured to process then readily available Alaskan crude).

d.) At the July 10th 2014 Planning Commission hearing, expert counsel for the City of Benicia, M. Bradley Hogin suggestively described why the actual sources of crude that would be imported by rail and their specific characteristics would constitute elements of

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Valero’s proprietary crude slate “blend” and would therefore be protected under federal trade secret law. He proceeded to liken the delicate balance of a crude slate’s ingredients to that of a proprietary “Gary Denko” recipe, which he mentioned might include such delicacies as “sliced mushrooms and cream sauce.” His meteoric leap into metaphor did not yield an apt equivalent, but a startling affront to public sensibilities; Valero’s daily 165,000 barrel-a-day permitted annual average throughput “sweet-sour blend” is neither edible, enjoyable, nor good for public health. Instead, it would be “inhaled” – in nasty, chronic, invisible low-level synergistic daily doses of toxic gases – by local residents and those “downwind.” Thus, Mr. Hogin’s poetic effort to make crude ingredients seem benign, if not sublime, didn’t meet the test of reality, although his comparison could support the fantasy of a Denko dining experience. In any case, he made his point that the public has no *current* right to know, or way to know, under federal law what particularly blended poisons a changing crude slate recipe would hold for our community and Bay region. We found Mr. Hogin’s comments inaccurate, demeaning and without concern for public health.

All things considered, Mr. Hogin gave a more vivid picture than the DEIR of “confidential” business information’s dampening effects on the public’s right to know. He also cited the limiting effect of federal Preemption on regional and state jurisdictions’ authority to condition rail activity for any reason. Speaking to the constraints Preemption imposed on the DEIR’s accounting of Project effects from transporting crude by rail, he seemed to double down on what he considered the irrelevance of CEQA, such that the omissions of fact in the DEIR’s discourses on impacts are made to seem artifacts of legal constraints, thus making it hard to discern from the DEIR’s descriptions whether there was much danger at all owing to the delivery by rail of Bakken oil or tar sands to the Refinery, or indeed, owing to the processing of such extreme crudes as Bakken or tar sands that over time could constitute the primary ingredients of Valero’s throughput.

The DEIR quotes Valero management’s more recent statement, made in 2013, that they intend to import “North American crudes [that] will be ‘Alaska North Slope (ANS) look-alikes or sweeter.’” [3.5 - Future Crude Oil Feedstock, p.3-22 -24]. Yet the DEIR qualifies that assertion, continuing:

“Valero selects crudes based on a range of variables that can change over time. Thus, the project could foreseeably result in Valero’s purchase of any of the crudes listed [in Table 3-1] as well as others that might become available.” [p.3-24].

The DEIR hedges on the subject of which crudes Valero would likely import, pointing to 38 different North American crudes that could be candidates. Yet, Valero’s spoken intent to go after ANS “look-alikes,” effectively suggests that Bakken oil, which is currently readily available, rail-accessible and discounted, is the “sure bet” for import under the Project, and the DEIR should say so.

The DEIR avoids use of the term “lower quality” to define the possible crudes intended for import. However, from the various limited DEIR descriptions, a reader can interpret

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that Bakken oil, while “sweeter” than Alaskan crude, must have less desirable chemical qualities if indeed it is considered a “lower quality raw material.”

Valero’s intention now of seeking available domestic crudes that are “ANS look-alikes or sweeter” suggests that the options in constant play that *primarily* drive decisions are *price* advantage, availability and accessibility. The DEIR does not otherwise explain the Applicant’s intent to go after “even sweeter” Bakken.

What other characteristics define a crude’s chemical qualities? What makes Bakken oil a “lower grade raw material?” What are typical effects of processing *extra light tight oil*? If it is so desirably “sweet” like an ANS crude, why is Bakken shown in Figure 3-11 West Coast Crude Deliveries and Sample of Crudes Available By Rail [p.3-24] to be outside Valero’s optimal feedstock “blend box?” Is there such a thing as a crude “too sweet” to handle without other crudes added? If so, why? What is the breaking point expressed as a percentage of a crude feedstock at which the Refinery can safely process Bakken oil or “ANS look-alikes” such that VOC emissions would not exceed *current baselines* for those emissions (as opposed to previous permitted limits)?

The over-generalized comparison of *similarities* between ANS crude and “Alaska look-alikes” obscures the particular *differences* among domestically sourced “sweeter crudes” (Bakken or Eagle Ford, etc.) and conventional Alaska crude.

The DEIR repeats its claim, without evidence, that because there would be no changes to their crude slate blend’s “range” (scale from light to heavy, sweet to sour) there would be no increases in emissions resulting from processing either ANS look-alikes or very heavy tar sands crudes or a balance of both. In any case, we are reminded again that emissions wouldn’t be allowed to exceed threshold levels set by VIP permitting in 2003, albeit this “promise” gives ample room for acute accidental releases not monitored by the Bay Area Air District that exceed permitted thresholds. The DEIR does not explain this, or that the District relies on emissions “averaging” (no emission spikes accounted for nor those days when maximum permitted throughput capacity— 185,000 barrels per day – is reached.)

There’s no doubt that Valero aims to import Bakken, despite the DEIR’s deflections. The DEIR preparers’ attempt to withhold as “trade secret” the oil’s specific name of the intended “likely ANS-like sweet domestic oil to be imported” is an insult to the public, which is alarmed by the recent history of derailments with fiery explosions of Bakken that have drawn public concern and outcry from every corner of the land among the millions of people living near rail lines who are now daily exposed to the extraordinary hazard that those Bakken loaded 100 car unit trains represent.

The DEIR does not address specific effects of processing Bakken or consider what other sources describe as its comparability to gasoline.⁴¹ Some sources in North Dakota say Bakken could be characterized as resembling a *natural-occurring* gasoline. Does the method of extraction of Bakken – hydraulic fracturing – potentially affect Bakken’s

⁴¹ “Oil by Rail Safety in California: Preliminary Findings and Recommendations,” Report of the State of California Interagency Rail Safety Working Group, June 10, 2014.

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quality at the time of its extraction? During transport over long hauls by rail? Chemicals associated to those “fracking” methods have been discussed as impacting crude quality. The DEIR must at least identify these potentialities, even if “fracking” chemicals are deemed proprietary by the industry.

In addition there is much discussion at federal DOT levels of the problem of Bakken’s highly volatile “light end” gases including benzene, propane, butane, methane, and highly corrosive hydrogen sulfide (H₂S), a dangerous neurotoxin and life-threatening gas, having a characteristic “rotten egg smell” that in very acute direct exposure conditions – exposure doses registered in very low parts per billion – can cause unconsciousness in a matter of minutes. Chronic low-level exposures “at a distance” over time to H₂S have been studied by CAL-EPA’s Office of Environmental Health Hazard Assessment [OEHHA]. Those studies show serious public health impacts and impairments suffered from chronic H₂S exposures.⁴²

What are the unique qualities that have earned Bakken the qualifiers, “unconventional,” “extreme” and “imminent hazard?”⁴³ What are effects of Bakken’s extraction methods?⁴⁴ When and why are Bakken’s “light end” gases a problem?⁴⁵ Bakken’s changing conditions under pressure during rail transport?⁴⁶ What are the potential effects of Bakken’s particular characteristics during processing?⁴⁷ What are the dangers left behind at Bakken’s sources?⁴⁸

A debate in the industry, among crude suppliers and rail companies, is ongoing about recommendations to de-gasify Bakken at the wellhead – e.g., strip out natural gas liquids – before the oil is loaded into tanker cars. Degassification is discussed as a means to prevent the kinds of catastrophic explosions that have occurred since July 6, 2013, at Lac Mégantic, Quebec, where a Bakken-loaded train’s fireball during a derailment in the town’s center instantly incinerated 47 people, destroyed more than 30 buildings and

⁴² OEHHA, Chronic Toxicity Summary, Hydrogen Sulfide, CAS registry number: 7783-06-4

⁴³ <http://www.dot.gov/briefing-room/emergency-order> U.S. Dept. of Transportation: Emergency Order Docket No. DOT-OST-2014-0067, updated May 7 2014.

⁴⁴ National Geographic, “North Dakota’s Salty Fracked Wells Drink More Water to Keep Oil Flowing” November,11, 2013, <http://news.nationalgeographic.com/news/energy/2013/11/131111-north-dakota-wells-maintenance-water/>

⁴⁵ Wall St. Journal, “North Dakota Fracking: Behind the Oil-Train Explosions: Volatile Gases Aren’t Removed from Bakken Shale Crude; ‘The Regulations are Silent.’” July 2, 2014.

⁴⁶ <http://online.wsj.com/articles/north-dakota-fracking-behind-the-oil-train-explosions-1404761720> Dangerous Goods Transport Consulting Inc; submission on behalf of American Fuel and Chemical Manufacturers to US Dept. of Transportation, May 14, 2014: A survey of Bakken Crude Oil Characteristics Assembled for the US Dept. of Transportation.”

⁴⁷ Hydrocarbon Processing: Processing shale oils in FCC: Challenges and Opportunities, Sept 1, 2013; <http://www.hydrocarbonprocessing.com/Article/3250397/Processing-shale-oils-in-FCC-Challenges-and-opportunities.html>

⁴⁸ Bloomberg Businessweek, “Radioactive Waste Booms With Oil as U.S. States Weigh Rules,” April 16, 2014 <http://www.businessweek.com/news/2014-04-15/radioactive-waste-booms-with-oil-as-new-rules-mulled>

Second radioactive oil wastesite found in North Dakota, Aljazeera, April 25, 2014 <http://america.aljazeera.com/articles/2014/4/25/radioactive-wastedakota.html>

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↑ spilled 1.6 million gallons of oil into the surrounding soils and Chaudière River. Since Lac Mégantic, five more catastrophic derailments involving Bakken explosions in less than one year alone earned Bakken-loaded crude unit trains the widely used moniker “Bakken bomb trains.”⁴⁹

The Lac Mégantic catastrophic derailment was partly owing to human error; but other key factors were the gases vaporizing under pressure that self-ignited and exploded inside DOT-111 tank cars during derailment. The CPC-1232 tank cars that the Applicant has promised voluntarily to purchase or lease for the Project have not proven safer for prevention of similar catastrophic explosions involving Bakken. The Lynchburg VA crude train derailment and explosion, April 30, 2014, involved Bakken-loaded 1232s.⁵⁰ [see this Response, Section 8]

Degasification is not yet a requirement of North Dakota’s Bakken producers. Texas requires producers of oil from shale in the Permian Basin and elsewhere to degasify oil before shipment by pipeline and rail. The DEIR must account for conditions at the well-head, whether or not degasification has occurred, for rail shipments of Bakken destined for Benicia and the Valero Refinery.

Potential and cumulative indirect and direct impacts that could adversely affect our local community and environs and those “uprail” and “downwind” resulting from the transport, storage and processing of Bakken and tar sands cannot be fairly estimated or accurately evaluated without specific information, which cannot be found in the Draft Report.

e.) The varied chemical makeups of particular unconventional crudes matter: constituents may include increased concentrations of volatile organic compounds [VOCs] – gases including benzene, propane, methane, butane and hydrogen sulfide – and/or heavy metals including carcinogenic cadmium, arsenic, nickel and lead, which US-EPA identifies as a neurotoxin with no safe limit of exposure and California law strictly regulates.

Such analysis of likely effects of the qualities of Bakken and/or tar sands crudes on refining process impacts was submitted to the City of Benicia in the Phyllis Fox Report. The Fox Report⁵¹ addressed likely emissions increases and other risks that would result from future changes to the Refinery’s crude slate blend.

⁴⁹ Wall St. Journal, “North Dakota Fracking: Behind the Oil-Train Explosions: Volatile Gases Aren’t Removed from Bakken Shale Crude; ‘The Regulations are Silent.’” July 2, 2014. <http://online.wsj.com/articles/north-dakota-fracking-behind-the-oil-train-explosions-1404761720>

⁵⁰ Sighting Daily – “New ‘Safer’ Tank Cars Were Involved in Lynchburg, VA, Oil Train Fire.” May 1, 2014 <http://deliv.sightingline.org/2014/05/01/new-safer-tank-cars-were-involved-in-the-lynchburg-oil-train-fire/>

⁵¹ See Phyllis Fox Report on the IS/MND; also Ms. Fox’s Comment Letter on the Valero CBR Project DEIR Appendix B, CD ONLY “Scoping Report;” scroll down until it is located. The Report was not submitted as part of Scoping, so it should be relocated to its own Appendix in a revised DEIR.

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f.) Tar sands crudes present a host of different transport and processing issues, raising prospects for increased air emissions including fine particulate matter PM2.5, more accidents due to higher levels of corrosive sulfur, and more petroleum coke production. PM2.5 pollution would increase from transport and off-loading operations at the Valero petcoke marine terminal at the Port of Benicia.⁵²

The Project Description does not identify any specific requirements for processing “heavier crudes” other than saying it takes “more processing.” [our italics for emphasis].

“As a general rule heavier crudes require more processing than light crudes, and sour crudes require more processing than sweet crudes.” [3.Project Description; 3.3.1.1 Types of Crude Oil, p.3-8]

What constitutes “more processing?” Why does heavier crude require “more processing?” Is more hydrogen required for processing tar sands? If so, why?

In responding to public concerns about whether the Project would import and process tar sands, Valero managers have responded in recent presentations by comparing Canadian “oil sands” crudes to very heavy “San Joaquin” crude, which is delivered to the Refinery via pipeline from the San Joaquin Valley. The over-generalization of their similarities relative to weight and sulfur content, without any further amplification of those crudes’ other chemical differences, has an equalizing effect, such that it might be assumed from Valero’s comparisons or DEIR generalized discussions, that it would make little actual difference at the Refinery whether they were processing San Joaquin or tar sands crudes. Do tar sands crudes require more processing than San Joaquin crude, and if so, for what reason?

The equalizing effect via general comparison doesn’t do justice to the range of particular concerns expressed in dissenting evaluations found elsewhere and submitted to the City of Benicia as official comments on the IS/MND and current DEIR by the Natural Resource Defense Council and Dr. Phyllis Fox⁵³ and other comment letters submitted on the IS/MND and for Scoping.

Thus the DEIR limits by generalized, inaccurate comparisons any real discussion of specific chemical qualities of crudes intended for import that could be a factor in increasing processing emissions and/or Refinery releases and accidents. Discussion level is reduced to the most elementary scales and ranges of weight and sulfur content: “light to heavy” and “sweet to sour.” [Project Description, 3.3. The Existing Refinery – various sections; also Appendices C.1 and C.2].

⁵² NRDC <http://www.nrdc.org/energy/tar-sands-health-effects.asp>; also, NRDC Comment Letter, dated July 1, 2013, on the IS/MND, citing Phyllis Fox Report, . PhD, PE Consulting Engineer. Comment on Initial Study/Mitigated Negative Declaration for Valero Crude By Rail Project, July 1, 2013 [DEIR Scoping Report page 558]; also, “Tar Sands: Dirty Oil and the Future of a Continent,” Andrew Nikiforuk, 2010; David Suzuki Foundation. A complete resource on tar sands from Canada’s preeminent investigative journalist living in Calgary.

⁵³ Ibid.

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g.) No other particular chemical qualities are identified that would be pertinent to evaluations of risks pertaining to a *changed crude slate*, whose percentages of “North American-sourced crudes” are *very likely to increase incrementally over time* if domestic and Canadian crudes remain price-advantaged. Such potential and foreseeable “crude creep” – proportional changes to the crude slate from import and use of greater amounts of Bakken and/or tar sands and other similar unconventional domestic and Canadian-sourced crudes – is not discussed in the DEIR, yet the issue is hugely relevant to impact analyses. The Phyllis Fox Report and various comment letters on both the IS/MND and Scoping discussed this problem.⁵⁴

On the contrary, the DEIR insists, without substantiation, that there will be no change in the crude slate by claiming that if the relative weight and sulfur contents of the crudes processed are blended to be within the Refinery’s optimum range for those two properties, then emissions would not change. However, the DEIR adds the caveat that emissions levels would be kept below their permitted levels established under VIP in 2003. This does not mean that actual emission levels would not exceed current emissions levels which could be lower than the 2003 originally permitted levels.

h.) About “permitted” baselines and “current” baselines for reporting emissions levels: The DEIR fails to make clear the discrepancies possible between emissions reporting under formerly established “permitted levels” and emissions reporting under current baseline conditions. This complicates a reader’s ability to judge statements about whether emissions would or would not increase as a result of processing tar sands or Bakken. The DEIR remains silent on tar sands generally. Appendix C.1 [Areas of Controversy – Potential Air Quality Impacts from Increased Use of Heavy Canadian Crudes], prepared by ESA, attempts to ward off public concern about effects of processing tar sands. However, Appendix C.1 adds nothing to what was said in the DEIR’s Project Description:

“The City has considered this issue carefully, and reached the following conclusions:
 (1) There is no reason to believe that, if the Project is approved, Valero would be more likely to purchase heavy Canadian crudes than any number of other North American crudes that are lighter and/or sweeter;
 (2) Even if Valero were to purchase large amounts of heavy sour Canadian crudes as a result of the Project, this would not cause an increase in refinery emissions because Valero must blend crude feedstocks to a narrow range of weight and sulfur content before processing them; and
 (3) Even if refinery emissions were to increase based on Valero’s purchase of heavy sour Canadian crudes, any such emissions increases would properly be considered part of the baseline because the baseline includes of the full scope of operations allowed under existing permits that were issued based upon prior CEQA review.” [Appendix C.1 C.1-1]

⁵⁴ NRDC letter; Phyllis Fox Report; Bardet and Beutel comment letters.

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The important caveat in (3) is repeated:

“Finally, even if one assumed that Valero will purchase 70,000 barrels per day of heavy sour Canadian crude, and the crude blend processed became substantially heavier and more sulfurous, the resulting increase in emissions would be within the baseline for operational air quality impacts.” [Appendix C. C.1-1]

Appendix C.2 [Areas of Controversy – Potential Air Quality Impacts From Increased Use of Light Sweet Crudes] basically repeats, and adds nothing of substance to, what has already been said on the subject of light sweet ANS-look alikes, e.g. Bakken. The DEIR assumes there would be no changes in the range of weight and sulfur for the crude slate blend, so that nothing would change with regard to emissions. This is again an unsubstantiated claim which leans heavily on the use of the outdated (previous) VIP permitting limit from 2003. What proof is there that there would be no emissions increases above the permitted VIP levels?

The DEIR gives the reader no information about current daily throughput volume, which is a major factor in estimating emissions levels. At what daily average volume throughput is the Refinery currently processing? If that figure is below the annual average daily throughput permitted of 165,000 barrels per day, by what percentage below? In the last year or two, has throughput volume processed ever reached the maximum permitted amount allowable on any given day of 185,000 barrels per day? If so, for how many days in 2012 and 2013?

i.) The baseline permitting level referred to in Appendix C-1 is the emissions level allowed by the Valero Improvement Project permit issued in 2003 by the Bay Area Air Quality Management District [Air District]. According to the current regulatory regime, this means that, when processing either or both tar sands or Bakken, if daily production levels at some time in the near future (after implementation of the Project) did not meet the permitted daily annual averaged maximum of 165,000 barrels per day, even if actual emissions were to increase resulting from processing those crudes, those emissions may not rise to the level permitted in 2003 under VIP, (e.g., at the permitted average maximum daily production level).

The DEIR offers minimal explanation to help the public understand that under existing regulatory rules for emissions reporting and permitting, it’s possible that actual emissions resulting from processing tar sands (and/or Bakken) may in fact increase relative to a *current* baseline of existing emissions, while at the same time registering *below* the 2003 permitted level, (e.g. emissions produced from a crude slate processed prior to Project-related processing of tar sands or Bakken). As a result, regarding that circumstance, it is possible for the Refinery to report estimates that there would be “no increases in emissions” from a changed crude slate, if actual emissions increased from a current baseline were compared to an old, outdated baseline from more than a decade ago. A revised DEIR should provide current baseline data, e.g., emissions reported in 2013. In any case, whether processing light sweet or heavy sour crudes, the aim should be emissions reductions measured from current baselines. Many Bay Area residents are now

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petitioning the Air District to require emissions reporting based on *current* emissions data, thus not allowing actual increases based on outdated permitted baselines.

The DEIR and the Applicant appear to make every effort to disguise, by not disclosing, the true nature of not only the transport dangers of delivering Bakken or tar sands by rail, but also, by projecting a *created image* of the Project as benign and safe, against the evidence-based reality of what they are bearing to the community like the Trojan Horse. Tar sands crude oil when spilled in waterways, lakes, along shorelines, wetlands and/or marshes is impossible to clean up using ecological methods because bitumen sinks and sticks like tar to everything it lands on, so cannot be removed from rivers, lakes, shorelines or wetlands.

j.) When and how might Canadian tar sands become accessible to the Valero's Benicia Refinery? The issue is highly pertinent to evaluating potential future Project effects including cumulative effects and estimates of emissions from ship transport of crude oil.

At a Valero Community Advisory Panel tour of the Project site, July 29, 2014, Refinery manager, John Hill, was asked about the Project's effects on future port utilization, which the questioner posed would appear to be diminished by the Rail Project if approved, given that, according to the DEIR, the Project would eliminate approximately 81% of ship deliveries of foreign-sourced crude and replace those marine deliveries by daily rail deliveries of up to 70,000 barrels per day of North American-sourced crude. Mr. Hill responded by saying that, with the Project, there would continue to be deliveries of crude by ship (understood to be "foreign", although he did not specify sources) as well as continued export of finished product. He wrapped up his response by saying that Valero intended to "keep options open" regarding future uses of the port.⁵⁵

The DEIR is silent on the matter of future port utilization and "options." Why? So we must ask directly: What future "options" could co-exist with Project operations for marine deliveries of unconventional North American-sourced crude at Valero's port, as suggestively hinted at by Mr. Hill's most recent wide-open comment about future port "options?"

As previously discussed, the DEIR's Project Description alludes to such factors influencing Valero's decisions regarding crude choices; however the DEIR does not offer explanation as to their meaning with regard to the long-range viability of the Project and the various "options" the Project implicitly entertains.

Constituting over a decade's worth of upgrades, the Valero VIP Project prepared the Refinery for processing a greater variety of heavy sour crudes, foreign and domestically

⁵⁵ John Hill, Valero Refinery manager, speaking to Valero Community Advisory Panel members on an official tour of the Project site, July 29, 2014, responded to a question posed regarding future uses of the Valero port given the proposed reduction of crude deliveries by marine vessel expected if the Project were to be implemented. Mr. Hill asserted that they want to "keep options open." This was understood to mean continued utilization of the Port for export of finished products as well as for deliveries of crude oil. Mr. Hill did not specify use of the port for future marine delivery of North American-sourced crude, or use of the port as a possible export terminal that could be potentially connected to Project crude-by-rail import operations.

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sourced. So it's highly likely that at some point Valero would choose to import heavily discounted Canadian tar sands *as long as the price advantage held up*. As reported everywhere in oil industry and media sources, the oil industry "majors" are direct investors in tar sands mining operations, and together with the Canadian government, they are keen to ensure that a pipeline is constructed to connect to planned British Columbia oil port terminals where tar sands could be transported down the West Coast to California refineries.⁵⁶ Marine terminal operations, such as planned by WesPac LLC for Pittsburg and by Targa Resources for the Port of Stockton could receive those marine deliveries then supply refineries along the Carqueinez Strait via barge or pipeline, including to Valero's port in Benicia. Or, tankers loaded with tar sands from Northwest ports could directly off-load at Valero's port.

The DEIR does not, but should, explore changing scenarios for transport and delivery of domestic and Canadian sourced crude to the Refinery in conjunction with Project rail operations and identify how such feasible and foreseeable changes would affect DEIR claims for Project GHG reductions and marine hazard reductions, considering that rail deliveries of North American-sourced crude could be variably combined with marine vessel deliveries of similarly sourced crudes to achieve daily supplies of fluctuating volumes of crude oil, e.g., at least 70,000 barrels per day (or more). [ES-1, Project Objective #2].

k.) What other operations or conditions might the Project foreseeably lead to within the timeframe of the Project's "life?" Are options for exporting raw materials including domestic crude being envisioned? The City of Benicia and the community need to know now.

l.) Given that the Project appears to be designed to provide maximum flexibility and "options" for delivery of North American-sourced crudes, the DEIR's analysis of GHG reductions assumes 81% of ship deliveries would be eliminated, to be replaced by equivalent rail deliveries. Even if those assumptions and evaluations could be trusted at face value, they would not hold up if marine vessel deliveries were to be increased at any time in the near-term or in the "indefinite future" to allow deliveries of tar sands crudes for processing, e.g. if and when, as expected, such marine deliveries down the West Coast or from inland oil terminals like the Port of Stockton or Pittsburg could be permitted.

This is not a case of speculation, but planning for use of Valero's port, if and when there is a feasible "link" made to one or more inland oil terminals or ports that could supply tar sands or any other North American sourced crude.

⁵⁶ Save Our Skeena Salmon "BC Oil Terminal Plans -Was it Prince Rupert all along?" <http://saveourskeenasalmon.org/tar-sands-tanker-debate/prince-rupert-oil-terminal-plans/>
The Oregonian, "Port of Vancouver approves big crude oil terminal amid safety concerns," July 25, 2013
http://www.oregonlive.com/environment/index.ssf/2013/07/port_of_vancouver_approves_big.html

processing. For local emissions impact reporting, the daily number of locomotives hauling both crude-loaded trains and “empty” trains returning must be accounted for.

- The size of tankers and the *current* volumes delivered by each type must be provided.
- Baseline years should be current, 2010 – 2013
- Since at any time within the framework of the Project the number of marine vessels (small and large tankers or barges) could increase, the DEIR must account for variable, foreseeable changes in means of transport, which would also change impact analysis for criteria pollutants and GHG that could increase above DEIR’s claimed Project levels.
- As previously discussed, the DEIR’s claim that “the Project would not result in increases in emissions from crude oil processing” is unsubstantiated and indefensible without factual characterizing of the unique qualities of the specific crudes that would be imported and processed.

Impact 4.1-3: “The Project could expose sensitive receptors to substantial pollutant concentrations.”

- The limited health risk analysis only identified residents living on the nearest street to the rail offloading racks, thus, as the crow flies, on Lansing Circle. However, there is no reason that the DEIR did not consider occupants and employees in the Industrial Park, who likely spend as much time “at work” as the residents of Lansing Circle spend at their homes in the evening. Crude trains would add exhaust diesel emissions to the already existing air pollution in the area from other vehicular and rail traffic and the Refinery. A revised DEIR must provide a health risk study for industrial park sensitive receptors.

End of BSHC Section 5: Response to Sections 4.1 and 5.4.3.1 of the DEIR (AIR QUALITY)

SECTION 6: BSHC RESPONSE TO SECTIONS 4.5 AND 5.4.3.5 (GEOLOGY AND SOILS) OF THE DEIR

The recent 6.0 earthquake event that hit a wide swath in and around the City of Napa and the Valley, also affecting Vallejo, vividly demonstrates what can happen here. A seismic event of equal or greater magnitude on either the Rogers or Green Valley Fault, or the Hayward Fault, could likely displace railbeds in the Suisun Marsh or anywhere in the vicinity of the Refinery, as well as roadways and key infrastructure.³⁸ It is false for the DEIR to assume that no shifting of soils in a 100 year floodplain where the rail offloading racks are located cannot happen, no matter how well packed the soils are engineered to be.

In the Benicia General Plan’s Chapter 4 –Community Health and Safety, Figure 4-1 “Ground Shaking Amplification”, [modified from Perkins and Boatwright 1995] shows that the area around the Port of Benicia (Valero docks) as well as the Industrial Park including the eastern portion of Refinery property, and along of I-680 and UP rail lines, there would be a “high” shaking amplification level. In a second diagram, Figure 4-2 “Areas with Potential Landslide and Liquefaction Hazards,” the Green Valley Fault is shown to be running northwest to southeast, cutting a diagonal through the City of Benicia’s northern sphere of interest, and crossing into the marsh area just north and east of the Lake Herman Rd-I-680 intersection. The area around the UP main tracks is in a liquefaction zone vulnerable to “lateral spreading” and “settlement hazards.”

According to Figure 4-5 “Transmission Lines and Critical Facilities” Valero’s asphalt plant pipelines run along from the Port area up to the plant, thus through a liquefaction zone.

A third Figure 4-3 “Flood Hazards” is a diagram showing where the community can expect major flooding during a “100-year” flood. The flood hazard area delineated includes the area of Sulphur Springs Creek and the proposed rail offloading racks on Refinery property.

Yet another Figure 4-4 “Fire Hazards” shows that a good part of hilly Benicia is prone to brush fire, and fire hazard areas also include swaths of vegetated area above and west of Bayshore Rd., and along the marsh.

Adding 100 cars per day of flammable crude oil to the mix of potential hazards in the Industrial Park – whether fire, flood, or earthquake – the effects of a rail accident in a confined area with any or several of the conditions cited would constitute a “spreading risk for greater harm” that could impact the Refinery and most occupants (businesses and employees) in the Park.

Soils engineered for “slope stability” obviously can fail, or roads would not buckle in earthquakes. The DEIR’s assumption about the viability of the berm during a big quake 7.0 is highly questionable.

³⁸ San Jose Mercury News, Sept 12, 2014 “Crude-By-Rail: One federal inspector oversees all Cabito: http://www.mercurynews.com/mv-town/ci_26525723/crude-by-rail-one-federal-inspector-oversees-all California’s railroad bridges, no state oversight.” Reprinted from CC Times, Matthias Gafni

The close quarters in the Industrial Park, the close proximity of the proposed rail off-loading racks to Refinery storage tanks, and the presence of Sulphur Springs Creek alongside the rail terminal are ingredients of a recipe for environmental disaster, with many businesses and people affected in the area.

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cont.

End of BSHC Section 6: Response to Sections 4.5 and 5.4.3.5 of the DEIR (GEOLOGY AND SOILS)

SECTION 7: BSHC RESPONSE TO SECTIONS 4.6 AND 5.4.3.6 (GREENHOUSE GAS EMISSIONS) OF THE DEIR

The DEIR's Claims for reductions in greenhouse gases [GHG] owing to rail deliveries substituting for ship deliveries would be altered if there were to be a change, within the Project's lifespan, in the number of marine vessels (small or large tankers or barges) in service of importing North American-sourced crude.

The calculations performed to purportedly demonstrate a GHG reduction advantage gained in substituting daily train deliveries of crude oil for marine vessel deliveries would give the impression that the Project provides a "green" solution by significantly reducing ship-generated diesel emissions. Even given the DEIR's claim, how can the figures used to account for distances traveled by ship be trusted without knowing the specific sources of the crudes accessed by ship and the number of ship deliveries made during "baseline" years. Why wasn't the more current baseline 2010 – 2013 used for calculating GHG?

The Projections for GHG reductions are arbitrarily limited to trade-offs between rail and ship deliveries, without any accounting of indirect emissions from processing the changed crude slate, the extra energy required for processing tar sands, and the GHG produced at the crude source throughout the extraction processes.

The carbon intensity of tar sands and Bakken must be reported in a revised DEIR.

End of BSHC Section 7: Response to Sections 4.6 and 5.4.3.6 of the DEIR (GREENHOUSE GAS EMISSIONS)

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COMMUNITIES FOR A
BETTER
ENVIRONMENT



September 15, 2014

VIA ELECTRONIC MAIL
Amy Million, Principal Planner
Community Development Department
250 East L Street
Benicia, CA 94510
amillion@ci.benicia.ca.us

Re: Comments on the Valero Crude by Rail Project Draft Environmental Impact Report, State Clearinghouse No. 2013052074

Dear Ms. Million:

Communities for a Better Environment (CBE) is a California nonprofit environmental health and justice organization with offices in Oakland and Huntington Park. CBE has extensive organizational experience in protecting and enhancing the environment and public health by reducing pollution and minimizing hazards from refinery operations.

The Center for Biological Diversity is a non-profit environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center has over 675,000 members and e-activists throughout California and the western United States, including members that live and/or visit the vicinity of the proposed project. These comments are submitted on behalf of our board, staff and members.

As set forth below, the Valero Crude by Rail Project Draft Environmental Impact Report (DEIR) suffers from numerous deficiencies that render the document inadequate under the California Environmental Quality Act (CEQA) and the CEQA Guidelines. We respectfully request that the City reject the DEIR as an environmental review document, and defer approval of the Project until such time as the DEIR is revised to comply with CEQA.

An EIR is “the heart of CEQA.”¹ “The purpose of an environmental impact report is to provide public agencies and the public in general with detailed information about the effect which a proposed project is likely to have on the environment; to list ways in

¹ *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 392 (“*Laurel Heights I*”).

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which the significant effects of such a project might be minimized; and to indicate alternatives to such a project.”² The EIR “is an environmental ‘alarm bell’ whose purpose is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return. The EIR is also intended ‘to demonstrate to an apprehensive citizenry that the agency has, in fact, analyzed and considered the ecological implications of its action.’ Because the EIR must be certified or rejected by public officials, it is a document of accountability.”³ The DEIR for the proposed Project fails entirely to live up to this mandate.

The DEIR suffers from several inadequacies predicated on two fundamental defects. (A) The DEIR fails to disclose the specific quality and characteristics of oil feedstock that the Project would enable Valero to process at its Benicia facility in relation to that of its current baseline feedstock; and (B) consequently, the DEIR fails to undertake any analysis whatsoever of the true range of environmental impacts caused by the change in crude slate enabled by the Project.

The DEIR, therefore, fails to:

- (1) provide a stable, accurate and detailed project description, thus undermining every aspect of the impacts analysis;
- (2) accurately evaluate numerous Project impacts, including air quality, greenhouse gas emissions, public health and safety, and biological resources;
- (3) provide sufficient analysis of cumulative impacts; and
- (4) adopt feasible mitigation measures.

For these and other reasons detailed herein, the DEIR is inadequate under CEQA. The City must revise the DEIR and recirculate it for public comment.

I. THE DEIR’S PROJECT DESCRIPTION IS INADEQUATE.

In order for an environmental document to adequately evaluate the environmental ramifications of a project, it must first provide a comprehensive description of the project itself. “An accurate, stable and finite project description is the sine qua non of an informative and legally sufficient EIR.”⁴ As a result, courts have found that, even if an EIR is adequate in all other respects, the use of a “truncated project concept” violates CEQA and mandates the conclusion that the lead agency did not proceed in a manner required by law.⁵

² Cal. Pub. Res. Code § 21061.

³ *Laurel Heights I*, 47 Cal.3d at 392 (citations omitted).

⁴ *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 730 (quoting *County of Inyo v. City of Los Angeles* (1977) 71 Cal. App. 3d 185, 193).

⁵ *Id.* at 730.

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Furthermore, “[i]n accurate project description is necessary for an intelligent evaluation of the potential environmental effects of a proposed activity.”⁶ Thus, an inaccurate or incomplete project description renders the analysis of significant environmental impacts inherently unreliable. While extensive detail is not necessary, the law mandates that EIRs should describe proposed projects with sufficient detail and accuracy to permit informed decision-making.⁷ The DEIR’s Project Description fails to meet this standard in three respects: first, it fails to disclose a change to a different, perhaps even lower quality crude feedstock; second, it improperly relies on trade secret claims to withhold essential project information; and third, it fails to estimate and analyze impacts from the project’s duration.

A. The DEIR Fails to Fully Disclose a Switch to Lower-Quality Feedstock.

This Project will enable Valero to import and process tar sands crudes and Bakken crudes at its Benicia refinery. However, the DEIR fails to fully disclose this fundamental Project characteristic and consequently fails to analyze any associated and evidently significant impacts. The failure to disclose the types and chemical compositions of the new crude oils and the resultant potential impacts is a threshold issue and fundamental defect in environmental review.

Valero has made it clear throughout this CEQA process that it intends to use its proposed rail expansion to bring tar sands and Bakken crudes to the Refinery. In a public meeting in March, Don Cuffel, a manager of the Refinery Environmental Engineer Group, asserted that the Refinery could bring tar sands and Bakken crudes in via rail.⁸ The DEIR itself also states that “Valero may well purchase large amounts of light sweet North American crudes,” such as Bakken,⁹ and that Canadian tar sands are also an option.¹⁰

Additionally, Valero recently submitted an application to the Bay Area Air Quality Management District (BAAQMD) to bank Emission Reduction Credits (ERCs) at the Benicia Refinery for sulfur dioxide.¹¹ Valero submitted the application in late 2013 for 2,433.37 tons per year of SO₂. ERCs represent emission reductions achieved in the past, and which may be used in the future to offset emissions increases. If the Refinery

⁶ *Id.* (citation omitted).

⁷ See CEQA Guidelines [14 Cal. Code Reg.] §15124 (requirements of an EIR).

⁸ See, e.g., CBS SF Bay Area, Valero Admits Tar Sands Crude, Fracked Oil Could Come Through Benicia, <http://sanfrancisco.cbslocal.com/video/9580832-valero-admits-tar-sands-crude-fracked-oil-could-come-through-benicia/>; Donna Beth Wellenman, Long-awaited Valero crude-by-rail EIR delayed again, Benicia Herald, June 9, 2014, <http://beniciaheraldonline.com/how-to-get-a-copy-of-the-valero-crude-by-rail-eir-released-tuesday/>.

⁹ DEIR at C.2-1.

¹⁰ DEIR at C.1-1.

¹¹ The application and supporting materials may be found on the BAAQMD website at <http://www.baaqmd.gov/Divisions/Engineering/Public-Notices-on-Permits/2014/051114-24330/Valero-Refining-Company-California.aspx>.

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were to process Canadian tar sands and other higher-sulfur crude oils, SO₂ emissions from the refinery processing equipment would increase, and the refinery would likely use those banked SO₂ ERCs to offset those emission increases. That Valero submitted this banking application as its rail project was undergoing CEQA review raises the suspicion that the application and the rail project are related, and supports Valero’s previous statements that tar sands may be brought to the Refinery by rail. At the very least, the DEIR should have disclosed this ERC banking application, along with information about the impacts that the Project will have on refinery processing equipment and emissions, as discussed below in Part II.B.1.

An EIR for a refinery project is legally flawed if it does not disclose a planned change in crude oil feedstock. The Court of Appeal addressed this precise issue in *Communities for a Better Environment v. City of Richmond*.¹² In that case, the Court of Appeal found that the EIR prepared for an expansion of the Chevron refinery in Richmond was legally inadequate because the project description failed to disclose a crude switch.¹³ The court found that the “EIR’s project description is inconsistent and obscure as to whether the Project enables the Refinery to process heavier crude.”¹⁴

The same flaw is present here: though Valero has made it abundantly clear that it plans to bring in tar sands and Bakken crudes via rail, both in statements to the public¹⁵ and in the DEIR,¹⁶ the DEIR fails to disclose any of the details of its proposed crude import mix, instead claiming that regardless of which crudes the refinery processes, all emissions and environmental impacts of refinery processing equipment will remain at current levels, based on existing refinery activity.¹⁷ As the Court of Appeal found of the Chevron project, this DEIR’s failure to disclose crude quality information renders the project description “inconsistent and obscure as to whether the Project enables the Refinery to process heavier crude.”¹⁸

The failure to disclose crude feedstock information is a fatal flaw in this DEIR, and the document should be revised to include such information and recirculated.

B. The Project Improperly Relies on Trade Secret Claims to Withhold Key Project Information.

As discussed above, the DEIR does not disclose information about the quality and origin of the crude oils that it will import via rail and process. Valero has in fact withheld this information from the City, claiming as trade secret any and all information about the

¹² (2010) 184 Cal.App.4th 70, 89.

¹³ *Id.*

¹⁴ *Id.* at 89.

¹⁵ See *supra* note 8 and accompanying text.

¹⁶ See DEIR App. C.1, C.2.

¹⁷ See, e.g., *id.*

¹⁸ *Comys. for a Better Env’t v. City of Richmond*, 184 Cal. App. 4th at 89.

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types and properties of crude oils that Valero plans to purchase, has purchased in the past, plans to process, and has processed in the past.¹⁹

Information may be withheld as confidential business information under CEQA only if it meets the definition of trade secrets laid out in Government Code § 6254.7. That section defines trade secrets as information (such as formulas, plans, or processes) which is not patented, which is known is only to certain individuals who are using the information to produce something of commercial value, and which gives the user a business advantage over competitors who do not know or use it.²⁰

As a preliminary matter, crude feedstock information is not trade secret. As demonstrated in detail in the technical comments of Greg Karras, crude quality information for the Valero refinery is not known only to certain individuals, but can be revealed through a reverse engineering process.²¹ Consequently, Valero's crude feedstock information is not secret, and cannot be claimed as trade secret under CEQA.

In order to support the claim that crude feedstocks are trade secret, the DEIR cites to a proposed rule issued by federal EPA about confidentiality required in EPA's Greenhouse Gas Reporting Rule.²² This proposed rule, however, is not relevant here, where we are concerned not with federal standards of confidential business information, or CBI classifications set forth in a reporting rule, but rather, with the California Government Code definition of trade secret. Additionally, the DEIR fails to cite to a final version of the proposed rule it cites.

Furthermore, even if Valero could properly claim crude feedstock information as trade secret under Government Code § 6254.7, an EIR is legally deficient if its analysis relies upon confidential information that was not made available to the public and to decisionmakers.²³ "If . . . a project proponent can pick and choose who sees pertinent data—then a stake is driven into the 'heart of CEQA' by preventing the information necessary for an informed decision from reaching the decisionmakers and the public."²⁴ The DEIR should be revised and recirculated with all of the information claimed as trade secret disclosed in full.

¹⁹ DEIR at 1-5, App. D.

²⁰ Cal. Govt. Code § 6254.7(d).

²¹ Comments of Greg Karras on the Valero Crude by Rail DEIR, submitted Sept. 15, 2014 (hereinafter "Karras Comment").

²² DEIR at D-2, citing 75 Fed. Reg. 39,094 (July 7, 2010).

²³ *Omys. for a Better Env't v. City of Richmond*, 184 Cal. App. 4th at 88 (expert's "reliance on undisclosed data from Chevron does not meet the 'informational' goals of CEQA. CEQA requires full environmental disclosure, but Chevron apparently decided that the public and the decisionmakers did not need to see proprietary data given only to [the expert] and relied on by this expert").

²⁴ *Id.* (citations omitted).

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C. The DEIR Fails to State a Project Duration.

The expected operational duration of a project is vital to any meaningful assessment of the potential environmental consequences of the project, by both decisionmakers and the public. It is impossible to identify, much less mitigate potential, and foreseeable impacts without information relating to the approximate or known duration of a proposed project's operational components. It is critical for an accurate, stable and finite project description.²⁵ The DEIR fails to meet this standard.

Although the DEIR includes a discussion of the Project's anticipated impacts in the context of construction and operation, the document omits identification of a precise duration of those Project phases, beyond the construction phase, which is identified as lasting approximately 25 weeks.²⁶ This Project implicates a potentially significant period of operation of the proposed rail car tracks and the resultant transport of a different quality and volatile crude feedstock up and down the West Coast. A legally sufficient project description must identify the anticipated duration of these activities.

II. THE DEIR'S ANALYSIS AND MITIGATION OF PROJECT IMPACTS IS INADEQUATE.

A. The DEIR Fails to Adequately Analyze and Mitigate the Project's Public Health Impacts.

As described throughout this Comment, and the additional technical comments including the Fox and Karras Comments, the DEIR fails to account for the change in crude slate enabled by the Project. By omitting this critical aspect of the Project, the DEIR's emissions analysis severely underestimates public health impacts. In order to effectuate the fundamental purpose of CEQA, it is critical that an EIR meaningfully inform the public and its responsible officials of the environmental consequences of their decisions *before* they are made.²⁷ Only with a genuine, good faith disclosure of a proposed project's components, can a lead agency analyze the full range of potential impacts of the project, identify, and implement mitigation measures where necessary, prior to project approval.²⁸

Specifically, the Courts have held that CEQA requires disclosure of foreseeable changes in crude quality, and an analysis of any potential coinciding increase in

²⁵ See *County of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 185, 193.

²⁶ DEIR at 4.9-10.

²⁷ *Laurel Heights Improvement Ass'n v. Regents of University of California* (1993) 6 Cal. 4th 1112, 1123 ("Laurel Heights II"); CEQA Guidelines § 15126.2(a) ("[a]n EIR shall identify and focus on the significant environmental effects of the proposed project") (emphasis added throughout).

²⁸ Pub. Res. Code § 21002 (public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects); Guidelines § 15126.4.

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emissions from similar refinery expansion projects.²⁹ The DEIR's failure to disclose the Project's change in crude slate subsequently precludes any meaningful analysis of public health impacts of the Project. These include: increased air emissions from refining a lower quality oil feedstock; an increased risk of catastrophic failure as a result of the Project; an underestimation of other air emissions from the Project; and an inaccurate assessment of cumulative impacts as a result of the Project.

(1) The DEIR Fails to Identify or Mitigate Emissions Impacts Resulting from the Project's Change in Crude Slate.

The DEIR's analysis of air emissions for the Project is based on the inaccurate premise that emissions would not increase if "the average weight and sulfur content" of the projected crude slate remain within permitted operating limits.³⁰ That is simply not true. Further, the DEIR then attempts to shield its unsubstantiated analysis by suggesting that if "the crude blend processed became substantially heavier and more sulfurous, the resulting increase in emissions would be within the baseline for operational air quality impacts" previously approved by the City (for the VIP), and therefore, is not subject to review at this juncture. This also lacks any foundation, does not amount to substantial evidence, and is simply another attempt to diminish and obscure the significant impact of increased emissions of refining a lower quality oil feedstock, such as Canadian tar sands crude, or highly volatile, lighter-end crudes such as Bakken crudes.

The composition of tar sands crudes is chemically different from other heavy, locally sourced crudes, currently processed at the Valero Benicia Refinery. Tar sands crudes are distinct from even the heaviest of crudes currently processed at the Refinery for two reasons. First, the heavy feedstock requires large quantities of volatile diluent containing high levels of VOCs, TACs and HAPs. If released, these air pollutants amount to increased emissions that would result in significant public health and air quality impacts. The DEIR fails to address these impacts and should, at a minimum, include the amount of diluents needed to enable efficient delivery and transport of tar sands crude into and out of the Valero Benicia Refinery. These pollutants include potent carcinogens such as benzene, toxic sulfur compounds that would individually and cumulatively cause malodors, and degrade ambient air quality. Second, the high acid levels in these crudes and their semi-refined products would accelerate corrosion of refinery components, contributing to equipment failure, more accidental releases, and a greater threat to worker and public health and safety.

Despite these facts, the DEIR does not discuss the unique chemical composition of bitumen in tar sands. Bitumen is composed of higher molecular weight chemicals, including large amounts of benzene, toluene, xylenes, and other heavy metals. State and

²⁹ See *Laurel Heights I*, 47 Cal.3d. at 400 (quoting Pub. Resources Code § 21002.1(a); and CEQA Guidelines 15002(a)). See also *Cmps. for a Better Env't v. City of Richmond*, 184 Cal. App. 4th at 89 (an "EIR must include foreseeable change in crude processed as part of environmental and impacts analysis").
³⁰ See DEIR at App. C.1.

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federal toxic emissions inventories detail regulatory concern over these chemicals.³¹ Benzene has a high cancer potency and is known to cause severe reproductive, developmental and immune systems impacts at even low exposure levels.³² Systemic benzene poisoning, a long-term exposure risk, includes the potential for severe hemorrhages, and may at times result in fatality.³³ Concentrated, acute exposure levels have also been known to cause headaches, and nausea.³⁴ While less information is available relating to longer-term systemic and acute exposure levels to ethylbenzene, toluene and xylene, in California, the toxicity and risk levels of the three are currently under CARB scientific review.³⁵

The U.S. Geological Survey reports that "natural bitumen," the source of all Canadian tar sands-derived oils, contains 102 times more copper, 21 times more vanadium, 11 times more sulfur, six times more nitrogen, 11 times more nickel, and 5 times more lead than conventional heavy crude oil, including even the heaviest of "American crudes." The DEIR fails to discuss or disclose the environmental damage posed by these contaminants, which could include acid rain, harmful bioaccumulation of the contaminants, the formation of ground-level ozone and smog, visibility impairment, odor impacts affecting residents near the Refinery, accidental releases due to corrosion of refinery equipment, and depletion of soil nutrients – all of which have the potential to directly and indirectly impact public health.

Moreover, as explained in detail in Fox Comment, Bakken crude, which the DEIR does acknowledge is likely to be the primary crude involved in the Project, has its own, distinct health impacts as a result of its unique chemical composition. Bakken crude contains a high concentration of both Volatile and Reactive Organic Compounds (VOCs and ROGs respectively), and are highly volatile. As such, these crudes tend to increase the likelihood and risk of explosion in many activities including transport, loading, offloading, handling and storage, as explained in the section concerning hazards and accident risks. As a result, they can also lead to significant increases in emissions of chemicals, which also hold significant public health impacts. Indeed, Dr. Fox states that Bakken crudes have been known to have the highest concentrations of benzene among numerous crudes evaluated in Material Safety Data Sheets (MSDSs) submitted by a number of Valero's competitors. As explained above, Benzene is a known human carcinogen that can lead to a range of acute and long-term adverse health effects and

³¹ See, e.g., United States EPA, Clean Air Act 1990 List of Hazardous Air Pollutants, available at: <http://www.epa.gov/ttn/atw/g01q189.html>, last accessed on Jan 26, 2014; see also, California Air Resources Board Toxic Air Contaminant Identification List, available at: <http://www.arb.ca.gov/toxics/catable.htm#Note 1>, last accessed on Jan 26, 2014.

³² Determination of Acute Reference Exposure Levels for Airborne Toxicants, March 1999, Acute Toxic Summary, BENZENE, available at: http://www.oehha.ca.gov/air/acute_rels/pdf/71432A.pdf, last accessed, Jan. 26, 2014.

³³ *Id.*

³⁴ *Id.*

³⁵ California Air Resources Board, Toxic Air Contaminant Identification List, available at: <http://www.arb.ca.gov/toxics/catable.htm#Note 1>, last accessed, Jan. 26, 2014.

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diseases, including cancer and adverse hematological, reproductive and development effects.³⁶

Finally, the DEIR's cursory reference to the prior VIP baseline determination to account for any emissions increase as a result of refining a lower quality oil feedstock provides nothing more than an illusory shield. Absent any quantification of such an anticipated increase in emissions, which as highlighted above is a foreseeable Project impact, the DEIR's analysis of air emissions due to a change in crude oil feedstock cannot meet CEQA's threshold substantial evidence standard. A switch in crude slate directly implicates additional operational emissions, which include HAPs and TACs, to be emitted at many components of the Project, and throughout the Refinery, including from train cars in their routine operation as well as from loading and un-loading at the Refinery, and through compressors, pumps, valves, fittings, and storage tanks, in far greater amounts than from the current baseline feedstock. Without providing any substantial evidence to the contrary, the DEIR must account for, analyze and mitigate these emissions, irrespective of any prior approval.

(2) The DEIR's Analysis Underestimates the Project's Emissions of Toxic Air Contaminant and Hazardous Air Pollutants.

As noted above, the DEIR fails to identify, analyze or mitigate known impacts that will result from the added presence of additional TACs and HAPs typically found in the crude blend that will be delivered, processed and transported as a result of this Project. Furthermore, the insufficient analysis of these pollutants is even based on an under-protective methodology.

Over the past few years, approval of Bay Area projects under BAAQMD's Health Risk Assessment (HRA) levels have spurred criticisms that those HRA standards fail to set adequate health protective standards. Many concerned residents, academics, and experts have criticized BAAQMD's existing HRA mandatory reduction threshold as being far too high to prove sufficiently health protective. BAAQMD, in fact uses the highest cancer risk reduction trigger for cancer risk posed by toxic emissions compared to any other Air District in the State.³⁷ For example, the South Coast Air Quality Management District sets its mandatory risk reduction level for toxic cancer risk at 25 in one million, while BAAQMD sets mandatory risk reduction level at 100 in one million. Recently, community pressure has highlighted this dramatic discrepancy and BAAQMD is currently in the process of revising its mandatory risk reduction levels to an acceptable

³⁶ CARR, Report to the Scientific Review Panel on Benzene, Prepared by the Staffs of The Air Resources Board and The Department of Health Services, November 27, 1984, Available at: <http://www.arb.ca.gov/toxics/d/sunmar/benzene.pdf>; Chronic Toxicity Summary: Benzene, Available at: http://www.oehha.org/air/chronic_rels/pdf/71432.pdf; World Health Organization, Exposure to Benzene: A Major Public Health Concern, Available at: <http://www.who.int/ipcs/features/benzene.pdf>.

³⁷ See, e.g., Science and Environmental Health Network Letter to Mayor and BAAQMD Board of Director member Tom Bates, dated May 4, 2009, Re: Bay Area Air Quality Management District Health Risk Reduction Measures Under Toxics Hot Spots Program, 1-4.

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value.³⁸ Nevertheless, CEQA rests on the primary goal of identifying significant impacts.³⁹ The DEIR uses the existing, and least protective, BAAQMD HRA thresholds.⁴⁰ CEQA's requirement of identification of significant impacts requires the most accurate thresholds. The DEIR should be revised to, at a minimum, provide a revised analysis under thresholds that represent risk reduction at an acceptable value.

(3) The DEIR Underestimates the Risk of Catastrophic Failure.

A switch to a heavier oil feedstock necessarily implicates a greater risk of corrosion of refinery components.⁴¹ This greater risk of corrosion was identified as a root cause of the August 2012 fire at the Chevron Richmond Refinery that sent 15,000 residents to local hospitals.⁴² The DEIR's failure to adequately discuss the Project's shift to a lower quality oil feedstock precludes any similarly meaningful analysis with respect to both identification and mitigation of this similar risk of catastrophic failure and significant impact to public health.

Similarly, as Dr. Fox explains, a switch to lighter, more volatile crude, also carries with it an increased risk of catastrophic incidents and potential equipment failure. As stated above, the high concentration of both VOCs and ROG's present in Bakken crude, coupled with the crude's generally high vapor pressure and high volatility, increases the likelihood that highly dangerous emissions may be released from the transport, storage and handling of these crudes, as well as from potential accidents when they occur.

(4) The DEIR Fails to Identify or Mitigate Additional Impacts of Emissions Resulting from the Project's Change in Crude Slate.

The DEIR omits discussion of additional foreseeable Project emissions. These include emissions from: unloading feedstock from rail, displacement of feedstock pipeline supply (and therefore continued marine vessel supply), and an inaccurate evaluation of greenhouse gases (GHGs).

The DEIR provides that "the BAAQMD will consider locomotive emissions and tank car unloading emissions as may be caused by the Project."⁴³ This amounts to nothing more than a generalized goal of compliance, and therefore, inadequate deferred mitigation.⁴⁴ Unloading from railcars is a Project component - with associated emissions that must be analyzed and mitigated now.

³⁸ See BAAQMD Stationary Source Committee Meeting Agenda, Item 15, Health Risk Assessment Guidelines Revisions, Sept. 3, 2014, available at http://www.baaqmd.gov/-/media/Files/Board%20of%20Directors/2014/brd_agenda_090314.ashx?la=en
³⁹ *Laurel Heights II*, 6 Cal. 4th 1123.

⁴⁰ See DEIR App. E. 4.

⁴¹ See Fox Comments on Mitigated Negative Declaration of the Project.

⁴² See Chemical Safety Board, Chevron Richmond Refinery Interim Investigation Report, April 2013, available at: http://www.csb.gov/assets/1719/Chevron_Interim_Report_Final_2013-04-17.pdf

⁴⁴ *Cmty's for a Better Env't v. City of Richmond*, 184 Cal. App. 4th at 92.

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In addition, as noted in CBE's comments, throughout its life, this Project will displace the dwindling California crude supplies currently delivered to the Refinery via pipeline.⁴⁵ At the same time, the DEIR provides a tit for tat analysis of emission reductions from marine vessel shipments to "displace" and account for emission increases from rail deliveries.⁴⁶ The DEIR ignores any displacement of pipeline inputs to the Refinery, inaccurately analyzing any displacement as displacement of solely marine vessel supply to the Refinery. Associated emission increases are also consequently ignored: displacing pipeline deliveries means that more marine vessel deliveries will continue, despite the Project, and will continue to cause ship emissions that the DEIR erroneously assumes are eliminated.

This is particularly problematic regarding GHGs. The DEIR's analysis of Project GHGs estimates an increase of approximately 18,433 metric tons of CO₂e per year. The analysis, however, decreases these new GHG emissions by 11,707 metric tons of CO₂e per year, claiming that Project rail shipments will displace marine vessel shipments at this amount.⁴⁷ This perceived reduction would leave Project GHG emissions below BAAQMD significance thresholds. Nevertheless, this perceived reduction is inaccurate, again plagued by the same exclusive tit for tat/rail for marine vessel displacement error. There is no exclusive displacement of marine vessel shipments; Project rail shipments will also eventually displace pipeline shipments – to what degree is uncertain, and the DEIR's analysis must be revised to remove any such uncertainty.

(5) The DEIR's Analysis of Cumulative Impacts to Public Health is Flawed.

An EIR must "demonstrate that the significant environmental impacts of the proposed project were adequately investigated[,] discussed[,] and ... considered in the full environmental context," including existing pollution burdens in the areas that are directly impacted by the Project.⁴⁸ The DEIR notes the Project's significant and unavoidable cumulative impact on Air Quality in the Sacramento Basin.⁴⁹ As noted above, this significant impact is even underestimated. The DEIR must be revised to account for the above underestimation of individual impacts to public health in order to properly determine any cumulative impact of the Project.

B. The DEIR Fails to Adequately Analyze and Mitigate the Project's Air Quality Impacts.

The EIR's analysis of the Project's air quality impacts is riddled with errors. We highlight five: first, the DEIR fails to disclose, analyze, and mitigate the impacts

⁴⁵ See Karras Comment.

⁴⁶ See DEIR at 4.1.

⁴⁷ DEIR at 4.6-12.

⁴⁸ CEQA Guidelines § 15125(c).

⁴⁹ DEIR at 4.1-23.

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associated with a change in crude slate composition. Second, the DEIR's relies heavily on uncertain and unlikely reductions in marine shipment emissions to make a finding that air quality impacts in the Bay Area will be less than significant. Third, the DEIR's analysis is predicated on a faulty and illegal baseline. Fourth, the EIR completely underestimates indirect emissions. And fifth, the DEIR fails to propose feasible mitigation measures for significant air quality impacts that it has improperly found to be unavoidable.

The end result is that the Project will result in significant air quality impacts that the EIR fails to identify or mitigate.

(1) The DEIR Fails to Disclose and Analyze the Changes in Emissions from a Change in Crude Slate.

Perhaps the most fundamental and fatal deficiency of this DEIR deficiencies is its failure to provide any analysis whatsoever of the changes in emissions that might occur as a result of a modified crude slate. Though the DEIR analyzes air quality impacts associated with the transport of crude oil by rail, it fails to analyze impacts from existing, permitted refinery equipment, claiming simultaneously that these emissions will not increase, and that even if they did, they would not increase beyond permitted levels.⁵⁰ This argument is entirely illogical and contrary to the purpose of CEQA. CEQA requires an EIR to identify and analyze the significant environmental effects of a project.⁵¹ Even if an effect is found to be less than significant, an EIR must include a statement of the reasons why that effect was not found to be significant and therefore not discussed in detail in the EIR.⁵² In other words, there must be some preliminary analysis of the potential impacts, and an EIR cannot rely on conclusory statements to assert that an impact will not be significant.⁵³

The DEIR provides no such statement of reasons explaining why the air quality impacts from existing, permitted refinery equipment will not be significant, and instead simply asserts that emissions will not increase, because the refinery would have to blend any crudes it receives to match the slate it processes now.⁵⁴ Additionally, as discussed above in Part I.B, Valero has withheld all crude quality information as confidential business information, thus preventing the public and decisionmakers from having access to information essential to verifying the validity of the DEIR's statements that emissions will not exist beyond permitted levels. The DEIR cites to Appendices C.1 and C.2 to support its assertion that emissions will not increase at existing equipment, but these appendices provide no analytical support for those assertions, instead merely repeating the statements without providing further justification.

⁵⁰ DEIR at 4.1-11.

⁵¹ CEQA Guidelines, § 15126.

⁵² CEQA Guidelines § 15128.

⁵³ See *id.*

⁵⁴ DEIR at 4.1-11.

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The DEIR does not indicate that any quantitative analysis whatsoever was done of the potential emission increases from a change in crude slate. The DEIR cannot simultaneously claim that there will be no such increase, but that even if there were, the increase would not cause emissions to exceed permitted levels, without first having analyzed the potential increases. To make such conclusory and contradictory statements without any supporting analysis is entirely contrary to CEQA's purpose of ensuring that the public and decisionmakers are fully informed about the potential impacts of a proposed project.⁵⁵

Additionally, the DEIR fails to fully analyze the air quality impacts associated with the transport by rail of tar sands and Bakken crudes. The DEIR dismisses any concerns about emission increases from a change in crude feedstock by noting that the refinery must blend crude oils to a specific API gravity and sulfur content range in order to process them in existing equipment.⁵⁶ However, many of the air quality impacts that would result from a change in crude feedstocks would occur *before* the crudes are blended for processing, and the DEIR fails to analyze those emissions.⁵⁷ VOC and TAC emissions are not related to the API gravity or sulfur content of crude oil (the factors for which the DEIR claims Valero's blending restricts), and what is more, those air contaminants are emitted before blending occurs. VOCs and TACs are primarily emitted during pipeline transport, rail unloading, and storage at tanks. The DEIR fails to analyze the potential impacts of a change in crude slate, and must be revised and recirculated to correct this deficiency.

(2) The DEIR Relies on Unreliable and Uncertain Emission Reductions from Reduced Marine Shipments.

The DEIR's air impacts analysis relies heavily on the assumption that the crude oil shipments by rail will displace a portion of the shipments currently received via marine vessel.⁵⁸ The DEIR argues that the emissions reductions associated with reduced marine shipments would exceed any emissions increases from the construction and operation of the crude by rail project, and that consequently the air quality impacts of the project are less than significant, and the net impact of the Project would be to reduce overall air pollution in the Bay Area.⁵⁹

The DEIR asserts that rail shipments would only displace marine shipments, and that "[c]rude oil delivered to the refinery by tank car would not displace crude oil delivered to the Refinery by pipeline."⁶⁰ However, there is no guarantee in the DEIR of

⁵⁵ See Cal. Pub. Res. Code § 21061 ("The purpose of an environmental impact report is to provide public agencies and the public in general with detailed information about the effect which a proposed project is likely to have on the environment.")

⁵⁶ See DEIR Appx C.1, C.2

⁵⁷ See Comments of Dr. Phyllis Fox on the Valero Crude by Rail DEIR, submitted Sept. 15, 2014 (hereinafter "Fox Comment").

⁵⁸ DEIR at 1-1.

⁵⁹ DEIR at 4.1-19

⁶⁰ DEIR at ES-3.

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the level of reduction of marine shipments as a result of the project. The DEIR only asserts that *up to* 70,000 barrels per day of marine shipments *could* be displaced by the rail project.⁶¹ There is no guarantee that any level of marine shipment reduction would be enforced through a permit condition or other mechanism, and thus no guarantee that those emission reductions are permanent, or likely to occur at all.

In addition, it is highly improbable that crude by rail shipments will displace only marine shipments. As explained in detail in the technical comments of Greg Karras, the production of the California crudes that Valero receives via pipeline are declining and unlikely to remain at current levels.⁶² As those supplies decline, the volume of crude that Valero receives via pipeline is also likely to decline, which would require the refinery to receive more crude via marine shipment in order to make up the difference.

The reductions in emissions from marine transport are illusory, and the DEIR must be revised and recirculated to include an analysis of the more likely scenario, which should include an enforceable commitment to a certain level of emission reductions from reduced marine shipments.

(3) The DEIR Relies on an Incorrect Baseline.

The DEIR fails to establish an adequate baseline for its analysis of air quality impacts. The baseline is inadequate for two reasons: first, because it fails to demonstrate that its baseline is representative of emissions levels at the time that the Notice of Preparation was filed; and second, because the baseline is impermissibly set at the level of permitted emissions levels instead of actual emissions levels.

Establishing a baseline at the beginning of the CEQA process is a fundamental requirement so that changes brought about by a project can be seen in context and significant effects can be accurately identified.⁶³ When an EIR omits relevant baseline environmental information, the agency cannot make an informed assessment of the project's impacts.⁶⁴

(a) The DEIR Uses the Wrong Timeframe for Establishing the Air Emissions Baseline.

CEQA Guidelines state that the baseline for a particular project should consist of "the physical environmental conditions... as they exist *at the time the notice of preparation is published*."⁶⁵ The City issued the Notice of Preparation for this Project EIR on August 13, 2013.⁶⁶ However, the DEIR uses an annual average of air emissions

⁶¹ DEIR at 1-1.

⁶² See Karras Comment; Fox Comment.

⁶³ See *Our Peninsula Comm. v. Monterey County Bd. of Supervisors* (2001) 87 Cal.App.4th 99, 125 (baseline determination is the first rather than the last step in the environmental review process).

⁶⁴ *County of Amador v. El Dorado County Water Agency* (1999) 76 Cal.App.4th 931, 952.

⁶⁵ CEQA Guidelines § 15125(a).

⁶⁶ DEIR at 4.11-3.

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from December 2009 to November 2012 to evaluate both air quality and greenhouse gas impacts related to the construction and operation of the rail facility.⁶⁷ The DEIR justifies this by arguing that three years' averages are commonly used as the baseline in CEQA review of refinery modification project to accurately account for the cyclic nature of refinery emissions and operations.⁶⁸ While this may be valid, the DEIR clearly states that the end date of the baseline period, November 2012, is predicated on the applicant's filing of the Use Permit Application in December 2012—not, as required by CEQA, on the issuance of the Notice of Preparation.⁶⁹ Consequently, the project baseline estimate with an end date of November 2012 used by the DEIR is improper.

A valid project baseline would include the average conditions up to the point that the notice of preparation was published, in this case, August 2013. At the very least, the DEIR must demonstrate that the three-year average period relied upon is representative of emissions levels at the time the Notice of Preparation was published in August 2013. As it stands, the baseline is outdated, and the DEIR analyzes air quality impacts without informational background necessary to facilitate an accurate and reliable analysis. Because the DEIR fails to establish a valid emissions baseline, it is also fails in its overall goal to provide both the public and the decisionmaking agency with "detailed information about the effect which a proposed project is likely to have on the environment."⁷⁰

(b) The DEIR Impermissibly Uses Permitted Emissions Levels as the Baseline for Refinery Emissions.

The DEIR completely fails to analyze any potential emissions increases from existing, permitted refinery equipment, and justifies this failure by arguing that any emissions increases from existing equipment would not exceed the baseline, because the baseline "would include emissions from the maximum operation of the Refinery equipment within permit limits."⁷¹

This argument is both illogical and illegal under CEQA. How can the DEIR assert that emissions increases from permitted equipment will not exceed the baseline if the DEIR has provided no analysis whatsoever of those potential emission increases? Having refused to provide any information about potential increases the DEIR cannot then claim that those increases will not be significant. The DEIR must instead include an analysis of those potential increases, as discussed above in Part II.B.1.

In addition, the DEIR's claim that the relevant baseline is the permitted maximum emissions levels is clearly prohibited under CEQA, and the case that the DEIR cites to support this assertion, *Communities for a Better Environment v. South Coast Air Quality Management District*, in fact directly contradicts the DEIR's claim. In *CBE v. SCAQMD*,

⁶⁷ DEIR at 4.1-11, 4.6-8.

⁶⁸ *Id.*

⁶⁹ *Id.*

⁷⁰ Cal. Pub. Res. Code § 21061.

⁷¹ DEIR at 4.1-11.

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the Supreme Court rejected the Air District's argument that for a project employing existing equipment, the baseline should be the maximum permitted operating capacity of the equipment, even if the equipment is operating below those levels when the Notice of Preparation is issued.⁷² The Supreme Court rejected the District's illegal permit-based approach, and held that the baseline must consist of actual, existing levels of emissions, not hypothetical permit maximums.⁷³

The DEIR's pervasive use of permit limitations instead of actual emission levels to establish baseline air quality is a clear violation of CEQA. The DEIR cannot rely on a flawed definition of baseline conditions to essentially exempt itself from a meaningful analysis of potential emissions increases. If there is a concern that refinery emissions will increase from existing refinery equipment, then the DEIR must treat said increase as an impact of the project and adequately analyze its effects. Without such an analysis, the DEIR is incomplete, and fails to account for the true impacts of the project.

The DEIR uses an incorrect timeframe for baseline determination, and additionally uses hypothetical permit maximums, rather than actual emissions, to determine the baseline. These deficiencies mean that air emissions and greenhouse gas impacts in the DEIR are measured against an inaccurate and unrepresentative baseline. As it stands, the DEIR fails as an informational document, and the DEIR should be revised to correct these deficiencies and recirculated.

(4) The DEIR Fails to Analyze or Mitigate Indirect Emissions.

CEQA requires an EIR to consider both direct and indirect impacts of a proposed project.⁷⁴ Indirect impacts are those that are "caused by the project and are later in time or farther removed in distance, but are still reasonably foreseeable."⁷⁵ The scale of this Project's activities is large enough that off-site emissions could reasonably be affected. Moreover, the indirect nature of these wholly foreseeable off-site emissions cannot be ignored as "it is inaccurate and misleading to divide the project's air emissions analysis into on-site and secondary emissions for purposes of invoking the presumption the project will have no significant impact."⁷⁶ Thus, the DEIR requires a sufficient analysis and discussion of these sources. For example, in *North Coast Alliance*, the lead agency's analysis of the identification of indirect sources of GHG emissions from electrical demand was found sufficient given that the agency conducted a thorough analysis of the project's demand on a utility's electricity generation and whether it would increase production at any fossil-fuel power plants.⁷⁷

⁷² *Comps. for a Better Env't v. S. Coast Air Quality Mgmt. District* (2010) 48 Cal. 4th 310, 320.

⁷³ *Id.*

⁷⁴ CEQA Guidelines § 15358(a).

⁷⁵ *Id.* § 15358(a)(2).

⁷⁶ *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal. App. 3d 692, 717.

⁷⁷ *N. Coast Alliance v. Marin Mun. Water Dist. Bd. of Directors* (2013) 216 Cal.App.4th 614, 652 ("Based on this evidence, the EIR concluded the Project's energy demand would not result in an indirect increase in pollutant emissions.").

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The DEIR does not acknowledge a switch to a lower or different quality crude feedstock and therefore does not address the indirect emissions associated with that switch, for example, greenhouse gas emissions from crude source demand activities such as extraction and front-end refining and diluting. The DEIR also utterly fails to propose mitigation measures for the indirect impacts associated with the transport of crude oil by rail, as discussed in further detail in the following section.

The DEIR must, at the least, identify these foreseeable activities and then adequately analyze and estimate how much the Project is likely to increase emissions from all of these sources, regardless of their location.

(5) The DEIR Impermissibly Fails to Mitigate Air Quality Impacts that it Improperly Identifies as “Significant and Unavoidable.”

The DEIR states that the Project will have significant and unavoidable impacts on air quality outside of the Bay Area Basin.⁷⁸ Specifically, the DEIR finds the emissions generated by the trains carry crude oil to the Refinery and returning to the oil fields in the northern United States and Canada would result in levels of NOx emissions that exceed significance thresholds in the Sacramento Metropolitan Air Quality Management District (SMAQMD) and the Yolo-Solano Air Quality Management District (YSAQMD).⁷⁹ In YSAQMD, NOx emissions due to the project would be three times greater than the significance threshold.⁸⁰

However, instead of identifying feasible mitigation measures for these significant impacts, as required by CEQA,⁸¹ the DEIR states that because the locomotives would be under the control of the Union Pacific Railroad and locomotive emissions are regulated by the federal government, “[t]he City has no jurisdiction to impose any emission controls on the tanker car locomotives; therefore, there is no feasible mitigation available to reduce this significant impact to a less-than-significant level.”⁸²

This is a misinterpretation of the intersection CEQA and ICCTA, and a complete abdication of the City’s responsibilities under CEQA. In support of its conclusion that all rail operations are preempted by federal law, the DEIR offers a four-paragraph summary of the ICCTA, and Appendix L, a three-page statement from Union Pacific Railroad.⁸³ UPR states that it “will not agree to any limitation on the volume of product that it ships or the frequency, route or configuration of such shipments,” because “[s]uch restrictions

⁷⁸ DEIR at 4.1-17 to -22.

⁷⁹ DEIR at 4.1-20, Table 4.1-6.

⁸⁰ DEIR at 4.1-20, Table 4.1-6 (YSAQMD significance threshold is 10 tons/yr of NOx, while Project emissions would be 31.16 tons/yr).

⁸¹ CEQA Guidelines § 15126.4.

⁸² DEIR at 4.1-20.

⁸³ See DEIR at 3-26 to -27; App. L.

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are clearly preempted under federal law.”⁸⁴ The DEIR states it more baldly: “ICCTA preempts state and local regulation.”⁸⁵

However, the California Court of Appeal recently found the opposite. “ICCTA does not preempt all state and local regulations.”⁸⁶ Generally, when the state regulations at issue are environmental regulations or similar exercises of police power related to public health or safety, the courts have found preemption only when the state regulations are discriminatory or unduly burdensome.⁸⁷

It therefore appears that states and towns may exercise traditional police powers over the development of railroad property, at least to the extent that the regulations protect public health and safety, are settled and defined, can be obeyed with reasonable certainty, entail no extended or open-ended delays, and can be approved (or rejected) without the exercise of discretion on subjective questions. Electrical, plumbing and fire codes, direct environmental regulations enacted for the protection of the public health and safety, and other generally applicable, non-discriminatory regulations and permit requirements would seem to withstand preemption.⁸⁸

Thus, while ICCTA may preempt some state laws and regulations, it is not a blanket preemption that applies to every state law or regulation that touches on railroads in any way. Notably, the DEIR does not cite any authority that supports the position that CEQA is preempted by ICCTA. The statements of federal preemption in the DEIR and its Appendix L are overly broad and simplistic, and fail to recognize the nuance in preemption questions, especially when state police power to protect the public health and safety are involved.

Even if the City were preempted from addressing any aspects of rail transport, it is certainly not preempted from taking measures to mitigate the emissions from rail transport. As SMAQMD noted in its August 26, 2014 comment letter on the DEIR, there are off-site mitigation measures that the City could require Valero to take which would mitigate the air quality impacts of rail transport outside of the Bay Area Basin.⁸⁹ Mitigation fee programs, such as the one SMAQMD references in its comment letter, are permissible under CEQA, and would enable Valero to mitigate the significant air quality impacts of its Project without affecting or regulating railroad transport in any way.

⁸⁴ DEIR at App. L, p. 1.

⁸⁵ DEIR at 3-26.

⁸⁶ *Town of Atherton v. Cal. High Speed Rail Auth.* (July 24, 2014, 3d Dist. Ct. App., Case No. C070877), p. 13 (publication pending, available at <http://www.courts.ca.gov/opinions/documents/C070877.PDF>).

⁸⁷ *Foyus Enters. v. BNSF Ry.* (D.C. Cir. 2010) 602 F.3d 444, 452.

⁸⁸ *Green Mountain R.R. Corp. v. Vermont* (2nd. Cir. 2005) 404 F.3d 638, 643 (citation omitted).

⁸⁹ Letter from SMAQMD to Any Millon, Principal Planner, City of Benicia, Aug. 26, 2014.

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The DEIR's analysis has not satisfied the legal requirements under CEQA for significant and unavoidable impacts. Significant impacts are unavoidable if the lead agency finds that "[s]pecific economic, legal, social, technological, or other considerations, including the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures . . . identified in the final EIR."⁹⁰ Such a finding of unavoidability must "describe the specific reasons for rejected identified mitigation measures."⁹¹ In addition, to approve an EIR with significant and unavoidable impacts, the lead agency must also make a statement of overriding considerations explaining why the benefits of the project may outweigh the significant environment impacts.⁹²

Here, the DEIR skips the first step entirely by failing to identify any potential mitigation measures, when it is clear that such measures exist. Any finding that mitigation is infeasible would evidently be unsupported by substantial evidence on the record.⁹³ It is clear that the Project's significant air quality impacts are not, in fact, unavoidable, and the DEIR must be revised and recirculated to include feasible mitigation measures for these impacts.

C. The DEIR's Analyses of Risks of Accidents, Hazards, and Public Safety Impacts Resulting from the Project's Crude by Rail Shipments are Fatally Flawed

An EIR must provide sufficient information to evaluate all potentially significant impacts of a project, including public safety risks due to accidents, and must state "information about how adverse [an] adverse impact will be."⁹⁴ This information is critical to the public and agency decisionmakers as they evaluate the extent and severity of the Project's impacts, specifically as they relate public safety. The DEIR fails to meet this CEQA requirement in its analysis of potential Project hazards in three respects: (1) it continues to omit relevant and indispensable information regarding crude quality and, therefore, fails to provide an adequate assessment of resultant safety impacts, including those that may stem from routine transport and handling; (2) it applies flawed, unrealistic and under-estimated assumptions of the risks of oil spill(s) and other accidents with potentially devastating consequences; and (3) it illegally defers mitigation in relying on safety precautions and anticipated plans that are not yet enforceable.⁹⁵

⁹⁰ CEQA Guidelines § 15191(a)(3).

⁹¹ *Id.* § 15191(c).

⁹² *Id.* § 15193.

⁹³ *See id.* § 15193(b).

⁹⁴ *Santiago County Water Dist. v. County of Orange* (1981) 118 Cal. App. 818, 831.

⁹⁵ *See* DEIR at 4-7-8 - 10.

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(I) The DEIR Fails to Account for a Change in Crude Transported to the Refinery in its Assessment of the Project's Increase in Hazards and Accident Risks.

While the DEIR acknowledges that the Project will involve changes to the Refinery's existing crude slate, it fails to identify, analyze, or mitigate the increased likelihood of accidents, and the increased risk of potentially catastrophic impacts caused by transporting, storing, and refining crudes with markedly distinct characteristics.

The comments submitted in response to the Initial Study and Negative Declaration (IS/ND) for the Project raised the issue of crude quality as it relates to both heavy, sour crude blends, like Western Canadian Select and other similar blends containing tar sands crudes, as well as lighter, high viscosity blends such as those sourced from other parts of North America including the North Dakota, Bakken shale region. The Fox Comment explains the DEIR's inadequate responses to comments to the IS/ND concerning crude quality in detail.

For the purpose of its hazards analysis, the DEIR fails to account for the change in crude slate in its assessment of the relative likelihood that hazardous incidents, or accidents causing spills and other forms of environmental and public safety impacts, will occur. The omission stands in stark contrast to much concern expressed by government agencies, media and the public, and to increasing amounts of data concerning the frequency with which accidents involving these types of crudes are occurring.

The Federal Railroad Administration, for example, has expressed concern about an increasing number of severe corrosion incidents found in rail tank cars and service equipment.⁹⁶ Incidents of derailments and explosions of hazardous materials along California rail routes specifically have also been known to cause extensive environmental damage in the past,⁹⁷ and recently, persistent and continued accidents involving crude transport by rail have garnered a significant amount of media attention.⁹⁸ Yet, the DEIR attempts to avoid analysis of the unique hazards accompanying the increased transport, handling, storage, and processing of both heavy, sour, tar sands crudes and lighter, more volatile crudes like Bakken, by stating throughout its analyses that the risks associated with a change in crude slate will be minimized as a result of full blending into the existing crude slate.⁹⁹

⁹⁶ *See* Letter from Thomas J. Hermann, Acting Direct, Office of Safety Assurance and Compliance, Fed. Railroad Admin. To Jack Gerard, American Petroleum Institute, July 29, 2013, *available at* <http://www.fra.dot.gov/eLib/details/L04717>.

⁹⁷ For example, there was a very major spill into Upper Sacramento River in 1991. *See* Cal. Dep't of Fish & Wildlife, Cantara Loop/Duonsmuir Chemical Spill, <http://www.dfg.ca.gov/ospr/NRDA/Cantara.aspx> (last updated July 2, 2012).

⁹⁸ *See, e.g., Accidents Surge as Oil Industry Takes the Train*, New York Times, Jan. 25 2014, available at http://www.nytimes.com/2014/01/26/business/energy-environment/accidents-surge-as-oil-industry-takes-the-train.html?hp&_r=1.

⁹⁹ *See, e.g.,* DEIR at 4-7-21 to -22.

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published decision that has so held.¹¹³ The UPR's recitation of Ninth Circuit holdings regarding permitting decisions such as the one involved in the *City of Auburn v. Surface Transportation Board*,¹¹⁴ are distinguishable both factually, and as a matter of law.

The courts have held that environmental regulation rises to the level of economic regulation when it entirely *prevents* the construction, operation and acquisition of a whole rail line, and that such economic regulation is prohibited. The courts have not held, however, that public disclosure and participation statutes aimed at providing the highest level of environmental protection in the construction and operation of a project involving rail lines, such as CEQA, are prohibited, or otherwise inapplicable as a result of general federalism principles. Accordingly, and as explained above in Section II.B.5, the DEIR cannot summarily rely on such blanket statements regarding general preemption principles, and must analyze and mitigate *all* hazard and public safety impacts created by the Project.

D. The DEIR's Analysis and Mitigation of Impacts to Wildlife Species and Biological Resources is Inadequate.

(1) The DEIR Fails to Sufficiently Disclose, Analyze and Mitigate the Project's Off-Site Impacts to Wildlife Species and Biological Resources.

The DEIR's analysis of the off-site impacts to wildlife species is deficient because it improperly limits its analysis to the Suisan Marsh area and bases its assessment of significant impacts on an inaccurate analysis of potential accidents and hazards; it provides inadequate mitigation to address some of the only potentially significant impacts it identifies; and it fails to disclose and analyze a number of train-related impacts to wildlife.

(a) The DEIR's Analysis of the Relative Significance of the Project's Potential Hazards Impacts is Flawed.

As described above in the discussion of hazards and accident risks, the DEIR fails to accurately account for the Project's significant hazard and accident impacts including the risks of oil spills and fires, and in fact cites back to its own flawed assessment of these risks in its analysis of offsite impacts on the Suisan Marsh area.¹¹⁵ The DEIR states that in relation to the potential for hazardous impacts to affect the Suisan Marsh area, the likelihood of an accident including a train car derailment or other incident causing 100 gallons of oil or more to spill, is even less likely. Indeed, with little to no additional analysis, the DEIR conclusively asserts that the likelihood of a large spill impacting this vulnerable location is 0.00381, or once every 262 years, rather than once every 111 years. This analysis is flawed for the same reasons as explained above in relation to the DEIR's

¹¹³ See also *supra* Part II.B.5.

¹¹⁴ 154 F.3d 1025.

¹¹⁵ DEIR at 4.2-31.

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analysis of potential accidents, hazards, and potential spills and fires. The DEIR must be re-drafted and recirculated to address these and other potential impacts particularly for such delicate and highly protected ecosystems and habitat areas such as the Suisan Marsh area.

(b) The DEIR Fails to Disclose, Analyze or Mitigate the Full Range of Potential Impacts Resulting From Rail Activity Including Train Collisions, Noise Pollution, and Barriers to Movement.

The Project tracks will traverse through the Suisan Marsh, the largest brackish marsh on the West Coast, and a delicate wildlife habitat. Despite the fact that the Project will drastically increase the amount of rail activity in this and other delicate habitats as train cars travel to and from the Refinery, the DEIR fails to sufficiently analyze the impacts of increased rail traffic to wildlife species along the rail lines. This is a severe deficiency, particularly because significant harm to species from train collisions, noise pollution, and barriers to movement has been scientifically documented, and these harms will worsen with increased rail activity over time. The DEIR should include a full discussion of the impacts of the Project's rail activity on biological resources, including the full range of potential impacts from rail activity, starting from the route origin and through the full route of the train trips, and in relation to the species and habitats present along all train routes. Currently, the DEIR only analyzes such information between the cities of Roseville and Benicia. The DEIR's complete failure to address these important topics violates CEQA.

(c) The DEIR Fails to Analyze the Impacts of the Project's Rail Activity on Biological Resources and Protected Species.

Scientific studies have documented that train activity impacts wildlife through (1) mortality from collisions with trains; (2) disturbance from noise and artificial light causing stress and behavioral changes; (3) impeding natural movements, thereby restricting the animal's range, making habitat less accessible, and potentially leading to population fragmentation and isolation; and (4) pollution of the physical, chemical, and biological environment, through, for example, the emissions of contaminants like heavy metals, which can degrade habitat suitability in a much wider zone than the width of the railroad itself.

(2) The DEIR Fails to Sufficiently Analyze and Mitigate the Project's On-Site Impacts to Wildlife Species and Biological Resources.

The DEIR underestimates the impacts the Project will have on wildlife in and immediately adjacent to the project site for three primary reasons. First, the DEIR limits its analysis of on-site project impacts to the Project's construction footprint, and therefore, the geographical area comprised of the immediate Project site and the Sulphur

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Springs Creek as the indirect impact area. Second, in part because of the improper limit of the DEIR's analysis on the construction impacts of the Project, the DEIR sets forth inadequate mitigation to address the Project's significant impacts. Third as stated above and throughout this and other comments to the DEIR, the DEIR fails to account for increased chemical emissions and pollution caused by an increase in heavy metals, which degrade habitat suitability and cause potential hazards and accidents or other incidents causing severe environmental damage.¹¹⁶

(a) *The DEIR Improperly Limits its Analysis of On-Site Impacts to Construction Impacts From the Project.*

The DEIR fails to fully disclose and analyze the impacts from increased rail activity at the Project site to the numerous candidate, sensitive, and special status species identified in the document, including a variety of nesting birds in the Sulphur Springs corridor. For example, while the DEIR recognizes that the noise, vibrations, and visual disturbances associated with the construction phase of the project could have a substantial indirect effect on many nesting birds, it fails to analyze the continued visual disturbances, noise and barriers to movement caused by the project throughout its (undisclosed) duration, and continued operation. The DEIR further fails to analyze the Project's potential impacts from collisions, and pollution stemming from routine operations, transport and storage, as well as potential accidents including fires and oil spills. The DEIR must be revised and recirculated to explicitly identify and analyze the continued potential impacts from Project operations on migratory birds.

With regard to potential impacts on delicate and protected wetland species and habitats, the DEIR similarly improperly limits its analysis to the impacts that will result from construction only.¹¹⁷

The DEIR should be revised and recirculated to explicitly identify and analyze the continued potential impacts from Project operations, specifically from rail car trips, the handling, storage, loading and unloading of crude and potential accident risks on the surrounding extremely delicate and federally protected wetlands areas.

(b) *The DEIR's Proposed Mitigation Measures are Inadequate.*

The DEIR proposes to mitigate its on-site wildlife and habitat impacts by simply complying with its existing operational requirement including its storm water management plan, which also requires compliance with National Pollutant Emission Discharge (NPDES) standards. Moreover, in relation to its impacts on nesting bird

¹¹⁶ See Earthjustice Comment Letter to Kern County Board of Supervisors, September 8, 2014, in re The Final Environmental Impact Report on the Alon Bakersfield Refinery Crude Flexibility Project, at p. 23, (citing Jackson, S.D. 1999. Overview of transportation related wildlife problems, University of Massachusetts).
¹¹⁷ DEIR at 4.2-29.

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species in the Sulphur Springs corridor, because the DEIR limits its analysis of those impacts to only the impacts that will stem from the construction phase of the project, the DEIR provides mitigation measures that also deal exclusively with the construction phase. For example, the DEIR states only that it will limit its construction activities to take place only during non-nesting seasons. This mitigation measure does nothing to address the continued impacts from the project's operation, rail activity, and handling, storage, loading and unloading of increasingly hazardous crudes.

E. *The Project is Inconsistent with State and Local Plans.*

An EIR must discuss any inconsistencies between the proposed project and applicable general plans, specific plans, and regional plans.¹¹⁸ This necessarily includes the City of Benicia's General Plan and other applicable state and federal regulations.

Further, in order to provide such an adequate investigation and discussion of potential impacts of refining a lower quality oil feedstock as required by CEQA,¹¹⁹ it would be reasonable for decisionmakers to determine consistency with federal recommendations addressing the same shift in industry practice. The Project as proposed in the DEIR fails to meet such federal guidance. In addition, the Project as proposed also fails to meet the requirements of the City of Benicia General Plan and the State's GHG reduction goals.

As noted above, the U.S. Chemical Safety Board (CSB) has explicitly addressed the increased risks of corrosion in refineries due to refining a heavier oil feedstock. In particular, the CSB has identified the risk of catastrophic and hazardous failure from running higher sulfur crude in existing refineries built before 1985.¹²⁰ The CSB also found that such sulfur corrosion is not a new phenomenon, and that the petroleum industry is well aware of its potential to cause serious impacts on refinery equipment.¹²¹ The DEIR fails to recognize the CSB's analysis and fails to address any proposed recommendations made by the CSB. The DEIR in fact does the opposite. For instance, in response to this anticipated issue of corrosion, the DEIR's analysis provides two particular programs as mitigation: the management of change process (MOC) and the mechanical integrity program (MI).¹²² However, both the MOC and MI programs only provide a monitoring and response action. Such measures lack the element of prevention necessary to establish adequate responsive measures prior to the next potentially catastrophic incident. The DEIR should instead be revised to properly address similar and foreseeable issues of corrosion as identified at the Chevron Richmond Refinery, which lead to the catastrophic August 2012 Chevron Richmond Refinery fire.¹²³

¹¹⁸ CEQA Guidelines § 15125(d).

¹¹⁹ CEQA Guidelines § 15125(c).

¹²⁰ See Chemical Safety Board, Chevron Richmond Refinery Interim Investigation Report, April 2013, available at: http://www.csb.gov/assets/119/Chevron_Interim_Report_Final_2013-04-17.pdf

¹²¹ *Id.*, at 15.

¹²² DEIR at 4.7-21.

¹²³ See Chemical Safety Board, Chevron Richmond Refinery Interim Investigation Report, April 2013, *supra*.

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In addition, the Project as proposed does not meet the requirements of the City of Benicia General Plan. As noted in the DEIR, the City of Benicia General Plan includes specific policies to preserve and enhance existing development, including Policy 4.8.1, which requires evaluation of potential hazards and environmental risks to sensitive receptors before approving development.¹²⁴ By failing to disclose critical information regarding an anticipated switch in oil feedstock quality, a Project component that will determine air quality, hazard, and other public health impacts, the DEIR's analysis falls far short of meeting this City directive.

Finally, the Legislature has established that "[g]lobal warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California."¹²⁵ With AB 32, California has set its objective to meet 1990 emission levels of GHGs by 2020. The DEIR's analysis does not provide enough information regarding whether the Project will meet such a state priority. The DEIR suggests that the Project will have no significant impact on GHGs. The DEIR's conclusion, however, is based upon the overriding assumption that "to understand the Project's net impact on climate change, however, one must consider the maritime emissions that the Project would eliminate."¹²⁶ That is precisely the problem: as highlighted throughout CBE's comments, the DEIR does not provide enough information regarding the exact marine vessel or pipeline supply displacements that the Project would cause. Therefore, any subsequent analysis of GHG impacts is also flawed. Although the DEIR includes a thorough discussion of California's regulatory framework to combat climate change,¹²⁷ without such a sufficient analysis, no decisionmaker can come to any sensible conclusion regarding how the impacts of this Project affect those goals.

III. THE DEIR FAILS TO ADEQUATELY ANALYZE THE PROJECT'S CUMULATIVE ENVIRONMENTAL IMPACTS FROM OTHER REFINING PROJECTS.

An EIR must discuss a Project's significant cumulative impacts.¹²⁸ A legally adequate cumulative impacts analysis views a particular project over time and in conjunction with other related past, present, and reasonably foreseeable 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."¹²⁹

¹²⁴ See City of Benicia General Plan 4.8, and DEIR at 4.1-10.

¹²⁵ Assembly Bill (AB) 32, California Global Warming Solutions Act, Cal. Health & Safety Code § 38501(a).

¹²⁶ DEIR at 4.6-13.

¹²⁷ DEIR at 4.6

¹²⁸ CEQA Guidelines § 15130(a).

¹²⁹ *Id.* § 15355(b).

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A project has a significant cumulative effect if it has an impact that is individually limited but "cumulatively considerable."¹³⁰ "Cumulatively considerable" is defined as meaning that "the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects."¹³¹ Cumulative impacts analysis is necessary because "environmental damage often occurs incrementally from a variety of small sources [that] appear insignificant when considered individually, but assume threatening dimensions when considered collectively with other sources with which they interact."¹³² The DEIR fails to meet this requirement: for the following reasons, its analysis of cumulative impacts is incomplete, cursory and superficial.

Initially, the DEIR's analysis does not comply with CEQA's requirement that agencies first determine whether cumulative impacts to a resource are significant, and then to determine whether a project's impacts are cumulatively considerable (*i.e.*, significant when considered in conjunction with other past, present and reasonably foreseeable projects).¹³³ The DEIR skips the first step and focuses only on the second.¹³⁴ This error caused the document to underestimate the significance of the Project's cumulative impacts because it focused on the significance of the Project's impacts on their own as opposed to considering them in the context of a cumulative set of impacts or problems. It is wholly inappropriate to end a cumulative analysis on account of a determination that a project's individual contribution would be less than significant. Rather, this should constitute the beginning of the analysis.

Furthermore, it is important to acknowledge that climate change is the classic example of a cumulative effects problem; emissions from numerous sources combine to create the most pressing environmental and societal problem of our time.¹³⁵ As one appellate court recently held, "the greater the existing environmental problems are, the lower the threshold for treating a project's contribution to cumulative impacts as significant."¹³⁶

Canadian tar sands crude is considered to be the dirtiest, most carbon-intensive fuels on the planet. NASA climatologist Jim Hansen explains:

With today's technology there are roughly 170 billion barrels of oil to be recovered in the tar sands, and an additional 1.63 trillion barrels of worth underground if

¹³⁰ *Id.* §§ 15065(a)(3), 15130(a).

¹³¹ *Id.* § 15065(a)(3).

¹³² *Cmyps. for a Better Env't v. Cal. Res. Agency* (2002) 103 Cal.App.4th 98, 114.

¹³³ CEQA Guidelines § 15064(b)(1).

¹³⁴ See, e.g., *DEIR* at 5-5, 5-12 (ending cumulative impacts analysis after determining that the project's impacts would be less than significant).

¹³⁵ *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal. App. 3d 692, 720 ("Perhaps the best example [of a cumulative impact] is air pollution, where thousands of relatively small sources of pollution cause serious a serious environmental health problem.").

¹³⁶ *Cmyps. for Better Env't v. Cal. Res. Agency*, 103 Cal.App.4th at 120.

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every last bit of bitumen could be separated from sand. "The amount of CO2 locked up in Alberta tar sands is enormous," notes mechanical engineer John Abraham of the University of Saint Thomas in Minnesota, another signer of the Keystone protest letter from scientists. "If we burn all the tar sand oil, the temperature rise, just from burning that tar sand, will be half of what we've already seen"—an estimated additional nearly 0.4 degree Celsius from Alberta alone.

Notwithstanding the clear evidence documenting the effect that petroleum refining has on GHG emissions, and enormous increase that would result from the transport, processing and refining of tar sands crudes. The DEIR should have acknowledged the switch to this different quality crude oil feedstock and provided a suitable cumulative impacts analysis.

IV. THE DEIR'S ANALYSIS OF ALTERNATIVES IS INADEQUATE.

The DEIR's alternatives analysis is inadequate because the DEIR fails to consider a reasonable range of alternatives and fails to identify an environmentally superior alternative. The DEIR must be revised and recirculated to correct these deficiencies.

An EIR is not considered complete unless it has considered a "reasonable range of potentially feasible alternatives" to a proposed project.¹³⁷ The feasibility of an alternative is determined if it is "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors."¹³⁸ An EIR's alternatives analysis is considered satisfactory as long as it contains "sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project."¹³⁹ "The degree of specificity required in an EIR 'will correspond to the degree of specificity involved in the underlying activity which is described in the EIR.'"¹⁴⁰ Therefore, an EIR must contain more details for a specific project than an EIR for an approval of a general plan.¹⁴¹

The DEIR fails to evaluate a reasonable range of alternatives and consider the alternatives in sufficient detail to allow a meaningful analysis and evaluation.¹⁴² The DEIR only analyzed four alternatives: a no project alternative, a reduced rail delivery alternative, a nighttime delivery alternative, and an off-site unloading alternative. The DEIR also identifies four other alternatives that were considered, but rejected because they were either not technically feasible, failed to attain the basic objectives of the

¹³⁷ CEQA Guidelines § 15126.6(a).

¹³⁸ Cal. Pub. Res. Code § 21061.1.

¹³⁹ CEQA Guidelines § 15126.6(d).

¹⁴⁰ *At Larson Boat Shop, Inc. v. Bd. of Harbor Comms.* (2d Dist. 1993) 18 Cal.App.4th 729, 746 (quoting CEQA Guidelines § 15146).

¹⁴¹ *See id.*

¹⁴² *See* CEQA Guidelines § 15126.6(d).

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project, or would result in greater impacts than the proposed project. These rejected alternatives included two relocation alternatives for the tank car unloading racks, receiving crude from the WesPac Energy Pittsburg Terminal, and receiving the crude from the west side of the Refinery.¹⁴³

A. The DEIR Fails to Consider a Reasonable Range of Alternatives.

CEQA does not have an established legal standard for the scope of the alternatives considered, but courts have held the scope of the alternative "must be evaluated on its facts," on a case-by-case basis.¹⁴⁴ The rule of reason judges the scope of the alternatives.¹⁴⁵

Parties objecting to the EIR are not responsible for formulating alternatives for consideration—the lead agency bears this burden.¹⁴⁶ Objecting parties will rarely have access to the same information that the lead agency does, and thus will be limited in their ability to suggest sufficiently detailed and specific alternatives.¹⁴⁷ The lead agency is in a better position to make these suggestions since they probably have greater access to information than the objecting parties.¹⁴⁸ However, the following discussion illustrates the inadequacy of the alternatives analysis contained in the DEIR.

The DEIR fails to consider an alternative that would avoid putting people in unnecessary danger during the transport of the volatile crude. The Project as proposed involves locomotives travelling through highly densely populated areas of central California, including Sacramento. This route exposes a large population to air emissions associated with locomotive operation, and greatly increases the human health and safety risks of potential accidents or spills. Along the route is the Sacramento-San Joaquin Delta. The delta is home to a number of native Californian species, used for major agricultural purposes in the state, and is a major water source for much of the state. A spill or train derailment in this area, of any magnitude, risks the health and safety of not only those in the surrounding area, but all over the state as well. The DEIR should analyze other potential routes that would avoid bringing volatile and highly flammable crude or semi-refined gas through highly populated areas.

Alternative modes of transporting crude oil from across North America should also be included in the revisions of the DEIR. The DEIR failed to include these and other reasonable alternatives in its analysis, and the document should be revised and recirculated to correct these deficiencies.

¹⁴³ DEIR at 6-4.

¹⁴⁴ *Citizens of Goleta Valley v. Bd. of Supervisors* (1990) 52 Cal.3d 553, 566.

¹⁴⁵ CEQA Guidelines § 15126.6(a).

¹⁴⁶ *See Laurel Heights I*, 47 Cal.3d at 406.

¹⁴⁷ *Id.*

¹⁴⁸ *See id.*

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B. The DEIR Fails to Consider Alternatives that Would Lessen the Significant Impacts of the Project.

Not only does the DEIR fail to examine a reasonable range of alternatives, the DEIR blatantly fails to consider alternatives that would avoid or substantially lower the significant impacts of the project.¹⁴⁹ The DEIR is unable to identify any of the alternatives as the environmentally superior alternative.¹⁵⁰

CEQA requires an EIR to identify alternatives that avoid or substantially lessen the significant environmental effects of the project.¹⁵¹ The DEIR identifies the reduced rail delivery as “environmentally superior to the Project in a few respects,” but then goes on to assert that this alternative is legally infeasible because of federal rail preemption, and that overall air quality would be better with the Project as proposed.¹⁵² How, then, is the reduced delivery alternative environmentally superior? The DEIR has not identified an environmentally superior alternative, it has merely restated the elements of the alternative without making any meaningful conclusions.

The purpose of CEQA is ignored by the DEIR’s failure to even entertain an alternative that addresses a significant reduction in the Project’s emissions. A range of reasonable alternatives must be identified in the components of an EIR “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.*”¹⁵³ Of the few alternatives proposed in the DEIR, none of them succeed in reducing the impacts of the project. The DEIR must be revised and recirculated to correct this deficiency.

¹⁴⁹ See CEQA Guidelines § 15126(a).

¹⁵⁰ DEIR at 6-110.

¹⁵¹ CEQA Guidelines § 15126.6(c).

¹⁵² DEIR at 6-10.

¹⁵³ CEQA Guidelines § 15126.6(a) (emphasis added).

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V. CONCLUSION

The DEIR remains woefully inadequate under CEQA. The City must substantially revise and recirculate the document in order to correct its numerous defects. We appreciate the opportunity to submit our initial comments on the DEIR and will submit further comments, if necessary, as soon as possible.

Sincerely,

/s/

Heather Lewis
Yana Garcia
Roger Lin

On behalf of Communities for a Better Environment

Kassie Siegel
Director, Climate Law Institute
On behalf of Center for Biological Diversity

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Supplemental Technical Comments of
Communities for a Better Environment ('CBE')

Regarding the

Valero Benicia Crude by Rail Project ('project')
Draft Environmental Impact Report ('DEIR')

Use Permit App. 12PLN-00063

SCH #2013052074

By Greg Karras * Senior Scientist
15 September 2014

Major findings documented by these comments

The project would introduce a new refinery fire and explosion hazard that the DEIR does not identify.	comments 1–5	pages 4–5
The DEIR's description of the project's effects on crude oil transport is unsupported and incorrect.	comments 6–14	pages 6–10
A significant potential impact of the project on local air quality is not identified or addressed by the DEIR.	comments 15–17	pages 10–11
A significant potential impact of the project on climate protection is not identified or addressed by the DEIR.	comments 18–20	pages 11–12
The DEIR's conclusion that the project <i>could not</i> lead to processing Canadian 'tar sands' oil at this refinery in substantial amounts is unsupported and incorrect.	comments 21–27	pages 12–15
The DEIR's conclusion that the project's crude switch <i>would not</i> increase emissions from existing and permitted refinery equipment is unsupported and incorrect.	Comments 28–35	Pages 15–18
Publicly available information on current conditions that is needed to evaluate the change in oil feedstock enabled by the project and its resultant impacts is erroneously labeled 'secret' and omitted by the DEIR.	comments 36–40	Pages 18–24

***Qualifications:** I, Greg Karras, am employed as a Senior Scientist for Communities for a Better Environment (CBE). My duties for CBE include technical research, analysis, and review of information regarding industrial health and safety investigation, pollution

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prevention engineering, pollutant releases into the environment, and potential effects of environmental pollutant accumulation and exposure.

My qualifications for this opinion include extensive experience, knowledge, and expertise gained from 30 years of industrial and environmental health and safety investigation in the energy manufacturing sector, including petroleum refining, and in particular, petroleum refineries in the San Francisco Bay Area.

Among other assignments, I served as an expert for CBE and other non-profit groups in efforts to prevent pollution from oil refineries, to assess environmental health and safety impacts at refineries, to investigate alternatives to fossil fuel energy, and to improve environmental monitoring of dioxins and mercury. I served as an expert for CBE in collaboration with the City and County of San Francisco and local groups in efforts to replace electric power plant technology with reliable, least-impact alternatives. My work as an expert for CBE and other non-profit groups in a 2007–2008 review of the proposed Chevron Richmond refinery 'Hydrogen Renewal Project' was cited by the Appeals Court in support of CBE's subsequent successful advocacy regarding that proposed project (*See CBE v. City of Richmond* 184 Cal.App.4th).

I serve as an expert for CBE and other groups participating in environmental impact reviews of related refinery projects, including, among others, the "Contra Costa Pipeline Project," "Phillips 66 Propane Recovery Project," and "Shell Greenhouse Gas Reduction Project" now pending before the County of Contra Costa, the "Phillips 66 Company Rail Spur Extension Project" now pending before the County of San Luis Obispo, and the "Chevron Richmond Refinery Modernization Project," now pending before the Bay Area Air Quality Management District and the Superior Court.

As part of CBE's collaboration with the refinery workers' union, United Steelworkers (USW), community-based organizations, the Labor Occupational Health Program at UC Berkeley, and environmental groups, I serve as an expert on environmental health and safety concerns shared by refinery workers and residents regionally. In this role I serve as CBE's representative in the Refinery Action Collaborative of Northern California, and as an expert for CBE and other groups in the development of a refinery emissions control rule to be considered for adoption by the Bay Area Air Quality Management District. Separately, I serve as an expert for the Natural Resources Defense Council in ongoing research on the effects of changes in oil feedstock quality on refinery air emission rates.

I authored a technical paper on the first publicly verified pollution prevention audit of a U.S. oil refinery in 1989 and the first comprehensive analysis of regional oil refinery selenium discharge trends in 1994. From 1992–1994 I authored a series of technical

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analyses and reports that supported the successful achievement of cost-effective pollution prevention measures at 110 industrial facilities in Santa Clara County. I authored the first comprehensive, peer-reviewed dioxin pollution prevention inventory for the San Francisco Bay, which was published by the American Chemical Society and Oxford University Press in 2001. I authored an alternative energy blueprint, published in 2001, that served as a basis for the Electricity Resource Plan adopted by the City and County of San Francisco in 2002. In 2005 and 2007 I co-authored two technical reports that documented air quality impacts from flaring by San Francisco Bay Area refineries, and identified feasible measures to prevent these impacts.

My recent publications include the first peer reviewed estimate of combustion emissions from refining denser, more contaminated "lower quality" crude oils based on data from U.S. refineries in actual operation, which was published by the American Chemical Society in the journal *Environmental Science & Technology* in 2010, and a follow up study that extended this work with a focus on California and Bay Area refineries, which was peer reviewed and published by the Union of Concerned Scientists in 2011. Most recently, I presented invited testimony regarding *inherently safer systems* requirements for existing refineries that change crude feedstock at the U.S. Chemical Safety Board's 19 April 2013 public hearing on the Chevron Richmond refinery fire.

My curriculum vitae and publications list are appended hereto.



Greg Karras, Senior Scientist
Communities for a Better Environment (CBE)
September 15, 2014

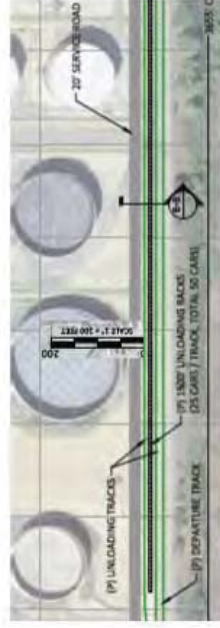
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1. The proximity of proposed rail activities to flammable or explosive hazardous materials in the existing refinery is not quantified or discussed in the DEIR.

For example, the excerpt from DEIR Figure 3-3 reproduced in Map 1 below suggests that the new crude unloading could occur very close to existing hydrocarbon storage in the refinery's "lower tank farm." The scale key from Figure 3-3, superimposed on the largest tank shown in Map 1, suggests that several tanks would be less and 150 feet from the proposed crude unloading operation, and at least one tank would be within 50 feet. Despite presenting this apparently to-scale image (Figure 3-3), however, the DEIR does not quantify distances to these existing storage tanks numerically, and its text does not appear to discuss the proximity to existing refinery hazards, except to say that a spill containment berm for the tanks would be relocated to make room for the project.

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Map 1. Storage tanks close to proposed crude-by-rail unloading rack.
Excerpt from DEIR Figure 3-3 (200' grid-scale indicator repositioned for reference).

2. The types and amounts of hazardous materials that could be present in the refinery near the proposed rail activities are not disclosed in the DEIR. The visual data provided in its Figure 3-3, though inadequate for full analysis of potential hazards, do, however, show that large quantities of potentially flammable or explosive hydrocarbons could be present very near to the proposed rail activities. For example, floating-roof tanks are clearly visible near the proposed unloading rack. (See Map 1: The crescent-shaped shadows appearing on the roofs of three tanks indicate that the tanks are not full and their roofs, which float on their contents, are thus lower than the tank rims that are casting shadows on these tank roofs.) Floating-roof tanks are typically used to store more volatile hydrocarbons, such as gasoline, as an emission reduction measure. More volatile hydrocarbons are more highly flammable and explosive. This image thus suggests that large quantities of highly flammable or explosive material would be stored near the proposed crude-by-rail operations. The DEIR, however, fails to disclose specific types, amounts, or locations of materials in the refinery near proposed project activities.

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3. Potential ignition sources for fires or explosions that might occur upon loss-of-containment (spills) of hazardous materials associated with project operation are not fully disclosed by the DEIR. The DEIR acknowledges a potential for hydrocarbon release incidents, including but not limited to those from unloading operations (DEIR at 4.7-20; 4.7-21) and from nearby refinery tanks (tanks berm discussed at 3-20), and it states that locomotives would operate at the proposed loading facility (see 3-21).

However, the DEIR does not identify and discuss—or, alternatively, confirm the absence of—other potential sources of ignition in or near the area of proposed project operation.

4. The likelihood, and the potentially catastrophic consequences, of refinery fires or explosions caused by ignition of hydrocarbon releases associated with project operation are not disclosed or analyzed in the DEIR. As stated, the DEIR

acknowledges the potential for such releases or spills (see 4.7-20, 4.7-21). However, the hazard analysis in chapter 4.7 of the DEIR does not disclose the potential for fires or explosions resulting from ignition of such spills, does not disclose the potential for such fires to spread into other nearby refinery equipment, and does not to discuss the potential consequences of such incidents¹—although those consequences could be catastrophic.

5. Pre-construction requirements to analyze and apply *Inherently Safer Systems* with respect to potential explosion and fire hazards of project operation in the refinery could lessen or avoid this potentially catastrophic hazard but are not disclosed, discussed, analyzed or proposed in the DEIR. *Inherently Safer* technology, design, and systems are not discussed, even in concept, in the DEIR. It does not disclose or discuss the U.S. Chemical Safety Board's authoritative findings and recommendations regarding the need to require *Inherently Safer Systems* to the greatest extent feasible, including "prior to the construction" of refinery projects.² It does not disclose that this need for pre-construction analysis and design of *Inherently Safer Systems* (ISS) applies to refinery hazards associated with rail loading projects, among other refinery projects.³

The DEIR does not disclose, analyze, or propose this means to lessen or avoid this on-site explosion and fire hazard of the project, or even whether Valero conducted ISS analysis.

¹ Furthermore, section 3.2.2.3 and Appendix F of the DEIR, to which its discussion of other hazards in chapter 4.7 refers, also do not disclose or discuss the potential for fires or explosions resulting from ignition of such on-site spills, the potential for such fires to spread into other nearby refinery equipment, or the potentially catastrophic consequences of such incidents.

² U.S. Chemical Safety and Hazard Investigation Board, 2013. *Interim Investigation Report, Chevron Richmond Refinery Fire*; adopted by the Board on 19 April 2013.

³ See 11 July 2013 letter from Michael Dossey, Accidental Release Prevention Engineer, Contra Costa County Health Services, Hazardous Materials Programs, to Jim Ferris, Health and Safety Superintendent, Phillips 66 San Francisco Refinery, regarding: *Phillips 66 Propane Recover Project (County File #P12-2073)*.

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6. The DEIR discloses no estimate of the expected duration of project operation. Accurate evaluation of a project's environmental implications requires an estimate of how long the project could operate. For example, changes in the sources of crude oils supplied to the refinery as a result of this project affect its environmental impacts,⁴ and as the DEIR acknowledges (see pp. 3-13, 3-14), factors that affect which crude feedstocks are selected can change over time. A reasonably reliable estimate of project service life must be available—it would have been needed by Valero's engineers to select materials and other project design parameters for a given service life, and by its financiers to estimate the potential return on its investment before committing capital to the project. In any case, EIRs for other refinery projects have acknowledged that it was reasonable to expect that those project's equipment could operate for several decades. Despite the need for this information and its apparent availability, however, the DEIR does not appear to disclose any estimate of how long the project could operate if it is built as proposed.

7. No data or analysis is provided in the DEIR to support its assertion that the project would displace only crude oils delivered to the refinery by marine vessels.

The refinery receives and processes California-produced crude via pipeline, and crude produced in many other parts of the world via marine vessels ("ships"). Inexplicably, however, the DEIR asserts that *only* the crude received by ship would be displaced by the proposed deliveries of crude by rail, and thus *none* of the current quantity of California-produced crude, now received by pipeline, would be displaced. (DEIR at 3-1, 3-2.) The DEIR acknowledges that the market supplying the refinery's crude feedstock is global,⁵ although it does not disclose the extent of this global availability in relevant detail. For example, though this is not disclosed in the DEIR, during 2004–2014 Valero reported processing crude oils at the Benicia refinery that were received as foreign imports from countries on every continent. See Table 1. The DEIR also acknowledges that "Valero's crude feedstocks change based on new developments and conditions" affecting many factors, including but not limited to the quality and the price of *available* crude oils. (DEIR at 3-12, 3-13). Yet the DEIR presents no data or analysis regarding any of these factors that supports its 'marine vessel-displacement-only' assertion. It even appears to admit, on page 3-1, that this assertion is only an assumption about Valero's plans.⁶ In any case, the DEIR asserts this unlikely scenario without any factual support.

⁴ The DEIR acknowledges this by analyzing how changes in crude feedstocks that result in changes in crude delivery activities could affect environmental impacts, even though its analysis of such impacts is incomplete and erroneous as discussed further below.

⁵ See DEIR at 3-7 (many different crude oils produced "all over the world") and 3-12 ("Valero can choose from a wide variety of crudes available in the marketplace at any given time. These crudes range from light sweet to heavy sour, with a range of options in between").

⁶ The project objective to displace "up to" 70,000 b/d of ship delivery (DEIR at 3-5) commits to no such assumption: it *allows* for displacing crude received by ship, by pipeline, or both.

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California Crude Oil Production
Forecast 2011-2030

Algeria	Colombia	Peru
Angola	Ecuador	Russia
Australia	Iraq	Saudi Arabia
Brazil	Mexico	Trinidad & Tobago
Canada	Oman	Venezuela

Source: U.S. Energy Information Administration (EIA) Company Level Imports Archives, downloaded 9/7/14
from www.eia.gov/petroleum/imports/companylevel/archive

8. Authoritative data demonstrating a dramatic long-term decline in California crude oil production are not disclosed, discussed, or analyzed in the DEIR. As stated, crude delivered to this refinery by pipeline is produced in California. California-produced crude, for all practical purposes, is refined exclusively in California; this is in part because it is in serious long-term decline. Based on data reported by the California Energy Commission (CEC),⁷ from 1986–2013 deliveries of California-produced crude to refineries declined by 43%, from 1.10 million to 0.63 million barrels per day (b/d). The DEIR does not disclose, discuss, or analyze these data.

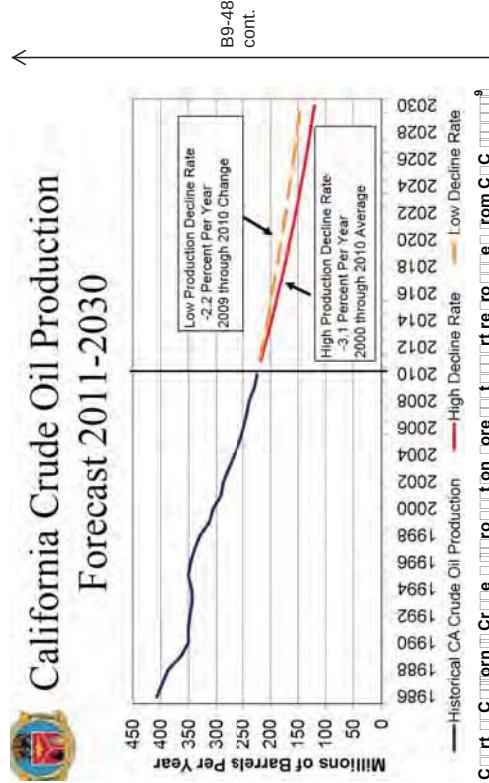
9. Authoritative data demonstrating a dramatic long-term decline in California crude oil reserves are not disclosed, discussed, or analyzed in the DEIR. Based on data reported by the U.S. Energy Information Administration (EIA),⁸ from 1989–2012 proved reserves of crude oil in California's San Joaquin Basin declined by 45%, from 3.44 billion barrels in 1989 to 1.89 billion barrels in 2012. Although crude oil delivered to the Benicia refinery via pipeline is produced primarily in the San Joaquin Valley Basin (see DEIR at 3-1), the DEIR does not disclose, discuss, or analyze these data.

10. Government and industry projections indicating that the long-term decline in California crude oil supplies will continue are not disclosed, discussed or analyzed in the DEIR. The CEC has projected that "California crude oil production is expected to continue to decline, despite higher prices and increases in drilling activity," and that by 2030, in-state crude production could dive to as low as 0.33–0.41 million b/d (120–150 million b/year).⁹ See Chart 1. Industry analysts also have projected that California-produced crude will continue to decline, such that California refiners will replace it with crude from other sources. The DEIR does not disclose or discuss these projections.

⁷ Data from <http://energy.eia.net/crudeoil/statistics/crudeoil/receipts/dnlddd>, 9/7/14).
⁸ Data from http://www.eia.gov/dnav/pet/pet_crd_pres_deu_RCA1_a.htm (dnlddd, 9/8/14).
⁹ California Crude Oil Import & Infrastructure Forecast; Ryan Eggers; CEC Transportation Committee Workshop for the 2011 IEPR, 9/9/11. See also Schremp, 5/11/11; Eggers, 8/24/09.

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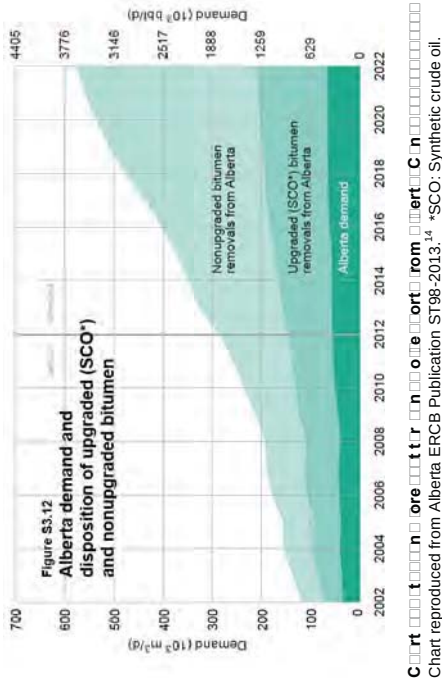
11. Authoritative data demonstrating a dramatic long-term increase in foreign crude oil deliveries to California refineries by ship are not disclosed, discussed, or analyzed in the DEIR. As in-state crude supplies decline the refining industry is replacing them primarily with foreign crude oils that are imported by ship. Based on data reported by the CEC, from 1986–2013 deliveries of imported foreign crude to California refineries increased by 780%, from 0.10 million to 0.88 million b/d, and foreign crude reached 51% of total statewide refinery crude inputs by 2013.¹⁰ Nearly all of this increasing foreign supply was delivered by ship: rail deliveries, though increasing fast, accounted for only 17,251 b/d in 2013,¹¹ or ≈1% of statewide refinery crude inputs that year. Crude oils in the 20–36 °API and 0.4–1.9 % sulfur content range that the DEIR asserts can be processed at the Benicia refinery¹² accounted for 350,000 b/d of these foreign imports in 2013.¹³ The DEIR does not disclose, discuss, or analyze these data.

¹⁰ Data from <http://energy.eia.net/crudeoil/statistics/crudeoil/receipts/dnlddd>, 9/8/14).
¹¹ Data from <http://energy.eia.net/crudeoil/statistics/crudeoil/receipts/dnlddd>, 9/8/14).
¹² See DEIR at 3-14.
¹³ Data from www.eia.gov/petroleum/imports/companylevel/archive (EIA data dnlddd 9/7/14).

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12. Projections of substantial continuing crude production growth in locations that already supply crude to the Benicia refinery by ship are not disclosed, discussed, or analyzed in the DEIR. For example, the Energy Resources Conservation Board of Alberta, Canada has projected that from 2012-2022 Alberta production of upgraded and nonupgraded bitumen could grow by more than 1.6 million b/d.¹⁴ See Chart 2. Among other dispositions, these tar sands-derived oils are now delivered via pipeline and ship to California. Although the refinery has processed crude delivered to Carquinez Strait by ship from Canada,¹⁵ the DEIR omits any reference to projections of continuing growth in the availability of crude that can be shipped to the refinery by boat.



13. The DEIR does not discuss pipeline delivery data, or disclose pipeline capacity data, for comparison to the project's 70,000 b/d capacity. The DEIR does not state a baseline crude input via pipeline, even though this volume can be deduced based on data it reports at page 3-2 (≈79,600 b/d at the DEIR's asserted 'baseline' plant utilization). Further, the DEIR does not include the refinery's crude pipeline capacity, although data reported publicly elsewhere¹⁶ suggest a pipeline capacity as high as ≈240,000 b/d.

¹⁴ ST98-2013; Alberta's Energy Reserves 2012 and Supply/Demand Outlook 2013-2022; Energy Resources Conservation Board: Alberta, Canada. ISSN 1910-4235. (www.ercb.ca).
¹⁵ Data from www.eia.gov/petroleum/imports/companylevel/archive (EIA data dmid 9/7/14).
¹⁶ PHMSA 000068712 Benicia Refinery Oil Spill Contingency Plan at 100-11 and Table 400-1a (20" Avon Meter-Benicia transbay crude oil line; 10,000 bph maximum allowable flow).

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14. The DEIR fails to consider the extent to which the project could displace crude supplies currently delivered to the Benicia refinery by pipeline. The City could have considered the available evidence identified in comments 6-13 above in its evaluation of the project. Had it done so, the City could have concluded that during its operating life, instead of displacing only ship delivery from worldwide sources of crude, the project has the reasonable potential to displace dwindling California crude supplies that are currently delivered to the Benicia refinery via pipeline. The DEIR, however, fails to disclose or analyze this potential effect of the project.

15. The DEIR's local air quality analysis is incomplete because it relies on emission offsets that are unsupported. The DEIR's analysis of potential impacts associated with 'local' (Bay Area Air Basin) emissions of criteria air pollutants relies on purported emission reductions that it estimates directly from its estimates of marine vessel deliveries of crude that the DEIR claims project rail deliveries of crude would displace. Specifically, the DEIR's project emission estimates rely on its assertion that only marine vessel deliveries—and no pipeline deliveries—would be displaced by project rail deliveries of crude to the refinery.¹⁷ This 'marine vessel-displacement-only' assertion is unsupported by any facts in the DEIR. (See comment 6.) Thus, the DEIR's emission estimates that rely on this assertion are not supported by factual evidence in the DEIR. Therefore, the DEIR's local air quality analysis is incomplete.

16. The DEIR underestimates the project's potential local air emissions because it overestimates the emissions it claims would be offset by displaced ship deliveries. As stated, the DEIR's assertion that only marine vessel deliveries—and no pipeline deliveries—would be displaced by project rail deliveries of crude to the refinery is not supported by any facts in the DEIR. Instead, substantial evidence that the DEIR fails to disclose or analyze shows that the project, over its operating life, will most likely displace pipeline deliveries of declining California-produced crude. (See comments 6-15 above.) This is important because displacing pipeline deliveries means that more marine vessel deliveries will continue, despite the project, and will continue to cause ship emissions that the DEIR erroneously assumes are eliminated. Thus, by incorrectly assuming that all project rail deliveries will displace marine vessel deliveries, the DEIR overestimates the project's potential to reduce marine vessel deliveries, thereby overestimating reductions in ship emissions that it claims will offset project emissions. (See DEIR at 4.1-19.) Therefore, by overestimating the reduction in ship emissions that it claims will offset emissions the project would cause in the Bay Area Air Basin (Id.), the DEIR underestimates the project's potential to increase local air emissions.

¹⁷ See DEIR at 4.1-19, esp. the "Marine Vessels (Displaced Baseline)" row in Table 4.1-5.

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17. The DEIR fails to identify a significant potential impact on local air quality because it ignores the likelihood that the project would replace crude oil deliveries by pipeline instead of by ship. Substantial evidence supports the conclusion that instead of displacing deliveries of growing crude supplies via ship, the project has the reasonable potential to displace dwindling crude supplies currently delivered to the Benicia refinery via pipeline. (See comments 6–16.) In this likely scenario, instead of the unsupported and erroneous emission offsets that the DEIR claims by assuming *only* ship deliveries would be replaced by the project (see Table 4.1-5), the real offsets could approach zero. Without those claimed offsets, the DEIR itself estimates that the project would cause emissions of nitrogen oxides (NOx) to increase by ≈33 tons per year (t/y) in the Bay Area Air Basin. (Id.) The DEIR asserts that a NOx emission increase of more than 10 t/y would be considered a significant potential impact. (Id.) Thus, there is a reasonable potential that the project would result in a significant local air quality impact. By its failure to analyze the likelihood that the project would replace pipeline instead of ship deliveries of crude, the DEIR fails to identify this significant local air impact.

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18. The DEIR's greenhouse gas analysis is incomplete because it relies on emission offsets that are unsupported. The DEIR's analysis of potential impacts associated with greenhouse gas (GHG) relies on purported emission reductions that it estimates directly from its estimates of marine vessel deliveries of crude that the DEIR claims project rail deliveries of crude would displace. Specifically, the DEIR's project emission estimates rely on its assertion that *only* ship deliveries—and *no* pipeline deliveries—would be displaced by project rail deliveries of crude to the refinery.¹⁸ This 'marine vessel-displacement-only' assertion is unsupported by any facts in the DEIR. (See comment 6.) Thus, the DEIR's emission estimates that rely on this assertion are not supported by evidence in the DEIR. Therefore, the DEIR's GHG emissions analysis is incomplete.

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19. The DEIR underestimates the project's GHG emissions because it overestimates the emissions it claims would be offset by displaced ship deliveries. As stated, the DEIR's assertion that *only* marine vessel deliveries—and *no* pipeline deliveries—would be displaced by project rail deliveries of crude to the refinery is not supported. Instead, substantial evidence that the DEIR fails to disclose or analyze shows that the project, over its operating life, will most likely displace pipeline deliveries of declining California-produced crude. (See comments 6–18 above.) This is important because displacing pipeline deliveries means that more marine vessel deliveries will continue, despite the project, and will continue to cause ship emissions that the DEIR erroneously assumes are eliminated. Thus, by incorrectly assuming that all project rail deliveries will displace marine vessel deliveries, the DEIR overestimates the project's potential to

¹⁸ See DEIR at 4.6-12, esp. the "Marine Vessels Displaced (Baseline)" row in Table 4.6-5.

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reduce marine vessel deliveries, thereby overestimating reductions in ship emissions that it claims will offset the project's GHG emissions. (See DEIR at 4.6-12.) Therefore, by *overestimating* the reduction in ship emissions that it claims will offset emissions the project would cause (Id.), the DEIR *underestimates* the project's potential to increase GHG emissions.

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cont.

20. The DEIR fails to identify a significant potential climate impact because it ignores the likelihood that the project would replace crude oil deliveries by pipeline instead of by ship. Substantial evidence supports the conclusion that instead of displacing deliveries of growing crude supplies via ship, the project has the reasonable potential to displace dwindling crude supplies currently delivered to the Benicia refinery via pipeline. See comments 6–19 above. In this more likely scenario, instead of the unsupported and erroneous emission offsets that the DEIR claims by assuming *only* ship deliveries would be replaced by the project (see Table 4.6-5) the real offsets could approach zero. Without those claimed offsets, the DEIR itself estimates that the project would cause emissions of GHGs (CO₂e) to increase by ≈18,433 metric tons per year. (Id.) The DEIR asserts that a CO₂e emission increase of more than 10,000 metric tons/year would be considered a significant potential impact. (Id.) Thus, there is a reasonable potential that the project would result in a significant climate impact. By its failure to analyze the likelihood that the project would replace pipeline instead of ship deliveries of crude, the DEIR fails to identify this significant climate impact.

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21. The DEIR does not disclose and evaluate data on the quality of dwindling California crude supplied to the refinery that the project could replace. The project is likely to replace California crude the refinery now receives by pipeline. (See comments 6–17.) Data on the quality of this crude stream is available. For example, the average density of California crude delivered to the Benicia refinery is in the range of 17–20 °API, based on peer reviewed estimates.¹⁹ The DEIR classifies crude oils this dense (17–20 °API) as "heavy" crude. (DEIR at 3-17, Figure 3-4.) Thus, available data suggest that replacing dwindling California pipeline inputs with similar-quality crude would require the project to deliver heavy crude. These data contradict the DEIR's conclusion that the project is more likely to deliver light crude than heavy crude. (See apps. C.1, C.2.) However, the DEIR fails to include and evaluate any data on the quality of this dwindling pipeline crude input that the project could enable the refinery to replace.

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¹⁹ This API range is 933–951 kg/m³ as density; 0.933–0.951 specific gravity. See Karras, 2010. Combustion emissions from refining lower quality oil: What is the global warming potential? *Env. Sci. Technol.* 44(24). DOI: 10.1021/es1019965 (esp. S1 at S41); Karras, 2011. *Oil Refinery CO₂ Performance Measurement*; Union of Concerned Scientists; Berkeley, CA (App. 2 at 2-53).

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22. The DEIR does not evaluate or disclose data on the availability of crude sources with quality similar to that of the refinery's dwindling California crude supplies that the project could replace. As stated, the project is likely to replace California pipeline crude that the DEIR would classify as 'heavy.' (See comment 21.) Data are available on the quality and availability of crude streams that could be delivered by rail to replace this pipeline stream. For example, the largest supply of such 'heavy' crude in North America, and the one that is projected to grow the most, is from the Canadian tar sands,²⁰ and Canada already accounts for most (55%) of the crude sent into California by rail as of 2013.²¹ These data further contradict the DEIR's conclusion that the project is more likely to deliver light crude than heavy crude. (See apps. C.1, C.2.) However, the DEIR fails to include and evaluate data on the quality and availability of San Joaquin Valley 'look-alike' crude streams that the project could enable the refinery to replace.

23. The DEIR does not disclose and evaluate data on the feasibility of replacing dwindling California crude oils from growing domestic sources that could be brought to the Benicia refinery by rail in large amounts. The DEIR asserts that the refinery's configuration limits the crude blends it can process efficiently to blends that are not lighter than 36 °API. (See apps. C.1, C.2.) In other words, if it replaces too much of its heavy crude input with very light crude the refinery cannot run properly. Because the project likely would replace the California pipeline component of the refinery's crude blend, which is much denser than 36 °API (see comments 6–17, 21), this would require a new crude supply that is not lighter than 36 °API. However, the vast majority of crude produced and virtually all of the projected crude production growth in the U.S. Northern Great Plains (Bakken) and Gulf Coast (Eagle Ford) is lighter than 40 °API according to the EIA²²—far lighter than this 36 °API cutoff. These data further contradict the DEIR's conclusion that the project is more likely to deliver light crude than heavy crude, but the DEIR fails to include and evaluate them.

24. The DEIR omits available cost data that contradict its underestimate of the role price discounts play in the choice of crude oils that the project could deliver. Although it acknowledges that price is a factor in Valero's choice of crude oils, the DEIR asserts "the cost of crude is but one factor among many" (App. C.1-1) without disclosing, for example, that crude oil can account for up to 90% of refinery operating costs.²³

²⁰ ST98–2013: Alberta's Energy Reserves 2012 and Supply/Demand Outlook 2013–2022; Energy Resources Conservation Board: Alberta, Canada. ISSN 1910–4235. (www.ercb.ca).
²¹ See http://energyvalmanac.ca.gov/petroleum/statistics/2013_crude_by_rail (dnldd 9/8/14).
²² See U.S. Crude Oil Production Forecast—Analysis of Crude Types; EIA (2014): www.eia.gov.
²³ U.S. Chemical Safety and Hazard Investigation Board, 2013. Interim Investigation Report, Chevron Richmond Refinery Fire; see Operational Changes at "opportunity crudes" finding.

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25. Data showing that the project could result in refining large amounts of 'heavy' Canadian crude are not disclosed by the DEIR. The DEIR asserts that the project could deliver "only so much" heavy Canadian crude because, it asserts, the refinery cannot process crude blends denser than 20 °API or crude blends with more than 1.9% sulfur. (DEIR at C.1-2.) It fails to support this assertion with any oil quality data and omits readily available data that contradict this assertion. For example, it acknowledges the project could deliver 'Husky Synthetic Blend' (HSB) and 'Western Canadian Select' (WCS) from Canada. (DEIR at 3-23, 3-24.) However, the DEIR fails to include available data on the average densities (32.1 and 20.7 °API) and sulfur contents (0.10 and 3.52 wt. %) of the HSB and WCS crude streams, respectively,²⁴ and omits the fact that a 1-to-1 volume blend of these oils would be 26 °API and 1.87% wt. sulfur. See Table 2. The DEIR would classify this 26 °API 1.87% sulfur blend as 'heavy sour' (see DEIR Figure 3-4), but it is not denser than 20 °API and does not have more than 1.9% sulfur. Based on the crude blends the DEIR states that the refinery could process, this 'heavy' Canadian crude blend could be delivered and processed as 100% of refinery input. Thus, the DEIR omits facts showing its assertion that project deliveries of Canadian "crudes" would have to be offset by purchases of light sweet crudes" (DEIR at C.1-2) is incorrect.

Table 2: Crude Blend Properties

Density	Crude volume	Crude mass	Crude density	API gravity
HSB crude	1 m ³	864 kg ^(a)	864.0 kg/m ³ ^(a)	32 °API ^(a)
WCS crude	1 m ³	929 kg ^(a)	928.9 kg/m ³ ^(a)	21 °API ^(a)
50/50 blend	2 m ³	1,793 kg ^(b)	896.5 kg/m ³ ^(c)	26 °API ^(d)
Sulfur	Crude volume	Crude mass	Sulfur mass	Sulfur wt. %
HSB crude	1 m ³	864 kg ^(a)	0.86 kg ^(a)	0.10 ^(a)
WCS crude	1 m ³	929 kg ^(a)	32.70 kg ^(a)	3.52 ^(a)
50/50 blend	2 m ³	1,793 kg ^(b)	33.56 kg ^(b)	1.87 ^(e)

(a) Data reported.²⁴ (b) Sum of the mass contributed by each crude in the blend. (c) Calculated as the mass of crude in the blend divided by the crude blend volume. (d) Calculated from the standard conversion °API = (141.5/specific gravity) – 131.5 (the specific gravity of crude is its density divided by the density of water, 1,000 kg/m³). (e) Sulfur wt. % = the mass of sulfur in the blend/the mass of the blend x 100.

26. The DEIR fails to identify 'tar sands' crude oil streams that the project could deliver to the refinery. For example, readily available data (www.crudemonitor.ca) identify at least fourteen Canadian crude streams that the DEIR states the project could deliver (DEIR at 3-23, 3-24), including WCS and HSB, as containing bitumen-derived

²⁴ Data are five-year averages from www.crudemonitor.ca; accessed 9/13/14.

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oils, but the DEIR does not identify any of these crude streams as bitumen-derived or 'tar sands' oils. Several additional 'tar sands' crude streams are available from the same region of Canada. (Id.) The DEIR does not identify those additional crude streams as containing bitumen-derived oils, or even identify them as oils the project could deliver.

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cont.

27. The DEIR's conclusion that the project could not lead to processing large amounts of Canadian 'tar sands' oil at this refinery is unsupported and incorrect. The City could have considered the data and information identified in comments 21–26. Had it done so, the City could have concluded that the project, over its operating life, is very likely to deliver a large volume of 'heavy' crude, and is likely to enable the processing of crude oils derived from Canadian-produced bitumen at the Benicia refinery in large amounts. The DEIR, however, fails to disclose or evaluate data and information showing that its conclusion, that "[t]here is no reason to believe ... Valero would be more likely to purchase heavy Canadian crudes than ... crudes that are lighter and sweeter" (App. C.1-1), is unsupported and incorrect.

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28. Data showing that the project could introduce more contaminated feedstock into existing refinery processes and equipment are not disclosed by the DEIR. As stated, the project is likely to deliver, and enable the refinery to process, bitumen-derived 'tar sands' oils in large amounts. (See comments 21–27.) The DEIR, however, does not include any data to describe the quality of this fundamentally different basic feedstock. Such data are available. For example, the USGS has reported elevated nitrogen, sulfur, organic acid (TAN), nickel, lead, and vanadium concentrations in natural bitumen,²⁵ and comparisons with other data suggest elevated BTEX (benzene, ethyl benzene, toluene, and xylenes) concentrations in bitumen-derived crude blends.²⁶ The DEIR thus does not disclose available data indicating that the project could increase the concentrations of toxic elements and toxic gases in crude blends stored and processed in the refinery.

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29. The DEIR fails to consider the potential that bringing larger amounts of contaminants into the refinery will result in releasing larger amounts of contaminants from the refinery. For example, research has linked increased partial pressures of toxic gases in refinery equipment²⁷ and increased refinery emissions into air²⁸ and water²⁹ to elevated concentrations of the contaminants causing those effects in

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²⁵ Meyer et al., 2007. *Heavy oil and natural bitumen resources in geological basins of the world*; U.S. Geological Survey (<http://pubs.usgs.gov/of/2007/1084/>); compare with 'medium oils' avg. ²⁶ Compare data from www.crudemonitor.ca with the average for 'medium oils' (avg. 22.4 °API; in the range processed at Benicia) in Meyer et al. (2007) cited above. ²⁷ See EIR SCH# 2011062042 at Appendix A4.13-REL. ²⁸ See Wilhelm et al., 2007. *Env. Sci. Technol.* 41(13). DOI: 10.1021/es062742j. ²⁹ *Dirty Crude*; CBE Report 94-1. Communities for a Better Environment: Oakland, CA (1994).

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refinery crude feeds. Such findings are further strongly supported by fundamental physical laws—persistent toxic elements are not destroyed by refining processes and do not simply 'disappear' after entering refineries, and toxic gases that are present in refinery equipment in greater amounts tend to leak out at greater rates. The DEIR, however, fails to disclose or consider evidence indicating the potential for increasing 'pass-through' of contaminants from project crude supplies fed to existing refinery equipment into the atmosphere and aquatic environment in a around the refinery.

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30. Data showing that the project could introduce denser, higher sulfur crude oils than current blends processed by the refinery are not disclosed by the DEIR. The DEIR acknowledges that denser, higher sulfur crude oils generally require additional processing (DEIR at 3-8), however, it does not disclose the density or sulfur content of crude oils that the project could deliver for processing in larger amounts. Such data are available. For example, data summarized in Table 3 show that a diluted bitumen 'dilbit' crude streams the project could deliver to the refinery are substantially denser and higher in sulfur than the average imported crude stream refined at Benicia from 2010–2012. The DEIR, however, fails to include available data describing the extent to which the project could enable the delivery and processing of denser, higher sulfur crude at Benicia.

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Table 3. Density and Sulfur Content of Crude Blends Processed at Benicia Refinery versus Total Current Benicia Refinery Foreign Crude Imports.

Crude Blend	Density of Crude Blend (kg/m ³)	Density of Crude Blend (°API)	Crude Sulfur Content (wt. %)
Benicia 2010–2012 imports ^a	894	27	1.28
Access Western Blend ^b	924	22	3.95
Borealis Heavy Blend ^b	925	21	3.75
Christina Dilbit Blend ^b	924	21	3.85
Cold Lake ^b	928	21	3.79
Kearl Lake ^b	926	21	3.86
Peace River Heavy ^b	928	21	5.08
Western Canadian Select ^b	929	21	3.52

(a) Weighted average of all foreign crude processed (www.eia.gov/petroleum/imports/companylevel).
(b) Most recent 5-year average (www.crudemonitor.ca).

31. The DEIR does not consider the potential for increasing process intensity needed for denser, higher sulfur crude oils delivered by the project to increase refinery combustion emissions. The project is likely to result in processing denser, higher sulfur bitumen-derived oil at the Benicia refinery in larger amounts. (See comments 21–30.) Although it admits denser, higher sulfur feedstock generally requires more processing (DEIR at 3-8), the DEIR fails to consider the increased fuel combustion—and thus

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combustion emissions—that could result from the increased energy requirements for this more intensive processing. For example, peer reviewed work demonstrates that processing bitumen-derived crude can increase refinery energy intensity, thereby increasing refinery emissions combustion products such as carbon dioxide (CO₂), the major greenhouse gas emitted by refineries.³⁰ The DEIR, however, does not disclose and compare available estimates of current refinery combustion emissions and potential refinery combustion emissions from the project's crude switch.

32. The DEIR does not disclose or evaluate potential project emissions from feedstock quality-related equipment failures and process upsets. As stated, the project is likely to result in more intensive processing of denser, higher sulfur, more contaminated and more acidic oil feedstock. (See comments 21–31.) The resultant combination of greater process temperatures, pressures, and volumes of hazardous or corrosive compounds in some process units could increase the frequency and magnitude of refinery equipment failures and process upsets. Such incidents typically emit substantial amounts of air pollutants over short periods from flares, pressure relief devices, vessel ruptures, fires, or combinations of those emission pathways. Data and analysis regarding such crude quality-related incidents at Bay Area refineries. For example, the U.S. Chemical Safety Board has documented causal factors related to crude density and sulfur content in the fatal fire at Avon in 1999 and the disastrous fire and air release at Richmond in 2012.³¹ The DEIR, however, does not disclose or evaluate potential incident emissions that could result from the project's crude switch.

33. The DEIR does not disclose or evaluate data indicating that the project could result in an increase in GHG-intensive refinery hydrogen plant production. The DEIR states that the current refinery hydrogen supply is sufficient, and that Valero will decide in the future whether to build and commission a new hydrogen production plant that would increase the refinery hydrogen supply. (DEIR at 3-12.) However, the project is likely to result in processing denser, higher sulfur crude oils such as bitumen-derived oils in greater amounts. (See comments 21–31.) Processing crude that is denser, higher in sulfur, or both—and especially processing crude derived from tar sands—can increase refinery hydrogen demand substantially, and hydrogen production to meet this demand can increase refinery GHG emissions substantially.³² The DEIR, however, does not

³⁰ See Abella and Bergerson, 2012. *Env. Sci. Technol.* DOI: 10.1021/es3018682; Karras, 2010. *Env. Sci. Technol.* DOI: 10.1021/es1019965; and Bredeson et al., 2010. *Int. J. Life Cycle Assess.* DOI: 10.1007/s11367-010-0204-3.

³¹ See U.S. Chemical Safety and Hazard Investigation Board (CSB), 2013. *Interim Investigation Report, Chevron Richmond Refinery Fire*; and CSB, 2001. *Investigation Report, Refinery Fire Incident, Tosco Avon Refinery, Report No. 99-014-I-CA*. (www.csb.gov).

³² Abella and Bergerson, 2012; Karras, 2010; and Bredeson et al., 2010 as cited above.

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disclose or evaluate the quality of crude deliveries the project could enable the effects of processing that crude on refinery hydrogen demand, hydrogen production to meet that demand, and resultant project-related emissions.

34. The project crude switch could increase refinery hydrogen demand and production by changing production in existing refinery equipment, but this is not disclosed or evaluated in the DEIR. As stated, the switch to denser, higher sulfur crude enabled by the project could increase refinery emissions by increasing refinery hydrogen demand. (See comments 21–31, 33.) Moreover, the project's crude switch requires more hydrogen because the processing of denser, higher sulfur oils requires hydroprocessing units to increase rate, hydrogen partial pressure, or both.³³ These hydroprocessing units that are inextricably interrelated with oil feed quality and the not-yet-commissioned expansion of hydrogen production—the refinery's hydrocracker and its hydrotreating units (Valero calls them 'hydrofining' units—are existing equipment, as the DEIR acknowledges. (DEIR at 3-12.) Thus, the project could change the existing refinery's processing in ways that increase refinery emissions from existing and permitted equipment. Therefore, data and information that the DEIR fails to disclose or evaluate contradicts its assertion (DEIR at 4.1-11) that the project "would not result in any emissions increases from existing, permitted Refinery equipment."

35. The DEIR's conclusion that the project's crude switch would not increase emissions from existing and permitted refinery equipment is unsupported and incorrect. The City could have considered the data and information identified in comments 28–34 in its evaluation of the proposed project. Had it done so, the City could have concluded that the project, by enabling the refining of denser, more contaminated, and/or more corrosive crude feedstock, has the reasonable potential to increase emissions from existing and permitted refinery equipment. Moreover, because the DEIR does not disclose or evaluate the data and information that is available to document these potential impacts, and does not evaluate them, its conclusion that the project would not increase emissions from existing and permitted refinery equipment is unsupported and incorrect.

36. Current (baseline) data on the density and sulfur content of crude blends processed by the refinery are inappropriately omitted from the DEIR. As stated (see comments 21–35), the project could cause environmental impacts by changing the refinery's oil feedstock quality. Accurate, adequately supported evaluation of these potential impacts thus requires describing the change in oil feed quality by, among other things, disclosing the density and sulfur content of crude blends currently processed. The DEIR, however, claims that these data are trade secret. (DEIR at D-1.) This is clearly

³³ See Abella and Bergerson, 2012; Karras, 2010; and Bredeson et al., 2010 as cited above.

Table 4. EIA 'Company Level Imports' excerpt—Data on all crude shipments processed at the Valero Bencica refinery in 2015.
(page 2 of 3) Shown: month, country of origin, quantity (in 1,000 barrels), sulfur content (wt. %) and density (°API) of crude shipment
Data source: www.eia.com/naturalgas/imports/valerobencica downloaded 07/2014

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Table 4. EIA 'Company Level Imports' excerpt—Data on all crude shipments processed at the Valero Botica refinery in 2012 (page 3 of 3). Shown: month, country of origin, quantity (in 1,000 barrels), sulfur content (wt. %), and density (°API) of crude shipment

[illegible]

ANS assay (see next page). The DEIR's secrecy claim is incorrect and its failure to disclose the domestic crude streams processed inappropriately truncates its analysis.

39. The DEIR fails to disclose or compare baseline data on the quality of oil feedstock the refinery can process and baseline refinery equipment usage rates. The DEIR's claim that these data are trade secret (DEIR at D-1) is overly broad and incorrect. For example, the density and sulfur content of crude blends that a refinery's unique configuration can process,³⁸ operable capacities of its key process units,³⁹ and actual average baseline usage rates,⁴⁰ are publicly reported for Bay Area refineries. As stated, the potential change in oil feed quality must be disclosed (see comments 21–38); these data are critical to that disclosure. Indeed, the DEIR's claim that the refinery's configuration cannot refine much heavy Canadian crude (DEIR at B.1-2) is unsupported without disclosing these baseline data regarding the source and quality of crude blends it can process now, is processing now, and could process with the project. Moreover, the contradiction between this claim of limited capacity for denser, higher sulfur crude and the DEIR's admission that refinery hydrogen production—which enables its capacity for denser and higher sulfur crude—could increase concurrently (DEIR at 3-12) further reveals that nondisclosure of these capacity data is a fatal flaw in the DEIR's analysis. The DEIR's claim that all data regarding the current equipment's feedstock quality specifications and usage rates are trade secret is clearly in error, and its failure to disclose these data inappropriately truncates its environmental analysis.

40. The DEIR improperly omits disclosing or describing the change in oil feed quality that the project would enable, thereby inappropriately truncating its environmental analysis. The City could have considered the data and information identified in comments 36–39 in its environmental evaluation of the proposed project. Had it done so, the City could have found that publicly available information on current conditions which is needed to evaluate the change in oil feedstock enabled by the project and its resultant impacts is erroneously labeled ‘secret’ and omitted by the DEIR.

³⁸ EIR SCH# 2011062042.

³⁹ See EIR SCH# 2011062042 at App. 4.3-URM; Worldwide Refining Survey in Oil & Gas Journal; Title V air permits for each refinery at the Bay Area Air Quality Management District. EIR SCH# 2011062042.

⁴⁰ See EIR SCH# 2011062042 at apps. 4.3-URM, 4.3-EI; Bay Area Air Quality Management District Emission Inventory; Regional Water Quality Control Board, San Francisco Bay Region NPDES Permit Fact Sheet for each refinery.

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Attachment to Report 51 333

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Please see page 1 for a summary of major findings documented by these comments.

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NATURAL RESOURCES DEFENSE COUNCIL

September 15, 2014

Via email and FedEx to
Amy Million, Principal Planner
Community Development Department
250 East L Street
Benicia, CA 94510
amillion@ci.benicia.ca.us

Re: The City of Benicia's Draft Environmental Impact Report for the
Valero Benicia Crude by Rail Project

Dear Ms. Million,

On behalf of the Natural Resources Defense Council (NRDC), and the undersigned groups, we submit the following comments on the City of Benicia's Draft Environmental Impact Report (DEIR) for the Valero Benicia Crude by Rail Project (the Project). The Project, if approved, would allow the Valero refinery to receive up to 70,000 barrels per day of crude oil by train. Our evaluation of the Project, as well as that of two independent experts retained by NRDC, indicates that it will result in very significant environmental impacts that have not been disclosed or mitigated in the DEIR.¹

Most notably, the DEIR fails to adequately evaluate the significant air quality, health, and safety hazard impacts of the Project. By relying on an incorrect baseline, the DEIR fails to assess how changes in crude slate or throughput will affect refinery emissions. The DEIR also misleadingly downplays the risk of a significant crude-by-rail accident, even though there have been at least twelve serious crude-by-rail accidents in North America in the past year-and-a-half alone—including one in Lac-Mégantic, Quebec, that killed 47 people and leveled the center of that town.

Because this Project would result in significant environmental impacts, the City cannot certify the DEIR before adopting all feasible

¹ Selected sources cited have been provided to the City of Benicia in hard copy. Other sources cited in these comments and in the expert reports will be provided in CD to follow.

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mitigation measures. Yet the DEIR fails to identify and analyze mitigation measures that would reduce the Project's impacts, incorrectly claiming that no mitigation measures are available. In fact, there are numerous mitigation measures and alternatives that would reduce the impacts of the Project. These measures must be analyzed in the DEIR, so that the full range of options are publicly disclosed and considered by decision-makers.

In light of the Project's significant, unmitigated impacts, the people of Benicia, as well as up-rail communities, will be protected only if the City denies the permit for the Project. However, if the City intends to move forward notwithstanding the Project's significant impacts, the City must comply with the law. At the very least, the City must revise the DEIR to address these concerns and those raised by community members and public agencies, and recirculate the revised DEIR for public comment.

I. THE DEIR FAILS TO DISCLOSE, ANALYZE, AND MITIGATE THE PROJECT'S SIGNIFICANT AIR QUALITY IMPACTS

With the exception of the impacts from railroad emission in Yolo and Sacramento air basins, the DEIR concludes that the Project will not have any significant air quality impacts. DEIR at 4.1-16 to 4.1-26. The DEIR fails to disclose and analyze many important factors that clearly demonstrate that the Project would have significant air quality impacts both here in the San Francisco Bay Area, where the Project is located, and in other up-rail regions to the east. As described in more detail below and in the accompanying report by Dr. Phyllis Fox (Attachment 1), the DEIR:

- uses an improper, hypothetical baseline to avoid evaluating increased refinery emissions that may result from changes in crude slates or increases in throughput;
- incorrectly claims that crude slate and emissions data are trade secrets;
- fails to disclose the actual increases in criteria and toxic air pollutants that will result from refining new types of crudes, including Bakken and tar sands crudes;
- fails to disclose the increases in fugitive toxic and organic air emissions from storage tanks and unloading equipment due to the higher volatility of new crudes;

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- relies on Valero's unenforceable promise that the Project's crude will displace crude shipped by marine tanker to conclude that the Project will reduce transportation emissions;
- fails to properly disclose the increases in criteria and toxic air pollutants during the transportation of the crude, both from fugitive emissions and from the locomotives themselves;
- uses an outdated emissions model for construction emissions and underestimates key factors affecting those emissions; and
- provides a Health Risk Assessment that vastly underestimates toxic air contaminant emissions.

In addition to failing to disclose and analyze all of these significant impacts, the DEIR fails to include any mitigation measures, claiming that no mitigation measures are available. That is an error: there are many feasible mitigation measures the City could implement, as described below. In light of these deficiencies, the City must revise the DEIR to address the significant air quality impacts described here and recirculate it for public comment.

For context of the gravity of the air pollution impacts of this project, we note that although emissions of some pollutants from Valero's Benicia refinery (such as sulfur dioxide due to installation of a scrubber) have decreased over recent years, the refinery continues to emit dangerous and unhealthy levels of toxic air pollutants.² According to Toxics Release Inventory reports, Valero releases 70 percent more toxic chemicals than the California refinery average, putting the surrounding community at much greater risk of adverse health impacts such as cancer, chronic disease, lower IQ, reproductive problems and developmental delays.³

² See EPA Region 9 Toxics Release Inventory, 2012 California Refineries Report, available at: <http://www.epa.gov/region09/tri/report/12/tri-calif-refineries-2012.pdf>

³ In 2012, Valero Benicia released 5 pounds of toxic chemicals per barrel per day vs. a statewide refinery average of 2.9 pounds of toxic chemicals released per barrel per day. This comparison is based on the total toxic releases in 2012 reported by EPA Region 9, normalized to capacity for each refinery based on California Energy Commission's refinery capacity data available at: <http://energyalmanac.ca.gov/petroleum/refineries.html>

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A. The DEIR Uses an Improper Baseline for Refinery Emissions

To evaluate the environmental impacts of a proposed project, a lead agency must first determine the environmental setting, or baseline. 14 Cal. Code Regs. ("Guidelines") § 15125(a). Under CEQA, the baseline consists of "the physical environmental conditions in the vicinity of the project, as they exist at the time . . . environmental analysis is commenced." Guidelines § 15125(a). In other words, the baseline is the actual physical conditions that exist at the site—not hypothetically permitted conditions. *Communities For A Better Env't v. S. Coast Air Quality Mgmt. Dist.*, 48 Cal. 4th 310, 315(2010).

The DEIR states that the air emissions baseline for the Project is the full scope of operations allowed under current permits, including those issued for the Valero Improvement Project. DEIR, Appx. C at C.1-3. It states that if refinery emissions were to increase based on Valero's purchase of heavy sour Canadian crudes or Bakken crudes, "any such emissions increases would properly be considered part of the baseline because the baseline includes the full scope of operations allowed under existing permits that were issued based upon prior CEQA review." DEIR Appx. C.1 at C.1-1; DEIR Appx. C.2 at C.2-1.

The DEIR's analysis fails to meet CEQA's requirement that agencies analyze the impacts of a project compared to the actual physical conditions, rather than hypothetically permitted conditions. As the California Supreme Court explained in *Communities for a Better Environment v. South Coast Air Quality Management District*, the City must compare the change in emissions that result from the Project to the current emissions at the refinery. Without this baseline, neither the City nor the public can determine whether the Project will increase emissions, either because of an increase in the total amount of crude refined or because of changes in the crude slate. Knowing these baseline conditions is essential to understanding the Project's impact on the environment.

The DEIR half-heartedly claims that the Project is not a new project, but rather a modification of the Valero Improvement Project (VIP). DEIR, Appx. C.1 at C.1-3; DEIR, Appx. C.2 at C.2-3. To the contrary, the City has consistently treated the Project as a new project, requiring a new set of permits and preparing environmental review documents from scratch, rather than preparing any of the subsequent environmental review documents contemplated by Public Resources Code section 21166 and Guidelines section 15162. Those sections do not apply to new projects. *Save Our Neighborhood v. Lishman*, 140 Cal. App. 4th 1288, 1301 (2006). The VIP

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environmental analysis was performed over 10 years ago. Much has changed in the last 10 years, including the suite of crudes available in the market, the transportation options, and the regulations and standards governing air emissions. Accordingly, the baseline for purposes of analyzing the Project's impacts is the current level of emissions, not the maximum permitted emissions.

Even if this Project were a modification of the VIP—which it is not—the City must still properly analyze the impacts of the Project relative to that baseline. As discussed in the attached report by Dr. Phyllis Fox, the refining of Canadian tar sands or Bakken crudes will have significant air quality impacts, even beyond what was permitted in the VIP. The City cannot simply assume that the emissions from the Project would be within the emissions permitted by the VIP without conducting a detailed analysis of how refining these new types of crudes would change refinery emissions.

B. The City Cannot Skirt Its Duty to Evaluate Project Impacts by Claiming Some of the Information Submitted By Valero Constitutes Trade Secrets

The DEIR states that “Valero has submitted data and information regarding the proposed project, including data and information regarding the past and anticipated future crude oil slate at the Valero Benicia refinery.” DEIR, Appx. D at D-1. This information includes the identity of the specific crudes Valero has previously purchased and plans to purchase as part of the Project, as well as the properties of those crudes (weight, sulfur content, vapor pressure, and acidity). *Id.* Despite having this information at its disposal, the City has determined that it should be withheld from public review, citing Government Code section 6254.7 and Public Resources Code section 21160.

In our comments on the Mitigated Negative Declaration, we called for the City to disclose the crudes Valero is likely to transport as a result of the Project, so that the City and the public can fully evaluate the potential air impacts from refining these crudes and the spill risks from transporting them. As explained below, the information most relevant to evaluating these impacts is not a trade secret. But even if some information provided to the City were a trade secret, the City still would have a duty to disclose and analyze the reasonably foreseeable impacts of the Project in the DEIR.

As an initial matter, Valero's intent to transport Bakken and tar sands crudes is not a trade secret. The City admits as much in its DEIR, listing the potential crudes the Project may import. DEIR, Appx. K at K-12, K-13. And

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crude “assay” data, which includes details about the specific properties and chemical content of a crude oil, is widely reported.⁴ Because this information is widely available, it is not “known only to certain individuals within a commercial concern,” and therefore is not a “trade secret” under Government Code section 6254.7. Accordingly, the DEIR must also disclose the characteristics of these crudes that are relevant to environmental concerns.

Furthermore, the City may not rely on its “trade secret” designation to avoid analyzing the impacts of the proposed Project. Air emissions from refinery changes are not trade secrets and must be disclosed. Government Code section 6254.7, which the City cites in support of withholding Valero's crude slate information, explains that “all air pollution emission data, including those emission data which constitute trade secrets . . . are public records.” Thus, even assuming that Valero's specific crude slate is a trade secret, the change in emissions that it will produce is not. For example, the City of Richmond recently evaluated and disclosed how operations could change at the Richmond Refinery under several crude input scenarios.⁵ Likewise, the City of Benicia should evaluate and disclose the reasonably foreseeable crude blend changes and the resulting environmental consequences. Because Valero has provided the City with its prior and anticipated crude slate, DEIR at D-1, the City has the information necessary to determine the reasonably foreseeable changes in air emissions that that will occur due to changes in the crude slate. These changes in air emissions must be disclosed.

C. The DEIR Failed to Consider Impacts on Refinery Emissions

On July 1, 2013 we submitted comments on the Mitigated Negative Declaration for the Project, explaining in detail that this Project would facilitate significant changes in crude oil slate quality, which would result in emission increases that were not considered. The DEIR fails to correct the defects that we identified in those comments and the accompanying report by Dr. Fox; thus we include them here as Attachments 2 and 3.

⁴ Jeff Thompson, Public Crude Assay Websites, February 24, 2011, http://www.coqa-inc.org/docs/default-source/meeting-presentations/20110224-Thompson_Jeff.pdf.

⁵ Chevron Refinery Modernization Project, Draft EIR 4.3 (March 2014), available at http://chevronmodernization.com/wp-content/uploads/2014/03/Volume-1_DEIR.pdf.

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The DEIR lists 38 “available North American crudes” that could be imported by the Project. DEIR, Table 3-1. Regardless of which of these 38 crudes are ultimately shipped to the Project, the DEIR must analyze the full range of resulting impacts from all of the 38 crude oil types available, as the DEIR suggests that it is reasonably foreseeable that each of them will be refined. Impacts would vary greatly between tar sands crudes (on the heavy, high-sulfur end) and Bakken crudes (on the light, sweet end), with unique and significant impacts from each end of this range. The DEIR does not analyze impacts from either of these, but instead inappropriately considers an unidentified default crude that is not representative of any of the 38 possible types.

The DEIR incorrectly asserts that blending of the rail-imported crudes with other crudes to meet current sulfur and specific gravity (“weight”) requirements will mean that emissions would not change. DEIR, Appendices C.1, C.2 and K. This assertion is an error for several reasons.

Crudes exhibit important differences that are not related to the weight and sulfur content of the crude, such as chemical composition, vapor pressure, and other physical and chemical attributes. These differences can significantly affect refinery emissions. For example, the chemical components of the crude (such as toxic air contaminants (TACs) like benzene, or highly malodorous compounds such as mercaptans) may be present at much higher concentrations in one crude than in other crudes with identical sulfur content and API gravity. Fox DEIR Comments at 5.

Further, other characteristics, such as vapor pressure or flammability, differ in significant ways among crudes with similar sulfur and weight. The DEIR actually concedes that there is no relationship between vapor pressure (expressed as RVP) and weight (expressed as API) for different crude types. DEIR, Appx. K at K-18. This is further substantiated by analysis of data published by Enbridge, summarized here in Figure 1. The Enbridge data covering 76 different types of crude oil show that crude oil attributes of sulfur content and density are completely independent of vapor pressure. Fox DEIR Comments at 4.

⁶ Note that throughout the DEIR, the term “weight” is used to indicate API gravity or density, where “density” is technically what is meant. We will use the same terminology in these comments; “weight” indicates density.

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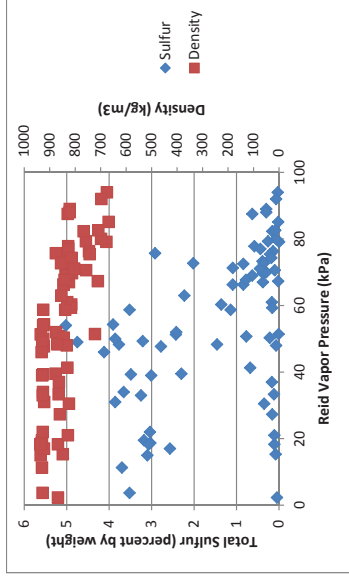


Figure 1: Reid Vapor Pressure Compared to Total Sulfur and Density for 76 different types of Crude Oil
Source: Enbridge Pipelines Inc., 2013 Crude Characteristics⁷

The vapor pressure of crude determines to a large extent the amount of reactive organic gases (ROG) and toxic air contaminants (TAC) that are emitted when the crude is transported, stored, and refined. Thus, a crude slate may have identical sulfur content and weight, but dramatically different ROG and TAC emissions.

Similarly, the nature of the crude’s chemical bonds determines the amount of energy and hydrogen that must be supplied to refine it. Thus, a crude slate may have identical sulfur and weight, but a different mix of chemicals that would affect the amount of energy and hydrogen required to convert it into refined products. Put another way, one crude slate may require more refining than another, even though the two slates have the same sulfur and weight. This means that total refinery emissions are affected by crude slate characteristics other than sulfur and weight. Fox DEIR Comments at 5.

These impacts have not been considered in the DEIR. The DEIR ignores significant increases in ROG emissions, contributing to existing violations of ozone ambient air quality standards; significant increases in TAC emissions, resulting in significant health impacts; significant increases in malodorous sulfur compounds, resulting in significant odor impacts;

⁷ Available at <http://www.enbridge.com/~media/www/Site%20Documents/Delivering%20Energy/2013%20Crude%20Characteristics.pdf>

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significant increases in combustion emissions, contributing to existing violations of particulate matter (PM) standards; and significant increases in flammability—and the resulting potential for more dangerous accidents if and when trains derail or spills occur, off-site or on-site.

1. *Import of Tar Sands or Other Heavy Crudes Would Increase Refinery Emissions*

Although the DEIR asserts that “[t]here is no reason to believe that . . . Valero would be more likely to purchase heavy Canadian crudes than any number of other North American crudes that are lighter and/or sweeter . . .,” DEIR, Appx. C.1 at C.1-1, the DEIR is required to consider scenarios that are reasonably foreseeable. Table 3-1 lists 38 “available North American crudes” that could be imported by the Project, of which at least 15 are tar sands crudes.

Tar sands crudes are chemically distinct from the current crude slate and thus will result in significant impacts that were not analyzed in the DEIR. Fox DEIR Comments at 5; Fox IS/MD Comments at 25-28. The DEIR discusses heavy sour crude slate issues in Appendix C.1, focusing on the weight and sulfur content of the crude, to the exclusion of other important factors such as chemical composition, volatility, and corrosivity. Appendix C.1 asserts that emissions would not increase because the blended crude slate would remain within Valero’s operating range for both weight and sulfur. DEIR, Appx. C.1 at C.1-3.

As an initial matter, the argument that sulfur levels and weight of the crude slate will stay within a narrow range ignores the possibility of a change that, while within that range, would nonetheless be significant. This recently occurred at the nearby Chevron Richmond Refinery. This refinery gradually changed crude slates, while staying within its established crude unit design basis for total weight percent sulfur of the blended oil going into the crude unit.⁸ This change increased corrosion rates, which led to a catastrophic pipe failure in the #4 Crude Unit on August 6, 2012. This accident sent 15,000 people from the surrounding area for medical treatment due to the release and resulting fire that created huge black

⁸ US Chemical Safety and Hazard Investigation Board, Chevron Richmond Refinery Pipe Rupture and Fire, August 6, 2012, p.34 (“While Chevron stayed under its established crude unit design basis for total wt. % sulfur of the blended feed to the crude unit, the sulfur composition significantly increased over time. This increase in sulfur composition likely increased corrosion rates in the 4-sidecut line.”).

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clouds of pollution over the surrounding community. Fox DEIR Comments at 6; Fox IS/MND Comments at 25-26.

These types of accidents can be reasonably expected to result from incorporating tar sands crudes into the Benicia crude slate, even if the range of sulfur and weight of the crudes remain the same, unless significant upgrades in metallurgy were to occur. Yet the DEIR fails to propose any measures to upgrade metallurgy or address the potential for increased corrosion that could contribute to accidents. Tar sands crudes have a significant concentration of sulfur in the heavy components of the crude coupled with high TAN and high solids, which aggravate corrosion. The gas oil and vacuum resid piping, for example, may not be able to withstand naphthenic acid or sulfidation corrosion from tar sands crudes, leading to catastrophic releases.⁹ Fox DEIR Comments at 6; Fox IS/MND Comments at 35-36.

The DEIR fails to consider catastrophic releases of air pollution from accidents that would be a reasonably foreseeable result of the use of more corrosive crude oil. Rather, the DEIR relies on the Refinery’s existing Process Safety Management program, including the Management of Change (MOC) and Mechanical Integrity (MI) programs, to prevent corrosion. DEIR at 3-16. However, similar programs were also in place at Chevron at the time of the August 2012 accident discussed above, and they did not prevent a catastrophic accident caused by sulfur creep. The recent Chevron FEIR incorporated many additional mitigation measures to improve these programs,¹⁰ which should be required for the Project. Fox DEIR Comments at 6.

As discussed above, the weight and sulfur content are not the only characteristics of crude oil that determine environmental impacts. Other important factors include volatility, flammability, metal content, ROG speciation profile, the specific suite of heavy organic compounds in the crude, and the TAC and sulfur speciation profile (i.e., the concentration of individual TAC and sulfur compounds present in the crude). The DEIR fails

⁹ See, for example, K. Turini, J. Turner, A. Chu, and S. Vaidyanathan, Processing Heavy Crudes in Existing Refineries. In: Proceedings of the AlChe Spring Meeting, Chicago, IL, American Institute of Chemical Engineers, New York, NY, Available at: <http://www.aiiche-fpd.org/Listing/112.pdf>.

¹⁰ See, e.g., Chevron Refinery Modernization Project, Revisions to Draft EIR Volumes 1 & 2, p. 4-40, Mitigation Measure 4.13-7h, Available at: <http://chevronmodernization.com/project-documents/>.

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to assess increases in refinery emissions of sulfur compounds, heavy metals, benzene and other TACs, as well as increased production of contaminated petroleum coke that would occur with the import of tar sands crude.

Tar sands crudes are derived from bitumen, a semi-solid tar-like substance that is contaminated with five times more lead, 20 times more vanadium, and higher levels of other heavy metals and pollutants than conventional crude, according to the U.S. Geological Survey. Fox IS/MND Comments at 22. The tar sands crude that would be imported by this Project is likely to be a “dilbit” blend of tar sands with a very light diluent to make the semi-solid tar sands flow like conventional oil. Dilbits contain high levels of VOCs, sulfur compounds, and HAPs, such as benzene. Fox IS/MND Comments at 26.

Elevated levels of benzene or hydrogen sulfide in dilbit cannot be blended out because they are emitted from tanks and fugitive components before the crudes reach the mixing tanks. The majority of the toxic TACs and malodorous chemicals are emitted before blending occurs, during unloading and from fugitive components along the pipeline and at the storage tanks. Blending itself does not eliminate them.

Similarly, elevated metals that end up in coke fugitive particulate emissions cannot be blended out. No matter how much blending is done with relatively less contaminated crudes, a significant amount of heavy metals from lower quality rail-imported crude would still remain. Blending also does not remove, but rather only dilutes, elevated concentrations of high molecular weight organic compounds such as asphaltenes and resins that require high energy input to break down into marketable products. Fox IS/MND Comments at 4-10. These characteristics may vary in significant ways among crudes with the same range of API gravity and sulfur, resulting in significant environmental impacts. Fox IS/MND Comments at 29-30. The DEIR must be revised to address potential impacts from increased contamination with heavy metals and other TACs, increased refinery air emissions, and increased petroleum coke production.

2. *Import of Bakken and Other Light Crudes Would Increase Refinery Emissions*

The DEIR concedes that Valero is likely to import large amounts of light sweet North American crudes, specifically crudes that are, on average, lighter and sweeter than Valero’s current feedstocks. DEIR at 3-24; Appx. C at C.2-1. Light sweet crudes such as Bakken could result in a dramatic increase in fugitive ROG and TAC emissions from all aspects of the refinery,

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most notably storage tanks, pumps, compressors, valves, and connectors. Like the IS/MND, the DEIR fails to evaluate these impacts. Fox IS/MND Comments at 11, 25-28; Fox DEIR Comments at 11.

According to Valero, the refinery will use rail imports to create an “Alaskan North Slope (ANS) look-alike blend.” DEIR at 3-24. The closest and most cost advantaged of light sweet North American crudes listed in DEIR Table 3-1 that could be blended to be an ANS look-alike is Bakken crude. For example, a blend of 55% Bakken and 45% Western Canadian Select (tar sands) could potentially cost far less than the ANS market price. The resulting mix has the same API gravity and slightly higher sulfur than ANS, and virtually identical distillation yields.¹¹ Alternatively, some of the lighter crudes, such as Bakken, could be fed directly to refining units, such as the FCCU, eliminating the need for blending. Fox DEIR Comments at 11.

The DEIR did not analyze the full emissions profile of these specific, reasonably foreseeable crude blends. However, the emissions increases could be significant. As discussed above, the amount of ROG and TAC emissions that will be emitted from refinery tanks, pumps, compressors, valves, and connectors is determined by the volatility of the crude oil and the concentration of TACs within the crude, not by its weight or sulfur content. The volatility can vary widely for “light sweet crudes,” independent of weight and sulfur content. Processing in the oil fields, in particular, significantly affects volatility of shipped crudes, as discussed below.

Bakken crudes have unique chemical and physical characteristics that distinguish them from currently refined crudes and that would result in significant environmental impacts not identified in the DEIR, including significant risk of upset, air quality, odor, and public health impacts. These unique characteristics include high volatility, flammability, and elevated concentrations of TACs and ROG. The Bakken crudes that the Project is likely to import are at least twice as volatile as the Alaska North Slope (ANS) crude and other foreign imports that would be replaced. Specifically, ANS crude has a Reid Vapor Pressure (RVP)—a common measure of volatility—of 6.3

¹¹ John R. Auer and John Mayes, North American Production Boom Pushes Crude Blending, Oil & Gas Journal, May 6, 2013. Available at: <http://www.ogj.com/articles/print/volume-111/issue-5/processing/north-american-production-boom-pushes.html>.

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pounds per square inch (psi) compared to Bakken crude, which can have a RVP of up to 15.5 psi.¹² Fox DEIR Comments at 12-17.

Thus, replacing ANS and foreign imports with Bakken would increase ROG and TAC emissions from refinery fugitive sources by a factor of two or more (as is also true for other sources discussed below). The TAC emissions would increase even more, because the concentration of TAGs in the DEIR Table 3-1 crudes that are likely to be imported by the Project are much higher than in the current crude slate. Fox DEIR Comments at 13.

In addition, Bakken crudes, when blended with heavy crudes to stay within the refinery operating envelope, have resulted in many refinery operating issues that increase emissions. These issues include fouling of the cold preheat train; desalter upsets; and fouling of hot preheater exchangers and furnaces; as well as corrosion.¹³ The DEIR unlawfully failed to disclose these reasonably foreseeable operating problems and resulting emission increases. Fox DEIR Comments at 17.

D. The DEIR Failed to Consider Impacts on Emissions from Storage Tanks and Loading Areas

Because the Project will import Bakken or similar crudes, it will significantly increase ROG and TAC emissions during unloading from the rail cars, pipeline fugitive components (valves, pumps, connectors), and crude storage tanks. The DEIR inaccurately asserts that the baseline for any increase in emissions from the refinery's eight crude oil storage tanks is the level permitted in the Valero Improvement Project (VIP) approved by the

¹² ExxonMobil Refining and Supply Company, ANS11U, Available at: <http://www.exxonmobil.com/crudeoil/about/crudes.ans.aspx> and <http://www.exxonmobil.com/crudeoil/download/ans11u.pdf>.

¹³ Classification and Hazard Communication Provisions for Crude Oil – Bakken Crude Oil Data, June 13, 2014. Available at:

<http://www.unecce.org/fileadmin/DAM/trans/doc/2014/dgac10c3/UN-SCETDG-45-INF26e.pdf>; Dangerous Goods Transport Consulting, Inc., A Survey of Bakken Crude Oil Characteristics Assembled for the U.S. Department of Transportation, Submitted by American Fuel & Petrochemical Manufacturers, May 14, 2014, at 5, 19, Available for download from: <https://www.afpm.org/NorthDakotaPetroleumCouncil/BakkenCrudeQualityAssuranceStudy>, Available at: http://www.ndoil.org/image/cache/Summary_2.pdf.

¹³ Innovative Solutions for Processing Shale Oils, Hydrocarbon Processing, 7/10/2013, <http://www.hydrocarbonprocessing.com/Article/3223989/innovative-solutions-for-processing-shale-oils.html>.

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City in 2003. DEIR, Appx. C.2 at C.2-3. As explained above, because the Project is a new project, the correct baseline is determined by actual, physical conditions, not by hypothetical permitted conditions. *Communities For A Better Env't v. S. Coast Air Quality Mgmt. Dist.*, 48 Cal. 4th 310, 315(2010).

Compared to existing conditions, the Project will significantly increase ROG and TAC emissions from storage tanks and unloading areas. The VIP environmental documents, which analyzed the crudes that are currently stored and unloaded at the refinery, illuminate these impacts. For example, the assessment of tank emissions for the VIP assumed benzene levels in the crude stored in tanks would be 0.009 wt.%,¹⁴ but the benzene levels in the suite of crude oils potentially imported by the Project are up to 700 times higher than those currently refined, ranging from 0.02 wt.% to 7 wt.%.¹⁵ Benzene is a known human carcinogen. Human exposure to benzene has been associated with a range of acute and long-term adverse health effects and diseases, including cancer and adverse hematological, reproductive and development effects.¹⁶ Fox DEIR Comments at 19. The DEIR unlawfully fails to disclose and discuss the potentially significant

¹⁴ The benzene concentration assumed in the storage tanks is calculated from post-VIP ROG emissions of 193 ton/yr (VIP DEIR, Table 4.2-9) and the post-VIP benzene emissions of 33.93 lb/yr (VIP DEIR, Table 4.7-6) as: $100 \times [33.93 \text{ lb/yr} / (193 \text{ ton/yr})(2000 \text{ lb/ton})] = 0.009 \text{ wt\%}$.

¹⁵ www.crudemonitor.ca. Concentrations reported in volume % (v/v) in this source were converted to weight % by dividing by the ratio of compound density in kg/m³ at 25 C (benzene = 876.5 kg/m³) to crude oil density in kg/m³, based on the most recent sample, as of June 27, 2014.

¹⁶ TSBC 2013; Tesoro Savage, Application for Site Certification Agreement, vol. 2, Appendix G: Material Safety Data Sheets for Enbridge Bakken (n-hexane = 11%; sour heavy crude oil (benzene = 7%; toluene = 7%; ethylbenzene = 7%; xylene = 7%; sweet heavy crude oil (toluene = 7%); light sweet crude oil (benzene = 7%; toluene = 7%; ethylbenzene = 7%; xylene = 7%); August 29, 2013. Available at:

<http://www.efsec.wa.gov/Tesoro%20Savage/Application/EFSEC%202013-01%20Volume%201%20-%20Appendices/EFSEC%202013-01%20Compiled%20Volume%20II.pdf>.

¹⁶ CARB, Report to the Scientific Review Panel on Benzene, Prepared by the Staffs of The Air Resources Board and The Department of Health Services, November 27, 1984, Available at: <http://www.arb.ca.gov/toxics/td/summary/benzene.pdf>; Chronic Toxicity Summary: Benzene, Available at: http://www.oeha.org/air/chronic_tels/pdf/71432.pdf; World Health Organization, Exposure to Benzene: A Major Public Health Concern, Available at: <http://www.who.int/ipcs/features/benzene.pdf>.

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health and environmental impacts of increased emissions of benzene and other ROG and TAC constituents.

1. *The DEIR Omits Significant ROG and TAC Emissions Increases from Tanks*

The DEIR did not adequately quantify emissions from the tanks that would store the crude oil delivered by rail. The emissions from floating-roof tanks include: tank breathing losses (the sum of rim seal losses, withdrawal losses, deck fitting losses, and deck seam losses estimated by the U.S. EPA Model TANKS 4.0.9d) and roof landing losses.

First, the DEIR fails to consider tank breathing losses. Valero originally proposed repurposing a tank currently used to store non-crude products (tank 1776) to store Project crude. In the initial study, the City calculated the increase in ROG emissions from that new tank to be 23.7 pounds per day, using an RVP of 9.4.¹⁷ Valero modified the Project in November 2013 to use other existing external floating roof tanks (tanks 1701 through 1708, which are currently permitted to store crude oil) rather than repurposing tank 1776. DEIR, Appx. E.4 (11/13 Ap., p. 6). These other existing external floating roof tanks currently store both San Joaquin Valley crudes, ANS crude, and other ship-imported crudes. *Id.*

Replacing the crudes currently stored in these tanks with Bakken crudes would significantly increase emissions due to the much higher volatility of Bakken crudes discussed above. A simple calculation, much like the one the City previously did for tank 1776, shows that substituting Bakken crudes for San Joaquin Valley crude in particular would significantly increase ROG emissions:

- 1) The IS/MND estimated total ROG emissions from tanks of 39.3 lb/day for the 70,000 bbl/day throughput Project.
- 2) The IS/MND used an RVP estimate of 9.4 psi for the crude.

¹⁷ That analysis considered changing the service of tank 1776 from jet fuel and other refinery products to crude oil. The ROG emissions were estimated with the U.S. EPA TANKS 4.0.9d model for a throughput of 70,000 bbl/day and a crude oil RVP of 9.4 psi. The net ROG emission increase, relative to December 2009 through November 2012 baseline, was 4.33 ton/yr. DEIR, Appx. E.3 (2/13 Ap., Table 3-2). The supporting calculations for these emission increases (in Appendix B to the February 2012 Application, DEIR Attachments B-1 and B-2) were withheld from the DEIR as confidential business information (CBI).

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- 3) Compare that to the crude oil it could replace, in this example, San Joaquin Valley (or similarly stable) crude that has an RVP of 0.04 psi.¹⁸

- 4) Assuming the RVP of the crude is proportional to tank emissions of ROG, the storage of 70,000 bbl/day of SJV crude = (39.3 lb/day) (0.04 psi/9.4 psi) = 0.17 lb/day, representing current conditions of stored SJV crude.

- 5) The increase in ROG tank emissions from storing 70,000 bbl/day of Bakken crude, assuming the reported upper-bound vapor pressure for Bakken crude of 15.5 psi¹⁹ would be (39.3 lb/day)(15.5 psi/9.4 psi) = 64.8 lb/day.

- 6) The net increase in ROG tank emissions from replacing 70,000 bbl/day of pipeline-imported SJV crude with 70,000 bbl/day of rail-imported Bakken is (64.8-0.2) 64.6 lb/day. The corresponding net increase in annual tank emissions would be (64.6 x 365/2000) 11.8 ton/year if all of the rail-imported crude were Bakken.

Similarly, replacing ANS crude with Bakken crude utilizing the same method described above would lead to increased ROG emissions from tanks of 38.5 lb/day or 7.0 tons/year from the Project.²⁰ Fox DEIR Comments at 23. *The resulting net increase in ROG emissions from the Project if Bakken or similarly volatile light crudes are imported would be 58 to 84 lb/day, as shown in Table 1. This exceeds the BAAQMD CEQA significance threshold of 54 lb/day. This increase in ROG emissions is a significant impact that the DEIR unlawfully fails to disclose. Fox DEIR Comments at 23-24.*

¹⁸ Emission Calculation Protocol for Oil Production Tanks, September 1, 2000.

¹⁹ Classification and Hazard Communication Provisions for Crude Oil – Bakken Crude Oil Data, June 13, 2014.

²⁰ This assumes an RVP equal to that for Alaska North Slope crude, or 6.3 psi. ExxonMobil Refining and Supply Company, ANS11U, Available at: http://www.exxonmobil.com/crudeoil/about_crudes_ans.aspx and <http://www.exxonmobil.com/crudeoil/download/ans11u.pdf>.

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Table 1- Revised Daily Net Operational Emissions Including ROG Emissions from Tanks

Source	ROG (lb/day)	
	Scenario 1: SJV baseline 4.1-5	Scenario 2: ANS baseline
Unloading Rack & Pipeline Fugitive Components	10.3	10.3*
Locomotives	19.3	19.3*
Storage Tanks	Not Included	38.5
Marine Vessels (Displaced Baseline)	-28.3	0**
Total Net Emissions	-8.8	58.1
BAAQMD CEQA	54	54

Source: DEIR Table 4.1-5 was modified to include tank emissions; estimated according to the above described methodology.

*Scenario 1: SJV baseline" represents the replacement of SJV crude with Bakken crude described above.

"Scenario 2: ANS baseline" represents the replacement of ANS crude with Bakken crude described above.

** These emissions are likely to be much higher per the discussion below.

** The current marine vessel emissions cannot be discounted per the discussion below.

The increase in ROG emissions reflected in Table 1 would be accompanied by an increase in TAC emissions, which are estimated by multiplying the ROG emission increase by the weight percent of each TAC in the ROG emissions (i.e., the TAC speciation profile). These omissions are discussed in detail below in the Health Risk Assessment section.

The increase in ROG emissions estimated above is actually an underestimate because the model used, EPA's TANKS 4.0.9d model (TANKS), omits a number of important fugitive sources. The TANKS model estimates only rim seal losses, withdrawal losses, deck fitting losses, and deck seam losses. It does not estimate other fugitive ROG emissions from roof landing losses, inspection losses, or flashing losses. These additional emissions should be estimated, added to other tank emissions, and mitigated when the DEIR is revised. Fox DEIR Comments at 25.

Roof landing losses can occur when a tank is emptied, and there is a gap between the roof and the bottom of the tank. These losses are not accounted for in EPA's TANKS model, and EPA recommends that they be calculated separately. These evaporative roof landing losses could be

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substantially higher for Bakken crudes than for other types of crude. Bakken crudes leave waxy deposits in pipelines and tanks, which require more frequent cleaning,²¹ and thus higher emissions, than the crudes they would replace. Roof landing losses, can be easily estimated and are routinely included in emission inventories.²² They are required to be reported, for example, in Texas.²³ They are also included in the emission inventory for Tesoro's Vancouver Terminal, which imports similar crudes by rail, and stores those crudes in tanks.²⁴ Fox DEIR Comments at 25-26.

Tank flashing emissions would increase ROG emissions as well and were not accounted for in the DEIR. Most Bakken crudes are transported raw, without stabilization, as discussed elsewhere in these Comments. Unstabilized or "live" crude oils have high concentrations of volatile materials entrained in the bulk crude oil. Tank flashing emissions occur when these live crude oils, such as Bakken crudes, are exposed to temperature increases or pressure drops. In such circumstances, some of the compounds that are liquids at the initial pressure/temperature transform into gases and are released (or "flashed") from the liquid. These emissions are not estimated by the EPA TANKS model, but should have been calculated separately using standard procedures.²⁵ The DEIR failed to

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²¹ Innovative Solutions for Processing Shale Oils, Hydrocarbon Processing, 7/10/2013, Available at: <http://www.hydrocarbonprocessing.com/Article/3223989/Innovative-solutions-for-processing-shale-oils.html>.

²² "How Can I Estimate Emissions from Degassing and Cleaning Operation During a Tank Turnaround? And How Can I Estimate Emissions from Roof Landing Losses in the TANKS Program?"; Available at: <http://www.epa.gov/ttnchie1/faq/tanksfaq.html#13>.

²³ Memorandum from Dan Eden, Deputy Director, Office of Permitting, Remediation, and Registration; David C. Schanbacher, Chief Engineer; and John Steib, Deputy Director, Office of Compliance and Enforcement, Re: Air Emissions During Tank Floating Roof Landings, December 5, 2006, Available at: http://www.tceq.state.tx.us/assets/public/permitting/air/memos/tank_landing_final.pdf.

²⁴ Tesoro Savage, Application for Site Certification Agreement, Section 5.1.2.1.4, Available at: <http://www.efsec.wa.gov/Tesoro%20Savage/Application/EFSEC%202013-01%20Volume%20I/EFSEC%202013-01%20-%20Completed%20PDF%20Volume%20I.pdf>.

²⁵ See, e.g., calculation methods at: Paul Peacock, Marathon, Bakken Oil Storage Tank Emission Models, March 23, 2010, Available at: [file:///C:/Users/Phyllis/Downloads/Peacock - March 23 2010_ppt.pdf](file:///C:/Users/Phyllis/Downloads/Peacock%20March%2023%2010_ppt.pdf); TCEQ Air Permit Reference Guide APDG 5941, Available at: http://www.tceq.texas.gov/assets/public/permitting/air/Guidance/NewSourceReview/guidance_flashemission.pdf; Kansas Dept. of Health & Environment, Available at:

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mention, calculate, or take into account these emissions, and does not include mitigation measures that would allow only stabilized crude oils to be received. Fox DEIR Comments at 28.

Finally, the DEIR fails to analyze water draw tank emissions. Crude oil typically contains small amounts of water. The water separates from the crude oil and accumulates in the bottom of storage tanks. This accumulated water, referred to as water draw, is typically transferred from the crude oil storage tanks into a smaller water draw surge tank for processing prior to disposal. Over time, a thick layer of crude oil forms in the water draw surge tank. The water draw surge tank and processing of wastewaters from it emit ROG and TACs. The DEIR fails to mention water draw, or include emissions from storing or processing it. This omission is material, because emissions associated with water draw will increase as the vapor pressure of the stored crude increases, and vapor pressure will increase when, for example, Bakken crude is substituted for San Joaquin Valley crude. Fox DEIR Comments at 28.

2. *The DEIR Omits Rail Car Unloading Emissions*

The Project includes a rail car unloading rack capable of unloading two parallel rows of 25 crude oil rail cars simultaneously. DEIR at ES-3. The DEIR fails, however, to properly analyze the emissions from the unloading process.

A typical rail car unloading system consists of an adapter unit that connects the rail car to couplings, hoses, valves and piping. These in turn connect to a positive displacement pump. Air and crude oil vapors are commonly mixed in with crude oil, due to loading and evaporation during transit. Because these vapors present an explosion risk for downstream equipment, they are typically removed with air eliminators. The vapors also contain high concentrations of ROG and TACs, thus they are typically routed to carbon columns or an incinerator to control the emissions. Fox DEIR Comments at 29.

The DEIR does not mention these vapors or indicate how they will be controlled. The DEIR only notes that “the BAAQMD will consider locomotive

http://www.kdheks.gov/bar/download/Calculation_Flashing_Losses_Handout.pdf; B. Gidney and S. Pena, Upstream Oil and Gas Storage Tank Project Flash Emissions Models Evaluation, July 16, 2009, Available at: <http://www.bdlaw.com/assets/html/documents/TCEQ%20Final%20Report%2001%20GAS%20Storage%20Tank%20Project.pdf>.

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emissions and tank car unloading emissions as may be caused by the Project.” DEIR at 3-2. This is not adequate. If unloading emissions will occur, at an air eliminator or other release point, the DEIR must disclose and analyze those emissions now. If unloading emissions will not occur, then the DEIR should provide sufficient documentation to prove that and explain how or whether the explosion hazard typically associated with unloading cargos such as Bakken crude will be addressed. It is not clear that the air equalization system discussed in the DEIR would eliminate this hazard. Fox DEIR Comments at 29.

The unloading facility also includes a liquid spill containment sump with the capacity to contain the contents of at least one tank car. DEIR at ES-2. Crude oil that spills into this sump would release vapors including ROG and TAC emissions. The DEIR unlawfully failed to disclose or analyze these emissions. Fox DEIR Comments at 29.

E. **The DEIR Improperly Assumes that the Project Will Offset Ship Emissions**

The DEIR assumes that the Project’s crude would “replace” marine deliveries, rather than replacing pipeline deliveries or simply increasing the total amount of deliveries. DEIR at ES-1, ES-3, 1-1. Based on this assumption, the DEIR claims that the Project will decrease emissions from marine vessels. DEIR at 4.1-19. Specifically, the DEIR claims an emission reduction of 5.18 tons/year, (see Table 1 for example) by assuming that 73 vessel trips would be eliminated. DEIR at 4.1-16. This description of the project is misleading. There is no enforceable requirement that would require Valero to reduce marine deliveries to offset new rail deliveries. And it is reasonably foreseeable that such an offset will not occur, or not occur in full.

Instead, it is reasonably foreseeable that crude arriving by rail due to the project will replace existing albeit declining supplies of San Joaquin Valley crude oil,²⁶ which are presently delivered by pipeline, rather than replacing (or just replacing) crudes delivered by ship. Fox DEIR Comments at 20. The nearby Shell Oil Refinery in Martinez, for example, recently increased crude storage capacity to substitute imported crude oil by marine vessel “for diminishing San Joaquin Valley crude by pipeline.” DEIR, Table 5-1. The City’s consultant, ESA, similarly expressed concern that ship

²⁶ California Energy Commission, Margaret Sheridan, California Crude Oil Production and Imports, April 2006. Available at: <http://www.energy.ca.gov/2006publications/CEC-600-2006-006/CEC-600-2006-006.PDF>.

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deliveries could increase in the future to replace diminishing supplies of crude oil available by pipeline. Fox DEIR Comments at 20.²⁷ Further, the BAAQMD Statement of Basis for the VIP Project states: "Valero anticipates the possibility that crude may no longer be brought in by pipeline. This could result from a problem with the pipeline, or a change in the cost of crude that makes pipeline supply no longer economical."²⁸ Thus, it is reasonably foreseeable—especially in the absence of any contrary, enforceable conditions of approval—that the Project would not decrease marine deliveries to the extent claimed in the DEIR, or perhaps would not decrease them at all. The DEIR fails to disclose or analyze this scenario.

The DEIR also unlawfully fails to analyze whether the Project's crude will be additional to what is already being imported under baseline conditions. Indeed, the DEIR lacks any information whatsoever about the current baseline throughput. Without such information, it is impossible to know whether the Project will allow throughput to increase. Obviously, to the extent that Valero adds the Project crude to its existing sources, there will be no decrease in marine shipments of crude.

Agencies may not incorporate proposed mitigation measures into the description of the project to skirt CEQA's requirement to disclose significant impacts. *Lotus v. Dep't of Transp.*, 223 Cal. App. 4th 645, 655-56 (2014). And if an agency relies on such measures to reduce the significance of the project, it must ensure that they are enforceable. *Id.* at 652. Here, the City may not simply rely on Valero's unenforceable statements that the Project would reduce marine shipments. There is certainly nothing inherent in the project that would prevent marine shipments to continue at their present level. If the City wishes to rely on Valero's statement that marine shipments will decrease, it must make that an enforceable condition of approval. If the City believes it cannot make an offsetting reduction in marine crude shipments enforceable, then the City must analyze the increase in train emissions without any offsets for reductions in marine emissions. The DEIR fails on both fronts.

²⁷ Valero Responses to: Valero Crude by Rail Project Data Request Number 2, April 2, 2013.

²⁸ Available at http://www.baaqmd.gov/~media/Files/Engineering/Title%20V%20Permits/B2626/B2626_2010-05_renewal_03ashx?la=en.

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F. The DEIR Fails to Adequately Analyze Substantial Fugitive ROG and TAC Emissions from Rail Transport

Because rail cars are not vapor tight, ROG and TACs from Bakken or similar crudes will be emitted from rail cars from their point of origin through unloading. Each rail tank car filled with crude oil has head space to accommodate expansion during shipping. This free space at the top of the tank car, allows entrained gases to be released from the crude oil.²⁹ and emitted to the atmosphere during transit and idling in rail yards.³⁰ Because most Bakken crudes are shipped live, they can flash in the tank cars when exposed to temperature increases or pressure drops, causing valves to open, emitting ROG and TACs. Fox DEIR Comments at 30.

These losses are consistent with the well-known "crude shrinkage" issue associated with crude by rail: The quantity of crude delivered is significantly less than the quantity of crude that was loaded. The reported range in crude shrinkage is 0.5% to 3% of the loaded crude.³¹ Some of this shrinkage is likely due to emissions of ROG and TAC from the rail car during transit, which has been confirmed by field measurements. The DEIR did not include these ROG and TAC emissions in its emission calculations or the health risk assessment. Fox DEIR Comments at 30.

²⁹ Anthony Andrews, Congressional Research Service, Crude Oil Properties Relevant to Rail Transport Safety: In Brief, February 18, 2012, at 8-9.

³⁰ A DOT 111 (or comparable) tank car generally has a capacity of 34,500 gallons or 263,000 lbs. gross weight on rail. Under some conditions, the maximum gross weight can be increased to 286,000 lbs. At an API gravity of 50°, a tank car can hold its maximum volume of 31,800 gallons and not exceed the 286,000 lb gross weight on rail limit. As the API gravity drops, the amount of oil that can be carried must also drop. Thus, a tank car of Bakken crude, at its highest density of 39.7° API, can only hold 30,488 gallons, a volume reduction of about 1,300 gallons. Further, as crude oil density (and thus API gravity) is temperature dependent, volume will increase as temperature increases. Thus, the shipper may have to reduce the shipped volume even further. This volume reduction creates a space above the crude oil where vapors accumulate.

³¹ Alan Mazaud, Exergy Resources, Pennsylvania Rail Freight Seminar, May 23, 2013, p. 17. Available at: <http://www.narailseminar.com/site/Portals/3/docs/Alan%20Mazaud%20Presentation%20-%20AM.pptx>.

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- Prohibit diesel generators where access to the electrical grid is available.
- Require electrification of motors, pumps, and other power tools whenever feasible.
- Require the use of biodiesel or other alternative fuels in generators, construction equipment, and/or off-road vehicles.

In addition, all construction equipment should meet EPA Tier 4 emission standards or utilize the best available control technology (BACT)⁶⁰ for emissions reductions of PM.⁶¹ On-road trucks, such as dump trucks, should meet current EPA emissions standards or be equipped with diesel particulate filters.

II. THE DEIR FAILS TO PROPERLY DISCLOSE, ANALYZE, AND MITIGATE THE PROJECT'S SIGNIFICANT GREENHOUSE GAS IMPACTS

CEQA requires agencies to analyze and mitigate a project's greenhouse gases impacts. Pub. Res. Code § 21083.05; Guidelines § 15064.4. Under the Bay Area Air Quality Management District threshold of significance used by the City, a stationary source project will have significant climate impact if it will emit more than 10,000 metric tons per year of carbon dioxide equivalent. DEIR at 4.6-9. The DEIR, looking solely at transportation emissions, concludes that the Project will not have significant climate impacts. DEIR at 4.6-11 to 4.6-14.

As with its analysis of air quality impacts, the DEIR improperly fails to disclose or analyze how changes in the crude slate or the total throughput at the refinery, enabled by the Project, will affect greenhouse gas emissions. The DEIR does not provide the current baseline for greenhouse gas

⁶⁰ Here, BACT refers to the "most effective verified diesel emission control strategy" (VDECS), which is a device, system, or strategy that is verified pursuant to Division 3, Chapter 14 of Title 13 of the California Code of Regulations to achieve the highest level of pollution control for an off-road vehicle.

⁶¹ This could include natural gas or biodiesel (derived from vegetable oils or animal fats, meeting the requirements of ASTM D 6751). However, biodiesel must be proven to be sourced from sustainable feedstocks including waste grease, fats or oil, and, under certain circumstances, farmed oils that can be proven to be sustainable.

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emissions, beyond the emissions of marine tankers. DEIR at 4.6-8. Accordingly, it does not even mention possibly increases in refinery emissions, even though the refining of tar sands causes increased greenhouse gas emissions relative to traditional crudes. Fox IS/MND Comments at 29. The DEIR must analyze whether changes in the crude slate or increases in the total throughput would affect greenhouse gas emissions.

Furthermore, the DEIR's conclusion that the Project would not have a significant impact based on changes in transportation emissions is flawed. This conclusion, like the conclusion for air quality, assumes without any assurances that the Project's crude would necessarily replace crude imported by ship, rather than crude imported by pipeline. DEIR at 4.6-14. As discussed above, there is no enforceable mitigation measure requiring this result, and thus no guarantee that emissions will actually go down as promised by the DEIR.

III. THE DEIR FAILS TO PROPERLY DISCLOSE, ANALYZE, AND MITIGATE THE PROJECT'S SIGNIFICANT HAZARDS IMPACTS

The City concedes that the Project will bring in crude from the Bakken region. DEIR at 3-23, 4.7-6 to 4.7-10. Bakken and other similar light crudes taken straight from the well are typically called "live" crudes because they contain large amounts of volatile natural gas liquids. The high concentration of these liquids in live crudes makes them highly flammable and more likely to form fire balls and boiling liquid expanding vapor explosions (BLEVES) in accidents. In most petroleum-producing regions, volatile components are removed before shipping using a stabilizer. However, in the Bakken fields, this infrastructure is rare, and so the crudes are shipped live. Thus, shipping Bakken crudes by rail poses unique risks. Fox DEIR Comments at 16-17.

In the past year and a half alone, there have been twelve serious crude-by-rail accidents in North America resulting in deaths, injuries, major evacuations, and millions of gallons of spilled oil. Attachment 4, Diane Bailey, *It Could Happen Here: The Exploding Threat of Crude by Rail in California*, NRDC Fact Sheet, June 2014 (Bailey Report) at 1. Most notably, on July 6, 2013, a train carrying Bakken crude oil derailed and exploded in Lac-Mégantic, Quebec, killing 47 people and destroying 30 downtown buildings. DEIR at 4.7-6, 4.7-8. The federal government has recognized the significant hazards presented by shipping Bakken crude by rail, calling it an "imminent

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ATTACHMENT 1

Comments by Dr. Phyllis Fox on the Draft
Environmental Impact Report for the Valero
Benicia Crude by Rail Project,
September 15, 2014

Comments
on the
Draft Environmental Impact Report (DEIR)
for the

Valero Benicia Crude by Rail Project

Benicia, California

September 15, 2014

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I have reviewed the Draft Environmental Impact Report (DEIR)¹ for the Valero Benicia Crude by Rail Project (CBR Project) prepared for the City of Benicia (City) by ESA, as well as records referenced in the DEIR and files obtained from the Bay Area Air Quality Management District (BAAQMD).

The CBR Project will install facilities to allow the Valero Benicia Refinery (Refinery) to receive up to 70,000 barrels per day (bbl/day) of North American crude oils by rail. The facilities that would be installed include about 8,880 feet of new track; a new tank car unloading rack capable of unloading two parallel rows of tank cars simultaneously; and 4,000 feet of 16-inch diameter crude oil pipeline and associated fugitive components (valves, flanges, pumps) connecting the offloading rack and an existing crude supply pipeline. DEIR, pp. ES-1 to ES-4.

Based on my review, I conclude this DEIR is fundamentally defective in that it omits crucial information to understanding the Project's significant impacts. Specifically, the DEIR does not disclose the Project's crude slate, relies on flawed analyses in addressing whether the Project would enable refining of substantial quantities of tar sands and Bakken crudes, relies on unsupported assumptions as to the Project's light crude composition, and underestimates the Project's operational emissions of reactive organic gases ("ROG") and toxic air contaminants ("TAC"). When these underestimates are corrected, the CBR Project results in significant air quality and public health impacts. The City must correct these defects and recirculate the DEIR, so that the public and decision-makers can be fully informed of the Project's air quality and public health and safety impacts.

My resume is included in Exhibit A to these Comments. I have over 40 years of experience in the field of environmental engineering, including air emissions and air pollution control; greenhouse gas (GHG) emission inventory and control; air quality management; water quality and water supply investigations; hazardous waste investigations; hazard investigations; risk of upset modeling; environmental permitting; nuisance investigations (odor, noise); environmental impact reports, including CEQA/NEPA documentation; risk assessments; and litigation support.

I have M.S. and Ph.D. degrees in environmental engineering from the University of California at Berkeley with minors in Hydrology and Mathematics. I am a licensed professional engineer (chemical, environmental) in five states, including California; a Board Certified Environmental Engineer, certified in Air Pollution Control by the American Academy of Environmental Engineers; and a Qualified Environmental Professional, certified by the Institute of Professional Environmental Practice.

¹ ESA, Valero Benicia Crude by Rail Project, Draft Environmental Impact Report, SCH # 2013052074, Use Permit Application 12PLN-00063, June 2014.

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I have prepared comments, responses to comments and sections of EIRs for both proponents and opponents of projects on air quality, water supply, water quality, hazardous waste, public health, risk assessment, worker health and safety, odor, risk of upset, noise, land use and other areas for well over 100 CEQA documents. This work includes Environmental Impact Reports (EIRs), Negative Declarations (NDs), and Mitigated Negative Declarations (MNDs) for all California refineries; crude oil and rail terminals in California, Louisiana, Oregon, New York, Texas, and Washington; and various other permitting actions for tar sands and light shale crude refinery upgrades in Indiana, Louisiana, Michigan, Ohio, South Dakota, Utah, and Texas and liquefied natural gas (LNG) facilities in Texas, Louisiana, and New York.

My work has been cited in two published CEQA opinions: (1) *Berkeley Keep Jets Over the Bay Committee, City of San Leandro, and City of Alameda et al. v. Board of Port Commissioners* (2001) 111 Cal.Rptr.2d 598 and *Communities for a Better Environment v. South Coast Air Quality Management Dist.* (2010) 48 Cal.4th 310.

I commented on the Initial Study/Mitigated Negative Declaration (IS/MND) (attached to the DEIR as Appx. A²) that the CBR Project would allow a change in crude oil slate quality, to heavier higher sulfur crudes and/or to lighter sweeter crudes, which would result in emission increases that were not considered in the CEQA review. Fox IS/MND Comments³, pp. 2-35. The DEIR does not correct the defects that I identified in my IS/MND comments. Rather, it advances an argument that the rail-imported crudes will be blended with other crudes to meet the same sulfur and weight specifications as in the baseline Refinery. Thus, the DEIR asserts that crude slate quality and emissions from refining it would not change. This is incorrect. This does not address my comments on the IS/MND. Therefore, I reassert my IS/MND comments and incorporate them here by reference. The following sections present my evaluation of the DEIR's response to my previous crude slate switch comments, point by point. The DEIR's response to my comments is included in Appendices C.1 and C.2, based on a report contained in Appendix K. The following comments on Appendices C.1 and C.2 apply equally to the underlying analyses in Appendix K.

² ESA, Valero Crude by Rail Project, Initial Study/Mitigated Negative Declaration, Use Permit Application 12PLN-00063, Prepared for City of Benicia, May 2013.

³ Phyllis Fox, Comments on Initial Study/Mitigated Negative Declaration for the Valero Crude by Rail Project, Benicia, California, Use Permit Application 12PLN-00063, July 1, 2013; http://www.ci.benicia.ca.us/vertical/sites/%7B3436CBED-6A58-4FEF-BFDE-5F9331215932%7D/uploads/Report_by_Dr._Phyllis_Fox.pdf.

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I. THE DEIR FAILS TO ANALYZE THE AIR QUALITY IMPACTS FROM REFINING DIFFERENT TYPES OF CRUDE

A. Heavy Sour Crudes

The CBR Project DEIR responds to the heavy sour crude slate issues that I raised in Appendix C.1. The thrust of the CBR Project DEIR's response is based on the "weight" (API gravity)⁴ and sulfur content of the crude, which it argues would not change due to the Project, but rather would remain within a narrow range. Therefore, the CBR Project DEIR argues, emissions would not increase. The CBR Project DEIR argues: "Thus, to the extent that the Project would cause an increase in emissions based on an increase in the weight and sulfur content of crude feedstocks – any such emissions increase would be within the baseline environmental conditions." DEIR, Appx. C.1, p. C.1-3.

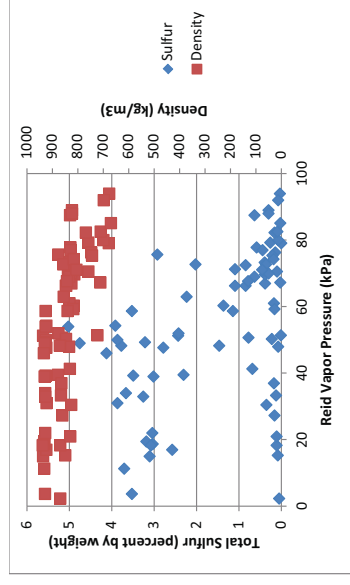
First, this misses the point, as explained in my previous comments at Section II.D, pp. 19-31. There are important differences between crudes that are not related to the weight and sulfur content of the crude that result in adverse impacts. Even if the weight and sulfur content of a particular crude blend fall within the range specified in the DEIR, or don't change at all, other components in the crude, such as TACs like benzene, or highly malodorous compounds such as mercaptans, may be present at much higher concentrations than in the crudes they replace with identical sulfur and API gravity.

Further, other characteristics of the crude, such as its vapor pressure or flammability, may differ in significant ways from the crudes they would replace. These other constituents and properties are not a function of the API gravity or the sulfur content and are present independent of them. The DEIR's consultant, Dr. McGovern, demonstrated there is no relationship between vapor pressure (expressed as RVP) and crude gravity (expressed as API). DEIR, Appx. K, p. K-18. This is further substantiated by analysis of data published by Enbridge, summarized here in Figure 1. The Enbridge data covering 76 different types of crude oil show that crude oil attributes of sulfur content and density are completely independent of vapor pressure.

⁴ Note that throughout the DEIR, the term "weight" is used to indicate API gravity or density, where "density" is technically what is meant. We will use the same terminology in this report; "weight" indicates density.

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Figure 1: Reid Vapor Pressure Compared to Total Sulfur and Density for 76 different types of Crude Oil



Source: Enbridge Pipelines Inc., 2013 Crude Characteristics, <http://www.enbridge.com/-/media/www/Site%20Documents/Delivering%20Energy/2013%20Cnde%20Characteristics.pdf>

The vapor pressure of crude determines to a large extent the amount of ROG and TAC emissions that are emitted when it is transported, stored, and refined. Thus, a crude slate may have identical sulfur content and weight, but would result in dramatically different ROG and TAC emissions. Similarly, the nature of the chemical bonds in crude determines the amount of energy and hydrogen that must be supplied to refine it. Thus, a crude slate may have identical sulfur and weight, but a different mix of chemicals that would affect the amount of energy and hydrogen required to convert it into refined products.

These differences—in both chemical and physical characteristics other than API gravity and sulfur content—fluctuate independent of sulfur content and API gravity and will result in significant impacts that have not been considered in the DEIR. These impacts include, for example, significant increases in ROG emissions, contributing to existing violations of ozone ambient air quality standards; significant increases in TAC emissions, resulting in significant health impacts; significant increases in malodorous sulfur compounds, resulting in significant odor impacts; significant increases in combustion emissions, contributing to existing violations of ambient air quality standards; and significant increases in flammability and thus the potential for more dangerous accidents involving train derailments or spills on-site. The DEIR fails to consider these significant impacts by raising irrelevant issues.

Second, the rationale that sulfur levels and density of the crude slate would stay within a narrow range ignores the possibility of gradual creep within that range that would still be

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significant. This recently occurred at the nearby Chevron Richmond Refinery. This refinery gradually changed crude slates, while staying within its established crude unit design basis for total weight percent sulfur of the blended feed to the crude unit.⁵ This change increased corrosion rates in the 4-sidecut line, which led to a catastrophic pipe failure in the #4 Crude Unit on August 6, 2012. This accident sent 15,000 people from the surrounding area for medical treatment due to the release and resulting fire that created huge black clouds of pollution over the surrounding community. Fox IS/MND Comments, pp. 25–26.

These types of accidents can be reasonably expected to result from incorporating tar sands crudes into the Benicia crude slate, even if the range of sulfur and gravity of the crudes remain the same, unless significant upgrades in metallurgy occur, as these crudes have a significant concentration of sulfur in the heavy components of the crude coupled with high total acid number (TAN) and high solids, which aggravate corrosion. The gas oil and vacuum resid piping, for example, may not be able to withstand naphthenic acid or sulfidation corrosion from tar sands crudes, leading to catastrophic releases.⁶ Fox IS/MND Comments, pp. 35-36.

Catastrophic releases of air pollution from these types of accidents were not considered in the DEIR. Rather, the DEIR relies on the Refinery's existing Process Safety Management program, including the Management of Change (MOC) and Mechanical Integrity (MI) programs, to prevent corrosion. DEIR, p. 3-16. However, these programs were also in place at Chevron at the time of the August 2012 accident discussed above, and they did not prevent a catastrophic accident caused by sulfur creep. The recent Chevron FEIR incorporated many additional mitigation measures to improve these programs,⁷ which should be required for the Valero Rail Project.

Third, the unloading rack, storage tanks and associated fugitive components are major sources of the ROG and TAC emissions. These unload, transport, and store crude oil as delivered, before it is blended. Therefore, the argument that the rail-imported crude is blended before it is refined is irrelevant.

⁵ US Chemical Safety and Hazard Investigation Board, Chevron Richmond Refinery Pipe Rupture and Fire, August 6, 2012, p.34 ("While Chevron stayed under its established crude unit design basis for total wt. % sulfur of the blended feed to the crude unit, the sulfur composition significantly increased over time. This increase in sulfur composition likely increased corrosion rates in the 4-sidecut line.").

⁶ See, for example, K. Turini, J. Turner, A. Chiu, and S. Vaidyanathan, Processing Heavy Crudes in Existing Refineries. In: Proceedings of the AIChE Spring Meeting, Chicago, IL. American Institute of Chemical Engineers, New York, NY. Available at: <http://www.aiiche-fpd.org/listing/112.pdf>.

⁷ See, for example, Chevron Refinery Modernization Project, Revisions to Draft EIR Volumes 1 & 2, p. 4-40, Mitigation Measure 4.13-7h, Available at: <http://chevronmodernization.com/project-documents/>.

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1. The CBR Project DEIR Must Evaluate the Potential Impacts of the Full Range of Crude Oil Types That Could Be Imported

The CBR Project DEIR asserts: "There is no reason to believe that... Valero would be more likely to purchase heavy Canadian crudes than any number of other North American crudes that are lighter and/or sweeter..." DEIR, Appx. C.1, p. C.1-1. The CBR Project DEIR presents a table that lists 38 "available North American crudes" that could potentially be imported by the proposed rail facilities. DEIR, Table 3-1. Of these 38 crudes, 87% or 33 of them, are Canadian tar sands crudes and of the tar sands, 15 are "heavy sour" and 5 are "medium sour." Canadian tar sands crudes are chemically distinct from the current crude slate and thus will result in significant impacts that were not analyzed in the CBR Project DEIR. Fox IS/MND Comments, pp. 25-28. DEIR Table 3-1 is prima facie evidence that tar sands crudes are likely to be in the mix of crudes that will be imported by the CBR Project.

Regardless of which of these 38 crudes is selected, the DEIR must analyze the full range of resulting impacts, from all of the 38, as the DEIR suggests all or any of them may be refined. Impacts would vary greatly between tar sands crudes on the heavy high sulfur end and by Bakken crudes on the light sweet end, each end of this range with unique and significant impacts. The DEIR does not include impacts from either of these, but rather only an unidentified default crude that is not representative of any of the 38. See Comment III.

2. Blended Weight and Sulfur Content Do Not Determine ROG and TAC Emissions

The CBR Project DEIR argues that "even if Valero were to purchase large amounts of heavy sour Canadian crudes as a result of the Project, this would not cause an increase in refinery emissions because Valero must blend crude feedstocks to a narrow range of weight and sulfur content before processing them." DEIR, pp. 3-14, 3-24, 4.1-17, C.1-1/2. This is insufficient information to analyze impacts, as noted above, because the weight (API gravity) and sulfur content are not the only characteristics of crude oil that determine environmental impacts. Other important factors include volatility, flammability, metal content, ROG speciation profile, the specific suit of heavy organic compounds in the crude, and the TAC and sulfur speciation profile (i.e., the concentration of individual TAC and sulfur compounds present in the crude).

Elevated levels of benzene or hydrogen sulfide, for example, cannot be blended out because they are emitted from tanks and fugitive components before the crudes reach the mixing tanks. The majority of the toxic TACs and malodorous chemicals are emitted before blending occurs, during unloading and from fugitive components along the pipeline and at the storage tanks. Blending by itself does not eliminate them.

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Similarly, elevated metals that end up in coke fugitive particulate emissions cannot be blended out. No matter how much blending is done with relatively less contaminated crudes, a significant amount of heavy metals from lower quality rail-imported crude would still remain, mostly partitioning to the coke. Blending also does not remove but only dilutes elevated concentrations of high molecular weight organic compounds such as asphaltene and resins that require high energy input to break down into marketable products. Fox IS/MND Comments, pp. 4-10. These characteristics may vary in significant ways among crudes with the same range of API gravity and sulfur, resulting in significant environmental impacts. Fox IS/MND Comments, pp. 29-30.

3. Crude Slate Impacts Are Not Part of the Baseline

The CBR Project DEIR indicates that Valero made significant modifications to the Refinery between 2004 and 2010. These modifications are collectively known as the “Valero Improvement Project” or VIP. The City certified the VIP project EIR and approved the VIP project in April 2003. It later certified the VIP EIR addendum in July 2008. DEIR, p. 3-12.

The CBR Project DEIR argues that crude slate impacts are part of the VIP baseline, “[e]ven if refinery emissions were to increase based on Valero’s purchase of heavy sour Canadian crudes, any such emissions increases would properly be considered part of the baseline because the baseline includes the full scope of operation allowed under existing permits that were issued based upon prior CEQA review.” DEIR, p. C.1-1. The DEIR cites several CEQA cases regarding subsequent environmental review for modifications to existing projects.

Setting aside legal considerations, this argument has no technical merits for three reasons. First, the scope of operations previously approved did not include any impacts from a crude slate change and did not contemplate the crudes listed in DEIR Table 3-1. Second, the CBR Project is not a modification of the previously permitted VIP, which underwent CEQA review. Third, even assuming the VIP EIR evaluated a crude slate change and the CBR Project is just a modification of the VIP, both of which are false, the regulatory framework has changed, requiring additional CEQA review.

a. *The Scope of the VIP Project Did Not Include Impacts from Crude Slate Change*

Even if the CBR Project were simply a modification of the VIP Project, the VIP EIR did not evaluate impacts from a crude slate change. The existence of permits, absent CEQA review of the proposed change, is not determinative.

The VIP CEQA documents do not discuss cost-advantaged North American crudes, such as those in CBR Project DEIR Table 3-1. None of these crudes is evaluated, or even identified,

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in the VIP EIR. Thus, the impacts of refining these crudes were in no way considered or incorporated. Therefore, the CBR Project DEIR cannot rely on the VIP CEQA review to address the impacts of refining any of them. Rather, the VIP EIR proposed to import heavy sour crudes by ship. The crudes available by ship in 2002 are chemically and physically different from the crudes available by rail in 2014, over a decade later. The oil markets have changed dramatically due to the advent of fracking and the development of tar sands, all of which occurred long after the VIP EIR analyses were performed.

There are many cost-advantaged, heavy high sulfur crudes that likely were the target of the VIP analyses prepared in 2002, such as heavy sour crudes from Ecuador, Venezuela, Colombia and Iraq, which were refined at the post-VIP Refinery. Fox IS/MND Comments, Figure 1. These heavy sour crudes are distinguishable from the crudes that are currently the target of the CBR Project, which are tar sands crudes and light sweet crudes with distinct physical and chemical characteristics. DEIR, p. C.2-1. The crudes that are currently the target of the CBR Project (DEIR, Table 3-1) were not available in the marketplace in 2002 when the VIP CEQA analysis was performed and thus were not considered in prior CEQA analyses. The differences between the crudes considered in the VIP EIR and those that would be imported by the CBR Project are discussed in my July 2013 comments on the IS/MND.

There is no evidence that the VIP was designed to refine, and that the VIP CEQA review addressed, the unique impacts of refining any of the cost-advantaged North American crudes listed in DEIR Table 3-1. Further, the lynchpin of the VIP EIR, a new, bigger hydrogen plant to allow refining of more heavy sour crude, may not be built as Valero has enough hydrogen to meet its current needs. DEIR, p. 3-12. This could be due to the availability of hydrogen from another source or a change in crude slate to lighter crudes that do not require more hydrogen to refine.

Bakken and Bakken blends with tar sands crudes, for example, would fall into this class. Further, the rail emissions assume a line haul one-way distance of 1,500 miles (DEIR, p. 4.1-22 and Appx. E.5, pdf 1197), which is consistent with Bakken crudes. There is no evidence in the record that impacts from refining this lighter, sweeter crude were considered in the VIP EIR. These impacts are discussed below in Comment I.B.

b. *The CBR Project Is a New Project*

The City did not treat the CBR Project as a modification of a previously permitted project in the IS/MND, but rather as a new project. Furthermore, even the DEIR refers to the VIP as a “previous” project. DEIR at 1-4. The characterization of the CBR Project as a modification of the VIP Project in the DEIR for baseline purposes improperly characterizes the projects and causes the CBR Project DEIR to underestimate or ignore real environmental impacts.

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c. *The Regulatory Framework Has Changed, Requiring Additional CEQA Review*

Even if one hypothetically assumed that the VIP EIR evaluated the crude slate switch facilitated by the CBR Project, the regulatory and informational framework within which the CBR Project would be developed has changed dramatically, rendering the 2002 analysis obsolete. The City certified the VIP project EIR and approved the VIP project in April 2003. It later certified a VIP EIR addendum in July 2008. DEIR, p. 3-12. The Addendum incorporated a flue gas change related to the Main Stack Scrubber and added an analysis of greenhouse gas emissions. These changes do not affect any of the issues discussed here.⁸

When the VIP CEQA analysis was performed, none of the cost-advantaged crudes listed in Table 3-1 were in the marketplace. In response to ESA questions, for example, Valero responded that the CBR Project “was implemented to take advantage of land-locked North American crudes that have **recently** become available.” Valero 2013, p. 1 (emphasis added). As discussed earlier, these crudes are notably different from the current crude slate, in ways that are much broader than just sulfur content and weight. Thus, none of the impacts of refining these physically and chemically distinct crudes could have been anticipated and evaluated in 2002 when the VIP CEQA analysis was performed. Further, as explained in my comments on the IS/MND, the regulatory framework has significantly changed, requiring additional CEQA review even if the Project were a modification of a project that had previously undergone CEQA review. Fox IS/MND Comments, pp. 33-34.

Since the VIP FEIR was certified in 2003, new scientific evidence about the potential adverse impacts of air pollutants has become available, and in response, new guidance has been published and several federal and state ambient air quality standards have been revised. These include:

- The 8-hour state ozone standard was approved by the California Air Resources Board (CARB) on April 28, 2005 and became effective on May 17, 2006;
- The U.S. Environmental Protection Agency (EPA) lowered the 24-hour PM_{2.5} (particulate matter equal to or smaller than 2.5 micrometers) standard from 65 µg/m³ to 35 µg/m³ in 2006. EPA designated the Bay Area as nonattainment of this PM_{2.5} standard on October 8, 2009;
- On June 2, 2010, the EPA established a new 1-hour SO₂ (sulfur dioxide) standard, effective August 23, 2010;

⁸ Valero Improvement Project, Addendum to VIP EIR, June 2008. Available at: <http://www.clbentia.ca.us/vertical/sites/%7B3436CBED-6A58-4FEF-BFDE-5F9331215929%7D/uploads/%7B5A35F17D-5E23-404C-8032-6597BE84B5F9%7D.PDF>.

⁹ Valero Responses to: Valero Crude by Rail Project Data Request Number 2, April 2, 2013.

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- The EPA promulgated a new 1-hour NO₂ (nitrogen dioxide) standard of 0.1 ppm, effective January 22, 2010;
- The EPA issued the greenhouse gas tailoring rule in May 2010, which requires controls of GHG emissions not contemplated in the VIP FEIR or the 2008 Addendum;
- The CARB has identified lead and vinyl chloride as “toxic air contaminants” with no threshold level of exposure below which there are no adverse health effects determined;
- The EPA issued a final rule for a national lead standard, rolling 3-month average, on October 15, 2008. The Project would increase lead emissions. Fox IS/MND Comments, p. 1, 20;
- Various BAAQMD regulations, including Regulation 2-2 (adopted December 19, 2012); and
- BAAQMD is currently developing a regional refinery regulation that could require additional emission controls.

B. Light Sweet Crudes

Light sweet crudes such as Bakken could be imported by rail and could result in an increase in ROG and TAC emissions from storage tanks, pumps, compressors, valves, and connectors that were not considered in the IS/MND. Fox IS/MND Comments, pp. 11, 25-28. The CBR Project DEIR concedes that “[o]nce the Project is constructed and operational, Valero may well purchase large amounts of light sweet North American crudes. In fact, this is Valero’s stated plan.” DEIR, p. C.2-1. Elsewhere, the DEIR notes that “[o]nce the Project is complete, Valero plans to obtain North American crudes that are, on average, lighter and sweeter than Valero’s current feedstocks. According to Valero, the North American crudes will be ‘Alaskan North Slope (ANS) look-alikes or sweeter’ (Valero, 2013).” DEIR, p. 3-24. The closest and most cost advantaged of light sweet North American crudes listed in Table 3-1 that could be blended to be an ANS look-alike is Bakken crude.

An ANS look-alike crude, for example, could be created by blending 55% Bakken and 45% Western Canadian Select at a cost potentially far less than the ANS market price. The resulting mix has the same API gravity and slightly higher sulfur than ANS, and virtually identical distillation yields.¹⁰ Both of these crudes are listed as available North American crudes in the DEIR. DEIR, Table 3-1. See also DEIR, pp. K-16/17. Alternatively, some of the lighter crudes, such as Bakken, could be fed directly to refining units, such as the fluid catalytic cracking unit (FCCU), eliminating the need for blending. Thus, the DEIR must evaluate the

¹⁰ John R. Auer and John Mayes, North American Production Boom Pushes Crude Blending, Oil & Gas Journal, May 6, 2013. Available at: <http://www.ogj.com/articles/print/volume-111/issue-5/processing/north-american-production-boom-pushes.html>.

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impacts of importing by rail and processing both Bakken and tar sands crudes, which span the range of likely impacts.

1. Bakken Crudes Have Properties That Will Result in Significant Impacts Not Evaluated in the DEIR

The DEIR makes the same arguments as to weight and sulfur content as previously made with respect to heavy sour crudes. The DEIR asserts that refining 70,000 bbl/day of light sweet crude would not cause an increase in ROG emissions because: “(a) Valero must blend crude feedstocks to a narrow range of weight and sulfur content before processing them, and (b) therefore, the average weight and sulfur content of crudes delivered to the Refinery will remain the same. In other words, any deliveries of light North American crudes by rail would simply replace the delivery of other light crudes by ship.” DEIR, p. C.2-1. This is wrong for two principal reasons.

First, this is wrong because most of the ROG and TACs are emitted before the crudes are blended, from the rail cars, unloading, pipeline fugitive components (valves, pumps, connectors), and crude storage tanks. According to the Project description, two unit trains, each potentially carrying Bakken crude oil, would be unloading within a 24-hour period. DEIR, p. 3-22. This would result in an increase in daily ROG and TAC emissions, regardless of blending downstream to meet ANS-lookalike quality.

Second, this is wrong because all light sweet crudes are not created equal. The average weight (API gravity) and amount of sulfur in light sweet crudes do not determine the amount of ROG and TACs that will be emitted from Refinery tanks, pumps, compressors, valves, and connectors. The DEIR is correct when it asserts that “there is no relationship between the weight of a particular crude oil and the amount of fugitive emissions released from equipment containing that crude oil.” DEIR, p. C.2-1. See also Figure 1.

The amount of ROG and TAC emissions is determined by the “volatility” of the crude and the concentration of TACs within the crude, not by its weight or sulfur content. The volatility can vary widely for “light sweet crudes,” independent of weight and sulfur content. Processing in the oil fields, in particular, significantly affects volatility of shipped crudes, as discussed below. Bakken crudes, which are likely to be imported by the CBR Project, have uniquely elevated volatility, which has led to many spectacular accidents, such as those that occurred at Lac-Mégantic¹¹; Casselton, North Dakota¹²; Alabama¹³; and more recently, Lynchburg, Virginia.¹⁴

¹¹ NTSB, Safety Recommendation In reply refer to: R-14-4 through -6, January 21, 2014. Available at: <http://www.nsb.gov/doclib/reelletters/2014/R-14-004-006.pdf>.

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Volatility is measured in pounds per square inch (psi) and is typically reported as Reid Vapor Pressure (RVP).¹⁵ Vapor pressure is an indirect measure of the evaporation rate of volatile compounds in the crude oil, with higher vapor pressures indicating greater losses from evaporation. The DEIR neglected to disclose the well-known relationship between the vapor pressure of a crude and the amount of emissions released from equipment containing the crude,¹⁶ which is incorporated into the EPA TANK 4.0.9d model, universally used to estimate ROG and TAC emissions from tanks, including in the DEIR for this Project.

The CBR Project would facilitate the import of Bakken crudes, which have uniquely elevated vapor pressures compared to the light sweet crudes they would replace. As discussed elsewhere in these comments, most of the imported crude that would be replaced is Alaska North Slope (ANS) crude (API gravity = 31.6°, S = 0.96%) and similar or heavier foreign imports. The ANS crude has a Reid Vapor Pressure (RVP) of 6.3 psi.¹⁷ Most foreign imports have an even lower RVP. In comparison, Bakken crudes (API gravity = 38-40°, S = 0.2%), the most likely replacement, have a RVP of up to 15.5 psi.¹⁸ Thus, replacing ANS and foreign imports with Bakken would increase ROG and TAC emissions from tanks and fugitive sources by up to a factor of 2.5. The TAC emissions would increase even more as the concentration of TACs in the Table 3-1 crudes are much higher than in the current crude slate.

The volatility and TAC speciation information required to evaluate this crude switch, from ANS, to an ANS-look alike based on a Bakken blend, is completely absent from the DEIR. Vapor pressure and crude TAC speciation information are not confidential and are routinely

¹² NTSB, Preliminary Report; DCA14MR004, 2014. Available at:

https://www.nsb.gov/doclib/reports/2014/Casselton_ND_Preliminary.pdf.

¹³ Karlamangla, Soumya, “Train in Alabama oil spill was carrying 2.7 million gallons of crude.” Los Angeles Times, <http://articles.latimes.com/2013/nov/09/nation/la-na-train-crash-alabama-oil-20131109>, November 9, 2013.

¹⁴ Los Angeles Times, May 1 2014, <http://www.latimes.com/nation/nationow/la-na-n-ntsb-investigation-fiery-crude-oil-train-denialment-virginia-20140501-story.html>.

¹⁵ Measured by American Society for Testing and Materials Method ASTM D323-08, Standard Test Method for Vapor Pressure of Petroleum Products (Reid Method) is used to determine the vapor pressure at 100 F with initial boiling point above 32 F.

¹⁶ See AP-42, Section 7.1: Organic Liquid Storage Tanks.

¹⁷ ExxonMobil Refining and Supply Company, ANSI11U, Available at: http://www.exxonmobil.com/crudeoil/about_crudes_ansi.aspx and <http://www.exxonmobil.com/crudeoil/download/ansi11u.pdf>.

¹⁸ Classification and Hazard Communication Provisions for Crude Oil – Bakken Crude Oil Data, June 13, 2014, Available at: <http://www.unccc.org/fileadmin/DAM/trans/doc/2014/dgac10e3UN-SCETDG-45-INF26a.pdf>, Dangerous Goods Transportation, Submitted by American Fuel & Petrochemical Manufacturers, May 14, 2014, pp. 5, 19, Available for download from: <https://www.afpm.org>.

North Dakota Petroleum Council, Bakken Crude Quality Assurance Study, Available at: http://www.ndoil.org/image/cache/Summary_2.pdf.

included in public documents to support tank and fugitive emission calculations. Further, crude assay data is widely reported.¹⁹ See, for example, the Tesoro Vancouver Application.²⁰

The DEIR offers irrelevant information to support its theory, arguing that “the amount of fugitive emissions from a piece of equipment is a function of the mechanical integrity of the equipment and the pressure applied to its contents. The weight of the crude oil is not a factor.” DEIR, p. C-2.2. While this is partially correct, in that the design of the equipment and the pressure exerted by the contained crude oil on this design are important factors that determine the amount of emissions during routine operations, it fails to acknowledge other key factors such as RVP and TAC concentrations in the crude discussed above. The DEIR must evaluate the foreseeable scenarios of both light sweet crude, including Bakken, and heavy sour crude, including tar sands.

The foreseeable switch from ANS and other current components of Valero’s crude slate to a Bakken crude or a Bakken-tar sands mix, included in DEIR Table 3-1, is a feedstock change that should have been explicitly identified and evaluated in the DEIR. These new crudes are chemically and physically different from the current crude slate and the crude slate evaluated in the VIP EIR in ways that are not captured by exclusive consideration of crude slate sulfur content and API gravity. These differences will result in significant impacts not evaluated or disclosed in the CBR Project DEIR.

Bakken crudes have unique chemical and physical characteristics that distinguish them from currently refined crudes and which would result in significant environmental impacts not identified in the DEIR, including significant risk of upset, air quality, odor, and public health impacts. These unique characteristics include high volatility, flammability,²¹ and elevated concentrations of TACs and ROG.

The amount of TACs and ROG released from storage tanks and fugitive components depends upon the vapor pressure of the crude oil. Bakken crude oils are the most volatile of the

¹⁹ Jeff Thompson, Public Crude Assay Websites, February 24, 2011, http://www.coqa-inc.org/docs/default-source/meeting-presentations/20110224_Thompson_Jeff.pdf.

²⁰ Tesoro Savage, Application for Site Certification Agreement (Vancouver Application), vol. 1, August 29, 2013, Available at: <http://www.efsec.wa.gov/Tesoro%20Savage/Application/EFSEC%202013-01%20Volume%201.pdf> and vol. 2, Available at: <http://www.efsec.wa.gov/Tesoro%20Savage/Application/EFSEC%202013-01%20Volume%201P%20-%20Appendices/EFSEC%202013-01%20C%20Compiled%20Volume%2011.pdf>.

²¹ Flammable crude oils will ignite when they are mixed with air in certain concentration ranges. The lowest temperature at which they produce sufficient vapor to support combustion is called the “flash point”.

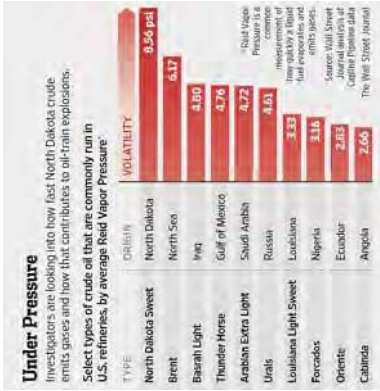
crudes listed in DEIR Table 3-1. Crude oil data collected by Capline Pipeline, which tested crudes from 86 locations world-wide for vapor pressure, found the following:²²

“[L]ight, sweet oil from the Bakken Shale had a far higher vapor pressure – making it much more likely to throw off combustible gases – than crude from dozens of other locations. . . . According to the data, oil from North Dakota and the Eagle Ford Shale in Texas had vapor-pressure readings of over 8 pounds per square inch, although Bakken readings reached as high as 9.7 PSI. U.S. refiner Tesoro Corp., a major transporter of Bakken crude to the West Coast, said it regularly has received oil from North Dakota with even more volatile pressure readings – up to 12 PSI. By comparison, Louisiana Light Sweet from the Gulf of Mexico, had vapor pressure of 3.33 PSI, according to the Capline data.”

This data, summarized in Figure 1, shows that “light” crude oils vary substantially in vapor pressure and thus would have a wide range of environmental impacts when stored and transported. The more volatile the crude, the higher the ROG, TACs, and methane (a potent greenhouse gas) emissions, the higher the flammability, and the greater the potential consequences in the event of an accident. Thus, the DEIR’s assertions that there will be no increase in ROG and TACs as lights will replace lights is simply inaccurate.

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cont.

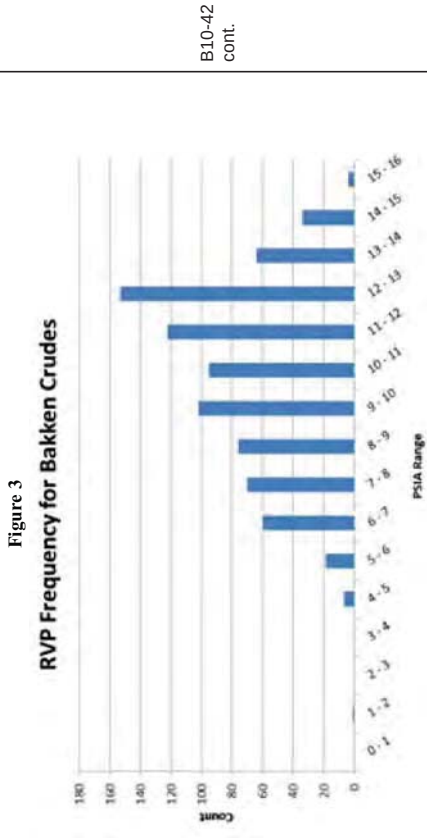
Figure 2: Volatility (psi) of Some Commonly Refined Crude Oils



²² Russell Gold, Analysis of Crude From North Dakota Raises Further Questions About Rail Transportation, Wall Street Journal, February 23, 2014.

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Other data, summarized by American Fuel & Petrochemical Manufacturers²³ indicate that the RVP of Bakken crude oil can be substantially higher than the value reported based on Capline Pipeline data. A study of Bakken crudes involved in the Lac-Mégantic accident by the Transportation Safety Board of Canada (TSBC)²⁴ concluded that the volatility and flammability of Bakken crudes were more similar to gasoline than to crude oil, distinguishing Bakken crudes from conventional crude oils.



Bakken and other light crude oils taken straight from the well typically contain large amounts of natural gas liquids (NGLs), known as light ends or condensate.²⁵ These include C2 to C5 hydrocarbons: methane, propane, butane, ethane, and pentane. These are the components most likely to volatilize, burn, or explode in an accident. These light ends have the effect of increasing a crude's vapor pressure, lowering its flash point and lowering its initial boiling point, all of which result in increased environmental risks. These are called "live" crude oils. The high concentration of light ends makes them highly flammable, more likely to form fire balls and

²³ Dangerous Goods Transport Consulting, Inc., 2014, North Dakota Petroleum Council.
²⁴ Transportation Safety Board of Canada, TSB Laboratory Report LP148/2013 (TSBC 2013), Available at: <http://www.bst-tsb.gc.ca/eng/ab/rail/2013/lp148/2013.asp>.
²⁵ Dangerous Goods Transport Consulting, Inc., 2014, <https://www.afpm.org/WorkArea/DownloadAsset.aspx?id=4229>.

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boiling liquid expanding vapor explosions (BLEVES) in accidents. The failure to recognize this resulted in a significant underestimate of ROG and TAC emissions and hazards in the CBR Project DEIR.

In most petroleum-producing regions, light ends are removed before they are shipped using a stabilizer—a tall, cylindrical tower that uses heat to separate the light ends, which are then condensed and sent to a fractionator for processing. Crude stabilizers and NGL pipelines to send the recovered NGLs to market are ubiquitous in oil fields that produce light crude oils as crude pipeline specifications set pressure limits that force stripping of the NGLs. However, in the Bakken fields, this infrastructure is rare and most Bakken crude that is shipped by rail is shipped live. This distinguishes it from other light crudes, which are shipped dry, e.g., Eagle Ford crudes in Texas, where oil field infrastructure exists to process it and most of it is shipped by pipeline, which requires that NGLs be stripped.²⁶

Other crudes that Bakken would replace, such as ANS, are hard to ignite because they do not have as much combustible light ends. Most light crudes, including the imported foreign crudes currently processed, are stabilized. These stabilized crudes will not actively boil at ambient temperature and can be more safely shipped, stored, and refined. Thus, while "light" crude may replace other types of "light" crude, there are major differences in composition that affect environmental impacts. The CBR Project DEIR does not impose any condition(s) that require that NGLs be removed from received crudes to mitigate these impacts. Thus, analyses must assume that they will be present.

In addition, Bakken crudes, when blended with heavy crudes to meet crude slate requirements, have resulted in many refinery operating issues, which increase emissions. These include fouling of the cold preheat train; desalter upsets; and fouling of hot preheater exchangers and furnaces; as well as corrosion.²⁷ These operating problems increase emissions. These operating problems and attendant emission increases were not disclosed in the CBR Project DEIR.

2. Crude Slate Impacts Are Not Part of the Baseline

The DEIR next asserts that "[e]ven if VOC emissions were to increase based on Valero's purchase of light North American crudes, any such emissions increases would properly be considered part of the baseline because the baseline includes the full scope of operations allowed under existing permits that were issued based upon prior CEQA review." DEIR, p. C.2-1.

²⁶ "Degassing" North Dakota Crude Oil Before Shipping Among Safety Ideas, Insurance Journal, May 14, 2014, Available at: <http://www.insurancejournal.com/news/national/2014/05/14/329095.htm>.
²⁷ Innovative Solutions for Processing Shale Oils, Hydrocarbon Processing, 7/10/2013, <http://www.hydrocarbonprocessing.com/Article/3223989/Innovative-solutions-for-processing-shale-oils.html>.

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Elsewhere, the DEIR asserts, "Finally, even if one assumed that Valero will purchase 70,000 barrels per day of light sweet North American crude, and the crudes delivered and processed became substantially lighter, any resulting increase in emissions would be within the baseline for operational air quality impact." This is supported by citing the same suite of CEQA cases relied on for the parallel argument with respect to heavy sour crudes discussed above. DEIR, p. C.2-2. The response to this argument around heavy sour crudes applies equally here and is incorporated by reference.

The baseline argument for light sweet crudes goes a step further than for heavy sour crudes, arguing that "Valero holds permits for all of the Refinery's process equipment... The City and the BAAQMD issued these permits based on the environmental impact report (EIR) for the Valero Improvement Project (VIP) prepared and certified by the City in 2003. The baseline includes the full scope of operations allowed under these permits. In particular, the baseline includes the permitted operation of the Refinery's eight crude oil storage tanks (storage tanks S-57 through S-62, S-1047, and S-1048). In connection with the VIP, the BAAQMD issued permits based on the City's EIR." DEIR, p. C.2-3.

This mischaracterizes the VIP EIR and the permits for the subject tanks. The VIP EIR evaluated only the two new storage tanks (VIP DEIR, p. 3-51) and the increase in ROG emissions from several other unidentified tanks up to a 5 ton/year increase in ROG relative to a 3-year baseline, based on a vapor pressure of 5 psi.²⁸ VIP DEIR, Table 4.2-9. The CBR Project would facilitate an additional increase in ROG and TAC emissions from these tanks over the same 3-year baseline, due to an increase in the vapor pressure of the stored crude oils and higher amounts of TACs in the rail-imported crudes. Thus, the VIP EIR did not evaluate the full scope of the ROG and TAC emissions that would occur as a result of the CBR Project.

In addition, the VIP EIR analyzed the TAC emissions from these tanks. These emissions were based on a speciation profile that assumes far less toxic air contaminants than would be present in the crudes listed in the CBR Project. DEIR Table 3-1. For example, the VIP EIR calculations assumed that benzene would be present in the crudes stored in new Tanks 1707 and 1708 at 0.009 weight percent (wt.%).²⁹ The benzene content of the suite of tar sands crudes listed in DEIR Table 3-1 are substantially higher than 0.009 wt.%, ranging from 0.02 wt.% to

²⁸ The BAAQMD Permit Handbook in Chapter 3.1 refers to U.S. EPA's AP-42 guidelines, Chapter 5.2, in which a default RVP for crude oil is listed as 5 psi, though it is noted that RVP of crude oils can range from less than 1 up to 10 psi. See http://hank.baaqmd.gov/pmt/handbook/rev02/PH_00_05_03_01.pdf and <http://www.epa.gov/tnc-hq/tnc-hq/ap42/>.

²⁹ The benzene concentration assumed in the storage tanks is calculated from post-VIP ROG emissions of 193 ton/yr (VIP DEIR, Table 4.2-9) and the post-VIP benzene emissions of 33.93 lb/yr (VIP DEIR, Table 4.7-6) as: $100\%[33.93 \text{ lb/yr} / (193 \text{ ton/yr} \times 2000 \text{ lb/ton})] = 0.009 \text{ wt.}\%$.

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0.81 wt.%,³⁰ or over 2 to 90 times higher. Similarly, Material Safety Data Sheets (MSDSs) submitted by others seeking to import similar cost-advantaged North American crudes, including Bakken, indicate benzene concentrations up to 7 wt.%,³¹ with Bakken crudes generally having the highest concentrations of benzene among all those evaluated. Benzene is a known human carcinogen. Human exposure to benzene has been associated with a range of acute and long-term adverse health effects and diseases, including cancer and adverse hematological, reproductive and development effects.³²

The CBR Project DEIR incorrectly asserts that "even if the Project were to cause an increase in ROG emissions from storage tanks, any such increase would be considered part of the baseline conditions." DEIR, p. C.2-3. The CEQA baseline is not determined by permit conditions, but rather by actual conditions. The full scope of tank operations, i.e., storing crude oils that have much higher vapor pressures and concentrations of TACs than existed in the market place at the time of the 2002 VIP CEQA review, were never subject to CEQA review and must be evaluated in the instant case.

II. THE DEIR UNDERESTIMATED ROG EMISSIONS

The DEIR estimated that the Project would result in a net decrease in ROG emissions of 1.61 ton/yr, as summarized in Table 1. DEIR, Table 4.1-5.

Table 1: Annual and Daily Net Operational ROG Emissions

Source	ROG* (ton/yr)	ROG** (lb/day)
Unloading Rack & Pipeline Fugitive Components	1.88	10.30
Locomotives	1.70	9.32
Marine Vessels (Displaced Baseline)	-5.18	-28.38
Total Net Emissions	-1.61	-8.77

* Source: DEIR Table 4.1-5

** Calculated as (ton/year)/(2000 lbs/ton)/(365 days/year)

³⁰ www.crudemonitor.ca. Concentrations reported in volume % (v/v) in this source were converted to weight % by dividing by the ratio of compound density in kg/m³ at 25 °C (benzene = 876.5 kg/m³) to crude oil density in kg/m³, based on the most recent sample, as of June 27, 2014.

³¹ TSBC 2013; Tesoro Savage, Application for Site Certification Agreement, vol. 2, Appendix G: Material Safety Data Sheets for Enbridge Bakken (n-hexane = 11%; sour heavy crude oil (benzene = 7%; toluene = 7%; ethylbenzene = 7%; xylene = 7%; sweet heavy crude oil (toluene = 7%; light sweet crude oil (benzene = 7%; toluene = 7%; ethylbenzene = 7%; xylene = 7%); August 29, 2013. Available at: <http://www.efsec.wa.gov/Tesoro%20Savage/Application/EFSEC%202013-01%20Volume%201%20-%20Appendices/EFSEC%202013-01%20Compiled%20Volume%201.pdf>.

³² CARB, Report to the Scientific Review Panel on Benzene, Prepared by the Staffs of The Air Resources Board and The Department of Health Services, November 27, 1984. Available at: <http://www.arb.ca.gov/toxics/ids/summarybenzene.pdf>; Chronic Toxicity Summary: Benzene. Available at: http://www.ochla.org/air/chronic_reis/pdf/71432.pdf; World Health Organization, Exposure to Benzene: A Major Public Health Concern. Available at: <http://www.who.int/ipcs/features/benzene.pdf>.

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The DEIR underestimated ROG emissions as it excluded many sources of ROG emissions from the Project, discussed below. The *increase* in ROG emissions is significant when these omissions are cured.

A. Decrease In Ship Emissions Are Not Real Or Enforceable

The ROG emissions in Table 1 assume marine vessel emissions would be reduced by 5.18 ton/yr, by eliminating 73 vessel trips (70,000 bbl/day x 365 day/350,000 bbl/vessel). DEIR, p. 4.1-16. The DEIR asserts that “[c]rude oil delivered to the Refinery by tank car would not displace crude oil delivered to the Refinery by pipeline.” DEIR, p. ES-3, 1-1.

However, it is well known that San Joaquin Valley crude oil production is declining.³³ The nearby Shell Oil Refinery in Martinez, for example, recently increased crude storage capacity to substitute imported crude oil by marine vessel “for diminishing San Joaquin Valley crude by pipeline.” DEIR, Table 5-1. ESA expressed concern that ship deliveries could increase in the future to replace diminishing supplies of crude oil available by pipeline. Valero 2013, Data Request No. 2, Item 1.³⁴ Further, the BAAQMD Statement of Basis for the VIP Project states: “Valero anticipates the possibility that crude may no longer be brought in by pipeline. This could result from a problem with the pipeline, or a change in the cost of crude that makes pipeline supply no longer economical.”³⁵ Thus, it is entirely possible, especially in the absence of any enforceable conditions of approval, that the Project would not decrease marine deliveries to the extent claimed in the DEIR.

The DEIR must be modified to include clearly stated and enforceable provisions to assure that any increase in ROG and TAC emissions from importing crude by rail rather than by marine vessel or pipeline are fully offset by reductions in ship emissions and that the reductions are achieved in practice. These conditions should include requirements to test, record, and report to the City the RVP of all crude oil delivered by ship, rail, and pipeline and source testing of representative ship and locomotive emissions to assure the reductions are achieved.

B. Storage Tanks ROG and TAC Emissions Were Omitted

The DEIR did not adequately quantify emissions from the tanks that would store the crude oil delivered by rail. The emissions from floating-roof tanks include: tank breathing losses

³³ California Energy Commission, Margaret Sheridan, California Crude Oil Production and Imports, April 2006, Available at: <http://www.energy.ca.gov/2006publications/CEC-600-2006-006/CEC-600-2006-006.PDF>.

³⁴ Valero Responses to: Valero Crude by Rail Project Data Request Number 2, April 2, 2013.

³⁵ http://www.baaqmd.gov/-/media/Files/Engineering/Title%20V%20Permits/B2626/B2626_2010-05_renewal_03.ashx?la=en.

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(the sum of rim seal losses, withdrawal losses, deck fitting losses, and deck seam losses estimated by the EPA model TANKS 4.0.9d) and roof landing losses.

1. Significant Tank Breathing Losses Were Omitted

Tank breathing losses are estimated using the EPA model: TANKS 4.0.9d. The CBR Project DEIR did not include any emissions from the tanks that would store the rail-imported crude.

The CBR Project DEIR describes the Project as replacing 70,000 bbl/day of crude oil delivered by ship with 70,000 bbl/day of crude oil delivered by train. The CBR Project DEIR fails to consider what happens to the crude oil after it is transferred from the rail cars through a new pipeline. DEIR, Sec. 3.2. It simply states that the contents of each tank car will be pumped “into storage tankage located in the Refinery’s crude oil storage tank field.” DEIR, p. 3-20. This crude oil will be stored in existing storage tanks. As the imported crude oil will have a higher vapor pressure than current crude oils stored in these tanks, ROG and TAC emissions from the tanks will increase. The VIP EIR did not evaluate these emission increases. The CBR Project DEIR also does not include these ROG and TAC emissions.

The Project described in the IS/MND included transferring crude oil from rail cars into existing external floating roof tank 1776. This required changing the service of this tank from jet fuel and other refinery products to crude oil. The ROG emissions were estimated with the EPA TANKS 4.0.9d model for a throughput of 70,000 bbl/day and a crude oil RVP of 9.4 psi. The resulting ROG emissions were 39.3 lb/day and 7.18 ton/yr. The net ROG emission increase, relative to December 2009 through November 2012 baseline, was 23.7 lb/day and 4.33 ton/yr. DEIR, Appx. E.3 (2/13 Application, Table 3-2). The supporting calculations for these emission increases (in Appendix B to the February 2013 Application, provided in DEIR, Appx. E.3, Attachments B-1 and B-2) were withheld from the DEIR as confidential business information (CBI).

The Project was modified in November 2013 to replace Tank 1776 with Tanks 1701 through 1708 (S-57 through S-62). These are existing external floating roof tanks that are currently permitted to store crude oil and have historically stored crude oil delivered by both ship and pipeline. DEIR, Appx. E.4 (11/13 Application, p. 6). Thus, the baseline emissions from these tanks include both San Joaquin Valley crudes and ANS and other ship-imported crudes. These tanks are not in the Title V permit for the Valero Refinery, but rather in the Title V Permit for NuStar Logistics, L.P., Facility B5574. The November 2013 Application incorrectly asserts that these tanks are neither altered nor modified sources and thus are not subject to Authority to Construct and New Source Review requirements for the CBR Project. DEIR, Appx. E.4 (11/13 Application, p. 7). The November 2013 Application at p. 7 (DEIR, Appx. E.4) asserts:

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"Changes in material stored. The tanks are currently permitted to store crude oil received by marine vessels and pipeline. With the implementation of this project, the tanks will continue to store crude oil. The crude oil will be received from rail cars, as well as from marine vessels and pipeline. Tanks 1701 through 1706 have historically stored crude oil delivered by ships and pipeline. Tanks 1707 and 1708 were recently constructed and were permitted under NSR to store crude oil. These tanks currently comply with all the requirements in Regulation 8, Rule 5, and associated permit conditions."

Similarly, the DEIR argues (DEIR, p. 4.1-17):

"Nor would the Project cause any emissions increases from storage tanks. Currently, the Refinery stores crude oil delivered by ship and pipeline in eight existing storage tanks numbered 1701 through 1708. Crude oil delivered by rail would be stored in the same tanks. The tanks would not be modified, and would continue to be subject to the same throughput limit and other permit conditions."

Thus, the DEIR does not include any ROG or TAC emissions from these tanks.

However, this assertion is invalid, as explained above. The basis of this argument is that "Valero must blend crude feedstocks to a narrow range of weight and sulfur content before they can be processed into marketable products. Because the crude oil blends cannot become significantly heavier or lighter, nor contain significantly more sulfur, there would be no increase in processing emissions." DEIR, p. 4.1.17. This is immaterial as to ROG and TAC emissions because they do not depend on weight and sulfur content of the crude, but rather on vapor pressure and TAC speciation of the crude. These are not related to the gravity or sulfur content of the crude oil.

The ROG and TAC emissions from the receiving storage tanks would increase if 70,000 bbl/day of ship-imported or pipeline-imported crude were replaced with 70,000 bbl/day of rail-imported crude. The DEIR is deficient for failing to include any estimate of these emission increases and for withholding all information required to estimate these emissions, information that is never classified as CBI in public documents—vapor pressures, tank characteristics, baseline emissions, etc.

An approximate estimate of the increase in daily ROG emissions can be made from the previously reported daily ROG emissions for Tank 1776. The IS/MND estimated daily ROG emissions of 39.3 lb/day for a 70,000 bbl/day throughput of crude with an RVP of 9.4 psi. The RVP of the baseline crude in the seven storage tanks that would be used is unknown. However, the DEIR indicates that it is either San Joaquin Valley crude (pipeline) or Alaska North Slope localities.

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First, assuming the baseline crude has an RVP equal to that for Alaska North Slope crude, or 6.3 psi,³⁶ the baseline ROG emissions for 70,000 bbl/day would be **26.3 lb/day**.³⁷ The increase in ROG emissions, from storing 70,000 bbl/day of Bakken crude in the same tank(s), assuming the reported upper-bound vapor pressure for Bakken crude (15.5 psi)³⁸ would be **64.8 lb/day**.³⁹ Thus, the net increase in ROG emissions from replacing 70,000 bbl/day of ship-imported ANS with 70,000 bbl/day of rail-imported Bakken is **38.5 lb/day** (64.8 - 26.3 = 38.5). The corresponding net increase in annual emissions would be **7.0 ton/year**.⁴⁰ If all of the rail-imported crude were Bakken. This is a reasonably foreseeable scenario as crudes required to blend 100% Bakken to an ANS-lookalike crude could be imported by marine vessel

Second, assuming the baseline crude has an RVP equal to that of San Joaquin Valley crude or other similar heavy sour crudes, 0.04 psi,⁴¹ the baseline ROG emissions for 70,000 bbl/day would be **0.2 lb/day**.⁴² As detailed above, the increase in ROG emissions, from storing 70,000 bbl/day of Bakken crude in the same tank(s), assuming the reported upper-bound vapor pressure for Bakken crude (15.5 psi)⁴³ would be **64.8 lb/day**.⁴⁴ Thus, the net increase in ROG emissions from replacing 70,000 bbl/day of pipeline-imported San Joaquin Valley or other similar heavy sour crudes with 70,000 bbl/day of rail-imported Bakken is **64.6 lb/day** (64.8 - 0.2 = 64.6). The corresponding net increase in annual emissions would be **11.8 ton/year** if all of the rail-imported crude were Bakken. This is a reasonably foreseeable scenario as crudes required to blend 100% Bakken to an ANS-lookalike could be imported by marine vessel.

The resulting daily net increase in ROG emissions for a San Joaquin Valley or other similar heavy crude baseline, but otherwise assuming all of the CBR Project DEIR's emissions, is 56 lb/day, as shown in Table 2. This increase in ROG emissions is significant, as it exceeds

³⁶ ExxonMobil Refining and Supply Company, ANSI11U, Available at: http://www.exxonmobil.com/crudeoil/about_crudes_ans.aspx and <http://www.exxonmobil.com/crudeoil/download/ansi11u.pdf>.

³⁷ Baseline ROG emissions from storage of 70,000 bbl/day of ANS in one or more of existing tanks 1701 - 1708 = (39.3 lb/day) (6.3 psi/9.4 psi) = **26.3 lb/day**.

³⁸ Classification and Hazard Communication Provisions for Crude Oil - Bakken Crude Oil Data, June 13, 2014.

³⁹ Increase in POC emissions from storing 70,000 bbl/day of Bakken crude in one or more of existing tanks 1701 - 1708 = (39.3 lb/day)(15.5 psi/9.4 psi) = **64.8 lb/day**.

⁴⁰ Increase in annual emissions = (38.5 lb/day)(365 days/year)/(2000 lb/ton) = **7.02 ton/yr**.

⁴¹ Emission Calculation Protocol for Oil Production Tanks, September 1, 2000.

⁴² Baseline ROG emissions from storage of 70,000 bbl/day of ANS in one or more of existing tanks 1701 - 1708 = (39.3 lb/day) (0.04 psi/9.4 psi) = **0.17 lb/day**.

⁴³ Classification and Hazard Communication Provisions for Crude Oil - Bakken Crude Oil Data, June 13, 2014.

⁴⁴ Increase in ROG emissions from storing 70,000 bbl/day of Bakken crude in one or more of existing tanks 1701 - 1708 = (39.3 lb/day)(15.5 psi/9.4 psi) = **64.8 lb/day**.

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the BAAQMD CEQA significance threshold⁴⁵ of 54 lb/day and triggers New Source Review thresholds that require Best Available Control Technology. This is a significant impact that was not disclosed in the DEIR. The total Project increase would be even greater than the emissions in Table 2, which do not include ROG increases from other omitted sources, discussed below.

Table 2: Revised Annual and Daily Net Operational ROG Emissions
San Joaquin Valley Crude Baseline

Source	ROG (ton/year)	ROG (lb/day)
Unloading Rack & Pipeline Fugitive Components	1.88	10.30
Locomotives	1.70	9.32
Storage Tank (SJV Crude Baseline)	11.79	64.60
Marine Vessels (Displaced Baseline)	-5.18	-28.38
Total Net Emissions	10.19	55.83
BAAQMD CEQA Significance Threshold	10	54
Significant?	YES	YES

The increase in ROG emissions in Table 2 would be accompanied by an increase in TAC emissions, which are estimated by multiplying the ROG emission increase by the weight percent of each TAC in the ROG emissions (i.e., the TAC speciation profile). The contribution of TAC emissions from these tanks were not included in the DEIR's health risk assessment, which only evaluated diesel particulate matter and PM2.5.

Because the Project would result in significant ROG emissions, the lead agency is required to examine the impact of the increase in localized ROG emissions on ambient air quality and the local community and identify mitigation that is capable of reducing or eliminating these impacts to below a level of significance. To mitigate the Project's significant ROG emissions, the City should consider feasible mitigation measures such as the use of zero-leak fugitive components; use of geodesic domes on external floating roof tanks, which are commonly used on tanks that store RVP 11 crude oils; cable-suspended, full-contact floating roofs; and the use geodesic domes on the existing fixed roof tanks.⁴⁶

⁴⁵ BAAQMD Proposed Air Quality CEQA Thresholds of Significance, May 3, 2010, Available at: http://www.baaqmd.gov/media/Files/Planning%20and%20Research/CEQA/Summary_Table_Proposed_BAAQMD_CEQA_Thresholds_May_3_2010.ashx?la=en.

⁴⁶ See, e.g., Phillips 66 Los Angeles Refinery Carson Plant – Crude Oil Storage Capacity Project, September 6, 2013, Draft Negative Declaration (Carson Neg. Dec.), Available at: https://www.aqmd.gov/CEQA/documents/2013/monaamd/Draft_ND_Phillips_66_Crude_Storage.pdf and City of Richmond, Chevron Refinery Modernization Project DEIR (Chevron DEIR), Chapter 4.3, pp. 4.3-92, Available at: http://chevronmodernization.com/wp-content/uploads/2014/03/4.3_Air-Quality.pdf.

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2. Roof Landing, Degassing, and Cleaning Emissions Were Omitted

The increase in ROG emissions estimated above is based on an adjustment of a calculation in the IS/MND based on EPA's TANKS 4.0.9d model (TANKS). However, this model only estimates rim seal losses, withdrawal losses, deck fitting losses, and deck seam losses. It does not estimate roof landing losses, inspection losses, or flashing losses. Thus, it underestimates tank emissions. Therefore, the above estimate of the increase in ROG emissions in Table 2 is an underestimate. These additional emissions should be estimated, added to other tank emissions, and mitigated when the DEIR is revised.

The Project involves seven existing external floating roof tanks configured to comply with BAAQMD Regulation 8-5. DEIR, p. 3-5. These tanks are pontoon-type tanks. DEIR, Appx. E.4 (2/13 Application, p. 1-8). Pontoon tank roofs are supported on legs. In floating roof tanks with leg-supported roofs, the roof floats on the surface of the liquid inside the tank and reduces evaporative losses during normal operations. However, when the tank is emptied, the roof sits on the legs and is essentially uncontrolled.

The EPA has explained that the TANKS model does not include roof landings, and recommended that they be estimated with the equations in AP-42. In other words, the EPA TANKS model estimates evaporative emissions for normal operations only, i.e., it assumes that the floating tank roof is always floating.⁴⁷ However, when a tank is emptied to the point that the roof no longer floats on the liquid but lands on deck legs, evaporative losses occur.

After the floating roof is landed and the liquid level in the tank continues to drop, a vacuum is created which could cause the floating roof to collapse. To prevent damage and to equalize the pressure, a breather vent is actuated. Then, a vapor space is formed between the floating roof and the liquid. The breather vent remains open until the roof is again floated, so whenever the roof is landed, vapor can be lost through this vent.⁴⁸

These losses are called "roof landing losses."

In addition, "degassing and cleaning losses" occur when tanks are drained and degassed for inspection and/or cleaning. These include both roof landing emissions, complete tank

⁴⁷ EPA, TANKS Software Frequent Questions, Updated February 2010, Available at: <http://www.epa.gov/ttnchie1/faq/tanksfaq.html>. ("How can I estimate emissions from roof landing losses in the tanks program? ... In November 2006, Section 7.1 of AP42 was updated with subsection 7.1.3.2.2 Roof Landings. The TANKS program has not been updated with these new algorithms for internal floating roof tanks. It is based on the 1997 version of section 7.1.")

⁴⁸ EPA, AP-42, Chapter 7.1 Organic Liquid Storage Tanks, November 2006, Available at: <http://www.epa.gov/ttnchie1/ap42/ch07/ttnal.ch07.s01.pdf>.

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degassing, and emissions from cleaning out accumulated sludge. These emissions are essentially uncontrolled tank emissions.⁴⁹

The tank cleaning emissions could be substantially higher for Bakken crudes than for other types of crude. Bakken crudes leave waxy deposits in pipelines and tanks, which require more frequent cleaning,⁵⁰ and thus higher emissions, than the crudes they would replace. Environmental impacts from chemical dispersants used to control these waxy deposits in tanks and pipelines also should be evaluated.

The EPA recommends methods to estimate emissions from degassing and cleaning and roof landing losses.⁵¹ The method for estimating emissions depends on the construction of the tank, e.g., the flatness of the tank bottom and the position of the withdrawal line (the so-called liquid "heel"). Degassing, cleaning, and roof landing losses continue until the tank is refilled to a sufficient level to again float the tank roof. Total ROG emissions from floating roof tanks during a roof landing is the sum of standing idle losses and filling losses. They can be estimated using formulas contained in EPA's *Compilation of Air Pollutant Emission Factors* ("AP-42"), Chapter 7.1, Organic Liquid Storage Tanks, Section 7.1.3.2.2. These emissions are routinely included in emission inventories. They are required to be reported, for example, in Texas.⁵² They are also included in the emission inventory for Tesoro's Vancouver Terminal, which imports similar crudes by rail, and stores them in tanks.⁵³

To reduce emissions from tank breathing losses (Comment II.B.1), degassing, cleaning and roof landing losses, the City should require the Applicant to install geodesic domes on the tanks that would store rail-imported crudes, thus avoiding emissions from these and other tank sources.

⁴⁹ See EPA guidance on estimating these emissions at: <http://www.epa.gov/ttnchie1/fq/tanksfaq.html#13>.

⁵⁰ Innovative Solutions for Processing Shale Oils, Hydrocarbon Processing, 7/10/2013. Available at: <http://www.hydrocarbonprocessing.com/Article/3223989/Innovative-solutions-for-processing-shale-oils.html>.

⁵¹ "How Can I Estimate Emissions from Degassing and Cleaning Operation During a Tank Turnaround? And How Can I Estimate Emissions from Roof Landing Losses in the TANKS Program?"; Available at: <http://www.epa.gov/ttnchie1/fq/tanksfaq.html#13>.

⁵² Memorandum from Dan Eden, Deputy Director, Office of Permitting, Remediation, and Registration; David C. Schanbacher, Chief Engineer; and John Seib, Deputy Director, Office of Compliance and Enforcement, Re: Air Emissions During Tank Floating Roof Landings, December 5, 2006. Available at: http://www.tceq.state.tx.us/assets/public/permitting/air/memos/tank_landing.html.pdf.

⁵³ Tesoro Savage, Application for Site Certification Agreement, Section 5.1.2.1.4, Available at: <http://www.efsec.wa.gov/Tesoro%20Savage/Application/EFSEC%202013-01%20Volume%20I/EFSEC%202013-01%20Compiled%20PDF%20Volume%20I.pdf>.

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Over 10,000 aluminum domes have been installed on petrochemical storage tanks in the United States.⁵⁴ The ExxonMobil Torrance Refinery: "completed the process of covering all floating roof tanks with geodesic domes to reduce volatile organic compound (VOCs) emissions from facility storage tanks in 2008. By installing domes on our storage tanks, we've reduced our VOC emissions from these tanks by 80 percent. These domes, installed on tanks that are used to store gasoline and other similar petroleum-derived materials, help reduce VOC emissions by blocking much of the wind that constantly flows across the tank roofs, thus decreasing evaporation from these tanks."⁵⁵

A crude storage project, recently proposed at the Phillips 66 Los Angeles Carson Refinery, required external floating roof tanks with geodesic domes to store crude oil with an RVP of 11.⁵⁶ Carson Neg. Dec. Table 1-1. The ConocoPhillips Wilmington Refinery added a geodesic dome to an existing oil storage tank to satisfy BACT.⁵⁷ Similarly, Chevron proposes⁵⁸ to use domes on several existing tanks to mitigate VOC emission increases at its Richmond Refinery.⁵⁹ The U.S. Department of Justice CITGO Consent Decree required a geodesic dome on a gasoline storage tank at the Lamont, Texas refinery.⁶⁰ Further, numerous vendors have provided geodesic domes for refinery tanks.⁶¹ The crudes that would be stored in the Project tanks have vapor pressures that are comparable to gasoline (TSBC 2013, Sec. 3.2.7), justifying the use of geodesic domes to control tank emissions.

⁵⁴ M. Dovey and M. Trinidad, Aluminum Geodesic Dome Roof for Both New and Tank Retrofit Projects, Materials Forum, v. 30, 2006. Available at: <http://www.materialsaustralia.com.au/lib.pdf/Mats.%20Forum%20page%20164-169.pdf>.

⁵⁵ Torrance Refinery: An Overview of our Environmental and Social Programs, 2010. Available at: <http://www.exxonmobil.com/NA-English/Files/About/Where/Ref/TorranceReport.pdf>.

⁵⁶ See, e.g., Phillips 66 Los Angeles Refinery Carson Plant – Crude Oil Storage Capacity Project, September 6, 2013, Table 1-1, Draft Negative Declaration, Available at: https://www.aqmd.gov/CEQA/documents/2013/nonaqmd/Draft_ND_Phillips_66_Crude_Storage.pdf.

⁵⁷ SCAQMD Letter to G. Rios, December 4, 2009. Available at:

[http://yosemite.epa.gov/r9/air/crps.nsf/40c49a10c792e06f8825657e007654b3/e97e6a905737c9bd882576ca0064b56a/\\$FILE/ATT0A6X.pdf?ID%20800363%20ConocoPhillips%20Wilmington%20-%20EPA%20Cover%20Letter%20-%20AN%20501727%20501735%20457557.pdf](http://yosemite.epa.gov/r9/air/crps.nsf/40c49a10c792e06f8825657e007654b3/e97e6a905737c9bd882576ca0064b56a/$FILE/ATT0A6X.pdf?ID%20800363%20ConocoPhillips%20Wilmington%20-%20EPA%20Cover%20Letter%20-%20AN%20501727%20501735%20457557.pdf).

⁵⁸ City of Richmond, Chevron Refinery Modernization Project, Environmental Impact Report, Volume 1: Draft EIR, March 2014 (Chevron DEIR), Available at: <http://chevronmodernization.com/project-documents/>.

⁵⁹ Chevron DEIR, Chapter 4.3.

⁶⁰ CITGO Petroleum Corp. Clean Air Act Settlement. Available at: <http://www2.epa.gov/enforcement/citgo-petroleum-corporation-clean-air-act-settlement>.

⁶¹ See, e.g., Aluminum Geodesic Dome. Available at: [27](http://tankaluminumcover.com/Aluminum-Geodesic-Dome; Larco Storage Tank Equipments, Available at: http://www.larco.fr/aluminum_domes.html; Vacono Dome, Available at: http://www.easyfairs.com/uploads/tx_eFVACONODOME_2014.pdf; United Industries Group, Inc., Available at: http://www.thomasnet.com/productsearch/item/10039789-13068-1008-1008/united-industries-group-inc/geodesic-aluminum-dome-roofs/.</p>
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3. Tank Flashing Emissions Were Omitted

Most Bakken crudes are transported raw, without stabilization, due to the lack of facilities in the oil fields, as discussed elsewhere in these Comments. Unstabilized or “live” crude oils have high concentrations of volatile materials entrained in the bulk crude oil. Tank flashing emissions occur when these crude oils, such as Bakken, are exposed to temperature increases or pressure drops. When this occurs, some of the compounds that are liquids at the initial pressure/temperature transform into gases and are released or “flashed” from the liquid. These emissions are in addition to working and breathing emissions from tanks and are not estimated by the EPA TANKS 4.0-9d model. These emissions can be calculated using standard procedures.⁶² The DEIR did not mention or calculate these emissions, nor does it include permit conditions that would allow only stabilized crude oils to be received.

4. Water Draw Tank Emissions Were Omitted

Crude oil typically contains small amounts of water, which is separated from the crude oil and accumulates in the bottom of storage tanks. This accumulated water, referred to as water draw, is typically transferred from the crude oil storage tanks into a smaller water draw surge tank for processing prior to disposal. Over time, a thick layer of crude oil forms in the water draw surge tank. The water draw surge tank and processing of wastewaters from it emit ROG and TACs. The DEIR does not mention water draw, or include emissions from storing or processing it, which would increase as the vapor pressure of the stored crude increases, i.e., as from a switch from San Joaquin Valley to Bakken crude.

C. Rail Car Unloading Emissions Were Omitted

The Project includes a rail car unloading rack capable of unloading two parallel rows of 25 crude oil rail cars simultaneously. DEIR, p. ES-3. The DEIR does not disclose any emissions from the unloading process, while EIRs for other similar facilities such as the proposed Phillips 66 CBR Project in Santa Maria, report unloading emissions.⁶³

⁶² See, e.g., calculation methods at: Paul Peacock, Marathon, Bakken Oil Storage Tank Emission Models, March 23, 2010; TCEQ, Air Permit Reference Guide APDG 5941, Available at: http://www.tceq.texas.gov/assets/public/permitting/air/Guidance/NewSourceReview/guidance_FlashEmission.pdf; Kansas Dept. of Health & Environment, Available at: http://www.kdheks.gov/bar/download/Calculation_Flashing_Losses_Handout.pdf; B. Gidney and S. Pena, Upstream Oil and Gas Storage Tank Project Flash Emissions Models Evaluation, July 16, 2009, Available at: <http://www.bllaw.com/assets/html/documents/TCEQ%20Final%20Report%20Oil%20Gas%20Storage%20Tank%20Project.pdf>.

⁶³ Marine Research Specialists (MRS), Phillips 66 Company Rail Spur Extension Project Public Draft Environmental Impact Report and Vertical Coastal Access Assessment, November 2013; p. 2-14, Available at: [http://www.slocounty.ca.gov/Assets/PL/SantaMariaRefinery+Rail+Project/Draft+EIR-Phillips+66+Rail+Spur+Extension+Project+\(November+2013\)/Full+EIR+-+Large+File/p66.pdf](http://www.slocounty.ca.gov/Assets/PL/SantaMariaRefinery+Rail+Project/Draft+EIR-Phillips+66+Rail+Spur+Extension+Project+(November+2013)/Full+EIR+-+Large+File/p66.pdf).

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At Valero, each side of the rack would have 25 unloading stations, which would “bottom-unload” closed-dome tank cars using 4-inch-diameter hoses, with dry disconnect couplings that would connect to a common header between the two sides of the rack (a check valve, connected to the top of each tank car via 2-inch-diameter hose would open to allow ambient air to enter during unloading and immediately close when unloading is finished). DEIR, p. 3-2.

A check valve would be installed onto each vent valve on the top of each tank car. The vent valve on the top of each tank car would be opened and the accompanying check valve would only allow fresh air into each tank car, and would prevent release of hydrocarbon fugitive emissions to the atmosphere. At each end car and on approximately every 8 tank cars in the 25 tank car string, a hose would be connected from the tank car’s vent connection to a separate “equalization header.” The equalization header would ensure the vapor spaces above the stored liquid crude in the tank cars is equalized between the tank cars. Individual drain hoses would be manually connected to the bottom of each tank car by on-site workers. The contents of each tank car would be drained by gravity into a collection pipe (collection header) and then pumped directly into storage tanks. DEIR, p. 3-21.

A typical rail car unloading system is described differently in the Santa Maria Rail DEIR. Santa Maria DEIR, p. 2-14. In that DEIR, the rail car unloading system consists of an adapter unit that connects the rail car to couplings, hoses, valves and piping that connect to a positive displacement pump. Air and crude oil vapors are commonly mixed in with crude oil, from loading and evaporation during transit. These vapors can present an explosion risk for downstream equipment and are typically removed with air eliminators. As the vapors contain high concentrations of ROG and TACs, they are typically routed to carbon columns or an incinerator to control the emissions.

The Valero CBR Project DEIR does not mention these vapors, an air eliminator, or indicate how they will be controlled. The Valero CBR Project DEIR only notes that “the BAAQMD will consider locomotive emissions and tank car unloading emissions as may be caused by the Project.” DEIR, p. 3-2. This is not adequate. If unloading emissions will occur, at an air eliminator or other release point, the DEIR should be modified to describe them and to quantify them. If they are not present, the DEIR should explain how the explosion hazard typically associated with unloading cargos such as Bakken crude will be addressed as it is not clear that the air equalization system would eliminate this hazard.

D. Sump Emissions Were Omitted

The unloading facility includes a liquid spill containment sump with the capacity to contain the contents of at least one tank car. DEIR, p. ES-2. Crude oil that spills into this sump

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In any case, although reducing Project-related GHG emissions for sake of climate protection is of paramount concern, the RDEIR does not discuss the potential *additional* GHG emissions that would be produced during the processing of Project-accessed unconventional Canadian or domestic oils. “Externalities” that must be accounted for include the carbon-intensive extraction methods that represent sky-high carbon footprints (fracking shale rock and strip mining tar sands, both consuming huge amounts of water and energy). The RDEIR fails to disclose the chemical makeup of those “low grade” Canadian and domestic-sourced oils and their carbon intensity totaled from extraction, transport and processing.

3.3 PROJECT OBJECTIVE #2.

Project Objective 2 states: “Replace marine vessel delivery with rail delivery of up to 70,000 barrels per day of crude oil.”¹²

Both Project Objectives 1 and 2 state the volume of oil to be delivered daily by rail. That volume is also very close to the feedstock capacity of the FCCU [VIP DEIR, 3.4.3.2., FCCU Feed Flexibility, pp.3-28]. That figure also represents one half of the amount of crude oil permitted to be processed at the Refinery daily, an amount not to exceed the annual average of 165,000 bpd, with maximum throughput allowed on any given day at 180,000 bpd.) [VIP DEIR, *Proposed Changes – Schedule*, pp 3-27].

However, neither the RDEIR nor DEIR reveal the ACTUAL total amount of crude oil processed on average on any given day, e.g., a figure for current baseline production rate or “throughput,” calculated by averaging production rates achieved over the most recently reported three year period. This omission represents a major failure to disclose pertinent baseline information essential to the Project Description and hinders the public’s and decision makers’ ability to fairly judge the Project’s full scope with regard to the actual volume of crude the Project would import daily. In 2015, BAAQMD released statistics supplied by Applied Development Economics¹³ that account for Bay Area refineries’ earnings profiles. These included figures for Bay Area Refineries’ current baseline production rates, “Effective Barrels of Crude Per Day.” The Valero Refinery is listed as having a production rate of 114,443 bpd – a throughput that is close to 30% below their permitted daily average level of 165,000 bpd.

¹² RDEIR 2.1.2 DEIR ES-2, Project Objectives, p. 2-2

¹³ Bay Area Air Quality Management District, “Socio-Economic Analysis of Proposed Regulation 12, Rule 15: Petroleum Refining Emissions Tracking And Regulation 12, Rule 16: Petroleum Refining Emissions Limits And Risk Thresholds”, Table 7, p.13, prepared by Applied Development Economics, released 9 Oct 2015; Bay Area Air Quality Management District website, <http://www.baaqmd.gov/media/files/planning-and-research/rules-and-regs/workshops/2015/100915/socioreport-pdf.pdf?la=en>

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The RDEIR’s omission of such production data is a serious flaw. Without providing current baseline throughput, the document’s claims for “no net emissions” resulting from processing Project-related carbon-intensive, unconventional crudes cannot be fairly evaluated. This subject remains untouched by the RDEIR.

Because the RDEIR does not reveal Valero’s current baseline throughput, it is impossible for the public and decision makers to ascertain if the 70,000 bpd called for by Project Objective 2 is actually an *extra* supply, e.g. an excess daily volume delivered but not required for either daily production or for maintenance of backup reserve feedstock supply for given number of weeks or months (presumably, a constant volume stored in the case of crude supply disruption). Objective 2 provides for “flexibility” in the volume of crude delivered, but the RDEIR does not characterize its purposes. Given BAAQMD’s figure for Valero’s throughput rate, the excess volume that the Project allows would be “up to 25,557 bpd.”

With reference to crude storage capacity, only a single sentence in the RDEIR is devoted to this important topic: “two storage tanks” would be used to receive crude from the Project’s rail offloading terminal. There is no description of the tanks and/or their capacity.¹⁴ If more crude is imported on an annual basis than would be processed or needed to maintain a reserve supply, the RDEIR must discuss and explain (i) this possibility as it relates to crude storage capacity, and (ii) the necessity for the Project to import the quantities “up to 70,000 bpd” of domestic and/or Canadian sourced oil *relative to the life of the Project into the future*. The RDEIR does not disclose the volume capacity for varying sizes of ships and marine vessels that currently serve Refinery deliveries of crude oil hold. This is important in the event that “flexibility” is invoked by Valero and rail deliveries of Project-related crudes are suspended and replaced with ship or marine vessel deliveries. If this happens, would such volumes brought by ship, on whatever regular basis, accommodate the Project-related crude storage tanks referenced?

3.4 PROJECT OBJECTIVE #3.

Project Objective 3 states: “mitigate Project-related impacts.”¹⁵

There is no serious discussion of mitigations in the RDEIR because the City has wrongfully accepted Valero’s and UPRR’s assumption of the scope and breadth of federal Preemption. This controversy between what CEQA requires and what Preemption governs, affects not only the RDEIR’s analyses of impacts but also the RDEIR’s evaluation of Project Alternatives. This

¹⁴ The VIP DEIR states: “Valero proposes to install one or two additional floating roof crude tanks (with capacity of up to 900,000 barrels for one, or 650,000 barrels each for two) within the Crude Oil Field tankage area.” [VIP DEIR, 3.4.3.15 Additional Crude Tankage, pp 3-51].

¹⁵ RDEIR 2.1.2 DEIR ES-2, Project Objectives, p. 2-3

SECTION 4: FAILURE TO CHARACTERIZE CRUDE SLATE CHANGES AND EFFECTS OF PROCESSING UNCONVENTIONAL OIL

The RDEIR fails to disclose and fully characterize the effects of prospective “crude slate changes,” which are cited by the RDEIR as an “Area of Controversy” that remains unresolved.

Such effects as *increased* emissions can reasonably be expected to occur, according to refinery experts who submitted comments on the DEIR (Phyllis Fox, Phd., and Communities for a Better Environment). Those comments amplify, in specific detail, why the RDEIR’s discussion of crude slate changes cannot be accepted.

The RDEIR’s claim that there would be “no net emissions” resulting from processing future feedstock blends that would contain Project-accessed unconventional crude oils is fallacious, though its deceptions are difficult to discern.

The RDEIR fails to disclose basic information necessary to evaluate whether there would potentially be net emissions *increases* that would likely result from processing Canadian tar sands’ derived synthetic oils and/or Bakken oil.

According to refinery experts’ comments submitted on the DEIR, tar sands oils and Bakken oil have specific chemical characteristics that can significantly add to risks of corrosion, fire and explosions associated to Refinery processing operations, and also, add to health risks associated to acute and chronic exposures to increases in toxic emissions resulting from processing North American-sourced oils, especially Canadian tar sands bitumen-derived synthetic oils or fracked Bakken oil from North Dakota.

The RDEIR fails to disclose:

- (1) the specific array of chemical characteristics of the various tar sands oils, and characteristics of Bakken oil; and
- (2) the actual current average baseline throughput rate, (averaged over three previous years, 2012 – 2014).

The fallacy of the “no net emissions” claim contrived by the RDEIR can be unraveled as follows:

The RDEIR echoes Valero’s word that currently existing emissions reported resulting from *current* processing of *conventional* feedstock blends would be similar to emissions levels resulting from *future* feedstock blends containing any number of types of Project-accessed Canadian synthetic tar sands oils, and/or very light Bakken oils. This is asserted as if it were true that conventional feedstock oils currently being processed are “similar” in character to existing future feedstock oils that would likely be accessed by the Project. For example, the RDEIR uses terms such as “sweet Alaska-like” to compare Bakken oil to conventional medium sweet crude from Prudhoe Bay. However, such comparisons of feedstock are based solely on two criteria for contrasting types of oil, (however extreme the contrast derived might be between heaviest crude

oil and “lightest”): the API Specific Gravity (density) of the oil, and its relative sulfur content. This comparison avoids accounting of the distinct chemical differences known to contribute to the signatures, besides density and sulfur content, of tar sands and Bakken oils.

If the additional and necessary information about “other” crude characteristics were supplied by the RDEIR, differing conclusions can be arrived at with more scientific evidence regarding Valero’s claim that “no net emissions” would result from *increasing the percentages* of tar sands or Bakken oils to be processed in future blends.

As previously commented upon [BSHC RESPONSE to DEIR, p 76], the RDEIR fails to provide a figure for *current average baseline throughput rate* (averaged over three previous years, 2011 - 2013), the other necessary fact without which it is impossible to claim “no net emissions” resulting from processing tar sands or Bakken oils.

The Refinery’s *current* average production rate must be compared to the maximum daily average production rate that was set by the construction permit granted in 2002 for VIP by the Bay Area Air Quality Management District (BAAQMD): the maximum daily average production rate, based on annually averaged figures, cannot exceed 165,000 bpd.

Regarding emissions levels permitted: the maximum permitted emissions levels for certain chemicals (gases, metals, etc.) that must be reported by law to BAAQMD are tied to the maximum permitted production level of 165,000 bpd. But if production rates have fallen, as reported by BAAQMD²³, the RDEIR’s projected future emissions levels would be in error.

In the case of the RDEIR’s assessment of projected estimates for future emissions that would result from processing differently constituted throughput blends, if the current rate of production is actually well below the maximum *permitted* production level, the expressed ratio of emissions emitted as related to production level would be expected to reveal that change, e.g., emissions reported should be expected to be lower proportionally in relation to the maximum emission levels permitted.

The RDEIR cleverly hides its deception: it compares projected emissions that would result from processing differently constituted throughput blends, if the current rate of production is actually well below the maximum permitted production level, the expressed ratio of emissions reported as related to production level would be expected to reveal that change, e.g., emissions reported should be expected to be lower proportionally in relation to the maximum emission levels permitted.

The RDEIR cleverly hides its deception: it compares projected future emissions levels that could result from processing future blends containing increasing amounts of tar sands and/or Bakken oils by relating those emissions estimates to the *maximum* permitted production rate of 165,000 bpd. By this devious method, assuming a continuing and trending drop in actual production rates, future increases in emissions can be hidden. Thus, measured against the *maximum* permitted emission levels, future projected emissions levels can appear to be lower.

²³ Bay Area Air Quality Management District, *op.cit.*

Thus the RDEIR’s calculations, based on very limited information and non-disclosure of the current baseline production rate, allows for deceit that would create the impression that there would be no adverse effects from processing a changed crude slate containing increasing volumes of Project-accessed tar sands and/or Bakken oils.

However, the BAAQMD’s recently reported current throughput baseline for the Valero Benicia Refinery is 114,443 bpd, close to 30% lower than the Refinery’s permitted level. Decision makers should be able to reason that the Refinery should be able to report an equivalent drop in future estimates for emissions levels should the trend hold for lower production rates as might be predicted.

End Section 4

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cont.

SECTION 5: RDEIR FLAWS, DECEPTIONS, DEFICIENCIES, OMISSIONS AND FAILURES TO ADDRESS DISCUSS AND/OR DISCLOSE KEY FACTORS AND CONDITIONS PERTAINING TO FORESEEABLE IMPACTS OF THE PROPOSED RAIL PROJECT AND PROJECT-RELATED REFINERY PROCESSING OPERATIONS

5.1 OVERVIEW

The flaws and limitations of the Project Objectives are reflected in the limitations of the Project Description and impact analysis. The primary focus of RDEIR revisions is on ‘uprail’ impacts that were not properly evaluated. Of the “significant and unavoidable” impacts described, analysis devolves into questionable rehearsals of their significance. The RDEIR charade goes on with posed mitigations that are then summarily rejected as “infeasible” *a priori* under federal Preemption.

The Project, narrowly defined by Project Objectives 1 & 2 as a “rail project,” would not, therefore, be “managed” by the Project Applicant, but by Union Pacific Railroad Co., *off-site of the Refinery* – therefore *anywhere* from the Refinery fence line onto rail spurs crossing the Park Road intersection in the Benicia Industrial Park, and all along mainline rail routes to the crude source.

The RDEIR suggests that the City of Benicia’s decision makers are without any viable authority to mitigate foreseeably significant Project-related and risks, direct and indirect risks, that may occur within the City of Benicia and ‘uprail’. Yet, by seeming sleight-of-hand, the RDEIR conjures the Proposed Project as the “Environmentally Superior Alternative.”

On the contrary, should decision makers agree with the RDEIR’s determination, the City of Benicia would be rendered simultaneously impotent and unconscionably irresponsible. To call the Crude By Rail Project “environmentally superior” represents a breach of the purposes of CEQA to inform and enable the public and decision makers to fairly evaluate and judge the true scope of the Proposed Project and its adverse impacts.

The RDEIR fails to disclose basic information pertinent to the number and severity of risks and harm posed to people, places, businesses, vital resources, public assets, sensitive landscape/habitat and the climate. Impact analysis relies on speculation and minimizes direct and indirect, potentially domino-like “significant” consequences of running daily “High Hazard” trains of 100+ tank cars loaded with Bakken oil or tar sands that travel more than 1,500 miles to the UPRR Roseville Rail Yard and on to the Refinery.

Comment Letter J3

October 30, 2015

Via email and FedEx (with references) to

Amy Million, Principal Planner

Community Development Department

250 East L Street

Benicia, CA 94510

amillion@ci.benicia.ca.us



Re: The City of Benicia's Revised Draft Environmental Impact Report
for the Valero Benicia Crude-by-Rail Project

Dear Ms. Million,

On behalf of the undersigned groups, we submit the following comments on the City of Benicia's Revised Draft Environmental Impact Report (Revised Draft EIR) for the Valero Benicia Crude-by-Rail Project (the Project). The Project, if approved, would allow the Valero refinery to receive up to 70,000 barrels per day of crude oil by train, causing significant and irreversible impacts on communities and the environment.

The City released a Draft EIR for public comment in June 2014. After receiving numerous comments pointing out the deficiencies in the Draft EIR, the City recirculated the Revised Draft EIR in August 2015. Although the Revised Draft EIR discloses new significant environmental impacts, it still fails to address many of the comments we previously submitted. Accordingly, we incorporate our prior comments on the Draft EIR by reference. As described below, the Revised Draft EIR does not meet the requirements of the California Environmental Quality Act (CEQA) because it fails to properly analyze, disclose, and mitigate the Project's significant environmental impacts.

I. The Revised Draft EIR fails to accurately state the Project's objectives and baseline.

In the Revised Draft EIR the City continues to claim, without support, that there will be no net increase in throughput (and thus no increase in air pollution and other negative impacts) because the Project does not increase the refinery's air permit limits. (Revised Draft EIR at 2-6, 2-20.) Under CEQA, the baseline consists of "the physical environmental conditions in the vicinity of the project, as they exist at the time . . . environmental analysis is commenced." (14 Cal. Code Regs. ("Guidelines") § 15125(a).) In other words, the baseline is the actual physical conditions that exist at the site—not hypothetically permitted conditions. (*Communities for a Better Env't v. S. Coast Air*

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Comment Letter J3

Quality Mgmt. Dist. (2010) 48 Cal.4th 310, 315.) Therefore, the City cannot use the hypothetically permitted throughput levels as the baseline and must instead disclose the actual throughput.

The City also continues to claim that the Project will reduce marine imports. Revised Draft EIR at 2-3, 2-13, 2-19, 2-20, but that is unlikely for two reasons. First, because there is no evidence that the refinery is currently operating at capacity, the Project could simply increase the total amount of crude that Valero refines. Rail imports would be additional to marine imports, rather than replacing them. And even if the refinery were operating at capacity, the Project would not reduce marine imports if the crude imported by rail replaces crude currently imported by pipeline. The Revised Draft EIR asserts that the Project's crude will not replace crude imported by pipeline, but it provides no reasoning or facts to support that assertion. (*Id.* at 2-19.) In short, there is no binding commitment from Valero that the refinery will reduce marine imports proportional to rail imports. In the absence of such a commitment, the refinery could continue to receive marine imports *and* add rail imports.

II. The Revised Draft EIR fails to disclose the type of crude oil that will be transported by rail to the Valero refinery.

The Revised Draft EIR is fatally flawed because it does not identify the type of crude oil that the Project will enable Valero to import by rail and refine. (*See* Revised Draft EIR at 2-23.) This nondisclosure violates CEQA and cripples the analysis of environmental impacts. In *Communities for a Better Environment v. City of Richmond* (2010) 184 Cal.App.4th 70, the First District Court of Appeal specifically rejected an EIR for a refinery project that failed to disclose detailed information about the crude slate that a refinery was already processing compared to the crude slate it would process if the project under consideration were approved. (*Id.* at 88-89 [finding that "the EIR fails as an informational document because the EIR's project description is inconsistent and obscure as to whether the Project enables the Refinery to process heavier crude"].) As the court noted, if "a project proponent can pick and choose who sees pertinent data . . . then a stake is driven into the 'heart of CEQA' by preventing the information necessary for an informed decision from reaching the decisionmakers and the public." (*Id.* at 88.)

As we explained in our prior comments, the City's analysis rests primarily on its claim that Valero will blend crude imports to stay within "the yellow box in Figure 3-8" of the Draft EIR, which demarcates the ranges of sulfur content and API gravity permitted under Valero's BAAQMD permit. (Draft EIR at 3-13 to 3-14.) But the analysis notes that the blends Valero has refined over the last three years "is much narrower" than

J3-2
cont.

J3-3

J3-4

what the permit allows. (Draft EIR at 3-14.) This might, as the City suggests, imply practical limits on Valero's refining capability, but more realistically, it demonstrates that the BAAQMD permit leaves significant wiggle room for Valero to alter the crude blends it refines going forward.

Consequently, there are several unanswered questions with regard to this Project. Will importing tar sands, oil shale, and other "heavier" crudes require Valero to shift the distribution of blends it refines to a different region of the yellow box? Will the distribution of blends expand, or narrow even further? More significantly, what impacts to the environment will result when a shift occurs, even if the blends stay within the yellow box? For example, shifting toward the highest allowable mass fraction of sulfur content would increase sulfur dioxide emissions. Will this result in impacts to air and water quality close to the refinery? The Revised Draft EIR fails to address these questions and does not allow for a proper consideration of the potential impacts.

Furthermore, the BAAQMD permit does not speak to crude characteristics beyond density and sulfur. Crude oil constituents vary greatly, including differences in the content of coke, asphalt, asphaltene, resins, copper, iron, mercury, nickel, lead, titanium, vanadium, residue nitrogen, and volatile organic compounds (VOCs).¹ Each of these compounds could have serious negative impacts on air quality. These compounds could also affect water quality, as effluent discharge, air pollution fallout, or in the event of accidental release.² Mercury is illustrative. The San Francisco Bay already experiences high levels of mercury pollution, including from local refineries' air emissions, which ultimately deposit into water systems and biomagnify through food chain systems.³ Crude oils can vary in their mercury content by many orders of magnitude,^{4,5} meaning

¹ United States Geological Survey, *Heavy Oil and Natural Bitumen Resources in Geological Basins of the World*, Open File Report 2007-1084 (2007), available at: <http://pubs.usgs.gov/of/2007/1084/OF2007-1084v1.pdf>.

² Helen Wake, *Oil refineries: a review of their ecological impacts on the aquatic environment*, 62 *Estuarine, Coastal, and Shelf Science* at 131-40 (2005).

³ Sigi Ocker, *The Legacy of Mercury Pollution in California's Bay Area*, EcoWatch (2014), available at: <http://ecowatch.com/2014/03/21/mercury-pollution-california-bay-area>.

⁴ *Heavy Oil and Natural Bitumen Resources*, supra note 1, at 14.

⁵ Environmental Resources Management, *Bay Area Petroleum Refinery Mercury Air Emissions, Deposition, and Fate* (June 2009) at A-3 (finding average mercury concentrations in crude at Bay Area refineries ranged from 1.52 to 14.69 ppb), available at:

changes to the crude Valero refines could have far-reaching impacts on regional water pollution. These crude characteristics are also vitally important to know when assessing the risk and impacts of spills, explosions, and clean up resulting from accidents along the rail line.

Even incremental fluctuations in the chemical composition and quality of the crude slate refined at the Refinery could cause significant, and currently un-assessed, environmental impacts. For instance, the *City of Richmond* case addressed the Richmond's failure to study the impacts of a one percent increase in sulfur in the Chevron Richmond Refinery's crude slate. (*City of Richmond*, 184 Cal.App.4th at 77.) Two years later, a pipeline ruptured at the refinery, sending 15,000 local community members to nearby hospitals. The United States Chemical Safety Board determined that a 0.8 percent increase in the amount of sulfur in Chevron's crude blend was the root cause of the accelerated pipe corrosion.

The Revised Draft EIR simply ignores this variability in crude oil and accordant variability in risk, essentially assuming that all crudes are created equal. Rather than disclosing or discussing the highly varied chemical makeup of crude, the different constituent pollutants' effects on the environment, and the effectiveness of control measures like the refinery's SWPPP and BAAQMD permit, the City's analysis simply "call[s] for blind faith in vague subjective characterizations." (*City of Richmond*, 184 Cal.App.4th at 85.) This violates CEQA as a matter of law.

III. The Revised Draft EIR improperly limits the geographic scope of the impacts analysis.

The Revised Draft EIR limits the geographic scope of its analysis of up-rail impacts to three northern/northeastern UPRR rail routes between the Roseville Yard and the California border (e.g., Oregon to Roseville, Nevada to Roseville (northern), Nevada to Roseville (southern)): "[t]he DEIR and this Revised DEIR assume . . . that all Project-related crude would be routed through Roseville using any or all of three routes along the existing UPRR rail system to the north and northeast of Roseville." (Revised Draft EIR at 2-24.)

However, the Revised Draft EIR itself acknowledges that Project-related crude could reach Roseville from other rail routes, such as two UPRR rail routes in southern

http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/TMDLs/sbbyrne_recury/Hg_Air_Dep_SFB_Refineries%20_WSPA.pdf.

EXHIBIT B

Letter from Kamala Harris, California Attorney General, to the
City of Benicia (April 14, 2016)



1300 I STREET, 15TH FLOOR
SACRAMENTO, CA 95814

Telephone: (916) 445-5077
E-Mail: Scott.Lichtig@doj.ca.gov

April 14, 2016

Via U.S. and Electronic Mail

Amy Million
Community Development Department
City of Benicia
250 East L Street
Benicia, CA 94510

**RE: Valero Appeal of Planning Commission Denial of Use Permit for Valero Benicia
Crude-by-Rail Project**

Dear Ms. Million:

Attorney General Kamala D. Harris submits the following comments regarding Valero Refining Company's ("Valero") appeal of the Benicia Planning Commission's denial of a Use Permit for its Crude-by-Rail Project ("Project").¹ This Office previously submitted comments on the Project's draft Environmental Impact Report (EIR), urging the City to correct several deficiencies in its analysis of environmental impacts flowing from an increased demand in rail services to the Project facility, including public-safety risks specific to crude-by-rail operations.

In its appeal of the Planning Commission's decision to deny the Use Permit, Valero has asserted that the Interstate Commerce Commission Termination Act (ICCTA) prohibits the City from taking those same rail-related impacts and public-safety risks into account in determining whether to approve or deny the Project. We disagree. For the many reasons set forth below, ICCTA does not preempt or constrain the City's discretionary decision-making authority where, as here, the City is exercising that authority with respect to a project undertaken by an oil company that is not subject to the jurisdiction of the Surface Transportation Board (STB).

The Project proposes improvements to Valero's Benicia refinery that, if approved, will draw up to 100 tank-cars of crude oil per day, on interstate rail lines. With this and other projects like it, California is faced with a dramatic increase in the amount of fossil fuels transported by rail into the State for domestic processing and/or shipment abroad, including highly flammable crude oils from North Dakota and coal from Utah. As the Final EIR recognizes, these rail shipments will have significant and unavoidable impacts on California's

¹ The Attorney General submits these comments pursuant to her independent power and duty to protect the environment and natural resources of the State. See Cal. Const., art. V, § 13; Gov. Code, §§ 12511, 12600-12612; *D'Amico v. Bd. of Medical Examiners* (1974) 11 Cal.3d 1, 1415.

citizens and environment, including adverse impacts on air quality and the potential for an accident causing death or severe personal injury. Indeed, several crude-by-rail crashes have resulted in catastrophic consequences, including one derailment in downtown Lac-Mégantic, Canada, that killed 47 people.

As indicated in the Attorney General's previous letter, where, as here, a local agency is vested with discretionary authority to determine whether to approve a project within its jurisdiction,² California law requires the agency to analyze and disclose the full scope of the project's foreseeable environmental impacts. This requirement ensures that the agency is fully informed of the consequences of its action, and thus that any discretionary action is ultimately in the public interest. This legal duty is not circumscribed by ICCTA for this Project. In fact, for Benicia to turn a blind eye to the most serious of the Project's environmental impacts, merely because they flow from federally-regulated rail operations, would be contrary to both state and federal law.

Background

This Office submitted comments on the Draft EIR in 2014, in which we asserted, among other things, that the City had failed to properly analyze the Project's foreseeable impacts on public safety and the environment, including impacts both related and unrelated to rail transportation. The City subsequently revised the Draft EIR, correcting many of the noted deficiencies in its analysis of rail-related impacts.³ Pursuant to this revised analysis, the City found eleven significant and unavoidable impacts caused by the transport of crude oil to the refinery, including significant and unavoidable impacts to air quality, biological resources, and greenhouse gas emissions. The City also analyzed the risks to public health and safety presented by the transport of hazardous materials and found that they, too, presented a significant and unavoidable impact.

Due to these impacts, City Staff has concluded that the Project's benefits do not outweigh its significant and unavoidable environmental impacts. Nonetheless, City Staff also argues that federal preemption prohibits Benicia from considering the Project's rail-related impacts in determining whether to approve the Project. Specifically, City Staff has asserted that Benicia is "legally prohibited" from denying the Project based on the rail-related impacts disclosed in the Revised Draft EIR. Valero agrees with City Staff, asserting, "the City Council's hands are, in effect, tied by the law of federal preemption."

We disagree that the City is prohibited from considering the Project's eleven significant and unavoidable rail-related environmental impacts when exercising its local land use authority. Where, as here, an oil company proposes a project that is not subject to STB regulation and over

² Neither the City nor Valero assert that the Project is not subject to the City's discretionary permitting authority.

³ To the extent that the Final EIR has not addressed the deficiencies outlined in this Office's previous comment letter, we reiterate the objections to the adequacy of the City's analysis.

which a public agency retains discretionary permitting authority, it would be a prejudicial abuse of discretion for that agency not to consider all of the project's foreseeable impacts in exercising its authority.

Discussion

While ICCTA may preempt certain local permitting authority over activities constituting "transportation by rail carrier," ICCTA does not preempt the City's permitting authority over this Project: an oil company's proposal to construct a new service road, 4,000 feet of pipeline, tank-car unloading racks, and new private rail tracks at the refinery, and to replace and relocate tank farm and underground infrastructure.

CEQA Background and Statutory Overview

The purpose of CEQA (Pub. Res. Code, § 21000 et seq.) is to ensure that, when a public entity takes a discretionary action such as approval of Valero's Use Permit, it considers the foreseeable environmental impacts before taking that action. (§§ 21000, 21001, subd. (d); *Laurel Heights Improvement Assn. v. Regents of Univ. of Cal.* (1988) 47 Cal.3d 376, 393.) Accordingly, a public agency with discretionary authority to approve a project must publicly disclose the project's potentially significant direct and indirect environmental impacts, and – if feasible – impose measures to mitigate or lessen those impacts.⁴ (§§ 21002, 21002.1.) This process yields a final assessment of the project's environmental impacts, and on the basis of that information, and all other available information regarding the costs and benefits of the project, the agency exercises its discretionary authority to issue a decision. A failure to include all of a project's potential environmental impacts in the CEQA analysis, or to disregard that information in making a decision like the one regarding Valero's Use Permit, not only would defeat the purpose of CEQA, but would be an abuse of discretion. (See *Kings Cnty. Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 712, *reh'g denied and opinion modified* (July 20, 1990) ["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."]; *Assoc. of Irrigated Residents v. Cnty. of Madera* (2003) 107 Cal.App.4th 1383, 1391.) Importantly, CEQA does not dictate a particular project outcome: A lead agency may approve a project, even if that project will have significant environmental impacts. (Pub. Res. Code, § 21002.1(c); Guidelines, §§ 15043 and 15093.)

Scope of Preemption Under ICCTA

Because the Project applicant Valero is not a rail carrier and not acting pursuant to STB authorization, ICCTA simply has no application to Valero and its proposed refinery upgrades. ICCTA grants the STB exclusive jurisdiction over "transportation by rail carriers," and therefore

⁴ The fact that the agency may lack authority to impose a particular mitigation measure, as where that authority is preempted, does not relieve the agency of the obligation to analyze and consider that impact when deciding whether to approve a project. (*Ctr. for Bio. Diversity v. S. Coast Air Qual. Mgmt. Dist.* (2010) 48 Cal.4th 310, 325.)

preempts state or local regulation only if the activity at issue is performed by a rail carrier. (See 49 U.S.C. § 10501(b)(1); *New York & Atlantic Railway Co. v. Surface Transportation Board* (2nd Cir. 2011) 635 F.3d 66, 72). But Valero is not a “rail carrier” constructing a project subject to STB’s exclusive jurisdiction; it is an oil company engaged in a project entirely removed from STB’s regulation. (See 49 U.S.C. § 10102(5); *Hi Tech Trans, LLC-Petition for Declaratory Order-Newark, NJ*, FD No. 34192 (S.T.B. served Aug. 14, 2003) 2003 WL 21952136 at *4.) Federal preemption does not apply because Valero’s Project involves constructing ancillary refinery infrastructure over which Union Pacific, the actual rail carrier, will maintain no ownership or operational control and over which the STB has no jurisdiction. (*Sea-3, Inc.-Petition for Declaratory Order*, FD No. 34192 (S.T.B. served March 17, 2015) 2015 WL 1215490 at *4. [“The Board’s jurisdiction extends to rail-related activities that take place at transloading facilities if the activities are performed by a rail carrier, the rail carrier holds out its own service through a third party that acts as the rail carrier’s agent, or the rail carrier exerts control over the third party’s operations.”])

The scope of ICCTA’s preemption is broad, but not unlimited: Preemption applies only to state or local laws that may reasonably be said to have the effect of ‘manag[ing]’ or govern[ing]’ rail transportation,” while allowing continued application of state laws that have “a more remote or incidental effect on rail transportation.” (*Fla. E. Coast Ry. Co. v. City of West Palm Beach* (11th Cir. 2001) 266 F.3d 1324, 1331.) Courts have interpreted the plain language of ICCTA’s preemption provision to categorically preempt a state or local law if that law operates either (1) to deny a railroad the ability to conduct its operations or proceed with activities the STB has authorized, or (2) to regulate matters directly regulated by the STB, including the construction, operation, and abandonment of rail lines. (*People v. Burlington N. Santa Fe R.R.* (2012) 209 Cal.App.4th 1513, 1528.) State actions that do not fall into one of these categories may be preempted as applied only when they would have the effect of preventing or unreasonably interfering with railroad transportation. (*Ibid.*)

Both Valero and City Staff incorrectly argue that the City’s denial of Valero’s Use Permit will somehow impermissibly interfere with Union Pacific’s rail operations. However, applying ICCTA’s preemption analysis, the City’s denial of Valero’s Use Permit is not categorically preempted, because it would neither (1) deny Union Pacific the ability to conduct its operations or proceed with activities the STB has authorized; nor (2) regulate matters directly regulated by the STB. The City’s action with respect to Valero’s Project does not “regulate” Union Pacific or interfere with STB-authorized activities or STB-regulated operations.

Nor is the City’s action preempted “as applied” to Valero’s Project, because it does not have the impermissible “effect of preventing or unreasonably interfering with” Union Pacific’s railroad operations. (*Burlington, supra*, 209 Cal.App.4th at p. 1528.) While the City’s denial of Valero’s Use Permit may diminish any prospective economic advantage Union Pacific may have enjoyed if Valero’s Project were constructed, this is, at best, “a more remote or incidental effect on rail transportation.” (*Fla. E. Coast Ry. Co., supra*, 266 F.3d at p. 1331 see also *Cal. Div. of Labor Stnds. Enforcement v. Dillingham Constr. N.A.* (1997) 519 U.S. 316, 334 [no preemption where statute “alters the incentives, but does not dictate the choices” of the federally regulated entity].) Union Pacific has no vested right in the completion of Valero’s Project, and denial of

Amy E. Million
April 14, 2016
Page 5

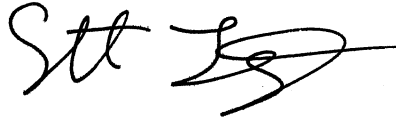
Valero's Project would not prevent or unreasonably interfere with Union Pacific's rail operations.

Conclusion

Under federal law, the City retains its authority to take discretionary action to approve or deny Valero's Project. In exercising that authority, state law requires the City to analyze and disclose the Project's direct and indirect environmental impacts, and thus to be fully informed of the consequences of its action. The City has done that here, and its action has not interfered with federally regulated activities. Valero's assertion that the Planning Commission's action was illegal is without merit.

We appreciate your consideration of these comments.

Sincerely,

A handwritten signature in black ink, appearing to read "Stt" followed by a stylized flourish.

SCOTT J. LICHTIG
Deputy Attorney General

For KAMALA D. HARRIS
Attorney General

EXHIBIT C

Excerpts from Transcript of Benicia Planning Commission
Meeting (April 19, 2016)

CONTINUED SPECIAL MEETING OF THE
BENICIA CITY COUNCIL

REPORTER'S TRANSCRIPT OF RECORDED PROCEEDINGS
IN RE VALERO CRUDE BY RAIL PROJECT
HEARING AND DISCUSSION

Date and Time: Tuesday, April 19, 2016
7:00 p.m. - 9:42 p.m.

Transcribed By: Annie Doezie, CSR No. 8478
Certified Shorthand Reporter

Job No. 7360

1 all the time you wasted."

2 I get that part, okay, but I'm willing to
3 take that -- that chance.

4 VICE MAYOR HUGHES: It's a clarification --

5 MAYOR PATTERSON: We have a city attorney --

6 VICE MAYOR HUGHES: Oh.

7 MAYOR PATTERSON: -- with a light on.

8 MS. McLAUGHLIN: Well, it was just a teeny
9 clarification, because the first meeting in September
10 is right after the holiday, staff recommends that you
11 continue it, if you do it to September, to
12 September 20th.

13 COUNCILMEMBER SCHWARTZMAN: Fine with me.
14 I'll amend the motion to the second meeting.

15 VICE MAYOR HUGHES: I'll second.

16 MAYOR PATTERSON: Is the seconder agreeing to
17 the amended motion?

18 COUNCILMEMBER STRAWBRIDGE: That's fine. Yes.

19 MAYOR PATTERSON: Discussion?

20 VICE MAYOR HUGHES: So help me understand,
21 because -- because you said six months and then you
22 said September 1st.

23 COUNCILMEMBER SCHWARTZMAN: Well, I --

24 VICE MAYOR HUGHES: I want to understand.

25 COUNCILMEMBER SCHWARTZMAN: -- okay. So it's

1 So there we are. That's the discussion. I
2 think it's unfortunate that it looks like the majority
3 is going to vote for a delay.

4 Are you ready to call the vote?

5 COUNCILMEMBER SCHWARTZMAN: I -- can I just
6 make a -- a request to Valero?

7 May I?

8 MAYOR PATTERSON: I'm --

9 COUNCILMEMBER SCHWARTZMAN: Well, it's a
10 hope.

11 MAYOR PATTERSON: -- with a motion on the
12 table, can you make a --

13 COUNCILMEMBER SCHWARTZMAN: -- it's a hope.

14 MAYOR PATTERSON: -- I -- that troubles me,
15 because why not --

16 COUNCILMEMBER SCHWARTZMAN: It's a
17 discussion.

18 Okay. I'm okay. That's all right.

19 MAYOR PATTERSON: Okay.

20 So call the roll, please.

21 THE CLERK: Councilmembers Campbell?

22 COUNCILMEMBER CAMPBELL: No.

23 THE CLERK: Hughes?

24 VICE MAYOR HUGHES: Yes.

25 THE CLERK: Schwartzman?

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COUNCILMEMBER SCHWARTZMAN: Yes.
THE CLERK: Strawbridge?
COUNCILMEMBER STRAWBRIDGE: Yes.
THE CLERK: And Mayor Patterson?
MAYOR PATTERSON: No.
Without objection, we are adjourned.
Thank you.

(End of Reporter's Transcript of Recorded
Proceedings)

* * *

EXHIBIT D

Excerpts from Transcript of Benicia Planning Commission
Meeting (March 15, 2016)

TRANSCRIPTION OF THE VIDEOTAPED
CITY OF BENICIA - CITY COUNCIL MEETING

DATE: Tuesday, March 15, 2016

REPORTER: Sally Bronner
Certificate No. 7090

JOB NO. 7212

1 hear from Mr. Flynn through the chair is when the
2 anticipated submission is going to take place and what
3 your understanding is of some type of decision, whether
4 it's a denial or action.

5 Any idea how long?

6 MR. FLYNN: You know, I think we would be
7 submitting the petition itself, it's probably going to
8 take us 30 days to get it put together and submitted to
9 the Surface Transportation Board.

10 My understanding of the time that it would
11 take once we've submitted the petition is very similar
12 to Mr. Hogin's. I think it's probably on the order of
13 three to six months. It's going to be in that
14 neighborhood. I can't give anybody -- and I don't
15 think anybody here can either, give you a rock solid
16 guarantee on the timing, but I think it's gonna be in
17 that neighborhood.

18 Mr. Hogin is right. The Surface
19 Transportation Board could say well, we decline to give
20 you a declaratory order at all on one side of the issue
21 or the other.

22 But it's my understanding based on a lot of
23 experience that our firm has with the Surface
24 Transportation Board that if they decide that they
25 don't want to issue a declaratory order, at the very

EXHIBIT E

NRDC et al. Comments on Final Environmental Impact Report
for the Valero Benicia Crude-by-Rail Project (Feb. 8, 2016)

February 8, 2015

Via email to

Amy Million, Principal Planner
Community Development Department
250 East L Street
Benicia, CA 94510
amillion@ci.benicia.ca.us

Re: The City of Benicia's Final Environmental Impact Report for the
Valero Benicia Crude-by-Rail Project

Dear Ms. Million,

On behalf of the undersigned groups, we submit the following comments on the City of Benicia's Final Environmental Impact Report (Final EIR) for the Valero Benicia Crude-by-Rail Project (the Project). The City released a Draft EIR for public comment in June 2014. After receiving numerous comments pointing out the deficiencies in the Draft EIR, the City recirculated the Revised Draft EIR in August 2015. The City published a Final EIR, which includes responses to comments, on January 5, 2016.

As described below, the EIR does not meet the requirements of the California Environmental Quality Act (CEQA) because it fails to properly analyze, disclose, and mitigate the Project's significant environmental impacts. Furthermore, the Final EIR fails to adequately respond to our prior comments submitted on October 30, 2015 and in the fall of 2014. We highlight the major deficiencies in the Final EIR below. We have also reviewed the staff report for the Planning Commission hearing on the Project and include our response to staff's recommendations in this letter.

Air Quality. In our prior comments, we explained that there is evidence that the Project will increase emissions from the refinery, either because it will increase total throughput or because it will increase the proportion of dirty crudes being refined. The Project also could cause additional transportation-related emissions. In the Final EIR, the City steadfastly maintains that there will be no increase in emissions, but its explanations do not hold water, given that the Project will add an entirely new method for importing crude oil.

First, the City fails to disclose and analyze the Project's effect on the throughput of the refinery, hindering the public's ability to evaluate whether the Project will increase refinery emissions. Indeed, evidence shows that the refinery is not currently operating at its maximum capacity. See Ex. A, Socio-economic Analysis of Proposed Regulation 12, Rule 15 (showing that Valero's recent effective throughput was 114,443 barrels per day);

NATURAL RESOURCES DEFENSE COUNCIL

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Ex. B (Valero website claiming total throughput capacity of 170,000 barrels per day); DEIR at 3-2 (“The Refinery’s crude oil processing rate is limited to an annual average of 165,000 barrels per day (daily maximum of 180,000 barrels per day).”). The City’s responses to comments assert that any oil imported by rail would be offset by equal decreases in oil imported by ship. But the City does not explain why that is the case, except to say that it is a “project objective.” Final EIR at 3.5-57. Nor does the City make that tradeoff a binding requirement of approval. Accordingly, the City’s description of the Project as “changing” the shipment method of 70,000 barrels per day of oil is inaccurate and misleading. The also City states that if Valero desired to increase the amount of crude oil delivered to the refinery, it could do so now by increasing the amount delivered by ship. Final EIR 3.5-58. Even if true, that is irrelevant to whether *this Project* will cause an increase in refinery emissions. If so, that increase must be disclosed and analyzed under CEQA.

Second, there is no doubt that changes in crude slate can affect emissions, even if there are no changes to the process equipment. Yet the City continues to withhold critical information about the type of crudes the Project will import, incorrectly claiming that the information is confidential business information. To the contrary, the particular crudes proposed to be imported should be made public, and the EIR should evaluate possible changes in air quality based on those changes. The City also continues to claim that blending the crudes into a “narrow” range of weight and sulfur content will avoid any negative air quality effects. Final EIR at 3.5-58. But the EIR fails to explain why the blended range is “narrow”—indeed, the stated range from 20° to 36° API gravity, and from 0.4% to 1.9% sulfur content. Draft EIR at 3-13 (stating range); Draft EIR at 3-7 (showing that the range accounts for nearly all types of crude oil, from light sweet to heavy sour). Furthermore, although the EIR states that the crude imported by rail will be stored in the same tanks currently used to store oil, it fails to analyze whether the different types of crudes imported by rail (e.g., those with higher psi) could safely be stored in those tanks.

Third, the EIR claims there will be reductions in transportation-related air pollution based on reduced ship traffic. But as explained above, there is no requirement that ship traffic actually decrease. It could remain the same if throughput increases. And even if throughput remains the same, the Project’s crude could replace crude currently imported by pipeline. The Final EIR brushes aside this possibility, stating that Valero does not “anticipate” changes in amount of crude received by pipeline as a result of this Project. Final EIR at 3.5-57. However, as we explained in previous comments, it is clear that pipeline sources are diminishing. Finally, even if there were a proportionate decrease in ship traffic, the EIR fails to explain whether the resulting additional capacity at the port will be used by ships for other purposes. For example, will the additional port capacity be used to export refined products internationally? If so, then the supposed “decrease” in ships from the Project is illusory. The EIR must disclose any proposed or expected use of port capacity freed up by this Project.

Environmental Justice. There is ample evidence that the Project would disproportionately affect low-income communities and communities of color. Yet in the response to comments, the City claims that it need not include an environmental justice analysis at all. Final EIR at 3.5-59. To the contrary, state law requires this analysis. See Ex. C, Kamala D. Harris, Attorney General, *Environmental Justice at the Local and Regional Level, Legal Background*, May 2012. This analysis should be added to the EIR.

Hazards. The City fails entirely to respond to our comments explaining that federal law does not preempt regulation of Valero, which is not a rail carrier. The City continues to claim that any and all mitigation for this Project is preempted (except for the condition that Valero use CPC-1232 tank cars—the City does not explain this inconsistency). To the contrary, there are many legally feasible mitigation measures that the City could impose on Valero. Most notably, the city could require Valero to pay emissions offset credits or reduce the capacity of unloading operations, which, in and of themselves have serious air quality and hazards impacts. Neither of those actions has the effect of managing rail operations as defined under federal law because Valero is not a rail carrier. Nor do they “indirectly” regulate rail, as the City claims; neither of those mitigation measures would prevent Valero from receiving common carrier services more generally.

Water Quality. In our comments on the Revised Draft EIR, we pointed out that the Project would have significant impacts on water bodies during routine operations. In response, the City claims these impacts were analyzed, but points to a section of the Draft EIR that says nothing about these impacts. Final EIR at 3.5-61. The City’s analysis of the Project’s impacts to water during routine operations remains insufficient. And as explained above, there are many mitigation measures that can be imposed on Valero, such as emissions offsets, oil spill planning requirements, and financial contributions to water protection programs.

The City also asserts that it was not required to consider the potential impact of climate change-induced sea level rise on the Project, citing to *Ballona Wetlands Land Trust v. City of Los Angeles*, 201 Cal. App. 4th 455 (2011). However, the California Supreme Court recently upheld the validity of Guidelines section 15126.2(a), which requires an EIR to “evaluate any potentially significant impacts of locating development in other areas susceptible to hazardous conditions (e.g., floodplains, coastlines, wildfire risk areas)” to the extent that it involves an analysis of “a project’s potentially significant *exacerbating* effects on existing environmental hazards.” *California Bldg. Industry Assn. v. Bay Area Air Quality Mgmt. Dist.*, 62 Cal.4th 369, 388-89 (2015). As the California Supreme Court found, the *Ballona* court did not consider these requirements (*id.* at 392), and thus it provides no authority for the City’s failure to analyze such impacts here.

Biological Resources. The City’s responses to our comments on biological impacts are similarly inadequate. Again, the City claims to have analyzed the impacts on

biological resources during routine operations, *see* Final EIR at 3.5-63, but that analysis, which is merely snippets pulled together from various sections, is inadequate under CEQA.

Additional Impacts Not Analyzed. We recently learned that the City is considering an application for the development of a 527-acre property between East Second Street and Lake Herman Road, commonly known as the Seeno Property. *See* Ex. D, April 20, 2015 Letter from SCO Planning & Engineering; Ex. E, September 3, 2015 email attaching conceptual land use diagram. The proposal includes industrial, commercial, and residential land uses—all adjacent to the refinery and the Project. Given that the City has known about this proposal since at least the spring of 2015, analysis of how the Project may affect any sensitive uses, especially residential uses, and whether any of the Project’s impacts will be cumulatively significant in light of the proposed new development, should have been included in the EIR.

Staff report. On January 28, 2016, the City released a staff report recommending that the Planning Commission certify the EIR and approve the use permit for the Project. As we explained above, the EIR fails as an informational document. At the very least, the City must revise the EIR and recirculate it for public comment. However, despite its faults, the EIR does disclose that this Project will have numerous significant and unavoidable environmental impacts, including serious safety and air quality impacts. On that basis alone, the City should deny the permit for this Project.

The staff report claims that the Interstate Commerce Commission Termination Act (ICCTA) preempts the City from mitigating effects in any way tangentially related to rail, even if the mitigation is imposed on Valero. It also claims that the City has no discretion to deny the use permit for the Project based on health and safety risks posed by rail operations.

However, the law is clear that ICCTA preemption applies only to rail carriers. ICCTA’s plain language states that federal jurisdiction over rail transportation is limited to “transportation *by rail carriers*.” 49 U.S.C. § 10501(b)(1) (emphasis added). “Rail carrier” is defined as a person providing “common carrier railroad transportation for compensation.” *Id.* § 10102(5). A long line of Surface Transportation Board orders and judicial decisions have found that “to be subject to the Board’s jurisdiction and qualify for Federal preemption under section 10501(b), the activities at issue must be transportation, *and that transportation must be performed by, or under the auspices of, a ‘rail carrier.’*” *Town of Babylon and Pinelawn Cemetery – Pet. for Decl. Order*, 2008 WL 275697, at *3 (S.T.B. 2008) (emphasis added); *see also, e.g., Grafton and Upton R.R. Co. v. Town of Milford*, 417 F. Supp. 2d 171, 176 (D. Mass. 2006) (“As this Court reads the relevant statutory language, Congress intended the transportation and related activities undertaken by rail carriers to benefit from federal preemption but did not mean such preemption to extend to activity related to rail transportation undertaken by non-rail

carriers.”); *Hi Tech Trans, L.L.C. v. New Jersey*, 382 F.3d 295, 308-309 (3d Cir. 2004) (waste transloading rail facility operated by a non-rail carrier did not constitute rail transportation and was not governed by ICCTA); *New York & Atlantic Ry. Co.*, 635 F.3d 66, 73 (2nd Cir. 2011) (waste transfer rail facility operated by a non-rail carrier did not constitute rail transportation and was not governed by ICCTA); *Florida E. Coast Ry. Co. v. City of W. Palm Beach*, 266 F.3d 1324, 1332-1336 (11th Cir. 2001) (rail construction materials distribution center operated by a non-rail carrier did not constitute rail transportation and was not governed by ICCTA); *Girard v. Youngstown Belt Rwy.*, 134 Ohio St.3d 79, 90 (Sup. Ct. Ohio 2012) (“the mere fact” that materials are delivered to a facility by rail does not make their receipt “railway transportation” protected from local regulation); *Babylon*, 2008 WL 4377804 (transloading of construction and demolition debris by non-rail-carrier tenant of railway property did not constitute rail transportation and was not governed by the ICCTA); *Milford, Mass.—Petition for Declaratory Order*, STB Finance Docket No. 34444, 2004 WL 1802301 (Aug. 11, 2004) (despite contractual agreement with a rail carrier, the transloading of steel by a non-rail carrier in a manner that was not being offered as part of common-carrier services for the public did not constitute rail transportation and was not governed by ICCTA).

In contrast, the cases the City cites in the staff report involve the regulation of *rail carriers*. *Burlington N. Santa Fe R.R.*, 209 Cal. App. 4th 1513, 1528 (2012) (overturning conviction of Burlington Northern Santa Fe Railroad for blocking public grade crossing); *Town of Atherton v. California High-Speed Rail Auth.*, 228 Cal. App. 4th 314, 330 (2014) (referring to “any form of state or local permitting or preclearance that, by its nature, could be used to deny a *railroad* the ability to conduct some part of its operations or to proceed with activities that the [STB] has authorized”) (emphasis added).

In sum, no law prohibits the City from denying a use permit for this Project. The denial of a use permit for a refinery project proposed by a non-rail carrier simply does not trigger federal preemption. And even if the City were correct that it could not deny the permit on the basis of any impacts related to rail, there are significant impacts having nothing to do with rail that have not been mitigated and are, on their own, enough to warrant denial. Most notably, the Project will cause significant air quality impacts due to changes in refinery emissions, as explained above.

Benicia Municipal Code 17.104.060, prohibits the City from approving a project that will be detrimental “to the public health, safety, or welfare of persons residing or working” near the project, “to properties or improvements in the vicinity,” or “to the general welfare of the city.” For all the reasons stated above and in our prior comments, the Project will harm Benicians, other communities throughout the state, and our climate. The City should decline to certify the EIR and deny the permit for this Project.

Sincerely,

Jackie Prange, Staff Attorney
Natural Resources Defense Council

Katherine Black
Benicians for a Safe and Healthy
Community

Roger Lin, Staff Attorney
Communities for a Better Environment

Nancy Rieser
Crockett-Rodeo United to Defend the
Environment

George Torgun, Managing Attorney
San Francisco Baykeeper

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Shaye Wolf, Ph.D.,
Climate Science Director
Center for Biological Diversity

Tamhas Griffith
Bay Area Refinery Corridor Coalition

Elly Benson, Associate Attorney
Sierra Club

Steve Nadel
Sunflower Alliance

Janet Johnson
Richmond Progressive Alliance

Kalli Graham
Pittsburg Defense Council

Ethan Buckner
ForestEthics

Richard Gray
350 Bay Area and 350 Marin

David McCoard
Sierra Club SF Bay Chapter

Bradley Angel
Greenaction for Health and Environmental
Justice

Colin Miller
Bay Localize

Christine Coody
Rodeo Citizens Association

Denny Larson
Community Science Institute

Sandy Saeturn
Asian Pacific Environmental Network