Filed 4/30/20 (unmodified opn. attached)

CERTIFIED FOR PUBLICATION

IN THE COURT OF APPEAL OF THE STATE OF CALIFORNIA

SECOND APPELLATE DISTRICT

DIVISION EIGHT

COMMUNITIES FOR A BETTER ENVIRONMENT, Plaintiff and Appellant, v. SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, Defendant and Respondent; TESORO REFINING AND MARKETING COMPANY, LLC, Real Party in Interest and Respondent.	B294732 (Los Angeles County Super. Ct. No. BS169841) ORDER MODIFYING OPINION AND DENYING PETITION FOR REHEARING [NO CHANGE IN JUDGMENT]

THE COURT:

IT IS ORDERED that the opinion in the above-entitled matter filed on April 7, 2020, be modified as follows:

1. On page 2, the second sentence of the first paragraph of the opinion is deleted and replaced as follows: "The report found the

main environmental impact of the project would be to reduce air pollution from the refinery."

2. On page 8, the first two full sentences ("This change would align the permit with standard industry and agency practice. [¶] In other words, the third component of the project change would be to replace the old figure with a new figure of 302.4 in the Heater's federal air pollution permit.") are deleted.
3. On page 12, the fourth sentence of the second paragraph ("Indeed, the 2010 case even involved the same Wilmington oil refinery [back when ConocoPhillips rather than Tesoro owned it].") is deleted.
4. On page 12, in the first sentence of the fourth paragraph, replace "the Wilmington refinery" with "a refinery."
5. On page 22, the first sentence of the last paragraph is deleted and replaced as follows: "So this project would reduce air pollution from the refinery, according to the environmental impact report."
6. On page 24, the second sentence of the first full paragraph is deleted and replaced as follows: "The agency selected the 98th percentile baseline to follow the practice of the federal EPA, which uses the 98th percentile standard to regulate air pollution at the national level."

7. On page 24, the first sentence of the second full paragraph is deleted and replaced as follows: "Communities agrees federal regulators indeed do use the 98th percentile standard."
8. On page 32, the first full sentence is deleted and replaced as follows: "The federal use of the same 98th percentile standard is substantial evidence validating the agency's approach."

Plaintiff and Appellant's petition for rehearing is denied. [There is no change in the judgment.]

BIGELOW, P. J. STRATTON, J. WILEY, J.

Filed 4/7/20 (unmodified version)

CERTIFIED FOR PUBLICATION

IN THE COURT OF APPEAL OF THE STATE OF CALIFORNIA

SECOND APPELLATE DISTRICT

DIVISION EIGHT

COMMUNITIES FOR A BETTER ENVIRONMENT, Plaintiff and Appellant, v. SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, Defendant and Respondent; TESORO REFINING AND MARKETING COMPANY, LLC, Real Party in Interest and Respondent.	B294732 (Los Angeles County Super. Ct. No. BS169841)

APPEAL from a judgment of the Superior Court of Los Angeles County, Richard L. Fruin, Jr., Judge. Affirmed.

Shana Lazerow, Jennifer Ganata; Law Office of Jonathan

Weissglass and Jonathan Weissglass for Plaintiff and Appellant.

Woodruff, Spradlin & Smart, Bradley R. Hogin, Lucas V. Grunbaum; Bayron Gilchrist, Barbara Baird and Veera Tyagi for Defendant and Respondent.

Gibson, Dunn & Crutcher, Daniel M. Kolkey, Peter S. Modlin, Cynthia Mullen and William F. Cole for Real Party in Interest and Respondent.

A group called Communities for a Better Environment attacks an environmental impact report about an oil refinery project. The report found the main environmental impact of the project would be to reduce air pollution. The agency and the trial court certified the report.

Communities criticizes this environmental impact report in four respects.

First, it used the wrong "baseline."

Second, the agency did not obtain information about the pre-project composition of crude oil the refinery processes, but instead merely found the post-project input would remain within the refinery's "operating envelope."

Third, the report did not explain how the agency calculated its so-called "6,000 barrel" figure.

Fourth, the report did not disclose either the existing volume of crude oil the refinery processes as a whole or the refinery's unused capacity.

We resolve these issues as follows.

First, the agency properly used its discretion to adopt a logical and conventional federal baseline.

Second, the law did not require the report to detail immaterial information about input crude oil composition.

Third, Communities forfeited its right to complain about the 6,000-barrel figure because it was essential for Communities to raise this issue before the agency but Communities never did.

Fourth, the law did not require the agency to list either the refinery's pre-project volume or its unused capacity because these data were immaterial.

We therefore affirm the judgment of the trial court, which rejected Communities' attacks on this environmental impact report.

The governing statute is the California Environmental Quality Act, which begins at section 21000 of the Public Resources Code. Environmental professionals often call the Act CEQA, but this acronym is not universally known, so we call it the Act. All unspecified citations are to that Code.

I

We begin with the essential facts, starting with crude oil.

A

Crude oil is a smelly, yellow-to-black liquid from underground and from around the world. Its precise chemical composition varies by its place of origin and is important to oil refiners, who design and build chemical plants to process crude oils of various kinds.

A fundamental of the refinery business is the variousness of crude.

Crude's chemical composition can vary by sulfur content. Sweet crude has less sulfur than sour crude, and so sweet crude is easier to refine than sour, and for that reason is more valuable.

Crude also is light or heavy, depending on the length of its hydrocarbon chains. Light crude has shorter hydrocarbons and takes less energy to refine than does heavy crude.

The shortest hydrocarbon molecules have only a few atoms of hydrogen and carbon. Examples are methane, ethane, propane, and butane, which normally are gases. Longer hydrocarbon molecules like those in gasoline and diesel are liquids. Very long hydrocarbon molecules like those constituting asphalt and tar are solids. (*See Rodeo Citizens Assn. v. County of Contra Costa* (2018) 22 Cal.App.5th 214, 217 (*Rodeo*).)

A refinery is an industrial plant that distills oil. The process separates the various hydrocarbons by their boiling or vaporization temperatures. These temperatures are related to each hydrocarbon's molecular weight. Think of distilling a mixture of water and alcohol: the alcohol boils off more easily than the water and thus is concentrated in the vapor.

At a refinery, you put crude in one end, the crude goes through pipes and processing units, and at the other end out flows gasoline, jet fuel, diesel, and such. The two refinery operations in this case have more than two dozen different processing units: the Crude Unit, Delayed Coker Unit, the Fluid Catalytic Cracking Unit, and so forth.

Refineries are designed to process only particular ranges of crude. A refinery built to specialize in light sweet, for example, may not be able to handle heavy sour. That range is the refinery's operating envelope.

The processing units in a refinery are in a fixed chain: a mandatory order. Pipes connect these units. Their diameters limit the rate of total refinery throughput. Think of your car: gas tank, then engine, then muffler. Your car is a sequential system of tubes and pipes connecting these components. If you try to rearrange the components' order, your car will suffer. And if you install a larger gas tank, that enlargement at one point in the

system does not increase throughput elsewhere: the bigger tank by itself can boost neither the gasoline flow into the engine nor the exhaust flow out the muffler. This principle is important in this case, as will appear.

Tesoro owns and operates two adjacent oil refining facilities in Carson and Wilmington. These date from the early 1900s and originally had different owners and separate operations. Tesoro bought both and integrated them to a degree.

The project triggering this case is Tesoro's Los Angeles Refinery Integration and Compliance Project, which involves both the Carson and Wilmington facilities.

As its name implies, the Los Angeles Refinery *Integration* and *Compliance* Project aimed to improve the *integration* of the Wilmington and Carson facilities and to *comply* with air quality regulations.

The improved *integration* would increase Tesoro's flexibility in altering the ratio of outputs like gasoline and jet fuel. If the price of one goes up and the other goes down, for instance, Tesoro (like any commercial enterprise) would like to respond to price signals by shifting its output to maximize profits.

The project's increased *compliance* would reduce air pollution. The main reduction would be of emission of gases from burners, which are also called heaters. Some refinery units heat petroleum over a fire the way a gas stove heats water in a pot. The fire's combustion can emit air pollutants. Reducing these pollutants was a major goal of Tesoro's project and correspondingly a major focus of the environmental impact report at the heart of this case.

Tesoro's Los Angeles Refinery Integration and Compliance Project has three main components. We describe the first two for

the sake of an overview, but it is the third component that has generated the four issues in this case.

The first component involves shutting down a major pollution source called the Wilmington Fluid Catalytic Cracking Unit. A Fluid Catalytic Cracking Unit converts heavy hydrocarbons into lighter ones. This requires much heat, and so creates many emissions. Shuttering this unit would reduce air pollution.

In addition, the first component would install new pipelines and would physically modify hydrocrackers, hydrotreaters, and other equipment. This component also would increase usage of certain equipment.

The second component would involve installing new storage tanks. Increased storage tank capacity would mean oil tankers could make fewer trips, which would decrease shipping costs and air pollution.

The third component is the source of this case's controversies. This component would change the thermal operating limit of a particular heater in the Wilmington facility.

The jargon for this particular heater is "H-100." We simply call it the Heater. We describe the Heater and the proposed change to its level of operation.

The Heater heats petroleum going into the Wilmington Delayed Coker Unit, which we refer to merely as the Coker. Like a gas range in a home kitchen, the Heater has burners, and these burners can operate at different heat rates. On a home gas stove, for instance, you turn the burner to full power by twisting the knob all the way open. This maximizes heat output. The Heater's industrial burners operate on the same principle, although they dwarf any home stove.

The British thermal unit, or Btu, is the familiar measuring unit for the heat output of a burner, whether it is on a home stove or in the Heater. One Btu raises the heat of one pound of water by one degree Fahrenheit.

The Heater has 36 burners. Each has a maximum output of 8.4 million Btu per hour. Thus the Heater as a whole has a maximum heat release of 36 times 8.4 million Btu per hour, which equals 302.4 million Btu per hour. To simplify, the Heater's maximum rate is 302.4.

Beside this "maximum" heat rate, a different heat rate — the "guaranteed" heat rate — also figures in this case. The guaranteed heat rate is the rate at which the Heater's manufacturer guarantees the Heater will operate. That guaranteed rate is 7 million Btu per hour. With 36 burners, the total guaranteed rate is 36 times 7 equals 252 million Btus per hour. Again to simplify, the Heater's guaranteed rate is 252.

To recap, the total *maximum* rate for the Heater is 302.4, while the *guaranteed* rate is 252. The maximum rate of 302.4 exceeds the guaranteed rate of 252, as one might suspect.

This difference between 302.4 and 252 is important. In the past, the Heater had a federal air pollution permit keyed to the guaranteed rate of 252, even though Tesoro has operated the Heater above this rate when it had to perform certain tasks. Nothing in the record suggests Tesoro did wrong by burning over the guaranteed rate. A car warranty may be good for 36,000 miles, for instance, but still you can drive your car further than that. The only issue might be who pays if there is a breakdown.

The third component of the project proposed rewriting the Heater's permit in terms of the maximum rate of 302.4 instead of

the guaranteed rate of 252. This change would align the permit with standard industry and agency practice.

In other words, the third component of the project change would be to replace the old figure with a new figure of 302.4 in the Heater's federal air pollution permit.

This permit change has three important aspects.

First, this change would be on paper only: there would be no physical changes to the Heater or to other hardware.

Second, the agency simultaneously would impose a new permit limitation on air pollution from the Heater to maintain levels that would be generated if the Heater never operated above 252 million Btus per hour.

Third, by raising the thermal operating limit, the Coker either could potentially process a heavier blend of crude (heavier crude requires more heat to break it down), or could increase throughput through the Coker by 6,000 barrels per day. The change could do either but not both.

This third aspect is the source of the 6,000-barrel figure, which in turn has created an issue in this appeal.

B

We summarize the procedural history of this case.

If a governmental agency is considering approving certain kinds of projects, the Act demands the agency first prepare a "Draft" Environmental Impact Report. The agency must circulate it for public comment and respond to all public comments in a "Final" Environmental Impact Report certified by the agency. (Guidelines, §§ 15084–15090.)

That relevant agency here is respondent South Coast Air Quality Management District.

After issuing its Initial Study and Notice of Preparation in September 2014 (which itself resulted in a 100-page report), the agency circulated a draft report for public comment in March of 2016.

The agency then prepared a draft report of more than 1,700 pages analyzing impacts to air quality, hazards and hazardous materials, hydrology and water quality, noise, solid and hazardous waste, transportation and traffic, and greenhouse gases, with supporting reports.

The Act requires an environmental impact report to be circulated for 45 days. (Cal. Code Regs., tit. 14, § 15105.) At Communities' request, however, the agency extended this period an additional 49 days, for a total review interval of 94 days.

The agency received 2,102 comments to the report.

Communities actively participated throughout the drafting of the report. It submitted 1,112 pages of comments, to which the agency responded.

Most comments (1,798 or 85%) supported the project. In response to comments questioning portions of the project, the agency clarified and supplemented parts of the report and responded individually to each comment in Appendix G1, which exceeds 5,700 pages.

After the public comment period closed, the agency certified the Final Environmental Impact Report on May 12, 2017. This is the operative environmental impact report on appeal, which on occasion we call the Final Report or simply the Report.

The Final Report contained 6,075 pages of comments received on the Draft Report and responses.

The agency submitted the Final Report, including the comments on the Draft Report and the responses, to the federal

Environmental Protection Agency (EPA) in May of 2017. In June of 2017, the EPA completed its review and informed the agency that the EPA had no objection to issuing the revised Heater permit.

On June 22, 2017, the agency certified the Final Report and issued the necessary permits to Tesoro.

This completed a three-year process.

The Final Report is many thousands of pages. The *index* to the Report is 180 pages in length.

Communities challenged the agency's certification of the Report by filing an action in the superior court in June 2017. The action alleged the Report was inadequate under the Act. The trial court carefully assessed each of Communities' arguments and ruled they all lacked merit. The court wrote out its ruling in a 17-page single-spaced analysis. Communities appealed.

II

We review the governing law.

A

The fundamental statute is the California Environmental Quality Act. Our state enacted this landmark Act in 1970. In that same year was the first Earth Day, the passage of the National Environmental Policy Act, and the advent of the federal Environmental Protection Agency, now widely known as the EPA.

The state Act aims to inform the public and government decision makers about the potential environmental effects of proposed activities. To facilitate this disclosure function, the Act requires the pertinent public agency to prepare an environmental impact report. This report must give decision makers what they need to take appropriate account of environmental consequences.

The report is also a document of accountability. It must arm those outside the approval process with an accessible and empowering document. If people disagree with the proposed project, the report is to help them respond accordingly. (*Laurel Heights Improvement Assn. v. Regents of Univ. of California* (1988) 47 Cal.3d 376, 392.)

B

Many cases have construed the Act since 1970. These parties point us to four particular decisions. Two are from the Supreme Court; two are from courts of appeal. These four cases are *ConocoPhillips*, *Smart*, *Richmond,* and *Rodeo*. (*Communities for a Better Environment v. South Coast Air Quality Management Dist.* (2010) 48 Cal.4th 310 (*ConocoPhillips*); *Neighbors for Smart Rail v. Exposition Metro Line Construction Authority* (2013) 57 Cal.4th 439 (*Smart*); *Communities for a Better Environment v. City of Richmond* (2010) 184 Cal.App.4th 70 (*Richmond*); *Rodeo*, *supra*, 22 Cal.App.5th 214.)

These four precedents support the following general statement of law.

The agency must select a baseline based on actual conditions rather than hypothetical possibilities. There is, however, no single fixed method for measuring actual conditions. Measuring peak impacts can be appropriate under the right circumstances. The agency enjoys discretion to decide how best to measure actual conditions. Courts will review that choice for support from substantial evidence. An environmental impact report cannot, without explanation, present inconsistent and contradictory information on an important issue, or else it will fail on review.

We now describe in more detail these four cases: *ConocoPhillips*, *Smart*, *Richmond,* and *Rodeo*.

1

ConocoPhillips is a 2010 Supreme Court decision. We refer to the decision under the name of the real party in interest, which was ConocoPhillips, rather than by the official case title, which is *Communities for a Better Environment v. South Coast Air Quality Management District*. The official case title is exactly the same as the official case title for this case: here we have the same plaintiff organization and the same defendant agency. Indeed, the 2010 case even involved the same Wilmington oil refinery (back when ConocoPhillips rather than Tesoro owned it). These name similarities invite confusion we aim to avoid, so we depart from customary usage with the shorthand label of *ConocoPhillips*.

ConocoPhillips is the leading case about the concept of a *baseline* in California environmental law.

Refinery owner ConocoPhillips planned to add, replace, and modify equipment at the Wilmington refinery. The plan was to increase some refinery operations to produce diesel fuel with a lower sulfur content. (*ConocoPhillips*, *supra*, 48 Cal.4th at p. 317.)

Based on an initial analysis flawed by a poor choice of a baseline, the agency decided no environmental impact report was necessary for ConocoPhillips's project. The Supreme Court condemned the agency's bad baseline decision.

The agency's bad decision was to pick an illusory baseline instead of an actual one. The project planned to increase the use of boilers, which would add more air pollution: between 201 and 420 more pounds per day, depending on which of four boilers

were used. Was that a significant increase? Not compared to *a baseline defined by the total of the refinery's existing regulatory permits* for operating this equipment, because the equipment would continue to operate within their total existing permit limits. (*ConocoPhillips*, *supra*, 48 Cal.4th at p. 320.)

The problem was this baseline was entirely unreal and thus was bad. The permit maximums were strictly theoretical. The actual reality, however, was a boiler ran at maximum only if another boiler was down for maintenance, which was atypical. Simultaneous and maximum operation therefore was not a realistic description of conditions before the project, so this baseline definition did not describe the boilers' actual operation before the project. (*ConocoPhillips*, *supra*, 48 Cal.4th at p. 322.)

By comparing the proposed project's effects to what *could* happen according to merely theoretical limits, rather than to what was *actually* happening, the agency had picked a "'merely hypothetical'" baseline that was "illusory." (*ConocoPhillips*, *supra*, 48 Cal.4th at p. 322.)

A freeway example can illustrate this point. The notoriously congested Interstate 405 has a speed limit of 65 miles per hour, but, during a typical Los Angeles rush hour, the real traffic speed is dramatically slower. For this illustration, suppose the rush hour average is about 10 miles per hour. Suppose also CalTrans wants to see if adding lanes to the 405 would increase the rush hour speed. To make this comparison, CalTrans would need a baseline. If the agency compared the speed after the lane increase with *the 65 mph permitted limit beforehand*, this baseline would be bad. It would yield unreal and illusory results, because today it is atypical for anyone actually to drive at 65 miles per hour on the 405 during rush hour. A meaningful

comparison must be against actual conditions, not against some illusory hypothetical.

Failure to use a real measure of actual baseline conditions was the agency error in *ConocoPhillips*. That error violated the Act. (*ConocoPhillips*, *supra*, 48 Cal.4th at pp. 320–322.)

ConocoPhillips showed one *wrong* way to set a baseline. But what baseline is *right*? The *ConocoPhillips* opinion declined to limit the discretion of future decision makers and declined to rule there is only one correct method. Rather, *ConocoPhillips* carefully explained why the right approach would vary in different circumstances and was up to the agency in the first instance.

For our case, this portion of *ConocoPhillips* is crucial. We pore through it.

The Supreme Court in *ConocoPhillips* rejected the suggestion an *average* emissions baseline was the one proper refinery baseline. There is no "uniform, inflexible rule for determination of the existing conditions baseline." (*ConocoPhillips*, *supra*, 48 Cal.4th at p. 328.) The reason is environmental conditions can vary. Variability can make one or another baseline measure appropriate. In some circumstances, *peak* impacts may be as important environmentally as average conditions. The agency enjoys the discretion to decide how the existing physical conditions can most realistically be measured. Courts will review the agency's choice to see whether substantial evidence supports it. (*Id.* at pp. 327–328.)

ConocoPhillips also ruled agencies have flexibility to decide what time interval best captures actual baseline conditions. There is no one rigid rule. Environmental conditions can vary over time, so it might be better in some situations to measure

pre-project conditions over a time interval rather than on one single day. (*ConocoPhillips*, *supra*, 48 Cal.4th at pp. 327–328.)

We now continue on to the second of the four key precedents: the *Smart* case.

2

Smart is our second Supreme Court baseline case. This 2013 opinion endorsed the baseline rules from *ConocoPhillips*.

Smart reaffirmed *ConocoPhillips* (although it did not use the case label "*ConocoPhillips*," which we have adopted for reasons peculiar to this suit). *Smart* recited *ConocoPhillips*'s rule that the baseline for environmental analysis ordinarily must be the actual physical conditions rather than hypothetical conditions. (*Smart*, *supra*, 57 Cal.4th at p. 448.)

The facts in *Smart* differed considerably from the facts here. The *Smart* project was not about a refinery, much less *this* refinery. Rather it was a proposed rail extension from Culver City to Santa Monica: the Expo Line.

The *Smart* case was about using a future baseline instead of a past one. The Los Angeles County Metropolitan Transportation Authority was the agency in *Smart*, and it analyzed the impact of the proposed extension according to how it would affect traffic conditions in 2030. The agency projected the traffic and air quality conditions that would exist in the year 2030, then estimated the effect the transit extension would have at that future time. So the baseline was in the future rather than at the time before the project began. (*Smart*, *supra*, 57 Cal.4th at pp. 447–463.) This situation is not pertinent to this case, which involves no future baseline.

3

Richmond is our third case. It held an environmental impact report cannot speak out of both sides of its mouth.

In this 2010 decision from the Court of Appeal, Chevron proposed upgrading a Bay Area refinery. The *Richmond* decision found the environmental impact report, in describing this refinery expansion, was internally inconsistent to a fatal degree. (*Richmond*, *supra*, 184 Cal.App.4th at pp. 80–89.)

This inconsistency doomed the report. The inconsistency concerned the crude oil the refinery would process. Opponents of Chevron's project argued heavier, lower-quality crude requires more intensive processing and is inherently more polluting than lighter crude, and that the environmental impact report did not stick to a straight story about whether the project would or would not allow Chevron to refine heavier crude.

The specific inconsistency was this. On one hand, the report claimed the project *would* allow more flexibility in refining increasingly heavier crude supplies. (*Richmond*, *supra*, 184 Cal.App.4th at p. 83.) Yet the report also *denied* the project would enable the refinery to process heavier crude. (*Ibid.*) Given this stark inconsistency, the *Richmond* decision disapproved the report as contradictory. (*Id.* at pp. 80–89.)

In this case, Communities invokes *Richmond* in its attack on this report. We evaluate this attack shortly. But first we complete our case law tour by turning to our fourth guiding precedent: *Rodeo*.

4

Rodeo is a 2018 Court of Appeal decision about a refinery near another refinery: the one in the *Richmond* case. The same legal issue arose in both cases. The legal holdings in *Richmond* and *Rodeo* are consistent, but they point in opposite directions

due to a key factual difference: the environmental impact statement in *Richmond* was bad, but the report in *Rodeo* was good. We explain.

Phillips 66 owned the refinery in *Rodeo*. Phillips wanted to alter its refinery to recover butane and propane from refinery fuel gas. (*Rodeo*, *supra*, 22 Cal.App.5th at p. 218.) Objectors claimed this project description was defective because it failed to disclose the project would involve more processing of high-contaminant crudes. (*Id.* at p. 219.) Phillips disputed this suggestion the report masked a covert plan to change the refinery's crude inputs, arguing the project was designed and permitted based on the refinery's existing operations. The project did not require, and was not required by, a switch in crude. (*Id.* at p. 220.)

The court resolved this dispute by looking at one of the "master responses" the agency created while receiving public comments on the environmental impact report. (*Rodeo*, *supra*, 22 Cal.App.5th at p. 220.) The court underlined the project description had remained "consistent" over time. (*Id*. at p. 221.) The court found substantial evidence to support the report's treatment of this topic. (*Id*. at pp. 221–223.)

Rodeo discussed and distinguished *Richmond*. The opinion recited that the problem with the environmental impact report in *Richmond* was inconsistency. By contrast, the report in *Rodeo* was clear and consistent. Hence the *Rodeo* decision approved the report and the project. (*Rodeo*, *supra*, 22 Cal.App.5th at pp. 223–225.)

III

We turn to Communities' four arguments.

A

Communities' first challenge to the Report targets the

baseline the agency selected to measure the project's impact on air pollution.

1

What is a baseline?

Logically, a baseline is simply a measure of some situation before it changes. There is no "true," "normal," or "natural" baseline. You decide what you want to measure, and then you select a baseline appropriate to your goal. What one wants to measure is a policy question, as is the choice of a baseline.

To illustrate, suppose you want to determine the impact of your next engine tune-up on your car's mileage. Your baseline would be your car's gas mileage before the tune-up. You would compare this baseline mileage to mileage after the tune-up to determine the tune-up's effect.

In this example and in this case, there are many possible baselines. A mileage baseline could be simply an overall average of *all* miles you drove, divided by gas consumption. But if you wanted to calculate freeway mileage, you would divide total *freeway* miles by gas consumed while driving on the freeway. And similarly for *city* mileage. These illustrations show three different baselines: a *total* baseline, a *freeway* baseline, and a *city* baseline. There are many other conceivable baselines as well, depending on the specific issue you want to investigate.

2

The particular baseline controversy in this case pits a peak (or near-peak) baseline against an average baseline.

The agency used a *peak* value of a particular kind: a near-peak or 98th percentile method. Communities argues for an *average*-value baseline. Communities sometimes cloaks this argument by omitting the word "average" and by saying merely

the agency should have analyzed environmental conditions *representing the entire period*, but this formulation is an equivalent proposition. That is because one definition of "average" is to take data *representing the entire period* and divide by the number of days. Another name for this is the arithmetic mean. In short, Communities contests the agency's selection of a peak baseline by saying it was error not to use an average baseline instead.

Given this dispute about peak versus average, we state four obvious facts about these competing ways to measure quantities.

First, a "peak" value is synonymous with a "maximum" value. "Peak" and "maximum" mean the same in this context.

Second, both peak and average data can measure *actual* situations that truly exist. For instance, you could describe your car's "freeway" baseline as its "peak" baseline. This baseline measures peak performance: the best mileage your car can deliver. This peak baseline measures *actual* mileage, but in a different way than for instance the city mileage method. To put this idea in different words, a maximum measure is fully as real as an average measure, just as measuring in yards is fully as real as measuring in meters. Averages are not inherently more "actual" than peaks, and vice versa.

Third, your analytical objective determines your choice of a baseline method. There is no "true," natural," or "normal" way to measure baselines because baselines did not exist in the pre-human natural world. Humans invented these concepts and humans determine which of the various baselines — peak or average — will better accomplish the specific objective at hand.

Fourth, focusing on peaks rather than averages can be a superior way to think in many situations.

Some examples show why people often want to know the peak or maximum value — or the worst-case scenario, if you want to put it another way — rather than some average value.

Hikers hoping to wade across a river want to know its maximum depth is 10 feet. They are less interested to know its average depth is two feet.

Planners worry about the 100-year flood — the maximum — more than the average flood.

When designing high-rises, bridges, or nuclear power plants, engineers are more interested in the peak earthquake magnitude than the average.

If you are deciding how large a storm drain to install, you want to know the maximum likely rainfall, not the average.

So the peak value, not the average, is sometimes the most important information to get.

3

The agency used a "98th percentile" or "near-peak" baseline in this case. Its approach was to collect factual information on the refinery's worst air pollution emissions during a two-year interval before the project. The approach then excluded the top two percent of these data to rid the analysis of extreme and unrepresentative outliers. The agency used the remaining 98 percent of the worst-day data as its pre-project baseline, which explains the "98th percentile" or "near-peak" labels. The agency's analysis culminated by comparing these actual pre-project near-peak emissions with projected peak emissions after the project.

The agency focused on measuring peak pollution days because it sought to measure and control the biggest health danger. Smog peaks create the most danger to the most vulnerable populations, such as people with respiratory illnesses

like asthma. Smog alerts are alerts about the peak smog days, which have many causes that include weather, peaking emissions from polluters like cars and industrial sites like power plants and oil refineries, and so forth.

Smog alerts are the days of the greatest health concern. More people suffer more health problems from smog alert days — from peaks — than from days of average pollution levels. Data are not necessary to grasp this commonsense notion.

It thus was rational for air pollution regulators to care most about the worst effects of air pollution, which occur when emissions hit their highest levels and the weather makes the perfect storm. Southern Californians are all too familiar with smog alerts: the air pollution peaks. Regulators quantitatively monitor our air quality every hour and rate it on a scale of six: hazardous; very unhealthy; unhealthy; unhealthy for sensitive groups; moderate; and good. (See, e.g., South Coast Air Quality Management Dist., Current Hourly Air Quality Index Map <https://www.arcgis.com/apps/webappviewer/index.html?id=dd4a15deed8647edacb14f140ca83d05> [as of March 24, 2020], archived at < https://perma.cc/U66U-E2RB>.)

Reducing smog alerts is the same logical goal as reducing peak or near-peak levels of air pollution. That was what the agency was trying to do — obviously. It was not sinister or wrong to focus on reducing smog alerts and protecting public health.

4

The agency's 98th percentile analysis determined the project would have the beneficial effect of reducing air pollution. We recount this analysis from the Report in some detail.

Recall the Report proposed the Heater's thermal operating limits would be increased from its pre-project permit description

of 252 million Btus per hour to 302.4 million Btus per hour. This change would allow Tesoro to operate the Heater to generate more heat.

This heat increase could theoretically allow the refinery either to increase the throughput of the Coker by 6,000 barrels of crude oil per day, *or* allow the Coker to process a slightly heavier crude blend — but not both. This does not mean *the refinery as a whole* could process heavier crude or more crude — just the Coker.

The change to the Heater's thermal operating limits is just one of many combustion sources this overall project would modify. Table 4.2-7 of the Report lists 11 combustion sources, only one of which is associated with the Heater. Recall the project would shut down the Wilmington Fluid Catalytic Cracking Unit — a major source of emissions. That unit alone is composed of *six* associated combustion sources.

Before the project, all combustion sources slated to be modified released a total of 1310.4 million Btus per hour. The Wilmington Cracking Unit alone accounted for 687 million Btus per hour of that total. Compare that increase against the potential firing rate of the Heater, which is merely 50.4 million Btus per hour. The firing rate of another process unit at Wilmington, its Hydrocracking Unit, will be increased from 71.1 million Btus per hour to 96.1 to absorb part of the duties previously performed by the Fluid Catalytic Cracking Unit.

So this project would reduce air pollution, according to the environmental impact report. Table 4.2-7 in the Report shows the pre-project total emissions rate of applicable emissions sources of 1,310.4 million Btus per hour will be reduced to 831.5,

representing a net *decrease* of over 36 percent from the pre-project setting.

The agency was deliberately and self-consciously conservative in its analysis of the Heater's heat increase. The agency and the Report assumed that, before the project, the Heater never operated above 252 million Btus per hour when, in fact, it had indeed operated above that limit in the past. In sum, the agency bent over backwards in favor of environmental protection.

It is important to appreciate what the Heater's modified federal air pollution permit actually says. Before the project, there were *no* enforced limits on the Heater's firing rate. After the project, the Heater will be subject to enforceable emissions limits. And those limits will assume the Heater will fire at the lower 252 million Btus per hour rate. This means that, regardless of the projected increase in throughput or weight of the crude blend in the Coker, there can be no increase in emissions from the Heater.

5

We state the standard of review.

The standard of review is deferential. We defer to the agency's baseline decision if substantial evidence supports it. The Act imposes no uniform and inflexible rule for determining how the agency is to define the baseline an agency must use. Instead, the law leaves the choice of the exact baseline method to the agency's sound discretion. (*Smart*, *supra*, 57 Cal.4th at pp. 452–453.)

This deferential approach aligns with the rule that an agency's decision to use one particular method and to reject another is amenable to substantial evidence review. (*Sierra Club*

v. County of Fresno (2018) 6 Cal.5th 502, 514 (*Sierra Club*).)

6

Substantial evidence supports the agency's baseline choice. The agency selected the 98th percentile baseline to follow the practice of the federal EPA, which uses the 98th percentile baseline approach to regulate air pollution at the national level. (See U.S. EPA, National Ambient Air Quality Standards Table <https://www.epa.gov/criteria-air-pollutants/naaqs-table> [as of March 24, 2020], archived at <https://perma.cc/HC2Z-MTUV>.) The agency also selected this baseline because petroleum demand fluctuates on a daily basis.

Communities agrees federal regulators indeed do use the 98th percentile baseline. But Communities would dismiss this fact with four erroneous arguments. We take up these four arguments in turn.

a

First, Communities makes the incorrect argument the federal regulatory purpose differs from the California state regulatory purpose. This is mistaken because the federal and state goals are identical: to protect public health and welfare.

We carefully recite Communities' argument here to pinpoint its error.

In the first sentence in the first paragraph of page 28 of its opening brief, Communities recites that Congress required the EPA to promulgate air quality standards to protect the public health and welfare. Communities tells us that, "[g]iven that purpose, EPA's air quality standards are based on measurements of pollutants during peak pollution days, when people will be exposed to the highest levels of pollution such as the 98th percentile." So far, so good.

But in the next paragraph on that page the argument goes awry. There Communities claims the California Environmental Quality Act has a purpose *different* than protecting public health and welfare: "In *contrast* to the protective purpose of the federal air quality standards, the [California Environmental Quality Act] baseline is meant to establish pre-project conditions to compare with post-project operations." (Italics added.)

This argument by Communities is incorrect. The statutory point of comparing pre-project and post-project conditions is to provide a yardstick to those outside the administrative process to measure a project's environmental impact. A key reason we do that is to protect public health and welfare. Protecting public health and welfare is an overarching goal of California's Act. (E.g., *Sierra Club*, *supra*, 6 Cal.5th at pp. 519–520 [faulting an environmental impact statement for a merely cursory discussion of pollution's health effects; citing authorities requiring environmental reviews to discuss health problems from pollution].)

Communities' claim that federal and state pollution regulations have clashing goals is surprising, unsupported, and wrong. The same goes for its suggestion that the Act is unconcerned with public health and welfare.

This attempted attack on the federal precedent for the 98th percentile baseline founders. Federal and state pollution regulators share the common goals of protecting public health and welfare.

b

Second, Communities incorrectly claims the 98th percentile standard "ignores *existing* environmental conditions." Yet Communities concedes the 98th percentile standard measured

the air pollution that actually *existed* on the 15 worst days in the 730-day review period. Those 15 days were quite actual — all too actual for people with respiratory diseases like asthma who are at much greater risk when Los Angeles air pollution hits dangerous peaks. This is why EPA has focused on 98th percentile emissions for emissions like particulate matter since 1997. (See U.S. EPA, Region 1: New England, "What are the Air Quality Standards for PM?" <https://www3.epa.gov/region1/airquality/pm-aq-standards.html> [as of March 24, 2020], archived at <https://perma.cc/N2E6-EMYW> ["The 24-hour standard was set at 65 µg/m^3 based on the 3-year average of the *annual 98th percentile* concentrations."] [Italics added].)

Reducing peak pollution means less human suffering: fewer airway constrictions, less gasping for air, fewer hospital trips. There is nothing hypothetical or illusory about that.

Comparing pre- and post-project (near) worst days is a sensible and time-tested way to inform the public about potential health consequences because those are the days that matter most to human health. (See U.S. EPA, "Rules and Regulations that Impact Children's Health" <https://www.epa.gov/children/rules-and-regulations-impact-childrens-health> [as of March 24, 2020], archived at <https://perma.cc/QCV9-5BSW> [as recently as April 6, 2018, EPA reaffirmed it would continue to use the 98th percentile to regulate nitrogen dioxide air emissions to protect children's health].)

In short, Communities' argument that the near peak criterion was an inaccurate description of existing pre-project conditions *as a matter of law* is mistaken.

c

Third, Communities argues that whether the EPA uses a percentile approach is *immaterial* to what the agency should have done under California law.

This is inaccurate. The practice of the federal EPA is tremendously material because the EPA is a free and helpful resource on air pollution. It made good sense for California regulators to piggyback on a federal effort with similar goals, a bigger budget, a cadre of scientists, and nationwide experience. Once the federal government develops air pollution science and information, that information is free for the taking. California does not have to buy a license to use it. And Californian taxpayers, of course, help support the federal EPA. So this federal effort has created a valuable resource available at no marginal cost that has been *highly* material to California air regulators, and to many others as well.

The availability of free informed help is rarely immaterial. You can ignore it if you want to, but it is not clear why you would want to. The law does not require ignorance.

California remains at liberty, of course, to go its own way on air pollution control. California often does, and does so proudly and with a sense of leadership. But that is different than saying California regulators, as a mandatory matter, must ignore everything the federal agency has ever done. That position would be illogical.

We already have seen the federal EPA has similar goals in regulating air pollution as does California. A central goal for the state and the nation is protecting public health and welfare.

The federal agency has more resources than does the state agency. This point is plain but we supply some points of reference to lend a sense of magnitude.

The EPA's national budget exceeds California's environmental protection budget by billions of dollars. (Compare U.S. EPA, FY 2021 Budget <https://www.epa.gov/planandbudget/cj> [as of March 24, 2020], archived at < https://perma.cc/728B-A4J3> ["The proposed FY 2021 budget for the EPA provides $6.658 billion to support the Agency's FY 2018 – FY 2022 Strategic Plan and mission of protecting human health and the environment."] with California's 2020-21 Governor's Budget <http://www.ebudget.ca.gov/budget/2020-21/#/Home> [as of March 24, 2020], archived at < https://perma.cc/BW3T-5SYE> [$3.944 million for environmental protection].) And the budget for the South Coast Air Quality Management District is, of course, but a tiny fraction of the money available to the federal EPA. (See South Coast Air Quality Management District, 2018 Annual Report, p. 17 <https://www.aqmd.gov/docs/default-source/annual-reports/2018-annual-report.pdf?sfvrsn=9> [as of March 24, 2020], archived at <https://perma.cc/67W4-DM2J> [FY 2018-2019 budget was $162.6 million, which is less than 3% of the EPA's proposed $6.658 billion FY 2021 budget].)

Because the EPA's parallel and substantial efforts are of legitimate interest to California pollution regulators, we turn to what the EPA has to offer Californians with curiosity about the topic.

The EPA explains air pollution basics to the public. The EPA's extensive website offers a primer.

The website explains the federal Clean Air Act requires the EPA to set regulatory standards for six of the most significant air pollutants, including particulate matter and nitrogen dioxide. "These pollutants are found all over the U.S. They can harm

your health . . . ." (U.S. EPA, Criteria Air Pollutants <https://www.epa.gov/criteria-air-pollutants#self> [as of March 24, 2020], archived at <https://perma.cc/KYK8-VRE6>.)

The EPA's sizable budget and decades of experience have allowed it to collect and to summarize the vast scientific research backing up its work on air pollution. The federal agency makes this storehouse of information available online. (See, e.g., U.S. EPA, Nitrogen Dioxide (NO2) Primary Air Quality Standards <https://www.epa.gov/naaqs/nitrogen-dioxide-no2-primary-air-quality-standards> [as of March 24, 2020], archived at <https://perma.cc/W7PE-WCYB> [listing and linking to planning documents, integrated science assessments, policy assessments, and other resources pertaining, for instance, to nitrogen dioxide pollution].)

The EPA explains the dangers of air pollutants, including particulates and nitrogen dioxide. Breathing air with a high concentration of nitrogen dioxide, for instance, can irritate airways in the human respiratory system. Exposure over a short period can aggravate respiratory diseases, particularly asthma, leading to respiratory symptoms like coughing, wheezing, or difficulty breathing. It can also lead to hospital admissions and visits to the emergency room. (U.S. EPA, Basic Information about NO2: Effects of NO2 <https://www.epa.gov/no2-pollution/basic-information-about-no2#Effects> [as of March 24, 2020], archived at <https://perma.cc/YZ9F-KN5L>.)

The EPA website explains the agency "has developed ambient air quality trends for nitrogen dioxide (NO2). Under the Clean Air Act, EPA sets and reviews national air quality standards for NO2. Air quality monitors measure concentrations of NO2 throughout the country. EPA, state, tribal and local

agencies use that data to ensure that NO2 in the air is at levels that protect public health and the environment. Nationally, average NO2 concentrations have decreased substantially over the years." (U.S. EPA, Nitrogen Dioxide Trends <https://www.epa.gov/air-trends/nitrogen-dioxide-trends> [as of March 24, 2020], archived at <https://perma.cc/GRK6-87JG>.)

As science has progressed since 1971, the EPA's standards for air pollution, including nitrogen dioxide, have evolved. (E.g., U.S. EPA, Table of Historical Nitrogen Dioxide National Ambient Air Quality Standards (NAAQS) <https://www.epa.gov/no2-pollution/table-historical-nitrogen-dioxide-national-ambient-air-quality-standards-naaqs> [as of March 24, 2020], archived at <https://perma.cc/27DB-WWSP> [presenting evolution of national nitrogen dioxide emissions from 1971 through the present].)

The EPA uses the 98th percentile standard, in several ways.

First, the EPA uses the 98th percentile standard when *reporting* nitrogen dioxide air quality. For example, the EPA charts trends in nitrogen dioxide air quality, nationally and regionally, over various time intervals, such as from 1980 to 2018. These tables report a single value: the "*Annual 98th Percentile*" of daily one-hour average observations. (See, e.g., U.S. EPA, Nitrogen Dioxide Trends, *supra*.)

The EPA also uses the 98th percentile standard when *regulating* air pollution. In 2010, the EPA defined one nitrogen dioxide standard as "The form of the 1-hour standard is the 3-year average of the *98th percentile* of the yearly distribution of 1-hour daily maximum NO2 concentrations." (U.S. EPA, Table of Historical Nitrogen Dioxide National Ambient Air Quality Standards (NAAQS), *supra*, at fn. 4.)

California's Air Resources Board, which is separate from respondent South Coast Air Quality Management District, follows this federal regulatory convention of using the 98th percentile standard. (California Air Resources Board, Ambient Air Quality Standards (May 4, 2016) fn. 10 <https://ww2.arb.ca.gov/sites/default/files/2020-03/aaqs2_0.pdf> [as of March 24, 2020], archived at <https://perma.cc/74LH-CXYS> ["To attain the 1-hour national standard (for nitrogen dioxide), the 3-year average of the *annual 98th percentile* of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb."] [Italics added].)

This federal reliance on the 98th percentile standard was not "immaterial" to California regulators. It was rational for the South Coast Air Quality Management District to tap this free, substantial, and conventional resource.

d

Finally, during oral argument, Communities suggested the "normal" baseline is to use an average statistic and not a peak or near-peak analysis. The Supreme Court case law is to the contrary. (*ConocoPhillips*, *supra*, 48 Cal.4th at pp. 327–328.) The suggestion that "average" is "normal" also ignores the diversity within the concept of "average" itself. There are three different definitions of average: mean, median, and mode. Which is "normal"? None is. "[T]he choice among the three measures depends on the purpose for which the data are selected as well as on the nature of the data gathered." (Zuwaylif, General Applied Statistics (1970) p. 19.)

7

We uphold the agency's decision to use the near-peak baseline. This baseline decision was for the agency in the first

instance. The federal use of the same 98th percentile baseline method is substantial evidence validating the agency's approach. (See *ConocoPhillips*, *supra*, 48 Cal.4th at pp. 327–328.)

B

We turn to Communities' second attack on the Report, which was the agency did not obtain information about the pre-project composition of the crude oil the refinery processes, but instead merely found the crude oil input would remain within the refinery's "operating envelope."

This second argument fails because there was no need for the Report to detail input crude oil composition. That information was not material to assessing the project's environmental impact.

The Report explained that processing heavier crude or increasing throughput through the Coker can increase air emissions by causing the refinery's burners to consume more fuel.

We quote the pertinent disclosure in full:

"The application to revise the permit description of [the Heater] was submitted in early 2014, independent of the proposed project. As a result, this component of the proposed project was not described in the [Notice of Plan / Intent to Study].

"But upon further review, it was concluded that this description change had the potential to create adverse environmental impacts, because, for example, it could enable a slight increase in crude oil throughput to the Refinery of up to two percent (or up to 6,000 bbl/day). While the Refinery could opt to process either a small increase in crude oil throughput or slightly heavier crude oil blend, the processing of additional crude oil would result in greater environmental impacts downstream of the [Coker], as described in Section 4.1.2.1. Therefore, for

purposes of analyzing the worst-case impacts, this document assesses an increase in crude oil throughput capacity. The increased heat release from the H-100 heater and/or increased crude oil throughput is anticipated to occur once the modified permit is issued. Including the permit revision as part of the proposed project ensures that all possible impacts from the modification of the Refinery are fully analyzed."

Communities' complaint derives from this official response to comments inquiring about whether the crude oil composition would change:

"Due to the fixed crude oil operating envelope that will exist before and after the proposed project, baseline data regarding the particular crude oils combined to meet that blend with the required properties was not necessary to conduct the impact analysis in the [Draft Environmental Impact Report]."

As a result, "baseline crude oil data was not relied on or provided to the [agency], and need not be provided."

Communities concludes the agency's failure to obtain and analyze such baseline crude composition data means "there is no way for [the agency] to assess whether crude oil properties would change significantly and therefore cause significant environmental effects." The agency's reliance upon "the crude oil operating envelope" was inadequate as a matter of law because it did not explain why crude oil composition could not change after the project.

We hold reliance upon the "crude oil operating envelope" was appropriate. We explain why.

Only a specific range of crude blends can be processed by the refinery. Acceptable crude oil blends must fall within specified ranges of weight and sulfur content known as

"operating envelopes." The Carson and Wilmington operations each have their own operating envelopes. Individual process units, such as the Coker, also have their own distinct operating envelopes.

A brief explanation of where the Coker sits within the oil refinery process stream is now necessary.

The refinery processes many types of crude from all over the world, but it cannot automatically process any individual tanker-load of crude oil. This is because the refinery must blend incoming crude into an acceptable mixture of hydrocarbon weight and sulfur content. For example, if incoming crude has too much sulfur for the plant to tolerate, it must be blended with other crude containing less sulfur. The refinery can tolerate a range of weight plus sulfur content, and this range is the refinery's "operating envelope." The refinery as it has existed in the past and will exist after the project cannot process crude outside its operating envelope.

Petroleum refining is a chemical industrial process where many specialized units cooperate to transform crude oil into products like gasoline, diesel, and jet fuel. These "process units" are assigned certain tasks. Each process unit chemically transforms hydrocarbons in a specific way. Some units use heat, pressure, and chemical catalysts to break large hydrocarbon molecules down. This is called "cracking." Other process units do the reverse of cracking: they combine smaller hydrocarbon molecules into larger ones. Still other units can rearrange the chemical structure of the hydrocarbons by "reforming." By sending material through these units, and sometimes turning that material around to run it through a previous unit, the

refinery can produce chemically pure petroleum products with specific properties.

The next step after blending the crude into a weight and sulfur content range within the operating envelope is the distillation process. That takes place in the Crude Units.

The Crude Units are the "front end" of the refining process. As the Crude Unit heats the crude, the lightest hydrocarbon molecules boil off first, traveling to the top of the tank. These are petroleum gases like butane and propane and they are the lightest "fraction." Heavier hydrocarbons take more energy to become gaseous. So the next fraction, comprised of gasoline, boils off second, but settles below the petroleum gas in the crude unit tower because it is a liquid at higher temperatures than the petroleum gas. The third fraction is "distillate" material, including diesel and jet fuel, which settles below the gasoline fraction. Finally, the fourth and heaviest fraction is residual oil.

These four layers are called "fractions" because together they constitute 100 percent of the material in the crude unit tower.

The process unit at the heart of this appeal, the Coker, deals with the heaviest fraction that the Crude Unit was not able to break into precursors for petroleum products the first time. The Coker heats and breaks apart the heaviest fraction left over from the distillation process (as well as internally recycled oil that is also low quality) and then sends those layers "downstream" into additional process units for further refining. Cokers ideally recover all valuable hydrocarbon compounds left in the residue of the crude unit, leaving behind a heavy substance called coke.

We can now understand the agency's response to Communities' complaint during the administrative review process. The agency explained the complaint rested on a false premise:

"The claims that the crude oil blend would change do not take into account the fact that the proposed project does not include changes to the Refinery Crude Units or the units immediately downstream of the Crude Units that would need to be modified in order to process a significantly different crude oil blend."

In other words, the Coker is sandwiched between the front end Crude Unit and downstream process units.

The agency's briefing extensively explains why this means crude oil composition cannot change. For instance, in order to process lighter crude, the refinery would have to increase the height of the crude unit towers to make room for the greater proportion of recoverable short hydrocarbons. To process heavier crude, the refinery would have to build larger coke drums for the coking units since it would have to break apart a greater proportion of long hydrocarbons. To process crudes with higher sulfur content, it would be necessary to modify the sulfur plant. And so on.

Because the report disclosed the project would make no such changes, more information about crude oil composition was immaterial. Physical constraints boxed in the crude operating envelope. The project would not change that.

Communities nowhere contests these technical points. Communities merely insists "it was incumbent on [the agency] to analyze the information that would support the conclusion that the changed blend would not matter." We agree the agency had

to analyze whether crude oil composition would change. It did — extensively.

Communities erroneously relies upon *Richmond*. That case does not aid Communities. *Richmond* held a report for a refinery modification project inadequately explained whether the project would allow the refinery to process a heavier blend of crude oil. (*Richmond*, *supra*, 184 Cal.App.4th at p. 83.) The project's stated purpose was to "'improve the Refinery's ability to process a more varied proportional mix of crude oil types than it currently processes, including crude oil with higher sulfur content.'" (*Id.* at p. 80.) Unlike here, the project also involved major modifications to process equipment. (*Id.* at p. 77.) The report did not consider impacts that could result from processing a heavier blend of crude oil because, according to the report, "a change to a substantially heavier crude slate . . . would not be a reasonably foreseeable consequence of the Proposed Project." (*Id.* at pp. 81–82.)

The major problem in the *Richmond* case was facial inconsistency. The environmental impact report there kept changing its story about the project's effect on crude quality.

On the one hand, the report explained the project "does not include any process and equipment changes that would facilitate the processing of heavy crudes." (*Richmond*, *supra*, 184 Cal.App.4th. at p. 85.)

On the other hand, the report stated:

"'The supply of crude oil to California refineries has changed substantially during the last 10 years, with *light to intermediate crudes becoming less available* . . . . It is within the context of these *changes in crude oil supply* that the Renewal

Project is proposed.'" (*Richmond*, *supra*, 184 Cal.App.4th. at p. 83.)

The court found the project description provided by the report was inadequate because it was unclear and inconsistent as to whether the project was designed to, or even would, allow the processing of heavier crude oils. (*Richmond*, *supra*, 184 Cal.App.4th at pp. 80–89.) This meant that, if the project in fact allowed the processing of heavier crudes, the project would have environmental impacts the report did not identify. That was a big problem.

There is no problem here. The way in which *Richmond* is distinguishable from this case is what makes the Report here commendable: it is thorough and consistent.

This Report gives a stable and logical explanation of why the Coker will not in fact process a heavier slate of crude following the project: the Coker is constrained by upstream and downstream equipment that would require physical modification, and that physical modification will not occur.

A court has previously distinguished *Richmond* for this exact reason. *Rodeo*, *supra*, 22 Cal.App.5th 214, also involved a refinery modification project. The petitioners in *Rodeo* argued the report failed to disclose an "alleged switch to heavier crude oil feedstocks" and cited *Richmond* in support. (*Id.* at p. 220.)

Rodeo distinguished *Richmond* because the report unequivocally stated the project would not affect "'the types and/or quantities of crude oil feedstocks that can be processed at the refinery.'" (*Rodeo*, *supra*, 22 Cal.App.5th at p. 222.)

Communities asks us to second-guess the agency about how this refinery works. But the report provides substantial evidence

for its analysis. That suffices. Communities' second critique is unsuccessful.

C

Communities has forfeited its third argument, which concerns the "6,000 barrels" sum.

Recall from our factual summary above that the project's modifications to the Heater's air permit could increase the throughput of just one process unit—the Coker: more heat implies *the possibility of* processing more oil.

To put this same point in other words, we quote a portion of the report called Master Response 6:

"The 6,000 bbl/day additional feed to the [Coker] will not result in any additional finished fuel production beyond the peak baseline day because the additional feed will partially 'make up' lost production capacity associated with shutdown of the Wilmington Operations [Fluid Catalytic Cracking Unit]."

We now summarize the thrust of Communities' 6,000-barrels complaint.

Communities claims that, without knowing exactly how the agency calculated this 6,000-barrels figure, the Act's informational purpose is undermined because those who did not engage in the administrative process could not understand and critique this calculation.

Communities forfeited its 6,000-barrels argument. The law requires objectors to raise their exact issue before the agency, on pain of forfeiture. Communities did not meet this requirement.

The exact issue rule springs from the statute. Section 21177 bars litigants from raising factual or legal issues that were not presented to the agency during the administrative process. (§ 21177, subd. (a).) Section 21177 specifically requires "the alleged

grounds for noncompliance" be "presented . . . during the public comment period provided by this division or before the close of the public hearing on the project." (§ 21177, subd. (a).)

The rationale for this rule is fairness and efficiency. The agency is entitled to learn the contentions of interested parties before litigation is instituted so it can gain the opportunity to act and to render litigation unnecessary. (*Sierra Club v. City of Orange* (2008) 163 Cal.App.4th 523, 535.) To advance these purposes, an objector must present the "'exact issue'" to the administrative agency. (*Mani Brothers Real Estate Group v. City of Los Angeles* (2007) 153 Cal.App.4th 1385, 1394.)

The agency correctly observes that, among the 1,716 pages of comments submitted by Communities and another firm, Adams Broadwell, there is no claim equivalent to this current one: that the Report was inadequate because it did not detail the calculation behind the 6,000-barrels number.

Communities points to one comment in the record that purportedly raises the issue: comment G1-78.208. We quote this comment:

"The [draft report] also reports a pre-Project capacity of 363,000 bbl/day and indicates the Project would increase the throughput by 6,000 bbl/day by eliminating feed heater duty at the Wilmington Crude Unit and Coker, which would increase the crude capacity to 369,000 bbl/day.

"However, this is inconsistent with information reported by Tesoro to the U.S. Securities and Exchange Corporation (SEC) in its most recent Form 10-K, where Tesoro reported that the crude oil capacity of its Los Angeles Refinery is 380,000 bbl/day and its 2015 throughput was 369,000 bbl/day. Similarly, Tesoro's website reports the refining capacity as 380,000 bbl/day."

Nowhere in this comment does Communities complain the Report should have disclosed how the agency calculated the 6,000-barrels figure.

Communities' reply brief does not squarely respond to the respondents' forfeiture argument. Rather, the reply emphasizes the following quote from this comment: "the [draft report] does not contain any of the information required to evaluate throughput claims." The reply then appears to concede the argument by stating: "But Dr. Fox *broadly* asked for 'information required to evaluate throughput claims' and specifically asked for 'baseline throughputs' and 'modified processing unit throughputs.'" (Italics added.) Communities makes another concession in the next sentence: "Those requests *encompass* [Communities'] point in this appeal that the starting point for calculating the 6,000 barrels per day increase was undefined." (Italics added.)

Making "broad" requests that "encompass" an issue raised on appeal is not raising the "exact issue" during the administrative process.

The point of Communities' comment G1-78.208 appears to be to draw attention to a discrepancy between the Report's pre-Project capacity figure of 363,000 barrels per day and its Form 10-K in which Tesoro reported a capacity of 380,000 barrels per day.

Communities never asked the agency to reveal its calculation of the 6,000-barrels figure. The issue is forfeited on appeal.

D

Communities' fourth complaint is that the Report did not disclose two numbers: (1) the existing volume of crude oil the

refinery processes as a whole, and (2) the refinery's unused capacity. This complaint is invalid because these two numbers are not material to the Report's goal of evaluating the project's air pollution impact.

We review an agency's decision about including information under an abuse of discretion standard. (*Rodeo*, *supra*, 22 Cal.App.5th at p. 231.)

We examine these two arguments — throughput and unused capacity — in that order.

1

Communities presents its throughput argument as follows. It claims the agency should have disclosed the total volume of crude moving through the refinery to "permit a cross-check" on the Report's calculations. Communities acknowledges the Report does state any throughput increase beyond 6,000 barrels per day is impossible due to physical constraints, but claims the Report contains too little data to "verify" that conclusion. Communities also expresses concern the Report does not provide enough information to assure it that the actual post-project increase in capacity will not exceed 6,000 barrels per day.

This argument fails because the Report adequately explains why the project will not increase the refinery's overall throughput. As the Report phrases it, at oil refineries "the limitation on how much crude oil can be processed lies within the refining equipment itself." We have reviewed this point above. As further illustrations, pump and piping capacity limitations constrain the Carson operation's crude rate. To increase the crude oil processing rate would require bigger pipes and stronger pumps. The Project does not involve and would not make these changes.

The project's modifications to the Heater's air permit, however, could increase the throughput of just one process unit — the Coker. The project will have no effect on overall refinery throughput because the project will not physically modify upstream or downstream process units, as we have already reviewed.

The assumed 6,000-barrels-per-day increase through the Coker will be offset by a 10,000-barrels-per-day decrease of vacuum gas oil that the refinery previously used as feedstock for the Wilmington Cracking Unit. This is why the Report concluded that the project will decrease overall refinery throughput.

The Report's presentation thus demonstrates the first number that Communities seeks — total pre-project throughput — is immaterial to its environmental assessment.

No law requires a report to include unnecessary data. Further cross-checks or verifications are not needed if, as is true here, substantial evidence supports the agency's analysis.

2

Now we tackle Communities' argument about unused capacity, which is but a variant of Communities' preceding argument.

Communities faults the Report for failing to describe what Communities calls the refinery's "unused capacity." Communities develops this concept by noting the Report gives peak and average production figures for coker units within the refinery. Communities subtracts the average from the peak, notes the sum is positive, and concludes this demonstration proves the refinery had "unused capacity" in the past. Communities faults the Report for failing to state the total value of this unused capacity. But there was no need for the Report to

include these data when substantial evidence already supported the Report's analysis, as was the case here.

DISPOSITION

The judgment is affirmed. Costs are awarded to Tesoro and South Coast Air Quality Management District.

WILEY, J.

I concur:

BIGELOW, P. J.

STRATTON, J., Dissenting in part.

I do not agree that substantial evidence supports the agency's use of the 98 percentile "near peak" data as the baseline to measure the environmental impact of changes to Heater H-100's Title V air permit. The majority holds that federal use of a 98 percentile baseline is substantial evidence that validates the agency's use of the 98 percentile here. Federal custom and practice appears to be the only substantial evidence found by the majority to support the use of the 98 percentile near-peak emission data here.

Applicable factual underpinnings in the record and applicable California caselaw belie the correctness of using the 98 percentile as the baseline. First, section 15125, subdivision (a) of the CEQA Guidelines provides: "An EIR must include a description of the physical environmental conditions in the vicinity of the project. This environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant." (Cal. Code Regs., tit. 14, § 15125, subd (a).) As our Supreme Court has pointed out, a "long line of Court of Appeal decisions holds, in similar terms, that the impacts of a proposed project are ordinarily to be compared to the actual environmental conditions existing at the time of CEQA analysis, rather than to allowable conditions defined by a plan or regulatory framework." (*Communities for a Better Environment v. South Coast Air Quality Management Dist.* (2010) 48 Cal.4th 310, 321 (*Communities*).) In *Communities*, the agency used the maximum operational levels of the subject boilers as a baseline. The agency did so, even though it "acknowledged that in ordinary operation

any given boiler ran at the maximum allowed capacity only when one or more of the other boilers was shut down for maintenance; operation of the boilers simultaneously at their collective maximum was not the norm." (*Id.* at p. 322.) This was error. Although running all the boilers at the maximum allowed capacity *could* occur even if the proposed project did not commence, running all the boilers at maximum capacity did not reflect " 'established levels of a particular use.' " Instead, the incorrect baseline reflected " 'merely hypothetical conditions allowable' " under the permits. (*Ibid.*)

Similarly, in *Neighbors for Smart Rail v. Exposition Metro Line Construction Authority* (2013) 57 Cal.4th 439 (*Neighbors*), our Supreme Court reaffirmed that the fundamental goal of an EIR is to inform decision makers and the public of any significant adverse effects a project is likely to have on the physical environment. To make such an assessment, an EIR must "delineate environmental conditions prevailing absent the project, defining a baseline against which predicted effects can be described and quantified." (*Id.* at p. 447.) In *Neighbors*, the agency's baseline consisted solely of conditions projected to exist absent the project at a date in the distant future, instead of an analysis of the project's significant impacts on measured conditions existing at the time the environmental analysis was performed. Our Court held that existing conditions is the normal baseline under CEQA, but factual circumstances can justify an agency departing from that norm when necessary to prevent misinforming or misleading the public and decision makers. (*Id.* at p. 448.) The Court reiterated its holding in *Communities* that an agency's discretionary decision on " 'exactly how the existing physical conditions without the project can most

realistically be measured' " is reviewed for substantial evidence supporting the measurement method. (*Id.* at p. 449.) It pointed out that agencies do not enjoy discretion under CEQA and CEQA guidelines to omit all analysis of the project's impacts on existing conditions. However, projected future conditions may be used as the sole baseline for impacts analysis if their use in place of measured existing conditions is justified by unusual aspect of the project or the surrounding conditions. (*Id.* at p. 451.)

Here, the record reflects (and the majority finds) no unusual aspects of the project or surrounding conditions to justify ignoring existing environmental conditions. The evidence is undisputed that the 98 percentile "near-peak" emissions occurred on only 15 out of the 730 days in the review period. By using pollution measured only on the 15 worst days, the agency has not set a realistic baseline of existing conditions so that the public and decision makers can project the most accurate picture practically possible of the project's likely impacts. Instead, by using the 15 worst days as the baseline, the project's potential future negative environmental impact is, at worst, diluted and reduced, and is, at best, inaccurate.

I would find this use of the 98 percentile "near-peak" data violates California law. The agency should have analyzed environmental conditions representing the entire period, or explained in the EIR why this was not possible, realistic, or informative. Whether the EPA uses a percentile approach is immaterial to what the agency should have done under California law.

STRATTON, J.