UNITED STATES OF AMERICA
BEFORE THE FEDERAL TRADE COMMISSION

In the Matter of **UNION OIL COMPANY OF CALIFORNIA,** **a corporation.**	Docket No. 9305 **PUBLIC RECORD**

COMPLAINT COUNSEL'S PRETRIAL BRIEF

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Washington, D.C. 20580

COMPLAINT COUNSEL'S PRETRIAL BRIEF

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[1] Sections marked with an asterisk provide the legal authority on the issues that Your Honor requested in the Revised Scheduling Order (Sept. 9, 2004).

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COMPLAINT COUNSEL'S PRE-TRIAL BRIEF

I. INTRODUCTION

This is a simple case wrapped up in a complex background of technology, patents, and regulation. Once this background is understood, however, the evidence at trial will show a straightforward story. Unocal lied. Its lies were effective. Its lies allowed it to obtain monopoly power. And because of its lies, Unocal now stands ready to force California gasoline refiners to pay billions of dollars in patent royalties, costs that will ultimately be borne by California consumers. Though the evidence at trial will necessarily delve into complicated technical and regulatory concepts, these simple facts – which prove a violation of Section 5 of the FTC Act – will clearly show through.

Unocal lied to a state regulatory body, and it lied to industry groups. Unocal developed important internal emissions research. It sought to use this research to influence reformulated gasoline ("RFG") regulations being developed by a state regulatory body, the California Air Resources Board ("CARB"). Unocal presented to CARB and to industry groups the results of this internal emissions research, explained to them the teachings of its study, and told them that these results and teachings were "non-proprietary," "in the public domain," and would lead to "cost-effective" regulations. These representations were false, and Unocal knew it. When it made these representations, Unocal was busily prosecuting a confidential patent application that would ensure that its research results and teaching would be proprietary, would keep these teachings out of the public domain, and (once issued) would allow Unocal to impose substantial royalties on anyone seeking to comply with the regulations – rendering them less than "cost-effective." Subsequently, through continued deceptive conduct, Unocal reinforced its misrepresentations.

Unocal's lies were effective. CARB officials believed that they could freely use the results and teachings of Unocal's research. They therefore used Unocal's study in developing the "Phase 2" gasoline regulations and in relying on open, competitive markets to supply the gasoline called for by those regulations. CARB incorporated into the regulations a key parameter (known as T50) that was supported by Unocal's research but not sufficiently supported by any other data. CARB followed Unocal's suggestion to develop and specify what is known as a "predictive model," which Unocal represented would be a "cost-effective" means of regulation compliance. And, in doing so, CARB unwittingly created a set of regulations that would force refiners to produce gasoline that falls squarely into the heart of Unocal's then-pending patents.

In addition, Unocal's lies effectively prevented its competitors, other refiners, from avoiding the patent trap. Misled by Unocal into believing that Unocal's study and its teaching were "in the public domain," the other refiners missed substantial and decisive opportunities to avoid or counteract Unocal's monopoly strategy. The refiners missed the opportunity to inform

CARB of Unocal's pending patent and intention to extract royalties. When modifying their refineries to meet the CARB regulations, they missed the opportunity to make modifications that would have helped to avoid Unocal's patents. And they missed the opportunity to negotiate for a license from Unocal before the regulations were final and before their refinery modifications were irreversibly underway – i.e., when a competitive market for the necessary technology was still available.

Unocal's lies, therefore, allowed it to acquire monopoly power – the durable power to profitably raise price above the competitive level. Unocal's lies led CARB to adopt regulations that overlap with Unocal's patent claims. Had CARB known of Unocal's pending patents and its intention to extract royalties, CARB would not have adopted the regulations it did. Rather, it would have sought to avoid giving Unocal monopoly power. Unocal's lies also prevented other refiners from taking measures to avoid or reduce the impact of the patents. Had they known of Unocal's plan, the other refiners would have been able to mitigate or avoid Unocal's power grab. But because of Unocal's lies, the other refiners cannot consistently avoid Unocal's patent claims to produce gasoline compliant with CARB's "summertime"[2] regulations.

Unocal achieved monopoly power by implementing its plan of deception. Unocal has and is currently demanding supracompetitive royalties from refiners of CARB-compliant summertime gasoline. In fact, Unocal has already won a patent infringement suit against the major California refiners, garnering a royalty damages award of 5.75 cents per gallon. Based on this royalty rate (which was awarded for infringement of only one of five Unocal patents),

[2] CARB's "summertime" regulations apply to gasoline sold in California between March and October, though these dates vary by county.

California consumers can expect to pay at least $150 million per year in royalty costs passed on by the refiners through 2011, when the patents expire. The evidence will thus show that Unocal was able to profitably raise the price above competitive levels not only for its patented technology, but is, at the very least, dangerously close to gaining this power for gasoline sold to California consumers as well.

Unocal's conduct violates Section 5 of the FTC Act. As the evidence will show, Unocal engaged in anticompetitive, exclusionary conduct – *viz.*, Unocal made misrepresentations and engaged in deceptive acts aimed at CARB and other industry members. Through this anticompetitive conduct, Unocal gained monopoly power. Its deception caused CARB to issue regulations that intersect with Unocal's patents and prevented industry members from avoiding this trap. Unocal can now demand supracompetitive prices for its patents and raise the price of gasoline sold in California. As explained in detail below, these facts show that Unocal has monopolized, attempted to monopolize, and engaged in unfair methods of competition in violation of Section 5.[3]

II. THE ELEMENTS OF THE CLAIMS

Much is at stake in this case. But the resolution of this momentous matter turns on the simple application of settled law to facts that are largely either uncontested or not fairly contestable. In short, Unocal controls the market for technology required to produce gasoline

[3] Your Honor has asked the parties to provide legal authority relevant to a number of issues. *See* Revised Scheduling Order (Sept. 9, 2004) at 1-2. This authority is addressed in the following Sections: Section III addresses "the proper standard of proof to apply in a case where fraud is alleged"; Section V addresses "whether an omission constitutes a misrepresentation or a deliberate misrepresentation"; Section VI provides "a list of all disputed issues alleged in the Complaint that have been litigated in any other court or forum and the current status thereof"; and Section VII.B addresses "the authority of an administrative agency and of a federal district court to order the remedy sought by the government."

that may be sold to California automobile drivers in the "summertime" months, March through October. Unocal acquired this monopoly power by lying to CARB and, separately, by lying to other refiners. Consequently, Unocal possesses an unlawful monopoly and must be restrained from enjoying the fruits of that monopoly power. This monopoly over the technology also gives Unocal the ability to affect the price of "summertime" gasoline.

More specifically, Complaint Counsel contends, and the evidence will show, that Unocal attempted to monopolize two markets – the market for summertime gasoline that can be sold in California (the "CARB Gasoline Market") and the market for technology that can be used by refiners to produce CARB-compliant summertime gasoline (the "Technology Market") – and in fact monopolized the Technology Market, all of which also constitute violations of Section 5 of the FTC Act. Further, the same conduct that monopolized and attempted to monopolize those markets constitutes unfair methods of competition under Section 5. The central allegation is the claim of monopolization; the others are lesser included variants of that claim, variants that can succeed even should the monopolization claim fail.

A. The Monopolization Count

The Sherman Act provides that it is unlawful to "monopolize, or attempt to monopolize ... any part of the trade or commerce among the several States." 15 U.S.C. § 2. A violation of Section 2 of the Sherman Act is also an unfair method of competition under Section 5 of the Federal Trade Commission Act. *See FTC v. Indiana Fed'n of Dentists*, 476 U.S. 447, 454 (1986).

The law is very well settled that the offense of monopolization consists of: (1) the possession of monopoly power, (2) in a relevant market, (3) where that power was acquired or maintained willfully as distinguished from power obtained as a consequence of superior product, business acumen, or historic accident. *United States v. Grinnell Corp.,* 384 U.S. 563, 570-71 (1966). Each of these elements is further defined by well-settled and controlling precedent.

1. Monopoly Power

Monopoly power, or market power, is the "power to control prices or exclude competition." *United States v. E.I. duPont de Nemours & Co.*, 351 U.S. 377, 391 (1956). Thus, one has market or monopoly power if one can persistently and profitably price above competitive levels or prevent price from falling to competitive levels. *See* U.S. Department of Justice and Federal Trade Commission, *Horizontal Merger Guidelines*, Part 0.1 ("Market power to a seller is the ability profitably to maintain prices above competitive levels for a significant period of time."). Monopoly power may be proved directly, by showing that defendants have in fact priced profitably and persistently above competitive levels, as exemplified by the Commission's opinion in *In the Matter of Schering-Plough Corp.,* 2003 FTC Lexis 187 (2003). *See also Indiana Fed'n of Dentists*, 476 U.S. at 461-62 (stating that evidence that restriction was "likely enough to disrupt the proper functioning of the price-setting mechanism of the market" was sufficient to support a violation even absent evidence of higher prices). Alternatively, market power may be inferred from such factors as high entry barriers combined with a market share sufficient to permit the firm to exercise power over price. *See Grinnell,* 384 U.S. at 570-71; *Horizontal Merger Guidelines*, Parts 1, 2, 3.

2. Relevant Market

A relevant market is the "area of effective competition" in which the respondent operates and consists of two dimensions: (1) a relevant product market and (2) a relevant geographic market. *United States v. Aluminum Co. of Am.*, 377 U.S. 271, 283 (1964). A firm can possess monopoly power only in a relevant antitrust market, which is a group of products in a relevant geographic area such that, if all those products were controlled by one firm, which was not subject to price regulation, that firm would be able profitably to price above competitive levels for an extended period. *See Horizontal Merger Guidelines,* at Part 1.0.

3. Willful Acquisition of Monopoly Power

Not all monopolies are illegal. If a monopoly is acquired by reason of behavior that is efficient, cost-reducing or pro-consumer, or accidentally or unavoidably, then that monopoly is nevertheless lawful. *See United States v. Aluminum Co. of Am.*, 148 F.2d 416, 429-30 (2d Cir. 1945). For a monopoly to be unlawful, it must be caused or maintained by behavior that is exclusionary, i.e., not competition on the merits. *See Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585, 596-97 (1985). Deceptive conduct does not constitute competition on the merits and can be exclusionary, thus causing illegal monopoly. *See, e.g., United States v. Microsoft*, 253 F.3d 34, 76-77 (D.C. Cir. 2001); *In re Dell Computer Corp.*, 121 F.T.C. 616 (1996). Although not all lying is anticompetitive or exclusionary, in this case Unocal's misrepresentations did in fact exclude rival technologies from the market and enable Unocal to engage in opportunistic predatory behavior against competing refiners.

The wrongful or exclusionary conduct must "cause" the monopoly in the sense that the conduct "reasonably appears capable of making a significant contribution" to obtaining or maintaining monopoly power. *Microsoft*, 253 F.3d at 79. There need not be detailed proof of the world as it would have existed "but for" deception, for such a requirement would eviscerate the ban on exclusionary monopolization and allow monopolists to profit by their wrongdoing. *See*

3 Philip Areeda & Herbert Hovenkamp, *Antitrust Law* ¶ 651 (2002). "[N]o case . . . stand[s] for the proposition that, as to § 2 liability in an equitable enforcement action, plaintiffs must present direct proof that a defendant's continued monopoly power is precisely attributable to its anticompetitive conduct." *Microsoft,* 253 F.3d at 79.

B. The Attempted Monopolization Counts

The same evidence that shows that Unocal has unlawfully monopolized the Technology Market will show that Unocal has attempted to monopolize both the Technology and the CARB Gasoline Markets. Evidence that tends to prove monopolization necessarily tends to prove even more forcefully attempted monopolization. Because of the linkage between the two markets, evidence that proves monopolization of the Technology Market tends to proves at least an attempt to monopolize the CARB Gasoline Market.[4]

The essential elements of an attempt to monopolize under Sherman Act Section 2 are: (1) specific intent to control price or to destroy competition in some part of commerce; (2) predatory or anticompetitive conduct directed to accomplishing the unlawful purpose; and (3) a dangerous probability of success. *See Spectrum Sports, Inc. v. McQuillan,* 506 U.S. 447, 456 (1993).

The standard for showing that the conduct was exclusionary and not efficient competition on the merits is the same in attempted monopolization cases as for monopolization. *See Transamerica Computer Co. v. IBM*, 698 F.2d 1377, 1382 (9th Cir. 1983). Further, less proof of market power is required in attempt cases. *See McGahee v. Northern Propane Gas Co.*, 858 F.2d 1487, 1505 (11th Cir. 1988) ("Determining whether a defendant possesses sufficient market

[4] Although Unocal exited the refining business in 1997, the evidence will show that, at the time Unocal engaged in exclusionary conduct, Unocal was a significant refiner and was therefore in a position to exercise market power directly in the CARB Gasoline Market.

power to be dangerously close to achieving a monopoly requires ... proof of the same character, but not the same quantum, as ... an actual monopolization claim."). The same evidence that Complaint Counsel submits tends to prove that Unocal achieved monopoly power more than suffices to show that Unocal had a dangerous probability of success in obtaining market power in both the Technology and the CARB Gasoline Markets.

C. The Independent FTC Act Section 5 Counts

Again, the law relevant to these counts is firmly settled and perfectly clear. Although, for prudential reasons, the Commission may wish to hold Unocal's conduct only to the more demanding Sherman Act standards, the Commission is vested with broader powers. Section 5 of the FTC Act proscribes unfair competition in a manner that extends beyond the strict boundaries of the Sherman and Clayton Acts. *See FTC v. Sperry & Hutchinson Co.*, 405 U.S. 233, 239 (1972) (stating that FTC may "define and proscribe an unfair competitive practice, even though the practice does not infringe either the letter or the spirit of the antitrust laws"). The FTC Act thus proscribes "not only practices that violate the Sherman Act and the other antitrust laws, but also practices that the Commission determines are against public policy for other reasons." *Indiana Fed'n of Dentists*, 476 U.S. at 454. Specifically, in order to succeed under a Section 5 complaint aimed at unilateral conduct, Complaint Counsel must demonstrate conduct that (1) is collusive, coercive, predatory or exclusionary, *E.I. duPont de Nemours v. FTC*, 729 F.2d 128, 139-42 (2d Cir. 1984); and (2) "has materially caused or threatened to cause substantial harm to competition and will, in the future, materially cause or threaten to cause further substantial injury to competition and consumers." Complaint ¶ 97.

The evidence in this case will show that both prongs of unfairness are met. Unocal's campaign of deceit was predatory and exclusionary, designed specifically to exclude rival technologies and to enable Unocal to obtain power to predate against its rivals in both the technology and the refining market. The evidence will also show that Unocal's lies caused or, at least, threatened to cause substantial harm to competition and consumers and will continue to do so in the future.

D. The *Noerr-Pennington* Defense

Unocal has claimed that, **because it lied to a government agency**, it is shielded from antitrust liability for all the foregoing claims under the *Noerr-Pennington* doctrine. That assertion is untenable.

First, a separate and distinct exclusionary act by Unocal was its campaign of deceit with respect to private industry groups and the member refiners. That conduct, which caused anticompetitive "lock-in" of rival refiners, and is wholly divorced from any purported petitioning of government, can have no claim to *Noerr* protection as recognized in the initial decision in this matter, Initial Decision, *In re Union Oil Co. of Cal.*, FTC Dkt. No. 9305, 2003 FTC Lexis 177 at *118, *124 (Nov. 25, 2003), and as affirmed by the Commission on interlocutory appeal, *see* Opinion of the Commission, *In the Matter of Union Oil Company of California*, FTC Dkt. No. 9305, 2004 FTC Lexis 115 (2004) ("*Unocal Noerr Ruling*").

Second, to the extent that *Noerr* reaches beyond the narrow scope of First Amendment protection, which (properly understood) it does not, Unocal's lies to CARB cannot qualify for *Noerr* protection for three separate and distinct reasons.

(1) As a matter of law, *Noerr* protection does not extend to cases in which the government is unaware that petitioner seeks the government to adopt or participate in a restraint

of trade.[5] The evidence will show that, in selecting the particular technology advocated by Unocal, CARB intended to rely on competitive markets to supply the gasoline called for by its Phase 2 regulations.

(2) Again as a matter of law, *Noerr* protection does not extend to anticompetitive conduct that, as here, can be remedied without enjoining any communicative activity to or from government and without disrupting or burdening any government program.

(3) Were *Noerr* protection to extend beyond the bounds just outlined, it is nevertheless unavailable to Unocal on the facts of this case because Unocal's exclusionary, deceitful conduct falls within the "misrepresentation" exception to *Noerr* recognized by the Commission in the *Unocal Noerr Ruling*. The evidence will show that Unocal's representations to CARB had at least the following characteristics: (a) they were false; (b) they occurred outside the political arena; (c) they were deliberate, factually verifiable, and central to the outcome of the CARB proceeding; and, (d) their effects, to confer market power on Unocal, can be demonstrated and remedied without undermining the integrity of CARB. According to the law set forth in the *Unocal Noerr Ruling*, 2004 FTC Lexis 115 at *115-16, that evidence proves that Unocal's conduct before CARB does not merit *Noerr* protection.

III. THE BURDEN OF PROOF

Your Honor has asked us to address "the proper standard of proof to apply in a case where fraud is alleged." Revised Scheduling Order (Sept. 9, 2004) at 1. Where, as here, alleged violations of Section 5 of the FTC Act are premised on anticompetitive conduct that consists of

[5] *See* authorities cited in *In the Matter of Union Oil Company of California*, Appeal Brief of Counsel Supporting the Complaint (January 14, 2004); Reply Brief of Counsel Supporting the Complaint (March 4, 2004).

"materially false and misleading statements" (Complaint at ¶¶ 2, 77, 80) and "knowing and willful misrepresentations and other bad faith, deceptive conduct" (Complaint at ¶ 3: *see also id.* ¶¶ 77, 84), which can be characterized in lay terms as "fraud" or "fraudulent conduct" (Complaint ¶¶ 5, 76), Complaint Counsel must prove its case by a preponderance of the evidence.

To be clear, the Complaint does not state a cause of action for common-law fraud. Nor does Complaint Counsel need to establish common-law fraud to prove its case. The preponderance-of-evidence standard applies because this is a Section 5 case alleging monopolization, attempted monopolization, and unfair competition. This conclusion is supported both by the applicable statutes and by well-established case law.

The preponderance-of-evidence standard is dictated by the Administrative Procedure Act (the "APA"). 5 U.S.C. §§ 551, *et seq.* The APA, of course, applies to FTC administrative actions such as this one. *See FTC v. Standard Oil Co. of California*, 449 U.S. 232, 238 (1980) (applying APA to FTC action); 5 U.S.C. § 551 (defining "agency" for purposes of the APA in a manner that includes the FTC). Section 556(d) of the APA provides that agency orders must be "supported by and in accordance with the reliable, probative, and substantial evidence." 5 U.S.C. § 556(d). As the Supreme Court held in *Steadman v. SEC*, 450 U.S. 91 (1981), this Section establishes that actions under the APA are governed by the preponderance-of-evidence standard. *Id.* at 101-02.

This standard applies equally in cases involving allegations that the administrative offense consisted in part of misrepresentations or fraudulent conduct. *Steadman* itself involved alleged violations of the antifraud provisions of the federal securities laws. *Id.* at 94-95. The petitioner in that case argued that the clear-and-convincing standard should apply "because of the potentially severe sanctions that the [Securitities and Exhange] Commission was empowered to impose and because of the circumstantial and inferential nature of the evidence that might be used to prove intent to defraud." *Id.* at 95. The Supreme Court, however, expressly rejected this argument, holding instead that Section 556(d) establishes a preponderance-of-evidence standard for actions governed by the APA. *Id.* at 96. As the Court explained, this holding was inevitable given the confluence of the statutory language, the legislative history of the statute, and the SEC's "longstanding practice of imposing sanctions according to the preponderance of the evidence." *Id.* at 97-103.

The Court's holding in *Steadman* is consistent with the standard of proof applied for violations of other federal laws prohibiting fraudulent conduct. In *Grogan v. Garner*, 498 U.S. 279 (1991), the Supreme Court surveyed a panoply of federal causes of action based on misrepresentations and found that they consistently applied a preponderance-of-evidence standard. In light of this, the Court held that the preponderance-of-evidence standard applies to an action in a bankruptcy alleging that the debtor obtained monies by "false pretenses, a false representation, or actual fraud," *id.* at 280-81 & n.1, even though both the statutory language and the legislative history were silent on this issue, *id.* at 286. The lower court had reasoned that the higher burden of proof was appropriate, in part, because the common-law fraud required clear-and-convincing evidence. *Id.* at 282-83. The Court, however, specifically rejected this argument, noting that Congress has consistently legislated that the preponderance-of-evidence standard apply in cases involving misrepresentations or fraud:

> Unlike a large number, and perhaps the majority, of the States,

> Congress has chosen the preponderance standard when it has created substantive causes of action for fraud. *See, e.g.*, 31 U.S.C. § 3731(c) (False Claims Act); 12 U.S.C.A. § 1833a(e) (civil penalties for fraud involving financial institutions); 42 CFR § 1003.114(a) (1989) (Medicare and Medicaid fraud under 42 U.S.C. § 1320a-7a); *Herman & MacLean v. Huddleston*, 459 U.S., at 388-390, 103 S.Ct., at 690-692 (civil enforcement of the antifraud provisions of the securities laws); *Steadman v. SEC*, 450 U.S. 91, 96, 101 S.Ct. 999, 1005, 67 L.Ed.2d 69 (1981) (administrative proceedings concerning violation of antifraud provisions of the securities laws); *SEC v. C.M. Joiner Leasing Corp.*, 320 U.S. 344, 355, 64 S.Ct. 120, 125, 88 L.Ed. 88 (1943) (§ 17(a) of the Securities Act of 1933); *First National Monetary Corp. v. Weinberger*, 819 F.2d 1334, 1341-1342 (CA6 1987) (civil fraud provisions of the Commodity Exchange Act). *Cf. Sedima, S.P.R.L. v. Imrex Co.*, 473 U.S. 479, 491, 105 S.Ct. 3275, 3282, 87 L.Ed.2d 346 (1985) (suggesting that the preponderance standard applies to civil actions under the Racketeer Influenced and Corrupt Organizations Act).

Id. at 288.[6] While *Steadman* requires the application of the preponderance of evidence standard because this case is governed by the APA, *Grogan* further teaches that the preponderance of evidence is appropriate because this action is brought under a federal statute – Section 5 of the FTC Act.

Not surprisingly, the Commission has consistently applied the preponderance-of-evidence standard when enforcing Section 5. This is true in cases involving alleged antitrust violations. *See, e.g., In re Adventist Health System/West*, 117 F.T.C. 224, 297 (1994) ("Each element of the case must be established by a preponderance of the evidence"); *In re Indiana Fed'n of Dentists*, 101 F.T.C. 57, 1983 FTC Lexis 112, *210 (1983) (holding that preponderance of evidence

[6] Even if one were to look at the state law of fraud that would apply to Unocal's conduct (California law) for guidance, the preponderance-of-evidence standard would apply. *See Liodas v. Sahadi*, 19 Cal. 3d 278, 288-91, 562 P.2d 316, 137 Cal. Rptr. 635 (1977) (holding that preponderance standard applies to fraud actions and rejecting arguments for higher standards of proof).

supported finding of antitrust conspiracy), *vacated*, 745 F.2d 1124 (1984), *reinstated*, 476 U.S. 447 (1986). It is also true for Section 5 cases involving alleged misrepresentations. *See, e.g., In re Novartis Corp.*, 1999 FTC Lexis 63, *49 (1999) (applying preponderance of evidence in Section 5 case alleging misrepresentations); *In re Amrep Corp.*, 102 F.T.C. 1362, 1983 FTC Lexis 17, *491 (1983) ("The preponderance of the evidence shows that respondent, in several ways, misrepresented the likely effect of future growth and development on the prices and market value of Rio Rancho land.").

Further, the preponderance of evidence applies in antitrust cases such as this but that are not tried under Section 5. As the Supreme Court made clear in *Herman and McLean v. Huddleson*, 459 U.S. 375 (1983), the preponderance-of-evidence standard applies in civil antitrust cases. *Id.* at 389-390 (stating that "[a]ny other standard expresses a preference for one side's interests" and reserving the clear-and-convincing standard for cases involving "particularly important individual interests or rights"). Moreover, this standard specifically applies to monopolization claims such as those alleged in this case. *See, e.g., Deauville Corp. v. Federated Department Stores, Inc.*, 756 F.2d 1183, 1188 (5th Cir. 1985) ("To prevail on a monopolization claim, the plaintiff must prove by a preponderance of the evidence that the defendant has obtained 'monopoly power' in the relevant market, and that the defendant improperly acquired or maintained that power.").

The courts have, however, recognized certain narrow exceptions to this general rule for actions brought under Section 2 of the Sherman Act. Two of these exceptions apply in cases involving patents, but those exceptions are inapplicable in this case. First, in cases alleging attempted monopolization based on the enforcement of a patent obtained by fraud on the Patent

Office – often called "*Walker Process* claims"– courts have required proof of certain elements by a clear-and-convincing standard. *See, e.g., Walker Process Equip. v. Food Mach. & Chem. Corp.*, 382 U.S. 172 (1965); *C.S. Bard, Inc. v. M3 Systems, Inc.*, 157 F.3d 1340, 1365 (Fed. Cir. 1998). Second, courts have imposed the clear-and-convincing standard for certain elements of attempted monopolization claims based on bad faith litigation seeking to enforce patents where the patent holder knows that the patent is not infringed. *See Handgards, Inc. v. Ethicon, Inc.*, 601 F.2d 986, 993-96 (9th Cir. 1979).

The rationale for each exception was particular to the circumstances involved. In the case of *Walker Process* claims, the higher standard of proof is necessary to prevent the fear of treble damages actions from chilling "the disclosure of inventions through the obtaining of a patent," given the "numerous technicalities attending the issuance of a patent." *Walker Process*, 382 U.S. at 180 (Harlan, J., concurring); *see also Cataphote Corp. v. De Soto Chemical Coatings, Inc.*, 450 F.2d 769, 772 (9th Cir. 1971) (applying clear-and-convincing standard because the "road to the Patent Office is so tortuous and patent litigation is usually so complex" that "clear, convincing proof of intentional fraud involving affirmative dishonesty" is required). Similarly, in cases alleging bad-faith patent enforcement, the courts have adopted a clear-and-convincing standard "to provide reasonable protection for the honest patentee who brings an infringement action to protect his legal monopoly." *Handgards*, 601 F.2d at 996. This standard "accords the patentee a presumption commensurate with the statutory presumption of patent validity set forth in the patent laws, which can only be rebutted by a showing of clear and convincing evidence." *Id.* (citation omitted). This "barrier," however, is not "intended to be utilized in antitrust litigation generally," but it is rather "fashioned in response to the unique characteristics" of cases involving allegations of "one or more infringement actions initiated in bad faith." *Id.*

The superficial similarity that this case involves patents does not mean that the clear-and-convincing standard must apply.[7] As the cases discussed above establish, none of the rationales for a higher standard of proof apply simply because an antitrust action is premised on misrepresentations and deceit. Nor is do these rationales apply here. For instance, the Complaint does not allege that Unocal made misrepresentations to the Patent Office. Liability in this case does not turn on representations dealing with complex issues such as "one or more of the numerous technicalities attending the issuance of a patent," *Walker Process*, 382 U.S. at 352 (Harlan, J., concurring), but straightforward representations dealing with whether or not the materials presented by Unocal were "non-proprietary" and "in the public domain." Nor is this action based on any allegation of bad faith patent infringement litigation. To the contrary,

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[7] Indeed, the Commission has already determined that *Walker Process*-type misrepresentations to the Patent Office need not be proven by clear and convincing evidence to support a violation of Section 5. In *In the Matter of American Cyanamid Co.*, 72 FTC 623, 1967 FTC Lexis 43 (1967), *aff'd sub. nom, Charles Pfizer & Co., Inc. v. FTC*, 401 F.2d 574 (6th Cir. 1968), the complaint alleged that the respondents "made false, misleading, and incorrect statements to, and withheld material information from, the United States Patent Office" in order to obtain a patent on an important antibiotic. 1967 FTC Lexis 43 at *3-*4. The Commission found that the evidence at trial "at the very least, amounted to 'unclean hands,' 'inequitableness,' and 'bad faith,'" *Id.* at *138, which it had previously distinguished from the clear and convincing evidence needed to prove fraud on the Patent Office. *See In the Matter of American Cyanamid Co.*, 63 FTC 1747, 1963 FTC Lexis 77 at *224-25 (1963), *vacated sub. nom on other grounds, American Cyanamid Co. v. FTC*, 363 F.2d 757 (6th Cir. 1966). The Commission's findings of "unclean hands" and "inequitableness" in front of the Patent Office, which need only be supported by a preponderance of evidence, *see, e.g., Nobelpharma AB v. Implant Innovations*, 141 F.3d 1059, 1069-71 (Fed.Cir.1998) (distinguishing standard of proof for *Walker Process* fraud and that for inequitable conduct claim), "together with the subsequent exploitation of the . . . patent constituted a violation of Section 5." 1967 FTC Lexis 43 at *138. Only as an alternative ground did the Commission find "that the evidence is clear and convincing that [the respondent] committed fraud upon the Patent Office," which supported a violation of Section 2 under *Walker Process*, "and hence of Section 5." *Id.*

Complaint Counsel do not challenge the validity of Unocal's patents, nor do we claim that Unocal's patent infringement actions were brought in bad faith. There is thus no reason for a standard of proof "commensurate with the statutory presumption of patent validity." 601 F.2d at 996. This action will not affect disclosure to the Patent Office or access to the courts. Rather, just as with any other antitrust claim based on deceptive conduct, the preponderance standard applies. *See, e.g, United States v. Microsoft*, 84 F. Supp. 2d 9, 107 (D.D.C. 2000) (Findings of Fact - finding by preponderance of evidence that defendant engaged in deceptive conduct); *United States v. Microsoft*, 87 F. Supp. 2d 30, 43 (D.D.C. 2000) (Conclusions of Law - concluding that acts of deception were exclusionary), *aff'd in relevant part*, 253 F.3d 34, 76 (D.C. Cir. 2001).

Perhaps more importantly, Congress has already decided the issue of what standard of proof to apply. As the Supreme Court explained in *Herman & MacLean*, "[w]here Congress has not prescribed the appropriate standard of proof and the Constitution does not dictate a particular standard, we [(the Court)] must prescribe one." 459 U.S. 375, 389 (1983). Such is the case with Section 2 of the Sherman Act. Congress did not establish a standard of proof, and in certain circumstances involving "particularly important individual interests or rights," 459 U.S. at 389, the courts have required clear-and-convincing evidence. This is not so in the case of Section 5.

In the case of the APA (which governs administrative Section 5 cases, *see* 449 U.S. at 238), the Supreme Court has already held that "Congress *has spoken*, and has said that the preponderance-of-the-evidence standard should be applied." *Steadman*, 450 U.S. at 96 (emphasis added). Accordingly, whatever policy reasons might be argued to for the imposition of a clear-and-convincing standard in this case, absent "countervailing constitutional constraints," Congress's "'traditional powers . . . to prescribe rules of evidence and standards of proof'" must prevail. *Id.* at 95 (quoting *Vance v. Tarrazas*, 444 U.S. 252, 265 (1980)). The Supreme Court has already held that there is no countervailing constitutional restraint requiring a higher burden of proof in cases alleging misrepresentations or fraud. *See Grogan*, 498 U.S. at 288. Neither the Commission nor the courts, therefore, are free to impose a higher burden of proof in cases brought under Section 5 of the FTC Act.

IV. UNOCAL VIOLATED SECTION 5

What follows in this Section is a summary of the evidence Complaint Counsel will submit at trial to prove each element of the offenses described in Section II. We provide here a summary overview of our case, not the more detailed and particular findings of fact that the record will support.

A. The Backdrop For Unocal's Scheme

1. CARB and Its Rulemaking Process

The regulations at issue in this case had their genesis in California's efforts to reduce automobile emissions in the late 1980's and early 1990's. In 1988, the California legislature passed legislation that set specific target reductions in automobile emissions to be met in a specified time frame. The legislature tasked the California Air Resources Board ("CARB") with formulating "cost-effective" and "technologically feasible" actions to implement this mandate. Cal. Health & Safety Code § 43018(b) (1991). To this end, CARB was to "adopt standards and regulations which will result in the most cost-effective combination of control measures," including the "[s]pecification of vehicular fuel composition." Cal. Health & Safety Code § 43018(c) (1991). In other words, as part of California's plan to reduce pollution, and following the basic policy decisions set down by the California legislature, CARB was directed to develop regulations and standards governing the properties and components of gasoline sold in California.[8] Pursuant to this directive, CARB sought to define a cost-effective reformulated gasoline ("RFG"). CARB accomplished this task in two steps. In Phase 1, CARB established a modest set of standards for certain gasoline properties. These regulations required only minimal compliance costs. In Phase 2, CARB set about to fully define RFG. This case concerns CARB's Phase 2 summertime RFG regulations.[9]

To implement the goals and policies set by the California legislature, CARB's Phase 2 rulemaking required highly technical fact-finding. CARB's regulations had to be supported both scientifically and empirically; California law mandated that CARB identify "each technical, theoretical, and empirical study, report, or similar document, if any, upon which the agency relies in proposing the adoption, amendment, or repeal of a regulation." Cal. Gov't Code § 11346.7(a)(3) (1992). Further, California law required CARB to establish "[f]acts, evidence, documents, testimony, or other evidence on which [it] relies to support" its determination "that the action will not have a significant adverse economic impact on business." Cal. Gov't Code § 11346.53(c) (1993).

As CARB officials will testify, these legislative mandates forced CARB to depend on industry sources to provide accurate information so that CARB could carry out the technical tasks left to it. The CARB Governing Board consisted of nine members at the time of the CARB

[8] As described more fully below in Section IV.E, CARB's discretion in implementing these goals was circumscribed by a number of factors.

[9] CARB's "summertime" RFG regulations apply to gasoline sold in California between March and October. The exact dates of applicability vary by county.

Phase 2 rulemaking. *See* Cal. Health & Safety Code § 39510 (1991). Because all Board members other than the Chair served part-time, the Board relied heavily on the CARB staff for factual research and technical expertise. The Staff, in turn, relied on industry sources for accurate information and data.

CARB depended on industry participants not only for accurate scientific and technical information, but for accurate cost estimates as well. In the case of the Phase 2 proceedings this was of especial importance. Both CARB officials and industry participants will testify that it was universally recognized that Phase 2 could be the most expensive regulation in California history. To achieve the mandated reductions in emissions, major and expensive refinery modifications would be necessary. CARB staff therefore sought accurate data to estimate the cost of compliance to California refiners (measured in terms of cents per gallon). Based on industry data, for instance, CARB approximated that cost would be 12 to 17 cents per gallon of RFG produced. *See* CX0010 at 85 (CARB Final Statement of Reasons). Under this estimate, California refiners would have to expend hundreds of millions of dollars per year in compliance costs.

2. Industry Efforts To Cooperate With CARB

Because of the huge sums at stake, the CARB RFG rulemaking was marked by a high degree of collaboration between regulators and industry as well as between industry members. In particular, two industry groups sought to develop data and information for CARB and to use this information to comment on CARB's proposed regulations. The first was a consortium of oil companies and the Big Three domestic automakers called the Auto/Oil Air Quality Improvement Program ("Auto/Oil"). Its mission, in part, was to provide scientific research data to CARB to facilitate CARB's rulemaking efforts. Auto/Oil acted as a clearinghouse for ideas and research brought to it by individual members as well as a coordinating body for the group's joint research efforts. Unocal was a member of Auto/Oil and participated in the program's CARB-related activities.

The second industry group was the Western States Petroleum Association ("WSPA"), a trade association representing the west coast petroleum industry. WSPA played an active role in Phase 2 rulemaking by providing to CARB detailed cost information. It submitted to CARB three studies estimating the costs and economic impact of the proposed regulations. Among other endeavors, WSPA commissioned the consulting firm of Turner Mason to conduct a comprehensive cost study, which included estimates of patent licensing costs associated with proposed CARB standards. Unocal actively participated in these efforts; one of its employees sat on the Economic Working Group, which oversaw Turner Mason's work. Moreover, Unocal provided cost information to be used in the WSPA studies.

3. Unocal Gears Up to Turn CARB's Regulation into a "Competitive Advantage"

Not only did Unocal work through Auto/Oil and WSPA to provide information to CARB, it also created an internal team dedicated to advancing Unocal's interests in the regulatory process. Any fuel regulations would impact Unocal's refining operations; thus, Unocal's Refining and Marketing Division – then headed by Roger Beach – was extremely concerned about Unocal's ability to respond to regulations while, at the same time, minimizing capital expenditures and compliance costs. In the fall of 1989, Unocal management created a cross-functional Fuels Issues Team under the leadership of Dennis Lamb. The Fuels Issues Team was established at Roger Beach's direction, and Beach hand-picked Dennis Lamb to lead the team. Recognizing that "California will mandate that all gasoline be reformulated in 1996," the mission of the Fuels Issues Team was to "seek competitive advantage" and to "influence [the] regulatory outcome." CX0188 at 1-3.

4. Unocal's Invention: The 5/14 Project

In addition to organizing its regulatory response team, Unocal gave its scientists the task of investigating the issue of reformulated gasoline. To do this, Unocal scientists sought to identify the effects of ten gasoline properties and components on automobile emissions. Although other industry members had studied the impact of varying certain gasoline properties or components on vehicle emissions, Unocal scientists Peter Jessup and Michael Croudace designed a series of tests that would isolate the effect of each individual property or component. The results from Croudace's and Jessup's research showed specific relationships between key exhaust emissions (specifically carbon monoxide, hydrocarbons, and nitrogen oxides) and a number of chemical and physical properties of gasoline.

The study was significant for two reasons. First, it identified the key properties and components affecting vehicle emissions and the "directional relationship" between those parameters and vehicle emissions. For instance, the study showed for the first time that reducing T50 (the temperature at which 50% of the gasoline in a given formulation evaporates) significantly reduces carbon monoxide and hydrocarbon emissions. Second, the study resulted in a "predictive model" – a set of equations that would allow Unocal to predict the emissions associated with a given formula of gasoline. If allowed by governing regulations, employing a predictive model could greatly reduce the costs of complying with fuel regulations.

The research drew the attention of Unocal's top management. In May 1990, Jessup and Croudace presented the results of their study to the highest levels of Unocal's management – including Roger Beach, the President of the Refining and Marketing Division; Richard Stegemeier, Unocal's CEO; and Unocal's Executive Committee – in order to obtain approval and funding for additional, confirmatory research. Impressed by the potential implications of the study, the Executive Committee approved additional funding to conduct expanded testing. The project became known as the "5/14 project" because of the date of the presentation to the Executive Committee – May 14, 1990.

From the very beginning, Unocal management sought a patent based on the work of the 5/14 project. When Jessup and Croudace first presented the project result to Roger Beach, he authorized them to seek a patent. On December 13, 1990, Unocal filed for a patent based on the teachings of the 5/14 project. Internal Unocal documents will show that Unocal was confident that its application would result in a patent. In fact, Unocal eventually obtained 5 patents claiming priority based on this one application.[10] These patents cover certain gasoline compositions (i.e., gasolines with property and component values that fall within certain ranges), certain methods of using gasolines of specific compositions, and processes for blending gasoline using a predictive model. It is on these five patents that Unocal bases its demands for royalties

[10] Unocal's RFG patent portfolio includes the following issued patents:

Patent number	Date filed	Date issued
5,288,393	Dec. 13, 1990	Feb. 22, 1994
5,593,567	Mar. 22, 1995	Jan. 14, 1997
5,653,866	June 5, 1995	Aug. 5, 1997
5,837,126	Aug. 1, 1997	Nov. 17, 1998
6,030,521	Nov. 13, 1998	Feb. 29, 2000

from refiners and traders of CARB-compliant summertime gasoline.

B. Unocal Engaged in Anticompetitive, Exclusionary Conduct

Had Unocal simply filed for and obtained patents based on the 5/14 project, there would not be any antitrust concern, even if those patents covered CARB-compliant summertime gasolines. Here, however, the evidence will show that Unocal's patents do not intersect with CARB's regulations by happenstance. Rather, Unocal's ability to demand royalties from refiners and traders of CARB-compliant summertime gasoline is the product of a program of deceptive conduct, designed to exclude rival technologies and refiners and to confer monopoly power on Unocal.

Simply put, Unocal led CARB and other industry members to falsely believe that the information and teachings of the 5/14 project could be freely used. As the evidence will show, Unocal presented the results and teachings of the 5/14 project to CARB, urged CARB to adopt those teachings in its regulations, and represented to CARB that the information and teachings of the 5/14 project were "non-proprietary" and "available to . . . the general public." The evidence will also show that Unocal presented the results and teachings of the 5/14 project to other industry members, representing that the information was "in the public domain" or otherwise leading them to believe that the information could be freely used.

These representations were false. At the very same time Unocal made these representations, it was secretly prosecuting a patent application based on the teachings of the 5/14 project. Further, even when asked for all cost information, Unocal repeatedly withheld the fact that Unocal's intellectual property rights could potentially impose a major cost on the production of RFG. To the contrary, Unocal continually urged CARB to adopt a predictive model, arguing that such a model would be "cost-effective." Unaware that Unocal was making every effort to patent the very teachings that Unocal presented to them, both CARB and industry members unwittingly fell into Unocal's patent trap.

As explained above, Section 5 prohibits the acquisition of market power through anticompetitive conduct. *See* Section II. Whether an element of monopolization, attempted monopolization, or unfair competition, anticompetitive conduct is that which "tends to impair the opportunities of rivals" and "does not further competition on the merits." *Aspen Skiing*, 472 U.S. at 605 n.32. Deceptive conduct (whether through affirmative misrepresentations, half-truths, or deliberate omissions) to exclude rivals is this type of conduct. *See Microsoft*, 253 F.3d at 76-77.

The core of this case, therefore, is Unocal's deceptive conduct aimed at CARB and other industry members. Complaint Counsel do not challenge Unocal's right to acquire its patents. Complaint Counsel do not challenge the validity of those patents. Nor do Complaint Counsel challenge the novelty, utility, or inventiveness of Unocal's patents. We do, however, challenge Unocal's lies, which, as the evidence will show, gave Unocal power to extract monopolistic royalties from refiners and traders of CARB-compliant summertime gasoline. In short, this case challenges Unocal's acquisition of market power through misrepresentations and deceptive conduct.

1. Unocal's Plans to Use the 5/14 Project to Gain a "Competitive Advantage"

The genesis of Unocal's deceptive scheme was Unocal's search for a means to use the 5/14 project to gain a "competitive advantage." Recognizing the potential significance of the teachings of the 5/14 project, Unocal management immediately began to consider ways to benefit from Jessup's and Croudace's work. The teachings of the 5/14 project promised more "flexibility" in producing RFG. Rather than following a rigid path to reduce emissions, the 5/14 project – especially the predictive model derived therefrom – could allow a refiner to use more cost-effective means, which could be tailored to the aspects of a particular refinery.

Given this potential, the evidence will show that Unocal management considered at least three different ways to use the 5/14 project to develop a competitive advantage. First, Unocal management considered keeping the teachings of the 5/14 project secret. The idea was that Unocal could use its trade-secret predictive model to find more cost-efficient ways to meet emissions requirements than its competitors. Unocal, however, abandoned this secrecy route and disclosed the 5/14 project for reasons discussed below.

Second, Unocal management considered using the teachings of the 5/14 project to produce an "interim" RFG before CARB's regulations went into effect. As part of a proposed marketing scheme, Unocal considered using the marketing slogans "Unique Patent Pending Gasolines," CX0222, and "Patent pending product," CX0228. That is, Unocal considered disclosing to the public the fact that it had pending patents related to RFG. Ultimately, however, Unocal decided not to produce an interim RFG because of costs and chose to keep its patent application secret.

Finally, Unocal management considered using the 5/14 project to "influence" CARB. Internal Unocal documents show that Unocal saw two advantages to this strategy. First, Unocal could convince CARB to adopt regulations that were more "flexible," especially if those regulations incorporated a predictive model. This flexibility would allow Unocal to reduce its compliance costs. Second, Unocal could influence CARB to adopt regulations that required refiners to produce gasoline in a manner that fell within the scope of the patents Unocal was seeking. This would create a licensing opportunity for Unocal that had the potential to confer market dominance on Unocal and to bring in millions in revenue.

This strategy is repeated, over and over, in Unocal's contemporaneous business documents. For instance:

- A November 16, 1990 presentation advocated that Unocal"[s]how emissions work to regulators, make Unocal specifications **required** in the industry."[11]

- Similarly, a November 1990 internal Unocal memorandum (copied to Dennis Lamb and Greg Wirzbicki, Unocal's chief patent counsel) encouraged Unocal to use the results of the 5/14 research to influence CARB:

> Two key variables identified in the 5/14 project (RVP and T50) effecting tailpipe emissions will be uncovered by CARB in a study to be completed by April 1, 1991. CARB then intends to regulate these variables in the Phase 2 gasoline specifications that will be written by September 1991. If we intend to use our results from the 5/14 study in the marketplace and/or influence CARB we have to use our information **<u>NOW!</u>**
>
> * * * *
>
> IF WE INTEND TO USE 5/14 TO OUR ADVANTAGE, IT MUST BE USED NOW![12]

- Another internal memorandum, written only days before Unocal filed for its patents, detailed the relationship between Unocal's disclosing the 5/14 project and Unocal's plan to obtain royalties from its competitors:

[11] CX0203 at 012 (emphasis added).

[12] CX0207 (emphasis original).

> **It would be in the best interest of Unocal to input into and help shape regulations made by the EPA and the CARB by December 17, 1990** . . . . Regulations based on driveability index will leave the door open for Unocal to use our results from the 5/14 project, that is, that T50 is the true key variable for exhaust CO and HC emissions reductions. . . .
>
> Setting a regulation based on driveability index rather than T90 leaves the door open for other oil companies to use our gasoline formulas through licensing agreements. **Potential royalties from such agreements are as high as $114,000,000/year ($0.001/gallon) in the United States alone.** This is far more than could [be] gained from any other competitive advantage. **To this end we have applied for a patent based on the 5/14 results, and have a good chance of getting it.** [13]

- That same memorandum went on to again emphasize the potential royalties that Unocal could obtain if it used the 5/14 project to influence regulations:

> At your request, we have examined reasons for publishing Unocal's 5/14 results. Bear in mind the patent for low emissions fuels, based on the 5/14 project, will be sent to the patent office on 12/12/1990, thus the basic ideas will be protected. Also we are looking for a competitive advantage. . . .
>
> **Once the patent is issued then Unocal can seek licensing agreements with our competitors.** These agreements are only possible if the other companies know about our low emission gasoline products. We must publish to influence regulators and advertise the Unocal advantage. **These licensing agreements could be worth 10's of millions of dollars every year, far more than any other competitive advantage could yield.**[14]

- Unocal's plan was even outlined on a huge poster board. The board recounts the history of Unocal's emissions research, which is depicted as leading to *a pot of gold* at the end of a rainbow: an estimated royalty figure of $0.01/gallon, and an estimated potential yearly

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[13] CX3005 (emphasis added).

[14] *Id.* at 3-4.

royalty income of $1 billion a year.[15]

2. Unocal's Scheme: Influence the Regulations and Falsely Tell Everyone that Unocal's Ideas and Data Are Free to Use

Unocal ultimately chose the third strategy; it decided to use the 5/14 project to influence regulators. Unocal management, specifically Roger Beach, authorized the disclosure of the 5/14 research results and teachings to CARB, Auto/Oil, WSPA, EPA, and members of the public. The evidence will show, however, that prior to the presentation to CARB, Unocal management decided not to disclose Unocal's pending patent application to CARB staff. Unocal scrupulously followed these directions through all of its 5/14 project presentations; none of its employees disclosed to anyone the fact that Unocal was seeking to patent the teachings of the 5/14 project. To the contrary, Unocal intentionally led both CARB and other industry members to believe that Unocal had made the 5/14 project research and teachings freely available.

a. Unocal Used the 5/14 Project to Influence CARB and, Once CARB Took the Bait, Told CARB That the Information Was "Non-Proprietary" and Available to the General Public

Unocal's plan was to present the 5/14 project to CARB in order to convince CARB to adopt both T50 and a predictive model as part of its regulations. As Dennis Lamb, Unocal's regulatory liaison, put it in a May 1991 memorandum:

> The purpose of the presentation should be to convince CARB staff that predictive equations or vehicle testing in particular should not include unnecessary minimums or maximums on fuel parameters . . . . The second priority is to convince CARB of the importance of T50.[16]

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[15] CX0002.

[16] CX0240.

In June 1991, the time was ripe for the Unocal plan. Other industry members had discussed with CARB the impact of T50 (the parameter that Unocal had discovered as being key), but none could provide CARB staff with empirical evidence that a lower T50 requirement would reduce emissions. CARB staff continued soliciting information about all parameters, including T50, and CARB discussed the T50 issue at a June 11, 1991 workshop. Unocal saw this interest as an opportunity to influence the regulations. It arranged for a meeting with CARB staff on June 20, 1991.

At that meeting, Jessup, Croudace, and Lamb met with CARB staff and gave a comprehensive presentation on Unocal's research. *See* CX0024. The presentation described Unocal's testing, depicted the importance of T50 in affecting hydrocarbon and carbon monoxide emissions, and outlined Unocal's predictive model.

CARB officials will testify that Unocal's message was loud and clear: CARB should make T50 an important parameter in its regulations and should specify a predictive model. But because Unocal's presentation did not give all of the underlying data, CARB staff requested more information related to Unocal's study.

In a July 1, 1991 letter, Unocal provided to CARB staff further details of Unocal's predictive model – the full equations that Unocal had developed. But Unocal asked CARB to "hold these equations confidential, as we feel that they may represent a competitive advantage in the production of reformulated gasoline." CX0025. Soon thereafter, Jessup also gave CARB staff a computer disk that contained all the information CARB needed to assess the directional relationships Unocal had discovered. CX1247. In its letter, Unocal stated that it would consider making the information public if CARB were to pursue incorporating a predictive model in its regulations: "If CARB pursues a meaningful dialogue on a predictive model approach to Phase 2 gasoline, Unocal will consider making the equations and underlying data public as required to assist in the development of a predictive model." CX0025.

Although it could not use Unocal's non-public data to justify any proposed regulations, CARB staff in early August 1991 pressed ahead with its efforts to obtain focused input on all potential parameters, including T50. CARB prepared a draft regulation with hypothetical parameter values "to facilitate discussions." CX0803. The draft, discussed at an August 14 workshop, included specific values for T50. *See* CX0795C at 17.

Seeing that its influence was effective, Unocal represented to CARB that it would relinquish any proprietary rights in the 5/14 data to allow CARB to use the data for its regulations. Unocal's Dennis Lamb wrote a letter to James Boyd, CARB's Executive Director, stating:

> On June 20, 1991, certain Unocal representatives met with Peter Venturini and other members of his staff. During that meeting, we presented the results of three phases in Unocal's Vehicle/Fuels testing program. We subsequently made the data base available to the staff and agreed to make the data public if necessary in the development of a predictive model for use in the certification of reformulated gasoline.
>
> The staff has now proposed to develop such a predictive model and requested that we make the data public.
>
> Please be advised that Unocal now considers this data to be **non-proprietary** and **available to CARB, environmental interest groups, other members of the petroleum industry, and the general public** upon request.[17]

At the time, however, Unocal was prosecuting its patent application.

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[17] CX0029 (emphasis added).

CARB staff will testify that, based on Unocal's representations, they believed CARB could freely use the Unocal information "with no strings attached." Given the sequence of communications described above, no other interpretation was feasible. Nor was it somehow unusual for CARB officials to believe Unocal's representations. Such a donation of research results was consistent with the understanding that CARB needed solid scientific information for the development of the reformulated gasoline regulations; and the further understanding that industry was providing such information to CARB in an effort to ensure that the regulations had a sufficient technical and scientific basis. Indeed, CARB understood that industry members were cooperating with the agency, and with each other, in order to, among other things, alleviate the costs of the regulations by providing some flexibility in terms of compliance methods.

b. Unocal Presented the 5/14 Project to Other Industry Members, Telling Them That it Was "In The Public Domain"

Unocal's deceit was not confined to CARB. The evidence will show that Unocal simultaneously deceived the refiners, auto companies, and other participants in the Auto/Oil and WSPA groups. In September 1991, for instance, Unocal presented its 5/14 project results to the Auto/Oil group. Presentations of this type – research conducted by individual members – were common, and these presentations were used to assist the work of the group. The work of Auto/Oil was governed by a contract – agreed to by Unocal – that ensured that the work could be used freely by all. That contract stated, "No proprietary rights will be sought nor patent applications prosecuted on the basis of the work of the Program unless required for the purpose of ensuring that the results of the research of the Program will be freely available, without royalty, in the public domain." CX4001 at 007 (¶ 2E). When presenting the 5/14 project to

Auto/Oil, Unocal expressly represented that the work had been submitted to CARB and that the information had been placed in the "public domain." CX0291 at 010. Moreover, Unocal represented that the data from the 5/14 project could be used as part of the Auto/Oil Program. *Id.* Given the Auto/Oil agreement, Unocal's representation would reasonably be interpreted to mean that the 5/14 project information that Unocal presented would be "freely available, without royalty." Testimony from other Auto/Oil members will show that Unocal's representation led them to believe just that.

Unocal also made misleading representations at WSPA. The evidence will show that Unocal did this in two ways. First, Unocal presented its 5/14 project results to WSPA and, as participants of the meeting will testify, conveyed the message that the research results could be used by anyone. As had become its practice, Unocal never let on that it was prosecuting patents to cover those results. Second, Unocal withheld cost information related to its intellectual property. The Turner Mason study that was commissioned by WSPA specifically addressed potential patent royalty costs. Although Unocal had previously provided data to Turner Mason in connection with earlier studies, Unocal withheld the fact that it expected its pending patent to result in significant compliance costs for other refiners.[18]

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[18] Apparently, Unocal will argue that it did not provide CARB, WSPA and Auto/Oil with the specific compositions that it was seeking to patent, and therefore its statements were not misleading because the statements supposedly only applied to the "data." The evidence at trial, however, will demonstrate that Unocal provided its *invention* from the 5/14 project to CARB, WSPA and Auto/Oil. Specifically, the evidence will show that Unocal explained to CARB, WSPA and Auto/Oil the directional relationships between the compositional parameters Unocal studied and harmful emissions as well as the equations that explain the relationships. The evidence will also show that Unocal provided CARB with its data, from which one skilled in refining could derive the same conclusions that Unocal and its inventors did. The Federal Circuit has already held that upon reading the written description of the '393 patent, a refiner would be able to discern that Unocal's inventors invented what is claimed. *See Union Oil Co. v. Atlantic*

c. *CARB Adopted Regulations Based On Unocal's Information*

The evidence will show that the connection between Unocal's "influence" and CARB's regulations is unmistakable. The month after it received Unocal's 5/14 project study, CARB issued proposed Phase 2 RFG regulations. Included in those proposed regulations were specifications for T50 as well as a placeholder for the development of a predictive model. In explaining the justification for regulating T50, the proposed regulations explicitly rely on Unocal's 5/14 project. CX0005 at 28 (stating that Unocal's "study concluded that T50 reductions would result in reductions of both the VOC and carbon monoxide emissions"), *id.* at 31 (chart showing effect of T50 on hydrocarbon emissions ("Source: Unocal")), *id.* at 32 (chart showing effect of T50 on CO emissions ("Source: Unocal")). Moreover, as the proposed regulations state, CARB staff used Unocal's regression equations to set T50 specifications. *Id.* at 28 ("In order to evaluate the sensitivity of emissions to T50 changes, staff have used the Unocal regression equation . . ."). Further, the Unocal regression equations (those that Unocal at first insisted CARB keep confidential) are set forth in full in the supporting documents for the proposed regulation. *Id.* at 298.

In addition, consistent with Unocal's influence, the proposed regulations announced the CARB staff's intention to develop a predictive model as an alternative means of compliance.[19]

Richfield Co., 208 F.3d 898, 1001 (Fed. Cir. 2000). The Federal Circuit specifically held that skilled refiners "knew the composition of the claimed combinations based on this written description." *Id.* at 999. The written description in the '393 patent is identical to the written description in the other four patents. Since Unocal gave the essence of its written description to CARB, WSPA and Auto/Oil, it did not need to provide the specific compositions it sought to patent, because those can easily be derived by CARB, Auto/Oil and WSPA members.

[19] The "predictive model," as eventually adopted by CARB, was one of three ways refiners could comply with the mandatory Phase 2 specifications. This approach allowed refiners to certify an

Id. at 110-11. Significantly, the proposed regulations stated that the predictive model would include all of the gasoline parameters that were already being specified by the regulations. *Id.* at 111. Those parameters were a subset of the parameters used in the 5/14 project, and this meant that CARB's predictive model would head into the scope of Unocal's pending patent application.

CARB's use of and dependence upon Unocal's 5/14 project is also reflected in CARB's Final Statement of Reasons for its Phase 2 regulations, which was issued a year later. For instance, that document states, "Unocal has evaluated the effects of T50, and *it is the results from this study that form the basis for the T50 specification.*" CX0010 at 69 (emphasis added). The Final Statement of Reasons also reiterated CARB's intent to adopt a predictive model as an alternative means of compliance. *Id.* at 22.

In addition to the documentary evidence, the testimony of CARB officials will confirm that Unocal's 5/14 project was a key driver for CARB's Phase 2 regulations. For instance, CARB staff will testify that Unocal's presentation of the 5/14 project was instrumental in CARB's pursuing a predictive model.

d. *Assured That Its Patent Claims Would Issue, Unocal Drafted Its Enforcement Plan and Continued Its Deception at CARB*

Even after it was informed by the Patent Office in the summer of 1992 that most of its pending patent claims had been allowed, Unocal continued its deception. By that time, CARB had adopted its Phase 2 regulations, and Unocal's high-level management was informed that the

alternative RFG formulation through the use of an approved model based on statistical relationships between the regulated properties and emissions. These statistical relationships were extensively studied throughout the Phase 2 proceedings and proposed regulations were issued in April 1994. *See* CX0053.

patent claims would be "broad enough to cover all gasoline fuels to be sold in California under the current CARB regulations." CX0593 at 3. The regulations, however, were not set to go into effect until March 1996, and they did not yet specify a predictive model. Moreover, CARB retained the ability to amend its regulations.

Knowing that its patent was now sure to issue, Unocal could have informed CARB and industry members of this fact to correct the misconceptions Unocal had fostered about the 5/14 project being "non-proprietary" and "in the public domain." Unocal never did this. The evidence will show that Unocal instead continued to press CARB to adopt a predictive model and to discuss compliance costs with CARB. In fact, Unocal complained to CARB about a "small refiner" exception because – according to Unocal – it would impose a 6 cent/gallon cost on the large refiners. Unocal also discussed its 5/14 project with other organizations, including the EPA, the Society of Automotive Engineers, and the American Institute of Chemical Engineers. Never once did Unocal tell anyone that its patents would allow it to impose substantial costs on all those who complied with CARB's regulations. Instead, Unocal retained outside counsel to prepare for litigation to enforce its patents.

e. Even After Unocal's First Patent Became Public, Unocal Sought to Bolster The Strength of Its Trap

Unocal's efforts to mislead continued even after its first patent became public. In February 1994, the Patent Office issued the '393 patent. Unocal, however, did not publicly announce the patent until nearly a year later on January 31, 1995.[20] At this point, CARB's Phase 2 regulations had long been completed and were scheduled to take effect the following

[20] Certain refiners had discovered the patent before Unocal's public announcement, and some made inquiries to discern Unocal's intentions.

year. The other refiners were far along in the work necessary to modify their respective refineries to meet those regulations by the 1996 deadline. Neither CARB nor the refiners could change course.

Unocal therefore moved to exploit the situation. In its press release, Unocal explained that its patent "covers many of the possible fuel compositions that refiners would find practical to manufacture and still comply with the strict California Air Resources Board (CARB) Phase 2 requirements." CX0375. An internal Unocal memorandum described the coverage as more comprehensive: "We believe . . . that almost any gasoline that would be practical to make and meet CARB standards would fall within the scope of our patent, and thus require a license from us." CX0372 at 003.

Unocal's announcement took CARB by surprise. The evidence will show that CARB in particular was extremely concerned that the Unocal patent would undermine the Phase 2 regulations. To address this concern, Unocal met with CARB staff on March 17, 1995. At this meeting, Unocal assured CARB that it would not seek to disrupt the smooth roll-out of the Phase 2 regulations. CARB's officials will testify that they understood Unocal to mean that it would not do anything that would upset the cost-effectiveness of the Phase 2 regulations or the functioning of the gasoline market.

But even while Unocal was giving these assurances, Unocal was fortifying its patent trap. Within days of the meeting, Unocal filed for its second RFG patent (the '567 patent). Shortly thereafter, Unocal filed for its third RFG patent (the '866 patent). Unocal eventually obtained four additional RFG patents based on the original patent application. Significantly, the '521 patent covers the use of CARB's predictive model – demanded by Unocal to give refiners cost savings and "flexibility" – by claiming methods of producing RFG through the use of blending processes controlled by mathematical equations. Unocal did not bother to mention its intent to file for these patents when it met with CARB.

3. Unocal Begins to Close the Trap

Litigation involving just one of Unocal's five patents demonstrates that refiners cannot escape Unocal's patent trap. In response to Unocal's public announcement that it intended to create a licensing program for its '393 patent, the major California refiners – Exxon, Mobil, ARCO, Chevron, Texaco, and Shell – filed suit, in April 1995, seeking a declaratory judgment that Unocal's patent was invalid. Unocal countersued for patent infringement.

Unocal prevailed, and the power of one of its patents was proven. The jury found that the refiners' production of CARB-compliant summertime gasoline infringed Unocal's '393 patent and it awarded to Unocal a royalty of 5.75 cents per gallon. This amounted to a $69 million damages award for the six-month period of March 1, 1996 through July 31, 1996. In a later opinion, the district court attributed the jury's high royalty award, in part, to Unocal's testimony that refiners could not consistently blend around Unocal's '393 patent and still produce CARB-compliant summertime gasoline in California.

The refiners have exhausted all appeals. *See Union Oil Co. v. Atlantic Richfield Co.*, 34 F. Supp. 2d 1208 (C.D. Cal. 1998), *aff'd*, 208 F.3d 989 (Fed. Cir. 2000), *cert. denied*, 531 U.S. 1183 (2001). In June 2000, the refiners paid to Unocal $91 million that included damages, accrued interest, and additional fees. This payment included attorneys' fees sanctions imposed on the refiners. An accounting action is now pending to determine the amount of additional infringement damages for the period from August 1996 through December 2000.

Unocal has also expanded the patents on which it has sued. On January 22, 2002, Unocal sued Valero Energy Corporation for infringement of the '393 patent as well as one of its other four RFG patents, patent number 5,837,126 (the "'126 patent"). Unocal's demand in the Valero case is for 17.25 cents per gallon (5.75 cents trebled). That action has been stayed.

In addition to its infringement actions, the evidence at trial will show that Unocal has also demonstrated the power of its patent portfolio through licensing. Unocal has offered to license its patent portfolio for fees ranging from 1.2 to 3.4 cents per gallon, and it has executed such licenses with certain companies. The evidence will show how easily it is for Unocal and the refiners to tell whether any particular fuel falls under Unocal's patent claims.

C. Unocal's Exclusionary Conduct Gave It Monopoly Power

Unocal obtained this powerful position because of deceit. CARB adopted RFG regulations using the key T50 parameter as well as regulations calling for the use of a predictive model. As the evidence will show, these regulations force California refiners to produce gasoline that falls within the bounds of Unocal's patents; i.e., there is no practical means for refiners to produce gasoline that both complies with the regulations and consistently avoids Unocal's patents. Unocal is in the position it dreamed of in 1991: it stands to gain hundreds of millions, if not billions, in licensing revenues. In antitrust parlance, Unocal has acquired (or at least threatens to acquire) monopoly power in relevant markets: the power to control price in well-defined product and geographic markets.

Complaint Counsel will present evidence that shows much more than the "causal connection" between Unocal's deceitful conduct and its acquisition of this monopoly power required by antitrust law. *See Microsoft*, 253 F.3d at 79 (stating causation requirement for injunctive action). CARB's regulations did not intersect Unocal's patent claims by happenstance. The evidence at trial will show that absent Unocal's deception, both CARB and industry members would have avoided handing Unocal the keys to its exploitive monopoly power. The evidence will also show that by the time they discovered Unocal's trap, the industry was locked in – neither CARB nor industry members could change course. At a bare minimum, the evidence will show that Unocal's conduct "reasonably appear[ed] capable of making a significant contribution" to its acquisition of monopoly power. *Microsoft*, 253 F.3d at 79.

1. Unocal Has Gained or Is Dangerously Close to Gaining Monopoly Power

As discussed above, the offenses of monopolization, attempted monopolization, and unfair competition are concerned not just with anticompetitive conduct, but with the acquisition of market power. *See* Section II. Here, the evidence will show that Unocal has acquired, or at least is dangerously close to acquiring, monopoly power in two distinct markets.

a. The Relevant Markets

Whether Unocal possesses or was likely to obtain monopoly power must be assessed in light of a properly defined relevant market. *See, e.g., Grinnell.*, 384 U.S. at 570-71. As discussed above, a relevant market has two dimensions: product and geographic. *See Aluminum Co. of America*, 377 U.S. at 276. The relevant product market "is composed of products that have reasonable interchangeability for the purposes for which they are produced." *United States v. E.I. du Pont de Nemours & Co.*, 351 U.S. 377, 404 (1956). "Reasonable interchangeability" is most often determined by considering whether enough consumers would substitute away from the product or group of products to render unprofitable a small but significant, nontransitory price increase. *See E.I. du Pont*, 351 U.S. at 394-95; *Rothery Storage & Van Co. v. Atlas Van Lines Inc.*, 792 F.2d 210, 218 (D.C. Cir. 1986). Phrased differently, the test is whether products are close enough substitutes that a sufficient number of consumers would react to a price increase by switching to other products so that the price increase would be unprofitable.[21] If consumers would not switch, that group of products constitutes a properly defined antitrust market.

Intellectual property, such as patents, like any other property, may be a "product" for purposes of market definition. Such a market is commonly referred to as a "technology market" and "consist[s] of the intellectual property that is licensed . . . and its close substitutes – that is, the technologies or goods that are close enough substitutes significantly to constrain the exercise of market power with respect to the intellectual property that is licensed." U.S. Dept. of Justice & Federal Trade Commission, *Antitrust Guidelines for the Licensing of Intellectual Property* ("*IP Guidelines*") § 3.2.2 (1995). The Commission relies on technology markets to analyze the competitive effects of a licensing arrangement "[w]hen rights to intellectual property are marketed separately from the products in which they are used." *Id.* The same tests for "reasonable interchangeability" used for product markets apply in technology markets.

A geographic market is an area to which purchasers of a product can reasonably turn for a source of supply. *Tampa Electric Co. v. Nashville Coal Co.*, 365 U.S. 320, 327 (1961); *Standard Oil Co. v. United States*, 337 U.S. 293, 299 n.5 (1949). To determine the relevant geographic

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[21] Evidence of reasonable interchangeability includes "(1) evidence that buyers have shifted or have considered shifting purchases between products in response to relative changes in price or other competitive variables; (2) evidence that sellers base business decisions on the prospect of buyer substitution between products in response to relative changes in price or other competitive variables; (3) the influence of downstream competition faced by buyers in their output markets; and (4) the timing and costs of switching products." *Horizontal Merger Guidelines* at § 1.11

market, courts have examined whether firms outside of the geographic region would begin selling into the area in response to a small but significant, nontransitory price increase and thereby render that increase unprofitable. *See*, e.g., *Rothery*, 792 F.2d at 218. If so, the relevant geographic market must include the locations of those firms. *Id.*

In this case, the evidence will show that there are two relevant antitrust markets. The first is a technology market – the market for technology for the production and supply of CARB-compliant summer-time gasoline (the "Technology Market"). This market consists of the technology patented and licensed by Unocal and any other technologies that are sufficiently close substitutes that would constrain Unocal's ability to raise the price of its patented technology above the competitive level. The geographic scope of this market is the world; there are no barriers preventing a seller or licensor located anywhere in the world from supplying this type of technology.

The second relevant market consists of gasoline that is compliant with the CARB summertime regulations and is sold in California (the "CARB Gasoline Market"). The evidence will show that this is a properly defined market because California summertime consumers who own conventional automobiles can turn to no substitutes for CARB-compliant gasoline; by law, all summertime gasoline sold to such consumers in California must comply with CARB's regulations. And consumers cannot turn to alternative vehicle energy sources, such as electricity, to discipline supracompetitive pricing of CARB-gasoline. The geographic scope of this market is world-wide as well, in that anyone in the world can produce CARB-compliant gasoline. However, that gasoline is manufactured only for sale to California consumers, and the evidence will show that suppliers outside California cannot effectively discipline price increases given the cost of transporting gasoline over long distances.

Unocal's economic experts have not contested these market definitions.

b. Unocal Has Gained or Is Dangerously Close To Gaining The Ability to Control Prices in the Technology Market

The evidence at trial will demonstrate that Unocal has gained or is dangerously close to gaining monopoly power in both relevant markets. As explained above, monopoly power is the ability to exclude competition or raise price persistently and significantly above the competitive level without losing so many sales that the price increase becomes unprofitable. *See Eastman Kodak Co. v. Image Technical Servs., Inc.*, 504 U.S. 451, 481 (1992). Evidence that a firm has actually excluded competitors or charged supracompetitive prices is direct proof of monopoly power. *See, e.g., Re/Max Intern., Inc. v. Realty One, Inc.*, 173 F.3d 995, 1016 (6th Cir. 1999); *Forsyth v. Humana, Inc.*, 114 F.3d 1467, 1475 (9th Cir. 1997, *aff'd,* 525 U.S. 299 (1999)); *Rebel Oil Co. v. Atlantic Richfield Co.*, 51 F.3d 1421, 1434 (9th Cir. 1995).

There is direct evidence of monopoly power in this case. But direct evidence of the exercise of monopoly power is not necessary. First, the offense of monopolization is complete with the acquisition or maintenance of monopoly power; that power does not have to be exercised. *See American Tobacco Co. v. United States*, 328 U.S. 781, 811 (1946) (holding "that the material consideration in determining whether a monopoly exists is not that prices are raised and that competition actually is excluded but that power exists to raise prices or to exclude competition when it is desired to do so"); *Berkey Photo v. Eastman Kodak Co.*, 603 F.2d 263, 275 (2d Cir. 1979) ("Unlawfully acquired power remains anathema even when kept dormant."). Second, monopoly power may be proven by indirect evidence: it "may be inferred from a firm's possession of a dominant share of a relevant market that is protected by entry barriers." *Microsoft*, 253 F.3d at 51; *see also Re/Max Int'l, Inc. v. Realty One, Inc.*, 173 F.3d 995, 1016 (6th Cir.1999); *Tops Mkts., Inc. v. Quality Mkts., Inc.*, 142 F.3d 90, 98 (2d Cir. 1998) (stating that monopoly power "may be inferred from one firm's large percentage share of the relevant market"). "'Entry barriers' are factors (such as certain regulatory requirements) that prevent new rivals from timely responding to an increase in price above the competitive level." *Id.* The same type of evidence (but a lesser quantum) proves the necessary market power for an attempted monopolization claim or an unfair competition claim under Section 5. *See* Section II. In this case, both direct and indirect evidence will establish that Unocal acquired monopoly power in both relevant markets.

i. Unocal's Scheme Succeeded: CARB-Compliant Gasoline Falls Under the Patents

The evidence at trial will show that Unocal's patented technology is the dominant, unavoidable technology in the Technology Market, giving Unocal monopoly power.[22] Refiners cannot avoid using Unocal's technology when producing CARB-compliant summertime gasoline. As the testimony of refiners and experts will show, the only alternative to Unocal's technology (as embodied in the five patents) is unpatented blending "know-how" that allows refiners to attempt to "blend around" Unocal's patents. Gasoline is a mixture of certain hydrocarbons, and these hydrocarbons may be blended to produce gasoline with various

[22] The evidence will also show that there are no substitute goods that can restrain Unocal's market power. By regulatory fiat, no refiner may produce or market any gasoline for California that does not comply with the CARB regulations. Likewise, the initial costs to consumers to switch to alternative fuels (*e.g.*, to purchase new automobiles that rely on methanol, electricity, or natural gas) is so prohibitively high as to eliminate these as an effective restraint on Unocal's market power.

properties. But gasoline sold in California must comply with CARB's regulations. Unocal, of course, intentionally caused CARB's regulations to intersect with its patents.

Blending know-how, the evidence will show, is therefore insufficient (or too expensive) to allow refiners to consistently avoid using Unocal's patented technology. Testimony of refiner witnesses, expert testimony, consultant's models, and Unocal's own documents will show that the vast majority – over 90% – of all CARB-compliant summertime gasoline is produced using Unocal's technologies. As the evidence will show, given the variability inherent in refining processes, the "blend space" – the space in which refiners could avoid Unocal's patents but still produce gasoline that complies with CARB's regulations – is simply too small for refiners to consistently avoid falling into one or more of Unocal's patents.[23]

Since even a low percentage of infringement would affect the price of 100% of CARB summertime gasoline, Unocal has, by definition, market power. *See Grinnell*, 384 U.S. at 571 ("The existence of [monopoly] power ordinarily may be inferred from the predominant share of the market."); *American Council of Certified Podiatric Physicians and Surgeons v. American Bd. of Podiatric Surgery, Inc.*, 185 F.3d 606, 623 (6th Cir. 1999) (holding that evidence of market shares between 55.1 and 76.7% were sufficient for inference of monopoly power); *Broadway Delivery Corp. v. United Parcel Serv. of America, Inc.*, 651 F.2d 122, 129 (2d Cir. 1981) (firm

[23] Some of the evidence supporting this conclusion will be comparisons of the properties of produced gasoline batches ("batch data") and the numeric limitations in the claims of Unocal's patents. Unocal has argued that this comparison is not sufficient to prove infringement because there are other limitations in its patent claims. There will be evidence at trial regarding these other limitations. But infringement is not really the question at all. The question is whether the risk of infringement is enough to enable Unocal to price above competitive levels, i.e., to coerce refiners and other industry participants to pay supracompetitive royalties. Proof of infringement is only one vehicle by which Unocal could achieve this. Infringement proof may be sufficient but is not necessary. The evidence will show that industry members use the numeric limitations in evaluating whether they can avoid Unocal's patents, and that the numeric limitations of Unocal's patents are the practical equivalent of infringement.

with market share between 50% and 70% can sometimes have monopoly power, while a share above 70% is "strong evidence" of monopoly power). This is especially true because, as the evidence will show, both CARB's regulations and Unocal's patents are barriers to entry in the Technology Market. *See Multistate Legal Studies Inc. v. Harcourt Brace Jovanovich Legal and Prof'l Publications, Inc.*, 63 F.3d 1540, 1555-56 (10th Cir. 1995) (evidence of high entry barriers allowed inference of market power precluding summary judgment).

Even if the coverage rate for Unocal's patents is significantly lower, any significant market share in this situation would give Unocal power over price. High market share typically indicates monopoly power because it indicates that there are not sufficient substitute suppliers to allow for significant consumer switching in the event of supracompetitive pricing:

> Measurement of market share is necessary to determine whether the defendant possesses sufficient leverage to influence marketwide output. With a dominant share of the market's productive assets, a firm may have the market power to restrict marketwide output and, hence, increase prices, as its rivals may not have the capacity to increase their sales quickly to make up for the reduction by the dominant firm.

Rebel Oil, 51 F.3d at 1437.

Here, the evidence will show that consumers in the technology market could not switch, even if Unocal's market share were relatively low. As Unocal argued in its patent infringement case, a mere 29% coverage rate causes refiners impossible blend-around problems. A refiner with 29% of its production falling with Unocal's patent coverage cannot simply switch to another technology as a consumer can typically switch to another seller. One who infringes 29% of the time is equally subject to an injunction as one who infringes 100% (or 10%) of the time. Accordingly, the refiner has to pay Unocal for the 29% of its production or face a Unocal lawsuit.

And this supracompetitive price for the technology will necessarily affect 100% of the CARB summertime gasoline market.

This evidence is sufficient to show that Unocal possesses monopoly power, even if not exercised. It is certainly enough to support a finding of market power sufficient for the attempted monopolization and unfair practice claims. *See McGahee*, 858 F.2d at 1505 (holding that dangerous probability of success element requires "proof of the same character, but not the same quantum" as monopoly power element); *M & M Med. Supplies & Serv., Inc. v. Pleasant Valley Hosp. Inc.*, 981 F.2d 160, 168 (4th Cir. 1992) ("claims involving greater than 50% share should be treated as attempts at monopolization when the other elements for attempted monopolization are also satisfied"). But there is more. The evidence will show Unocal has in fact exercised its monopoly power.

ii. Unocal Has Extracted Monopolistic Royalties From Refiners, and It Threatens To Extract Millions More Per Year

At trial, there will also be direct evidence of Unocal's monopoly power in the Technology Market – evidence that Unocal has in fact priced its technology above the competitive level. *See, e.g., Re/Max Intern.*, 173 F.3d at 1016. As Complaint Counsel's economic expert will demonstrate, the competitive price level for Unocal's technology was zero. That is, when CARB unwittingly adopted standards that required refiners to produce gasoline that falls under Unocal's patents, Unocal wanted CARB to understand that Unocal's technology was to be royalty free. Unocal's technology prevailed in competition with CARB's other alternatives only at that price. Unocal's actions are consistent only with the conclusion that the competitive price for its technology – the price that would prevail when CARB could adopt different regulations and refiners could adopt different responses – was zero.

After the adoption and implementation of CARB's regulations, however, Unocal has been able to extract positive royalties. Unocal has been awarded a judgment against the five large California refiners for 5.75 cents per gallon based on but one of its five patents. It has already collected $91 million from these refiners and is only an accounting action away from obtaining hundreds of millions, if not billions, more. All these data constitute direct evidence of monopoly power.

c. *Unocal Is Dangerously Close to Gaining the Ability to Control Prices In the Downstream CARB Gasoline Market*

Unocal not only has monopoly power in the Technology Market, it has also acquired significant market power in the CARB Gasoline Market. As the evidence will show, refiners are able to pass-on to consumers a significant portion of Unocal's supracompetitive royalties. This means that the evidence of Unocal's coverage rate and supracompetitive pricing in the Technology Market shows that Unocal can affect prices in the CARB Gasoline Market. Since consumers cannot reasonably turn to any substitutes for CARB-compliant summertime gasoline, Unocal is able to raise the price of CARB-compliant summertime gasoline to supracompetitive levels.

Complaint Counsel's experts will demonstrate that Unocal could raise consumers' gasoline costs by more than a billion dollars through the expiration of the patents in 2011. This evidence shows that Unocal – an important participant in the refiner market while most of its exclusionary acts took place – has significant market power in the CARB Gasoline Market, which is sufficient to support the Complaint's attempt to monopolize and unfair competition claims related to the the CARB Gasoline Market.

2. Unocal's Deception, Not Its Innovation, Created Its Market Power

To establish unlawful monopolization, the evidence need only show that Unocal's wrongful conduct "reasonably appear[ed] capable of making a significant contribution to . . . maintaining monopoly power." *Microsoft*, 253 F.3d at 83. Complaint Counsel need not put on detailed proof of the world as it would have existed "but for" Unocal's deception. As the D.C. Circuit has explained, there are no cases "standing for the proposition that, as to § 2 liability in an equitable enforcement action, plaintiffs must present direct proof that a defendant's continued monopoly power is precisely attributable to its anticompetitive conduct." *Id.* at 79. Rather, the "reasonably appears" standard is appropriate because "[t]o require that § 2 liability turn on a plaintiff's ability or inability to reconstruct the hypothetical marketplace absent a defendant's anticompetitive conduct would only encourage monopolists to take more and earlier anticompetitive action." *Id.; see also Bigelow v. RKO Radio Pictures, Inc.*, 327 U.S. 251, 265 (1946) ("The most elementary conceptions of justice and public policy require that the wrongdoer shall bear the risk of the uncertainty which his own wrong has created.").

In the case of anticompetitive, deceptive conduct, the issue of causation turns on whether the misrepresentation was material.[24] If so, causation may be inferred.[25] Here, Unocal's

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[24] As defined in analogous case law, a fact is material if "(a) a reasonable man would attach importance to its existence or nonexistence in determining his choice of action in the transaction in question; or (b) the maker of the representation knows or has reason to know that its recipient regards or is likely to regard the matter as important in determining his choice of action, although a reasonable man would not so regard it." *Restatement (Second) of Torts* § 538 (1977); *see also Kungys v. United States*, 485 U.S. 759, 786 (1988) (Stevens, J., concurring) (stating that "material" in federal statute means "statements that appear to be capable of influencing an outcome").

[25] Analogous securities law cases recognize the injustice of requiring victims of fraud to prove not only the materiality of the misrepresentations, but also the hypothetical chain of events if the

misrepresentations were material. If Unocal's lies were inconsequential, then Unocal never would have uttered them in the first place. The evidence will confirm this point:

- CARB officials will testify that CARB would not have adopted the regulations it did and would not have allowed Unocal to obtain monopoly power had Unocal told CARB the truth about Unocal's proprietary interests and intent to enforce those interests.
- The evidence will show that Unocal's intent to charge royalties was clearly material.
    - The California Clean Air Act mandated that CARB take whatever actions are "necessary, **cost-effective**, and technologically feasible" to reduce air emissions. *See* Cal. Health & Safety Code § 43018(b) (1991) (emphasis added). CARB officials will testify that reducing costs "by even one cent" was of paramount concern.
    - CARB officials will further testify that they made clear to all participants, including Unocal, that CARB viewed cost information as highly material.

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defendant had not lied to them. *See Affiliated Ute Citizens of Utah v. United States*, 406 U.S. 128, 153-54 (1972) ("All that is necessary is that the facts withheld be material in the sense that a reasonable investor might have considered them important in the making of his decision. *This obligation to disclose and the withholding of a material fact establish the requisite element of causation in fact.*")(internal citations omitted)(emphasis added). The *non-disclosing party* must overcome this presumption by proving by a preponderance of the evidence that "even if the material facts had been disclosed, plaintiff's decision . . . would not have been different than it was." *Rochez Bros., Inc. v. Rhoades*, 491 F.2d 402, 410 (3d Cir. 1974); *see also, FTC v. International Diamond Corp.*, 1983 WL 1911 at *5-*6, 1983-2 Trade Cas. (CCH) ¶ 65,725 (N.D. Cal. 1983) (no need to show actual "but for" reliance where the defendant made material misrepresentations); *FTC v. World Travel Vacation Brokers, Inc.*, 861 F.2d 1020, 1029 (7th Cir. 1988) (FTC need only prove that the alleged fraudulent practices were the type of misrepresentation on which a reasonably prudent person would rely, that they were widely disseminated, and that the injured consumers actually purchased the product). Courts have freely borrowed from *Affiliated Ute* in other contexts as well. *See In re Apte*, 96 F.3d 1319 (9th Cir. 1996) (fraud in bankruptcy); *Cullen v. Whitman Medical Corp.*, 188 F.R.D. 226 (E.D. Pa. 1999) (RICO counts involving a sham vocational school); *In re Great Southern Life Ins. Co. Sales Practices Litig.*, 192 F.R.D. 212, 219 (N.D. Tex. 2000) (breach of contract). *Morris v. International Yogurt Co.*, 729 P.2d 33, 40 (Wash. 1986) (en banc) (applying *Affiliated Ute* standard to franchise law case).

- The evidence will also show that Unocal itself understood that potential added costs per gallon – of a size comparable to its royalty demand – were highly material.

- Moreover, the evidence will show that Unocal's intent to gain a "competitive advantage" by extracting royalties from all other refiners was highly material. CARB officials will testify that they sought to avoid granting any company undue control over or advantage in the market. The evidence will show that Unocal clearly understood this, but it still refused to disclose its patent scheme.
- The evidence will also show that Unocal's misrepresentations to WSPA and Auto/Oil were material. Testimony from members of these organizations, especially the other refiners, will show that they were keenly interested in cost information, including information regarding potential patent royalties, and that they would have taken such information into account when making decisions regarding the implementation of CARB's regulations.

In sum, the evidence will show that Unocal's misrepresentations were clearly material, showing a sufficient causal connection between its misrepresentations and its acquisition of market power.

a. Had Unocal Been Honest, CARB Had Several Options to Avoid the Impact of Unocal's Patents

While the evidence of materiality is sufficient to show causation, in this case there is more. The evidence will show that if CARB had timely knowledge of Unocal's patent intentions, CARB would not have adopted regulations that gave Unocal a monopoly. CARB had several options that would have avoided this situation. For instance, CARB could have simply halted the Phase 2 proceeding while it considered its options, "defaulting" to the already existing EPA Phase 1 RFG regulations. Those EPA RFG regulations, though imposing less ambitious requirements than CARB's Phase 2, had an earlier effective date and also promised substantial benefits. Unocal admitted as much to CARB, concluding that given the EPA regulations, "No further action is necessary to achieve [mandatory California Clean Air Act] reductions by December 31, 2000." CX0033 at 005.

CARB officials will also testify that they could have considered modifying the Phase 2 regulations for issuance at a later date. CARB, at least in 1991 and 1992, could have modified those Phase 2 regulations to permit refiners greater latitude to "blend around" the Unocal patents.[26] Furthermore, CARB, using that option as leverage, could have attempted to negotiate an agreement with Unocal to dedicate its patent to the public (as Auto/Oil participants had done) or to agree to license its patent at much lower royalty rates.

Thus, the evidence will show a clear causal connection between Unocal's deceptive conduct and the overlap of Unocal's patents and CARB's regulations. It is this overlap, of course, that allows Unocal to exercise monopoly power.

b. Had They Known of Unocal's Patent Application, The Other Refiners Could Have Avoided or Lessened the Effect of Unocal's Patents

There is also further evidence of a causal connection between Unocal's monopoly power

[26] CARB either could have accepted corresponding emissions reductions associated with these changes, or could have tried to compensate for the incremental loss (wholly or partially) through other control measures. The California Clean Air Act posed no bar to these alternative measures. Even Unocal recognized that the California Clean Air Act's target goals for VOC and NOx emissions (55% and 15% by the end of the year 2000, respectively) would likely be met with or without RFG regulations. CX33 at 5 ("no further action is necessary to achieve those reductions by December 31, 2000").

and its deceitful conduct at Auto/Oil and WSPA. As discussed above, the evidence will show that Unocal's misrepresentations to Auto/Oil and WSPA - leading members of those organizations to believe that Unocal's 5/14 project was "in the public domain" - were material because these misrepresentations implied that using the teachings of Unocal's project would be cost free.

Had Unocal disclosed at the time the fact that it was seeking a patent on these teachings and intended to charge royalties for their use, the evidence will show that Auto/Oil and WSPA members could have reacted to this revelation by taking actions including, but not limited to: (1) informing CARB of these facts, which (as explained above) would have changed CARB's decision making process; (2) implementing alternative refinery modifications that would have helped to avoid or minimize infringement of Unocal's patents, reducing Unocal's market power; or (3) negotiating with Unocal before the Phase 2 regulations were complete, thereby reducing Unocal's bargaining power and resulting in competitive royalty rates because of the threat that either CARB would amend the proposed regulations or refiners would implement modifications to avoid or minimize the impact of Unocal's patents.[27]

Thus, the evidence will show that Unocal's deceit at Auto/Oil and WSPA also "made a

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[27] Unocal's deceptive conduct prevented the other refiners from taking these actions before the standards were set and they made specific investments, which allowed Unocal to engage in opportunistic conduct. *See* FTC and United States Department of Justice, Joint Hearings Regarding Competition and Intellectual Property Law and Policy in the Knowledge-Based Economy, Day 13, Standard-Setting Practices; Statement of Richard Rapp (April 18, 2002) at 5 ("In the absence of knowledge about proprietary IP rights in the technologies under consideration, manufacturers may find themselves the victims of opportunism after the standard has been set."); Daniel Swanson, *Evaluating Market Power In Technology Markets When Standards Are Selected In Which Private Parties Own Intellectual Property Rights*, Working Paper presented at Joint Hearings Regarding Competition and Intellectual Property Law and Policy in the Knowledge-Based Economy (April 2002) at 3 (explaining that the act of selecting a technology for a standard "can possibly lead to reduced competitiveness and increased *ex post* market power").

significant contribution" to Unocal's current monopoly power.

c. *The Industry is Locked In*

Both CARB's and industry members' options, however, had disappeared by the time Unocal finally disclosed its patent and its intention to demand royalties (which did not occur until 1995).[28] By then, it was too late for either CARB or industry members to avoid Unocal's patents. This "lock in" comes from two sources.

First, the evidence will show that at this point – unlike the situation in 1991 and 1992 – CARB could not realistically change its regulations. CARB was ensuring that its Phase 2 regulations rolled out smoothly. Disruptions in the roll out of previous regulations had caused fuel shortfalls and consumer backlash. Because refiners were already well along in implementing the Phase 2 regulations – already having committed hundreds of millions to the process, as CARB officials understood it – any changes would have disrupted that process. In short, this evidence – as well as evidence of other concerns – will show that changing the regulations at this point was "not a viable option."

Second, industry members had already made substantial commitments to meet the Phase 2 regulations. The evidence will show that refiners had made substantial monetary investments by 1995. Further, the evidence will show that any changes to the regulations at that point would have risked delays in the implementation of the regulations. To make refinery modifications takes approximately four to five years. Not only must refiners go through the engineering design

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[28] The mere fact that Unocal obtained a patent – and later a series of patents – is not necessarily inconsistent with its representations to CARB or to the other industry members. It was Unocal's plan to enforce the patent, rather than place it "in the public domain," and to demand monopolistic royalties that harmed competition and consumers. Only Unocal was aware of that plan.

work, but they must go through a lengthy permitting process (which can take a year or more) before they even start the work. By 1995, refiners were already well along in this process. Changes in the regulations may have forced refiners to start this process anew.

In short, the evidence will show that by 1995, both CARB and industry members were locked in; the costs of switching to alternatives were simply too high. This allowed Unocal to obtain and exercise monopoly power, as it did. *See Eastman Kodak*, 504 U.S. at 476 (evidence of high switching costs supports finding that customers will be "locked in," allowing a seller to profitably maintain supracompetitive prices).

D. Summary of Liability

To summarize, the evidence at trial will establish each of the elements of Complaint Counsel's claims. For Count I, the monopolization claim, the evidence will show that Unocal (1) has monopoly power, (2) in a relevant market (the Technology Market), and (3) that Unocal willfully acquired that power through deceptive, exclusionary conduct rather than through a superior product, business acumen, or historic accident. The evidence thus shows that Unocal violated Section 5 through monopolizing conduct. *See Grinnell*, 384 U.S. at 570-71.

For Count II, the attempted monopolization claim in the Technology Market, the evidence will show (1) that Unocal specifically intended to influence CARB's regulations in order to obtain the ability to demand monopoly royalties from other refiners (i.e., to control prices); (2) that Unocal engaged in anticompetitive conduct (its misrepresentations and deceitful conduct) aimed at accomplishing this end; and (3) that there was a dangerous probability (as demonstrated by Unocal's market share, deceit, and patents) that Unocal would obtain a monopoly in the Technology Market. This amounts to attempted monopolization in violation of Section 2 and therefore violates Section 5. *See Spectrum Sports*, 506 U.S. at 455-56.

Similarly, the evidence supports a violation as alleged in Count III, attempted monopolization in the CARB Gasoline Market. The evidence will show that (1) Unocal specifically intended to influence CARB's regulations so that Unocal's patents would give Unocal the power to raise the price of its competitors' gasoline; (2) Unocal used anticompetitive conduct aimed at this goal; and (3) that, given the pass-through rates for its royalties, Unocal was dangerously close to obtaining monopoly power in the CARB Gasoline Market. This is attempted monopolization. *Id.*

The vitality of this claim is not diminished by the fact that Unocal exited the refining industry in 1997. First, even after it did so, Unocal still sought royalties from the other refiners, which would give it control over price in the CARB Gasoline Market. It is well-recognized that a patent holder may exert monopoly in a downstream market through patent licensing efforts. *See IP Guidelines*, at § 3.2 ("Licensing arrangements raise concerns under the antitrust laws if they are likely to affect adversely the prices, quantities, qualities, or varieties of goods and services either currently or potentially available").[29] Second, the probability of success for attempted monopolization is measured at the time the acts occurred, i.e., when Unocal was still a

[29] A showing that Unocal possessed high market shares as a refiner in the CARB Gasoline Market is not necessary. *See H.J., Inc. v. Int'l Tel. and Tel.*, 867 F.2d 1531, 1543 (8th Cir. 1989). In *H.J., Inc.*, the defendant had not sold the relevant product for three years. However, after a trial, the jury found that the defendant could have re-entered the market, creating a dangerous probability of attaining monopoly power. Here, too, Unocal could re-enter the market by, for example, enjoining all other refiners from making CARB gasoline and purchasing their refineries. Alternatively, Unocal could engage in a joint venture with one or more refiners, while enjoining other refiners from producing CARB-compliant summertime gasoline. Moreover, even a tiny market share might say little about danger of success where the issue is patent concealment in a standards-setting context. In this context, a company can leap from a small market share to market dominance overnight. "Some attempts to monopolize require the defendant to have significant market power while others do not." Herbert Hovenkamp, *Federal Antitrust Policy* at 286 (2d ed. 1999).

refiner of gasoline. *See United States v. American Airlines*, 743 F.2d 1114, 1118 (5th Cir. 1984); *Multiflex v. Samuel Moore & Co.*, 709 F.2d 980, 992 (5th Cir. 1983) ("The time to examine dangerous probability is when the acts occur.").

For Counts IV and V, unfair methods of competition in the Technology Market and in the CARB Gasoline Market, the evidence will show that (1) Unocal engaged in conduct that is "collusive, coercive, predatory or exclusionary," *see duPont*, 729 F.2d at 139-142, as well as (2) conduct that "has materially caused or threatened to cause substantial harm to competition and will, in the future, materially cause or threaten to cause further substantial injury to competition and consumers," Complaint ¶ 97. These showings demonstrate a violation of Section 5.

E. Unocal's Conduct Is Not Shielded From Antitrust Liability

Unocal tries to avoid the repercussions of its deceptive conduct by seeking refuge under the *Noerr-Pennington* doctrine. The facts at trial, however, will show that the doctrine has no application to this case.

As Your Honor has already recognized, the *Noerr* doctrine cannot protect Unocal from liability based on its deceptive conduct at Auto/Oil and WSPA. *See* Initial Decision, *In the Matter of Union Oil Co. of Cal.*, FTC Dkt. 9305, 2003 FTC Lexis 177 at *118, *124 (Nov. 25, 2003); *see also Unocal Noerr Ruling*, 2004 FTC Lexis 115 (2004). The *Noerr* doctrine, of course, applies only to conduct directed at political petitioning of government and only under certain circumstances. *Id.*

Unocal's deception at these private associations, however, brought about anticompetitive harm that is separate and distinct from harm resulting from anything that could be characterized as petitioning government. For example, as discussed above in Section II, the evidence will show that Unocal's deceptive conduct prevented the refiners from (a) implementing refinery modifications when they were preparing to meet Phase 2 regulations that would have reduced their infringement rates and (b) negotiating with Unocal for a license before the industry became locked-in (which would have resulted in competitive royalty rates). Unocal's deceptive conduct at Auto/Oil and WSPA, therefore, enjoys no *Noerr* protection.

Unocal's misrepresentations to CARB are also well outside the scope of *Noerr*. As explained in Section II.D, *Noerr* protection does not extend to cases in which the government is unaware that the petitioner is asking the government to adopt a restriction of trade. That is the case here. The evidence will show that CARB consciously sought to avoid conferring such a monopoly on any firm and instead sought to ensure vigorous competition in the production and sale of Phase 2 gasoline. *See, e.g.*, CX0010 at 187 (discussing goal of avoiding reduction in competition that might result in higher prices). CARB, after all, had been instructed to ensure that its regulations did not adversely affect economic conditions and that they were cost effective. *See* Cal. Gov't Code § 11346.53(c) (1993). CARB officials will testify that they therefore wanted to ensure that the regulations created a "level playing field" that did not unduly favor any particular interest. The evidence will also show that Unocal was well aware of this goal and, in fact, argued that certain aspects of the CARB regulations were not consistent with this goal. Moreover, CARB officials will testify that they were unaware of Unocal's pending patents, unaware of Unocal's intent to extract royalties from the other refiners, and, had they been aware of these facts, would have sought to avoid promulgating regulations that force refiners under Unocal's patents.

Noerr also does not apply where the remedy for the violation does not enjoin any communicative activity to or from government and does not disrupt or burden any government program. *See supra* Section II.D. The remedy sought in this case clearly avoids these pitfalls. The remedy seeks to preclude Unocal from enforcing its RFG patents (and any future patents stemming from Unocal's 1991 application) against anyone manufacturing, selling, distributing, or otherwise using motor gasoline to be sold, imported to, or exported from California. *See* Complaint, Notice of Contemplated Relief. As the evidence will show, this relief would not affect any communication between Unocal and CARB. Nor would it disrupt or burden CARB's Phase 2 regulations. To the contrary, the remedy is designed to relieve those regulations from the burden of Unocal's ill-obtained monopoly overcharges.

Even if Unocal's conduct were within the reach of *Noerr*, Unocal's conduct falls into the misrepresentation exception to that doctrine. As the Commission held, misrepresentations vitiate any *Noerr* protection in circumstances:

> such as when the petitioning occurs outside the political arena; the misrepresentation is deliberate, factually verifiable, and central to the outcome of the proceeding or case; and it is possible to demonstrate and remedy this effect without undermining the integrity of the deceived governmental entity.

Unocal Noerr Ruling, 2004 FTC Lexis 115 at *115-*116. The evidence at trial will show that these factors are present.

Unocal's "petitioning" of CARB fall outside of the political arena. The record will show that CARB is not a "political" body for purposes of Noerr; its discretion was very limited. The California legislature – not CARB – made the fundamental political decisions regarding the level of emissions reductions and their timing, as well as the standards by which regulations must be measured. *See* Cal. Health & Safety Code § 43018 (1991). CARB's job was simply to implement this political decision. Even in implementing the legislature's mandate, however, CARB's discretion was confined by the requirement that it maintain a record of its proceedings, Cal. Gov't Code § 11347.3 (1992), make written findings to justify its actions, Cal. Gov't Code § 11346.7 (1992), and provide an evidentiary basis for its decisions, Cal. Gov't Code § 11347.3 (1992). Moreover, CARB's decisions are subject to review by both California's Office of Administrative Law and the courts. *See* Cal. Gov't Code §§ 11349.1, 11350. "Political" decisionmakers are not commonly subjected to such restraints. The evidence at trial will establish that these statutory limitations circumscribed CARB's decision-making authority, that CARB had to rely on the evidentiary record generated during the Phase 2 proceedings, and that CARB's rulemaking was subject to administrative and judicial review.

The record will also establish that Unocal's misrepresentations to CARB were "deliberate, factually verifiable, and central to the outcome of [CARB's] proceeding." *Unocal Noerr Ruling*, 2004 FTC Lexis 115 at *115. Unocal's own documents and the testimony of its employees will show that Unocal fully intended to influence CARB with the 5/14 study, knew that information about its pending patent and goal of extracting royalties from other refiners would be important to CARB, made a conscious decision not to disclose to CARB the existence of the patent application, and, instead, led CARB to believe that the 5/14 study was "non-proprietary," "available to . . . the general public," and that following Unocal's suggestions would lead to "cost-effective" regulation. These were deliberate misrepresentations of factually verifiable information.

Moreover, the evidence will show that these representations were central to the outcome of CARB's proceedings. CARB expected truthful representations. The evidence will show that, given the technical and complex nature of the information involved as well as CARB's limited staffing and facilities, CARB needed to rely on accurate data and information from industry sources. But that is not what CARB got from Unocal. The record will demonstrate that CARB relied on Unocal's 5/14 study in setting its regulations. But it will also show that Unocal's misrepresentations about its intellectual property rights and intentions to collect royalties were material: (a) cost information was critical to CARB's decision process and (b) CARB sought to avoid reducing competition and increasing gasoline prices. Moreover, CARB was dependent on Unocal for information regarding Unocal's pending patents and intent to extract royalties – Unocal was the only possible source for that information. Finally, the evidence will show that CARB would not have adopted regulations that gave Unocal the power to demand 5.75 cent per gallon royalties.

The remedy sought in this case would not undermine the integrity of CARB's rulemaking proceedings or authority. To the contrary, the evidence will show that the remedy would restore the integrity of the Phase 2 rulemaking process. Significantly, the California Attorney General supports the imposition of the proposed remedy, and CARB officials do as well. This is for good reason. The remedy here would not require CARB to take any action, it would not change the Phase 2 RFG regulations in any manner, nor would it impose on CARB any burden. Rather, the remedy would restore competitive conditions to what CARB believed they would be – and intended them to be – when CARB incorporated the teachings of Unocal's 5/14 project into the Phase 2 regulations. Because of Unocal's deception, as the evidence will show, CARB understood that it and the industry could use the teachings of the 5/14 project without any risk of infringing Unocal's proprietary rights. The remedy sought here would make that understanding a reality.

Finally, the evidence will show that Unocal's misrepresentations to CARB were anticompetitive. Deceptive conduct such as Unocal's is anticompetitive because it "tends to impair the opportunities of rivals" and "does not further competition on the merits." *Aspen Skiing*, 472 U.S. at 605 n.32. As discussed above, the evidence will show that Unocal's deceitful conduct led to an acquisition of monopoly power. This fact combined with the facts discussed above undermine Unocal's claim that its deceptive conduct merits *Noerr* protection.

V. UNOCAL'S CONDUCT CONSTITUTED DELIBERATE MISREPRESENTATIONS

Your Honor has asked the parties to provide legal authority on the issue of "whether an omission constitutes a misrepresentation or a deliberate misrepresentation." Revised Scheduling Order (Sept. 9, 2004) at 1. To be clear, Unocal's misrepresentations in this case constitute anticompetitive conduct both because of what Unocal said (for example, when it falsely represented that its research was "non-proprietary," "available to . . . the general public," or "in the public domain") and because of what it did not say (for example, when it invited CARB and the industry to use its research but failed to disclose that its research was the subject of a patent application and a plan to obtain royalties).

As discussed above, Unocal made a number of outright, affirmative misrepresentations to CARB and various industry members regarding its research. For example, Unocal informed CARB that its emissions research data were "non-proprietary" and available to CARB, industry members, and the general public. Another example includes the fact that Unocal made a presentation to Auto/Oil at which Unocal shared its research results with the group. Unocal informed Auto/Oil that CARB also had been provided with Unocal's data and equations, and that these data and equations were in the "public domain." Unocal's statements to CARB and Auto/Oil were false. Unocal had filed a patent application more than nine months earlier in December 1990, and had developed a plan to demand royalties through licensing of its patent.

The evidence will also show that Unocal also deceived CARB and industry members by telling half-truths and providing misleading and false information regarding potential regulations based on Unocal's research. Examples include numerous Unocal statements and comments to CARB relating to the "cost effectiveness" of CARB Phase 2 regulations, and the "flexibility" offered by the implementation of a predictive model to reduce refiner compliance costs. These statements further reinforced the materially false and misleading impression that Unocal had no proprietary interests in its emissions research results.

As discussed above, deceptive conduct that leads to monopoly power is actionable under the Sherman Act and Section 5 of the FTC Act. It is not necessary for Complaint Counsel to prove fraud, or any other substantive violation of law, in order to demonstrate that Unocal's conduct was anticompetitive.[30] For the purpose of determining whether Unocal's conduct is actionable under the antitrust laws, the sole issues are whether the conduct was exclusionary and, if so, whether it sufficiently caused Unocal's monopoly to be actionable under Section 5. That is, although not all lying constitutes exclusionary behavior, the evidence will show that in this case Unocal's pattern of misrepresentations was in fact inefficient, anticompetitive behavior.

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[30] *E.g., Indian Head, Inc., v. Allied Tube & Conduit Corp.*, 817 F.2d 938 (2d Cir. 1987), *aff'd sub nom. Allied Tube & Conduit Corp. v. Indian Head, Inc.*, 486 U.S. 492 (1988) (holding that conduct need not specifically violate a contractual obligation in order to violate the Sherman Act).

Nonetheless, it is clear that Unocal's half-truths and non-disclosures were deliberate misrepresentations.

The authority is uniformly clear on this point: If one starts to speak, one must disclose all material facts. The Commission has held in consumer protection cases that it "can be deceptive to tell only half the truth, and to omit the rest. . . . This may occur where a seller fails to disclose qualifying information necessary to prevent one of his affirmative statements from creating a misleading impression."[31] The common law is in accord: "A representation stating the truth so far as it goes but which the maker knows or believes to be materially misleading because of his failure to state additional or qualifying matter is a fraudulent misrepresentation."[32] Similarly, Securities and Exchange Commission Rules make it unlawful "to make any untrue statement of fact or to omit to state a material fact necessary to make the statements made, in light of all the circumstances in which they were made, not misleading."[33] Likewise, California's Civil Code

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[31] *In re International Harvester Co.*, 104 F.T.C. 949, 1057 (1984); *see also In re Simeon Mgmt. Corp.*, 87 F.T.C. 1184, 1218 (1976) ("The failure to disclose material facts which if known to prospective purchasers would influence their decision as to whether to purchase, is an unfair trade practice in violation of Section 5.").

[32] *Restatement (Second) of Torts* § 529; *see also Union Pacific Res. Group v. Rhone-Poulenc, Inc.*, 247 F.3d 574, 586 (5th Cir. 2001) (a defendant "assume[s] the affirmative duty to make full disclosure when it volunteered some (but not all) material information about the transaction. It thereby obligated itself to speak the whole truth; it could not remain silent after merely making partial disclosures that conveyed a false impression."); *Bank of Montreal v. Signet Bank*, 193 F.3d 818, 829 (4th Cir. 1999) (a duty to disclose may arise "(1) if the fact is material and the one concealing has superior knowledge and knows the other is acting upon the assumption that the fact does not exist; or (2) if one party takes actions which divert the other party from making prudent investigations (e.g., by making a partial disclosure)"); *Baskin v. Hawley* 807 F.2d 1120, 1132 (2d Cir. 1986) (holding that it is "fundamental that a person who speaks has a duty to disclose enough to prevent his words from being misleading. A statement disclosing favorable information but omitting all reference to material unfavorable facts breaches that duty.").

[33] *See In re Apple Computer Sec. Litig.*, 886 F.2d 1109, 1113 (9th Cir. 1989).

defines "fraudulent deceit" to include "[t]he suppression of a fact, by one who is bound to disclose it, or who gives information of other facts which are likely to mislead for want of communication of that fact."[34] Antitrust law is no different.[35]

VI. ISSUES LITIGATED IN OTHER TRIBUNALS

Your Honor has asked the parties to "provide a list of all disputed issues alleged in the Complaint that have been litigated in any other court or forum and the current status thereof." Revised Scheduling Order (Sept. 9, 2004) at 2. As described above, Unocal litigated and won its infringement suit against the major California refiners (the "'393 litigation"). The judgment in that case is final, appeals have been exhausted, and all that remains is an accounting action to determine the amount of Unocal's damages award.[36] Nonetheless, Unocal continues to dispute a

[34] Cal. Civ. Code §§ 1709, 1710 (2002). *See e.g., Randi W. v. Muroc Joint Unified School District*, 14 Cal. 4th 1066 (1997) (holding that individuals providing references for abusive vice-principal, "having undertaken to provide some information regarding [vice-principal's] teaching credentials and character, [defendants] were obliged to disclose all other facts which 'materially qualify' the limited facts disclosed."); *Lacher v. Superior Court*, 230 Cal. App. 3d 1038, 1046-47 (1991) ("[T]he rule has long been settled in this state that although one may be under no duty to speak as to a matter, 'if he undertakes to do so, either voluntarily or in response to inquiries, he is bound not only to state truly what he tells but also not to suppress or conceal any facts within his knowledge which materially qualify those stated. If he speaks at all he must make a full and fair disclosure.").

[35] *See, e.g., Nobelpharma*, 141 F.3d at 1070 (holding that an omission to the Patent Office may be the basis for an antitrust violation because "a fraudulent omission can be just as reprehensible as a fraudulent misrepresentation").

[36] The refiners have also initiated a reexamination at the Patent Office of Unocal's '393 and '126 patents. The patent examiner has issued a preliminary rejection of these patents, and Unocal responded to that rejection. Rather than waiting for the examiner's response, Unocal filed an immediate appeal of the examiner's action to the Board of Patent Appeals. There is no statutory deadline for the PTO or the examiner on the reexaminations. Unocal may then either file a quasi-appeal of the Board's decision to the U.S. District Court for the District of Columbia, appealable to the U.S. Court of Appeals for the Federal Circuit, or an immediate appeal to the U.S. Court of Appeals for the Federal Circuit.

number of facts that Unocal itself advocated in the '393 litigation.[37] Complaint Counsel have moved *in limine* for an order preventing Unocal from taking positions now that are inconsistent with the positions Unocal took in prior litigation. *See Motion in Limine Requesting That this Court, on Judicial Estoppel Grounds, Prohibit Unocal from Taking Positions Inconsistent with Those Advanced Earlier in Federal Court Litigation* (filed Oct. 10, 2003). The facts that Unocal continues to dispute are as follows:

First, the issue of whether refiners could blend around Unocal's patent was litigated. In the '393 litigation, Unocal successfully argued that to "make CARB gasoline without ever infringing Unocal's patent would mean that refiners would have to consistently operate in a very narrow blend space – one that the hypothetical negotiators would have found impossibly narrow." CX1323, at 40 (Exhibit 1, attached hereto); *see also* CX1825 (Unocal's closing argument pointed out that refiners in California "could not continuously blend around the '393 patent" and "comply with CARB regulations and within the narrow blend space that those regulations allow") (Exhibit 2, attached hereto).

Second, the issue of whether refiners could turn to alternatives to Unocal's patented technology was litigated. In the '393 litigation, Unocal contended that it was entitled to a royalty rate of 5-7 cents per gallon of CARB-compliant summertime gasoline produced by the refiners because there were no better alternatives for refiners. Unocal claimed that, because refiners

[37] The refiners' defense originally had included claims of equitable estoppel, implied license and unclean hands, based on allegations, *inter alia*, that Unocal had lulled CARB and the defendants into believing that Unocal did not intend to enforce its patent rights. Although the refiners represented that they would present evidence at trial regarding these defenses, they did not and the trial court went so far as to impose sanctions on the grounds that "at trial defendants did not even attempt to introduce such evidence." *See* CR0813 (Order Re: Attorneys' Fees, dated September 11, 1998). Thus, no court has made any determinations of fact on the wrongfulness of Unocal's conduct.

"could not completely and consistently avoid producing infringing gasoline," the refiners' best option would be to take finished gasoline, reblend it so that it no longer conforms to the CARB regulations, place it on a tanker and ship it to the Gulf Coast. CX1323 at 054. (Exhibit 1, attached hereto). According to Unocal, the opportunity cost for this option is thus roughly 29 to 35 cents per gallon. *Id.* at 44; *see also* Trial Transcript at 5533 - 36. (Exhibit 2, attached hereto). Unocal's expert also testified that the unique aspects of the California market – the application of CARB's regulations and the expense of transhipping – supported a high royalty rate, and the district court relied on this evidence in finding that the 5.75 cent/gallon royalty only applied in California. CX1347 at 015-17. (Exhibit 3, attached hereto).

Third, the issue of whether Unocal could extract high royalties even if only a portion of refiners' production infringed was litigated. In the '393 litigation liability phase, the jury determined that refiners infringed Unocal's patent 29 percent of the time. In the damages phase, Unocal argued to the jury that, the "only conclusion that can be drawn" from the fact that refiners were infringing at a rate of 29 percent is that the refiners "could not continuously blend around the '393 patent." Trial Transcript at 6274-75; *see also*, 6277; 6297-6301. (Exhibit 2, attached hereto). *See also* CX1346 at 024 ("so long as it does not reduce that rate to zero, the firm will still be infringing and will still have to deal with the problems of disposing of infringing gas.") (Exhibit 4, attached hereto). This is important because any rate of infringement is sufficient to support injunctive relief, unless Unocal is, in turn, enjoined from enforcing these patents in monopolistic situations.

Fourth, the issue of whether refiners are locked in was litigated. Unocal argued in the '393 litigation that "there is no evidence to suggest that any additional reconfiguration would aid any individual refiner in completely avoiding infringement of Unocal's patent," and that "[e]ven if such rebuilding were possible, it would likely be very expensive and would take time to implement." Defendant's Memorandum of Contentions of Law and Fact, at 43. Unocal supported this position through the testimony of Dr. Teece, who explained that he did not consider the option of building around the patents to be "a realistic one" because the build around option would require "a substantial investment" and because the option "cannot be exercised quickly." CX1346 at 022-023. (Exhibit 4, attached hereto).

Fifth, the issue of whether CARB could have changed its regulations to allow refiners to avoid Unocal's patents was litigated. In the '393 litigation, Unocal argued that it was very hard for CARB to change its regulations in order to allow refiners to avoid Unocal's patents. Dr. Teece testified at trial that it was unlikely that refiners would be able to get CARB to change its regulations because "it would be very hard for CARB, given the public positions it's taken, to then say, well, but now we think we'll roll back this regulation a little bit to make it possible for the potential licensees here to avoid paying a patent to Unocal." Teece testimony, Trial Tr. 5648-49. (Exhibit 2, attached hereto).

Sixth, the issue of the amount of royalties that would be passed through to consumers was litigated. Unocal argued in the '393 litigation that both Unocal and the refiners knew that 90 percent of the cost of the royalty for Unocal's patents would be passed through to consumers. Dr. Teece testified at trial that, in a hypothetical negotiation for a royalty, "I assumed that about 90 percent [of the royalty] would be passed on" to California motorists and admitted that "motorists ought to be happy to pay 4 to 5 cents of some of this royalty to Union Oil to help fund these payments." Trial Transcript, at 5669-70. (Exhibit 2, attached hereto). The district court relied on this evidence in staying Unocal's accounting action because allowing it to go forward "could unduly prejudice defendants and, more significantly, the public, by forcing defendants to pay damages for infringing patents which are passed on to consumers. CX1503 at 6. (Exhibit 5, attached hereto).

Seventh, the issue of whether CARB was influenced by Unocal's presentations was litigated. In the '393 litigation, Unocal stated that "in Unocal's view, the commercial success of the '393 Patent is self-evident. The invention was such an extraordinary advancement of science *that it became the framework for the CARB regulations*." Unocal's Supplemental Memorandum In Opposition to Plaintiffs' Motion to Compel Discovery Responses at 3 (emphasis added). (Exhibit 6, attached hereto). *See also* Trial Transcript 5223-24 (Unocal argued in closing that CARB "came out with the new proposed regulations because they had met with UNOCAL and got the information from them. And UNOCAL gave them that information.") (Exhibit 2, attached hereto).

Finally, the issue of how to construe Unocal's patent was litigated. In the '393 litigation, the district court construed the claims of the '393 patent. RX804 (Order, *Union Oil Co. of California v. Atlantic Richfield Co.*, No. 95-CV-2379 slip op. at 7 (C.D. Cal. May 19, 1997) (Exhibit 7, attached hereto). The Federal Circuit affirmed these holdings in *Union Oil Co. of California v. Atlantic Richfield Co.*, 208 F.3d 989 (Fed. Cir. 2000).

In construing the claims, the district court found that the "patent is unambiguous." RX0804 at 3. It went on to emphasize "that the intrinsic evidence regarding the '393 patent leaves no ambiguity as to the meaning of the patent," RX0804 at 011, and "the claims are unambiguous and can be construed by examining the intrinsic evidence without need for further clarification." *Id.* at 3 n.1. According to the court, the "'393 patent specification describes with striking clarity the coverage of the claims." *Id.* at 4. Construing the preamble language in the claims – the only disputed claim construction – the district court held that the claims covered only "fuels that will regularly be used in autos, not that conceivably could be," and thus excluded gasoline formulations such as aviation and racing fuels. *Id.* at 7. The jury found that the refiners infringed the '393 patent *without requiring any additional claim construction*. 208 F.3d at 991, 994.

The claim construction in '393 litigation also applies to many of the other claims in Unocal's remaining four RFG patents. Many of Unocal's remaining patent claims contain essentially the same language as the claims of the '393 patent. *See* CX0618, CX0619, CX0620, CX0621. All of Unocal's remaining patent claims also describe the same gasoline properties used in the '393 patent claims, although some of these other claims have additional method or process limitations. *See* CX0618, CX0619, CX0621, RX1165 at 11.[38] When a common term appears in separate patents that stem from the same parent patent application, that term shall be construed consistently in both patents. *See Abtox, Inc. v. Exitron Corp.*, 131 F.3d 1009, 1010 (Fed. Cir. 1997), *modifying*, 122 F.3d 1019 (Fed. Cir. 1997) ("it would be improper to construe this term differently in one patent than another, given their common ancestry"). The meaning of the compositional or gasoline property limitations that are common to the '393 patent is therefore the same as that given to those limitations by the district court in the '393 litigation.

Despite all this, Unocal still disputes these issues. *See, e.g.,* Answer ¶ 10, 43, 45, 92-94.

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[38] According to Unocal's expert, 50.4 percent of the gasoline produced by refiners in 2001 and 2002 infringed the '393 patent or the first 40 claims of the '126 patent. RX1165 at 015.

VII. THE REMEDY

A. To Restore Competition, the Remedy in This Case Must Enjoin Unocal From Enforcing its RFG Patents Against Participants in the CARB Market

Unocal, as the evidence will show, is seeking the fruits of an unlawful monopoly. Unocal's unlawful conduct, if unremedied, could cost California consumers over $150 million a year through the year 2011. Accordingly, Complaint Counsel respectfully request that Your Honor issue injunctive relief tailored to prevent this harm. The proposed relief would bar Unocal from enforcing any patents on the technology it presented to CARB as "non-proprietary" against any entities seeking to make, sell, distribute or use covered gasoline to be sold in, imported to, or exported from California. Complaint at pp. 17-18. In other words, it would stop Unocal from enforcing patents on the CARB standard against parties who must comply with that standard to participate in the California market. Unocal, however, would retain ownership of its patents and would be free to continue to enforce them against non-CARB-compliant gasoline not made, used, distributed, or sold in or to California. *Id.*[39]

Unocal currently has five issued patents that are covered by the proposed order. All five patents are based on same technology, and all five stem from the original December 1990 application.[40] Unocal is using each of these patents to exact monopolistic prices, relying on a source of leverage common to all of them – Unocal's lies to CARB and private participants in

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[39] The proposed order also would require Unocal to employ a compliance officer to represent Unocal for the purpose of communicating its patent rights relating to standards or regulations under consideration in proceedings in which Unocal participates. *Id.* at p.18.

[40] Unocal's scientists were in full possession of the claimed subject matter of all these patents on that application filing date, and Unocal's deception extends to all patents claiming priority to that application. *See generally Turbocare Div. v. Gen. Elec. Co.*, 264 F.3d 1111 (Fed. Cir. 2001).

the CARB Phase 2 proceeding. Complaint Counsel respectfully requests that Your Honor issue the proposed Order restricting the enforcement of these patents (and any others stemming from the same application) against those making or selling gasoline in the California market.

B. The Commission and the Courts Have Authority To Order the Requested Relief

Your Honor asked the parties to address "the authority of an administrative agency and of a federal district court to order the remedy sought by the government." Revised Scheduling Order (Sept. 9, 2004) at 1-2. The parties are "to expressly include any and all case law regarding the authority to order a party to cease and desist its enforcement of valid patents based on misconduct other than misconduct before the United States Patent and Trademark Office." *Id.*

Ample authority exists to order the remedy sought in this case. The Commission and the courts have broad powers to order effective relief in antitrust cases, including cases involving patents. *See* Section B.1, *infra*. Indeed, the Commission itself stated in its recent opinion remanding this case that it has authority to order the requested relief. *See* Section B.2(a), *infra*.

Remedies restricting the enforcement of intellectual property rights are in no way unusual. Courts and agencies in numerous contexts have prevented parties from enforcing their valid intellectual property rights, including patent rights – even absent any proof of misconduct before the Patent Office. *See* Sections B.2(a)-(d), *infra*. Intellectual property is property. The right to own property and thus to exclude others from using it is subject to antitrust restraints regardless of the form that property takes. No one has the right to misuse property, be it a baseball bat or a patent.

1. The Commission and the Courts Have Broad Power to Remedy Antitrust Harm, Including Harm From Patents

As the Supreme Court has long held, once an antitrust violation is found, the remedy must "terminate the illegal monopoly, deny to the defendant the fruits of its statutory violation, and ensure that there remain no practices likely to result in monopolization in the future." *United States v. United Shoe Mach. Corp.*, 391 U.S. 244, 250 (1968). The remedy should "cure the ill effects of the illegal conduct, and assure the public freedom from its continuance," *United States v. United States Gypsum Co.*, 340 U.S. 76, 88 (1950). In short, antitrust remedies must restore competition; they must "unfetter [the] market from anti-competitive conduct and 'pry open to competition a market that has been closed by defendants' illegal restraints.'" *Ford Motor Co. v. United States*, 405 U.S. 562, 577 (1972) (citations omitted)). Moreover, "it is well settled that once the Government has successfully borne the considerable burden of establishing a violation of law, all doubts as to the remedy are to be resolved in its favor." *United States v. E. I. duPont De Nemours & Co.*, 366 U.S. 316, 334 (1961).

These principles apply even more strongly to cases brought by the Commission. The Commission has at its disposal "a complete array of essentially equitable remedies" that it may use "to restore, so far as practicable, competitive conditions to at least the state of health which they might have been expected to enjoy but for the unlawful conduct." *Ekco Prods. Co.*, 65 F.T.C. 1163, 1213, 1216-17 (1964), *aff'd*, 347 F.2d 745 (7th Cir. 1965). This may include prohibiting even lawful activities where such activities might facilitate unfair competition. *See FTC v. National Lead Co.*, 352 U.S. 419, 430 (1957); I ABA Section of Antitrust Law, *Antitrust*

Law Developments 654-55 (5th ed. 2002).[41]

The Commission has this power because, as the Supreme Court has recognized, Congress established the Commission as:

> the expert body to determine what remedy is necessary to eliminate the unfair or deceptive trade practices which have been disclosed. It has wide latitude for judgment and the courts will not interfere except where the remedy selected has no reasonable relation to the unlawful practices found to exist.

Jacob Siegel Co. v. FTC, 327 U.S. 608, 612-13 (1946). Given this expertise, Commission remedies are given substantial deference, and its orders are reviewed by courts under an abuse of discretion standard. *See Toys "R" Us, Inc. v. FTC*, 221 F.3d 928, 940 (7th Cir. 2000).

The broad power to remedy anticompetitive practices extends to such practices involving patents. Patents, although unique in many particulars, are fundamentally nothing more than pieces of property, similar to other forms of property.[42] Like all other property rights, patents generally provide patent owners with the right to exclude others.[43] Yet, like all other property rights, the exercise of patent rights may be restricted or enjoined when they are used for anticompetitive ends. *See, e.g., IP Guidelines* § 2.1 (declaring that the two antitrust agencies

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[41] *See also, e.g., FTC v. Ruberoid Co.*, 343 U.S. 470, 473 (1952); *FTC v. Mandel Bros., Inc.*, 359 U.S. 385, 392 (1959); *Toys "R" Us, Inc. v. FTC*, 221 F.3d 928, 939-40 (7th Cir. 2000); *Kraft v. FTC*, 970 F.2d 311, 326 (7th Cir. 1992); *Chrysler Corp. v. FTC*, 561 F.2d 357 (D.C. Cir. 1977); *ITT Continental Baking Co. v. FTC*, 532 F.2d 207 (2d Cir. 1976).

[42] *See, e.g.*, 35 U.S.C. § 261 ("Subject to the provisions of this title, patents shall have the attributes of personal property.").

[43] *Compare Zenith Radio Corp. v. Hazeltine Research, Inc.*,395 U.S. 100, 135 (1969) (explaining that heart of patent is right to exclude others, i.e., to use the State's power to "prevent others from utilizing his discovery without his consent") *with United States v. Craft*, 535 U.S. 274, 282 (2002) (stating that real property owners under state law have "the right to use the property, and right to exclude third parties from it").

"apply the same antitrust principles to conduct involving intellectual property that they apply to conduct involving any other form of tangible or intangible property").[44] So, there is nothing novel or extraordinary about restricting the use of a patent where that is an appropriate remedy for a violation of federal law. Unsurprisingly, in enacting the FTC Act, Congress specifically recognized that unfair methods of competition could involve the use or misuse of patents, and that the Commission would have authority to prohibit such methods. 138 Cong. Rec. 9907-9908 (1914) (Statements of Sen. Smith and Sen. Floyd); 195 Cong. Rec. 14144-14146 (1914) (Statements of Sen. Hollis and Sen. Crawford).[45]

2. Courts and Agencies Have the Power to Enjoin Enforcement of Patents.

Courts and agencies in numerous contexts have prevented parties from enforcing their valid intellectual property rights, including patent rights – absent any proof of misconduct before the Patent Office. These decisions are based on these tribunals' broad authority to order effective antitrust relief, and on equitable doctrines such as estoppel, implied license, and patent misuse

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[44] The guidelines state that any distinctive characteristics of intellectual property "can be taken into account by standard antitrust analysis, however, and do not require the application of fundamentally different principles." *Id.; see also SCM Corp. v. Xerox*, 645 F.2d 1195, 1210 (2nd Cir. 1981) (holding that the acquisition of a patent can raise issues under section 7, just as acquisition of physical property or of an entire corporation might do). "[T]here seems little reason," the court noted, "to exempt patent acquisitions from scrutiny under this provision." *Id.*

[45] Significantly, Commission orders may regulate commercial speech under Section 5 of the FTC Act just as they may regulate or limit intellectual property usage when the use of intellectual property violates competition laws. Under the test of *Central Hudson Gas & Elec. Corp. v. Public Service Comm'n,* 447 U.S. 557, 566 (1980), the government may regulate truthful commercial speech if (1) the government has a substantial interest in regulating the speech; (2) the remedy "directly advances" the governmental interest; and (3) the governmental restriction is "not more extensive than is necessary"; *see also, e.g., Kraft*, 970 F.2d at 324-25. The Commission has ordered corrective advertising for deceptive and misleading commercial speech as a remedy that courts have upheld when reasonably related to the violation and narrowly-tailored. *See, e.g, Am. Home Prod. Corp. v. FTC*, 695 F.2d 681, 711-714 & n.50 (3d Cir. 1982); *Warner-Lambert Co. v. FTC*, 562 F.2d 749, 756-62 (D.C. Cir. 1977).

(or its counterparts, copyright or trademark misuse). *See, e.g., Morton Salt Co. v. Suppiger Co.*, 314 U.S. 488, 494 (1942) ("The patentee, like these other holders of an exclusive privilege granted in the furtherance of a public policy, may not claim protection of his grant by the courts where it is being used to subvert that policy.").

a. Authority Based on Antitrust Doctrines

The Supreme Court has held that the broad discretion to fashion an antitrust remedy includes the ability to restrict or enjoin a respondent's use of its intellectual property rights. *See, e.g., Ford Motor Co.*, 405 U.S. at 576-577 (affirming limited ban on the use of a proprietary trade name as a merger remedy). The Court reasoned that "[e]ven constitutionally protected property rights such as patents may not be used as levers for obtaining objectives proscribed by the antitrust laws" and that where intellectual property "becomes a tool to circumvent free enterprise and unbridled competition, public policy dictates that the rights enjoyed by its ownership be kept within their proper bounds." *Id.* at 576 n.11 (citation omitted).[46] *See also Standard. Sanitary Mf'g Co. v. United States of Am.*, 226 U.S. 20, 49 (1912) ("Rights conferred by patents are indeed very definite and extensive, but they do not give any more than other rights an universal license against positive prohibitions."); *International Salt Co. v. United States*, 332 U.S. 392, 395-96 (1947) ("International has engaged in a restraint of trade for which its patents afford no immunity from the anti-trust laws."). For example, although a patentee generally has the right to determine the terms upon which to license its patents, the Court has held that patentees' licensing practices, such as unduly restrictive licensing arrangements and improperly

[46] *Cf. Jacob Siegel Co. v. Fed. Trade Comm'n*, 327 U.S. 608, 609-612 (1946) (holding that the Commission may order a firm to desist completely from using a proprietary trade name in the consumer protection context when necessary to eliminate harm, and remanding for such determination).

tying the sale of unpatented goods to patent licenses, violate the Sherman Act and Clayton Act. *Int'l Salt Co.*, 332 U.S. at 393, 395-96; *United Shoe Machinery Corp. v. United States*, 258 U.S. 451, 463-64 (1922) (affirming tying judgment on the grounds that "the rights secured by a patent do not protect the making of contracts in restraint of trade, or those which tend to monopolize trade . . . ."); *Std. Sanitary Mf'g*, 226 U.S. at 47-50 (enjoining restrictive licensing practices).

The Commission itself recognizes and has exercised its authority to enjoin patent enforcement efforts in an antitrust case: "The patentee may take proper measures to protect the nature and scope of his grant, but nothing is clearer than the fact that lawful means are capable of being used to achieve unlawful ends. When the fact of such an abuse is proven in a proper case, it is the duty of the Commission and the courts to fashion a remedy that will effectively terminate it." *In the Matter of Roberts Co.*, 56 F.T.C. 1569, 1960 WL 64436 (1960) (enjoining respondents from threatening to bring infringement suits, for the purpose of restraining or eliminating competitors who have not practiced the invention claimed by the patent).

Indeed, the Commission has already stated that it has the authority to order the relief requested in this case. *See Unocal Noerr Ruling*. In its recent opinion reinstating this matter, the Commission explicitly stated that it understood that "the remedy sought" here requires that "Unocal cease and desist from enforcing its RFG patents on gasoline sold in, or imported or exported to or from California." *Id.* at 105. The Commission then proceeded to affirm its jurisdiction to hear this case, explaining that it has broad power to hear and "prevent" unfair methods of competition. *Id.* at 117. Citing Supreme Court precedent, the Commission made clear that it has "adequate powers to hit at every trade practice, then existing or thereafter contrived, which restrained competition . . . ." *Id.* at 117-18 (citing *FTC v. Cement Inst.*, 333

U.S. 683, 693 (1948)).[47] The Commission thus understood that it has both jurisdiction over the present case, and the corollary powers to "hit at" Unocal's practices if they are proven to retrain competition. If the Commission had any doubts about its ability to order the requested relief, it would not have remanded the case for prompt adjudicative hearing. *Id.* at 130.

In this regard, the Commission was simply following its own precedent. In *Dell Computer Corp.*, the Commission explicitly stated that it may order a patent holder to cease and desist enforcing its patents against parties seeking to practice an industry standard. 121 F.T.C. 616, 1996 WL 33412055 (1996) (Statement of the Federal Trade Commission accompanying consent order). As in the present case, the complaint in *Dell* asserted that a respondent abused a standard-setting process by misleadingly representing that it had no proprietary rights in its technology, while nevertheless obtaining and seeking to enforce patents on that technology. *Id.* at 623-24. The respondent agreed to a consent order, and the Commission issued a statement accompanying the consent that specifically authorized relief prohibiting the respondent from enforcing its patents against those using the standard. *Id.* at 623-25. This is precisely the relief sought here. Complaint at pp. 17-18, ¶¶ 1-3.

The Commission carefully explained in *Dell* why it has the authority, in a proper antitrust case, to order a firm to cease enforcing its patent, in carefully circumscribed circumstances, in order to remedy a violation. *Dell Computer Corp.,* 121 F.T.C. at 624-25. It reasoned under general antitrust remedial principles that this remedy would be necessary to assure that the "the competitive process is not harmed." *Id.* It also relied on patent cases precluding patent holders

[47] The Court noted that in enacting the FTC Act, Congress gave the Commission a broad mandate to halt unfair competition in all forms "then existing or thereafter contrived, which restrained competition or might lead to such restraint." *Id.*

from enforcing patents under the doctrines of equitable estoppel and implied license. *Id.* at 624, 625 n.3-5. The same explanation offered in *Dell* governs the instant case as well.

b. Authority Based on Patent Doctrines

In patent cases, courts and agencies routinely bar patentees from enforcing presumptively valid patents under the doctrines of equitable estoppel, implied license, patent misuse, and general equitable principles. As the Commission stated in *Dell*, these patent doctrines can provide support for legal relief under antitrust principles in standard-setting cases. *Dell Computer Corp.,* 121 F.T.C. at 624, 625 n.3-5.

i. Equitable Estoppel

Equitable estoppel bars a patentee from enforcing its patent against a party where (1) the patentee "through words, conduct or silence" misleadingly communicates that it will not use the patent to disturb the party, (2) the party relies on that communication, and (3) the party would be harmed if the patentee is later permitted to assert an infringement claim. *See, e.g., A.C. Aukerman Co. v. R.L. Chaides Constr. Co.*, 960 F.2d 1020, 1041-42 (Fed. Cir. 1992) (en banc). The courts have applied this doctrine to bar patentees who have abused standard-setting processes from asserting infringement claims. For example, in *Stambler v. Diebold, Inc.*, the Federal Circuit affirmed a district court's decision estopping a patentee from enforcing its patent relating to an ATM card validation system when the patentee failed to disclose the existence of the patent to a standards-setting committee. 11 U.S.P.Q.2d 1709, 1714-15, 1988 WL 95479, at *5-*6 (E.D.N.Y. 1988), *aff'd mem.*, 878 F.2d 1445 (Fed. Cir. 1989) (unpublished). The court held that the patentee's silence was misleading because it "could not remain silent while an entire industry implemented the proposed standard and then when the standards were adopted assert that his patent covered what manufacturers believed to be an open and available standard." 1988 WL 95479 at *6; *see also Potter Instr. Co. v. Storage Tech. Corp.*, 1980 U.S. Dist. Lexis 14348 at *17-*18 (E.D. Va. 1980), *aff'd*, 641 F.2d 190 (4th Cir. 1981) (applying estoppel to dismiss infringement claims based on the patentee's failure to disclose patent to standard-setting body).[48] In addition, courts have routinely applied equitable estoppel to bar enforcement of patent claims in contexts other than abuses of standard-setting procedures.[49]

ii. Implied License

The implied license doctrine in patent law signifies a patentee's waiver of the statutory right to exclude others from making, using, or selling the patented invention. *Wang Labs., Inc. v. Mitsubishi Elec. Am., Inc.*, 103 F.3d 1571, 1580 (Fed. Cir. 1997). An implied license is established by "[a]ny language used by the owner of the patent, or any conduct on his part exhibited to another from which that other may properly infer that the owner consents to his use of the patent in making or using it, or selling it, upon which the other acts . . . ." *De Forest Radio*

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[48] The Fourth Circuit affirmed *Potter* without reaching the equitable estoppel issue, but indicated that it would be inclined to uphold the estoppel decision. 641 F.2d at 192.

[49] *See e.g., ABB Robotics, Inc. v. GMFanuc Robotics Corp.*, 52 F.3d 1062, 1064 (Fed. Cir. 1995) (affirming summary judgment dismissing infringement action based on estoppel); *Adelberg Labs., Inc. v. Miles, Inc.*, 921 F.2d 1267, 1273-74 (Fed. Cir. 1990) (same); *Scholle Corp. v. Blackhawk Molding Co., Inc.*, 133 F.3d 1469, 1471-73 (Fed. Cir. 1998) (same); *see also General Motors Corp. v. General Electric Co.*, 275 F. Supp. 2d 850, 858-59 (E.D. Mich. 2003) (denying patentee's motion for a preliminary injunction on the grounds that competitor was likely to prevail on equitable estoppel defense); *Stryker Corp. v. Zimmer, Inc.*, 741 F. Supp. 509, 512-15 (D.N.J. 1990) (holding on summary judgment that a patentee was estopped from asserting an infringement claim where it had "with knowledge of the alleged infringing activity, do[ne] nothing over a period of years other than mislead a purported infringer and those who have gone before to believe that there was and is no problem, lying in wait until it has become 'commercially and economically worthwhile' to do something . . . ."); *Forest Labs., Inc. v. Abbott Labs.*, 1999 U.S. Dist. WL 33299123, at *2, *21-*27 (W.D.N.Y. 1999) (granting post-trial judgment dismissing infringement claims based on equitable estoppel, where, among other things, the patentee encouraged its competitor to develop the infringing product); *Nordek Corp. v. Garbe Iron Works, Inc.*, 1982 U.S. Dist. WL 147, at *3-*5 (N.D. Ill. 1982) (granting estoppel summary judgment motion).

Tel. Co. v. United States, 273 U.S. 236, 241 (1927).[50] In the standard-setting context, the courts have held that an implied license barred a patentee's infringement action when the patentee had presented its technology to a standard-setting body, did not disclose pending patent applications on that technology, and yet encouraged the adoption of the technology as the standard. *Wang Labs., Inc. v. Mitsubishi Elecs. Am., Inc.*, 103 F.3d 1571, 1575-76, 1581-82 (Fed. Cir. 1997) (affirming denial of judgement as a matter of law after jury verdict finding an implied license).[51] Other courts, including the Court of Federal Claims (a non-Article III court), also have prevented patentees from enforcing their patent claims based on an implied license. *See, e.g., De Forest Radio Tel. Co.*, 273 U.S. at 241 (affirming dismissal of infringement suit based on implied license defense); *AMP, Inc. v. United States*, 182 Ct. Cl. 86, 389 F.2d 448, 450-54 (1968) (finding an implied license on the grounds that a license to an idea, regardless of its patentability, included a license to a patent stemming from that idea).

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[50] An implied license may arise by equitable estoppel. *See Wang Labs., Inc.*, 103 F.3d at 1580. *Walker on Patents* explains:

> If the owner of a patent right were to explain the patented invention to a person ignorant of the patent and then were to advise him to make, to use, or to sell a specimen of that invention, with intent to induce him to infringe the patent unknowingly, and if that person were thereby induced to incur expense in infringing or in preparing to infringe the patent, an implied license would result by estoppel, to the person thus misled.

6 Ernest B. Lipscomb III, *Walker on Patents*, 20:16 at 39 (3d. ed. 1985).

[51] The patentee's receipt of consideration for the implied license may also be an element of the implied license defense. The Federal Circuit so held in *Wang*, and further held that the benefits that Wang received by way of the adoption of its design as the standard constituted such consideration. *Id.* at 1579-80. The evidence in the case at bar will show that, like Wang, Unocal received benefits, including increased flexibility to blend and refine its own gasoline, by virtue of CARB's adoption of its technology as the industry standard.

iii. Patent / Copyright Misuse

Courts and agencies further hold patents unenforceable for patent misuse, a defense to patent infringement that springs from the doctrine of unclean hands. *B. Braun Med., Inc. v. Abbott Labs.*, 124 F.3d 1419, 1427 (Fed. Cir. 1997); *see, e.g., Morton Salt Co.*, 314 U.S. at 491-94 (denying patent infringement relief to patentee because of its misuse in tying sales of unpatented products to a patent license); *Mercoid Corp. v. Mid-Continent Inv. Co.*, 320 U.S. 661, 670 (1944) (denying relief to patentee based on misuse). The misuse doctrine restrains patentees' conduct "deemed to be contrary to public policy" that draws "anticompetitive strength" from the patent right, and has been held to include practices that unduly broaden patent scope, such as certain forms of tying and patent pooling. *B. Braun Medical, Inc.*, 124 F.3d at 1427.[52] A finding of patent misuse renders a patent unenforceable until the misuse is purged. *Id.* The power to impose this remedy for misuse extends to agencies and non-Article III tribunals. *See, e.g., In the Matter of Certain Recordable Compact Discs and Rewritable Compact Disks*, 2004 WL 1435791 (2004), USITC Inv. No. 337-TA-474, Pub. No. 3686, *appeal docketed, U.S. Philips Corp. v. Int'l Trade Comm'n*, No. 04-1361 (May 10, 2004) (holding patents unenforceable for patent misuse for patent pooling).[53]

iv. Equity / Public Policy

Courts have long recognized the flexibility of equity in prohibiting patentees that have

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[52] *See also Morton Salt Co.*, 314 U.S. at 491-94; *Mercoid Corp.*, 320 U.S. at 670; 35 U.S.C. § 271(d) (limiting the misuse doctrine with respect to contributory infringement and certain licensing and tying practices by requiring the patentee to have market power in the relevant markets).

[53] While the patent-holder in *Philips* is appealing the ITC's misuse determination, it has not challenged the ITC's authority to hold the patent unenforceable. Brief for Appellant, *U.S. Philips Corp. v. Int'l Trade Comm'n*, No. 04-1361 (Aug. 20, 2004).

engaged in unfair practices from enforcing their patents. *See, e.g., Morton Salt Co.*, 314 U.S. at 492-94; *Mercoid Corp.*, 320 U.S. at 666-670 ("[I]n whatever posture the issue may be tendered courts of equity will withhold relief where the patentee and those claiming under him are using the patent privilege contrary to the public interest."). Even the courts' power to declare a patent unenforceable for misconduct before the Patent Office stems from general equitable powers. *See, e.g., Consol. Aluminum Corp. v. Foseco Int'l Ltd.*, 910 F.2d 804, 812 (Fed. Cir. 1990) ("'[I]nequitable conduct' is no more than the unclean hands doctrine applied to particular conduct before the PTO." (citations omitted)). "Courts of equity may, and frequently do, go much farther both to give and withhold relief in furtherance of the public interest than they are accustomed to go when only private interests are involved." *Virginia R. Co. v. Sys. Fed'n*, 300 U.S. 515, 552 (1937); *see also Vitamin Technologists, Inc. v. Wisconsin Alumni Research Found.*, 146 F.2d 941, 944-47 (9th Cir. 1945) ("It is now well established that a patentee may not put his property in the patent to a use contra to the public interest.").

c. Compulsory Licensing Antitrust Remedies

Finally, although Unocal may contend otherwise, a line of cases bearing on courts' authority to order compulsory universal royalty-free licensing as an antitrust remedy is inapposite to the Commission's authority to order relief in this case. *See, e.g., Hartford-Empire Co. v. United States*, 323 U.S. 386, 413-17 (1945). The relief sought in such cases required the respondent to issue royalty-free licenses to its patents to "any" and all applicants, essentially rendering the patents worthless. *See, e.g., id.* at 413-16 (stating that such a remedy might constitute a forfeiture).

The proposed remedy at issue here is not tantamount to a universal royalty-free license (or public dedication of its patents) because it only enjoins Unocal from enforcing its RFG patents to extract monopolistic royalties from parties who seek to make, sell, distribute or use gasoline for the California market. Complaint at pp. 17-18. Unocal would be free to continue to enforce, or license, the patents at issue at a rate of its choosing, to entities making, selling, distributing or using infringing non-CARB-compliant gasoline for sale outside of California.

Moreover, cases such as *Hartford-Empire* are not on point because they do not address the anticompetitive conduct at issue here: deceptive statements by the patentee to the industry that a patent would not be obtained on the relevant technology or would not be enforced. *See, e.g., Hartford-Empire*, 323 U.S. at 400 (addressing anticompetitive conduct of restrictive cross-licenses and patent acquisition); *United States v. Singer Mfg. Co.*, 231 F. Supp 240, 244 (S.D.N.Y. 1964),[54] on remand from *United States v. Singer Mfg. Co.*, 374 U.S. 174, 175, 189-93 (1963) (same). The antitrust harm in such other cases was capable of being remedied without requiring the patentees to provide their technology without charge to the industry. *Id.*

Here, the only way to eliminate the effects of Unocal's anti-competitive conduct of causing the industry to rely on its assertion that its technology would be available without charge is to keep Unocal at its word. The evidence will show that the reasonable (or competitive) royalty in this case is zero. *See, e.g., United States v. Nat'l Lead Co.*, 332 U.S. 319, 349 (1947) ("[I]t may well be that uniform, reasonable royalties computed on some patents will be found to be but nominal in value. Such royalties might be set at zero. . . "); *cf. United States v. Glaxo Group*, 410 U.S. 52, 62 (1973) (requiring patent holder to "grant patent licenses at reasonable-

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[54] The *Singer* district court equated a royalty-free license with a complete injunction on any enforcement of patents, a remedy that is not at issue here. 231 F. Supp. at 243.

royalty rates to all bona fide applicants in order to 'pry open to competition' . . . [in a] market that 'has been closed by defendants' illegal restraints.'" (citations omitted)).

Nevertheless, even if a universal royalty-free license were at issue here, precedent supports the Commission's authority to issue such a remedy. *See United States v. Gen. Elec. Co.*, 115 F. Supp. 835, 843-46 (D. N.J. 1953) (mandating royalty-free licensing / dedication patent to public); *National Lead*, 332 U.S. at 349-51 (stating that a reasonable royalty rate might be set at zero depending on the facts of the case); *In re American Cyanamid Co.*, 72 F.T.C. 623, 1967 FTC Lexis 43, *150-52 (1967) (stating the Commission has the authority to order royalty-free licensing), *aff'd. sub nom. on other grounds*, *Charles Pfizer & Co. v. FTC*, 401 F.2d 574 (6th Cir. 1968).

VIII. CONCLUSION

The evidence will show that Unocal lied and that its lies have given it monopoly power. By deceiving CARB and other refiners, Unocal was able to craft and spring a patent trap that captures every producer and seller of gasoline in California. Unocal stands to gain billions of dollars from its scheme. These billions will come out of the pockets of California consumers.

But this scheme can be stopped. Unocal's conduct is a clear violation of Section 5. Your Honor therefore has the power to enjoin Unocal from reaping the fruits of its deceptions and lies. By imposing the proposed remedy, Your Honor can terminate Unocal's illegal monopoly, restore competition, and protect the public. Complaint Counsel respectfully request that Your Honor do so.

Dated: September 27, 2004

Respectfully submitted,

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CERTIFICATE OF SERVICE

I, Guru Raj, hereby certify that on September 27, 2004, I caused copies of the Public Record version of the Complaint Counsel's Pre-Trial Brief to be served upon the below listed persons:

VIA HAND DELIVERY TO:

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Guru Raj

UNITED STATES OF AMERICA
BEFORE THE FEDERAL TRADE COMMISSION

In the Matter of UNION OIL COMPANY of CALIFORNIA, a corporation.	Docket No. 9305 **PUBLIC RECORD**

COMPLAINT COUNSEL'S PROPOSED PRE-TRIAL FINDINGS OF FACT

I. INTRODUCTION

1. Respondent Union Oil Company of California ("Unocal") engaged in deceptive and anticompetitive conduct in connection with its dealings with the California Air Resources Board ("CARB"), the Auto/Oil Air Quality Improvement Program ("Auto/Oil"), the Western States Petroleum Association ("WSPA"), and the individual members of Auto/Oil and WSPA. *See* CCPTFF 73-213.[1]

2. Beginning in the late 1980s, CARB sought to develop new "cost-effective" regulations designed to reduce harmful automobile emissions. One of the principal areas of its regulatory focus was reformulated gasoline. *See* CCPTFF 20-51, 85-151.

3. While participating in CARB's regulatory process, Unocal developed a plan to subvert the changing regulatory landscape. Unocal conducted research to determine how controlling various gasoline properties affected the level of automobile emissions, and then developed and implemented a strategy to use the results of this emissions research to gain a competitive advantage in the marketplace. *See* CCPTFF 9-134.

4. In the summer and fall of 1991, Unocal made a series of presentations to CARB, Auto/Oil and WSPA relating to its emissions research, which became known as the "5/14 Project." In these presentations, Unocal disclosed and made publicly available its emissions research showing the relationships between certain gasoline properties (most notably the midpoint distillation temperature of gasoline or "T50") on automobile emissions. "T50" is the temperature at which 50% of a fuel evaporates. *See* CCPTFF 85-117, 163-166, 171-173.

5. Unocal knowingly and deliberately represented to CARB, Auto/Oil, and WSPA that its "5/14 Project" emissions research results were "publicly available," "non-proprietary" and/or in the "public domain." In other words, Unocal affirmatively represented and created the fundamentally misleading impression that CARB, Auto/Oil, WSPA, and anyone else were free to use Unocal's research results in any manner, and that Unocal would not assert any restrictions or intellectual property rights, including demands for license fees or royalty payments. *See* CCPTFF 73-185.

6. Unocal further represented to CARB that adopting a regulation including a "predictive model" – *i.e.*, a mathematical model that predicts whether the resulting emissions from varying certain gasoline properties (including T50) in a fuel are equivalent to the emissions resulting from a specified and fixed fuel formulation – would be cost-effective and flexible. *See* CCPTFF 126-134.

7. Unocal's representations were important because Unocal knew that CARB, Auto/Oil,

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[1] References to "CCPTFF" mean Complaint Counsel's Pretrial Findings of Fact.

WSPA, and other industry members viewed the costs of any proposed regulation as a significant factor in the rulemaking process, and Unocal knew that CARB was relying on industry members to provide accurate factual information about such costs. *See* CCPTFF 25-51, 118-125, 152-185.

8. At the time Unocal made representations to CARB and industry, Unocal secretly had applied for a patent based on its emissions research results. Unocal intended to enforce its proprietary interests in its emissions research results through licensing activities and patent infringement lawsuits to gain competitive advantage and thus undermine the cost-effectiveness and flexibility of CARB's regulation. Unocal eventually obtained and enforced through litigation and licensing activities five patents relating to reformulated gasoline based on its original patent application. *See* CCPTFF 52-84, 186-207, 214-223.

9. Unocal's misleading conduct caused CARB to propose, adopt, and implement regulations for Phase 2 reformulated gasoline that were substantially covered by Unocal's pending patent claims. *See* CCPTFF 85-151, 186-213.

10. If CARB had known the truth underlying Unocal's misleading conduct, CARB would have pursued alternatives, including, but not limited to, adopting regulations substantially different from those ultimately adopted, and thus, absent Unocal's wrongful conduct, the harm alleged in this matter would not have occured. *See* CCPTFF 20-51, 213.

11. Although Unocal knew by July 1992 that most of the pending patent claims based on its emissions research had been allowed by the United States Patent and Trademark Office and Unocal was making plans to enforce the patent, Unocal continued to conceal this material information from CARB, other industry members and participants of the reformulated gasoline regulation development process. Unocal continued to perpetuate the false and misleading impression that it did not possess, or would not enforce, any proprietary interests relating to CARB-compliant reformulated gasoline. *See* CCPTFF 85-86, 126-134, 186-191, 196-207.

12. Auto/Oil and WSPA members also relied on Unocal's misrepresentations. Based on Unocal's misrepresentations, Auto/Oil and WSPA members participated in CARB's Phase 2 RFG rulemaking process without the opportunity to inform CARB of the impact that Unocal's proprietary rights could have on the cost or supply of CARB-compliant gasoline. Had they known the truth, Auto/Oil and WSPA members would have taken actions to prevent the anticompetitive effects flowing from Unocal's deceptive conduct. *See* CCPTFF 152-185.

13. After the Phase 2 reformulated gasoline regulations were adopted, unaware of Unocal's deceptive conduct, CARB took the necessary steps to finalize and implement the regulations, and the oil company members of Auto/Oil and WSPA invested billions of dollars in their refining operations so that they could produce reformulated gasoline that

would comply with CARB's reformulated gasoline regulations by March 1996. *See* CCPTFF 126-151, 196-213, 241-250.

14. Because of Unocal's deceptive conduct, CARB did not learn of Unocal's patent rights and its corresponding intention to enforce these rights until after Unocal issued a press release on January 31, 1995, concerning the issuance of its first reformulated gasoline patent, U.S. Patent No. 5,288,393. By that time, CARB and the oil industry had been "locked in." At that juncture, any alternative would have required some combination of delay, reduced emissions targets, and additional expenditures – a combination that CARB understood was simply not feasible. *See* CCPTFF 196-213.

II. RESPONDENT

15. Union Oil Company of California is a public corporation organized, existing, and doing business under, and by virtue of, the laws of California. Its office and principal place of business is located at 2141 Rosecrans Avenue, Suite 4000, El Segundo, California 90245. Since 1985, Union Oil Company of California has done business under the name "Unocal." Answer of Respondent Union Oil Company of California, ("Answer") ¶ 11.

16. During the CARB Phase 2 rulemaking proceedings at issue, Unocal was a vertically integrated producer, refiner, and marketer of petroleum products in California and the western United States. Answer ¶ 13.

17. In 1997, Unocal sold its refining and marketing assets to Tosco Corporation, but continued to engage in oil and gas exploration and production. Answer ¶ 13.

18. Unocal's 2001 annual report, filed with the United States Securities and Exchange Commission, lists one of the company's key business activities as "[p]ursuing and negotiating licensing agreements for reformulated gasoline patents with refiners, blenders and importers." Answer ¶ 14; CX0614.

19. Unocal has publicly announced that it expects to reap up to $150 million in revenues annually from licensing of its patents on reformulated gasoline. Answer ¶¶ 14-15.

III. UNOCAL ENGAGED IN DECEPTIVE AND EXCLUSIONARY CONDUCT BEFORE A CALIFORNIA REGULATORY AGENCY AND PRIVATE INDUSTRY GROUPS WITH INTENT TO GAIN MONOPOLY POWER

A. California Air Resources Board (CARB)

20. The California legislature established CARB in 1967 to protect the health, welfare and

ecological resources of California through the effective and efficient reduction of air pollutants, while recognizing and considering the effects of its actions on the California economy. CARB is a department of the California Environmental Protection Agency. Cal. Health & Safety Code §§ 39003, 39500 (1991).

21. CARB follows the California Administrative Procedures Act to promulgate rules and regulations. Under these procedures, CARB must provide notice of a proposed action, develop an evidentiary basis for regulations, solicit written comment from the public, conduct a hearing, if requested, and publish written findings. Cal. Health & Safety Code § 39601 (1991); Cal. Gov't Code §§ 11346-11347.3 (1991).

22. CARB must establish "[f]acts, evidence, documents, testimony or other evidence on which [it] relies to support" its "decision that the action will not have a significant adverse economic impact on business." Cal. Gov't Code § 11346.2(b) (2004).

23. Once CARB develops a regulation in this way, the Office of Administrative Law ("OAL") reviews the regulation to determine whether it meets statutory standards of necessity, authority, clarity, consistency, reference, and nonduplication. Cal. Gov't Code § 11349.1 (1991).

24. CARB's regulations are subject to judicial review pursuant to a "substantial evidence" standard of review. Parties may appeal determinations made by the Board pursuant to California's Administrative Procedures Act. Cal. Gov't Code § 11350 (1991); CX0005.

B. The Development of CARB's Reformulated Gasoline Regulations

25. In 1987, the California legislature passed legislation ("AB 234") resulting in the formation of an advisory board (also known as the "Leonard Commission") to study the feasibility of reducing automobile emissions by mandating the use of alternative fuels, such as methanol. CX0786; CX1021; CX1501.

26. The AB 234 advisory board, included representatives from CARB and the oil and automobile industries, including a Unocal representative. CX1021.

27. The AB 234 study panel in 1989 recommended exploring the introduction of reformulated gasoline as an alternative to methanol, based in part on the representations of the oil industry that it would develop gasoline that would be cleaner-burning and cheaper than methanol. CX1267; CX1021; CX1084A; CX1092.

28. In late 1988, the California legislature amended the California Clean Air Act to require CARB to take action to reduce auto emissions, including through the adoption of new standards for automobile fuels and low-emission vehicles. CX0052 at 008-009. 1988 Cal. Stat. 1568; Cal. Health & Safety Code § 43018 (c) (1991).

29. CARB's specific legislative mandate, as revised by the 1988 Clean Air Act, set forth in California Health and Safety Code Section 43018, provided, *inter alia*, that CARB undertake the following actions:

a. Take "necessary, cost-effective, and technologically feasible" actions to achieve "reduction in the actual emissions of reactive, organic gases of at least 55 percent, a reduction in emissions of oxides of nitrogen of at least 15 percent from motor vehicles" no later than December 31, 2000;

b. Take actions "to achieve the maximum feasible reductions in particulates, carbon monoxide, and toxic air contaminants from vehicular sources";

c. Adopt standards and regulations that would result in "the most cost-effective combination of control measures on all classes of motor vehicles and motor vehicle fuel" including the "specification of vehicular fuel composition."

Cal. Health & Safety Code § 43018 (1991); CX0052 at 008-009. 1988 Cal. Stat. 1568.

30. CARB's authority in conducting its reformulated gasoline rulemaking proceedings was circumscribed by an express and limited delegation of authority by the legislature. Cal. Health & Safety Code § 39600, 39601 (1991).

31. The legislature left to CARB limited subsidiary discretion regarding determination of the gasoline properties to be regulated and the limits to be set for these properties. CARB's discretion for the reformulated gasoline regulatory process also included matters such as developing alternative methods of compliance, effective dates, and enforcement procedures. Cal. Health & Safety Code § 43018 (1991); CX0052 at 008-009; CX0010 at 196.

32. CARB's limited subsidiary regulatory discretion was circumscribed both by the legislature's specific directives in the California Clean Air Act and by the legislature's general requirements that agency regulations comply with the statutory procedural standards of necessity, authority, clarity, consistency, reference, and nonduplication as well as by the requirement that substantial evidence from the record support CARB's decisions. Cal. Gov't Code § 11349.1 (1991); 1988 Cal. Stat. 1568; CX0052 at 008.

C. CARB's Regulations for Reformulated Gasoline

33. CARB addressed its mandate regarding fuels in two phases of rulemaking proceedings. CX0052 at 006; Cal. Code Regs. Tit. 13 §§ 2250-2272 (1993).

34. The Phase 1 regulations, which required the elimination of leaded gasoline, the addition of deposit control additives, and the reduction of Reid Vapor Pressure ("RVP"), were proposed in 1990 and went into effect in 1992. These regulations required only minimal refinery modifications. CX0052 at 006; Cal. Code Regs. Tit. 13 §§ 2251.5, 2252-2254,2257 (1992).

35. In 1991 CARB entered into Phase 2 reformulated gasoline proceedings to develop more comprehensive specifications for low emissions, reformulated gasoline. CARB had numerous possible approaches to practically and effectively meet the requirements for reducing harmful emissions. CX0052; CX0767; CX0492.

36. In its Phase 2 reformulated gasoline proceedings, CARB did not conduct any independent studies of its own, but relied on industry to provide the needed research and resulting knowledge. CX0785.

37. CARB received substantial input from refiners and other groups regarding fuel properties, emissions, costs, supply, and other information related to its proposed Phase 2 regulations. CX1517; CX1108; CX1106; CX0005; CX0010; CX1267 at 005-008.

38. Given the scientific, economic and technical nature of the issues involved, CARB relied on the accuracy of the data and information presented to it in the course of rulemaking proceedings. CX0005; CX0010; CX0053; CX0054.

39. CARB's Phase 2 proceedings were non-political and fact-intensive in nature. None of the communications alleged in this matter between Unocal and CARB were political, but instead fact-intensive communications. CX0005; *See* CCPTFF 20-32, 85-86.

40. In the course of the Phase 2 reformulated gasoline proceedings, CARB adhered to the procedures set forth in the California Administrative Procedures Act. CX0767 at 010; CX0774; CX0769; CX1811.

41. CARB provided to all interested parties official notice for the Phase 2 reformulated gasoline rulemaking on May 23, 1991. CARB also provided subsequent notice of amendments to the regulations. CX0876; CX0492.

42. CARB provided the language of the proposed regulations and a statement of reasons. CARB also provided a Technical Support Document that provided technical details of the proposed regulations, and a list of reference materials that formed the basis for the proposal. CX0052; CX0005; CX0767.

43. On November 22, 1991, the CARB Board adopted Phase 2 RFG regulations that set particular standards for the composition of low emissions, reformulated gasoline. These regulations specify limits for eight gasoline properties: Reid Vapor Pressure (RVP),

benzene, sulfur, aromatics, olefins, oxygen, T50, and T90. CX0817 at 002-009; Cal. Code Regs. Title 13 §§ 2262.1- 2262.7 (1993).

44. Compliance with the Phase 2 RFG regulations may be met by 1) producing gasoline that meets all of the set flat-limit specifications, 2) producing a fuel that, on average, meets the more stringent averaging limits specifications for each parameter, 3) developing a unique fuel formula and demonstrating through vehicle testing that the formula will provide equivalent emissions to the set-specification fuel, or 4) developing alternative specifications through use of a predictive model that determines whether the formula will provide equivalent emissions to the set-specification fuel. CARB provided multiple methods of compliance in order to enhance the flexibility of refiners and lower the cost of compliance. CX0052 at 011, 014-015.

45. The portion of the Phase 2 reformulated gasoline regulations at issue in this case deal with the standards for the production of "summer-time" gasoline. In California, the "summer" months for purposes of the CARB regulations are approximately the eight months from March through October. Cal. Code Regs. Title 13 § 2262.4(b) (2004).

46. The Phase 2 regulations adopted in November 1991 contained a place-holder for the predictive model of compliance because the details had yet to be developed. CX0816 at 031; CX0010 at 022. The details for a predictive model came later: CARB held a workshop focused on the predictive model in March 1992 and the discussions with interested parties continued through 1994. CX0984. CARB adopted the predictive model in June 1994 (with formal approval and adoption in April 1995) for implementation in March 1996. CX0054 at 005, 007; CX0865; CX0866; CX0866A.

47. CARB modified the reformulated gasoline regulations, and CARB currently requires compliance with Phase 3 reformulated gasoline regulations. The Phase 3 reformulated gasoline regulations build upon the foundation of the Phase 2 reformulated gasoline regulations, and regulate the same gasoline properties and provide for the same compliance methods. CARB modified the reformulated gasoline regulations because of the elimination of MTBE, a carcinogen, from gasoline. CX0055; CX0056; CX0051.

48. Throughout the regulatory process, CARB solicited and accepted written comments from the public. CARB also held numerous workshops in which informal comments were received. CX0793; CX0027; CX0028; CX0274; CX0035; CX1000.

49. CARB conducted hearings to receive oral testimony from CARB staff and interested members of the public. CX0773; CX0774; CX0769.

50. CARB issued written findings on the results of its rulemaking proceedings. CARB responded to written comments from the public on the Phase 2 RFG regulations in its Final Statement of Reasons. CX0010; CX0054.

51. The Phase 2 RFG regulations were approved by the Office of Administrative Law on November 16, 1992, after a determination that the regulations met the standards of the California Administrative Procedures Act. CX1811.

D. Unocal's Reformulated Gasoline Research – the "5/14 Project"

52. By October 1989, Unocal management knew that CARB intended to regulate the chemical and physical properties of gasoline sold in California to seek to achieve significant emissions reductions. CX0139.

53. Unocal scientists from the company's Science and Technology Division – led by Peter Jessup and Michael Croudace – began to plan fuels test experiments to determine how controlling various properties of gasoline affected automobile emissions. CX0163; CX0172; CX0176.

54. In 1990, Jessup and Croudace conducted in-house emissions testing various gasoline formulations in a single car to determine which of 10 fuel properties had the greatest impact on emissions. CX0186; CX0024.

55. The one-car research study showed specific relationships between (1) exhaust emissions of carbon monoxide, incompletely burned or unburned hydrocarbons, and nitrogen oxides; and (2) a number of chemical and physical properties of gasoline including RVP, distillation properties (T10, T50, T90 – respectively, the temperature at which 10 percent, 50 percent and 90 percent of a fuel evaporates), chemical composition (olefins, paraffins, and aromatics), and octane. CX0186; CX0617.

56. The scientists developed charts, tables, graphs and equations to explain their emissions research results. CX0186; CX0617; CX0024; CX0025.

57. The Unocal scientists understood that the directional relationships between exhaust emissions and fuel properties had many practical applications, including use in making compositions of low emissions gasoline and in operating or changing a refinery to reduce the emissions of the gasoline it makes. CX0186; CX0024 at 039.

58. The research study further showed that T50 was a key fuel property, because, among other things, reducing the T50 of an unleaded gasoline reduced both the carbon monoxide and hydrocarbon emissions of that gasoline when combusted in an automobile with a catalytic converter. CX1788; CX0482; CX0186; CX0617.

59. On May 14, 1990, at the request of Roger Beach (then-President of Unocal's Refining and Marketing Division and later CEO and Chairman of the Board), Jessup and Croudace presented the initial results of their emissions research in to Unocal's Executive

Committee. CX0172 at 001; Answer ¶ 29.

60. The Executive Committee is a top-level management committee that in 1990 included Roger Beach, Richard Stegemeier, then-Chief Executive Officer and Chairman of the Board. CX0179; CX1726 at 021-022 (Jessup, July 17, 1997, Unocal v. ARCO Trial Tr. at 456:04-457:06).

61. Following the May 14, 1990 meeting, Unocal management approved additional emissions testing to confirm Jessup and Croudace's results. Unocal's internal emissions research project, including the expanded confirmatory tests, became generally known as the "5/14 Project," based on the date that Croudace and Jessup made their presentation to the Executive Committee. CX0176; CX0181.

62. Unocal performed additional 10-car and 13-car emissions studies that confirmed Jessup and Croudace's initial research results. CX0617; CX0024.

63. In September 1990, Unocal management, including Roger Beach approved the filing of a patent application covering the inventions stemming from the 5/14 project. CX0661; CX0193.

64. Dennis Lamb, the key liaison with CARB, and the other Unocal personnel involved in disclosing the 5/14 project research results to CARB, WSPA and Auto/Oil, knew of the patent application. CX3006; CX1253 at 012, 024 (Lamb, Inv. Hearing at 39:02-44:01, 86:13-86:20).

65. Unocal management made prosecution of the patent application a high priority, and Mr. Beach authorized the patent department to get all possible patent coverage for the invention. CX0193.

66. Unocal's Chief Patent Counsel, Gregory Wirzbicki, personally undertook the task of prosecuting the patent application. CX1788 at 013; CX0617.

67. Unocal filed a patent application, No. 07/628,488, with the United States Patent and Trademark Office on December 13, 1990. The inventors were listed as Jessup and Croudace, and Unocal was the assignee of the application. CX1788 at 013-084.

68. The patent application contained Unocal's emissions research results, including equations and data points, and detailed the directional relationships between the fuel properties and emissions studied in the "5/14 Project." The patent application included claims to gasoline compositions and methods of making such gasoline, and recited limits for five of the eight properties specified by the CARB regulations: T50, T90, olefins, aromatics, and RVP. CX1788 at 013-084.

69. The claims in Unocal's patent application derive from the same scientific discovery described in the patent specification – i.e., the directional relationships between basic gasoline properties, including T50, and the levels of exhaust emissions of carbon monoxide ("CO"), unburned hydrocarbons ("HC"), and nitrogen oxides ("NOx") produced when the gasoline is burned. CX1788 at 013-084.

70. In December 1990, at or near the time that Unocal filed its patent application, Unocal's management was informed that there was a good chance that a patent would issue from the application. CX3005.

71. Unocal's December 1990 patent application eventually resulted in the issuance of five patents relating to low emissions reformulated gasoline: U.S. Patent No. 5,288,393 (issued in 1994); U.S. Patent No. 5,593,567 (issued in 1997); U.S. Patent No. 5,653,866 (issued in 1997); U.S. Patent No. 5,837,126 (issued in 1998); and U.S. Patent No. 6,030,521 (issued in 2000). CX0617; CX0618; CX0619; CX0620; CX0621.

72. All five patents that Unocal eventually obtained on the inventions of the 5/14 project are based on, and claim priority to, the original December 1990 application. CX0617; CX0618; CX0619; CX0620; CX0621.

E. Unocal's Strategy to Use 5/14 Project to Influence Regulators and Gain Competitive Advantage

73. Prior to and after the filing of the patent application on December 13, 1990, Unocal employees and management discussed and considered the potential competitive advantage and corporate profit that could be extracted through effectuating an overlap between the CARB regulations and Unocal's patent claims. *See* CCPTFF 74-84

74. As early as June 6, 1989, Unocal scientist Michael Croudace wrote to his supervisor to recommend the creation of a task force comprised of "high level management" drawn from all levels of the corporation so that Unocal could take "full advantage" of the new regulations and coordinate work between the divisions. CX0124 at 004.

75. In November 1989, Roger Beach, the head of Unocal's Refining and Marketing Division, assembled such a cross-functional team, called the "Fuels Issues Team," or "FIT." The team was lead by Dennis Lamb, and its members were drawn from refining, marketing, planning, and science and technology departments. CX0474; CX0149.

76. Throughout the fall of 1990 and early 1991, Unocal management and employees saw the coming regulatory changes as a significant opportunity to gain competitive advantage. During this time period, they planned to use the research from the 5/14 project to influence CARB regulators to make Unocal's specifications required in the industry. CX0188 at 003; CX0219; CX0194 at 002; CX0203 at 012; CX0199; CX0207; CX0217;

CX0191.

77. Members of Unocal's Executive Committee stayed abreast of developments in the 5/14 project. CX0194; CX0203. In January 1991, the Executive Committee received a briefing on the imminent regulations, what Unocal was going to do to comply with those regulations, and how the company could use its in-house technology, including the 5/14 project results. The 5/14 project results were offered as a vehicle for competitive advantage. CX1263 at 032-033 (Stegemeier, Inv. Hearing at 119:07-123:24); CX0217; CX0219.

78. Unocal considered using the results of the 5/14 project to gain flexibility and reduce its costs at its refineries. CX0002.

79. Unocal considered applying the results of the 5/14 project to produce an early version of reformulated gasoline that might give it a competitive advantage in the marketplace. CX0208; CX0229; CX0231. Ultimately, Unocal decided not to produce an "Interim RFG." CX3054.

80. On December 11, 1990, two days before Unocal filed its patent application on the 5/14 research, the scientists highlighted the substantial licensing revenues Unocal could earn by influencing regulators to promulgate reformulated gasoline specifications based on that 5/14 research. CX3005.

81. Unocal management and employees outside of the Science and Technology division recognized the potential value of Unocal's reformulated gasoline technology as lucrative. Unocal internal business documents from 1991 refer to the licensing potential of patents based on Unocal's 5/14 project, as well as the use of the results to influence CARB, and gain competitive advantage. CX0002; CX0238; CX0219; CX0223; CX0239.

82. Jessup outlined regulatory capture strategy in a 4' x 8' poster board titled "Development of Unocal's Reformulated Gasolines – A Two-Year History." The poster recounts the history of Unocal's emissions research, features a graphic of a pot of gold at the end of a rainbow, an estimated royalty figure of $0.01/gallon, and an estimated potential yearly royalty income of $1 billion a year. CX0002; CX0242 at 003; CX0245.

83. Unocal planned to meet with CARB to present its research results from the 5/14 project, including the importance of T50 as a parameter for Phase 2 reformulated gasoline. CX0242.

84. Unocal kept details of its reformulated gasoline patent applications and potential licensing strategy secret. CX3004; CX0371.

F. Unocal Made Material Misrepresentations to CARB With the Knowledge that CARB Would and Did Reasonably Rely on Them.

1. Information to CARB

85. Beginning in 1990 and continuing throughout the CARB Phase 2 RFG rulemaking process, Unocal provided materially misleading and misrepresentative information to CARB for the purposes of obtaining competitive advantage. CX0005; CX0010; CX0021; CX0022; CX0023; CX0024; CX0025; CX0026; CX0027; CX0028; CX0029; CX0030; CX0031; CX0032; CX0033; CX0034; CX0035; CX0036; CX0037; CX0038; CX0039; CX0040; CX0041; CX0042; CX0043; CX0044; CX0045; CX0046; CX0047; CX0048; CX0049; CX0050; CX0051; CX0052; CX0053; CX0054; CX0055; CX0056; CX0148; CX1420; CX1077; CX1079; CX1079A; CX1083; CX1084; CX1084A.

86. Unocal gave CARB information in private meetings, through participation in CARB's public workshops and hearings, and through industry groups that also participated in the rulemaking proceedings. CX0005; CX0010; CX0021; CX0022; CX0023; CX0024; CX0025; CX0026; CX0027; CX0028; CX0029; CX0030; CX0031; CX0032; CX0033; CX0034; CX0035; CX0036; CX0037; CX0038; CX0039; CX0040; CX0041; CX0042; CX0043; CX0044; CX0045; CX0046; CX0047; CX0048; CX0049; CX0050; CX0051; CX0052; CX0053; CX0054; CX0055; CX0056; CX0643; CX0289; CX0872; CX0872A; CX1066; CX0514; CX0344; CX0879; CX0771; CX1412; CX0945.

87. Unocal management and employees understood that information and data relating to the potential costs of complying with, or relating to the cost-effectiveness of, the Phase 2 regulations were material to CARB's RFG rulemaking proceedings. CX0033; CX0024; CX1075; CX0039.

88. In May 1991, CARB invited industry members to discuss the Phase 2 specifications for RFG at a June 1991 workshop. CARB identified the distillation properties, generally, and T90, specifically, as part of the specifications being considered. CARB also indicated that it would consider the use of predictive models as an alternative to the fuel parameter specifications. CX0492.

89. On June 11, 1991, Unocal learned at a CARB workshop that CARB was interested in data to support the effect of T50 on emissions. CX0252 at 003.

90. On June 20, 1991, Unocal presented to CARB staff the results of its "5/14 Project" to show CARB that "cost-effective" regulations could be achieved through adoption of a predictive model and to convince CARB of the importance of T50. CX0024; CX0240; CX0241.

91. Unocal's presentation to CARB, entitled "Unocal Reformulated Fuels Technology – A

Truly Innovative Approach," described Unocal's one-car test, and its confirmatory 10-car and 13-car tests. Unocal presented the results of the emissions tests in many formats, including in chart format and simplified linear equations. Unocal presented conclusions highlighting the importance of T50 to reduce emissions, and that very simple linear equations can be used to predict emission reductions. Unocal stated that it could make real world low emission gasoline using its predictive models. CX0024.

92. Unocal advocated to CARB that adopting a predictive model would be cost-effective, practical, and enforceable. CX0023; CX0024.

93. At the time of Unocal's presentation to CARB in June 1991, Unocal had a pending patent application that was based on, and included, the same information that Unocal presented to CARB. CX1788 at 013-084; CX0024.

94. Unocal's pending patent application contained numerous claims that included T50 as a limitation, in addition to other fuel properties that CARB proposed to regulate. In addition, Unocal's pending patent application described a predictive model of blending gasoline to reduce emissions based on adjusting fuel properties, and thus preserved Unocal's ability to later filing patent claims covering the predictive model. CX1788 at 013-084.

95. At its June 20, 1991 presentation, Unocal requested that CARB hold the information in the presentation confidential. CX0024.

96. CARB later requested that Unocal provide additional information to support Unocal's June 20, 1991 presentation so that CARB could use the research results in the rulemaking process. CX0029; Answer ¶ 40.

97. On July 1, 1991, Unocal provided CARB with the actual emissions prediction equations developed in the "5/14 project." Unocal's letter to CARB, states that "Unocal requests that CARB hold these equations confidential, as we feel that they may represent a competitive advantage in the production of reformulated gasoline." CX0025; Answer ¶ 39.

98. Unocal also advised that if CARB would pursue "meaningful dialogue" on a predictive model, "Unocal will consider making the equations and underlying data public as required to assist in the development of a predictive model." CX0025.

99. Between July 25, 1991, and August 2, 1991, Unocal provided CARB with a computer disk with the emissions testing results from its 10-car study. CX1247; CX1810 at 005.

100. Unocal management approved the plan to provide the research results to CARB. CX1254 at 015 (Beach, Inv. Hearing at 49:13-51:02).

101. Unocal and CARB staff had multiple communications regarding the information presented by Unocal as CARB developed its regulatory proposals and its predictive model. CX0032; CX0137; CX0029; CX0034 at 003; CX0042; CX0043; CX0774.

102. The draft regulations disseminated by CARB prior to an August 14, 1991 workshop, and discussed at that workshop, included a T50 specification and expressed CARB's intention to develop predictive models as a method for certifying gasoline formulations. CX0795C.

103. On August 27, 1991, following CARB's agreement to develop a predictive model, Unocal released and made publically available its 5/14 Project results to CARB and others, stating:

> "Please be advised that Unocal now considers this data to be non-proprietary and available to CARB, environmental interest groups, other members of the petroleum industry, and the general public upon request." CX0029.

104. Unocal's representation that its data were now available to CARB, other refiners, and the general public created the misleading impression that Unocal did not maintain any property interests in its research results. CX0029.

105. CARB understood that the data Unocal stated was non-proprietary included all of the information Unocal gave CARB relating to its emissions research, including its equations and conclusions concerning directional properties. CX0024; CX0029.

106. Unocal's representations that its data were now available to CARB, other refiners, and the general public was quid pro quo for CARB's expressed intention to develop a predictive model. CX0029.

107. By submitting its August 27, 1991 letter to CARB, Unocal misrepresented its proprietary interests in the "5/14 Project" data, and its intent to enforce its proprietary interests to obtain licensing income. Unocal did not impose on CARB any conditions for the use of its research results in the rulemaking process. CX0029.

108. Read separately or in conjunction with Unocal's July 1, 1991 letter, the August 27, 1991 letter created the materially false and misleading impression that Unocal agreed to give up any "competitive advantage" it may have had relating to its invention and arising from its emissions research results. Unocal's course of conduct within CARB also created this impression. CX0029; CX0033; CX0774 at 010-048.

109. As a result of Unocal's communications, CARB understood that any propriety interests, including patent rights, associated with the 5/14 research either did not exist, or would not be asserted. CX0025; CX0029.

110. In October 1991, CARB published Unocal's predictive mathematical equations in public documents supporting the proposed Phase 2 RFG regulations. CARB also published reference to Unocal's June 20, 1991 presentation to CARB, which was made a part of the public record for the regulation. CX0005 at 171, 298; CX0024.

111. Data from ARCO, Toyota, or GM research, in the absence of Unocal's data, was not sufficient for CARB to regulate T50. CX0005 at 025-034; CX0010 at 046-049, 074-075; CX0481 at 008.

112. CARB included in its Technical Support Document for the proposed Phase 2 reformulated gasoline regulations a sensitivity analysis of T50 changes on exhaust emissions using Unocal's regression equations. CARB relied on Unocal's regression equations and charts to set the level of the T50 specification for the Phase 2 reformulated gasoline regulation. CX0005 at 025-034; CX0010 at 028, 033.

113. After the dissemination of the CARB staff's proposed Phase 2 RFG regulations, Unocal provided comments to CARB staff in meetings and written documents. CX0030; CX0031; CX0032; CX0033; CX0285; CX0301.

114. After the dissemination of the CARB staff's proposed Phase 2 RFG regulations, Unocal provided CARB with a second computer disk containing its 5/14 research results. This disk combined emissions results from WSPA members. CX1246.

115. At a public hearing on November 21 and 22, 1991, the CARB Governing Board heard information about the CARB staff's proposed regulations and testimony from interested parties. CX0773; CX0774.

116. Unocal participated in the Phase 2 RFG CARB board hearing and offered testimony on the proposed regulations and other testimony at the hearing. CX0774.

117. As a part of the rulemaking proceedings, including those for Phase 2 RFG, CARB issued a Final Statement of Reasons which includes comments made during the comment period and CARB's responses to those comments. CX0010.

2. Costs

118. Costs were an integral element of the cost-effectiveness analysis conducted by CARB. In the California Clean Air Act, the legislature directed CARB to promulgate cost-effective regulations. Cal. Health & Safety Code § 43018 (1991).

119. CARB staff depended principally on the refiners to inform CARB about the potential costs of the Phase 2 regulations. Staff made direct requests to all refiners in California for cost information, including Unocal. CX0010 at 082-083.

120. CARB staff, in numerous meeting with industry, frequently discussed costs and solicited information regarding costs and the effects on emissions of various proposals. CX0052 at 11; CX1267 at 003-008; CX0010 at 052, 082-083, 095.

121. The cost analysis conducted by CARB used actual cost information where available, and extrapolated where necessary to account for information that it knew was not available. CX0010 at 082-083.

122. Unocal understood that information relating to compliance costs was material. CX0033.

123. The cost-effectiveness of the regulations remained an issue well after the adoption of the Phase 2 regulations in November 1991. Refiners, including Unocal, invoked this concept in connection with two specific issues: (1) the small-refiner exemption; and (2) the development and adoption of a predictive model. CX0010 at 134-144; CX0054 at 021-023.

124. CARB proposed a two-year delay for small refiners to comply with the Phase 2 regulations in recognition of the greater difficulties that these refiners had in obtaining the necessary capital to make refinery modifications. Unocal criticized to CARB the extension because it would add "around 6 cents per gallon" to Unocal's compliance costs, thereby acknowledging that a 6 cents per gallon cost increase should be treated by CARB as material to its rulemaking. CX0039.

125. The Staff Report, Technical Support Document, Final Statement of Reasons, hearing transcripts and other official CARB documents provide evidence of CARB's compliance with the statutory requirements relating to cost and emissions reductions, particularly in sections related to cost effectiveness. CX0005; CX0010; CX0052; CX0773; CX0774.

3. Predictive Model Development

126. The Phase 2 RFG regulations as adopted in November 1991 included a placeholder for a predictive model, the details of which had yet to be developed. CX0816 at 031; CX0010 at 022.

127. CARB's "predictive model" permits a refiner to comply with the RFG regulations by producing fuel that is predicted – based on its composition and the levels of the eight properties – to have equivalent emissions to a fuel that meets the strict gasoline property limits set forth in the regulations. CX0053 at 009-012.

128. The Phase 2 reformulated gasoline regulations as adopted in November 1991 required that all compliant fuels, regardless of method of compliance, including the predictive model, would not include specifications exceeding the cap limits. CX0052 at 040.

129. Unocal participated in the development of the Phase 2 RFG predictive model from 1991 through 1994 by providing emissions testing data, commenting on the proposed statistical methods, advocating for the timing of the availability of the predictive model, as well as advocating that a predictive model would increase the flexibility of refiners to make RFG more cost efficiently. CX0021; CX0035; CX0037; CX0043; CX0044; CX1247; CX1249; CX1424.

130. Unocal actively participated in WSPA's contributions to CARB's predictive model development. CX0281 at 006; CX0294; RX0679; CX0702; CX0300; CX1246.

131. Unocal again urged CARB to be sensitive to the costs of its regulations in connection with the predictive model. Unocal advocated adoption of the predictive model because it provided "compliance flexibility" that would "deliver the same [emissions] benefits while minimizing capital investment and thus consumer costs." CX0042.

132. Data from Unocal's vehicle emissions tests, as well as vehicle emissions tests from other participants in the rulemaking process, were included in the predictive model database created by CARB. CX1248.

133. Unocal submitted comments to CARB touting the predictive model as offering "flexibility" and furthering CARB's mandate of "cost-effective" regulations. These statements and comments include, but are not limited to, both written and/or oral statements made to CARB on the following dates: June 20, 1991, October 29, 1991, November 21, 1991, November 22, 1991, March 16, 1992, June 19, 1992, August 14, 1992, September 4, 1992, June 3, 1994, and June 9, 1994. CX0024; CX0030; CX0033; CX0774; CX0036; CX0037; CX0039; CX0040; CX1066; CX0042; CX0043; CX0044.

134. CARB amended the Phase 2 regulations in June 1994 to include the details for a predictive model. This amendment provided an alternative method of complying with the regulations that was intended to provide refiners with additional flexibility. CX0865; CX0866; CX0866A; CX0053 at 006.

4. Impact of Unocal's Misrepresentations to CARB

135. The Staff Report, Technical Support Document, Final Statement of Reasons, hearing transcripts and other official CARB documents provide evidence of CARB's reliance on Unocal's representations regarding its 5/14 research for the development of the Phase 2 RFG regulations. CX0005; CX0010; CX0052; CX0773; CX0774.

136. In reasonable reliance on Unocal's representation that the information was no longer proprietary, CARB used Unocal's research results, generally, and equations, specifically, in setting a T50 specification and developing the Phase 2 RFG regulations, including the

predictive model. CX0005 at 028-033; CX0010 at 046-050, 074-075; CX0052 at 033; CX0053 at 031, 145-146; CX0054.

137. In 1991 CARB neither had to regulate T50, nor provide a predictive model method of compliance, if to do so would meaningfully detract from the cost effectiveness of the reformulated gasoline regulation. *See* CCPTFF 25-32, 35.

138. The CARB board made modifications to the proposed regulations at the Board hearing in order to provide refiners with greater flexibility and opportunity to reduce compliance costs. CARB determined that these benefits outweighed the relatively minor lessening of emission reductions that would result from the modifications. CX0010 at 013-014.

139. Unocal's misrepresentations and materially false and misleading statements caused CARB to adopt Phase 2 RFG regulations that substantially overlapped with Unocal's concealed patent claims. *See* CCPTFF 85-125, 129-137.

140. Unocal failed to disclose material information during the Phase 2 RFG rulemaking that would have impacted CARB's analysis of the cost-effectiveness of the Phase 2 RFG regulations. *See* CCPTFF 85-125, 129-137.

141. During the Phase 2 RFG rulemaking Unocal instead perpetuated false and misleading impressions concerning the nature of its proprietary interests in its "5/14 Project" research results and its impact on the costs to comply with the RFG regulations. *See* CCPTFF 85-125, 129-137.

142. The Staff Report, Technical Support Document, Final Statement of Reasons, hearing transcripts and other official CARB documents provide evidence of CARB's concern with practical considerations related to ensuring on-time compliance, refinery flexibility, adequate supply, and effective enforcement. CX0005; CX0010; CX0052; CX0053; CX0054; CX0769; CX0773; CX0774.

143. CARB would not have knowingly adopted RFG regulations that substantially overlapped with Unocal's concealed patent claims if such overlap could affect supply, cost of compliance, or the emissions impact of the regulations. CX0812; *See* CCPTFF 138.

144. Throughout its communications and interactions with CARB prior to January 31, 1995, Unocal failed to disclose that it had pending patent rights, that its patent claims overlapped with the proposed RFG regulations, and that Unocal intended to charge royalties. CX0047. *See* CCPTFF 85-117, 129-133.

145. CARB did not know at any time prior to Unocal's eventual public announcement of its patent in 1995, that Unocal's assertion of its proprietary interests could affect the supply of compliant RFG or the cost of complying with RFG regulations. And even after

Unocal's announcement of the '393 patent, CARB did not know the extent of the impact of Unocal's patents on the supply of compliant RFG and the cost of complying with RFG regulations. CX0047. *See* CCPTFF 85-117, 129-133.

146. CARB did not know when it adopted the Phase 2 RFG regulations, or at any time prior to Unocal's eventual public announcement of its patent in 1995, or even after the public announcement, what Unocal's pending patent applications covered, or that Unocal's pending patents would affect refiners' flexibility in complying with the RFG regulations. CX0047. *See* CCPTFF 186-213.

147. During the CARB Phase 2 RFG rulemaking, CARB had no way of knowing, other than from Unocal, what Unocal's pending patent applications covered, or that these applications could affect the supply of compliant RFG or the cost of complying with RFG regulations. *See* CCPTFF 186-213.

148. CARB relied on Unocal's research results for support of multiple parameters in the RFG regulation, including olefins, as well as T50. CX0005 at 028-033, 042; CX0010 at 046-050, 074-075; CX0052 at 033; Pre-Trial Brief Exhibit 2 at 5223-5224.

149. CARB made technical information upon which its regulations were based available to interested parties to encourage meaningful participation in the rulemaking process. Procedural requirements and CARB policy and practice require that CARB base its regulations on information that is available to the public. CX0492; CX0795; CX0795A; CX0795B; CX0795C; CX0795D; CX0795E; CX0803; CX0767; CX1267; Cal. Gov't Code §§ 11340 *et seq*.

150. CARB credited the Unocal research results as providing justification for CARB's addition of T50 to the proposed regulation. Unocal's research results formed the basis for CARB's inclusion of a T50 specification. Unocal also understood that CARB relied on its research to regulate T50. CX0005 at 028-033; CX0010 at 046-050, 074-075; CX0052 at 033; CX0301 at 001; CX774 at 045-046.

151. Unocal's materially misleading information prevented CARB from considering the potential cost impact of CARB relying on Unocal's research results for developing the RFG regulations. *See* CCPTFF 85-125, 132-133, 136.

G. Unocal Made Material Misrepresentations to Auto/Oil and WPSA With the Knowledge that These Groups Would and Did Reasonably Rely on Them.

152. During the CARB RFG rulemaking, Unocal actively participated in the Auto/Oil Air Quality Improvement Research Program ("Auto/Oil" or the "Program"), a cooperative, joint research program between the automobile and oil industries. CX4001; CX4080; CX4116.

153. By agreement dated October 14, 1989, Unocal and 13 of the other largest domestic oil companies and the three big domestic automobile manufacturers entered into a joint research agreement in accordance with the National Cooperative Research Act of 1984 ("Auto/Oil Agreement"). CX4001 at 001-002.

154. The Auto/Oil joint research venture planned and carried out research and tests designed to measure and evaluate automobile emissions and the potential improvements in air quality achievable through the use of reformulated gasolines, methanol, and other alternative fuels, and evaluated the relative cost-effectiveness of these various improvements. CX0138.

155. The Auto/Oil Agreement provided that "[t]he results of research and testing of the Program will be disclosed to government agencies, the Congress and the public, and otherwise placed in the public domain." This agreement specifically provided for the dedication of any and all intellectual property rights to the public. CX4021 at 008.

156. While the Auto/Oil Agreement permitted participating companies to conduct independent research, and further permitted them to withhold the fruits of such independent research from the Auto/Oil Group, once data and information were in fact presented to the Auto/Oil Group, they became the "work of the Program." CX4021.

157. Throughout its existence, Auto/Oil provided emissions research to regulators, including CARB, and the public through numerous newsletters, publications and data disks. CX4110; CX4112; CX4083; CX4085; CX4087 at 002; CX4016 at 026.

158. Auto/Oil donated its research without any charge to CARB or the public. CX4001 at 007, 014.

159. Unocal viewed its participation in industry groups, such as Auto/Oil and WSPA, as an integral part of its strategy of obtaining a competitive advantage through manipulation of the regulatory process for RFG. CX3004; CX0002; CX0137.

160. Consistent with the purpose for which members joined it, Auto/Oil proceedings were marked by an unprecedented level of cooperation. CX4025; CX0138; CX4001.

161. Because of antitrust concerns about collaboration among competitors, it was expected that Auto/Oil members generally would not discuss proprietary material with each other, and Auto/Oil members applied special procedures for the handling of proprietary technology. CX4001 at 014; CX4027.

162. Unocal understood the implications of presenting research to Auto/Oil and, prior to September 1991, deliberately chose to withhold it. CX4031; CX4182.

163. On September 26, 1991, Unocal presented to Auto/Oil the data from Unocal's emissions research, including the raw test data, equations, and corresponding directional relationships between fuel properties and emissions derived from the "5/14 Project." CX4027; CX4028.

164. Unocal "explained that the data from Unocal's research has been provided to CARB and is in the public domain." CX4027 at 010. The data itself, as reflected on numerous charts, was provided to members at the meeting and Unocal offered the data and data disks to all Auto/Oil members. CX0461; CX4027 at 010; CX0293.

165. Unocal management authorized this presentation to Auto/Oil, which was substantially similar to that made to CARB on June 20, 1991. CX0846 at 053 (Alley, dep. at 201:3-203:1); CX0024; CX4028.

166. Unocal's 5/14 work became part of the "work" of the Auto/Oil Program. CX4001.

167. Auto/Oil members used Unocal's research materials. CX1693; CX0461.

168. Had members known of Unocal's misrepresentations in 1991, Auto/Oil members would have taken alternative measures that would have resulted in a competitive landscape dramatically different than the monopoly held by Unocal today. Expected testimony of Auto/Oil witnesses.

169. Throughout all of its communications and interactions with Auto/Oil prior to January 31, 1995, Unocal failed to disclose that it had pending patent rights, that its patent claims overlapped with the proposed RFG regulations, and that Unocal intended to charge royalties. *See* CCPTFF 160-166.

170. Unocal violated the integrity of the Auto/Oil joint venture's procedures and subverted Auto/Oil's process of providing accurate and nonproprietary research information to CARB. CX4001; CX4198; CX4110; CX4112; CX4083; CX4085.

171. During the CARB Phase 2 RFG rulemaking proceedings, Unocal also actively participated in the Western States Petroleum Association ("WSPA"), an oil industry trade association that represents companies accounting for the bulk of petroleum exploration, production, refining, transportation and marketing in the western United States. WSPA, as a group, actively participated in the CARB RFG rulemaking process. CX0279; CX1630; CX1653; CX0174; CX1669; CX0300; CX0723.

172. Peter Jessup made a presentation to WSPA on September 10, 1991, of Unocal's 5/14 emissions research results and created the misleading impression that the research results (which covered the scope of the patents, as later asserted by Unocal) were publicly

available and could be used by anyone in the group. CX0272; CX1708.

173. The Unocal data was subsequently provided to WSPA members for their review and use, with no disclosure of the proprietary rights Unocal planned to enforce on the research. CX1246.

174. WSPA members used Unocal's research results. CX1592; CX1593; CX1680.

175. WSPA commissioned, and submitted to CARB, three cost studies in connection with the CARB Phase 2 RFG rulemaking. CX0279; CX0801; CX1108; CX1106.

176. Consultant Turner Mason conducted for WSPA a comprehensive study on the estimated cost to refiners of complying with Phase 2 RFG regulations. Turner Mason collected cost data about component portion of refinery configuration and operations elements for refineries in California and incorporated these data into a linear-programming model that provided an assessment of the costs, economics, and supply issues in a composite refinery. CX0280; CX1106.

177. Turner Mason asked refiners to provide information on all costs relevant to producing RFG in California, and industry experts from WSPA reviewed the costs and assumptions used in the refinery model. CX1106; Expected testimony of Robert Cunningham.

178. Unocal employees actively participated in WSPA's oversight of the Turner Mason study. Unocal knew that royalties were considered in this cost study. CX1160; CX1162; CX1164; CX1106.

179. Turner Mason and WSPA presented preliminary results of its cost study to CARB staff in the weeks prior to the November 1991 Board hearing, and provided the full report to CARB staff and Board just prior to the hearing. CX1516; CX1517; CX0280; CX1103.

180. Unocal urged CARB to rely on the Turner Mason cost estimates, despite its knowledge that those estimates omitted any consideration of Unocal's pending patents and plan to charge royalties. CX0033 at 016; CX0031.

181. CARB considered the cost impact analysis submitted on WSPA's behalf by Turner Mason. CARB staff did not accept certain conclusions of the Turner Mason study, but CARB made modifications to its proposed regulations in light of the recommendations made by WSPA that were supported by the Turner Mason study. CX0010 at 082-084.

182. All of the cost studies sponsored by WSPA provided important factual information that CARB considered in the Phase 2 RFG rulemaking. CX0773 at 205-309.

183. CARB did view the Turner Mason study as an important contribution of data related to

costs, and created a revised proposal for specifications based on WPSA's information that certain parameters could be relaxed to lower costs in accordance with CARB's directive to promulgate cost effective regulations. CX0010 at 082-084.

184. In its interactions with WSPA, Unocal created the materially false and misleading impression that Unocal did not have any proprietary interests or intellectual property rights associated with its emissions research results. CX0285; *See* CCPTFF 171-180.

185. None of the participants in the WSPA or Auto/Oil groups knew of the existence of Unocal's proprietary interests and/or pending patent rights at any time prior to the issuance of the '393 patent in February 1994, by which time most, if not all, of the oil company participants to these groups had made substantial progress in their capital investment and refinery modification plans for compliance with the CARB Phase 2 RFG regulations. If the participants knew of the proprietary interests prior to making substantial progress, they would have taken actions incorporating this knowledge in their capital investment and refinery reconfiguration decisions to avoid and/or minimize potential infringement. CX0723; CX1710 at 012-022; Expected testimony of Auto/Oil and WSPA witnesses.

H. Unocal Secretly Sought Patent Claims that Resembled and Mirrored CARB's Regulations, and Unocal Did Not Disclose the Patent Claims and its Intent to Enforce them to CARB.

186. As of the adoption of the proposed CARB Phase 2 specifications in November 1991, Unocal knew that a number of the claims in its patent application covered some, if not all, of the gasolines that refiners would be required to produce under the CARB specifications. CX0485.

187. After November 1991, Unocal also amended some of its patent claims to resemble the CARB regulations. CX1726 at 034 (Jessup, July 17, 1997, Unocal v. ARCO Trial Tr. at 506:07-506:22); CX0483.

188. In July 1992 Unocal received notice that most of the pending patent claims based on its emissions research had been allowed by the United States Patent and Trademark Office. Unocal knew at that point that a patent would, in all likelihood, issue containing most of the claims in its application. CX0593; Answer ¶ 61.

189. Upon learning in the summer of 1992 that a patent would likely issue, Unocal retained outside patent counsel and began to prepare for enforcement of the patent through litigation and licensing. CX0332.

190. Unocal continued, after learning that its patent would likely issue, to participate in CARB proceedings and to discuss the cost-effectiveness of proposed regulations with CARB.

CX0392; CX0039; CX0042.

191. Unocal did not disclose any of the information about the allowance of its patent claims or its intent to enforce them to CARB or other participants in the CARB Phase 2 rulemaking. CX0021; CX0022; CX0023; CX0042; Answer ¶ 61.

192. If Unocal had disclosed that it intended to retain and enforce its rights relating to its emissions research to CARB or to anyone in the industry at that time, CARB would not have taken the actions it took in the absence of such knowledge. *See* CCPTFF 35, 85-151.

193. Unocal could have disclosed the existence of its patent applications to CARB if it wished to do so, and it had made such a disclosure in the past. CX0228; CX0222; CX1093. Unocal decided not to do so. CX1822 at 007; CX1308; CX0172.

194. In 1993, Unocal filed a divisional patent application, preserving the right to file for additional patents arising from the 5/14 project and the original December 1990 patent application. CX0644.

195. Throughout the CARB Phase 2 rulemaking proceedings, Unocal concealed from CARB (and everyone else outside of Unocal) that Unocal had filed patent applications covering the results of the 5/14 project, and that Unocal, upon the issuance of any patents, intended to enforce its patents rights and seek royalties thereunder. CX0029; *See* CCPTFF 84-86, 103-109, 196-200.

I. Even After Unocal's First Patent Issued, Unocal Continued to Perpetuate its Deceit to CARB and the Industry about the Extent of it Proprietary Rights and Its Intent to Enforce Them.

196. On February 22, 1994, the Patent and Trademark Office issued Unocal's first reformulated gasoline patent arising out of the 5/14 project, the '393 patent. CX0667. The inventors were identified as Jessup and Croudace, and the assignee of the patent was Unocal. CX0617.

197. Unocal did not publicly announce the issuance of the '393 patent until it issued a press release on January 31, 1995 – nearly a year after the PTO issued the patent. CX0599.

198. Unocal's January 31, 1995 press release indicated that the patent "covers many of the possible fuel compositions that refiners would find practical to manufacture and still comply with the strict California Air Resources Board (CARB) Phase 2 requirements." CX0375; Answer ¶ 64; CX0649.

199. Unocal also announced that it planned to offer its patent for license. CX0599. This

announcement followed letters sent from Chevron and Texaco to Roger Beach, Unocal's CEO, inquiring about Unocal's plans for its patents. CX0369; CX0370.

200. CARB did not learn of the '393 patent until Unocal's public announcement in January 1995. CX0900A; CX0047.

201. Upon learning of Unocal's reformulated gasoline patent in 1995, CARB considered whether it could rescind the Phase 2 regulations and decided this was not a viable option. CX0900; CX0900A.

202. By 1995 CARB had committed to the United States Environmental Protection Agency and the public to achieve the emissions reductions expected from the Phase 2 RFG regulations. CX0886; CX0886A; CX0866B; CX0886C.

203. Ensuring a smooth roll-out of CARB reformulated gasoline was a key topic of discussion between CARB and Unocal after the patent announcement. CX1269; Answer ¶ 65; CX1412.

204. By the time that Unocal publicly announced the issuance of the '393 patent in January 1995, CARB understood that the refiners had, to a large extent, become "locked in" to their capital investments and refinery modifications. CX0900.

205. On March 17, 1995, Unocal met separately with California Governor Pete Wilson and CARB staff to make assurances that Unocal had no intention to enjoin or otherwise hinder the roll-out of Phase 2 reformulated gasoline and that it would offer non-discriminatory licenses to the industry. CX0048; CX1269; CX0383; CX0407; CX0049.

206. Unocal agreed when it met with CARB in March 1995 that it would not sue for patent infringement those producing or using test fuel in a vehicle testing program. This test program was integral to CARB's rollout of Phase 2 RFG. CX0049; CX0050; Answer ¶ 65; CX1234.

207. Even after its patent announcement, Unocal misled CARB and others about its intentions regarding for enforcing its patent rights. Unocal's intentions to charge a royalty that would materially affect the cost and supply of California RFG were only known within that company, and therefore CARB did not have accurate information upon which to assess how to proceed in light of the patent announcement. CARB had no way of knowing, other than from Unocal, what Unocal's pending patent applications covered, or that these applications could affect the cost or supply of compliant RFG. CX0045; CX0048; CX0905.

208. CARB, once it learned that Unocal was asserting its proprietary rights, due to regulatory and refiner lock in did not have an opportunity to correct its error in determining that the

Phase 2 RFG was reasonable in cost and did not adversely impact competition. CX0900; CX0900A; CX0784.

209. Unocal filed additional continuation patent applications on June 5, 1995 (No. 08/464,544), August 1, 1997 (No. 08/904,594), and November 13, 1998 (No. 08/191,924), all claiming priority to the original December 1990 patent application. Answer ¶ 67.

210. Unocal continued to inform CARB that it should not change its regulations. CX1509; CX0612; CX1605 at 011.

211. Legislation enacted in 1999 to address the problem of groundwater contamination from MTBE in gasoline prevents CARB from making substantial changes to the Phase 2 RFG regulations that would permit refiners to avoid the Unocal patents. S.B. 989, 1999-2000 Reg. Leg. Sess. at § 26, 1999 Cal. Stat. 812.

212. California included the Phase 2 RFG regulations in a State Implementation Plan ("SIP") revision it filed with the United States Environmental Protection Agency ("EPA") in 1994 that identified the measures California would undertake to reduce air pollution in accordance with the Federal Clean Air Act. CX0886; CX0886A; CX0866B; CX0886C. Modifying the CARB Phase 2 RFG regulations in a way that lessened emissions reductions after these regulations were included in the SIP was not feasible. CX0812; CX0900; CX0900A; CX0900B; CX1076.

213. Had CARB known of Unocal's proprietary interests in the 1991-1992 time frame, CARB would not have gone forward and adopted regulations in the face of the knowledge that doing so would provide one company with undue competitive advantage. CX0812; CX0034 at 004.

J. Unocal Enforced its Patents through Litigation and Licensing Agreements

214. On April 13, 1995, six refiners of CARB reformulated gasoline – ARCO, Exxon, Mobil, Chevron, Texaco, and Shell – filed suit in the United States District Court for the Central District of California seeking a declaratory judgment that the '393 patent was invalid. Unocal filed a counterclaim for patent infringement of the '393 patent. *See Unocal v. ARCO*, 208 F.3d 989 (Fed. Cir. 2000); Answer ¶ 68.

215. Unocal's deceptive conduct before CARB and industry groups, as addressed in the Administrative Complaint, was not the focus of the trial in the patent litigation between Unocal and the refiners. *See Unocal v. ARCO*, 208 F.3d 989 (Fed. Cir. 2000).

216. The jury in the patent litigation determined that Unocal's patent was valid, infringed, and found that the refiners must pay a royalty rate of 5.75 cents per gallon for the period from

March through July 1996 for sales of infringing gasoline in California. *See Unocal v. ARCO*, 208 F.3d 989 (Fed. Cir. 2000); Answer ¶ 68.

217. A divided panel of the Federal Circuit affirmed the jury verdict in 2000. *Unocal v. ARCO*, 208 F.3d 989 (Fed. Cir. 2000). The Supreme Court denied the refiners' petition for writ of certiorari. *Union Oil Co. v. Atlantic Richfield Co.*, 531 U.S. 1183 (2001).

218. The refiners in the *Unocal v. Arco* litigation have made payments totaling $91 million to Unocal for damages, costs, and attorneys' fees. Answer ¶ 69.

219. The trial judge ruled in August 2002 in the accounting of infringement of the '393 patent by the six refiners for the period from August 1, 1996, through December 31, 2000, that the royalty rate applicable to infringing gasoline produced and/or supplied in California remained 5.75 cents per gallon. CX1347. This accounting action is ongoing.

220. On January 23, 2002, Unocal sued Valero Energy Company in the Central District of California for willful infringement of both the '393 and '126 patents. CX0703; CX1337. In its complaint, Unocal seeks damages at the rate of 5.75 cents per gallon for all infringing gallons, and treble damages for willful infringement. CX1337 at 011; Answer ¶ 71.

221. Unocal has entered into licensing arrangements with eight companies for use of all five patents in its reformulated gasoline portfolio. These standardized licensing arrangements provide for a sliding scale of royalties ranging from 1.2 to 3.4 cents per gallon of infringing gasoline, with the royalty rate decreasing as the infringement rate increases. CX2231; CX2233; Answer ¶ 72.

222. { **REDACTED**
REDACTED } CX2000 (*in camera*); CX2231; CX2233.

223. On or about March 29, 2001, Unocal issued a press release stating that the uniform licensing agreements were available to "non-litigating refiners." CX0472 at 002.

K. Unocal Monopolized or Attempted to Monopolize Two Relevant Antitrust Markets

224. Unocal obtained and exercised market power, and/or had a dangerous probability of doing so, in two relevant markets. *See* CCPTFF 225-266

225. One relevant product market is for technology for the production and supply of CARB compliant summertime gasoline. This market consists of the technology patented and licensed by Unocal and any other technologies that are sufficiently close substitutes that would constrain Unocal's ability to raise the price of its patented technology above the

competitive level (the "Technology Market"). CX1720.

226. Unocal has not identified any technology that competes in the Technology Market other than its own reformulated gasoline patents and the unpatented technical know-how to blend around Unocal's reformulated gasoline patents. CX1343.

227. The relevant geographic market for the Technology Market is the world; there are no barriers preventing a seller or licensor located anywhere in the world from supplying this type of technology. CX1720.

228. The second market is for gasoline that is compliant with the CARB summertime regulations and is sold in California (the "Downstream Product Market"). CX1720.

229. { **REDACTED**
REDACTED } Teece, Oct. 5, 2003, dep. tr. At 24:01-24:16 (*in camera*).

230. There are no substitutes in the Downstream Product Market, and demand in this market is highly inelastic. CX1720 at 022-023.

231. The relevant geographic market for the Downstream Product Market is the world, in that anyone in the world can produce CARB-compliant gasoline. However, that gasoline is manufactured only for sale to California consumers, and the evidence shows that suppliers outside California cannot effectively discipline price increases given the costs of transporting gasoline over long distances. CX1720.

L. Unocal Obtained and Exercised Market Power in the Relevant Market.

232. Unocal's deceptive conduct before CARB, Auto/Oil and WSPA, resulted in Unocal's acquisition of monopoly power in the Technology Market. *See* CCPTFF 135-213, 224-231.

233. By law, no refiner may produce or market any gasoline for California that does not comply with the CARB regulations. Cal. Code Regs. Tit. 13 § 2261 (1994).

234. Unocal's reformulated gasoline patents overlap substantially with the CARB regulations. CX1268 at 003; CX1709 at 020; CX1710 at 005.

235. Unocal has publicly asserted that most or all of the gasoline that is practical to make to comply with the CARB Phase 2 regulations would fall within the scope of Unocal's reformulated gasoline patent claims. CX0372; CX0375; CX0754 at 003; CX3051; CX0401 at 004; CX0522.

236. Over 90% of CARB Phase 2 summer-time gasoline falls within the numerical property

limitations of the claims of one or more of Unocal's patents. CX0454; CX1709 at 021.

237. Over 80% of CARB Phase 2 summer-time gasoline falls within the numerical property limitations of the compositional claims of Unocal's '393 and '126 patents. CX1709 at 021; CX1466.

238. { **REDACTED** **REDACTED** **REDACTED** } CX859 at 005-006 (Strathman, dep. at 12:09-13:06), 012 (Strathman, dep. at 38:18-39:07) (*in camera*); CX2000 (*in camera*); CX0466 at 004-005 (*in camera*); CX0533 (*in camera*); CX2010 (*in camera*).

239. The rate of overlap of the numerical claim limitations is a good proxy for determining whether the refiners infringe Unocal's patents. CX1720 at 026; CX0859 at 005-006 (Strathman, dep. at 12:09-13:06), 012 (Strathman, dep. at 38:18-39:07) (*in camera*); CX2000 at 001 (*in camera*); CX0466 at 004-005 (*in camera*); CX0684 (*in camera*).

240. The extensive overlap between the CARB reformulated gasoline regulations and the Unocal patent claims makes avoidance of the patent claims technically and/or economically infeasible. CX1709; CX1710.

241. After the adoption of CARB's Phase 2 regulations, refiners that produce gasoline for California began to make the necessary plans, capital investments and refinery modifications to produce compliant RFG by the regulation's March 1996 effective date. CX1709; CX1710.

242. A major overhaul to a refinery in California takes about four years in order to account for planning, environmental permitting, and construction. CX1710 at 011-012.

243. The investments made by refiners were material to CARB in considering the feasibility of changes to the adopted regulations because such investments are a factor in cost effectiveness. CX0812.

244. Refiners could not produce sufficient Phase 2 RFG to avoid Unocal's '393 patent. CX1346.

245. Asking CARB to change the regulations would not be a realistic means of avoiding infringement in 1995. CX1323 at 054-055.

246. CARB undertook multiple efforts subsequent to adoption of the Phase 2 RFG regulations to ensure that adequate supply of CARB RFG would be available, including, but not limited to, monitoring refiners capital modification progress and assisting with the environmental permitting process. CX0355; CX1407.

247. CARB undertook multiple efforts subsequent to adoption of the Phase 2 RFG regulations to ensure that the roll-out to California RFG would proceed as envisioned in the rulemaking process, including a vehicle testing program and a public education campaign. CX1238; CX1510.

248. By 1994, the California refiners had already committed capital investments worth billions of dollars toward modifications necessary to comply with CARB's Phase 2 regulations, and construction at refineries were well under way. CX5010; CX5054; CX1122; CX5114; CX5085.

249. Refiners spent in excess of $4 billion to modify their refineries to meet CARB's Phase 2 regulations. CX1710 at 010; RX1165 at 007; CX1222 at 007; CX1346 at 061.

250. Even if rebuilding refineries to avoid Unocal's RFG patents were possible, it would likely be very expensive and would take time to implement. Pre-Trial Brief Exhibit 1 at 43.

251. Unocal has exercised its monopoly power and caused anticompetitive effects through enforcing its proprietary rights through licensing and patent litigation activities, including seeking license fees for all five of its reformulated gasoline patents, the collection of a 5.75 cents per gallon royalty on gasoline produced by ARCO, Shell, Exxon, Mobil, Chevron and Texaco for infringement of the '393 patent, and demands for a similar royalty rate (as well as treble damages) in infringement litigation against Valero for both the '393 and another of its reformulated gasoline patents. *See* CCPTFF 214-250.

252. Taken together, these major refiners and Valero comprise approximately 90% of the current refining capacity of CARB-compliant reformulated gasoline in the California market. CX1709; CX1710.

253. California refiners have not developed ways to produce significant volumes of non-infringing CARB summertime reformulated gasoline without incurring substantial additional costs. CX1709 at 018-019; CX1710.

254. California refiners could not, after learning of the Unocal RFG patents, continuously blend around the '393 patent by controlling T50 and the other properties specified in the CARB RFG regulations and still comply with those regulations. Pre-Trial Brief Exhibit 2 at 6274-6275.

255. Unocal, through its expert David Teece, previously claimed in the private patent litigation that complying with the CARB regulations but avoiding Unocal's '393 patent claims was not "an economically viable alternative" for the refiners for significant volumes of reformulated gasoline. CX1332 at 029 (Teece, October 21, 1997, Unocal v. ARCO Trial Tr. at 5636:14-5637:19); CX1807.

256. Unocal's enforcement of its reformulated gasoline patent portfolio has enabled Unocal to extract a price for the use of its technology that otherwise would be free or available at a substantially lower royalty. CX1720.

257. The competitive price for Unocal's patented low emissions reformulated gasoline technology is zero, because by representing that its 5/14 project research was non-proprietary and in the public domain, Unocal made an offer for a royalty-free license. CX1720 at 015.

258. Unocal has collected $69 million in royalties from the infringing refiners as a result of the patent litigation for its reformulated gasoline patents on its 5/14 project research, and has collected additional royalties from licensees for California gasoline. CX0713; CX1720 at 024.

259. Unocal has publicly announced that it expects to continue to obtain revenues from licensing of its reformulated gasoline patents. CX0614; Answer ¶¶ 14-15.

260. Unocal has enforced or threatened to enforce its patents against refiners that control in excess of 95 percent of the capacity for the manufacture and/or sale of CARB-compliant gasoline in California. CX1720 at 026.

261. Unocal intends to enforce all five of its patents in the future. Respondent Union Oil Company of California's Responses to Complaint Counsel's First Set of Requests for Admissions, at 5-7 (Aug. 27, 2003).

262. Unocal competed as a refiner in the Downstream Market prior to the completion of its sale of its refining and marketing assets to Tosco in 1997. RX0943.

263. Unocal has previously asserted that it has the power to control prices in the Downstream Market. Unocal asserted that had it been able to force refiners to pay royalties prior to 1997, the price of CARB reformulated gasoline would have increased and Unocal would have achieved additional profits. CX0418.

264. About 90% of the refiners' cost of the Unocal patent royalties will be passed on to consumers. CX1332 at 037 (Teece, October 21, 1997, Unocal v. ARCO Trial Tr. at 5669:18-5669:24).

265. California itself has characterized Unocal's conduct as hijacking, distorting, and subverting California's regulatory process. CX1340.

266. The remedy requested is appropriate to redress the violations of law found to exist. *See* CCPTFF 224-265.

UNITED STATES OF AMERICA
BEFORE THE FEDERAL TRADE COMMISSION

In the Matter of **UNION OIL COMPANY OF CALIFORNIA ,** **a corporation.**	Docket No. 9305 **PUBLIC RECORD**

COMPLAINT COUNSEL'S PRE-TRIAL PROPOSED CONCLUSIONS OF LAW

1. The Commission has jurisdiction over the subject matter of this proceeding and over Union Oil Company of California (hereafter "Unocal").

2. The Commission has jurisdiction over the subject matter of this proceeding pursuant to Section 5 of the Federal Trade Commission ("FTC") Act, 15 U.S.C. § 45.

3. Union Oil Company of California is a public corporation organized, existing, and doing business under, and by virtue of, the laws of California. Its office and principal place of business is located at 2141 Rosecrans Avenue, Suite 4000, El Segundo, California 90245. Since 1985, Union Oil Company of California has done business under the name "Unocal." Unocal is a wholly-owned, operating subsidiary of Unocal Corporation, a holding company incorporated in Delaware.

4. Unocal is, and at all relevant times has been, a corporation as "corporation" is defined by Section 4 of the FTC Act, 15 U.S.C. § 44.

5. At all times relevant herein, Unocal has been, and is now, engaged in commerce as "commerce" is defined in Section 4 of the FTC Act, 15 U.S.C. § 44.

6. Unocal has attempted to obtain and obtained and exercised market power and/or monopoly power in two relevant product markets.

   a. <u>Technology market</u>: The market for technology for the production and supply of CARB-compliant summertime gasoline. This market consists of the technology patented and licensed by Unocal and any other technologies that are sufficiently close substitutes that would constrain Unocal's ability to raise the price of its patented technology above the competitive level.

   b. <u>Downstream product market</u>: The market for gasoline that is compliant with the

CARB summertime regulations and is sold in California.

7. The relevant geographic market for the technology market is the world; there are no barriers preventing a seller or licensor located anywhere in the world from supplying this type of technology.

8. The relevant geographic market for the downstream product market is the world, in that anyone in the world can produce CARB-compliant gasoline. However, that gasoline is manufactured only for sale to California consumers, and the evidence will show that suppliers outside California cannot effectively discipline price increases given the cost of transporting gasoline over long distances.

9. Unocal has violated Section 5 of the FTC Act, as amended, 15 U.S.C. § 45, by engaging in conduct constituting unfair methods of competition, including monopolization, attempted monopolization, and restraint of trade.

10. The offense of monopolization consists of "(1) the possession of monopoly power in the relevant market and (2) the willful acquisition or maintenance of that power as distinguished from growth or development as a consequence of a superior product, business acumen, or historic accident." *United States v. Grinnell Corp.*, 384 U.S. 563, 570-71 (1966).

11. The essential elements of an attempt to monopolize are: (1) specific intent to control prices or destroy competition in some part of commerce; (2) predatory or anticompetitive conduct directed to accomplishing the unlawful purpose; and (3) a dangerous probability of success. *Spectrum Sports, Inc. v. McQuillan*, 506 U.S. 447, 456 (1993).

12. Section 5 of the FTC Act proscribes unfair competition beyond the strict boundaries of the Sherman and Clayton Acts to include practices that the Commission determines are against public policy for other reasons. *FTC v. Indiana Federation of Dentists*, 476 U.S. 447, 454 (1986). Conduct in violation of Section 5 is: (1) collusive, coercive, predatory or exclusionary, *E.I. Du Pont de Nemours & Co. v. FTC*, 729 F.2d 128, 139-42 (2d Cir. 1984); and (2) has materially caused or threatened to cause substantial harm to competition and will, in the future, materially cause or threaten to cause further substantial injury to competition and consumers.

13. Unocal has willfully engaged in anticompetitive and exclusionary acts and practices, undertaken since the early 1990s, and continuing even today, whereby it has wrongfully obtained monopoly power in the technology market for the production and supply of CARB-compliant "summer-time" reformulated gasoline to be sold in California, which acts and practices constitute unfair methods of competition in violation of Section 5 of the FTC Act.

14. Unocal has willfully engaged in anticompetitive and exclusionary acts and practices, undertaken since the early 1990s, and continuing even today, with a specific intent to monopolize the technology market for the production and supply of CARB-compliant "summer-time" reformulated gasoline to be sold in California, resulting, at a minimum, in a dangerous probability of monopolization in the aforementioned market, which acts and practices constitute unfair methods of competition in violation of Section 5 of the FTC Act.

15. Unocal has willfully engaged in anticompetitive and exclusionary acts and practices, undertaken since the early 1990s, and continuing even today, with a specific intent to monopolize the downstream goods market for CARB-compliant "summer-time" reformulated gasoline to be sold in California, resulting, at a minimum, in a dangerous probability of monopolization in the aforementioned market, which acts and practices constitute unfair methods of competition in violation of Section 5 of the FTC Act.

16. Unocal has willfully engaged in anticompetitive and exclusionary acts and practices undertaken since the early 1990s, and continuing even today, whereby it has unreasonably restrained trade in the technology market for the production and supply of CARB - compliant "summer-time" reformulated gasoline to be sold in California, which acts and practices constitute unfair methods of competition that harm consumers in violation of Section 5 of the FTC Act.

17. Unocal has willfully engaged in anticompetitive and exclusionary acts, undertaken since the early 1990s, and continuing even today, whereby it has unreasonably restrained trade in the downstream goods market for CARB-compliant "summer-time" reformulated gasoline to be sold in California, which acts and practices constitute unfair methods of competition that harm consumers in violation of Section 5 of the FTC Act.

18. Unocal's anticompetitive and exclusionary conduct has materially caused or threatened to cause substantial harm to competition and consumers and will, in the future, cause or threaten to cause further substantial harm to competition and consumers absent appropriate relief.

19. The threatened or actual anticompetitive effects of Unocal's conduct include but are not limited to the following:

   a. increased royalties (or other payments) above competitive levels associated with the use of technology to refine, produce, and supply low emissions, reformulated gasoline for the California market;

   b. increases in the price of low emissions, reformulated gasoline above competitive levels in California;

   c. reductions in the manufacture, output, and supply of low emissions, reformulated gasoline for the California market; and

d. decreased incentives, on the part of refiners, blenders, and importers, to produce and supply low emissions, reformulated gasoline to the California market.

20. The remedy requested is appropriate to redress the violations of law found to exist.