THE SETTING of safety and health standards to govern the nation's workplaces has long been a battleground for American labor and industry. In the balance of this battle lies not only the health of the American worker, but to a large extent, the productive capability of this nation's economy.

The Occupational Safety and Health Administration [hereinafter cited as OSHA] was created pursuant to Title 29 of the United States Code,¹ to define the terms of this battle. In Industrial Union v. American Petroleum Institute,² the federal judiciary has taken a hand at making these terms somewhat more clear. It is the object of this casenote to analyze the impact of the Industrial Union decision on the regulatory processes of OSHA, a task which involves a synthesis of the plurality, concurring and dissenting opinions.³

Industrial Union began its judicial history⁴ as a suit for pre-enforcement review, pursuant to 29 U.S.C. § 655(f),⁵ of an OSHA standard for concentrations of the chemical benzene in workplaces. The standard in question was promulgated by OSHA under 29 U.S.C. § 655(b)(5)⁶ as a standard to control usage of a toxic, carcinogenic chemical.

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² 100 S. Ct. 2844 (1980).
³ Justices Stevens, Powell, Stewart and Chief Justice Burger held that the standard in question was invalid for statutory reasons. Justice Rehnquist concurred that the standard was invalid, but would invalidate a portion of the statute for constitutional reasons. Among the concurring plurality there was wide divergence concerning interpretation of pertinent portions of the statutory scheme at issue. In many ways, some of those concurring were more in agreement with the dissent than with each other. See infra note 53 and accompanying text.
⁴ American Petroleum Inst. v. OSHA, 581 F.2d 493 (5th Cir. 1978) (standard held invalid).
⁵ 29 U.S.C. § 655(f) enables any person adversely affected by a standard to file a petition challenging its validity with the United States Court of Appeals.
⁶ Id. § 655(b)(5) states:
The Secretary [of Labor], in promulgating standards dealing with toxic materials or harmful physical agents under this subsection, shall set the standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity even if such employee has regular exposure to the hazard dealt with by such standard for the period of his working life. Development of standards under this subsection shall be based upon research, demonstrations, experiments, and such other information as may be appropriate. In addition to the attainment of the highest degree of health and safety protection for the employee, other considerations shall be the latest available scientific data in the field, the feasibility of the standards, and experience gained under this and other health and safety laws. Whenever practicable, the standard promulgated shall be expressed in terms of objective criteria and of the performance desired.
Benzene is an organic compound which is widely used in the petrochemical, rubber and other manufacturing and service industries. Science has known benzene to be a toxin for over seventy years. Studies linking benzene to leukemia and other forms of cancer are to be found in scientific and medical literature as early as 1928.

In the first half of this century, considerable research was undertaken concerning the possible health hazards of benzene. By the mid-1970's, it was firmly accepted that contact with benzene may produce a significant increase in the risk of contracting leukemia.

During the 1970's, concern over the carcinogenic qualities of benzene increased among OSHA officials. In 1976, OSHA's research arm, the National Institute of Occupational Safety and Health [hereinafter cited as NIOSH], requested that OSHA set standards for exposure to benzene at the lowest level possible. Subsequent to further study by NIOSH, the Secretary of Labor, pursuant to 29 U.S.C. § 655(b)(5), set permanent standards regulating allowable airborne and dermal contact concentrations of benzene pursuant to the powers and duties imposed upon the Department and OSHA by 29 U.S.C. § 655(b)(5). Stated briefly, the standard imposed a limit on airborne concentrations of one part benzene per one million parts of air (1 ppm), a maximum dermal contact limit on solutions containing 0.5% benzene, and a complex system of medical testing and monitoring of all workplace facilities with airborne benzene concentrations of 0.5 ppm or greater.

Section 652(8) defines the term "occupational safety and health standard" as "a standard which requires conditions, or the adoption or use of one or more practices, means, methods, operations or processes, reasonably necessary or appropriate to provide safe or healthful employment and places of employment." Concomitant with section 652(8) is section 655(b)(5) which requires that the Secretary of Labor set standards "which most adequately [assure] to the extent feasible, on the basis of the best

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2 Id.
3 100 S. Ct. at 2852.
4 Id.
5 Id. at 2853.
6 Id. at 2852-53.
7 Id. at 2853.
8 Id. See also P. INFANTE, R. RINSKY AND J. WAGONER, LEUKEMIA AMONG WORKERS EXPOSED TO BENZENE (April 3, 1977) (Industry-wide Studies Branch; Division of Surveillance, Hazard Evaluations and Field Studies; National Institute for Occupational Safety and Health, Cincinnati, Ohio 45202).
available evidence, that no employee will suffer material impairment of health or functional capacity” due to exposure to toxic materials.17

In order to fully appreciate the Court’s analysis in Industrial Union, the statutory mechanism for judicial review must be understood. Section 655(f)18 allows “any person who may be adversely affected by a standard issued” under section 655(b)(5) to challenge the validity of the standard in the United States Court of Appeals for the circuit in which he resides. This process is termed pre-enforcement review of the standard.

Section 655(f) delimits the extent of the judicial review by stating that “determinations of the Secretary [of Labor] shall be conclusive if supported by substantial evidence.”19 In other words, the court of appeals is not permitted to undertake a trial de novo on the issues presented.20 A reviewing court must uphold a standard set by the Secretary of Labor if it is supported by substantial evidence.21

In deciding Industrial Union, the Court saw considerable interplay between the various sections of the Occupational Safety and Health Act.22 As previously stated, section 655(b)(5) empowers the Secretary of Labor to set standards governing the use of toxic materials. In defending the benzene standards, the Secretary maintained that section 655(b)(5) requires that standards be set for toxic materials which in all cases assure a workplace that either gives an absolute assurance of safety for every worker or that reduces exposures to the lowest level feasible, i.e., a level technologically achievable at a cost that would not impair the viability of the regulated industry.23 However, the plurality in Industrial Union held that before any standard could be set under section 655(b)(5), or any other section of the act, a threshold test must be met.24 The plurality developed this threshold test from its reading of the definition of the term “standard” in section 652(8).

The threshold test for occupational safety and health standards used

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17 Id. § 655(b)(5).
18 Id. § 655(f).
19 Id.
20 See American Iron and Steel Inst. v. OSHA, 577 F.2d 825, 831 (3d Cir. 1978) where the decision of the Secretary of Labor to establish a standard prescribing particular controls and procedures to reduce coke oven employee's exposure in specified regulated areas to toxic emissions in concentrations no greater than 0.15 mg of benzene-soluble fraction of total particulate matter per cubic meter of air present during production of coke over an eight-hour period was a legislative decision reasonably drawn from the record and thus had to be upheld.
21 Id.
22 100 S. Ct. at 2862.
23 Id. at 2863.
24 Id.
by the plurality is, however, more complex than simply relating an enabling section back to its definitional section. However, it also involves the interplay of the possibility of judicial review under section 655(f) and the substantive scope of that review.26

Section 655(f) requires a reviewing court to accept determinations of the Secretary of Labor, and thereby OSHA, if those determinations are supported by substantial evidence. In setting the threshold test for OSHA standards, the Court interpreted section 655(f) as requiring review via a substantial evidence test, much the same as the substantial evidence test applicable under the Administrative Procedures Act,27 and other federal regulatory statutes.

The substantial evidence test used by the Court finds its basis in decisions concerning several federal rulemaking agencies. In Universal Camera Corp. v. NLRB,27 a ruling made by the National Relations Board was challenged. Prior to this decision, there had been conflicting holdings as to the latitude allowed a reviewing court when the enabling statute stipulated that the findings of the administrative agency should be upheld if supported by substantial evidence.28 It had been held that the reviewing court must uphold the agency's determination if the evidence supporting that determination was sufficient to justify a refusal to direct a verdict against the decision of the agency if the trial were to a jury.29

Overturning its previous precedents, the Supreme Court in Universal Camera30 set a new standard for review by using the substantial evidence test. The standard of review set in Universal Camera allowed the reviewing court to look not only at evidence which would tend to support the agency's determination, as had previously been the rule, but also to all other evidence

26 Id. at 2869.
29 Id. at 476.
30 NLRB v. Columbian Enameling and Stamping Co., 306 U.S. 292, 300 (1939). Cf. Consolidated Edison Co. v. NLRB, 305 U.S. 197, 229 (1938) (evidence is sufficient to sustain the findings of the Board if it is substantial, i.e., "relevant evidence as a reasonable mind might accept as adequate to support a conclusion").
30 One basis for the decision in Universal Camera was a change in the wording of § 160(e) from "[T]he finding of the Board as to the facts, if supported by evidence, shall be conclusive" to "[T]he findings of the Board with respect to questions of fact if supported by substantial evidence on the record considered as a whole shall be conclusive." 29 U.S.C. § 160(e) (1976) (originally enacted as the National Labor Relations Act, ch. 372, § 10(f), 49 Stat. 449 (1935)), as amended, Labor Management Act of 1947, ch. 120, § 10(f), 61 Stat. 136 (1947). However, since the language of 29 U.S.C. § 655(f) ("The determinations of the Secretary shall be conclusive if supported by substantial evidence in the record considered as a whole.") is essentially equivalent to that of 29 U.S.C. § 160(e) at the time of the decision in Universal Camera, this statutory change is not relevant to the decision in Industrial Union.
in the record, and then to overturn the determination of the administrative regulatory agency when such determination was made "against the manifest weight of the evidence."\footnote{31}

The fifth Circuit Court of Appeals, the court of original jurisdiction for \textit{Industrial Union},\footnote{32} adopted the definition of the substantial evidence test found in the often cited case \textit{Aqua Slide 'N' Dive Corp. v. Consumer Products Safety Commission}.ootnote{33} Since the Fifth Circuit's view of the substantial evidence test in \textit{American Petroleum} was essentially upheld by the Supreme Court in \textit{Industrial Union}, it is of some interest here.

The subject of review in \textit{Aqua Slide} was a standard set by the Consumer Products Safety Commission. 15 U.S.C. \textsection 2058(c)\footnote{34} includes a method of review of consumer products safety standards in a federal court of appeals similar to the procedure in 29 U.S.C. \textsection 655(f) for the review of occupational safety and health standards. According to section 2058(c), standards set by the Consumer Products Safety Commission will be upheld if "supported by substantial evidence on the record taken as a whole."\footnote{35}

As in \textit{Universal Camera}, the \textit{Aqua Slide} decision on whether the Commission had met the substantial evidence test was based upon evidence in the record both supporting and in opposition to the Commissioner's findings.\footnote{36} The court in \textit{Aqua Slide} did, however, set some new precedent important to the decision in \textit{Industrial Union} by applying a substantial evidence test to the requirement in 15 U.S.C. \textsection 2056(a)(1) that standards set by the Commission be "reasonably necessary to prevent or reduce an unreasonable risk of injury . . . .\textquotedblright \footnote{37} The court's application of the substantial evidence test in interpreting the phrase "reasonably necessary" in section 2056(a) carried over into its analysis in \textit{American Petroleum}\footnote{38} and to the Supreme Court's reasoning in \textit{Industrial Union}.

Throughout the opinion in \textit{Industrial Union},\footnote{39} the Supreme Court referred to the definitional language in 29 U.S.C. \textsection 652(8) as requiring standards set by OSHA to be "reasonably necessary and appropriate."\footnote{40} In fact, the Court's reasoning indicated that this language was the correct reading of the

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\item \footnote{31}340 U.S. at 484-85.
\item \footnote{32}American Petroleum Inst. v. OSHA, 581 F.2d 493 (5th Cir. 1978).
\item \footnote{33}569 F.2d 831 (5th Cir. 1978).
\item \footnote{34}Consumer Product Safety Act 11, 15 U.S.C. \textsection 2058(c) (1976).
\item \footnote{35}569 F.2d at 835.
\item \footnote{36}Id. at 844.
\item \footnote{37}15 U.S.C. \textsection 2056(a)(1) (1976).
\item \footnote{38}581 F.2d at 505. See Case Note, 10 \textsl{ENVT'L L.} 664 (1980).
\item \footnote{39}100 S. Ct. at 2862, 2863, 2872, 2874.
\item \footnote{40}Id. (emphasis added).
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statute. However, 29 U.S.C. § 652(8) states: "The term 'occupational safety and health standard' means a standard which requires conditions, or the adoption or use of one or more practices, means, methods, operations, or processes, reasonably necessary or appropriate to provide safe or healthful employment and places of employment." The Court's reading of this section has considerable impact upon the threshold test applied to the OSHA benzene standard.

Notwithstanding this unusual reading of section 652(8), the Court proceeds on the assumption that any OSHA standard must be based upon a finding that the standard is reasonably necessary due to the existence of a significant health or safety risk in workplaces. Furthermore, the fact that the standard is reasonably necessary must be supported by substantial evidence. This brings the Court squarely to the threshold test.

Logically, in order to show that a standard is reasonably necessary due to the existence of a significant risk of material health impairment in workplaces, it must first be shown that a significant risk of material health impairment in workplaces exists. This threshold finding that such a risk exists must be supported by substantial evidence in order to withstand the scrutiny of a reviewing court.

As previously stated, benzene is a carcinogenic substance. It is OSHA policy that standards for carcinogens be set at the lowest feasible level unless it can be shown that some higher level is safe. OSHA interprets the term "lowest feasible" to mean that level which is the lowest technologically possible without causing the complete financial ruin of the industries concerned.

By setting the allowable standard for carcinogenic substances at the lowest feasible level, OSHA has in essence shifted the burden of proving what level of a substance is safe to groups advocating a higher level. The Court felt that this reallocation of the burden could not be allowed.

Upon finding that a substance was a potential carcinogen, if OSHA could simply shift the burden of showing what level of exposure to the substance constitutes a significant risk of material health impairment, it

\[42\] 100 S. Ct. at 2863.
\[43\] Id. at 2871.
\[44\] Id. at 2864, 2869.
\[45\] Id. at 2847, 2855.
\[46\] Id. at 2847. For a discussion of the concept of feasibility in this setting, see Industrial Union Dep't AFL-CIO v. Hodgson, 499 F.2d 467 (D.C. Cir. 1974).
\[47\] 100 S. Ct. at 2869.
could also bypass the threshold test of showing that a significant risk of material health impairment existed. Apparently, this is what the plurality believed OSHA did in promulgating the benzene standard in question.\(^48\) In their view, OSHA declared that benzene was a carcinogen and then proceeded to set a maximum exposure level standard at the lowest feasible level. In using this approach OSHA failed to prove, by substantial evidence, that exposure to benzene at any level above the lowest feasible level constituted a significant risk of material health impairment; thus, OSHA failed to meet the threshold test applied by the Court.\(^49\)

The plurality, concurring and dissenting opinions discuss at length the degree of certainty required in OSHA's initial finding that a significant risk of material health impairment exists.\(^50\) Interestingly, the opinions of eight of the nine justices were in substantial agreement on this issue.\(^51\)

The pertinent language in 29 U.S.C. § 655(b)(5) states that standards dealing with toxic materials shall be set "on the basis of the best available evidence."\(^52\) With respect to meeting the threshold test of showing that a significant risk of material harm exists, the plurality opinion held that "OSHA is not required to support its finding that a significant risk exists with anything approaching scientific certainty."\(^53\)

This evidentiary standard recognizes that many times current understanding of the substances OSHA is required to regulate lies "on the frontiers of scientific knowledge."\(^54\) However, in this case, to a large extent due to the application of OSHA's policy concerning carcinogens, OSHA made little if any attempt to meet even this slight evidentiary burden.\(^55\)

The holding that the evidence required to meet the threshold burden need not provide proof by "anything approaching scientific certainty"\(^56\) was supported in two of the concurring opinions and also in the dissent.\(^57\) However, the opinions of five of the justices, comprised of Justice Powell and

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\(^{48}\) See Id. at 2870.

\(^{49}\) Id. at 2873.

\(^{50}\) Id. at 2871, 2876 (Powell, J., concurring in part and in the judgment), 2888 (Marshall, J., dissenting).

\(^{51}\) The remaining justice, Justice Rehnquist, did not reach this issue in his opinion. Id. at 2878-2887 (Rehnquist, J., concurring).


\(^{53}\) 100 S. Ct. at 2871.

\(^{54}\) Id.

\(^{55}\) Id. at 2870.

\(^{56}\) Id. at 2871.

\(^{57}\) Chief Justice Burger supported this holding in general terms only. Id. at 2874-75 (Burger, J., concurring). Justice Powell stated his approval of this holding. Id. at 2876 (Powell, J., concurring in part and in the judgement). See also Id. at 2888 (Marshall, J., dissenting).
the four dissenting justices, go beyond the plurality's holding in dealing with situations where even the best currently available scientific techniques cannot aid OSHA in meeting the plurality's threshold test.\textsuperscript{58} In such cases, where the long term risk of exposure to a toxic substance cannot be quantified even if the most advanced scientific techniques are used, what is required of OSHA?

The four dissenting justices and Justice Powell opine that such a situation would not prevent OSHA from taking valid regulatory action.\textsuperscript{59} They agree that OSHA could meet its threshold requirement by a showing of substantial evidence that a risk does exist and that current scientific techniques do not permit measurement of the magnitude of this risk.\textsuperscript{60}

In the final analysis, exactly where do the opinions in \textit{Industrial Union} leave OSHA in its attempt to promulgate valid standards to govern the usage of toxic substances in American workplaces? And where does this leave the American worker with respect to his right under law to be protected from a work environment which could lead to his disability or death in the future? While in no sense providing a clear, definitive answer to these questions, a blending of the plurality, concurring and dissenting opinions in \textit{Industrial Union} does reveal at least some guidance.

In formulating standards for toxic materials OSHA must first, show, by substantial evidence, that a significant risk of material harm exists due to the current usage of the toxic substance to be regulated. In meeting this threshold test, OSHA may use any and all available scientific techniques in showing both the existence and the magnitude of the risk, even if the techniques are somewhat speculative in nature. Should the current level of scientific technique and knowledge make it impossible for OSHA to quantify the exact nature of the risk present, OSHA must, by substantial evidence, prove its inability to show such quantification. As for the American worker, he must rely upon federal administrative agencies and judicial tribunals to ensure that safety which American unions are unable and American industry unwilling to provide.

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\textsuperscript{58} \textit{Id.} at 2876 (Powell, J., concurring in part and in judgment), 2888 (Marshall, J., dissenting).

\textsuperscript{59} \textit{Id.} at 2876 (Powell, J., concurring in part and in judgment), 2904 (Marshall, J., dissenting).

\textsuperscript{60} \textit{Id.}