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Cumulative Trauma Disorders: OSHA's General Duty Clause and the Need for an Ergonomics Standard

David J. Kolesar

The prevalence of repetitive tasks in the modern workplace is the natural consequence of advanced industrial technology.¹ Increasing specialization in the production process requires that each worker perform an ever-decreasing range of tasks more and more often. For example, a worker in a poultry processing plant may make 14,120 cuts to debone as many as 3780 turkeys during one shift.² A typist may strike more than 10,000 keystrokes per hour.³ A packer at a tea factory may perform the same hand movements 12,000 times in one shift.⁴ Each motion involved may seem innocuous in itself, but one can imagine that the staggering number of repetitions eventually might cause physical injury. Although the full extent of damage caused by repetitive motions is uncertain,⁵ rapidly growing public awareness has made cumulative trauma disorders (CTDs) "the No. 1 occupational hazard of the 1990's."⁶

The term *CTDs* designates a diverse assortment of disorders that can affect both the musculoskeletal system and the peripheral nervous system.⁷ CTDs most often affect the soft tissues of the hands, wrists,

1. See Willis J. Goldsmith, *Current Developments in Safety and Health: Workplace Ergonomics: A Safety and Health Issue for the '90s*, 15 EMPLOYEE REL. L.J. 291, 293 (1989) (noting that assembly lines distribute production tasks and that each employee repeatedly performs a small set of tasks); Maria Mallory & Hazel Bradford, *An Invisible Workplace Hazard Gets Harder to Ignore*, BUS. WK., Jan. 30, 1989, at 92 (stating that advanced technology divides jobs into much smaller tasks than even a normal assembly line does).

2. Thomas J. Armstrong et al., *Ergonomics Considerations in Hand and Wrist Tendinitis*, 12 J. HAND SURGERY 830, 833 (1987).

3. Mallory & Bradford, *supra* note 1, at 92.

4. Armstrong et al., *supra* note 2, at 833.

5. Whether or not repetition alone can cause injury is still a matter of debate. While some studies, e.g., Barbara A. Silverstein et al., *Occupational Factors and Carpal Tunnel Syndrome*, 11 AM. J. INDUS. MED. 343, 353 (1987), as well as intuition, see *In re* Establishment Inspection of Midwest Instruments Co., 900 F.2d 1150, 1154 (7th Cir. 1990), suggest that repetition of certain motions can cause bodily injury, some musculoskeletal-injury experts insist that there is no evidence that repetition causes physical damage or injury. E.g., Nortin M. Hadler, *Illness in the Workplace: The Challenge of Musculoskeletal Symptoms*, 10 J. HAND SURGERY 451, 454 (1985).

6. *Dramatic Rise in Repetitive Motion Injuries and OSHA's Response: Hearing Before the Employment and Housing Subcomm. of House Comm. on Government Operations*, 101st Cong., 1st Sess. 1 (1989) [hereinafter *House Hearing*] (opening statement of Tom Lantos, Chairman).

7. Barbara A. Silverstein et al., *Hand-Wrist Disorders Among Investment Casting Plant Workers*, 12 J. HAND SURGERY 838, 838 (1987). For example, some commonly reported CTDs include carpal tunnel syndrome, tendinitis, tenosynovitis, low back pain, DeQuervain's Disease, Raynaud's syndrome, and trigger-finger. See, e.g., *House Panel Hears Testimony on Cumulative Trauma Disorders*, [1989 Transfer Binder] Empl. Safety & Health Guide (CCH) ¶ 10,112 (June 6, 1989).

arms, neck, or back.⁸ All CTDs develop gradually over time,⁹ but the particular symptoms and effects vary with the type of CTD.¹⁰ CTD sufferers almost always experience pain and often suffer impairment of sensory, autonomic, and motor functions.¹¹ CTDs sometimes require surgery¹² and occasionally develop into permanent disabilities.¹³

A debate about the relative causal contributions of occupational and nonoccupational factors to the development of CTDs currently divides the medical community.¹⁴ Experts face the difficult task of isolating a specific factor from a variety of possible causes, each of which probably has some influence on the occurrence of CTDs.¹⁵

8. Goldsmith, *supra* note 1, at 292.

9. *See id.* at 291.

10. Symptoms of tendinitis, for example, include lingering pain radiating up the forearm and swelling of the affected area. Armstrong et al., *supra* note 2, at 831-32. Symptoms of carpal tunnel syndrome include recurring or persistent pain, numbness, and tingling in the hand and wrist, loss of the ability to grasp objects, and loss of strength and dexterity. Victoria R. Masear et al., *An Industrial Cause of Carpal Tunnel Syndrome*, 11A J. HAND SURGERY 222, 222 (1986); Silverstein et al., *supra* note 5, at 347.

11. Goldsmith, *supra* note 1, at 292. The impairment of these three functions frequently occurs in carpal tunnel syndrome, the most well-known and commonly cited CTD. *See* Armstrong et al., *supra* note 2, at 830.

12. *See, e.g.*, William J. Maakestad & Charles Helm, *Promoting Workplace Safety and Health in the Post-Regulatory Era: A Primer on Non-OSHA Legal Incentives That Influence Employer Decisions To Control Occupational Hazards*, 17 N. KY. L. REV. 9, 10-11 (1989). For an opinion on the propriety of surgery as a readily available option for sufferers of CTDs, see Nortin M. Hadler, *Cumulative Trauma Disorders: An Iatrogenic Concept*, 32 J. OCCUPATIONAL MED. 38, 40 (1990) (finding that there is no reliable basis on which to justify surgery in most cases and that workers should be left to their natural coping mechanisms); *see also* Dean S. Louis, *Cumulative Trauma Disorders*, 12 J. HAND SURGERY 823, 825 (1987) ("Nonsurgical problems, such as many of the cumulative trauma disorders that we [hand surgeons] see, require restraint . . .").

13. While disabilities have been reported, such extreme cases have been rare. For example, Armstrong cites a study of an electronics firm spanning six years in which only two CTD cases were classified as disabilities. Armstrong et al., *supra* note 2, at 831; *see infra* section II.D (analyzing the seriousness of harm caused by CTDs).

14. "It is almost always possible to find cases to argue for one factor or set of factors over another." Armstrong et al., *supra* note 2, at 831; *compare* Silverstein et al., *supra* note 5, at 356 (concluding that repetitiveness and forcefulness contribute strongly to the incidence of CTDs and that this finding cannot be explained by nonoccupational factors) with Hadler, *supra* note 12, at 39 (finding that CTDs in the workplace are caused by many factors and that "[occupational] usage is only one factor and not overwhelming, at that"); *see infra* section II.D (analyzing the controversy concerning the causation of CTDs).

15. Suspected causes of CTDs include repetitive motions, forceful exertions, awkward postures, and vibrations, as well as congenital defects, chronic diseases, aging, gender, and recreational usages. Armstrong et al., *supra* note 2, at 831. The diversity of CTD symptoms and their long latency period make attributing causation to specific factors even more difficult. Due to their cumulative nature, CTDs necessarily require long periods of time to manifest themselves in recognizable symptoms. In fact, many of those affected by CTDs at least initially attribute their discomfort to such factors as aging. *See, e.g.*, *House Panel Hears Testimony on Cumulative Trauma Disorders*, [1989 Transfer Binder] Empl. Safety & Health Guide (CCH) ¶ 10,112 (June 6, 1989) (attributing the increase in CTDs to the aging workforce among other factors). Additionally, the latency period also increases the likelihood that a worker will not be engaged in the particular occupation alleged to have caused the CTD at the time the symptoms strike, because of either a job change or a variety of other reasons. For example, one symptom of carpal tunnel

While medical science has known for more than two centuries that certain motions may injure the body,¹⁶ only recently has attention focused on the possibility that the nature of one's work causes CTDs.¹⁷

The heightened concern about the relationship between CTDs and occupations stems from a dramatic increase in the number of reported CTDs at the workplace in recent years. The National Institute for Occupational Safety and Health (NIOSH) estimates that more than five million workers suffered from motion injuries in 1986, and the Occupational Safety and Health Administration (OSHA) projects that by the year 2000, half of all workers' compensation claims will be related to CTDs.¹⁸ A 1980 study found that sixteen million workdays per year were lost due to CTDs.¹⁹ The figures continue to grow. From 1987 to 1988, the number of reported CTDs increased by fifty-eight percent.²⁰ This dramatic rise has prompted greater interest in ergonomics, the study of workstation and tool design to prevent workers' injuries.²¹ While the theory behind ergonomics has won considerable popularity, however, ergonomics has not been widely accepted as a medical discipline or a full-fledged science, and its tenets have failed to convince many experts.²² Nevertheless, ergonomics has highlighted

syndrome is a sharp pain while sleeping at night. See, e.g., Masear et al., *supra* note 10, at 222. Night is a time of day least likely to be associated by the worker with his job.

16. In 1713, Bernardini Ramazzini recognized that workers can be injured by "certain violent and irregular motions and unnatural postures of the body." BERNARDINI RAMAZZINI, *DIS-EASES OF WORKERS* 15 (Wilmer C. Wright trans., 1940) (1713).

17. Jeffrey G. Huvelle & Michael G. Michaelson, *Stiff Wrists at Work Mean Stiff Fines for Many U.S. Businesses*, LEGAL TIMES Feb. 12, 1990 at 24, 24. The connection between occupations and CTDs has only recently been posited in part because the number of reported workplace CTDs has recently increased dramatically. See *infra* text accompanying note 23. Why this increase in reported CTDs developed, however, is a point of debate. While some maintain that CTDs stem from the use of advanced technology, e.g., Mallory & Bradford, *supra* note 1, at 92, 93 (calling CTDs "the first major postindustrial illness"), others assert that the recent increase in reported CTDs resulted from workers being told that they have been "injured," see Hadler, *supra* note 12, at 38-40, or from the availability of workers' compensation. John D. Worrall & David Appel, *The Impact of Workers' Compensation Benefits on Low-Back Claims*, in CLINICAL CONCEPTS IN REGIONAL MUSCULOSKELETAL ILLNESS 281, 295-96 (Nortin M. Hadler ed., 1987) (citing a study and finding that the availability of workers' compensation gives workers an incentive to claim more severe disabilities and to claim more often); Louis, *supra* note 12, at 825 (concluding that workers' compensation has a detrimental effect on workers by inducing them to claim an injury and adopt disability status). Still others maintain that the recent increase in the number of reported CTDs is a consequence of a change in the law concerning employer record-keeping. See, e.g., Dan Malovany, *Pepperidge, Chicago Law Firm Challenge OSHA*, BAKERY PRODS. & MKTG., Oct. 24, 1990, at 30.

18. Mallory & Bradford, *supra* note 1, at 92.

19. Louis, *supra* note 12, at 823. Not surprisingly, the economic effect is also considerable. The American Academy of Orthopedic Surgeons estimated that, in 1984, CTDs caused \$27 billion per year in lost earnings and medical expenses. See *House Hearing*, *supra* note 6, at 2.

20. Huvelle & Michaelson, *supra* note 17, at 24 (citing the Bureau of Labor Statistics).

21. See *id.* (stating that ergonomics tries to improve the "machine-person interface").

22. See *id.* For a critical account, see Hadler, *supra* note 12, at 39; Malovany, *supra* note 17, at 30.

the potential scope of the CTD problem.²³

Complex medical issues surrounding CTDs in the workplace create special problems in evaluating the legal significance of CTDs. OSHA, the agency charged with protecting workers,²⁴ currently prosecutes employers for failing to eliminate CTDs from the workplace under the assumption that such a failure violates the "general duty" clause²⁵ of the Occupational Safety and Health Act (the Act).²⁶ An employer's "general duty" is to furnish a place of employment "free from recognized hazards that are causing or are likely to cause death or serious physical harm"²⁷ To enforce the employer's duty, OSHA issues citations and imposes large fines for exposing employees to CTDs.²⁸ Many employers choose to settle with OSHA rather than challenge these citations in court as an improper application of the general duty clause.²⁹ As a result, no court has yet decided the issue whether OSHA has properly interpreted the general duty clause to apply to CTDs under a so-called ergonomics violation.³⁰

OSHA's handling of CTDs must be reevaluated. The general duty clause affords OSHA a convenient means to respond to the popular concern about CTDs without engaging in the more time-consuming process of promulgating a permanent standard. The promulgation process, however, has merits that OSHA should not expediently overlook. Initiated and controlled by the Secretary of Labor, the process provides for extensive research and investigation and assures that interested parties have the opportunity to supply evidence and voice their concerns.³¹ OSHA's current use of the general duty clause to

23. Cf. Armstrong et al., *supra* note 2, at 831 ("Although morbidity studies . . . indicate a problem of epidemic proportions, the magnitude is probably underestimated.").

24. See *infra* notes 44-47 and accompanying text.

25. 29 U.S.C. § 654(a)(1) (1988) provides: "Each employer . . . shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees"

26. 29 U.S.C. §§ 651-678 (1988); see *Dole Issues Ergonomic Guides for Red Meat Industry, Promises General Regulations Across All Industries*, Daily Lab. Rep. (BNA) No. 170, at A-7 (Aug. 31, 1990) [hereinafter *Dole Issues Ergonomic Guides*] (noting that the general duty clause will continue to be used to prosecute employers for exposing workers to CTDs).

27. 29 U.S.C. § 654(a)(1) (1988).

28. For example, in 1988, OSHA levied a \$3.1 million fine against IBP, Inc., the nation's largest meatpacker, for exposing 20% of its workers to CTDs. Maakestad & Helm, *supra* note 12, at 11. Five months later, OSHA fined John Morrell & Co., another prominent meatpacker, \$4.3 million for similar CTD-related reasons. *Id.* at 10 (concerning hand and arm disorders).

29. See Roger L. Freeman, *OSHA: Standards Are Largely Undefined for Repetitive-Motion Injuries*, NATL. L.J., July 29, 1991, at 28, 28.

30. *Ergonomics violation* refers to a violation of the general duty clause in which the "hazard" is the exposure of employees to CTDs. See, e.g., *id.* The term assumes that such exposure is a violation of the clause. As of June 16, 1992, Secretary of Labor v. Pepperidge Farm, Inc., OSHRC No. 89-265, in which Pepperidge Farm contests an OSHA citation for ergonomics violations, was before an administrative law judge.

31. 29 U.S.C. § 655(b)(1)-(3) (1988). The promulgation process is the Act's primary enforcement mechanism. See *infra* notes 49-57 and accompanying text.

prosecute employers for alleged ergonomics violations, by contrast, is a haphazard attempt to deal with the effects of a complex problem. It also violates the intended role of the general duty clause. Given the controversial nature of CTDs, the appropriate remedy — and its consequences — should be carefully considered. The decision whether to enforce the Act through the clause or through a standard should be resolved in favor of the fairest and most effective means of protecting the potential victims of CTDs.³² Use of the general duty clause to minimize CTDs fails to meet these criteria.

This Note argues that neither the Act nor its underlying policies supports OSHA's current use of the general duty clause to prosecute alleged ergonomics violations and that the only way to protect workers from CTDs fairly and effectively is through the promulgation of an ergonomics standard. Part I examines the purposes of the Act, as well as the function of the Act's general duty clause. Part II analyzes the four requirements of the general duty clause in the context of CTDs and finds that the clause does not apply to CTDs. Part III argues that the Act's intended policies support the promulgation of an ergonomics standard rather than the use of the general duty clause. This Note concludes that the Secretary of Labor should promulgate an ergonomics standard³³ as soon as possible and that, until then, the general duty clause should not be used to prosecute employers for alleged ergonomics violations.

I. THE OCCUPATIONAL SAFETY AND HEALTH ACT AND THE GENERAL DUTY CLAUSE

This Part explores the function of the general duty clause as a constituent part of the Act. Section I.A reviews the Act's purposes and explains that the promulgation of standards is OSHA's primary enforcement mechanism. Section I.B demonstrates that the general duty clause plays a secondary role in enforcement and should be invoked only in certain circumstances. Section I.C examines the use of the general duty clause to penalize employers for CTD occurrences and the limited legal authority for dealing with the CTD problem in such a manner. Part I concludes that OSHA's practice of applying the general duty clause to CTDs deserves critical scrutiny.

32. Congress recognized the need for the Act to have the respect and confidence of both workers and employers: "The law we pass today must be strong, effective, workable, and fair It must guarantee to each American worker a mechanism for developing and enforcing safe and healthful working conditions; and it must guarantee to each employer objectivity, fairness, and due process." 116 CONG. REC. 38,370 (1970) (statement of Rep. Steiger).

33. This Note does not argue for the content of any particular ergonomics standard. That will necessarily be left for resolution through the promulgation process. Moreover, reference to "an ergonomics standard" is intended to encompass the possibility of multiple ergonomics standards. In all likelihood, multiple standards will be appropriate and necessary due to the pervasiveness of CTDs. For example, "specific" promulgated standards might be tailored to various high-risk operations or equipment. See *infra* note 191 and text accompanying notes 190-91.

A. *The Act*

In the four years prior to the 1970 passage of the Occupational Safety and Health Act, more Americans were killed in industrial accidents (over 14,500 per year) than in the Vietnam War.³⁴ By one conservative estimate, more than 2.2 million workers were disabled on the job each year.³⁵ Such statistics, the "unfortunate by-product of our industrial progress,"³⁶ revealed the inadequacy of leaving to the states and private industry the responsibility of providing a safe and healthful workplace.³⁷ In 1970, Congress declared the need for immediate action and passed the Act to deal with this grim situation.³⁸

The Act, representing the first comprehensive attempt at federal regulation of workplace safety and health,³⁹ seeks "to assure so far as possible every working man and woman in the Nation safe and healthful working conditions . . ."⁴⁰ Because it is based on Congress' power to regulate interstate commerce,⁴¹ the Act reaches virtually all workplaces.⁴² As a result, the Act has the broadest possible scope for reducing the number and severity of work-related injuries.⁴³

Responsibility for enforcing the Act rests with OSHA, the federal regulatory agency established by the Secretary of Labor pursuant to the Act.⁴⁴ If, after inspection of a workplace, OSHA believes that a violation of the Act has occurred, the Act requires OSHA to issue a citation to the employer⁴⁵ and authorizes the assessment of a pen-

34. S. REP. NO. 1282, 91st Cong., 2d Sess. (1970), reprinted in 1970 U.S.C.C.A.N. 5177, 5178.

35. *Id.* (stating that this figure is "the lowest count").

36. Marjorie E. Gross, *The Occupational Safety & Health Act: Much Ado About Something*, 3 LOY. U. CHI. L.J. 247, 249 (1972).

37. S. REP. NO. 1282, 91st Cong., 2d Sess. (1970), reprinted in 1970 U.S.C.C.A.N. 5177, 5218 (individual views of Sen. Javits).

38. "The knowledge that the industrial accident situation is deteriorating, rather than improving, underscores the need for action now." *Id.* at 5178. In addition to the cost in terms of human lives, Congress found that work-related injuries and illnesses imposed a substantial burden on interstate commerce in the form of lost production, lost wages, medical expenses, and disability compensation payments. 29 U.S.C. § 651(a) (1988).

39. Richard S. Morey, *The General Duty Clause of the Occupational Safety and Health Act of 1970*, 86 HARV. L. REV. 988, 988 (1973).

40. 29 U.S.C. § 651(b) (1988).

41. 29 U.S.C. § 651(b) (1988).

42. Gross, *supra* note 36, at 252 (noting that the Act's broad scope covers "virtually every man and woman who is employed in the United States"); see also 116 CONG. REC. 38,371 (1970) (statement of Rep. Steiger) (noting that the Act "deals with every conceivable type of industry and business . . .").

43. The breadth of the Act is consistent with Congress' finding that hazards of modern industry "are not the problem of a single employer, a single industry, nor a single state jurisdiction. The spread of industry and the mobility of the workforce combine to make the health and safety of the worker truly a national concern." S. REP. NO. 1282, 91st Cong., 2d Sess. (1970), reprinted in 1970 U.S.C.C.A.N. 5177, 5180.

44. Secretary of Labor's Order 12-71, 36 Fed. Reg. 8754 (1971).

45. 29 U.S.C. § 658(a) (1988).

alty.⁴⁶ If the employer wishes to contest the citation and penalty, the Act entitles it to a hearing before the Occupational Safety and Health Review Commission (OSHRC), an independent adjudicatory agency whose sole function is to hear challenges to OSHA enforcement actions.⁴⁷

The Act provides OSHA with two broad means of enforcement: the promulgation of safety and health standards and, where no standard applies, the general duty clause.⁴⁸ Congress intended promulgated standards to be OSHA's primary means of enforcement; where a standard applies, it always takes precedence over the general duty clause.⁴⁹ Any other outcome would be "inconsistent with the overall purpose of the Act" and would render the promulgation provisions ineffectual.⁵⁰ Standards are to represent achievable requirements based on research, past experience, and the latest scientific evidence and should assure, as far as possible, that no employee suffers impaired health from exposure to the hazard involved.⁵¹

Promulgated standards are OSHA's primary means of enforcement because they most effectively carry out the Act's purposes.⁵² Congress passed the Act in part to achieve uniform national safety and health conditions.⁵³ Promulgated standards most effectively accomplish this objective by providing guidance to employers.⁵⁴ Standards also assure that workplace safety and health is achieved through a "fair and effective" mechanism.⁵⁵ Congress was concerned that em-

46. 29 U.S.C. §§ 659, 666 (1988).

47. 29 U.S.C. §§ 659(c), 661 (1988). Aggrieved parties may then appeal the OSHRC's order to the relevant circuit court. 29 U.S.C. § 660 (1988). If the employer fails timely to notify the Secretary of its intent to contest an OSHA enforcement action, the citation and penalty are deemed final orders of the OSHRC, not subject to review by any court or agency. 29 U.S.C. § 659(a) (1988).

48. 29 U.S.C. § 654 (1988); e.g., *Kastalon, Inc.*, 1986-1987 O.S.H. Dec. (CCH) ¶ 27,643, at 35,971 (July 23, 1986).

49. *Brisk Waterproofing Co.*, 1973-1974 O.S.H. Dec. (CCH) ¶ 16,345, at 21,261 (July 27, 1973). The natural corollary is that a citation for a violation of the general duty clause is invalid where a duly promulgated standard applies. See also 116 CONG. REC. 42,206 (1970) (statement of Rep. Steiger) (stating that primary reliance will be placed on standards). But see *UAW v. General Dynamics Land Sys. Div.*, 815 F.2d 1570, 1577 (D.C. Cir.) (suggesting that the general duty clause may play a role, even when a standard applies, if the employer has knowledge of the standard's inadequacy), *cert. denied*, 484 U.S. 976 (1987); *infra* note 66.

50. *Brisk Waterproofing Co.*, 1973-1974 O.S.H. Dec. (CCH) ¶ 16,345, at 21,261 (July 27, 1973).

51. S. REP. NO. 1282, 91st Cong., 2d Sess. (1970), reprinted in 1970 U.S.C.C.A.N. 5177, 5183-84.

52. See *infra* Part III.

53. See S. REP. NO. 1282, 91st Cong., 2d Sess. (1970), reprinted in 1970 U.S.C.C.A.N. 5177, 5177; *infra* section III.A.2 (discussing the Act's policy of consistency).

54. See 116 CONG. REC. 42,206 (1970). "[O]ne of the primary purposes in enacting this legislation stems from the need to provide employers with health standards so that they might better protect the health and safety of the worker by providing the necessary machinery and protective devices in the workplace." *Id.*

55. *Id.* (statement of Rep. Steiger)

ployers be subject only to enforcement mechanisms that had undergone "procedural scrutiny."⁵⁶ The Act incorporates this safeguard into OSHA rulemaking by providing for recommendations, public hearings, and opportunities for opposing viewpoints to be heard concerning proposed standards.⁵⁷

As of yet, the Secretary of Labor has not promulgated an ergonomics standard. On August 30, 1990, Secretary Elizabeth Dole announced a plan to extend recently adopted ergonomics guidelines for the red meat industry to all industries; the extension was to be a step toward the development of an ergonomics standard for general industry.⁵⁸ Ten days later, however, the Secretary canceled the extension of the guidelines and postponed the promulgation process until the need for an ergonomics standard could be further determined.⁵⁹ Secretary Dole stated that absent a specific standard, OSHA will continue to prosecute employers for alleged ergonomics violations under the general duty clause.⁶⁰

The decision to continue prosecution under the general duty clause abandons the procedural safeguards of the promulgation process. Moreover, it is not in the best interests of workers. To the extent that OSHA relies on the clause as a substitute for an ergonomics standard,⁶¹ it actually harms workers by preventing the promulgation of what would be a more effective and fair remedy for CTDs.⁶²

B. *The Role of the General Duty Clause*

In the Act's enforcement scheme, the general duty clause plays a secondary role. In situations covered by a promulgated standard, the Act subordinates the general duty clause to the standard.⁶³ While the

56. See S. REP. NO. 1282, 91st Cong., 2d Sess. (1970), reprinted in 1970 U.S.C.C.A.N. 5177, 5182 (noting the importance of the opportunity for interested persons to express their views); 116 CONG. REC. 38,373 (1970) (statement of Rep. Steiger) (noting that standards must be scrutinized before they are promulgated to verify the legitimacy of their origins and methods).

57. See 29 U.S.C. § 655(b)(1)-(3) (1988).

58. *Dole Issues Ergonomic Guides*, supra note 26, at A-7. A general industry standard is one applicable to many employers in various industries. SECTION OF LABOR & EMPLOYMENT LAW, AMERICAN BAR ASSN., OCCUPATIONAL SAFETY AND HEALTH LAW 167 (Stephen A. Bokart et al. eds., 1988) [hereinafter BOKAT].

59. Meg Fletcher, *OSHA Drops Plan To Extend Safety Rules*, BUS. INS., Sept. 10, 1990, at 28. The decision to stop the promulgation process until more information could be gathered did not affect the release of the guidelines for the red meat industry. See *id.*

60. *Dole Issues Ergonomic Guides*, supra note 26, at A-7.

61. The general duty clause was not intended to be a substitute for promulgated standards. BOKAT, supra note 58, at 109.

62. OSHA's continued reliance on the general duty clause implies that the clause is the functional equivalent of an ergonomics standard. This implication makes concerns about the proper enforcement mechanism seem irrelevant and therefore diverts attention from the inadequacies of the general duty clause as applied to CTDs. See *infra* text accompanying note 170 (concluding that CTDs fail to satisfy the four requirements of the general duty clause).

63. See *Kastalon, Inc.*, 1986-1987 O.S.H. Dec. (CCH) ¶ 27,643, at 35,971 (July 23, 1986) (noting that the general duty clause can be invoked only where no specific standard applies).

general duty clause should fill the interstices that will necessarily exist within the network of standards,⁶⁴ allowing prosecution under the general duty clause where a standard applies would be “inconsistent with the overall purpose of the Act, would emasculate all the provisions dealing with the promulgation of standards, and would give a wider effect to the Act’s general duty clause than was ever intended by Congress.”⁶⁵ Absent an employer’s knowledge that a promulgated standard is an inadequate protection for workers, compliance with a standard precludes liability under the general duty clause.⁶⁶

The interstitial coverage of the clause, together with the coverage of promulgated standards, does not address all harmful conditions in workplaces.⁶⁷ Although the general duty clause applies to situations not covered by standards, it does not apply to every such situation. Decisions by the OSHRC support the argument that there will be harmful conditions and injuries to which the general duty clause does not apply. For example, in *Alabama Power Co.*,⁶⁸ the OSHRC was asked to overturn a general duty citation issued against Alabama Power Company for failure to take adequate precautions to protect its employees from being crushed by an overturning coal truck. Although the OSHRC found that the employees were exposed to a hazard of being seriously injured or killed by an overturning truck, it vacated the citation because the Secretary of Labor failed to establish a more effective feasible means by which the Company could have freed its workplace of the hazard.⁶⁹

64. *Cf. Dravo Corp. v. OSHRC*, 613 F.2d 1227, 1234 (3d Cir. 1980) (“The Secretary cannot be expected to have anticipated every conceivable hazardous situation in promulgating specific standards.”).

65. *Brisk Waterproofing Co.*, 1973-1974 O.S.H. Dec. (CCH) ¶ 16,345, at 21,261 (July 27, 1973).

66. *See UAW v. General Dynamics Land Sys. Div.*, 815 F.2d 1570, 1577 (D.C. Cir.) (“[A]n employer may rely on his compliance with a safety standard to absolve him from liability . . . and he will be deemed to have met his obligation under the general duty clause . . .”), *cert. denied*, 484 U.S. 976 (1987). Confronted with allegations that General Dynamics knew a freon standard to be an inadequate protection for workers, the court held that if an employer *knows* that a standard will not protect its workers, its general duty will not be discharged. 815 F.2d at 1577. This twist in the interplay between the general duty clause and promulgated standards arises only in this special factual situation, as the court implied. 815 F.2d at 1577 (“*Scienter* is the key.”).

67. To avoid confusion, the term *harmful condition* is used here instead of the term *hazard*. In general, a harmful condition can be a “hazard” without being a “recognized hazard,” a critical distinction in applying the general duty clause. *See, e.g., U.S. Steel Corp.*, 1986-1987 O.S.H. Dec. (CCH) ¶ 27,517, at 35,670 (Mar. 4, 1986) (finding that while explosions are possible if molten metal merely contacts water, the hazard is “recognized” only if the water is entrapped or encapsulated by the molten metal); *National Realty & Constr. Co. v. OSHRC*, 489 F.2d 1257, 1266 (D.C. Cir. 1973) (noting that a hazard will not be “recognized” unless it is preventable).

68. 1986-1987 O.S.H. Dec. (CCH) ¶ 27,892 (Apr. 17, 1987).

69. 1986-1987 O.S.H. Dec. (CCH) at 36,578, 36,581; *see also John Gill Ranch*, 1987-1990 O.S.H. Dec. (CCH) ¶ 28,796, at 38,391 (Nov. 1, 1989) (hazard of working in stooped position while pulling weeds in a spinach field not covered by general duty clause); *U.S. Steel Corp.*, 1986-1987 O.S.H. Dec. (CCH) ¶ 27,517, at 35,675 (Mar. 4, 1986) (hazard of explosion from pouring

The general duty clause's language also indicates that the clause applies only in a restricted set of circumstances. Contrary to the implications that one might draw from its popular name, the general duty clause is not simply an extension of the common law duty of reasonable care — the clause imposes a higher duty that applies only in special circumstances.⁷⁰ According to the general duty clause, an employer must "furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm"⁷¹ Courts and the OSHRC have articulated four requirements contained in this language, analyzed in detail in Part II below, that OSHA must prove to establish a violation.⁷² Congress subordinated the clause to promulgated standards and carefully circumscribed its applicability for fear that it provided little notice to employers about the requirements for ensuring a safe and healthful workplace.⁷³

C. *Legal Authority for Applying the General Duty Clause to CTDs*

Courts have yet to conclude whether the general duty clause applies to CTDs. The clause does apply in a variety of other situations, however. For example, courts have found violations in failing to protect against oxygen-deficient atmospheres of "dry" manholes;⁷⁴ in permitting a freight elevator in a lead smelting plant to operate with the doors and gates open;⁷⁵ and in failing to protect employees in the steel and iron casting industry against heat stress.⁷⁶ The large fines imposed by OSHA for alleged ergonomics violations have generally

and transferring molten metal near water and ice accumulations at two of five locations not covered by general duty clause).

70. Although the Senate Report implies that the general duty clause imposes a duty that is at least analogous to the common law duty of reasonable care, *see* S. REP. NO. 1282, 91st Cong., 2d Sess. (1970), *reprinted in* 1970 U.S.C.A.N. 5177, 5186; Gross, *supra* note 36, at 253 (paraphrasing the committee's conclusion on the topic), the better-reasoned views on the subject find important distinctions between the common law duty and an employer's general duty. The general duty is more focused than the common law duty: four statutory requirements must be satisfied, *see generally infra* Part II, but the general duty requires a higher degree of care. *See* National Realty & Constr. Co. v. OSHRC, 489 F.2d 1257, 1265 n.34 (D.C. Cir. 1973) (stating that employers must take more than merely "reasonable" precautions); 116 CONG. REC. 38,371 (1970) (statement of Rep. Steiger) (noting that, while the common law duty is an after-the-fact method of assessing fault, the general duty is a before-the-inquiry method of preventing injuries and concluding that the general duty's scope should be limited to prevent unjust application). *But see* Morey, *supra* note 39, at 1004 (noting that tort concepts of the duty of reasonable care may be useful to analysis of the general duty clause in some contexts, especially employee misconduct).

71. 29 U.S.C. § 654(a)(1) (1988).

72. *E.g.*, Pelron Corp., 1986-1987 O.S.H. Dec. (CCH) ¶ 27,605, at 35,871 (June 2, 1986).

73. *See* Brisk Waterproofing Co., 1973-1974 O.S.H. Dec. (CCH) ¶ 16,345, at 21,261 (July 27, 1973).

74. *Ed Taylor Constr. Co. v. OSHRC*, 938 F.2d 1265, 1272 (11th Cir. 1991).

75. *St. Joe Minerals Corp. v. OSHRC*, 647 F.2d 840, 845 (8th Cir. 1981).

76. *Duriron Co. v. OSHRC*, 750 F.2d 28, 30 (6th Cir. 1984).

prompted cited employers to settle before a court could determine the clause's applicability to CTDs.⁷⁷

Circuit courts have described the sufficiency of evidence needed in a complaint for OSHA to secure an inspection warrant for alleged CTD violations.⁷⁸ For example, in *United States v. Establishment Inspection of Jeep Corp.*,⁷⁹ employees complained that they were exposed to unsafe usage of hand tools, that they were forced to use their hands to install parts in an unsafe manner, and that, as a result, they acquired carpal tunnel syndrome. The Sixth Circuit found that the complaint presented OSHA with enough evidence to form a reasonable belief that a violation of the Act was being committed.⁸⁰

These decisions, however, do not represent a judicial endorsement of the applicability of the general duty clause to CTDs. Less evidence is needed to show administrative probable cause for an inspection warrant than is needed to show a probability of a violation.⁸¹ In addition, while the evidence must support a reasonable belief that the Act has been violated, OSHA does not have to specify in its warrant application which regulation it believes is being violated.⁸² The courts, therefore, have not provided a definitive statement on the applicability of the general duty clause to CTDs. The primary role of the promulgation process in the Act's enforcement scheme suggests that it is the preferred method for all appropriate harmful conditions. Any use of the general duty clause as a mere expedient to bypass the promulgation process should be viewed with a critical eye.⁸³

77. For example, in 1990, Ford Motor Co. agreed to the most extensive ergonomics settlement in OSHA's history, under which it will implement a comprehensive ergonomics program affecting 96% of its plants and will also pay a \$1.2 million fine stemming from an inspection of one of its plants. *Ford Motor Company Agrees to Corporate-Wide Ergonomics Program Under Settlement with OSHA*, [1990 Transfer Binder] Empl. Safety & Health Guide (CCH) ¶ 10,585 (July 23, 1990) [hereinafter *Ford Motor Company Agrees*]. For other noteworthy settlements, see Freeman, *supra* note 29, at 29 n.14.

78. 29 U.S.C. § 657(f)(1) (1988) authorizes OSHA, upon receipt of a complaint from an employee, to make a special inspection of a workplace if it determines that there are reasonable grounds to believe that a violation of a standard exists at the site. If the employer refuses permission to search the site, OSHA must procure an inspection warrant. See *Marshall v. Barlow's, Inc.*, 436 U.S. 307, 325 (1978) (holding that the Act is unconstitutional to the extent that it purports to authorize inspections without a warrant). To obtain an inspection warrant, OSHA need not show probable cause in the criminal sense. 436 U.S. at 320. "Administrative probable cause" is sufficient. *West Point-Pepperell, Inc. v. Donovan*, 689 F.2d 950, 957 (11th Cir. 1982).

79. 836 F.2d 1026 (6th Cir. 1988).

80. 836 F.2d at 1027; see also *In re Establishment Inspection of Midwest Instruments Co.*, 900 F.2d 1150, 1152-53 (7th Cir. 1990) (finding that a complaint describing the employees injured, the time of injury, the number and type of injuries (neck and wrist), and the believed cause (working on assembly lines) was sufficient to support a reasonable belief that the Act was implicated).

81. *West Point-Pepperell, Inc. v. Donovan*, 689 F.2d 950, 958 (11th Cir. 1982). The Sixth Circuit has approved of this finding. See *Establishment Inspection of Jeep Corp.*, 836 F.2d 1026, 1027 (6th Cir. 1988).

82. 836 F.2d at 1027.

83. See, e.g., *Kastalon, Inc.*, 1986-1987 O.S.H. Dec. (CCH) ¶ 27,643, at 35,972 (July 23,

II. CTDs AND THE GENERAL DUTY CLAUSE

The general duty clause protects employees working under "special circumstances" for which no standard has yet been adopted.⁸⁴ OSHA must satisfy four requirements to prove a general duty violation under the Act: (1) the employer has failed to "free" its workplace of a hazard; (2) the hazard is "recognized"; (3) the hazard could have been materially reduced or eliminated by a feasible means of abatement; and (4) the hazard is "causing or likely to cause death or serious physical harm."⁸⁵

This Part argues that workplace CTDs fail to satisfy these requirements. CTDs, with their special problems of causation, prevention, and seriousness, are not the type of injury to which Congress intended the general duty clause to apply. The four sections of this Part analyze the four requirements in connection with CTDs and find that, because of the special medical problems regarding CTDs, application of the general duty clause fails the second and third requirements and likely fails the fourth requirement as well. This Part concludes that because CTDs fail to satisfy the requirements of the general duty clause, OSHA should not use the clause in connection with CTDs.

A. Failure To Render Workplace Free of Hazard

Under the first prong of the general duty clause, OSHA must prove that an employer failed to render its workplace "free" of recognized hazards.⁸⁶ Because employers exercise great control over workplace conditions, their obligation is not met by merely rendering a workplace "reasonably free" of a hazard.⁸⁷ The obligation, however,

1986) (criticizing general duty citations because they resembled an attempt to sidestep the procedural requirements of the Act and vacating citations on other grounds).

84. S. REP. NO. 1282, 91st Cong., 2d Sess. (1970), reprinted in 1970 U.S.C.C.A.N. 5177, 5186; see BOKAT, *supra* note 58, at 108 (noting that the general duty clause does not render employers guarantors of employees' safety and health). The "special circumstances" in which the general duty clause is to apply include cases in which no standard is specifically applicable, see, e.g., Brisk Waterproofing Co., 1973-1974 O.S.H. Dec. (CCH) ¶ 16,345, at 21,261 (July 27, 1973); *supra* notes 64-65 and accompanying text, and in which the situation satisfies the four requirements for applicability of the general duty clause. See, e.g., Pelron Corp., 1986-1987 O.S.H. Dec. (CCH) ¶ 27,605, at 35,871 (June 2, 1986); *infra* note 85 and accompanying text.

85. National Realty & Constr. Co. v. OSHRC, 489 F.2d 1257, 1265 (D.C. Cir. 1973). *National Realty*, articulating elements one, two, and four, represents the first attempt by a circuit court to interpret the general duty clause. The OSHRC adopted these elements and subsequently added the "feasibility" requirement, see, e.g., Pelron Corp., 1986-1987 O.S.H. Dec. (CCH) ¶ 27,605, at 35,871 (June 2, 1986), which *National Realty* left unstated but implied. See BOKAT, *supra* note 58, at 114.

86. 29 U.S.C. § 654(a)(1) (1988); see Pelron Corp., 1986-1987 O.S.H. Dec. (CCH) ¶ 27,605, at 35,871 (June 2, 1986). For a discussion of the meaning of *recognized hazards*, see *infra* section II.B.

87. See National Realty & Constr. Co. v. OSHRC, 489 F.2d 1257, 1265-66 & n.34 (D.C. Cir. 1973). The court in *National Realty* reached this conclusion despite the language in the Senate and House Reports stating that the general duty clause incorporates principles of common law and "merely restates that each employer shall furnish this degree of care." S. REP. NO. 1282,

does not create strict liability.⁸⁸ Rather, the test takes a middle path: a hazard exists at a workplace if OSHA demonstrates that employees are exposed to a “significant risk” of harm.⁸⁹

The “significant risk” test developed from the Supreme Court’s decision in *Industrial Union Department v. American Petroleum Institute*.⁹⁰ In that case, the Court reviewed a newly promulgated standard⁹¹ regulating occupational exposure to benzene, a carcinogen; the new standard replaced a more permissive standard. Noting that Congress did not intend the Act to create “risk-free” workplaces, the Court concluded that before promulgating any permanent standard, “the Secretary is required to make a threshold finding that a place of employment is unsafe — in the sense that *significant risks* are present and can be eliminated or lessened.”⁹² The Secretary’s proof consisted of a presumption that because the evidence in the record did not establish any level of benzene exposure as safe, exposure in any amount must be hazardous.

The Court held that this proof failed to establish that the amount by which the allowable benzene level under the old standard exceeded that under the new standard posed a significant risk that would justify promulgation of a new standard.⁹³ The Court noted, however, that

91st Cong., 2d Sess. (1970), reprinted in 1970 U.S.C.C.A.N. 5177, 5186. The court based its position on the employer’s degree of control over the workplace as well as other language in the Reports concerning the standard of care imposed by the general duty. The standard of care was not characterized in terms of reasonableness: employers have a “duty to bring *no* adverse effects to the life and health of their employees.” 489 F.2d at 1265 n.34 (quoting S. REP. NO. 1282, 91st Cong., 2d Sess. (1970), reprinted in 1970 U.S.C.C.A.N. 5177, 5186); see *supra* note 70 and accompanying text (discussing the problems with interpreting the general duty as one of reasonableness).

88. See, e.g., *National Realty*, 489 F.2d at 1265-66 (“The duty was to be an achievable one.”).

89. *Kastalon, Inc.*, 1986-1987 O.S.H. Dec. (CCH) ¶ 27,643, at 35,973-74 (July 23, 1986); *Anoplate Corp.*, 1986-1987 O.S.H. Dec. (CCH) ¶ 27,519, at 35,680 (Mar. 4, 1986) (stating that where a standard requires proof of a “hazard” as an element of the violation, OSHA must show a significant risk of harm). In *Kastalon*, the OSHRC vacated a general duty citation against *Kastalon, Inc.* because OSHA failed sufficiently to prove the existence of a hazard within the meaning of the general duty clause. 1986-1987 O.S.H. Dec. (CCH) at 35,979-80. “In order to establish the existence of a hazard [within the meaning of the general duty clause], . . . [t]he Secretary must prove that the [hazard] to which employees are exposed presents a significant risk of harm.” 1986-1987 O.S.H. Dec. (CCH) at 35,974. OSHA’s evidence that MOCA, a chemical used in *Kastalon*’s manufacturing process, induced cancer in laboratory animals was too speculative to prove that exposure to MOCA in *any* detectable amount posed a significant risk to workers. 1986-1987 O.S.H. Dec. (CCH) at 35,974, 35,979-80.

90. 448 U.S. 607 (1980).

91. Although the Court dealt with the extent of hazardous conditions necessary for the Secretary to promulgate a specific standard, the OSHRC has held that the Court’s reasoning applies equally to the general duty clause. *Kastalon, Inc.*, 1986-1987 O.S.H. Dec. (CCH) ¶ 27,643, at 35,974, 35,975 n.7 (July 23, 1986). The Fifth Circuit disagrees. See *Kelly Springfield Tire Co. v. Donovan*, 729 F.2d 317, 323-24 (5th Cir. 1984).

92. 448 U.S. at 642 (emphasis added).

93. 448 U.S. at 659. The Court explicitly declined to express an opinion as to what factual determinations would warrant a conclusion that significant risks were present that would justify a new standard. 448 U.S. at 659.

OSHA is not required to prove significant risk to scientific certainty.⁹⁴ When operating on the "frontiers of scientific knowledge," OSHA may make conservative assumptions and risk error on the side of over-protection, provided that it supports its findings with a "body of reputable scientific thought."⁹⁵

CTDs, like carcinogens, exist on the frontiers of scientific knowledge. While the evidence of the risk of harm from exposure to repetitive, forceful, or awkward motions in the workplace is inconclusive, the conclusion that such risk exists is not unduly speculative.⁹⁶ Several comprehensive studies have concluded that occupations involving a high degree of repetitiveness and forcefulness of motion create a substantially increased risk of CTD development in workers.⁹⁷ While OSHA has no duty to calculate the exact probability of harm,⁹⁸ these studies suggest that a significant risk exists that workers in highly repetitive, highly forceful jobs will develop CTDs.⁹⁹ Other evidence, however, suggests that no motion, harmless in itself, can produce physiological damage in a worker from mere repetition.¹⁰⁰ Yet, be-

94. 448 U.S. at 656. This assertion is supported by the Act, which provides that, while OSHA's findings must be based on substantial evidence, OSHA can act on the basis of the best available evidence. 29 U.S.C. § 655(b)(5), (f) (1988).

95. 448 U.S. at 656. The Court's language restricts this freedom to "interpreting . . . data with respect to carcinogens." 448 U.S. at 656. The general reasoning, however, supports a potential analogy to other frontier-oriented illnesses or injuries, such as CTDs. In *Industrial Union*, the Secretary failed to carry his initial burden of establishing a significant risk even with this leeway because he relied on his own special policy for carcinogens that imposed this burden on industry. 448 U.S. at 659. The Court rejected this approach. 448 U.S. at 659, 662.

96. For example, this conclusion may be less speculative than were the doctor's assumptions in extrapolating human risk from animal risk in *Kastalon, Inc.*, 1986-1987 O.S.H. Dec. (CCH) ¶ 27,643, at 35,979-80 (July 23, 1986).

97. See, e.g., *Armstrong et al.*, *supra* note 2, at 832. This study, evaluating the relationship between repetitiveness, forcefulness, and various CTDs, found a "highly significant association" between CTDs and the repetitiveness and forcefulness of manual work. *Id.* Similar, although less conclusive, results were obtained in a study of a meatpacking plant. See *Masear et al.*, *supra* note 10, at 225.

98. "[T]he requirement that a 'significant' risk be identified is not a mathematical straight-jacket." 448 U.S. at 655.

99. Participants of Silverstein's study included 652 workers in 39 jobs from seven different industrial sites. Categorizing the occupations into four exposure groups based on high or low repetitiveness and forcefulness, Silverstein found that the "high force-high repetitive" group had more than 15 times the risk of having carpal tunnel syndrome on interview and physical examination as the "low force-low repetitive" group. Silverstein et al., *supra* note 5, at 349-50. Analysis of the "low force-high repetitive group" and the "high force-low repetitive" group showed repetitiveness to be a more important risk factor than force. *Id.* at 350. Masear's study, while less comprehensive, found a similarly striking increase in the incidence of carpal tunnel syndrome at the meatpacking plant being observed (14.8%) over that of the general population (1%). Masear et al., *supra* note 10, at 226.

100. See, e.g., *Hadler*, *supra* note 5, at 454. Hadler asserts that there is no evidence that repetitive motion can cause an actual injury or anything other than "use-associated arm discomfort." See *id.* His conclusion that repetitive occupational usages pose no significant risk to workers is summarized by Huvelle and Michaelson, who quote Hadler for the proposition that "there is precious little data to suggest that such usage increases the likelihood of symptoms [of repetitive stress injuries] beyond that found in ordinary living." Huvelle & Michaelson, *supra* note 17, at 25.

cause a "body of reputable scientific thought" embraces the position that repetitive and forceful motions pose a significant risk of CTDs, OSHA should be able to meet this requirement of the general duty clause.¹⁰¹

B. Recognition of Hazard

OSHA must next show that the hazard is "recognized."¹⁰² *Recognized hazard* is a term of art with a meaning both peculiar to the Act and counterintuitive.¹⁰³ The term embodies two separate aspects.¹⁰⁴ First, a hazard is "recognized" only if the particular employer or its industry knows it to be hazardous.¹⁰⁵ For example, the Eleventh Circuit has held that all construction-industry employers are charged with knowledge that any "dry" manhole, twenty-four feet deep and four feet wide, is a potential hazard; this knowledge satisfies the "recognition" requirement.¹⁰⁶ Knowledge of the hazard is a matter of objective determination.¹⁰⁷ OSHA must show that experts in the industry would regard the prevention of the hazard as necessary and valuable for a sound safety program.¹⁰⁸

Second, a hazard is "recognized" only if it is preventable.¹⁰⁹ This restriction ensures that the general duty is achievable.¹¹⁰ A hazard is

101. While the OSHRC has held the Supreme Court's significant risk test applicable to general duty clause cases, it has done little to give substance to that test. The test would certainly be met under the considerable leeway given to OSHA for situations on the frontiers of science. See *supra* notes 94-95 and accompanying text. The outcome is unclear, however, if the courts will not extend that freedom beyond the context of carcinogens.

102. 29 U.S.C. § 654(a)(1) (1988); see *National Realty & Constr. Co. v. OSHRC*, 489 F.2d 1257, 1265 (D.C. Cir. 1973).

103. Congress vigorously debated inclusion of the term. Representative Steiger, for example, argued for "readily apparent" language because "recognized hazard" was so broad and ambiguous as to be "patently unfair." See 116 CONG. REC. 38,371-72 (1970) (statement of Rep. Steiger).

104. Some cases also recognize a third element: the significance of the risk of harm. In *U.S. Steel Corp.*, 1986-1987 O.S.H. Dec. (CCH) ¶ 27,517, at 35,669-70 (Mar. 4, 1986), the OSHRC noted that while it was agreed that molten metal in contact with water presents a hazard of explosions in some circumstances, the hazard is nevertheless "recognized" only when the amount of water that can become encapsulated by the molten metal is great enough to make the risk significant. This occasional use of a third element adds to the difficulty of determining the content of *recognized hazard*.

105. *E.g.*, *Continental Oil Co. v. OSHRC*, 630 F.2d 446, 448 (6th Cir. 1980), *cert. denied*, 450 U.S. 965 (1981); *Davey Tree Expert Co.*, 1983-1984 O.S.H. Dec. (CCH) ¶ 26,852, at 34,399 (Mar. 30, 1984).

106. *Ed Taylor Constr. Co. v. OSHRC*, 938 F.2d 1265, 1272 (11th Cir. 1991).

107. 116 CONG. REC. 38,377 (1970) (statement of Rep. Daniels).

108. See *Cerro Metal Prods. Div., Marmon Group, Inc.*, 1986-1987 O.S.H. Dec. (CCH) ¶ 27,579, at 35,829 (May 7, 1986).

109. See *National Realty & Constr. Co. v. OSHRC*, 489 F.2d 1257, 1266 (D.C. Cir. 1973) (noting that Congress did not intend unpreventable hazards to be considered "recognized" under the clause). Congress also did not intend to make unpreventable instances of hazards "recognized," even when the hazard itself is generally recognized. See *Cerro Metal Prods. Div., Marmon Group, Inc.*, 1986-1987 O.S.H. Dec. (CCH) ¶ 27,579, at 35,829 (May 7, 1986).

110. See *National Realty*, 489 F.2d at 1265-66. Restricting the duty to preventable hazards is also the only way to promote the Act's goals of notice and fairness. See *infra* notes 179-80, 205,

not preventable, and therefore not recognized, "if it is so idiosyncratic and implausible . . . that conscientious experts, familiar with the industry, would not take it into account in prescribing a safety program."¹¹¹ While an employer's duty is not diminished because a hazard was directly caused by an employee, certain events, such as equipment-riding in contravention of company policy, would be hazards which might not be "recognized" — demented or reckless employees may circumvent even "the best conceived and most vigorously enforced safety regime."¹¹² Additionally, a hazard is neither preventable nor "recognized" if its elimination would require methods that are so untested or so expensive that experts would consider them infeasible.¹¹³

CTDs fail to satisfy the "recognition" requirement. Voluntary ergonomics programs instituted by some employers do not constitute industry recognition of CTDs as a workplace hazard; such programs merely constitute a factor in the necessary objective determination.¹¹⁴ As CTDs increasingly become a part of common knowledge, however, an employer's claim that its industry does not have knowledge of the potential hazards of repetitive motions will become less plausible.

Increasing general awareness of CTDs, however, will not similarly affect the second aspect of "recognition," preventability, because of

and accompanying text. Imposing liability for unpreventable hazards would be to impose a system of strict liability with an unachievable duty of care. This was clearly not Congress' intent. 489 F.2d at 1265-66.

111. 489 F.2d at 1266.

112. 489 F.2d at 1266 & n.36.

113. 489 F.2d at 1266 & n.37; see also Morey, *supra* note 39, at 993 (concluding that employers should be allowed the defense that elimination of a hazard is physically or economically impossible absent termination of operations); *infra* note 214 and accompanying text. An example of such a non-"recognized" hazard can be found in Pelron Corp., 1986-1987 O.S.H. Dec. (CCH) ¶ 27,605, at 35,872 (June 2, 1986) (hazard of unreacted, explosive chemicals in pressure vessels is not "recognized" because the condition is so common in the industry that no measures, short of closing down, could eliminate it). See *infra* notes 116-19.

Applying these technical restrictions may lead to seemingly incongruent results. For example, there may be a harmful condition that constitutes a hazard and is not covered by a promulgated standard, but to which the general duty clause does not apply because the hazard is not "recognized." While this result may seem to leave workers unprotected, it is entirely consistent with the Act's purpose. Employee protection is not the Act's exclusive goal — protection should be sought only when it can be achieved effectively, efficiently, and equitably. See *supra* note 32 and accompanying text.

Policy considerations sometimes determine whether or not the general duty clause should apply. For example, Morey notes the importance of the fact that, "despite the Act's solicitude for employee welfare," the general duty clause is subject to restrictions such as imposing liability only for preventable hazards. See Morey, *supra* note 39, at 992. His reference to preventability implicates issues of fairness and notice. See also BOKAT, *supra* note 58, at 108 ("Despite the breadth of the general duty clause, it does not . . . render the employer a guarantor of employee safety and health . . .").

114. If a recognized hazard were found solely because an employer took certain precautions to avoid that hazard, employers would be discouraged from voluntarily taking any protective measures not required by law. Moreover, employers may take voluntary safety measures out of an "abundance of caution" rather than out of recognition of a hazard. Such precautions, voluntarily taken, do not prove that an employer would violate the general duty clause if it did not take them. See Kastalon, Inc., 1986-1987 O.S.H. Dec. (CCH) ¶ 27,643, at 35,975 (July 23, 1986).

the continuing medical controversies surrounding CTDs. Given the current state of scientific knowledge, the preventive value of interventional measures for CTDs is at best uncertain.¹¹⁵ If CTDs are unpreventable, prosecution of employers under the general duty clause is unfair: it penalizes employers for failing to fulfill an unachievable duty.

In *Pelron Corp.*,¹¹⁶ the court addressed the propriety of a general duty citation for a broadly defined hazard — “the *possibility* of accumulations of unreacted ethylene oxide in pressure vessels.”¹¹⁷ Pelron Corporation, a chemicals producer, manufactured its products by mixing either ethylene oxide or propylene oxide with other chemicals in chemical reactors, always with the “possibility” that unreacted ethylene oxide would accumulate.¹¹⁸ In vacating the citation, the OSHRC found that some industrial activities are dangerous by nature, involving risks inherent in the conduct of business:

To permit the normal activities in . . . an industry to be defined as a “recognized hazard” within the meaning of [the general duty clause] is . . . almost to prove the Secretary’s case by definition, since under such a formula the employer can never free the workplace of inherent risks incident to the business.¹¹⁹

By this reasoning, because CTDs allegedly develop from normal occupational tasks that are central both to workers’ jobs and to their employers’ business, CTDs may fail the “recognition” requirement because they are a risk “incident to the business.”

CTDs may also fail the “recognition” requirement because of the high cost of implementing OSHA’s abatement orders.¹²⁰ Even if OSHA’s vague and unproven orders, such as job analysis by an ergonomics committee,¹²¹ can be considered sufficiently effective in preventing CTDs, a hazard requiring an abatement method that threatens the economic viability of employers should not be considered “recognized.”¹²² Such a hazard should instead be remedied

115. After a comprehensive study, Armstrong, for example, concluded that “the effectiveness of preventive job design is still to be demonstrated.” Armstrong et al., *supra* note 2, at 835. A more detailed discussion of the results of studies of the value of preventive measures appears in the subsection concerning the “feasibility of abatement method” requirement. *See infra* section II.C.

116. 1986-1987 O.S.H. Dec. (CCH) ¶ 27,605 (June 2, 1986).

117. 1986-1987 O.S.H. Dec. (CCH) at 35,871 (emphasis added).

118. 1986-1987 O.S.H. Dec. (CCH) at 35,870-71.

119. 1986-1987 O.S.H. Dec. (CCH) at 35,872.

120. Compliance with OSHA’s abatement orders often costs millions of dollars. *See infra* note 213 and accompanying text.

121. *Ford Motor Company Agrees*, *supra* note 77. Studies indicate that such interventional measures have no significant impact on the reduction of CTDs. *See infra* notes 133-41 and accompanying text.

122. *See National Realty & Constr. Co. v. OSHRC*, 489 F.2d 1257, 1266 & n.37 (D.C. Cir. 1973).

through the promulgation process.

C. Feasibility of Abatement Method

OSHA must also demonstrate the feasibility and likely utility of specific abatement measures to prove a general duty violation.¹²³ In effect, OSHA must demonstrate what the cited employer *should* have done to reduce the risk of harm,¹²⁴ specifying the particular measures that the employer should have taken to avoid citation.¹²⁵ In addition, OSHA must demonstrate that safety experts would regard its proposed abatement method as "necessary and valuable for a sound safety program in the particular circumstances existing at the employer's worksite."¹²⁶ Evidence that an abatement method is not feasible may include, for example, proof of the idiosyncratic or implausible nature of the hazard or evidence that the abatement method is untested or overly expensive.¹²⁷

In *John Gill Ranch*,¹²⁸ which presented facts similar to those in CTD cases, OSHA had cited an employer under the general duty clause because its employees worked in stooped postures while pulling weeds by hand in a spinach field.¹²⁹ Although the OSHRC found that working in such a posture was a recognized hazard in California,¹³⁰ it

123. See *Pelron Corp.*, 1986-1987 O.S.H. Dec. (CCH) ¶ 27,605, at 35,871 (June 2, 1986). A satisfactory abatement measure may be designed either to eliminate the hazard or, where appropriate, materially to reduce the hazard. See 1986-1987 O.S.H. Dec. (CCH) at 35,871. OSHA must necessarily establish *both* the feasibility *and* the utility of the abatement method. See, e.g., *FMC Corp.*, 1986-1987 O.S.H. Dec. (CCH) ¶ 27,686, at 36,118 (Aug. 28, 1986) (finding that, while "the Secretary established the feasibility of relocating the [nitrogen trichloride transfer] lines [to reduce the danger of explosion from exposure to high temperatures], . . . the evidence fail[ed] to establish the likely utility of this abatement measure").

124. For example, in *FMC Corp.*, 1986-1987 O.S.H. Dec. (CCH) ¶ 27,686 (Aug. 28, 1986), the OSHRC found the lack of a formal training program insufficient proof that FMC's informal training methods were inadequate; the Secretary had to prove in addition that any suggested formalization of the training process would materially reduce the risk of harm. "The question is one of substance, not form." 1986-1987 O.S.H. Dec. (CCH) at 36,116-17.

125. *National Realty & Constr. Co. v. OSHRC*, 489 F.2d 1257, 1268 (D.C. Cir. 1973).

126. *Cerro Metal Prods. Div., Marmon Group, Inc.*, 1986-1987 O.S.H. Dec. (CCH) ¶ 27,579, at 35,829 (May 7, 1986). "The question is whether a precaution is recognized by safety experts as feasible . . ." *National Realty*, 489 F.2d at 1266 n.37. In *Pelron Corp.*, 1986-1987 O.S.H. Dec. (CCH) ¶ 27,605 (June 2, 1986), the OSHRC vacated a general duty citation because, while the Secretary criticized Pelron's established safety program as inadequate, 1986-1987 O.S.H. Dec. (CCH) at 35,873-74, he failed to prove that safety experts in the field would have prescribed additional training measures that would have materially reduced the risk of harm and therefore failed to show the feasibility and likely utility of an abatement method. 1986-1987 O.S.H. Dec. (CCH) at 35,872.

127. See *National Realty*, 489 F.2d at 1266.

128. 1987-1990 O.S.H. Dec. (CCH) ¶ 28,796 (Nov. 1, 1986).

129. Working in an awkward position is sometimes stated as a factor possibly contributing to CTDs. See, e.g., *Goldsmith*, *supra* note 1, at 292. The case is treated as merely analogous to CTDs, however, because posture has been found insignificant in the development of CTDs, see *Armstrong et al.*, *supra* note 2, at 832, and because the reported decision does not refer to CTDs.

130. *John Gill Ranch*, 1987-1990 O.S.H. Dec. (CCH) at 38,391. Hazards usually are defined narrowly and have restrictions on the "recognition" element, most commonly by industry. See,

vacated the citation because the Secretary failed to prove that use of a long-handled hoe was a feasible means of abatement. Specifically, the Secretary failed to demonstrate that safety experts in the agriculture industry would regard a long-handled hoe as necessary and appropriate for spinach cultivation.¹³¹ Instead, the evidence showed that a long-handled hoe would destroy the spinach crop and enhance weed growth by displacing herbicide and was, therefore, infeasible. In addition, a long-handled hoe would not necessarily reduce stooped work because of the need to remove weeds after harvesting.¹³²

The occupational factors that allegedly cause CTDs present the same sort of difficulties for OSHA abatement orders as those found in *John Gill Ranch*. The lack of definitive scientific evidence regarding the effect of interventionary measures on the development of CTDs¹³³ prevents OSHA from formulating a demonstrably feasible and useful means of abatement. Silverstein's comprehensive study of occupational CTDs, examining whether the elimination of any work-related risk factors¹³⁴ leads to a reduction in the incidence of CTDs, found that the implementation of ergonomics interventions over a three-year period caused no statistically significant improvements in CTDs.¹³⁵ Others studying the problem have reached similar conclusions.¹³⁶ The strongest statement from the major studies is that certain measures "may" reduce the incidence of CTDs.¹³⁷

OSHA's abatement orders for CTDs fail the feasibility requirement. These orders typically include broad recommendations for improving ergonomics practices across all aspects of an employer's operations, leaving specific application to the employer.¹³⁸ When

e.g., *St. Joe Minerals Corp. v. OSHRC*, 647 F.2d 840, 845 (8th Cir. 1981) (permitting a freight elevator to operate with the doors and gates open is a recognized hazard in the lead smelting industry). *John Gill Ranch's* restriction on hazard "recognition" to California is not extraordinary.

131. *John Gill Ranch*, 1987-1990 O.S.H. Dec. (CCH) at 38,391.

132. 1987-1990 O.S.H. Dec. (CCH) at 38,391.

133. *See, e.g.*, Masear et al., *supra* note 10, at 226 (concluding, after a study of the potential causes of carpal tunnel syndrome with a view toward instituting preventive measures, that "[t]he major question is still unresolved. If the work environment is responsible for this high incidence of [carpal tunnel syndrome], how must this be changed to resolve the problem?").

134. Work-related risk factors for CTDs include repetitiveness, forcefulness, awkward posture, and vibration. Silverstein et al., *supra* note 7, at 838.

135. *Id.* at 844.

136. *See* Armstrong et al., *supra* note 2, at 835 (emphasizing that "the effectiveness of preventive job design is still to be demonstrated"); Masear et al., *supra* note 10, at 226 (stating that the question of preventive measures is "still unresolved"). While claiming that ergonomics intervention is a "pressing need," Hadler warns that such intervention in Australia over a period of five years has had, with rare exception, no discernible impact on slowing the dramatic increase in CTDs. Hadler, *supra* note 5, at 454-55.

137. Silverstein et al., *supra* note 5, at 356. The authors note that their findings can be helpful in directing workplace interventions because they suggest a prevention strategy: intervention at the job level. This strategy, however, lacks practical direction due to its generality.

138. *See* Freeman, *supra* note 29, at 28.

Ford Motor Company settled its general duty citation with OSHA, for example, Ford agreed to implement an ergonomics program involving such measures as job-analysis by joint labor-management ergonomics committees, engineering controls, a medical management program, and employee training and education.¹³⁹ These agreements are neither hazard-specific nor even employer-specific but rather are a "broad recipe for CTD reduction" lacking practical direction.¹⁴⁰ The unresolved medical questions concerning causation and prevention not only keep OSHA from issuing more refined abatement orders, but also make it difficult for OSHA to ensure that its broad orders will have the predicted result.¹⁴¹

In the context of CTDs, OSHA is unable to address specific problems through abatement orders because particular methods will likely prove infeasible.¹⁴² For example, job rotation, which is a commonly cited preventive measure,¹⁴³ is usually infeasible in an industrial setting because of the seniority required in most industries to obtain a job change.¹⁴⁴ Moreover, a decrease in the production rate or a decrease in repetitions per shift to ease the strain on workers is usually infeasible because of the industrial employer's need for a high production rate from each employee to make a profit.¹⁴⁵

If OSHA instead issues a broad order, employers will be able to satisfy the general duty clause too easily. An employer can fulfill much of OSHA's order by maintaining a basic employee training program and a staff engineer who implements limited ergonomics suggestions.¹⁴⁶ If OSHA cites an employer who has implemented these modest programs, OSHA has the virtually impossible task of proving that any incremental increase in the stringency of the programs will have a material impact on the reduction of CTDs.¹⁴⁷ Given the lack

139. *Ford Motor Company Agrees*, *supra* note 77.

140. Freeman, *supra* note 29, at 28.

141. *See id.*

142. This criticism assumes that OSHA possesses the physical capability to make particularized orders; it probably does not. *See infra* note 197 and accompanying text.

143. *See, e.g.,* George Lutz & Terri Hansford, *Cumulative Trauma Disorder Controls: The Ergonomics Program at Ethicon, Inc.*, 12 J. HAND SURGERY 863, 864 (1987) (stating that job rotation is a common job modification in Ethicon's voluntary ergonomics program).

144. *See* Masear et al., *supra* note 10, at 226.

145. *Id.*

146. *See* Freeman, *supra* note 29, at 28. Thus, employers can satisfy OSHA's abatement orders despite the lack of objective scientific evidence that such measures are effective. *See supra* notes 135-36 and accompanying text.

147. The difficulty of succeeding with such proof can be seen in general duty clause cases in other contexts. In one case, for example, the OSHRC stated that "[i]f an employer has a safety program designed to eliminate a recognized hazard, the burden is on the Secretary to 'specify the [additional] steps a cited employer should have taken to avoid citation, and to demonstrate the feasibility and likely utility of those measures.'" Cerro Metal Prods. Div., Marmon Group, Inc., 1986-1987 O.S.H. Dec. (CCH) ¶ 27,579, at 35,829 (May 7, 1986) (quoting *National Realty & Constr. Co. v. OSHRC*, 489 F.2d 1257, 1268 (D.C. Cir. 1973)). The OSHRC held that the

of evidence that these broad programs effectively reduce CTDs, OSHA will inevitably fail to carry its burden of proof under the general duty clause.

Even if these difficulties are met, OSHA's abatement orders are demonstrably very costly to implement.¹⁴⁸ While the most profitable employers may be able to afford such programs, employers with fewer resources will be less able to comply and may thus be forced out of business. In a situation such as this, the general duty clause is an inappropriate means to enforce the Act.¹⁴⁹

OSHA's inability to articulate a demonstrably feasible abatement method for CTDs, however, does not undercut the viability of an ergonomics standard. The promulgation process provides the Secretary with more resources than are available to OSHA, including access to extensive research and commentary on the hazard.¹⁵⁰ This process presents the better means of discovering an abatement method for CTDs, if one exists. If one does not exist, the promulgation process still provides a more attractive alternative than the general duty clause because it will produce a more comprehensive and mutually agreeable solution to the problem.¹⁵¹

D. *Causation of Death or Serious Physical Harm*

Finally, the hazard must cause or be likely to cause death or serious physical harm to sustain a general duty violation.¹⁵² This requirement embodies two independent elements: the causation of the hazard and the seriousness of the hazard. Causation of a hazard cannot be reduced to a mathematical test¹⁵³ — the proper test is one of plausibility, not probability.¹⁵⁴ The proper standard of review is whether

Secretary failed to carry this burden and vacated the citation. 1986-1987 O.S.H. Dec. (CCH) at 35,829; *see also* Pelron Corp., 1986-1987 O.S.H. Dec. (CCH) ¶ 27,605, at 35,870 (June 2, 1986) (vacating a general duty citation because the Secretary failed to establish that the risk could have been materially reduced by changes in Pelron's training program); FMC Corp., 1986-1987 O.S.H. Dec. (CCH) ¶ 27,686, at 36,116 (Aug. 28, 1986) (finding that the Secretary failed to establish that FMC's training methods were inadequate and vacating a general duty citation).

148. Companywide ergonomics programs often cost millions of dollars. *See infra* note 213 and accompanying text. The programs involved in these statistics are those that an employer must implement to comply with a valid general duty citation. They are more substantial than the minimal measures that would be sufficient to prevent OSHA from sustaining a general duty citation in the first place. *See supra* notes 146-47 and accompanying text.

149. *See National Realty & Constr. Co. v. OSHRC*, 489 F.2d 1257, 1266 n.37 (D.C. Cir. 1973); *see also infra* text accompanying notes 212-14.

150. *See* 29 U.S.C. § 655(b)(1)-(3) (1988). OSHA's ability to conduct research and formulate abatement orders is restricted by its relatively small size and limited resources. *See infra* note 197 and accompanying text.

151. *See infra* notes 176-81 and accompanying text.

152. 29 U.S.C. § 654(a)(1) (1988); *see Pelron Corp.*, 1986-1987 O.S.H. Dec. (CCH) ¶ 27,605, at 35,871 (June 2, 1986).

153. *See National Realty & Constr. Co. v. OSHRC*, 489 F.2d 1257, 1265 n.33 (D.C. Cir. 1973).

154. Morey, *supra* note 39, at 997-98 (noting that the most sensible test is "whether reason-

workplace conditions could cause serious physical harm upon "other than a freakish or utterly implausible concurrence of circumstances."¹⁵⁵

While significant questions of causation may persist,¹⁵⁶ the causation element presents a low hurdle for CTDs. Given the extraordinary number of repetitive motions that many employees must perform,¹⁵⁷ the causal link between such usages and the development of CTDs can sensibly be described as plausible, and is by no means implausible or "freakish." For example, the Seventh Circuit has stated that "drawing a reasonable inference of causation [in a case involving the sufficiency of evidence in a complaint alleging neck and wrist injuries from working on an assembly line] does not necessarily require more 'expertise' than deciding that leaking sewer gases are unhealthy or that objects that are stacked too high create a danger to the employees below."¹⁵⁸

CTDs, however, most likely fail the general duty clause's "seriousness" element. The clause only protects against hazards that are causing or are likely to cause "death or serious physical harm."¹⁵⁹ According to OSHA's own definition, a serious physical harm is one in which part of the body is made "functionally useless" or is "sub-

ably foreseeable circumstances could lead to the perceived hazard's resulting in serious physical harm or death"). Questions remain, however, as to which standard will be used in any particular case. See BOKAT, *supra* note 58, at 113, 132.

155. *National Realty*, 489 F.2d at 1265 n.33. The explanation for the exemption of freakish mishaps from statutory liability is one of policy: because the goal of the Act is preventive and not remedial, *In re Establishment Inspection of Midwest Instruments Co.*, 900 F.2d 1150, 1153 (7th Cir. 1990), liability should not attach to unforeseeable or "freakish" injuries because such responsive action serves no useful preventive purpose; although "caused" by the workplace conditions, they are unpreventable. See Morey, *supra* note 39, at 1001.

156. Causation problems emanate from the number and variety of potential contributing causal factors. See, e.g., Silverstein et al., *supra* note 5, at 343 (listing potential occupational and nonoccupational factors for carpal tunnel syndrome). Some experts find a strong association between CTDs and occupational repetitiveness and forcefulness. See *id.* at 353 (finding that repetitiveness and forcefulness were strongly associated with carpal tunnel syndrome as risk factors); see *supra* note 99. Others, however, insist that little scientific proof exists that occupation is a significant risk factor. See, e.g., Hadler, *supra* note 12, at 39 (finding no relation between occupational usage and disorders of the forearm, shoulder, elbow and neck).

157. See *supra* text accompanying notes 2-4.

158. *In re Establishment Inspection of Midwest Instruments Co.*, 900 F.2d 1150, 1154 (7th Cir. 1990) (citations omitted). While the standard of causation involved in that case is the administrative probable cause necessary for securing an inspection warrant, which requires less evidence of causation than does proof of a violation of the Act, see *West Point-Pepperell, Inc. v. Donovan*, 689 F.2d 950, 958 (11th Cir. 1982), the Seventh Circuit's view of the intuitive relation between repetitive occupational usages and CTDs should satisfy the plausibility required by the "causation" element of the general duty clause.

159. 29 U.S.C. § 654(a)(1) (1988). Huvelle and Michaelson claim that by using the phrase "death or serious physical harm," Congress intended to restrict the general duty clause to hazards that were at least potentially deadly. Huvelle & Michaelson, *supra* note 17, at 25. While the case law seems to support this contention, OSHA's manual apparently rejects it. See OSHA, REVISED FIELD OPERATIONS MANUAL IV-21, IV-22 (1989) (listing such factors as "bone fracture" among those that can constitute serious physical harm); *infra* note 160. The legislative history is inconclusive.

stantially reduced in efficiency.”¹⁶⁰

The case law reveals the high degree of seriousness required under the clause. For example, a sixty-foot fall hazard caused by an employer allowing an employee to wear a torn and frayed safety belt while working outside a wire rope guardrail is likely to cause death or serious physical harm.¹⁶¹ Permitting work on slippery platforms approximately five feet above a roadway, by comparison, is not.¹⁶² Flying metal fragments launched by a steel mill coiler twenty feet from maintenance workers are likely to cause death or serious physical harm.¹⁶³ Failing to protect employees, working with molten metal in 95-degree fahrenheit temperatures, from the effects of heat stress is also likely to cause death or serious physical harm.¹⁶⁴ Assaults from mental patients, by contrast, which inflict scratches, bruises, bites, hairpulling, broken blood veins, choking, bruised eyeballs, concussions, sprained shoulders, and swollen arms, are not likely to cause death or serious physical harm.¹⁶⁵

While CTDs sometimes impair sensory, autonomic, and motor functions, and occasionally result in permanent disabilities, extreme injury is rare. The variety of CTDs and their associated symptoms have been described as “discomforts.”¹⁶⁶ While that label may trivialize these conditions, the fact that CTDs lack the life-threatening gravity¹⁶⁷ found in the case law suggests that CTDs are not the type of serious injury that Congress intended to protect against with the general duty clause.¹⁶⁸ Nor can the recent dramatic rise in the number of reported CTDs alone satisfy the seriousness element. Other explanations may account for the increase, such as recent changes in record-

160. OSHA, REVISED FIELD OPERATIONS MANUAL IV-21 (1989). The manual cites several examples of injuries that can constitute serious physical harm: amputation; concussion; internal crushing; bone fracture; burn; and cut, laceration, or puncture involving significant bleeding or requiring suturing. *Id.* at IV-21, IV-22.

161. Greer Architectural Prods., Inc., 1987-1990 O.S.H. Dec. (CCH) ¶ 28,601 (June 2, 1989).

162. Mohican Trucking Co., 1980 O.S.H. Dec. (CCH) ¶ 24,514 (May 27, 1980).

163. Wheeling-Pittsburgh Steel Corp., 1980 O.S.H. Dec. (CCH) ¶ 24,724 (Aug. 13, 1980).

164. *Duriron Co. v. Secretary of Labor*, 750 F.2d 28, 30 (6th Cir. 1984). The court reasoned that heat exhaustion could cause an employee to faint and fall against molten metal or moving machinery. 750 F.2d at 30.

165. *Meier v. Department of Social Servs.*, 1979 O.S.H. Dec. (CCH) ¶ 23,324 (Feb. 8, 1979).

166. See Hadler, *supra* note 5, at 454 (claiming that CTDs of the arms are responsible merely for “mild to modest transitory nuisance”); see also *supra* notes 10-13 and accompanying text.

167. See, e.g., Hadler, *supra* note 12, at 38 (asserting that CTDs do not cause any specific musculoskeletal damage). Hadler, after reviewing the results of Silverstein’s research, notes that the lack of any irreversible structural change in use-related tendinitis suggests that the condition would more appropriately be labeled “wrist soreness.” *Id.* at 39.

168. See Huvelle & Michaelson, *supra* note 17, at 25 (concluding that since CTDs that disable or debilitate are the exception rather than the rule, case law and common sense clearly reveal that they are not the type of serious injury intended to be protected against by the general duty clause). For an explanation of the various types of CTDs suffered, see *supra* notes 11-13 and accompanying text.

keeping requirements.¹⁶⁹ While some CTDs genuinely disable their victims, CTDs as a whole probably fail to satisfy the "seriousness" requirement.

Because CTDs fail to satisfy the general duty clause's four-part test, OSHA should not be allowed to use the clause to prosecute employers for CTDs. The absence of an ergonomics standard fails to justify reliance on the clause for CTDs; the clause was not intended to substitute for standards.¹⁷⁰ Promulgated standards are the appropriate remedy and the Secretary should initiate that process if a remedy is warranted.¹⁷¹

III. THE ARGUMENT FOR AN ERGONOMICS STANDARD

OSHA's use of the general duty clause despite the failure of CTDs to satisfy the clause's requirements has consequences beyond those of a simple technical violation of the law. By continuing to use the clause for CTDs, OSHA undermines the Act's basic policy goals. These goals dictate a different course of action that would not only uphold the Act's policies but also better achieve the purpose of protecting workers. This Part argues that the policy goals of the Act require the Secretary to promulgate an ergonomics standard to protect workers from CTDs. Section III.A demonstrates that OSHA's use of the general duty clause to prosecute alleged ergonomics violations is ineffective and unfair. The promulgation process, however, provides OSHA the means to develop a beneficial, consistent, and fair ergonomics standard that will protect workers as Congress intended.

Section III.B anticipates and responds to the criticism that cessation of prosecutions under the general duty clause would leave workers unprotected. This section argues that the policy reasons favoring an ergonomics standard over application of the general duty clause maintain their force even in the absence of a presently available ergonomics standard. This Part concludes that OSHA should stop prosecuting employers for alleged ergonomics violations under the general duty clause and should instead promulgate an ergonomics standard.

169. In the late 1980s, OSHA began issuing huge fines for recordkeeping violations of the Act. Out of fear of this new policy, employers began keeping very careful records of everything that might be considered a CTD. Then "[w]hat happened was OSHA suddenly said, Look, you have all these reported cases of cumulative trauma disorders. Therefore, you have knowledge of a hazard in your workplace and that satisfies the recognized hazard element." Malovany, *supra* note 17, at 30 (comments of Nina Stillman, attorney with the law firm representing Pepperidge Farm in its challenge of a general duty citation). There is no sudden increase in the danger of CTDs in workplaces, the argument continues, and what has been characterized as a sudden, serious phenomenon can be viewed as merely "a classic case of bootstrapping." *Id.*

170. BOKAT, *supra* note 58, at 109.

171. See *infra* section III.A.

A. *The Underlying Policies of the Act*

Three specific policies provide the basis for the primary enforcement role of promulgated standards: notice, consistency, and fairness. The promulgation process, unlike the general duty clause, provides the Secretary with a means to address the special problems of CTDs while upholding the policies of the Act.

1. *Notice*

Promulgated standards provide clear guidance to OSHA inspectors investigating for violations¹⁷² and provide notice to employers protecting against violations.¹⁷³ Concerned that the complexities of modern industry would obfuscate what is expected of employers, Congress designed the promulgation mechanism to provide employers with a degree of certainty with respect to both the content of their obligations and the process by which their obligations are determined.¹⁷⁴ Arguing for the merits of promulgating specific standards, Representative Steiger explained that “[w]ith specific standards it will be apparent to the employer what is expected and required of him.”¹⁷⁵

Because of the “notice-and-comment” provisions of the Act’s promulgation procedures,¹⁷⁶ a specific ergonomics standard would be the subject of public debate. All interested parties could fashion an acceptable, well-informed,¹⁷⁷ and comprehensive standard, taking into account CTDs’ controversial medical issues.¹⁷⁸ By notifying employ-

172. 116 CONG. REC. 38,371 (1970) (statement of Rep. Steiger) (“[S]pecific standards will . . . serve as the necessary guide for inspectors in properly carrying out their investigatory duties.”).

173. See, e.g., Gross, *supra* note 36, at 252.

174. See 116 CONG. REC. 38,371 (1970) (“It is exactly this complexity [in today’s highly technical industrial circumstances], and the uncertainty which often goes with it, that has led us to provide carefully designed procedures for issuing specific safety and health standards.”) (statement of Rep. Steiger). The procedures require, in part, that the Secretary of Labor publish all proposed rules promulgating specific standards in the Federal Register. 29 U.S.C. § 655(b)(2) (1988). Publishing in the Federal Register has been held to constitute notice to all employers. See, e.g., *Ed Taylor Constr. Co. v. OSHRC*, 938 F.2d 1265, 1272 (11th Cir. 1991) (holding that the OSHA “confined space” regulation has put the construction industry on notice that any “sanitary” or “dry” manhole that is 24 feet deep and four feet wide is a potential hazard and that all construction employers are charged with knowledge of the regulation and are responsible for compliance); *North Ala. Express, Inc. v. United States*, 585 F.2d 783, 787 n.2 (5th Cir. 1978) (“Assuming that the contents of the published notice are otherwise complete, it is well settled that publications in the Federal Register are deemed legally sufficient notice to all interested persons.”). Another important part of the promulgation procedures is the opportunity for public hearings, comments, and objections by interested parties. 29 U.S.C. § 655(b)(1)-(3) (1988).

175. 116 CONG. REC. 38,371 (1970) (statement of Rep. Steiger).

176. 29 U.S.C. § 655(b)(1)-(3) (1988) (providing for the opportunity to comment on, submit data about, and register objections to a proposed standard).

177. Standards are to be based on “research, experiments, demonstrations, past experience, and the latest available scientific data.” S. REP. NO. 1282, 91st Cong., 2d Sess. (1970), *reprinted in* 1970 U.S.C.C.A.N. 5177, 5183.

178. Huvelle and Michaelson prefer this notice-and-comment approach of promulgated standards to the general duty clause because it would enable OSHA to resolve the difficult issues

ers of their responsibilities, an ergonomics standard would enable employers to take direct and specific measures to protect the safety and health of their workers, thus achieving the main goal of the Act.

From a policy standpoint, the shortcomings of the general duty clause with respect to CTDs demonstrate the wisdom of Congress' decision to emphasize the promulgation of standards to deal with even new harmful conditions. Absent an ergonomics standard, employers have no notice as to what steps to take to reduce CTDs. Prosecution under the general duty clause subjects employers to liability for a "wrong" which they may not know how to correct.¹⁷⁹ The OSHRC recognizes this deficiency of the general duty clause: "Reliance upon the general duty clause [is] discouraged because to do so would provide little advanced warning of what specifically is required in order that employers could maintain a safe and healthful workplace."¹⁸⁰ Because employers do not know what is required of them to maintain a workplace free of CTDs, their employees' safety and health depend upon whether their employer "guesses correctly" as to an acceptable prevention method¹⁸¹ or is willing to implement the universe of potential preventive actions. Neither condition is likely to occur.

Only through the promulgation of an ergonomics standard, resulting from a comprehensive and informed debate, can a definitive and useful method of reducing the number and severity of workplace CTDs be formulated, made known to employers, and revised and improved as medical knowledge develops. The general duty clause provides no equally well-reasoned solution to the CTD problem.

2. Consistency

CTDs affect workers across a range of industries, from meatpacking to manufacturing to microtechnology.¹⁸² All jobs involving repetitive tasks are likely to have a higher incidence of CTDs.¹⁸³ To be

concerning CTDs, such as causation, prevention, and the extent of harm caused. See Huvelle & Michaelson, *supra* note 17, at 25. *But cf.* RONALD A. CASS & COLIN S. DIVER, ADMINISTRATIVE LAW 15 (1987) (noting that promulgation under the Act can be "excruciatingly slow and extraordinarily expensive").

179. Huvelle and Michaelson state that "it is far from clear precisely *what* is expected of employers." Huvelle & Michaelson, *supra* note 17, at 24. Because OSHA has proceeded under the general duty clause instead of issuing a standard, "[e]mployers are . . . hard pressed to know how to try to reduce CTDs." *Id.*

180. Brisk Waterproofing Co., 1973-1974 O.S.H. Dec. (CCH) ¶ 16,345, at 21,261 (July 27, 1973). Referring to reliance on the general duty clause when no notice is available, the OSHRC concluded that "the purposes of the Act would be ill served by such a situation." 1973-1974 O.S.H. Dec. (CCH) at 21,261.

181. See Huvelle & Michaelson, *supra* note 17, at 25.

182. Other frequently-cited industries include the food processing, automobile parts, electronics assembly, and newspaper industries, as well as white-collar businesses, both high-tech and low-tech. *Id.* at 24.

183. Goldsmith, *supra* note 1, at 293; see Silverstein et al., *supra* note 5, at 353.

effective, the means of reducing and preventing CTDs must serve various occupations in a range of distinctly different workplaces.

Congress intended to remedy the consequences of inconsistencies in workplace conditions existent in pre-Act industry by imposing uniform safety and health standards.¹⁸⁴ An ergonomics standard for general industry would clarify the duty of all relevant employers¹⁸⁵ and require compliance.¹⁸⁶ By extending protection to all employees, an ergonomics standard would effectuate the Act's purpose of assuring safe and healthful workplaces so far as possible and would establish a uniformity of workplace ergonomics conditions currently lacking.¹⁸⁷

One difficulty with protecting against CTDs is their occurrence in varied industries. An ergonomics standard can overcome this obstacle. Through the extensive research provisions of the Act,¹⁸⁸ the Secretary has at her disposal the resources most likely to identify the equipment, tasks, or other relevant factors that seem to cause CTDs and through which she will most likely be able to formulate an appropriate standard.¹⁸⁹ Applicability would depend on manufacturing operations and uses of various technologies. Through this process, an ergonomics standard would systematically cover all workplaces that present a significant risk¹⁹⁰ of causing CTDs.¹⁹¹

The general duty clause, by contrast, fails to account for the widespread incidence of CTDs because OSHA does not, and probably can-

184. See S. REP. NO. 1282, 91st Cong., 2d Sess. (1970), reprinted in 1970 U.S.C.C.A.N. 5177, 5218 (individual views of Senator Javits) (recognizing the inadequate protection provided by leaving workplace safety and health to private industry and the states, and the resulting need for a strong federal program).

185. The Secretary has the capacity to promulgate standards that apply to any number of industries. See BOKAT, *supra* note 58, at 65, 167 (discussing the distinction between "vertical" and "horizontal" standards). The term *relevant employers* refers to those employers in the industries to which an ergonomics standard would apply.

186. 29 U.S.C. § 654(a)(2) (1988); see *Ed Taylor Constr. Co. v. OSHRC*, 938 F.2d 1265, 1272 (11th Cir. 1991) (holding that all employers to whom a duly promulgated standard applies are "responsible for compliance").

187. For example, while most noncited employers have no significant program, those employers faced with multimillion dollar fines typically settle and agree to implement some sort of ergonomics program. See, e.g., *CAL/OSHA Issue Special Order on VDT Use at San Diego Newspaper, Reaches Settlement Agreement on VDT Safety with Fresno Newspaper*, [1990 Transfer Binder] *Empl. Safety & Health Guide (CCH)* ¶ 10,631, at 13,497 (describing the terms of *Fresno Bee's* joint ergonomics agreement with OSHA). In some cases, however, an employer might voluntarily adopt an ergonomics program without first being cited. See, e.g., *Lutz & Hansford, supra* note 143 (describing Ethicon's self-imposed ergonomics program); *Ford Motor Company Agrees, supra* note 77 (discussing Ford Motor Co.'s settled ergonomics agreement).

188. See 29 U.S.C. § 655(b)(1)-(3) (1988).

189. See *supra* notes 142-43 and accompanying text. Reference to a single ergonomics standard is not intended to preclude the possibility — and probability — of multiple ergonomics standards. See *supra* note 33.

190. The Secretary may promulgate a standard for any hazard that poses a significant risk of harm. See *infra* notes 232-33 and accompanying text.

191. See BOKAT, *supra* note 58, at 167-68 (discussing "specific" standards, which are applicable to particular equipment or operations).

not,¹⁹² apply it consistently. Despite Congress' admonition that the general duty clause "should not be used to set ad hoc standards,"¹⁹³ OSHA's use of the clause against employers such as IBP, Inc., Ford Motor Company, and Perdue Farms¹⁹⁴ has prompted criticism that OSHA is selectively prosecuting nationally prominent employers and imposing excessive fines solely for media attention.¹⁹⁵ This misuse of the general duty clause forgoes the benefits of consistency offered by promulgated standards, which are preferred to "adventurous" enforcement of the clause.¹⁹⁶

Aside from OSHA's alleged motives, OSHA clearly does not have the capacity to police and inspect all employers.¹⁹⁷ As a result, it must choose which employers to target.¹⁹⁸ While the general duty clause may have an impact on workplace conditions of employers cited by OSHA,¹⁹⁹ other employers lack notice of what is expected to discharge their general duty.²⁰⁰ Reliance on ad hoc enforcement under the gen-

192. OSHA's size limitations affect its ability to enforce the general duty clause consistently against all relevant employers. See *infra* note 197 and accompanying text.

193. 116 CONG. REC. 42,206 (1970) (statement of Rep. Steiger); see also *Kastalon, Inc.*, 1986-1987 O.S.H. Dec. (CCH) ¶ 27,643, at 35,971 (July 23, 1986) (stating that specific standards are preferred over the broad mandate of the general duty clause).

194. *NIOSH Investigates Ergonomic Hazards at Poultry Processing Plants in North Carolina*, [1990 Transfer Binder] Empl. Safety & Health Guide (CCH) ¶ 10,592 (report of NIOSH investigation of alleged ergonomics violations at Perdue Farms poultry processing plants).

195. "OSHA's strategy of imposing multi-million dollar fines in conjunction with vague and untested means of abatement appear more designed to garner media attention and satisfy political pressures than to improve workers' safety in a prompt, efficient and effective manner." *House Hearings*, *supra* note 6, at 28 (statement of Perdue Farms, Inc.); see also Malovany, *supra* note 17, at 30 (employer's attorney claiming that the recent increase in penalty amounts for general duty violations for CTDs was the result of "a fundamental change in political winds on the national level"). Whatever the validity of these claims, OSHA is aware of the publicity and uses the high-profile aspect of its citations to influence the behavior of other employers. Huvelle and Michaelson report that Gerard Scannell, the Assistant Secretary of Labor for Occupational Safety and Health, commented that he wanted the 111 citations and \$242,000 in penalties against Cargill, Inc. (for exposing workers to CTDs) "to send a strong message" to employers. Huvelle & Michaelson, *supra* note 17, at 24. While general deterrence is an accepted goal of punishment in certain cases, the intended "message" in the case of CTDs remains confused and inarticulate — without an ergonomics standard or any other definitive notice of how to protect against CTDs, noncited employers are unable to conform their behavior to protect workers. See *supra* notes 179-81 and accompanying text. The doubtful utility of its high-profile approach to enforcement may cast doubt on the credibility of OSHA's general deterrence motives.

196. See *National Realty & Constr. Co. v. OSHRC*, 489 F.2d 1257, 1266 n.37 (D.C. Cir. 1973).

197. *House Panel Hears Testimony on Cumulative Trauma Disorders*, [1989 Transfer Binder] Empl. Safety & Health Guide (CCH) ¶ 10,112, at 12,229 (June 6, 1989) (noting a criticism of the number of OSHA's investigatory and enforcement personnel).

198. While stating that OSHA's inspections are "more or less systematic," Gross notes that OSHA targets industries with above-average injury-frequency rates, the so-called "worst first" approach to enforcement. Gross, *supra* note 36, at 257 n.52, 258 n.56.

199. In an ordinary general duty case, citations almost invariably improve the safety and health of workplaces. For CTDs, however, the likely utility of any abatement method is still uncertain. See *supra* section II.C.

200. See *supra* notes 179-81 and accompanying text.

eral duty clause likely results in some workers' being left unprotected,²⁰¹ thereby frustrating the purpose of the Act. Congress recognized the undercutting effect on workplace safety and health arising from inconsistent programs: "[M]any employers — particularly smaller ones — simply cannot make the necessary investment in health and safety, and survive competitively, unless all are compelled to do so."²⁰² By providing a clear and consistent obligation for all relevant employers, an ergonomics standard would increase the likelihood²⁰³ that the employees of noncited employers²⁰⁴ would be protected from CTDs.

3. Fairness

The controversy and uncertainty surrounding the causation of CTDs and the means by which they can be reduced or eliminated make prosecution under the general duty clause unfair.²⁰⁵ Perhaps even more significantly, enforcement under the clause often sacrifices fair procedure. Currently, OSHA issues citations and proposed penalties to employers upon discovering levels of CTD exposure that OSHA believes violate the general duty clause.²⁰⁶ OSHA has the authority and, depending on how it categorizes the violation, the responsibility to assess penalties of up to \$70,000 for each violation.²⁰⁷ The citation

201. Given OSHA's tendency to prosecute large, prominent employers, the unprotected workers will most likely be those of small to medium-sized employers. Voluntary ergonomics agreements with these employers will probably be rare, often for economic reasons. See *infra* note 202; cf. Lutz & Hansford, *supra* note 143, at 863 (stating that Ethicon, Inc., which entered a voluntary ergonomics agreement, is the worldwide leading manufacturer of sutures and wound closure products).

202. S. REP. NO. 1282, 91st Cong., 2d Sess. (1970), reprinted in 1970 U.S.C.C.A.N. 5177, 5180. The need to offset this inconsistency with a standard is even more pronounced in the context of CTDs because of their long latency period. "[W]here there is a long period between exposure to a hazard and manifestation of an illness[,] . . . a particular employer has no economic incentive to invest in current precautions . . . because he will seldom have to pay for the consequences of his own neglect." *Id.*

203. See *supra* note 186 and accompanying text.

204. Employees working for cited employers would also benefit from an ergonomics standard because their employers would be able to take appropriate steps to avoid being cited again. Without an ergonomics standard, preemptive measures by any employer are, if not impossible, at least undefined. See Huvelle & Michaelson, *supra* note 17, at 24.

205. "[I]t is grossly unfair to employers to subject them to the possibility of a civil penalty for not complying with a general requirement as vague as a mandate 'to do good and avoid evil.'" 116 CONG. REC. 38,371 (1970) (statement of Rep. Steiger).

206. 29 U.S.C. §§ 658(a), 659(a) (1988); see, e.g., Maakestad & Helm, *supra* note 12, at 10-11 (describing the citation of IBP, Inc. and John Morrell & Co. for ergonomics violations).

207. 29 U.S.C.A. § 666(a)-(c) (West Supp. 1991). This section of the Act prescribes different penalties for "willful or repeated" violations, "serious" violations, and "not serious" violations. OSHA has attempted to characterize most ergonomics violations as willful, the most serious kind of violation. See Freeman, *supra* note 29, at 28. Any general duty violation must at least be a "serious" violation. BOKAT, *supra* note 58, at 109. In addition, in egregious cases, OSHA has begun calculating the imposed penalty by multiplying the statutory penalty by the number of employees exposed to the CTD, resulting in the assessment of extraordinarily large fines. Freeman, *supra* note 29, at 28.

and proposed penalty become final unless the employer contests their legitimacy within the time provided.²⁰⁸

The special characteristics of CTDs, however, negate the fairness that Congress intended by this two-step process. Persistent uncertainties regarding possible means of abatement of CTDs render the Act's appeal provisions ineffectual. Neither NIOSH, the Secretary of Labor's researching agency, nor most employers are confident of the preventive value of CTD interventionary measures, which are largely untested.²⁰⁹ While courts and the OSHRC may occasionally vacate a citation because OSHA's abatement method was insufficient,²¹⁰ reviewing bodies are poorly equipped to evaluate the utility of OSHA's orders. Most cases settle before courts reach this determination.²¹¹ Unless employers comply with OSHA's typically general and often arbitrary abatement orders,²¹² they are subjected to large penalties. In addition to the uncertainties concerning the utility of OSHA's abatement orders, compliance often costs substantial sums of money.²¹³ Especially because CTD precautionary measures threaten the economic viability of many employers, fairness dictates that OSHA should promulgate a standard in accordance with the Act's procedural safeguards.²¹⁴ An ergonomics standard would combat these uncertainties with procedural scrutiny.²¹⁵

The OSHRC has emphasized the role of fairness in the promulga-

208. 29 U.S.C. § 659(a) (1988).

209. See, e.g., *NIOSH Seeks Information on Occupational Cumulative Trauma Disorders*, [1989 Transfer Binder] Empl. Safety & Health Guide (CCH) ¶ 10,292, at 12,608 (request by NIOSH for information regarding prevention and intervention procedures for use with CTDs); *House Hearing*, *supra* note 6, at 28 (statement of Perdue Farms, Inc.) (noting that abatement theories are unproven and that OSHA admits to lack of expertise to deal with CTDs). After conducting a study of the contribution of occupational risk factors to the development of CTDs, Silverstein found that "[a]lthough some ergonomic interventions were implemented in the plant[,] . . . this investigation was not able to identify statistically significant improvements in CTDs that could be attributed to decreases in risk factors." Silverstein et al., *supra* note 7, at 844.

210. See, e.g., *John Gill Ranch*, 1987-1990 O.S.H. Dec. (CCH) ¶ 28,796, at 38,391 (Nov. 1, 1989), discussed *supra* notes 128-32 and accompanying text.

211. See *Freeman*, *supra* note 29, at 28.

212. See *id.* (noting that OSHA's abatement orders in CTD citations are broadly stated and that OSHA lacks the expertise to refine or direct the orders).

213. The employers settling their general duty citations and fines with OSHA typically must spend millions of dollars to implement the broad, vague, and still unproven ergonomics programs contained in OSHA's abatement orders. For example, Mallory and Bradford quote the Executive Vice-President of IBP, Inc. as reporting that the cost of implementing the ergonomics program in its settlement with OSHA will exceed one or two million dollars. Mallory & Bradford, *supra* note 1, at 93. Similarly, Chrysler Corp.'s settlement agreement with OSHA involves implementing a company-wide ergonomics program costing millions of dollars. Huvelle & Michaelson, *supra* note 17, at 24.

214. *National Realty & Constr. Co. v. OSHRC*, 489 F.2d 1257, 1266 n.37 (D.C. Cir. 1973).

215. See S. REP. NO. 1282, 91st Cong., 2d Sess. (1970), reprinted in 1970 U.S.C.C.A.N. 5177, 5182.

tion process. In *Kastalon, Inc.*,²¹⁶ the OSHRC reviewed an alleged violation of the general duty clause. OSHA contended that Kastalon violated its general duty by failing to take adequate measures to protect its employees from a dangerous chemical commonly called "MOCA." No specific standard governed MOCA exposure; twelve years earlier, in *Synthetic Organic Chemical Manufacturers Assn. v. Brennan*,²¹⁷ the Third Circuit had declared a previously issued standard invalid because the Secretary had failed to conform to the Act's procedural requirements for promulgation.²¹⁸ The decisive procedural flaw had been the Secretary's failure to provide interested parties with an adequate opportunity to review the advisory committee's recommendations before submitting comments or taking part in the hearings.²¹⁹ In *Kastalon*, the OSHRC criticized OSHA's citations as an attempt to enforce the invalidated standard through the general duty clause, thus circumventing the Act's fairness goal,²²⁰ although the OSHRC vacated the citation on other grounds.²²¹ As demonstrated by these cases, the procedural fairness ensured by the Act's promulgation requirements is both necessary to the issuance of a valid standard and significant enough to render an expedient use of the general duty clause invalid.²²²

OSHA's use of the general duty clause for CTDs similarly fails to uphold the policies of the Act — notice, consistency, and fairness. It provides neither preventive measures of sufficient detail to have any practical value nor procedures that ensure fair treatment of all employers and a workable solution for all employees. Its use for CTDs is unfair and ineffective and should be declared invalid. An ergonomics

216. 1986-1987 O.S.H. Dec. (CCH) ¶ 27,643 (July 23, 1986).

217. 503 F.2d 1155 (3d Cir. 1974), *cert. denied*, 420 U.S. 973 (1975).

218. 503 F.2d at 1160-61 (vacating procedurally flawed part of standard).

219. Specifically, the Secretary had published the standard before receiving the recommendations and had held a hearing on the standard less than 30 days after receiving the recommendations. See *Kastalon, Inc.*, 1986-1987 O.S.H. Dec. (CCH) ¶ 27,643, at 35,972 n.3 (July 23, 1986); 29 U.S.C. § 655(b)(1)-(2) (1988).

220. The OSHRC stated that

[p]articularly in a situation like this, where a standard has been proposed and rulemaking proceedings have been conducted, the Secretary's failure to complete the rulemaking process, coupled with his issuance of citations under the general duty clause, do not promote the goals of "fairness and mature consideration of rules of general application" that the Act's rulemaking provisions were designed to foster.

1986-1987 O.S.H. Dec. (CCH) ¶ 27,643, at 35,972 (July 23, 1986) (citation omitted).

221. The general duty citations were vacated because the Secretary failed to prove that Kastalon's employees were exposed to a hazard. 1986-1987 O.S.H. Dec. (CCH) at 35,980.

222. The similarity to OSHA's use of the general duty clause for CTDs is notable. Secretary Dole researched CTDs through NIOSH and stated her intent to promulgate an ergonomics standard. *Dole Issues Ergonomic Guides*, *supra* note 26, at A-7. However, no Secretary has ever promulgated an ergonomics standard, and no standard is likely to be issued in the near future. The failure to complete the rulemaking process, coupled with the extended use of the general duty clause, does not promote the goals of fairness contemplated by the Act and resembles an attempt to circumvent the Act's procedural requirements for promulgation.

standard, by contrast, would deal deliberately and fairly with the special problems of CTDs and thus better serve the Act's policies. Such a standard is the proper solution to the problem of CTDs.

B. *The Defensibility of the Proposed Solution*

The most plausible criticism of this proposal is that, if OSHA stops prosecuting employers for violations of the general duty clause, then, until the Secretary promulgates an ergonomics standard, workers will be totally unprotected from CTDs, in direct contravention of the Act's central purpose.²²³ In the interim, critics would argue, the protection provided by the general duty clause is at least better than no protection at all, and thus the clause should be used until any potential ergonomics standard is promulgated.²²⁴

The criticism highlights the crucial issue of how best to protect workers, assuming that there is the requisite causal link between occupational usages and CTDs. While the criticism's concern is genuine, it is inapposite to this Note's argument and can be easily dismissed. First, the preceding analysis of the general duty clause and the failure of CTDs to satisfy the clause's requirements renders OSHA's use of the clause for CTDs illegitimate.²²⁵ The absence of an ergonomics standard does not change this fact.²²⁶

Second, the criticism is only result-oriented; its insight into the problem of CTDs is limited by its failure adequately to weigh the policy considerations underlying both the Act and the general duty clause. Providing workers with a safe and healthful workplace is not the exclusive purpose of the Act.²²⁷ Whether a particular course of action protects workers fairly and effectively may often determine whether OSHA should pursue that action.²²⁸ Because prosecution of employers for CTDs under the general duty clause consistently violates the Act's policies, such prosecution disrupts the Act's carefully balanced enforcement scheme. Use of the clause for CTDs is improper and unwarranted even in the absence of an ergonomics

223. 29 U.S.C. § 651(b) (1988) (to ensure safe and healthful working conditions).

224. The argument gains even more support from the fact that Secretary Dole's cancellation of the plans to extend the new ergonomics guidelines for the red meat industry may indicate that her office is unconvinced that an ergonomics standard is needed. *See supra* notes 58-60 and accompanying text. This uncertainty probably further delays promulgation of an ergonomics standard.

225. *See supra* Part II.

226. *Cf. BOKAT, supra* note 58, at 109 (noting that the general duty clause was not intended to be a substitute for promulgated standards).

227. *See supra* note 113.

228. *See, e.g., Synthetic Organic Chem. Mfrs. Assn. v. Brennan*, 503 F.2d 1155, 1160 (3d Cir. 1974) (holding a standard invalid insofar as its promulgation failed to uphold the policy of fair notice), *cert. denied*, 420 U.S. 973 (1975); *Kastalon, Inc.*, 1986-1987 O.S.H. Dec. (CCH) ¶ 27,643, at 35,972, 35,980 (July 23, 1986) (criticizing a use of the general duty clause that violated the policy of fairness and vacating citation on other grounds).

standard.²²⁹

Moreover, the criticism fails to appreciate that, without the use of the general duty clause, workers will be no less protected than they are now. For example, workers may recover for CTD injuries through workers' compensation insurance benefits with or without OSHA enforcement.²³⁰ Workers receive no compensation from the general duty clause.²³¹ Workers derive "protection" indirectly from the general duty clause in the form of programs that employers implement as a result of the clause's enforcement. To the extent that the prosecution of employers for alleged ergonomics violations of the general duty clause is ineffective, preventive programs will not be worth adopting for many employers.

The proper way to protect workers from CTDs is through the promulgation of an ergonomics standard. Only through an ergonomics standard can OSHA protect workers while furthering the Act's policies. The Secretary is free to promulgate a standard for any hazard that poses a significant risk of harm to workers.²³² There is enough evidence that CTDs pose a significant risk to satisfy this requirement.²³³ For the protection of workers and the integrity of OSHA, the Secretary can and should promulgate a specific ergonomics standard.

CONCLUSION

CTDs are a serious problem worthy of the Secretary's efforts. The Secretary, however, has chosen to act through the general duty clause, an enforcement mechanism particularly inappropriate for use against

229. Because of the primary role of specific standards and the statutory limitations on the applicability of the general duty clause, the policies of the Act dictate that some hazards that are not yet covered by a specific standard nevertheless do not fall within the coverage of the general duty clause. See *supra* text accompanying note 67. CTDs should be found to be such a hazard.

230. The Act does not affect workers' compensation in any way. 29 U.S.C. § 653(b)(4) (1988); see also BOKAT, *supra* note 58, at 728 (finding that states have assented to the separation of OSHA from workers' compensation). Workers' compensation has been criticized as exacerbating the problem of workplace CTDs. See, e.g., Hadler, *supra* note 12, at 39-40 (finding that, if not restricted to discrete traumatic events, workers' compensation can be iatrogenic); Louis, *supra* note 12, at 825 ("A system of workers' compensation that was originally designed to protect workers is now working to penalize not only the workers, but all of us — workers, management, and consumers."); Worrall & Appel, *supra* note 17, at 295-96 (concluding that workers' compensation gives workers an incentive both to claim more severe disabilities and to claim more often). Whether workers' compensation helps or aggravates the CTD problem, it will still be available to workers if OSHA stops using the general duty clause to prosecute employers for CTDs. Therefore, stopping that use of the clause would result in no less protection for workers on this ground.

231. See Morey, *supra* note 39, at 992-93. The goal of the Act is preventive, not remedial. *In re Establishment Inspection of Midwest Instruments Co.*, 900 F.2d 1150, 1153 (7th Cir. 1990).

232. See *Industrial Union Dept. v. American Petroleum Inst.*, 448 U.S. 607, 642 (1980).

233. CTDs probably meet the "significant risk" requirement of the general duty clause. See *supra* text accompanying note 101. Because this requirement is derived from the same requirement in the promulgation process, see *supra* note 91, enough evidence of a significant risk of harm from workplace CTDs exists to allow OSHA to promulgate a standard.

CTDs. Because CTDs fail to satisfy the clause's requirements for application, OSHA's use of the clause for CTDs is illegitimate. OSHA's continued use of the clause despite this illegitimacy also impinges on considerations of notice, consistency, and fairness.

This does not mean that workers should go unprotected from CTDs. On the contrary, the argument that an ergonomics standard would better serve the policies of the Act, together with the finding that CTDs present a "significant risk" of harm, supports the conclusion that the Secretary should promulgate an ergonomics standard.²³⁴ Most who have considered the problem urge this conclusion.²³⁵

The stringent timetable provided in the Act suggests that Congress intended the Secretary to act quickly and decisively when she discovers a workplace condition that presents a significant risk of harm.²³⁶ Indecisive action — such as announcing and soon thereafter canceling a plan to promulgate an ergonomics standard and then prosecuting employers under the general duty clause²³⁷ — does not promote the goals of " 'fairness and mature consideration of rules of general application' that the Act's rulemaking provisions were designed to foster."²³⁸ The Secretary has had more than ample time to begin the promulgation process.²³⁹ The Act dictates, and its policies confirm, that the Secretary should promulgate an ergonomics standard as quickly as practicable.

234. See 29 U.S.C. § 655(b)(1) (1988) (stating that the Secretary may promulgate a standard whenever doing so would serve the objectives of the Act); *Industrial Union*, 448 U.S. at 642 (stating that the Secretary may promulgate a standard when the hazard presents a significant risk of harm). Anything short of an ergonomics standard, such as ergonomics guidelines, would be ineffective in dealing with the problem. Guidelines would not carry the same weight as a standard and, rather than drawing the clear lines of a standard, would leave room for wide misinterpretation by OSHA field inspectors. Dan Malovany, *Safety Issue Becomes a Pain in the Neck, Back and Wrist*, BAKERY PROD. & MKTG., Oct. 24, 1990, at 25.

235. See, e.g., *House Hearings*, *supra* note 6, at 169-70 (various participants concluding that the ball is "clearly in OSHA's court;" that OSHA is lagging behind congressional and public pressure; that an ergonomics standard is needed; and that OSHA could be much more aggressive in promulgating an ergonomics standard); Huvelle & Michaelson, *supra* note 17, at 25 (stating that an ergonomics standard should be promulgated to deal with the special medical concerns of CTDs).

236. See 29 U.S.C. § 655(b)(1)-(4) (1988); see also S. REP. NO. 1282, 91st Cong., 2d Sess. (1970), reprinted in 1970 U.S.C.C.A.N. 5177, 5182-5183 (stating that standards must be constantly improved and replaced with new standards as new knowledge and techniques are developed).

237. See *supra* notes 58-60 and accompanying text.

238. See *Kastalon, Inc.*, 1986-1987 O.S.H. Dec. (CCH) ¶ 27,643, at 35,972 (July 23, 1986) (quoting *NLRB v. Wyman-Gordon Co.*, 394 U.S. 759, 764 (1969)).

239. NIOSH requested information regarding work-related CTDs to determine the extent of the problem and to develop possible prevention strategies at least as early as 1989, with January 22, 1990 as the deadline for data submissions. *NIOSH Seeks Information on Occupational Cumulative Trauma Disorders*, [1989 Transfer Binder] Empl. Safety & Health Guide (CCH) ¶ 10,292.