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Nuclear Power Meets the War on Drugs: A Utilitarian and Neo-Kantian Perspective on the NRC's Fitness-for-Duty Rules

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NUCLEAR POWER MEETS THE WAR ON DRUGS: A UTILITARIAN AND NEO-KANTIAN PERSPECTIVE ON THE NRC'S FITNESS-FOR-DUTY RULES

John W. Heiderscheit, III*

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I. INTRODUCTION

Another public relations icon aims at core civil liberties. Not coincidentally, a rational American energy policy is also threatened. The

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United States Nuclear Regulatory Commission (NRC) recently announced that by 1990 its licensees authorized to run nuclear power reactors must implement "fitness-for-duty" programs.¹ Despite the comforting moniker, these programs do not mean jumping-jacks and stretching. Rather, "fitness-for-duty" means sweeping random drug tests of possibly 200,000 law-abiding industry employees.² The NRC's stated "general objective" is "to provide reasonable assurance that nuclear power plant personnel are reliable, trustworthy, and not under the influence of any substance, legal or illegal, or mentally or physically impaired from any cause, which in any way adversely affects their ability to safely and competently perform their duties."³

The court system, which has arrogated for itself a huge chunk of regulatory authority over American energy policy,⁴ will ultimately determine whether these fitness-for-duty regulations seek to achieve this objective rationally and constitutionally. It is no secret that many judges, even those otherwise unfriendly to random testing, are fairly sanguine about the constitutionality of testing these workers.⁵ Justice Scalia's views are well-known,⁶ but other courts have freely echoed or alluded to the governmental interest in preventing drug use by those "who have routine access to dangerous nuclear power facilities."⁷ There is a serious risk,

3. Fitness-for-Duty Programs, 54 Fed. Reg. 24,468.

4. See generally Huber, Electricity and the Environment in Search of Regulatory Authority, 100 HARV. L. REV. 1002, 1038-39 (1987) ("Individually, the sources of judicial review may seem innocuous, but together they constitute a heavy gauge regulatory arsenal.... When the agencies are at all hesitant or weak, the courts control the regulatory agenda."); see also R. MELNICK, REGULATION AND THE COURTS: THE CASE OF THE CLEAN AIR ACT (1983) (general analysis of judicial role in management of Clean Air Act). Of course, the courts will also be interested in the fitness-for-duty rules because of their constitutional implications. G. GUN-THER, CONSTITUTIONAL LAW 2 (1986).

5. Justice Scalia, in his eloquent dissent in *National Treasury Employees Union v. Von Raab* asserted that "the secured areas of a nuclear power plant" would be a workplace which "could produce such catastrophic social harm that no risk whatever" is tolerable. 109 S. Ct. 1384, 1400 (1989) (Scalia, J., dissenting). This statement is a stunning blow to those hoping for meaningful judicial review of the fitness-for-duty rules.

7. See Skinner v. Railway Labor Executives Ass'n, 109 S. Ct. 1402, 1419 (1989); see also

^{1.} Fitness-for-Duty Programs, 54 Fed. Reg. 24,468 (1989) (to be codified at 10 C.F.R. pts. 2, 26).

^{2.} Id. The NRC's own estimate is that the program will affect about 186,000 employees. U.S. NUCLEAR REGULATORY COMMISSION BACKFIT ANALYSIS FITNESS-FOR-DUTY 12-13 (1989) [hereinafter BACKFIT ANALYSIS]. This program will dwarf the civilian random testing programs recently approved by the courts. See, e.g., American Fed'n of Gov't Employees v. Skinner, 885 F.2d 884, 887 (D.C. Cir. 1989) (approximately 30,000 Department of Transportation employees subject to random testing); National Fed'n of Fed. Employees v. Cheney, 884 F.2d 603, 605 (D.C. Cir. 1989) (more than 9,000 employees), cert. denied, 110 S. Ct. 864 (1990).

^{6.} See infra notes 203-12 and accompanying text.

therefore, that the most massive civilian drug-testing dragnet in the history of the United States will be enacted and followed only by fluffy judicial review.⁸ This Article calls attention to the constitutional issues implicated by the fitness-for-duty program.

Historical precedent augurs that the opponents of the fitness-forduty regulations will focus on the extent to which the regulation's burden on the tested individuals constitutes an unreasonable search and seizure.⁹ In other words, the sharpest critique will come from the individual rights perspective associated politically with the left-libertarian tradition.¹⁰ The left-libertarians will virtually concede that the fitness-for-duty regulations go to a compelling state interest, amorphously called "public safety," but will insist that the fitness-for-duty program is unduly invasive. This approach will not be effective since the early skirmishes won by left-libertarian litigants have been swamped more recently.¹¹ Although a few widely scattered judicial enclaves might still emphasize the invasiveness of drug testing (particularly random testing),¹² recent

9. Skinner, 109 S. Ct. at 1413-14.

10. See infra notes 88-105 and 111-25 and accompanying text. One of the cleanest pronouncements from the bench of core left-libertarian rights-based philosophy is found in Panora v. Simmons, 445 N.W.2d 363 (Iowa 1989). The dissent quoted former Justice Jackson as follows:

The very purpose of a Bill of Rights was to withdraw certain subjects from the vicis, situdes of political controversy, to place them beyond the reach of majorities and officials and to establish them as legal principles to be applied by the courts. One's right to life, liberty, and property, to free speech, a free press, freedom of working and assembly, and other fundamental rights may not be submitted to vote; they do not depend on the outcome of elections.

Id. at 370 (Lavorato, J., dissenting) (quoting West Virginia State Bd. of Educ. v. Barnette, 319 U.S. 624, 638 (1943)).

11. See, e.g., Skinner, 109 S. Ct. at 1422 (allowing drug testing of railroad employees); Von Raab, 109 S. Ct. at 1394 (suggesting huge segments of government workforce eventually could be subject to testing).

12. See, e.g., Harmon v. Thornburgh, 878 F.2d 484, 492-93 (D.C. Cir. 1989) (striking down Justice Department regulations mandating random drug testing for all department criminal case prosecutors and employees with access to grand jury proceedings, opinion structured to substantially emphasize individual interests over government interests); Hartness v. Bush, 712 F. Supp. 986, 993 (1989) (striking federal government testing of certain employees, court was "not persuaded . . . that the government ... has a compelling interest in the testing of the several hundred employees . . . that justifies violation of their undisputed expectation of privacy with respect to their elimination functions.").

Rushton v. Nebraska Pub. Power Dist., 844 F.2d 562, 564-65 (8th Cir. 1988) (stating that "[a] radiological release could seriously injure the public and the plant employees").

^{8.} The Supreme Court, however, offers some hope. Justices Brennan, Marshall, Scalia and Stevens have expressed at least conditional opposition to drug testing. *See infra* notes 173-81 and 203-12 and accompanying text. Chief Justice Rehnquist has been a very strong proponent of nuclear power, perhaps offering the opportunity for a fifth vote. *See, e.g.*, Metropolitan Edison Co. v. People Against Nuclear Energy, 460 U.S. 766 (1983); Duke Power Co. v. Carolina Envtl. Study Group, 438 U.S. 59, 95 (1978) (Rehnquist, J., concurring).

decisions demote this approach to a curious anachronism.¹³

A more complete analysis may be gained by shifting the focus to more careful scrutiny of the government interest side of the balance. It is the government's asserted interest which may channel both left-libertarian drug testing opponents, and those concerned with preserving the nuclear generation option, into a successful coordinated attack. Before addressing legal strategies, this Article reviews the events and process by which America's war on drugs (in name, if not always in fact) and war on the atom (in fact, if not always in name) has put hundreds of thousands of innocent industry employees and an important part of a balanced national energy program on the regulatory chopping block.

A. The Nuclear Industry

The nuclear energy industry is twisting in the breeze, seeking to revisit the expansion mode of the 1960s, even though pummelled by forces beyond its control.¹⁴ Popular support for nuclear energy has dwindled

13. See, e.g., Skinner, 109 S. Ct. at 1417 ("To the extent transportation and like restrictions are necessary to procure the requisite blood, breath, and urine samples for testing, this interference alone is minimal given the employment context in which it takes place."); Von Raab, 109 S. Ct. at 1394 ("[E]mployees involved in drug interdiction reasonably should expect effective inquiry into their fitness and probity.").

14. See generally J. MORONE & E. WOODHOUSE, THE DEMISE OF NUCLEAR ENERGY: LESSONS FOR DEMOCRATIC CONTROL OF TECHNOLOGY 1 (1989) ("[C]ivilian nuclear power in the United States has brought mainly grief: widespread fear, huge cost overruns, utility companies stuck with partly completed reactors, and the nuclear industry in disarray. . . . [T]he image of nuclear power is in tatters."); Graham, Nuclear Power Assembly, 32 NUCLEAR NEWS, July 1989, at 98 (senior utility executive stated that new plants "cannot be expected soon because there is not adequate public and political support"); Green, Nuclear Gasification of Coal for Control of Carbon Dioxide Emission, 122 PUB. UTIL. FORT. 13, 14 (1988) ("The substitution of nuclear power for coal-based, central station power is an option now subject to a de facto moratorium . . . "); Scheibla, Going Fission, BARRON'S, Feb. 20, 1989, at 14, col. 3 (President Bush's plans to revive nuclear industry "look like sheer fantasy"); Sperber, Ryan & Jordan, Environmental Issues Said Bringing Public to Look Anew at Nuclear, 30 NUCLEONICS WEEK, Feb. 9, 1989, at 11 ("[F]or the time being, [nuclear is] like a ship in irons.").

With the exception of France, most Western industrial nations with nuclear programs are similarly situated. See, e.g., O'Dwyer, Finnish Prime Minister Backs Fifth Nuclear Plant, 30 NUCLEONICS WEEK, May 25, 1989, at 3 (58% of Finnish people oppose new nuclear power); Nuclear Experts Alarmed by Dwindling Public Acceptance, 28 NUCLEONICS WEEK, Apr. 21, 1988, at 7 (discussing flaring of anti-nuclear movement in Japan and South Korea); Closure of Two Units Seen for 1995, 1996, 5 NUCLEAR NEWS, Apr. 1, 1988, at 70 (Swedish government announces nuclear phase-out). Incredibly, Yugoslavia has gone so far as to make it a criminal offense to plan new nuclear facilities! Stanic, Nuclear Planning Ban Said to End Nuclear Option for Yugoslavia, 30 NUCLEONICS WEEK, July 13, 1989, at 3. England joined the growing list when the Thatcher government surrendered to demands that the British nuclear expansion plan be terminated. Britain Yanks Nuclear Plants From Its Electricity Privatization Program, Energy Daily, Nov. 14, 1989, at 1, col. 1. slowly but steadily since around 1970,¹⁵ and the industry, whether because of inherent ambivalence within utilities operating both nuclear and fossil-fuel plants,¹⁶ ineffective public relations, or some other cause, has apparently not hit bottom. The last uncancelled order for a new plant came more than a decade ago,¹⁷ and no new orders are on the horizon. "Increasingly, people on both sides [of the nuclear debate] are suggesting that unless a comeback is started soon, the nuclear power industry will degenerate to the point of no return."¹⁸

Public opposition has pressured Congress and the NRC into an al-

Opposition to nuclear power has been growing steadily:

The Harris Poll began surveying . . . in March 1975, when it found public opinion favored building more nuclear plants by a solid 63% to 19% margin . . . In April 1979 . . . the same poll found only 44% in favor of more nuclear power, 43% against . . . Since then, opposition has mounted steadily, reading a high in December 1988, with 65% against, 30% in favor . . .

Three Mile Island's Legacy of Fear and Doubt, U.P.I., Domestic News, Mar. 24, 1989 (wire service, BC Cycle).

16. Investor-owned public utilities executives recently have shown not only impressive commitment to nuclear, but also significant cohesiveness on two major regulatory issues. First, the industry, has supported legislative efforts spearheaded by Representative Don Ritter (R-Pa.) to block the decommissioning of the Shoreham nuclear power facility. Maize, *Torn Apart: Nuclear Group Finds Itself Backing Away From Save Shoreham Move*, Energy Daily, Aug. 22, 1989, at 1, col. 1. Although the proposed legislation would cut off NRC funding to transfer the operating license from Long Island Lighting Company (the public utility owner of Shoreham) which may bankrupt the utility, the industry has nonetheless coalesced behind the bill. *Id.* at 1, col. 2. The nuclear industry also showed unusual cohesiveness in recent opposition to sweeping new NRC maintenance regulations, despite the financial interests of many nuclear utilities to accede to the NRC. *See Maize, NRC's Carr to Push Maintenance*, Energy Daily, Aug. 15, 1989, at 1, col. 1.

17. Embattled Nuclear Plant Gets Go-Ahead, Chicago Tribune, March 2, 1990, § 1, at 3, col. 5. "The Seabrook construction period was marked by a sharp decline in public and investor support for nuclear power. According to Public Citizen, a private advocacy group that opposes nuclear power, 111 U.S. reactor orders were canceled and eleven operating plants were retired during Seabrook's construction. The NRC's Carr noted that there are no new applications for nuclear power plants before the commission." Id.

18. Burns, Critics, Supporters of Nuclear Power See It Nearing a Point of No Return, L.A. Times, Apr. 2, 1989, pt. I, at 14, col. 1. ("Suppliers of nuclear plant components already are dropping out of the business and the pool of university-trained nuclear engineers is shrinking.").

^{15.} For historical measurement and insightful analysis of the troubled history of popular opinion of nuclear energy in America, see J. MORONE & E. WOODHOUSE, *supra* note 14, at 11, 93-96, 100-01, 120, 134. The public has reacted negatively to nuclear energy industry because: (1) risks are "unfamiliar," (2) "involuntary," (3) public lacks "personal control," (4) risks are "perceived" to outweigh benefits and (5) the "potential for catastrophe" as opposed to smaller, more incremental losses. *Id.* at 94. *See also* B. COHEN, BEFORE IT'S TOO LATE 1-10, 255-66 (1983) (tracing rise in public opposition to American nuclear power program from 20% in 1956, to 33% in 1977 (before Three Mile Island incident) and to 56% in 1979 (following Three Mile Island)); Blake, *SMUD Halts Operation After Referendum Loss*, 32 NUCLEAR NEWS, July 1989, at 30 (describing June 6, 1989 vote in Sacramento, California, by 53-47% margin, to close a working nuclear power plant (Rancho Seco); first such vote ever in United States).

most irreversible political dialectic. The NRC raises the costs of nuclear power, by requiring additional engineered safety features, in order to satisfy political opponents who argue that plants are "unsafe," or at least not safe enough.¹⁹ These additional regulations dramatically escalate costs, which are passed on to rate payers. This further reduces political support for nuclear energy by painting the utilities that purchased nuclear plants as imprudent for either failing to choose fossil-fired plants, or to do more to encourage conservation. To the consumer, nuclear appears to be "priced out of the market." The high price, however, is related directly to the questionable safety expenses.²⁰ The reduced public support prompts more regulation, and so on.²¹

Despite the unfavorable political dialectic, the industry has refused to die.²² Ironically, the very environmental concerns which two decades ago helped trigger the industry's slide may now provide a significant boost, as fears of environmental catastrophe in the form of global warming and acid rain push the nuclear radiation threat out of the forefront of the environmental agenda.²³ Potential electricity shortages are also a ris-

21. Political problems have proved costly to many public utilities. See J. MORONE & E. WOODHOUSE, AVERTING CATASTROPHE 47 (1984) ("This open-ended regulatory process may or may not produce added safety gains, but it has proven extraordinarily costly to the nuclear industry.").

22. One commentator has noted:

By year-end [1988], there was enough interest in a renewed nuclear energy industry that the U.S. Council for Energy Awareness staged the first open-to-the-public Nuclear Energy Forum in Los Angeles.... Hope springs eternal in the nuclear industry The nuclear industry hopes "nouvelle nukes," with their separation of nuclear and non-nuclear (steam) plant cooling systems, which rely on gravity instead of ... pumps, and factory-built quality control will win the confidence of utility stockholders.

Savage, The Second Coming of Nuclear Power, BUS. & SOC'Y REV. 60 (Winter 1988).

See also Egan, Could Interstate Generating Companies Help Revive Nuclear?, Energy Daily, Aug. 9, 1989 at 2, col. 1 ("Regional generating companies are also a sine qua non for the revival of nuclear power (The industry is going to have to get together and have some regional generating companies which have the capacity to built [sic] several reactors and institute a training program)"); Zengerle, Westinghouse Sees Light at End of Tunnel for Nuclear Power, Reuters Bus. Rep., May 22, 1989 (wire service, BC Cycle) (noting that greenhouse effect may force industrial nations to give up coal; citing "demand for electricity, simpler licensing procedures, new plant designs and improved waste management" as likely to "generate demand for new plants by the mid-1990s").

23. See Seneviratne, IAEA Reply to Brundtland Report: Nuclear Safe, Clean, and Needed, 30 NUCLEONICS WEEK, Apr. 27, 1989, at 14 (arguing for "environmental advantages of nu-

^{19.} NRC backfitting regulations require extraordinary expenditures to improve plant safety. "'Backfitting' refers to the imposition of new or modified safety requirements on nuclear power plants previously licensed for construction or operation." Union of Concerned Scientists v. United States Nuclear Regulatory Comm'n, 880 F.2d 552, 555 (D.C. Cir. 1989).

^{20.} Management undeniably takes a slice of the blame for the relatively high operations and maintenance costs at nuclear reactors. These costs rose 22% in 1988 alone. See O&M Costs Continue to Bedevil Nuclear Power, Energy Daily, Sept. 21, 1989, at 3, col. 1.

ing fear.²⁴ Although some commentators have dismissed such rationales for industry revival as a "sheer fantasy,"²⁵ the nuclear option has many environmentalists thinking twice:

Why is Morris Udall, known as the House's leading environmentalist, willing to consider nuclear power? "I used to be concerned about the environmental effects of nuclear energy. But when I look at the effects of acid rain, I think nuclear deserves a second look," he says. "The hard fact is that we're going to need a considerably larger chunk of energy in the Nineties."²⁶

Many of the industry's leading players are organizing for a new push and there are signs that the public may be somewhat more receptive than it has been in the recent past.²⁷

24. See McCaughey, Generating Shortages Threaten National Security, Warns Watkins, Energy Daily, Oct. 17, 1989, at 1, col. 2.

26. Id. at 15.

27. A national survey conducted in May, 1988, with a margin of error of plus or minus 2.5%, found that: (1) nuclear energy was named as our primary source of energy ten years from now by 36% of the respondents-nearly three-to-one over solar, the closest competitor; (2) nuclear was found most likely to "benefit the nation" in the years ahead by 38% of the respondents, compared to 37% of the respondents who listed solar; (3) 55% said nuclear will be very important in the coming years, up 20 points in the last three years; and (4) 76% said the need for nuclear energy will increase in the years ahead. Nuclear Group News, June 29, 1988, at 1, col. 4; see also Reppert, Industry Ad Campaign Seeks to Regain Support for Nuclear Power, A.P., Sept. 19, 1988 (wire service, P.M. Cycle) (describing one million dollar television and print advertising campaign underway on behalf of nuclear by United States Council for Energy Awareness); Three Mile Island's Legacy of Fear and Doubt, U.P.I., Domestic News, Mar. 24, 1989 (wire service, BC Cycle) ("Recent industry-commissioned polls indicate a grudging acceptance among Americans that nuclear power may be necessary someday "). One effort to improve the public's understanding of the nuclear production of electricity has gone so far as to market a \$275,000 see-through plant model. See 30 NUCLEONICS WEEK, July 6, 1989, at 12. Pockets of strong support for nuclear persevere. See, e.g., Savage, supra note 22, at 62 (noting that "[f]or the third time [in the 1980s]" Maine residents rejected closing Maine Yankee nuclear power plant) (quoting PUBLIC CITIZEN, Jan./Feb. 1988).

clear power" and that "use of nuclear power has led to reductions in SO₂ and NO_x emissions"); Kluch, A Second Nuclear Era, 116 PUB. UTIL. FORT. 16-15 (1985) ("To demonstrate the effectiveness of nuclear power in eliminating CO₂ emissions that could lead to the greenhouse effect, France can be cited . . . [It] generates almost 60 percent of its electrical energy by nuclear power . . . [and] between 1979 and 1983, a reduction in [CO₂ emissions] of 20 percent was obtained."); see generally B. COHEN, supra note 15, at 64-71, 97-101, 120-22, 135-37, 235-37, 261-62 (noting critical environmental deficiencies in coal burning); Huber, supra note 4, at 1028-35 (fascinating and detailed analysis of environmental risks associated with various energy-producing technologies); Sperber, Ryan & Jordan, supra note 14, at 11 ("You don't need a nuclear option as long as you're willing to use the atmosphere as a sewer.").

^{25.} Scheibla, supra note 14, at 14.

B. The Nuclear Industry Meets the War on Drugs

Following the 1979 incident at Three Mile Island, Pennsylvania,²⁸ the NRC enacted an unbroken stream of backfitting regulations.²⁹ The post-Three Mile Island backfits began the process of shifting regulatory focus from the traditional hardware concerns to the human elements.³⁰ Over the same ten years, the nation has taken increasingly tenacious steps to combat drug use in the public work force.³¹ Employees of the federal government or of federally regulated industries, particularly employees in safety-sensitive positions, are now subject to a variety of drugtesting programs.³² Not surprisingly, the political dialectic of the nuclear industry eventually pushed the NRC to "backfit" another safety feature of the nuclear power plants—the people who work in and operate them.³³ Perhaps even less surprising, given the zealous public demands for action on "the drug front"³⁴ and the equally intense public opposition to nuclear power, nuclear plant employees were targeted for the most punishing drug testing program in the history of civilian America.³⁵

30. See J. MORONE & E. WOODHOUSE, supra note 14, at 53 (following Three Mile Island, operators began receiving regulatory attention, but "prior to the . . . [Three Mile Island] accident, regulators had directed most attention to design errors rather than operator errors").

31. Perhaps former President Reagan's September 15, 1986, Executive Order, mandating the establishment of drug-testing programs for federal employees in "sensitive" positions was the most recent declaration of the nation's "war on drugs." See Exec. Order No. 12,564, 3 C.F.R. 224 (1987), reprinted in 5 U.S.C. § 7301 app. at 909-11 (1988).

32. See, e.g., Skinner v. Railway Labor Exec. Ass'n, 109 S. Ct. 1402 (1989) (railroad employees); National Treasury Employees Union v. Von Raab, 109 S. Ct. 1384 (1989) (Customs Service employees); Harmon v. Thornburgh, 878 F.2d 484 (D.C. Cir. 1989) (Justice Department); American Fed'n of Gov't Employees v. Cavazos, 721 F. Supp. 1361 (D.D.C. 1989) (Education Department); Hartness v. Bush, 712 F. Supp. 986 (D.D.C. 1989) (miscellaneous federal employees); Transportation Inst. v. United States Coast Guard, No. 88-3429, 89-1519 (D.D.C. Dec. 18, 1989) (LEXIS-15409, Genfed library, Dist file) (private employees on commercial vessels subject to Coast Guard regulations).

33. See infra note 333.

34. Given that recent popular surveys show many Americans would surrender most of their own constitutional freedoms to fight the drug war, it should shock no one that the majority would eviscerate the freedoms of the employees of a highly unpopular industry. See Wash. Post, Sept. 8, 1989, pt. 1, at 1, col. 4.

35. In fact, when such an unpopular minority is singled out for adverse treatment of any type, reviewing courts ought to prick up their ears. When adverse treatment of minorities occurs, for instance, during the hysteria and panic often associated with war time, courts may later regret any lack of vigilance in protecting the minority caught in the cross-fire. See Kore-

^{28.} In March 1979, mechanical and operator error combined to cause the release of nuclear fission products into the nuclear reactor at Three Mile Island. J. MORONE & E. WOOD-HOUSE, *supra* note 14, at 48-50. Although the incident has been considered the "worst mishap" in United States nuclear history, some commentators believe the levels of radioactivity released will have "negligible effect" on the physical health of the population. *Id.* at 51.

^{29.} The NRC has ordered repeated modifications of design requirements, both for reactors under construction and for operating nuclear plants. *Id.* at 47.

Apparently in response to anecdotal evidence of some drug arrests and terminations of licensee employees for drug activity,³⁶ the NRC first issued a proposed rule in 1982 calling for utilities to adopt fitness-forduty programs.³⁷ The NRC hastily slapped together its proposed regulation just five months after receiving the reports of drug use.³⁸ The proposed rule was "broadly worded" to permit licensees "to develop procedures which take into account not only fairness . . . but also any conditions or circumstances unique" to the licensees.³⁹ Nuclear utilities took the NRC at its word on the last point, and developed fitness-forduty programs varying significantly in scope and intensity.⁴⁰ The leading industry groups promulgated their own guidelines for adequate fitnessfor-duty programs.⁴¹

Meanwhile, the NRC continued to monitor the level of drug activity at nuclear power stations.⁴² In July, 1984, the NRC approved publication of a final rule that would require utilities to implement fitness-for-

38. Personnel with Unescorted Access to Protected Areas: Fitness-for-Duty, 47 Fed. Reg. 33,980.

39. Id.

40. Apparently, the explanation for the variance in licensee testing programs lies in local labor conditions, particularly the presence or absence of labor unions. See U.S. NUCLEAR REGULATORY COMMISSION, FITNESS-FOR-DUTY IN THE NUCLEAR POWER INDUSTRY 3-12, 3-13 (1989) [hereinafter NUREG-1354]. Another significant explanation is that certain licensees perceive a greater fitness threat posed at their plants by drugs. Id. The NRC's fitness-for-duty rule ultimately attempted to satisfy these same concerns in two ways: It first allowed licensees to establish "tougher" standards (more drugs tested, lower cut-off levels, etc.) than the NRC fitness-for-duty rule; and secondly, it affirmed that existing rules allow a licensee to "grant exemptions to provisions of the rule which it determines are necessary and authorized by law." Id. at 3-13.

41. See, e.g., EDISON ELEC. INST., EEI GUIDE TO EFFECTIVE DRUG AND ALCOHOL/ FITNESS FOR DUTY POLICY DEVELOPMENT (1987).

42. See Personnel with Unescorted Access to Protected Areas: Fitness-for-Duty, 51 Fed. Reg. 27,872, 27,921 (to be codified at 10 C.F.R. pt. 50) (withdrawn Aug. 4, 1986) ("It remains the continuing responsibility of the NRC to independently evaluate applicant development and licensee implementation of fitness for duty programs to ensure that desired results are achieved.").

matsu v. United States, 323 U.S. 214 (1944) (upholding internment of Japanese-Americans during World War II).

^{36.} Personnel with Unescorted Access to Protected Areas: Fitness-for-Duty, 47 Fed. Reg. 33,980 (to be codified at 10 C.F.R pt. 50) (proposed Aug. 5, 1982, withdrawn Aug. 4, 1986).

^{37.} See id. at 33,980 (licensees must develop programs to protect the public health and safety, but may tailor procedures to "take into consideration not only fairness to and due process for its employees, but also any conditions or circumstances unique to its facility"); see also Rushton v. Nebraska Pub. Power Dist., 844 F.2d 562, 563-64 (8th Cir. 1988) (discussing history of NRC's efforts to implement fitness-for-duty programs). J. MORONE & E. WOOD-HOUSE, supra note 14, at 53 ("[P]rior to the . . . [Three Mile Island] accident regulators had directed most attention to design errors rather than operator errors").

duty rules.⁴³ Several months later, the NRC reconsidered its position, in the face of rapid industry movement towards encouraging the enactment of voluntary programs, and under pressure to give such programs the reasonable breathing space necessary to work.⁴⁴

Then, on August 4, 1986, the NRC actually withdrew the proposed 1982 fitness-for-duty rule, substituting a hortatory policy statement which read:

The Commission's decision [to withdraw the proposed rule] is intended to recognize and further encourage the initiatives concerning fitness for duty being taken by the nuclear power industry, the Nuclear Utility Management and Human Resources Committee [NUMARC], and by the Institute of Nuclear Power Operations [INPO]. The Commission will exercise this deference as long as the industry programs produce the desired results.⁴⁵

However, the NRC was out of step with the march of political events in Washington, as just a few weeks later and amidst growing public alarm, President Reagan issued an Executive Order calling for mandatory drug tests of federal employees in "sensitive positions."⁴⁶ The NRC reversed field again on September 22, 1988, pulling itself in line with the Washington trend and signaling the end of its previously announced "deference" to the individual concerns of its licensees.⁴⁷ The NRC now proposed quasi-military generic fitness-for-duty rules,⁴⁸ noting that, although the nuclear power industry had made "significant efforts . . . in achieving an environment . . . free of the effects of alcohol and drugs," rulemaking was needed to achieve "uniformity."⁴⁹ The NRC's Notice of Proposed Rulemaking laid out the rejected alternative options to the testing program selected,⁵⁰ and carefully presented scientific sup-

48. Id. at 36,796.

49. Id.

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50. Id. at 36,804-08 (alternatives discussed included blood plasma testing, hair and speech analysis).

^{43.} Personnel With Unescorted Access to Protected Areas: Fitness-for-Duty, 51 Fed. Reg. 27,873.

^{44.} U.S. NUCLEAR REGULATORY COMMISSION, STAFF REQUIREMENTS MEMORANDUM (1984).

^{45.} Personnel with Unescorted Access to Protected Areas: Fitness-for-Duty, 51 Fed. Reg. 27,872.

^{46.} Exec. Order No. 12,564 § 3(a), 3 C.F.R. 224, 226 (1987), reprinted in 5 U.S.C. § 7301 app. at 909, 910 (1988).

^{47.} Fitness-for-Duty Program, 53 Fed. Reg. 36,795, 36,796 (1988) (to be codified at 10 C.F.R. pt. 26).

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port for the proposed rule.⁵¹ The public, workers and their unions, licensees, and industry groups then commented on the proposed fitness-forduty rules.⁵² The final fitness-for-duty rules constitute the most rigorous substance testing program in the federal government, outside of the armed services.⁵³

1. The scope of the fitness-for-duty rules

All persons, including both licensee employees and employees of vendors hired by the licensees,⁵⁴ with unescorted access to "protected areas" of a plant either under construction or in operation, are covered by the rules.⁵⁵ The "protected area"⁵⁶ of the nuclear power plant essentially includes most areas within the perimeter gates of a plant.⁵⁷ Thus,

While most unions stated strong opposition, the utility licensees' position was less pellucid. Id. at 3-12, 3-13. Nuclear utilities hotly contested surrendering additional management discretion over their plants to the NRC, and therefore opposed any drug testing regime which did not focus control of the program at the licensee's headquarters. Id. However, as long as the utilities retained substantial authority over the program, most management supported a rather broad concept of the goals of fitness-for-duty (e.g., ensuring "general trustworthiness," rather than simply avoiding "impairment"). Id. at 3-7, 6-1. Licensees, of course, concurrently resisted the rules' implicit suggestion that existing plants were not safe enough. Id. at 3-4. Finally, nuclear utilities were concerned about bearing the cost of the program. Id. at 13-1, 17-3, 19-1. Utility opposition to the rules, to the extent it exists, derives from concerns for management power, costs and public perception, and, to a somewhat lesser degree, concern for workers' constitutional interests.

The third leg of the stool would be the NRC. Attempting to represent the public largely hostile to nuclear technology, the NRC expressed no lack of conviction that the proposed program was the minimum necessary to serve the public interest. *Id.* at 3-1.

53. For a discussion of drug testing in the armed services, see United States v. Scholz, 19 M.J. 837 (1984) (upholding sweeping random testing scheme in military environment) and United States v. Nand, 17 M.J. 936 (1984) (same).

54. See United States v. Scholz, 19 M.J. 837 (1984); United States v. Nand, 17 M.J. 936 (1984).

55. Fitness-for-Duty Programs, 54 Fed. Reg. 24,471.

56. Id. at 24,495.

57. Id. at 24,471. A variety of employee classifications have unescorted access to the "protected area" of a plant, including "vendors, secretaries, clerks, and some engineering and management personnel." Id. The NRC staff ultimately included all workers in the testing program because "[a]ll such workers have the ability to carry in and distribute impairing substances. All such workers can engage in deliberate or accidental actions that can lead to challenges to safety systems or interfere with the ability of other workers to safely operate and maintain the plant." Id.

^{51.} Id. at 36,812-14.

^{52.} See NUREG-1354, supra note 40, at iii (presenting detailed summary of "the comments received on the proposed rule and . . . the staff resolutions of the issues raised by the comment"). The comments clearly reveal that a tripolar political arrangement in the regulatory process spawned the final version of the fitness-for-duty rules. Union and industry employee commentators largely, though not unanimously, opposed random drug testing. *Id.* at 3-1 to 3-3 ("current fitness-for-duty programs provide effective and adequate assurances that industry workers operate in a substance-free environment"). *Id.* at 3-3.

custodians and file clerks, as well as control room operators and security guards, are included in the fitness-for-duty program.⁵⁸ A few other remote personnel classifications are also included.⁵⁹

2. Fitness-for-duty testing procedures

Five events may trigger a fitness-for-duty test: (1) initial hire or transfer to the power block; (2) random selection; (3) certain accidents; (4) supervisor suspicion; and (5) a previous positive test.⁶⁰ Random testing will be conducted at an annual rate of 100% of the work force, "administered on a nominal weekly frequency and at various times during the day."⁶¹ The circumstances listed in categories (3) and (4) may be deemed present: (a) where observed behavior indicates substance abuse; (b) after accidents involving injury or radiation release; (c) after safety degradation, if a "reasonable suspicion that the worker's behavior contributed to the event" exists; or (d) based on "credible information."⁶² Licensees must test for marijuana, cocaine, opiates, amphetamines, phencyclidine (PCP), and alcohol.⁶³ The NRC may add additional substances to the test list "in response to industry experience," and licensees may establish more stringent cut-off levels.⁶⁴

The NRC largely adopted the Department of Health and Human Services (HHS) Guidelines⁶⁵ for the collection, security, and testing of specimens for drugs and alcohol.⁶⁶ Under the HHS guidelines, the urine collection site must be secured and the tested employees must identify themselves to an on-site observer.⁶⁷ The tested employee removes their outer garments, signs a consent form, and lists all medications taken in

62. Id.

- 64. Id. at 24,504.
- 65. Id. at 24,475.

^{58.} Id.

^{59.} Personnel without unescorted access to protected areas but who are required to respond to the licensee's Technical Support Center or Emergency Operations Facility during certain events are included "because of the potential impact on public health and safety that could arise from human failure on their part." *Id*.

^{60.} Id. at 24,497.

^{61.} Id. Typically, a 100% rate means that an employee will be tested once per year, but that some will be tested two or three times, and others not at all. Id.

^{63.} Id. at 24,500.

^{66.} The Health and Human Services Guidelines are seen as providing stringent protection of subjects in these sensitive areas of concern and are currently in use in many federal workplaces for testing of federal employees. *See, e.g.,* National Fed'n of Fed. Employees v. Cheney, 884 F.2d 603 (D.C. Cir. 1989), *cert. denied,* 110 S. Ct. 864 (1990); American Fed'n of Gov't Employees v. Skinner, 885 F.2d 884 (D.C. Cir. 1989).

^{67.} Fitness-for-Duty Programs, 54 Fed. Reg. 24,501-02.

the past thirty days.⁶⁸ The on-site observer remains in the room, but the tested employee "may provide his or her urine specimen in the privacy of a stall or otherwise partitioned area that allows for individual privacy."⁶⁹

The licensee transports the sample to either the licensee's own testing facility or, if the licensee has no facility, to a certified testing lab, where strict chain-of-custody reporting procedures must be in place.⁷⁰ Both urine and breath samples are tested;⁷¹ urine tests employ a standard, commercially approved immunoassay.⁷² If either the blood or breath test is positive, a second and conclusory test follows using the expensive, but highly reliable gas chromatography procedure.⁷³

3. The post-sampling fitness-for-duty procedures

Under the rules, positive results are initially directed to the licensee's Medical Review Officer.⁷⁴ The rules require that a Medical Review Officer "be a licensed physician with knowledge of substance abuse disorders and may be a licensee or contract employee."⁷⁵ The Medical Review Officer has the authority to refuse verification of the results if, in the Medical Review Officer's opinion, sufficient reasons exist to be skeptical of their validity.⁷⁶ An initial positive result may not be reported to the utility prior to a positive confirmatory test.⁷⁷

If the Medical Review Officer verifies the positive result, he shall "notify the applicable employee assistance program and the licensee's management official empowered to recommend or take administrative action (or the official's designated agent)."⁷⁸ At a minimum, licensees must remove employees who test positive from activities within the scope of the fitness-for-duty rules, for two weeks or until the EAP and management certifies the individual's fitness to adequately perform activities

75. Id. at 24,500, 24,507.

76. Id. at 24,507. Indeed, if the Medical Review Officer "determines that there is a legitimate medical explanation for the positive test result and that use of the substance identified ... does not reflect a lack of reliability ... the [Medical Review Officer] shall report the test result to the licensee as negative." Id.

77. Id.

78. Id.

^{68.} Id. at 24,502.

^{69.} Id.

^{70.} Id. at 24,501-04.

^{71.} Id. at 24,504.

^{72.} Id.

^{73.} Id.

^{74.} Id. at 24,507 ("A positive test result does not automatically identify a nuclear power plant worker as having used substances in violation of the NRC's regulations or the licensee's company policies. An individual with a detailed knowledge of possible alternate medical explanations is essential to the review of results.").

within the scope of the fitness-for-duty rules, whichever is later.⁷⁹

The fitness-for-duty rules do not bar the utility from firing the tested individual.⁸⁰ Subsequent positive tests trigger a three-year suspension from activity in protected areas.⁸¹ Thereafter, the individual undergoes follow-up testing at least once per month for four months, and then at least once every three months until three years have passed since the last positive test.⁸² Further involvement with drugs, whether or not detected by the fitness-for-duty program, translates into a lifetime ban from unescorted access to protected areas of any nuclear power plant.⁸³

Information concerning test results is, in theory, closely held, although the confidentiality provisions of the rules ultimately may be swallowed by the myriad exceptions. Medical Review Officers, other licensees making employment decisions, and NRC officials, but only with the tested employee's consent, and persons acting under the color of court authority (including law enforcement officials) all have access to the test results.⁸⁴ The rules specifically declare that "[t]he NRC has decided to retain the provision providing access to appropriate law enforcement officials³⁸⁵

C. The Dual Threat of the Fitness-for-Duty Rules and the Need for Real Judicial Scrutiny

This Article illustrates the declining support for nuclear power,⁸⁶ while the national "war on drugs" fever boils. The nuclear industry and its employees are caught in the middle. This Article shows that, given the philosophical and jurisprudential underpinnings of fourth amendment law, the fitness-for-duty rules present a difficult constitutional case. This is particularly so in light of the way humans are involved in the nuclear generation process. Thus, without real judicial scrutiny of the fitness-for-duty regulations, substantial constitutional rights may simply and quietly expire. An efficient and balanced American energy plan is also threatened by the same currents. But the next step towards this

^{79.} Id. at 24,476-77.

^{80.} Id. at 24,476 ("This section further specifies that the rule does not prohibit the licensee from taking more stringent actions.").

^{81.} Id. at 24,477. All licensees are required to adopt appeal procedures, but management may decide the appeal if it does so "impartially." Id.

^{82.} Id. at 24,477 ("the higher testing rate during the first four months would provide the worker with an increased incentive to remain abstinent").

^{83.} Id.

^{84.} Id. at 24,481-82.

^{85.} Id. at 24,482.

^{86.} See supra notes 14-21 and accompanying text.

conclusion is examination of the philosophical traditions which place the parameters on any legitimate governmental interference with its constituents.

II. THE PHILOSOPHICAL UNDERPINNINGS OF DRUG-TESTING JURISPRUDENCE

If a court that follows the traditional philosophies of liberal, democratic jurisprudence could conclude that the NRC fitness-for-duty rules test the limits of permissible interference with individual privacy, an examination of the dominant philosophies is in order. Two competing theories of fourth amendment jurisprudence relate to employee drug testing. Most contemporary philosophers would label these traditions "rights based" (or "neo-Kantian"), and "utilitarian."⁸⁷ Both theories seek to define the proper relationship between society and individual, government and governed. Here, the importance of each is evaluated in an attempt to define the jurisprudential limitations on restrictions that the many may place on the few.

A. Rights-Based Philosophy and Random Urinalysis

Rights-based⁸⁸ philosophy emphasizes the integrity of the individual as central in any legitimate compromise between personal rights and societal needs, such as a governmental drug testing program targeted at a subgroup of society.⁸⁹ The enterprise of these philosophers is to design a social system which makes no effort to judge alternative aspirations for human lives, but instead accords all persons the respect thought to be due to autonomous beings.⁹⁰ The rights of the individual are defined prior to considering means by which society may permissibly interact with the individual.⁹¹ According to Professor Schroeder, "[t]he root idea is that nonconsensual risks are violations of 'individual entitlement to personal security and autonomy."⁹²

Rights-based philosophers do not, however, take the clearly untenable position that no interference with any particular individual right is

^{87.} See Schroeder, Rights Against Risks, 86 COLUM. L. REV. 495, 504 (1986).

^{88.} The terms "rights-based" and "neo-Kantian" will be used interchangeably.

^{89.} See Schroeder, supra note 87, at 509-10; see also B. ACKERMAN, PRIVATE PROPERTY AND THE CONSTITUTION 71-72 (1977); Shiffrin, Liberalism, Radicalism, and Legal Scholarship, 30 UCLA L. REV. 1103, 1118-30 (1983); Thompson, Drug-Testing: Some Fundamental Conceptual and Juristic Problems, 22 AKRON L. REV. 123, 126-28 (1988).

^{90.} Schroeder, supra note 87, at 509.

^{91.} Id.

^{92.} Id. at 510 (quoting Rosenberg, The Casual Connection in Mass Exposure Cases: A "Public Law" Vision of the Tort System, 97 HARV. L. REV. 849, 877 (1984)).

acceptable.⁹³ Instead, they argue that the terms on which society deals with the individual are derived from criteria inherent in maintaining individual integrity.⁹⁴ Ronald Dworkin has referred to these inherent individual rights as "trumps"—categorical imperatives controlled by the individual member of society in conflict with society at large.⁹⁵ Rightsbased philosophy can trace its roots to the writings of Thomas Hobbes,⁹⁶ Immanuel Kant and John Locke, and finds articulate and more contemporary expression in the writings of John Rawls, Ronald Dworkin and Charles Fried, among others.⁹⁷

The real trick for this group of liberal democratic philosophers is to define the inviolable individual sphere with substantial consideration of countervailing societal interests, while at the same time avoiding crumbling their analysis into mere humanistic utilitarianism⁹⁸ or, perhaps even worse, defining the individual sphere so narrowly as to leave individual rights penurious, meaningless and useless.⁹⁹ For instance, Fried writes:

The picture is of a status quo, a baseline which the actor [the state] disturbs. Behind [this] idea is Nozick's, Kant's, [and] Locke's conception of a private domain which defines the individual's discretionary space, within which he can work out his conception of happiness. It is the state's, the law's duty to pro-

95. R. Dworkin, Taking Rights Seriously xi (1977).

96. But see R. DWORKIN, LAW'S EMPIRE 440-41 (1986) (discounting suggestion by Professor Tushnet that Thomas Hobbes belongs in this group).

97. See Schroeder, supra note 87, at 509-10.

98. Indeed, this has been a fundamental and influential critique of the jurisprudential balancing technique. See id. at 511.

^{93.} Id. at 509-11; but see C. FRIED, RIGHT AND WRONG 81 (1978) (suggesting that under some circumstances, once a society defines a right, it can be infringed only by permission of its holder).

^{94.} A. GUTMANN, LIBERAL EQUALITY 3 (1980); J. MURPHY & J. COLEMAN, THE PHI-LOSOPHY OF LAW: AN INTRODUCTION TO JURISPRUDENCE 106 n.6 (1984); see generally Fried, Difficulties in the Economic Analysis of Rights, in MARKETS AND MORALS 175, 185 (1977) (economic model of rights flawed because not premised on integrity of self); Rawls, Kantian Constructivism in Moral Theory, 77 J. PHIL. 515, 519-22 (1980) (members of a wellordered society are free and equal moral persons).

^{99.} See J. SMART & B. WILLIAMS, UTILITARIANISM: FOR & AGAINST 77, 79-80 (1973); Schroeder, supra note 87, at 509-10. Indeed, from the earliest commentators, the balancing test in constitutional jurisprudence has been decried as quintessentially utilitarian, depriving the constitutional absolutes of their Kantian "hard core" of truth. See, e.g., T. EMERSON, TOWARD A GENERAL THEORY OF THE FIRST AMENDMENT 53-54 (1966); Jacobs & Strossen, Mass Investigations Without Individualized Suspicion: A Constitutional and Policy Critique of Drunk Driving Roadblocks, 18 U.C. DAVIS L. REV. 595, 631 (1985) (fourth amendment balancing weakens textual meaning).

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tect this privacy¹⁰⁰

While this philosophy of jurisprudence pragmatically concedes some degree of relevance to the interests of the many, a tension point is that the personal rights implicated by a random urinalysis program are particularly, and perhaps peculiarly, dear to the rights-based theorists.

John Rawls illustrates in A Theory of Justice the importance which a particular liberty can carry.¹⁰¹ For example, the particular liberty at stake in the fitness-for-duty rules controversy might be called "freedom from government enforced drug testing." John Rawls distinguishes the abstract concept of "rights" from their perceptible value to the individual member of society.¹⁰² We plainly see that some rights inherent in a modern liberal democratic political system, such as the right of all citizens to legal representation in a civil suit for money damages, have little meaning if the citizen lacks the practical prerequisites, such as the financial means, to exercise the right.¹⁰³ It is a trivial deduction, therefore, that this "right to counsel" would mean less to a poor person than to a rich person. Professor Schroeder writes, "[t]he conception of liberty . . . refers to a formal, legal entitlement, whereas the value of liberty expresses any individual's ability to take advantage of that liberty."¹⁰⁴ Such variations in the worth of particular liberties across societal lines degrades the generally perceived value of the liberty.¹⁰⁵

Clearly the modern liberty of freedom from unreasonable search and seizure is highly resistant to discrepancies between different individuals in society because virtually all individual members of society possess the prerequisites to exercise the liberty. All members of society have a physical body and, although some are more sensitive to its invasion than others, each individual can be presumed to place a relatively high and consistent value on freedom from its invasion.

Likewise, the individual members of society share a commonality of concern for freedom to engage in activities which might otherwise be limited because of the deterrent effect of drug tests. Drug use and testing

^{100.} Schroeder, *supra* note 87, at 510 n.65 (quoting C. FRIED, IS LIBERTY POSSIBLE? 120 (1982)).

^{101.} See J. RAWLS, A THEORY OF JUSTICE 201-05 (1971).

^{102.} Id. at 204.

^{103.} Id.

^{104.} Schroeder, supra note 87, at 539 (emphasis added).

^{105.} Id. ("The problem, as has been noted by others, is in making the search for the most extensive 'system of liberties' intelligible while preserving this distinction."). Because the generalized value of the liberty cannot be uniform, the distinction between a liberty and its value must be maintained. Id.

extends across socio-economic class lines,¹⁰⁶ as do pregnancy, employment, and other sensitive personal facts either revealed (pregnancy) or threatened (employment) by drug testing. Therefore, the liberty known as freedom from unreasonable search and seizure ought to hold a particularly high rank in any general ordering scheme of liberties.¹⁰⁷

Analysis suggests that freedom from unwanted search and seizure may be a particularly prized right of individual members of society, and helps explain the extreme reluctance of rights-based philosophers, and the courts that they have influenced, to engage in the open-ended balancing process of individual and government interests.¹⁰⁸ Neo-Kantian theorists seek bright-line tests to establish the critical baseline beyond which the government cannot press. This protects individual integrity while simultaneously recognizing legitimate societal needs.¹⁰⁹ Philosophers and practitioners have scrutinized with extreme skepticism claims that more than society's interest in the safety of its individual members can overcome individual rights.¹¹⁰

108. See, e.g., Skinner v. Railway Labor Executives Ass'n, 109 S. Ct. 1402, 1423 (1989) (Marshall, J., dissenting) ("[T]he Fourth Amendment . . . require[s] that highly intrusive searches of this type be based on probable cause, not on the evanescent cost benefit calculations of agencies or judges.").

109. Schroeder, supra note 87, at 509.

110. Id. at 509 n.64. Justice Scalia's well-received dissent in National Treasury Employees Union v. Von Raab articulates a kind of a weak neo-Kantian fourth amendment jurisprudence, one with substantial solicitude for the countervailing societal interests. 109 S. Ct. 1384, 1398 (1989) (Scalia, J., dissenting). He wrote: "[T]here are some absolutes in Fourth Amendment law, as soon as those have been left behind and the question comes down to whether a particular search has been 'reasonable' the answer depends largely upon the social necessity that prompts the search." Id. (Scalia, J., dissenting). Justice Scalia then cited two of the Court's less controversial recent fourth amendment decisions. This indicates his discomfort with the Rehnquist majority's purely utilitarian balancing test in this area of the law. Id. at 1398-99 (Scalia, J., dissenting) (citing New Jersey v. TLO, 469 U.S. 325, 339 (1985)); United States v. Martinez-Fuente, 428 U.S. 543, 551-52 (1976)).

Not surprisingly, Justices Brennan and Marshall continue to cling to unabashedly neo-Kantian phraseology, with substantially less regard for society's countervailing interests: "Without the content which . . . [the Warrant Clause] give[s] to the Fourth Amendment['s] overarching command that searches and seizures be 'reasonable,' the Amendment lies virtually devoid of meaning, subject to whatever content shifting judicial majorities, concerned about

^{106.} For example, the fitness-for-duty rules promulgated by the NRC cover all persons with unescorted access to the power block. Fitness-for-Duty Programs, 54 Fed. Reg. 24,468, 24,471 (1989) (to be codified at 10 C.F.R. pts. 2, 26). This sweeps in everyone from the chief executive officer of a major public corporation, to the custodial staff. It is difficult to imagine a more democratic procedure. See, e.g., Fried, Privacy, 77 YALE L.J. 475, 487 (1968).

^{107.} Rawls has laid out an elaborate scheme whereby the various liberties available to individuals in society would be decided in the first instance by constitutional convention and later, as necessary, by the political system as "it would be rational for [the individual] to prefer." J. RAWLS, *supra* note 101, at 204.

B. Classic Utilitarian Philosophy and Random Urinalysis

Much like rights-based philosophy, where the rhetoric stops utilitarian philosophy seeks to aggrandize the worth of the individual in the modern, liberal democratic state.¹¹¹ But this emphasis on the individual comes from a very different perspective. The utilitarian philosophy, in its most pristine form, asserts that only those laws producing the maximum quantity of happiness for society in the aggregate are moral.¹¹² These theorists posit that our general goal should be to formulate laws that can increase pleasure and decrease pain to resolve conflicts between the individual and society.¹¹³ Thus, there exists no core imperturbable defensive shield around the individual, as in the rights-based world.¹¹⁴ The individual is a means to the ends of a richer or happier or better society.¹¹⁵ In the utilitarian world, the individual holds no trumps.

Utilitarian philosophy in its modern variant owes much to the work of Jeremy Bentham and John Stuart Mill.¹¹⁶ Jeremy Bentham wrote:

The State takes upon it to control those acts of a man . . . for two reasons. 1st [sic] that his happiness is the happiness of the community: 2ndly [sic] that his strength is the strength of the community. If there be any difference, it is the latter consideration that gives the state the best and most incontestible title it has thus to interfere . . . [I]t is a matter that does not admitt [sic] of being questioned that the state will be apt to manage better for other than he will be apt to do / manage / for those

Marshall characterized the *Skinner* majority's holding as abandoning the probable cause requirement and "the majority substitut[ing] a manipulable balancing inquiry under which, upon the mere assertion of a "special need," even the deepest dignitary and privacy interest becomes vulnerable to governmental incursion." *Id.* at 1425 (Marshall J., dissenting).

111. Two of the most forceful proponents of the interrelationship between utilitarianism and liberal democracy are Baker, *Neutrality, Process, and Rationality: Flawed Interpretations* of Equal Protection, 58 TEX. L. REV. 1029 (1980) and Ely, *Constitutional Interpretivism: Its* Allure and Impossibility, 53 IND. L.J. 399 (1977-78). Interestingly, Schroeder has documented that the public seems to find the interrelationship a bit fuzzy. See Schroeder, supra note 87, at 505-06 & n.38 (citing 1983 Harris Poll showing that over 80% of all Americans opposed any attempt to balance countervailing costs against the competing environmental values in formulating policy).

112. See, e.g., Schroeder, supra note 87, at 505-06.

113. Hart, Between Utility and Rights, 79 COLUM. L. REV. 828, 829-30 (1979).

114. Id. at 831.

115. Id. at 829. See also generally R. BRANDT, A THEORY OF THE GOOD AND THE RIGHT 302-26 (1979).

116. See, e.g., J. BENTHAM, AN INTRODUCTION TO THE PRINCIPLES OF MORALS AND LEGISLATION (1789); D. LONG, BENTHAM ON LIBERTY: JEREMY BENTHAM'S IDEA OF LIBERTY IN RELATION TO HIS UTILITARIANISM (1977); J.S. MILL, ON LIBERTY (1859).

the problems of the day, choose to give to that supple term." Skinner, 109 S. Ct. at 1423 (Marshall, J., dissenting).

others.¹¹⁷

The above quoted language would be the quintessential utilitarian justification for interference with the individual¹¹⁸ for the betterment of society through drug testing.

Western jurisprudence dove into utilitarian philosophy with great relish as it sought an objectively "correct" legal structure consistent with the liberal ideals of market capitalism.¹¹⁹ Professor Shiffrin has stated: "Twentieth Century American legal scholarship has been dominated by utilitarians—by pragmatists, social engineers, and instrumentalists. These scholars have been allied with an always-present group of (mainly Constitutional) theorists who emphasize the need to mix a bit of natural law into the utilitarian calculus."¹²⁰ Perhaps the strongest and best known contemporary subgroup under the utilitarian umbrella is the lawand-economics movement, which has neared the jurisprudential summit in the past decade and shows little sign of decline.¹²¹ Judge Posner has recently stated that, although he retains his general skepticism regarding the importance of conventionalist legal theory, he believes law-and-economics may yet be the tumbler that opens the lock to an objective and more scientific understanding of American jurisprudence.¹²²

Somewhat ironically, virtually all mainstream utilitarian thought has sought to soften its core truth, namely that the individual members of society exist as a means to society's greater ends.¹²³ Perhaps Mill was the

123. As Schroeder puts it, "utilitarianism makes the status of the individual radically con-

^{117.} D. LONG, supra note 116, at 72 (citation omitted).

^{118.} Id. at 49.

^{119.} Shiffrin, supra note 89, at 1118-28.

^{120.} Id. at 1104.

^{121.} See R. DWORKIN, supra note 95. He wrote: "Some lawyers have been tempted by the remarkable claim that [the law-and-economics] principle provides all that [legal theory] needs to construct a comprehensive interpretation of all parts of the law, from constitutional structure to the details of evidence and procedure." *Id.* at 444 n.1. See generally G. CALABRESI, THE COST OF ACCIDENTS (1970); 2 R. POSNER, THE ECONOMIC ANALYSIS OF THE LAW (1977); Symposium on Efficiency as a Legal Concern, 8 HOFSTRA L. REV. 485 (1980). Professor Schroeder notes that the extent of the relationship between utilitarianism and welfare economics "is hotly contested." Schroeder, supra note 87, at 505 & n.34. However, even though law-and-economics is a subgroup of welfare economic theory, Professor Schroeder's distinction is not relevant here.

^{122.} Posner, The Jurisprudence of Skepticism, 86 MICH. L. REV. 827, 853 (1988). Judge Posner writes:

Given the close relationship between means-ends rationality and cost-benefit analysis, and recalling the close relationship . . . between logical reasoning and economic models . . . one can begin to understand why economics has made such inroads into law in recent years But law is not merely a translation of or approximation to economic analysis . . . not yet, anyway

Id. (emphasis added). See also Posner, The Decline of Law as an Autonomous Discipline: 1962-87, 100 HARV. L. REV. 761, 774-77 (1987).

first to do so, by emphasizing, for example, that the redistribution of wealth created "justice," and that "justice" is merely a highly focused category of utility, therefore rendering some redistribution of wealth appropriate.¹²⁴ Mill further stressed that certain types of "pleasure" had more inherent value than did others, again tending to make room for actions which superficially do not appear utilitarian.¹²⁵

Thus, like rights-based philosophy, utilitarianism in fourth amendment jurisprudence has not merely been some refuge for extremists;¹²⁶ utilitarian philosophy currently dominates search-and-seizure law. At least since *Terry v. Ohio*,¹²⁷ most mainstream pretense to "rights as trumps" has been dropped, and the trend has accelerated since the *New Jersey v. TLO*¹²⁸ decision in 1985.

An understanding of the philosophical roots of fourth amendment search and seizure law is useful for two reasons. First, the philosophy establishes jurisprudential parameters for any court analyzing the acceptability of a particular government drug testing program. Second, it should instruct those lawyers opposing any given drug testing scheme that they must focus their analysis to adapt to the utilitarian philosophy as well as to their more-cherished Kantian themes. This Article will return to the philosophy of drug testing later, when looking specifically at the fitness-for-duty regulations. In the meantime, this Article's daunting task is to pull together the strands of drug testing jurisprudence into a coherent generalized theory.

III. A GENERALIZED THEORY OF FOURTH AMENDMENT JURISPRUDENCE APPLIED TO DRUG TESTING

The fourth amendment is the primary legal obstacle in the path of fitness-for-duty regulations:¹²⁹ "[T]he right of the people to be secure in

127. 392 U.S. 1, 9 (1968) (allows search of person without probable cause when reasonably necessary for protection of officers and others).

128. 469 U.S. 325 (1985) (search of high school student's purse reasonable because schools have special needs: fighting drugs and establishing environment conducive to learning).

129. Other colorable challenges to drug testing have been made. See, e.g., Skinner v. Railway Labor Executives Ass'n, 109 S. Ct. 1402, 1407 (1989) (Federal Railroad Safety Act); Schmerber v. California, 384 U.S. 757 (1966) (fifth amendment to United States Constitution); American Fed'n of Gov't Employees v. Skinner, 885 F.2d 884, 886 (D.C. Cir. 1989) (the Federal Rehabilitation Act); Rushton v. Nebraska Pub. Power Dist., 844 F.2d 562, 564-66 (8th Cir. 1988) (first amendment to United States Constitution).

tingent. The individual's status will be preserved only so long as that status contributes to increasing total [societal] utility." Schroeder, *supra* note 87, at 509.

^{124.} See Shiffrin, supra note 89, at 1115 n.50.

^{125.} Id. at 1214.

^{126,} Id.

their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated \ldots .^{'130} The fourth amendment applies only where the putative violator acts as "an agent of the Government or with the participation or knowledge of any government official."¹³¹ The mandatory testing provisions under the fitness-for-duty rules require the "compulsion of sovereign authority" for their application and therefore the fourth amendment applies.¹³² It is equally well established that the seizure of the individual tested and the obtaining and examining of the urine or breath sample constitute one or more "searches" for fourth amendment purposes.¹³³ However, the United States Supreme Court has noted that: "[t]o hold that the Fourth Amendment is applicable to the drug and alcohol testing prescribed by . . . [particular regulations] is only to begin the inquiry into the standards governing such intrusions. For the Fourth Amendment does not proscribe all searches and seizures, but only those that are unreasonable."¹³⁴

Historically, "reasonableness" in the context of "searches" was equated with the probable cause standard, meaning that "probable cause," however defined, was a necessary, though not sufficient, condition for a "reasonable" search.¹³⁵ *Terry v. Ohio*¹³⁶ was the earliest significant break from this position.¹³⁷ In *Terry*, the Court allowed officers to stop and frisk a person they suspected of casing a store for a robbery without probable cause for purposes of an investigation.¹³⁸ Under *Terry*, whether or not such a search violates the fourth amendment depends on the reasonableness of the officers' conduct under the particular circum-

133. See Skinner, 109 S. Ct. at 1412-13; National Treasury Employees Union v. Von Raab, 109 S. Ct. 1384, 1390 (1989).

136. 392 U.S. 1 (1968).

137. Id. at 37 (Douglas, J., dissenting) ("[P]olice officers up to today have been permitted to effect . . . searches without warrants only when [they had] probable cause.").

138. Id. at 30.

^{130.} U.S. CONST. amend. IV.

^{131.} Skinner, 109 S. Ct. at 1411; United States v. Jacobsen, 466 U.S. 109, 113-14 (1984).

^{132.} Skinner, 109 S. Ct. at 1411-12 ("The Government has removed all legal barriers to the testing authorized . . . and indeed has made plain not only its strong preference for testing, but also its desire to share the fruits of such intrusions."). Notably, the fitness-for-duty rules make considerable allowances for individual nuclear utilities to add new substances to the test list, or to lower cut-off levels fitness-for-duty programs. Fitness-for-Duty Programs, 54 Fed. Reg. 24,468 (1989) (to be codified at 10 C.F.R. pts. 2, 26). A program made substantially more rigorous than the minimum fitness-for-duty program may be deemed to not involve state action.

^{134.} Skinner, 109 S. Ct. at 1413-14 (citations omitted). See also Von Raab, 109 S. Ct. at 1390.

^{135.} See Terry v. Ohio, 392 U.S. 1, 37 (1968) (Douglas, J., dissenting) (citing probable cause requirement "deeply imbedded in our constitutional history").

stances.¹³⁹ Starting with New Jersey v. TLO¹⁴⁰ in 1985, the Supreme Court has moved away from a purely syllogistic determination of "reasonableness," mostly in those factual settings which present government authorities with vexing problems implicating what the Court has called "special needs."¹⁴¹ For instance, in TLO the Supreme Court allowed school officials to search a high school student's purse, holding that the school's special need to combat drug use and maintain school decorum outweighed the student's privacy interest.¹⁴² The Court has explicitly adopted a balancing test in preference to the syllogistic "probable cause" technique in these "special needs" cases.¹⁴³ The balancing test weighs the invasiveness of the search against the governmental interest which the search serves.¹⁴⁴ This very general fourth amendment primer allows this Article to (1) recount four decisions of special relevance to the fitness-for-duty rules, and (2) present a generalized theory of drug testing law.

A. Four Leading Decisions

In March of 1989, in a pair of long-awaited rulings, the Supreme Court upheld both the Federal Railroad Administration (FRA) regulations governing drug and alcohol testing of train employees,¹⁴⁵ and United States Customs Service rules mandating testing of agents.¹⁴⁶

1. Skinner v. Railway Labor Executives Association

In Skinner v. Railway Labor Executives Association¹⁴⁷ the FRA regulations were in issue. The FRA regulations provide for mandatory testing upon the happening of certain unusual operational events:

[T]esting is required following a "major train accident" ... that involves (i) a fatality, (ii) the release of hazardous material accompanied by an evacuation or a reportable injury, or (iii) dam-

147. 109 S. Ct. 1402 (1989).

^{139.} Id. at 27.

^{140. 469} U.S. 325 (1985); see also Bell v. Wolfish, 441 U.S. 520, 558-60 (1979).

^{141.} See, Griffin v. Wisconsin, 483 U.S. 868, 873 (1987) (search of probationer's home); O'Connor v. Ortega, 480 U.S. 709, 721-25 (1987) (plurality opinion) (search of government employee's workplace).

^{142.} TLO, 469 U.S. at 339-43.

^{143.} See, e.g., Griffin, 483 U.S. at 878-79 (search of probationer's home); New York v. Burger, 482 U.S. 691, 708-11 (1987) (search of premises of certain highly regulated businesses); O'Connor, 480 U.S. at 720 (search of government employee's workplace).

^{144.} See, e.g., Griffin, 483 U.S. at 881; O'Connor, 480 U.S. at 721; see also Skinner, 109 S. Ct. at 1414-22; Von Raab, 109 S. Ct. at 1391-98.

^{145.} Skinner v. Railway Labor Executives Ass'n, 109 S. Ct. 1402 (1989).

^{146.} National Treasury Employees Union v. Von Raab, 109 S. Ct. 1384 (1989).

age to railroad property of \$500,000 . . . after an "impact accident," which is defined as a collision that results in a reportable injury, or in damage to railroad property of \$50,000 or more . . . Finally, the railroad is also obligated to test after "any train incident that involves a fatality to any on-duty railroad employee."¹⁴⁸

The Court noted that railroads were empowered to draft regulations mandating testing of employees who violated specifically designated safety rules, or to test based on the "reasonable suspicion" of a supervisor that a covered employee was under the influence of alcohol even where there existed no other basis to test.¹⁴⁹

The FRA regulations apply only to "covered service employees."¹⁵⁰ Apparently, most covered service employees engage in "safety-sensitive tasks," although the Court was oblique on the extent to which other covered service employees may have no safety function.¹⁵¹

Under the FRA rules, positive test results cannot result in administrative action against the employee until the FRA affords "an opportunity to respond in writing."¹⁵² The penalty for refusal to take a drug or alcohol test is exclusion from covered service for up to nine months.¹⁵³ Law enforcement authorities have access to the samples "upon service of appropriate compulsory process on the custodian," although the regulations state that they are not designed to assist in the prosecution of covered service employees.¹⁵⁴

Justice Kennedy, writing for the Court, salvoed with a dramatic account of the venerable bugaboo of alcohol abuse on American railroads,

^{148.} Id. at 1408-09 (citations omitted).

^{149.} Id. at 1409.

^{150.} Id. at 1408. "Covered service employee" is an industry term referring to "employees assigned to perform service subject to the Hours of Service Act of 1907." Id.; see also Hours of Service Employees, 45 U.S.C. §§ 61-64 (1982).

^{151.} Skinner, 109 S. Ct. at 1414 (noting that Hours of Service Employees "include" persons "engaged in safety sensitive tasks").

^{152.} Id. at 1409.

^{153.} Id.

^{154.} Id. at 1415 n.5. The Court professed to be nonplussed by the opportunity of other courts to view the tests as criminal prosecution evidence. The Court wrote:

The Agency explained . . . that it intends to retain such samples primarily "for its own purposes" While this provision might be read broadly to authorize the release of biological samples to law enforcement authorities, the record does not disclose that it was intended to be, or actually has been, so used. Indeed . . . [respondents] do not seriously contend that this provision, or any other part of the administrative scheme, was designed as "a 'pretext' to enable law enforcement authorities to gather evidence of penal law violations."

Id. (citations omitted).

and the more recent expansion of the problem to include drugs.¹⁵⁵ The Court also identified some significant (though anecdotal) evidence of the connection between drug use and certain severe railroad accidents or near misses.¹⁵⁶

The Court gave little pause on the issue of whether the regulations would result in a fourth amendment "search."¹⁵⁷ The Court, however, passed on the opportunity to announce whether the "initial detention to procure the evidence, . . . obtaining and examining the evidence," and the physical seizure of the tested employee during the test procedures would each be deemed a distinct fourth amendment search.¹⁵⁸

The "special needs" exception to the fourth amendment's warrant and probable cause requirements was next embraced.¹⁵⁹ The Court cited the lack of discretion vested in the enforcing officials,¹⁶⁰ the steady elimination of drugs from the blood stream,¹⁶¹ and the problem of forcing railroad officials to master "the intricacies of this Court's Fourth Amendment jurisprudence" as supporting elimination of the warrant requirement.¹⁶²

The Court then plunged into the more controversial portion of the opinion, which dispensed with the probable cause and "reasonable suspicion" constitutional floors previously thought by many to exist within the special needs context. The Court wrote, "In limited circumstances, where the privacy interests implicated by the search are minimal, and where an important governmental interest furthered by the intrusion would be placed in jeopardy by a requirement of individualized suspi-

^{155.} Id. at 1407-08 n.1.

^{156.} Id. at 1408 ("Some of these accidents [caused at least in part by drugs and alcohol] resulted in the release of hazardous materials and, in one case, the ensuing pollution required the evacuation of an entire Louisiana community.").

^{157.} Id. at 1413 n.4. The Court easily concluded that "the tests are attributable to the Government or its agents." Id. at 1441. This conclusion was foregone with respect to the mandatory provisions of the FRA rules, but even the discretionary provisions, the Court found, would be exercised under "the Government's encouragement, endorsement, and participation . . . " Id. at 1412.

^{158.} Id. at 1413 n.4. The Court wrote: "It is not necessary to our analysis in this case, however, to characterize the taking of blood or urine samples as a seizure of those bodily fluids, for the privacy expectations protected by this characterization are adequately taken into account by our conclusion that such intrusions are searches." Id. The Court also stated: "For present purposes, it suffices to note that any limitation on an employee's freedom of movement that is necessary to obtain the blood, urine, or breath samples contemplated by the regulations must be considered in assessing the intrusiveness of the searches effected by the Government's testing program." Id. at 1413.

^{159.} Id. at 1414.

^{160.} Id. at 1415-16 & n.6.

^{161.} Id. at 1416.

^{162.} Id.

cion, a search may be reasonable despite the absence of such suspicion."¹⁶³

The FRA's blood and breath testing procedures were found to be minimally intrusive.¹⁶⁴ Blood testing, the Court noted, is a routine part of life, and has long since received its validation in *Schmerber v. California*.¹⁶⁵ Likewise, the Court observed that the breath tests called for by the FRA rules "do not require piercing the skin and may be conducted safely outside a hospital environment and with a minimum of inconvenience or embarrassment," and thus were less intrusive than blood tests.¹⁶⁶

The Court conceded the intrusiveness of urine testing, which requires the performance of an "excretory function traditionally shielded by great privacy."¹⁶⁷ However, the Court relied on the medical environment in which the test is administered as sufficient to ameliorate some privacy concerns,¹⁶⁸ and, most importantly, the highly regulated environment, not just of the railroads generally, but of covered service employees specifically. The Court wrote, "Though some of the privacy interests implicated by the toxicological testing . . . might be viewed as significant in other contexts, logic and history show that a diminished expectation of privacy attaches to information relating to the physical condition of covered employees "¹⁶⁹

Against these limited threats to employee privacy, the Court balanced the government's "compelling" interest in public safety.¹⁷⁰ The Court, comparing covered service employees with nuclear plant employees,¹⁷¹ deemed the FRA regulations effective both in ferreting out drug

166. Skinner, 109 S. Ct. at 1417.

167. Id. at 1418.

168. Id. ("While we would not characterize these additional privacy concerns [of tested individuals] as minimal in most contexts, we note that the regulations endeavor to reduce the intrusiveness of the collection process.").

169. Id. at 1419. "More importantly, the expectations of privacy of covered employees are diminished by reason of their participation in an industry that is regulated pervasively to ensure safety, a goal dependent, in substantial part, on the health and fitness of covered employees." Id. at 1418.

170. Id. at 1419.

171. "Much like persons who have routine access to dangerous nuclear power facilities, employees who are subject to testing under the FRA regulations can cause great human loss \dots ." Id. (citations omitted).

^{163.} Id. at 1417.

^{164.} Id.

^{165.} Id. (citing Schmerber v. California, 384 U.S. 757 (1966)). In Schmerber v. California, the Court found that a blood sample taken against the defendant's will, in a hospital, was not an unreasonable search. 384 U.S. 757, 772 (1966). The Court relied on the "exigency" exception to the warrant requirement to reach this conclusion. Id. at 770-72. In other words, the Court found that the officer could reasonably believe that the situation was an emergency and thus there was no need to obtain a search warrant. Id. at 770.

use and in investigating the causes of railway mishaps.¹⁷²

Justice Marshall, joined by Justice Brennan, dissented.¹⁷³ According to the dissent, the FRA regulations contravened the fourth amendment, whether judged under the traditional pre-*Terry* syllogistic "probable cause" view of the fourth amendment,¹⁷⁴ or under the Burger-Rehnquist court's post-*TLO* balancing test.¹⁷⁵ Justice Marshall's opinion ridiculed the majority's willingness to eviscerate the reasonable suspicion standard employed in post-*Terry* cases involving analogies to "stop-andfrisk" searches.¹⁷⁶ The dissent leaped on the government's concession that no individualized (much less "reasonable") suspicion would be present during most tests under the FRA procedures.¹⁷⁷ Justice Marshall also returned the majority's volley on *Schmerber*'s teaching.¹⁷⁸

Even under the post-TLO balancing test, Justice Marshall would decide against the government. Justice Marshall emphasized the FRA rules' invasiveness, by focusing on: (1) their likely use by law enforce-

173. Id. at 1422 (Marshall, J., dissenting). Although Justice Stevens concurred in the judgment and in much of the Court's reasoning, he refused to join the majority's validation of the deterrence rationale for the FRA tests. Id. (Stevens, J., concurring). Since the scheme would be an ineffective deterrent, Justice Stevens determined that it was neither "necessary [n]or sufficient" to justify testing. Id. (Stevens, J., concurring). His point was that such an ineffective deterrent serves no legitimate government interest. However, most courts would hold that although a less effective deterrent is less important, it is also less intrusive, and therefore Stevens' opinion is questionable on this point.

174. Id. at 1426-30 (Marshall, J., dissenting).

175. Id. at 1430 (Marshall, J., dissenting). "[T]he majority errs even under its own utilitarian standards, trivializing the raw intrusiveness of, and overlooking serious conceptual and operational flaws in, the FRA's testing program." Id. at 1423 (Marshall, J., dissenting).

176. Id. at 1423-24 (Marshall, J., dissenting).

177. Id. at 1427-28 (Marshall, J., dissenting).

178. Id. at 1427 (Marshall, J., dissenting). Far from reading Schmerber as support for the majority's compelling, "minimally intrusive" view of blood testing, Justice Marshall found that it demanded a "clear indication" of the justification for a compulsory blood test, which the government conceded would be lacking in its program. Id. at 1427-28 (Marshall, J., dissenting).

^{172.} Id. at 1419-20. The Court conceded to the Court of Appeals that urine testing may not directly spotlight current on-the-job impairment. Id. at 1421. The Court nonetheless rejected the lower court's conclusion that a testing program not plausibly directed at on-the-job impairment is per se invalid. Id. at 1420-21. The Court cited two girders for its alternative conclusion: (1) the FRA regulations did in fact pursue current impairment to the significant extent that blood testing is used; and (2) the urine tests need only gather evidence tending to prove current impairment of hours of service employees and, since past use tends to prove current use, the FRA tests did gather evidence tending to prove current impairment. Id. at 1421. The Court explained that, "[e]ven if urine test results disclosed nothing more specific than the recent use of controlled substances by a covered employee ... this information would provide the basis for further investigative work designed to determine whether the employee used drugs at the relevant times." Id.

ment;¹⁷⁹ and (2) the intrusiveness involved in the taking of samples.¹⁸⁰ He was also unimpressed by the government's side of the balance. Justice Marshall particularly criticized the deterrent value of the FRA program and argued that the elimination of deterrence left the majority with only the "slender thread" of accident investigation "from which to hang such an intrusive program."¹⁸¹

2. National Treasury Employees Union v. Von Raab

In National Treasury Employees Union v. Von Raab,¹⁸² the Supreme Court turned its attention to the United States Custom Service rules that mandated drug testing for certain agents. The Court upheld testing of customs service employees transferring to positions involving drug interdiction¹⁸³ or requiring the employee to carry firearms.¹⁸⁴ A slim five-Justice majority held that the government's interest in public safety and effective drug interdiction outweighed the intrusion on fourth amendment values and that the customs rules were therefore constitutional.¹⁸⁵

As in *Skinner*, the *Von Raab* majority opened by sketching the face of the crisis, this time in drug interdiction, and citing statistics and anecdotes.¹⁸⁶ The Court skipped the issue of whether testing under the rules constituted a search¹⁸⁷ and, after declaring that the customs services' special concerns made for a "special needs" case not requiring any individualized suspicion,¹⁸⁸ the Court moved immediately into balancing the contesting interests.¹⁸⁹

^{179.} Id. at 1431 (Marshall, J., dissenting) ("Most strikingly, the agency's regulations not only do not forbid, but, in fact, appear to invite criminal prosecutors to obtain the blood and urine samples drawn by the FRA and use them as the basis of criminal investigations and trials.").

^{180.} Id. at 1431-32 (Marshall, J., dissenting) ("The majority also overlooks needlessly intrusive aspects of the testing process itself.").

^{181.} Id. at 1432 (Marshall, J., dissenting).

^{182. 109} S. Ct. 1384 (1989).

^{183.} Id. at 1390.

^{184.} Id.

^{185.} Id. at 1397-98. The customs regulations required each employee slated for a promotion to provide a urine sample to be analyzed under a two-step procedure following, for the most part, Health and Human Services guidelines. Id. at 1388 & n.1. The test results cannot be released to law enforcement officers without the approval of the tested employee. Id. at 1389. However, a positive test blocks the employee's promotion, and nothing in the customs rules prohibits use of the test results as a basis for disciplinary action. Id. at 1389.

^{186.} Id. at 1387 ("In 1987 alone, Customs agents seized drugs with a retail value of nearly 9 billion dollars As a necessary response [to the violence] many Customs operatives carry and use firearms in connection with their official duties.").

^{187.} Id. at 1390.

^{188.} Id. at 1391.

^{189.} Id. at 1391-96.

The majority opinion outlined somewhat broader government interests than those with which the *Skinner* Court grappled. First, the majority stated that the governmental interest in effective drug interdiction creates "a compelling interest in ensuring that front-line interdiction personnel are physically fit, and have unimpeachable integrity and judgment."¹⁹⁰ Second, and not entirely separable conceptually, the Court stated that both the public and customs employees must be protected from the use of deadly force by impaired customs agents.¹⁹¹

These "compelling" government interests weighed heavily against what the Court held to be fairly paltry interference with legitimate privacy expectations.¹⁹² Analogizing the tested customs agents to United States Mint employees and American soldiers, the majority reasoned that the customs employees being transferred have, like soldiers and mint workers, diminished privacy expectations in their urine.¹⁹³ The Court stated, "[b]ecause successful performance of their duties depends uniquely on their judgment and dexterity, these employees cannot reasonably expect to keep from the [Customs] Service personal information that bears directly on their fitness."¹⁹⁴

The Court tied the knot on its balancing by rejecting the need for a systematic showing of a significant drug problem.¹⁹⁵ The majority effectively conceded the premise that testing customs agents was unlikely to identify users and that the customs service had practically no drug problem.¹⁹⁶ However, in comparing the customs service's program to housing code and commercial airliner inspections, the majority asserted that a

The majority's argument that intrusion on fourth amendment values through drug testing "will itself further Fourth Amendment values" can be described most charitably as a throw away argument. *Id.* If almost any government activity impinging on fourth amendment protection were seen as inuring to the benefit of the fourth amendment values of others, this approach could be taken to a further logical vista and, before too long, the Court's approach would wipe out the protections offered by the fourth amendment.

196. Id. at 1394-95.

^{190.} Id. at 1393.

^{191.} Id. The listed governmental interests are not entirely distinct. It should be obvious that a prime reason to demand "unimpeachable integrity and judgment" of armed customs agents is to avoid "a momentary lapse of attention [which] can have disastrous consequences." Id. (quoting Skinner, 109 S. Ct. 1402, 1419 (1989)). Thus, the majority's citation of two separate interests is somewhat misleading.

^{192.} Id. at 1393-94.

^{193.} Id.

^{194.} Id. at 1394.

^{195.} Id. at 1395. The Court viewed the contention that the program is unjustified because it is not based on a belief that testing will reveal drug use by covered employees as "evincing an unduly narrow view of the context in which the Service's testing program was implemented. Petitioners do not dispute . . . that drug abuse is one of the most serious problems confronting our society today." Id.

worthwhile deterrence program need not actually deter much evil, so long as the evil to be deterred was horrible enough.¹⁹⁷ Thus, the government's desire to prevent the "pervasive societal problem" of drug abuse from spreading to a particular agency was deemed a compelling interest.¹⁹⁸

Finally, the Court, in its clearest limit to date on drug testing, remanded to the court of appeals a portion of the dispute dealing with a third group of tested customs employees—those who are "required to handle classified material."¹⁹⁹ The Supreme Court fully embraced the constitutionality of pre-promotion testing of persons handling "classified material" and reaffirmed the government's right to protect "its secrets."²⁰⁰ However, the majority expressed doubt as to whether all employees covered by the customs service rules (such as baggage clerks and electric equipment repairers) would be likely to gain access to sensitive information,²⁰¹ or whether, in fact, the customs service "defined this category of employees more broadly than necessary to meet the purposes" of the customs service.²⁰²

The principal dissent was authored by Justice Scalia, with Justice Stevens joining,²⁰³ and Justices Marshall and Brennan endorsing but not joining.²⁰⁴ Justice Scalia's dissent was strident in tone, focusing not as much on the inherent value of individual rights as on the government interests to be balanced against those rights. He wrote:

I joined the Court's opinion [in *Skinner*] because the demonstrated frequency of drug and alcohol use by the targeted class of employees, and the demonstrated connection between such use and grave harm, rendered the search a reasonable means of protecting society. I decline to join the Court's opinion in the present case because neither the frequency of use nor connection to harm is demonstrated or even likely. In my view the Customs Service rules are a kind of immolation of privacy and human dignity in symbolic opposition to drug use.²⁰⁵

203. Id. at 1398 (Scalia, J., dissenting).

204. Id. (Marshall, J., dissenting).

205. Id. (Scalia, J., dissenting). Justice Scalia also stated: "The Court agrees that this constitutes a search for purposes of the Fourth Amendment—and I think it obvious that it is a

^{197.} Id. at 1395 n.3 (quoting Judge Friendly) United States v. Edwards, 498 F.2d 496, 500 (2d Cir. 1974)).

^{198.} Id.

^{199.} Id. at 1396-98.

^{200.} Id. at 1397 (quoting United States v. Robel, 389 U.S. 258, 267 (1967)).

^{201.} Id.

^{202.} Id.

The Scalia dissent emphasized the near-total lack of even anecdotal support for either the "public safety" or the "public trust" testing rationales.²⁰⁶ He seized on prior bragging by the Commissioner of Customs that "customs is largely drug free"²⁰⁷ as affirmative evidence that any drug problem at the customs service was an illusion.²⁰⁸ Furthermore, Justice Scalia observed that once the rules were applied to those outside the hard-core group of drug interdiction agents, the relationship between testing and the public safety and trust issues attenuate to the point of "expos[ing] vast numbers of public employees to [a] . . . needless indignity."²⁰⁹

Justice Scalia identified a third state interest relied on by the majority: the government's anti-drug public relations campaign.²¹⁰ He stated:

There is only one apparent basis that sets the testing at issue here apart from all these other situations—but it is not a basis upon which the Court is willing to rely. I do not believe for a minute that the driving force behind these drug-testing rules was any of the feeble justifications put forward by counsel here and accepted by the Court. The only plausible explanation ... is what the Commissioner himself offered ... to Customs Service employees [in] announcing the program: "Implementation of the drug screening program would set an important example in our country's struggle with this most serious threat to our national health and security." ... What better way to show that the Government is serious about its "war on drugs" than to subject its employees on the front line of that war to this invasion of their privacy and affront to their dignity?²¹¹

Justice Scalia rejected the notion that government-by-example added to the Customs Service's legitimate interests, arguing that "symbolism, even symbolism for so worthy a cause as the abolition of unlawful drugs, cannot validate an otherwise unreasonable search."²¹²

212. Id. (Scalia, J., dissenting).

type of search particularly destructive of privacy and offensive to personal dignity." Id. (Scalia, J., dissenting).

^{206.} Id. at 1400 (Scalia, J., dissenting). ("The test results [of Customs Service employees] have fulfilled those hopes and expectations. According to the Service's counsel, out of 3,600 employees tested, no more than 5 tested positive for drugs.").

^{207.} Id. (Scalia, J., dissenting).

^{208.} Id. (Scalia, J., dissenting).

^{209.} Id. at 1400-01 (Scalia, J., dissenting).

^{210.} Id. at 1401 (Scalia, J., dissenting).

^{211.} Id. (Scalia, J., dissenting).

3. Rushton v. Nebraska Public Power District

Rushton v. Nebraska Public Power District,²¹³ a district court case, is also important because it was the first to deal with challenges to the constitutionality of a nuclear power plant "fitness-for-duty program" involving random drug and alcohol testing.²¹⁴ The Nebraska Public Power District (NPPD) operated a publicly owned nuclear power plant under a NRC license.²¹⁵ The NPPD, under the prodding of the NRC and industry groups, adopted its first fitness-for-duty program in 1985.²¹⁶ The initial program included urinalysis testing for suspected drug use, preemployment, on transfer, and annual testing for security force personnel and the NRC-licensed control room operators. There was to be no random testing.²¹⁷

The program was later revised to include random testing, to improve chain-of-custody procedures, and to strengthen the employee assistance program.²¹⁸ Also, after some equivocation and more NRC prodding, the NPPD decided to expand its program beyond the security force and licensed control room operators to include all persons with unescorted access to the power block.²¹⁹ The plaintiffs, staff engineers who spent six to seven hours each month in the power block, were fired after refusing to be randomly tested.²²⁰ They challenged the program as applied on several constitutional grounds, including the fourth amend-

216. Id. at 1515. Apparently, the program adopted by NPPD "represent[ed] the 'lowest common denominator' to which all [Nuclear Utilities Management and Human Resources Committee (NUMARC)] members will agree." Id. at 1513. The NUMARC proposal has been seen as a desirable alternative to NRC rule making. Id.

217. Id. at 1515 ("In determining who would be subject to the testing program, the initial focus was centered on the security force and licensed operators, since each was a source of concern for the NRC."). Under the initial program, the tested individual provided a sample under supervised conditions. Id. A laboratory analysis was performed, and the tested individual's supervisor was notified of the results. Id. The tested individual could request confirmation of a positive test, but on confirmation, the employee either entered the NPPD employee assistance program, or was subject to discharge. Id. In any event, an individual who tested positive lost unescorted access to the power block. Id.

218. Id. at 1516.

219. Id. at 1515 ("[The second program] applies to NPPD employees as well as contractors, consultants, vendor employees, NPPD senior management, and NRC employees who are permitted unescorted access to protected areas."). Interestingly, the trial court focused almost entirely on the second scheme's randomness component instead of the second scheme's substantial expansion beyond employees in the operator and security forces. Id. at 1516. No doubt this was influenced by the "as applied" nature of the challenge.

220. Rushton v. Nebraska Pub. Power Dist., 844 F.2d 562, 563 (8th Cir. 1988).

^{213. 653} F. Supp. 1510 (D. Neb. 1987), aff'd, 844 F.2d 562 (8th Cir. 1988).

^{214.} Id. at 1515-16.

^{215.} Id. at 1512 ("NPPD owns Cooper Nuclear Station . . . a nuclear power plant. As a licensee of the . . . NRC . . . Cooper Nuclear Station . . . is a heavily regulated facility.").

ment.²²¹ The district court rejected their challenge, relying without detailed analysis on the "administrative search standard exception to the fourth amendment's probable cause requirement."²²²

The Court of Appeals for the Eighth Circuit affirmed vigorously.²²³ The appellate court found that the state interests in protecting the public, from radiation and loss-of-capacity accident costs, and plant employees, from radiation and mundane accidents, outweighed the "diminished" constitutional interests of the plaintiff.²²⁴ The court rejected the plaintiffs' assertion that the so-called "defense-in-depth" engineered safety features at nuclear power plants eliminated the radiation risk to the public generated by an unsupervised, impaired employee in the power block.²²⁵ The court stated:

We do not find plaintiffs' contentions persuasive. Perhaps [the plant] was designed to withstand an impaired operator. This does not make superfluous the addition of new measures [*i.e.*, random urinalysis testing] to make the plant even safer. Surely the update and reevaluation of safety concerns should not end because the plant was considered to be safe initially.²²⁶

The Eighth Circuit found that "mundane industrial accidents" and costs

221. Id. at 564-66 (first amendment); id. at 566-67 (fourth amendment); id. at 567 (fifth, ninth, and fourteenth amendments).

222. Id. at 566 ("Thus, we believe that the District Court was correct in holding that the facts of this case place it squarely within the administrative-search exception"). The administrative search exception is an exception to the warrant requirement. Generally, a warrant is needed in order for a search to be permissible under the fourth amendment. However, if two interrelated requirements are satisfied, a warrantless search will be permitted under the administrative search exception. First, there must be a strong state interest in conducting the search. Second, the industry involved must be pervasively regulated so that the regulations reduce privacy expectations. See Shoemaker v. Handel, 795 F.2d 1136, 1142 (3d Cir.), cert. denied, 479 U.S. 986 (1986).

223. Rushton v. Nebraska Pub. Power Dist., 844 F.2d 562, 567 (8th Cir. 1988).

224. Id. at 567. The Eighth Circuit apparently declined to rely on what was characterized at the district court level as the state's "substantial interest in the maintenance of a positive public perception of plant safety." Rushton, 653 F. Supp. at 1519. Although the district court rested only implicitly on this rationale in upholding the testing scheme, it will be seen that this argument remains a highly debatable—and emotionally charged—proposition.

225. Rushton, 844 F.2d at 565. The plaintiff's rejected argument stated that, since NRC regulations provide for protection of the public even in the event of total operator failure (e.g., through use of a massive three-foot thick containment structure around the plant), a lapse by an operator could, by definition, pose no public safety threat. See Rushton, 653 F. Supp. at 1520. Notably, the Eighth Circuit rejected the plaintiff's argument in the context of a somewhat specious first amendment claim rather than on the fourth amendment, although the former analysis seems to be incorporated into the latter. Rushton, 844 F.2d at 566 ("The state's interest in conducting this search and why the plan was implemented have already been discussed in detail.").

226. Rushton, 844 F.2d at 565.

of less than perfectly efficient operations to rate payers were made more likely if employees were impaired.²²⁷

Against these "compelling" governmental interests militated privacy interests which had already been radically diminished by the history of intensive regulation of persons with access to nuclear power plants.²²⁸ Also influencing the Eighth Circuit was the absence of program provisions allowing for use of the urine samples as a basis for criminal prosecution.²²⁹ The court found that "the need for protection . . . diminishes if the investigation is neither designed to enforce criminal laws nor likely to be used to bring criminal charges²³⁰ Under these circumstances, the court held the state's interests outweighed those of the individual, and Rushton's challenge failed.²³¹

The final particularly interesting case is *Alverado v. Washington Public Power Supply System* (WPPSS).²³² The case tested the constitutionality of an early fitness-for-duty program adopted by the WPPSS in 1986.²³³ The program utilized only pre-employment and for-cause urinalysis testing of employees who had unescorted access to the power block.²³⁴ No random urinalysis was involved.²³⁵ The WPPSS program incorporated confirmatory testing, tight chain-of-custody controls, nonwitnessed urine sample collection, strict confidentiality of test results, and a maximum sanction of a six month preclusion from working at the WPPSS station.²³⁶

The Washington Supreme Court directly reviewed the trial court's summary judgment for the WPPSS and easily concluded at the outset that federal search and seizure law applied.²³⁷ The court then considered whether the administrative search exception to the warrant requirement applied and, if it did, whether this particular administrative search was reasonable.²³⁸ Following the doctrine of *Rushton* and *McDonell v*.

227. Id.
228. Id. at 566.
229. Id. at 567.
230. Id.
231. Id.
232. 111 Wash. 2d 424, 759 P.2d 427 (1988), cert. denied, 109 S. Ct. 1637 (1989).
233. Id. at 427, 759 P.2d at 429.
234. Id. at 428, 759 P.2d at 429.
235. Id.
236. Id.
237. Id. at 429-33, 759 P.2d at 430-32. "Since this safety issue was not 'expressly ceded to

231. Id. at 429-33, 799 P.2d at 430-32. "Since this safety issue was not "expressly ceded to the States" . . . federal law and regulations preempt state law. The constitutional validity of this drug testing program . . . must be determined by reference to the federal constitution alone." *Id.* at 433, 759 P.2d at 432 (citations omitted).

238. Id. at 435-41, 759 P.2d at 433-35.

Hunter,²³⁹ the court embraced the administrative search exception, because employees in nuclear power plants are the essential target of longstanding administrative regulation.²⁴⁰ Pervasive regulation, the court held, emasculated any otherwise reasonable expectations of privacy held by the employee.²⁴¹

The court held that the particular administrative search at WPPSS was reasonable because it was "necessary" to serve a "substantial" government interest.²⁴² The court stated that in "ensur[ing] that personnel in vital areas of a nuclear power facility are fit for duty in one of the most sensitive and demanding industries in our economy; the public safety concerns are overwhelming."²⁴³ The court noted in conclusion that the WPPSS program survived constitutional analysis, not merely based on a balancing test, but because "the program [met] the strict criteria announced by the United States Supreme Court to justify a warrantless administrative search."²⁴⁴

B. A Systematic Critique of Drug-Testing Law, Circa 1990

1. The individual interest in the core balance

The individual interests threatened by a testing program are typically tallied as the first step in drug-testing analysis,²⁴⁵ regardless of the philosophical pedigree of the court involved.²⁴⁶ This first step requires conforming the "search and seizure" text of the fourth amendment with

241. Id.

242. Id. at 440, 759 P.2d at 435.

243. Id.

245. The first step is determining whether state action is present. However, the rest of this Article will assume that state action is not a significant issue. But see Davis v. Florida Power & Light Co., Nuclear Reg. Rep. (CCH) [19,192-93, at 20,492 (S.D. Fla. Oct. 19, 1989).

246. Although the rhetorical examination of individual interests is not automatically made first, the inquiry is invariably made. *See Skinner*, 109 S. Ct. 1402, 1417-19 (1989); National Treasury Employees Union v. Von Raab, 109 S. Ct. 1384, 1393 (1989). This Article frequently refers to the balancing of the individual interests versus the governmental public safety interest

^{239. 809} F.2d 1302, 1306 (8th Cir. 1987) (correctional officers may be strip-searched upon mere suspicion because their subjective expectations of privacy are diminished while within confines of prison).

^{240.} Alverado, 111 Wash. 2d at 436-37, 759 P.2d at 434 ("The pervasiveness of the regulatory scheme gives advance warning to those employed in the nuclear power industry that their legitimate expectations of privacy are substantially diminished.").

^{244.} Id. at 441, 759 P.2d at 436. Apparently, the fact that the "strict criteria announced by the United States Supreme Court to justify a warrantless administrative search" were themselves based on a balancing test escaped the notice of the Washington Supreme Court in its rush to frame its decision as a syllogism. See New York v. Burger, 482 U.S. 691, 702 (1987) (warrantless inspection of commercial premises may be reasonable because privacy interests of owner are weakened and government interests in regulating particular businesses are heightened).

the multiple governmental intrusions involved. Although the Supreme Court has declined to take a firm position on the issue of whether the government must defend more than one "search or seizure,"²⁴⁷ this Article will present the threat to the individual in three distinct conceptual "searches and seizures:" (1) the physical seizure of the body contemporaneous with the taking of the sample; (2) the seizure of bodily activity before the search; and (3) the seizure of the body after the test.²⁴⁸ This division is not inconsistent with the substantive outcome of the search and seizure precedents.

The physical seizure is the most familiar image—the testee hustled away from his comfortable and familiar workplace to a closed room, stripped of outer garments, with another person only a few feet away during the urination, taking in the sound, smell, and possibly the sight.²⁴⁹ Courts invariably consider the extent of the physical seizure to be an important concern, and therefore evaluate the physical conditions of the test as a factor in balancing the interests.²⁵⁰ To a lesser extent, courts will also weigh lost time on the testee's side of the balancing test. Since the employer is master of the employee's time during the work day, however, this interest is a very junior partner in the physical seizure

248. There is nothing magical about the precise delineation of the "searches and seizures" presented here. However, the framework has the virtues of minimal overlap among various factors affecting the invasiveness of each distinct search, and is intuitively easy to grasp and manipulate. See McFadden, The Balancing Test, 29 B.C.L. REV. 585, 622-25 (1988). It will be seen that the costs involved in making the effort to separate the "searches and seizures" is outweighed by the benefits of a less cryptic analysis.

249. Justice Scalia invoked these images in his Von Raab dissent by taking Justice Kennedy's attempt at unemotional, scientific description in the majority opinion and diverting it into wry irony. Von Raab, 109 S. Ct. at 1398 (Scalia, J., dissenting) ("The Government asserts it can demand that employees perform 'an excretory function traditionally shielded by great privacy,' while 'a monitor of the same sex . . . remains close at hand to listen for the normal sounds.'") (citations omitted).

250. See, e.g., Skinner, 109 S. Ct. at 1417-18 (considering physical circumstances of test, particularly noting "medical environment" and lack of direct observation); Von Raab, 109 S. Ct. at 1394 n.2 ("There is no direct observation of the act of urination, as the employee may provide a specimen in the privacy of a stall."); id. at 1398 (Scalia, J., dissenting) (noting that monitors are "close at hand"). But see American Fed'n of Gov't Employees v. Skinner, 885 F.2d 884, 891 (D.C. Cir. 1989) ("Neither can we conclude that testing in a medical environment is a sine qua non of constitutionally permissible urine testing... the regulations approved in Von Raab provided for samples to be collected by non-medical personnel in a public restroom.").

as "core analysis," because it is undertaken without regard to whether the analysis is neo-Kantian or utilitarian.

^{247.} Skinner, 109 S. Ct. at 1413 ("[W]e need not characterize the employer's antecedent interference with the employee's freedom of movement as an independent Fourth Amendment seizure [I]t suffices to note that any limitation on an employee's freedom of movement ... must be considered in assessing the intrusiveness of the ... testing program.") (citations omitted).

analysis.251

But even a testing program free of interference with the physical sovereignty of the individual during the test would involve, as courts have properly recognized, other tangible searches or seizures.²⁵² First, a pre-test or "antecedent" seizure is involved. This seizure consists of physical and psychological parameters placed on the testee's liberty even *before* the actual sampling takes place.²⁵³ To judge the significance of this part of the equation, a court will consider the following factors: (1) adequacy of chain-of-custody procedures,²⁵⁴ reflecting self-imposed activity limits because of fear of erroneous test results; (2) reliability of tests performed;²⁵⁵ (3) test frequency and predictability;²⁵⁶ (4) the size of the

252. Such a program would so ameliorate the physical aspects of the seizure as to make any constitutional challenge meaningless. For example, future technology may permit blood, breath or urine sampling without any perceptible physical impact on the testee, and may even permit such sampling without the testee's knowledge that the sample was being taken.

253. Obviously, test procedures which were not perceptible to the testee, and which were perfectly tailored to flawlessly detect only drug use and nothing else, would still raise constitutional questions, because of the self-imposed liberty restrictions which the individual endures prior to testing. Notably, with rapid advances in testing technology, this hypothetical may not remain fanciful forever.

254. See Skinner, 109 S. Ct. at 1409 (describing handling of samples); In re Seelig v. Koehler, 151 A.D.2d 53, 69-70, 546 N.Y.S.2d 828, 838 (1989) (upholding testing scheme in part on strength of chain-of-custody procedures).

255. See Skinner, 109 S. Ct. at 1421 n.10 ("The Court of Appeals also expressed concern that the tests might be quite unreliable, and thus unreasonable. The record compiled by the Agency... does not support [the deterrent effect of drug testing]"); Von Raab, 109 S. Ct. at 1394 n.2 ("the combination of [tests]... is highly accurate").

256. The Supreme Court considered an extremely predictable testing program. Von Raab, 109 S. Ct. at 1394 n.2 (upon-transfer application). The Supreme Court also considered a moderately predictable testing program. Skinner, 109 S. Ct. at 1421 & n.10 (post-incident). The Court, however, has not considered an extremely unpredictable program, such as random testing. Thus there is no Court guidance on the importance of the predictability of testing. However, it was immediately established by the courts, following Skinner and Von Raab, that while the random nature of a program "is a relevant consideration," it does not demand "a fundamentally different analysis from that pursued . . . in Von Raab." Harmon v. Thornburg, 878 F.2d 484, 489 (D.C. Cir. 1989). See also National Fed'n of Fed. Employees v. Cheney, 884 F.2d 603, 608-09 (D.C. Cir. 1989) (following Harmon analysis), cert. denied, 110 S. Ct. 864 (1990); Fraternal Order of Police Lodge No. 5 v. City of Philadelphia, No. 88-8511 (E.D. Pa. Apr. 7, 1989) (LEXIS-3664, Genfed library, Dist file) (distinguishing non-random program from random). But see Hartness v. Bush, 712 F. Supp. 986, 991 (D.D.C. 1989) (holding Skinner and Von Raab require "substantial generalized suspicion," apparently leaving random testing substantially more problematic). Although it is established that randomness is a balancing factor in acceptable analysis, questions have even arisen as to which litigant-government or testee-randomness favors. Although the conventional answer is the testee, the randomness

^{251.} In fact, *Skinner* addressed this point directly. The Court wrote, "Ordinarily, an employee consents to significant restrictions in his freedom of movement where necessary for his employment, and few are free to come and go as they please during working hours. Any additional interference . . . cannot, by itself, be said to infringe significant privacy interests." *Skinner*, 109 S. Ct. at 1417 (citation omitted).

tested population²⁵⁷ (for facial challenges only); (5) the number of drugs for which a person is tested;²⁵⁸ (6) the drug cut-off levels;²⁵⁹ and (7) the secondary information revealed by the testing procedure.²⁶⁰ The extent to which individuals in a tested population restrict their activities because of their knowledge that they will or could be tested is a function of these factors, and should be seen as a classic fourth amendment "seizure."

Even if a drug testing program could be created without any physical invasion or any antecedent activity restriction, precedents reveal a third individual interest: freedom from post-test "seizure." This third type of seizure reflects governmental restrictions on, or consequences for, the testee such as loss of employment²⁶¹ or loss of freedom from impris-

257. See Von Raab, 109 S. Ct. at 1396-97 (program overbroad where government lacks convincing testing interest in sizable subgroup of tested personnel). Accord Harmon, 878 F.2d at 492-93 (Justice Department defined categories of testees too broadly); Hartness, 712 F. Supp. at 991-92. Of course, this factor is not completely independent from the analysis of the extent of the government's interest in testing. For example, a program testing a large number of employees would tend to lend credibility to the government's interest in reducing public risk, by a larger reduction in drug use, but would also increase the intrusiveness of the antecedent search and seizure. See, e.g., United States v. Edwards, 498 F.2d 496, 500 (2d Cir. 1974) (searching all airline's passenger luggage reinforced legitimate interest in eliminating "enormous dangers to life and property from terrorists, ordinary criminals or the demented").

258. See, e.g., Von Raab, 109 S. Ct. at 1394 n.2 (samples may be tested only for specified drugs and testing for any other substances is prohibited).

259. See Skinner, 109 S. Ct. at 1417 ("Further, breath tests reveal the level of alcohol in the employee's bloodstream and nothing more.") (emphasis added).

260. See supra note 106 and accompanying text.

261. Thus, even a hypothetical testing plan without any physical interference with the testee, under perfect procedural conditions, and for only the most discrete range of illicit substances would still place some weight on the individual's side of the balance if, for example, automatic discharge from employment followed a positive result. Of course, this niggling interest would be outweighed by the government interest in nearly all circumstances. Another hypothetical demonstrates the existence and importance of the post-test seizure. Postulate a brutally invasive testing procedure (e.g., public and forceful) for a huge range of substances, under sloppy procedures. As invasive as this program would be, clearly it would offend the fourth amendment somewhat less if a fully enforceable guarantee of no repercussions for a positive result were offered to all testees. *Compare* Transportation Inst. v. United States Coast Guard, Nos. 88-1519, 88-3429 (D.D.C. Aug. 3, 1989) (LEXIS-15409, Genfed library, Dist file) ("Clearly, none of the [previous drug testing] cases . . . presents a situation in which an individual's avoidance of an invasive procedure renders him entirely ineligible from practicing his trade or earning a livelihood, as is arguably the case here.") with Alverado v. Washington Pub. Power Supply, 111 Wash. 2d 424, 441, 759 P.2d 427, 436 (1988) ("The only consequence of a

could conceivably favor the government by eliminating trace elements of discretion found in programs with only moderately predictable testing, such as the program at issue in *Skinner*. See Government Employees, 885 F.2d at 891 ("[w]hile it is true that random testing may increase employee anxiety and the invasion of subjective expectations of privacy, it also limits discretion in the selection process"); Dunn v. White, 880 F.2d 1188, 1196 (10th Cir. 1989) (suggesting that random testing of prisoners for drug use or AIDS may be acceptable), cert. denied, 110 S. Ct. 871 (1990).

onment *following* the drug test.²⁶² Factors considered in evaluating this type of seizure include chain-of-custody procedures, reliability and revelation of secondary information (which could restrict post-test activities of non-drug users),²⁶³ the confidentiality provisions,²⁶⁴ the extent and quality of counseling for those testing positive, and the extent of the punishment for a positive test.²⁶⁵ This basket of factors can tell the court how the testing program affects the testee's post-search liberty.

After evaluating the substantive content of the physical and posttest searches and seizures, a court aggregates the total individual interest and then *discounts* the total individual interest by the extent to which the testee's "objectively reasonable expectation of privacy" is reduced by the regulation of the particular employment context.²⁶⁶ In doctrinal terms,

262. Courts have loudly disapproved of the use of drug testing as grounds for criminal prosecution. See Skinner, 109 S. Ct. at 1415 & n.5 (leaving open possibility of "as-applied" challenge to statutory scheme if use as "pretext" for prosecution); Von Raab, 109 S. Ct. at 1390 (noting that use by prosecutor is not provided); Rushton v. Nebraska Pub. Power Dist., 844 F.2d 562, 567 (8th Cir. 1988) (little likelihood of prosecution); Alverado, 111 Wash. 2d at 441, 759 P.2d at 436 ("results are used only for the purpose of determining a prospective employee's fitness for duty . . . [and will not leave a] permanent 'stain' on an applicant's record"). Cf. Consolidated Rail Corp. v. Railway Labor Executives Ass'n, 109 S. Ct. 2477, 2487 (1989) (noting that employer's use of drug test for "disciplinary" purposes could transform program into labor agreement).

It is worth recognizing that the "post-test" period is chronologically the same as the "pretest" period for long-term employees in ongoing drug-testing programs. This fact diminishes the conceptual boundaries between the two searches, but should not be fatal to the usefulness of the distinction because the focus of this analysis is on *how* the searches affect the testee, not when the searches occur. Also, the timing and effect of the searches seem independent (*i.e.*, depending on the case, the pre-test or post-test search aspects will be the most offensive).

263. Note that the reliability of a chain-of-custody inquiry also might affect the extent to which a testee will refrain from activity in which he would otherwise engage "but for" the testing—the essence of the antecedent search.

264. The confidentiality provisions, to be entirely non-invasive, must allow the testee to prohibit dissemination of the results beyond those individuals making employment decisions affecting the testee. *Cf. Skinner*, 109 S. Ct. at 1415 n.5; *Von Raab*, 109 S. Ct. at 1394 n.2. ("Finally, an employee need not disclose personal medical information . . . unless his test result is positive, and even then . . . [only] to a licensed physician."); Oil Chem. & Atomic Workers Int'l Union v. Amoco Oil Co., 885 F.2d 697, 707 (10th Cir. 1989) (Amoco's attempt to unilaterally institute testing program inadequate because despite "Amoco's assurances of confidentiality, employee privacy remains threatened" because of community prejudice against drug and alcohol use).

265. Counseling has been made a part of the Health and Human Services guidelines. Fitness-for-Duty Programs, 54 Fed. Reg. 24,468, 24,473 (1989) (to be codified at 10 C.F.R. pts. 2, 26).

266. See Skinner, 109 S. Ct. at 1418-19. The Court wrote:

More importantly, the expectations of privacy of . . . [testees] are diminished by reason of their participation in an industry that is regulated pervasively

We do not suggest, of course, that the interest in bodily security enjoyed by

positive test is that a prospective employee will not be considered for employment for 6 months."), cert. denied, 109 S. Ct. 1637 (1989).

this is usually cast as "the administrative search exception."²⁶⁷ In quantifying the discount factor, courts consider the history of regulation²⁶⁸ in the testee's work environment, the extent to which the regulation is directed toward human, as opposed to non-human elements, and the testee's advance notice of the regulation.²⁶⁹

Id. See also Von Raab, 109 S. Ct. at 1393 ("[I]t is plain that certain forms of public employment may diminish privacy expectations even with respect to such personal searches."); Government Employees, 885 F.2d at 893 (background checks substantially reduce reasonable privacy expectations); but see Cheney, 884 F.2d at 612-13 (civilian army guards "possess undiminished privacy expectations").

267. Indeed, some courts have let this rhetorical device enchant them to the point of upholding testing schemes without much more than a syllogistic reference to the "administrative search exception." See, e.g., Rushton, 844 F.2d at 566 (fact that employees work for nuclear station places their case "squarely within the administrative search exception"); Alverado, 111 Wash. 2d at 435, 759 P.2d at 433 ("Given the pervasive regulations . . . of the nuclear power industry, we find the administrative search exception to be appropriate"). The Supreme Court has rebuked these courts by carefully examining the policy values underlying the administrative search rhetoric, and by refusing to engage in principled balancing. See Skinner, 109 S. Ct. at 1418 (employees of pervasively regulated industries have diminished expectation of privacy); Von Raab, 109 S. Ct. at 1393-94 (employees of certain types of public employers should reasonably have diminished privacy expectations).

Since the Court has noted its preference for balancing over the old-fashioned syllogism, this approach is of doubtful validity. *But see* New York v. Burger, 482 U.S. 691, 702 (1981) ("Because the owner or operator of commercial premises in a 'closely regulated' industry has a reduced expectation of privacy, the [fourth amendment requirements] . . . and standards of reasonableness for a government search are satisfied.").

268. Traditionally, a longer history of invasive regulations has been viewed as making current or new regulations seem more reasonable and less pretextual, on the theory that the regulated individuals' expectations of privacy have been adjusted downward. See Skinner, 109 S. Ct. at 1418-19; Von Raab, 109 S. Ct. at 1393; Government Employees, 855 F.2d at 893. A few voices have questioned whether the long-term existence of regulation makes further regulation any more reasonable. See Donovan v. Dewey, 452 U.S. 594, 606 (1981) ("[I]f the length of regulation were the only criterion, absurd results would occur [N]ew or emerging industries, including ones such as nuclear power . . . could never be subject to warrantless searches."); Frank v. Maryland, 359 U.S. 360, 384 n.2 (1959), rev'd, 387 U.S. 523 (1967) (Douglas, J., dissenting); see also W. LAFAVE & J. ISRAEL, CRIMINAL PROCEDURE 188-89 (1955) (this element deserves little if any weight because well-established practices frequently are eventually disapproved).

269. See Skinner, 109 S. Ct. at 1419 (employees are traditional regulatory focus); Von Raab, 109 S. Ct. at 1393-94 (customs agents expect probes into factors affecting judgment and dexterity); Fraternal Order of Police Lodge No. 5 v. Costello, No. 88-8511 (LEXIS-3664, Genfed library, Dist file) (rely on administrative search cases for policy of testing); Transportation Inst. v. United States Coast Guard, Nos. 88-1519, 88-3429 (D.C. Cir. Dec. 18, 1989) (LEXIS-15409, Genfed library, Dist file) (maritime worker's privacy interests are reduced because of pre-existing "widespread employment practices in the maritime industry and [because] the industry is already heavily regulated"); American Fed'n of Gov't Employees v. Cavazos, 721 F. Supp. 1361 (D.D.C. 1989) (distinguishing random drug tests for all motorists because "[t]he occasional motorist does not . . . choose a particular field of work when he takes to the road

those employed in a regulated industry must always be considered minimal. Here, however, the covered employees have long been a principal focus of regulatory concern.

At this point, the reviewing court has concluded the individual interest portion of the core balancing test. In essence, the weight of the three individual seizures are aggregated and then discounted by the extent to which the tested employees lack a reasonable privacy expectation. Armed with this rigorous measure of the individual interest, the reviewing court turns to balancing it against the government's case.

2. The governmental interest in the core balance

It is utterly undisputed that courts may weigh the government's interest in protecting public safety when passing on the constitutionality of drug testing.²⁷⁰ Courts have been loathe to delve deeply²⁷¹ into the meaning of "public safety," even though it is usually the focal point²⁷² of drug-testing cases. However, a few general principles become evident through the usual rhetorical haze. The public safety interest is treated as a function of the extent to which the drug testing program under consideration will reduce on-the-job impairment due to the use of drugs,²⁷³ and the extent to which this reduction in the use of drugs at work will reduce

270. Consideration of the public safety interest is also consistent with either dominant philosophical school. Utilitarians would be willing to consider virtually any interest for the good of society at large. See supra notes 111-18 and accompanying text. The neo-Kantian philosophy counsels that safety of the individual is a prerequisite to liberty and happiness. See supra notes 88-105 and accompanying text.

271. Courts have not attempted to quantify the risks associated with a particular course of action or non-action. Modern techniques such as probabilistic risk assessment remain untapped. While it is quite understandable, and arguably even desirable, to take this approach in decisions reviewing run-of-the-mill administrative or legislative decisions, some increased rigor seems a reasonable goal where significant constitutional rights are at stake.

272. Public safety is the "focal point" in the sense that, as the procedures involved in taking and analyzing blood or urine samples have become increasingly rational and well-analyzed, they likewise have become correspondingly less interesting and powerful in sorting the constitutionally proper testing programs from the improper.

273. See, e.g., Skinner, 109 S. Ct. at 1407-21; Von Raab, 109 S. Ct. at 1394-96 & n.3; Harmon, 878 F.2d at 487 ("Nor is it necessary that a documented drug problem exist within the particular workplace at issue."); Cavazos, 721 F. Supp. at 1372 (rejecting need for study showing drug abuse problem in population to be tested); but see Hartness, 712 F. Supp. at 991 (substantial "generalized" suspicion is necessary prerequisite).

and his expectations of privacy would not be reduced by doing so"). See also Dunn, 880 F.2d at 1191 (citing Hudson v. Palmer, 468 U.S. 517 (1984), for proposition that prisoners have no legitimate expectations of privacy in prison); Hartness, 712 F. Supp. at 993 (typical government workers have "undiminished expectations of privacy with respect to their elimination functions").

some pre-existing "safety risk"²⁷⁴ to the public.²⁷⁵ Some showing in each category—reduction of on-the-job impairment and reduction of the safety risk to the public—is necessary. Unless the program could plausibly reduce drug use *and*, by reducing use, cut risk to the public, the program would be a logical nullity with respect to safety improvement.²⁷⁶ However, a very strong showing of either factor can off set a very weak showing of the other.²⁷⁷

The extent to which the testing policy reduces drug use is the better developed of these two general inquiries. The inquiry boils down to mea-

275. See, e.g., Skinner, 109 S. Ct. at 1407 (blood testing "designed not only to discern impairment but to deter it"); Von Raab, 109 S. Ct. at 1393 ("public interest demands effective measures to bar drug users from positions directly involving the interdiction of illegal drugs"); Government Employees, 885 F.2d at 891 ("Ensuring that these employees—whose executive assigned duties are so intimately related to the prevention of public harm—are certifiably drugfree is, in our view, a reasonable precaution against the occurrence of the feared harm."); Fraternal Order of Police Lodge No. 5 v. Costello, No. 88-8511 (E.D. Pa. Apr. 7, 1989) (LEXIS-3664, Genfed library, Dist file) ("The Court [in Skinner] also held that the urinalysis was a reasonable search . . . in view of [the railroad workers'] positions in which the public entrusts its safety"); Cavazos, 721 F. Supp. at 1373 ("motor vehicle operators . . . [suffering] 'even momentary lapse of attention' could [cause public] harm") (citation omitted).

276. See Von Raab, 109 S. Ct. at 1394-95 (declining to hold that even where no drug use exists, testing could have legitimate public safety purpose, and instead presuming, from general societal statistics, that some drug use exists); see also Hartness, 712 F. Supp. at 991 (observing that Von Raab and Skinner suggest the need for "substantial generalized suspicion" of drug use). The need for a showing on both prongs can be demonstrated quantitatively as X times Y = R, where X = the extent of drug use in the tested population, Y = the public safety risk generated by an impaired individual in the regulated activity, and R = the quantum of risk to society. If either X or Y is zero, R must automatically be zero as well. But see Cheney, 884 F.2d at 610 (quoting with approval Judge Friendly's dictum that "[w]hen the risk is the jeopardy of hundreds of human lives and millions of dollars of property . . . th[at] danger alone meets the test of reasonableness").

277. See, e.g., Von Raab, 109 S. Ct. at 1393 (drug testing upheld despite government's reliance only on general anecdotes as proof of drug use because of "disastrous" consequences of even "momentary lapse" of judgment); *id.* at 1400 (Scalia, J., dissenting) (where no specific showing of drug use in regulated industry exists, "catastrophic" and immediate public risk are prerequisites to valid testing program); *Cavazos*, 721 F. Supp. at 1373 (upholding testing of motor vehicle operators where "[a]lthough the harm might well not be as enormous as the *Skinner* situation, it would be immediate"). See also Brown, 715 F. Supp. at 834-35 (drug testing upheld absent overwhelming risk because "[t]he public safety rationale adopted in Von Raab and Skinner focused on the immediacy of the threat . . . [that] the employee himself will have no chance to recognize and rectify his mistake"). Such judicial flexibility, of course, is the hallmark of an effective balancing test. McFadden, *supra* note 248, at 622.

^{274.} This formulation is similar to, although not co-extensive with, Justice Scalia's elocution in his Von Raab dissent. Justice Scalia wrote: "I joined the Court's opinion [in Skinner] because the demonstrated frequency of drug and alcohol use by the targeted class of employees, and the demonstrated connection between such use and grave harm, rendered the search a reasonable means of protecting society." Von Raab, 109 S. Ct. at 1398 (Scalia, J., dissenting). The analysis posited here as a synthesis of current law allows more leeway in demonstrating "frequency of drug and alcohol use" and is less demanding of "grave harm," although probably equally demanding in the connection between use and harm.

suring how the program will detect²⁷⁸ and deter, and thereby diminish the quantum of on-the-job impairment.²⁷⁹ The cases establish that either detection or deterrence, but not necessarily both, need be furthered by the testing program to render it capable of reducing on-the-job impairment.²⁸⁰ This showing may be satisfied by either meaningful statistics on the general population, which are widely available, or by less-meaningful, statistically insignificant and even anecdotal evidence targeted at the test population.²⁸¹

278. The previously divisive issue of whether drug testing must primarily reveal on-the-job intoxication has been resolved by the courts with two thrusts. See Note, Constitutional Law: The Fourth Amendment And Drug Testing In The Workplace, 10 HARV. J.L. & PUB. POL'Y 762, 765 (1987).

First, courts have defined "on-the-job impairment" to include the "hangover" effects of drug use. See, e.g., Brown v. Winkle, 715 F. Supp. 195, 197 (N.D. Ohio 1989) ("the effects of illicit drugs upon physical and mental performance last for a long time, more than just a few hours, even though the user may not be conscious that he is impaired"); Alverado, 111 Wash. 2d at 436, 759 P.2d at 433-34 ("The lingering effects of drug abuse can impair one's physical and mental capacity"). Second, the previous emphasis on on-the-job detection has been replaced by heavier emphasis on two types of deterrence, the first type being the traditional notion of deterring drug use by employees and the second type seeking to deter drug users from engaging in the regulated activity. This distinction may have some import for the fitness-for-duty rules. One court has gone so far as to say that to require drug testing to reveal on-the-job impairment "would be tantamount to holding urinalysis testing unreasonable per se." Cheney, 884 F.2d at 609-10.

279. Deterrence of drug use has never been challenged conceptually, and the Court's recent decisions do not purport to do so. See Von Raab, 109 S. Ct. at 1396; Skinner, 109 S. Ct. at 1419 ("the . . . regulations supply an effective means of deterring employees engaged in safety-sensitive tasks from using controlled substances or alcohol in the first place"). See also Cavazos, 721 F. Supp. at 1371 ("drug testing also serves as a deterrent to further drug use"). The new deterrence goal implicitly assumes that the testee will continue to use drugs despite the presence of testing, so the program instead aims at being sufficiently invasive to keep the testee out of the regulated activity entirely. In Von Raab, the Court supported this policy writing, "In light of the extraordinary safety and national security hazards that would attend the promotion of drug users to positions that require the carrying of firearms or the interdiction of controlled substances, the Service's policy of deterring drug users from seeking such promotions cannot be deemed unreasonable." Von Raab, 109 S. Ct. at 1395 (emphasis added).

This theory, for which the Court offered no precedent, substantially expands the intrusiveness of any particular program by exaggerating the impact of not only the first search, but also the post-test restrictions, such as the inability to engage in one's desired trade.

280. See, e.g., Skinner, 109 S. Ct. at 1419 (court acknowledges flaws in test's ability to detect drug use, but emphasizes its ability to deter drug use). Of course, some evidence of drug use must exist in the tested population, since otherwise on-the-job impairment could not be reduced. Again, this is a trivial mathematical or logical proposition.

281. See Von Raab, 109 S. Ct. at 1395 (drug testing upheld despite evidence indicating virtual absence of drug use in tested population, because "[t]here is little reason to believe that American workplaces are immune from this pervasive social problem"). The current general trend is in accord and nearly establishes an irrebuttable presumption of drug use, although it is unclear whether the presumption will hold against conflicting statistics, as it did in Von Raab, rather than the absence of any statistics at all. See, e.g., Cavazos, 721 F. Supp. at 1372 ("Although Justice Scalia's eloquent Von Raab dissent argued that the lack of a drug culture

The second major subpart of the "public safety" interest is the program's reduction in the total quantum of risk faced by the public from the testee's activities. In other words, it is the extent to which the previously aggregated quantum of on-the-job drug use reduction, whether through deterrence or detection has the potential to actually promote public safety by avoiding injuries and deaths.²⁸² This inquiry necessitates an activity-by-activity and, occasionally, an individual-by-in-dividual analysis.²⁸³ Courts, of course, are extremely reluctant to involve themselves in such messy detail, particularly where they are scrutinizing a federal agency.²⁸⁴ Nonetheless, the cases now demand a two-pronged examination when calculating the total risk faced by the public from the tested individual's activities.

First, the court must ask to what extent the testee's industry generates scenarios of public risk.²⁸⁵ Second, the court must ask what role the testee plays in the creation of that public risk.²⁸⁶ Combined, these two

282. See supra notes 274-79 and accompanying text. Public risk reduction is a key component of any philosophically acceptable drug testing scheme.

283. Harmon, 878 F.2d at 496 (considering separately groups of prosecutors in criminal cases, employees with access to grand jury proceedings, and personnel holding top secret national security clearances); Government Employees, 885 F.2d at 891-93 (considering separately electronic technicians, aviation safety inspectors, civil aviation security specialists, aircraft mechanics and motor vehicle operators).

284. The Court in Skinner wrote, "At bottom, respondents' insistence on less drastic alternatives would require us to second-guess the reasonable conclusions drawn by the FRA after years of investigation and study. This we decline to do." 109 S. Ct. at 1419 n.9; see also Cheney, 884 F.2d at 611 ("the Army . . . is, in light of its experience from fifteen years of testing its military personnel, better able than we to assess the efficacy of urinalysis testing").

285. See, e.g., Skinner, 109 S. Ct. at 1422 (railroad industry involves "surpassing" risk); Von Raab, 109 S. Ct. at 1393 (Customs Service agent's activities involve potentially "disastrous" consequences, including slip-ups by gun-toting agents); Cheney, 884 F.2d at 612 (military guards involved in duties with potentially "catastrophic consequences" with potential for "nightmare scenarios"); Harmon, 878 F.2d at 491 (not raising public safety concerns "comparable" to those in Skinner and Von Raab). Thus, the focus is first on the range of scenarios which could result in harm to the public—no matter how unlikely their occurrence may be, such as a "motor vehicle . . . run[ning] into a school bus carrying 312 diplomats, caus[ing] an international incident and . . . a war." Skinner, 885 F.2d at 892. The second part of this test adjusts for the probability of such a scenario occurring by focusing on the attenuation of the drug-influenced employee from the particular scenario under consideration.

286. Von Raab, 109 S. Ct. at 1392-93. This factor adjusts for the likelihood of a particular

rendered the testing plan unconstitutional, his view did not command a majority of the Court"). See also Skinner, 109 S. Ct. at 1407 n.1 (relying on decade-old study of alcohol use by railway employees); Harmon, 878 F.2d at 487 ("Nor is it necessary that a documented drug problem exist within the particular workplace at issue."); Brown, 715 F. Supp. at 834 ("Nor is it necessary that a documented drug problem exist within the particular workplace at issue."); Brown, 715 F. Supp. at 834 ("Nor is it necessary that a documented drug problem exist within the particular workplace at issue."). But see Hartness, 712 F. Supp. at 991 ("[W]hile Skinner and Von Raab abandoned any requirement for particularized, individualized suspicion as a predicate for random testing, the ... opinions require substantial generalized suspicion."). Cf. Rushton, 653 F. Supp. at 1522 (clearly influenced by "escalating use" of drugs and "a decrease in selling price").

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factors reveal the extent to which an impaired worker threatens public safety. Once again, some showing by the testing agency on both points is necessary. If the tested individual and his industry have no plausible public safety role,²⁸⁷ then the regulation will not reduce the public risk quantum. Likewise, if the chain of action leading to the increased public risk is too attenuated or loosely-coupled, testing cannot improve safety.²⁸⁸

IV. STRIKING THE BALANCE: THE NEO-KANTIAN CORE BALANCE

Both the utilitarian and rights-based courts would start by analyzing the invasiveness of the fitness-for-duty rules under a single balancing standard, examining all of the antecedent, physical, and post-test "searches and seizures" engendered in the rules, discounting these by reduced privacy expectations, and then balancing them against the government's public safety interest. Their divergence comes later in the analysis. This Article need not belabor any distinctions between the two, because the core balancing is the same.

The fitness-for-duty rules tread heavily on antecedent individual liberty. Most obviously, the urinalysis is random and conducted at a high rate.²⁸⁹ The United States Supreme Court has yet to examine the consti-

287. For example, it would be difficult to construct a scenario where a federal government employee engaged in wildlife research, alone on an island off Antarctica, could pose a public safety risk sufficient to establish a government interest in drug testing, even if the employee was intimately involved with every aspect of activity on that island.

288. See, e.g., Cheney, 884 F.2d at 611-12 (court refused to rule on reasonableness of random drug testing of civilians occupying "[c]hemical and nuclear surety positions" because record did not reveal extent to which these employees created public safety risk).

289. See supra note 2 and accompanying text.

risk scenario actually evolving from an impaired employee's actions. Professor Perrow of Yale University has aptly referred to this concept as "coupling"—the extent to which the riskproducing system, in which the impaired individuals function, permits intervention between the links in the risk scenario. The fewer the opportunities for intervention, the "tighter" the risk system is said to be coupled. C. PERROW, NORMAL ACCIDENTS: LIVING WITH HIGH-RISK TECHNOLOGIES 94-96 (1984) (arguing that redundancies in certain systems may increase, rather than reduce, tightness of coupling). The less tight the links, the less effective a testing program will prove in reducing risk to the public, given a fixed total industry risk. See also Skinner, 109 S. Ct. at 1419 ("momentary lapse" of attention sufficient to cause great injury); Von Raab, 109 S. Ct. at 1393; Dunn, 880 F.2d at 1196 (emphasizing "transmissibility" of AIDS virus as justifying prison HIV testing); Harmon, 878 F.2d at 491 ("The public safety rationale adopted in Von Raab and Skinner focused on the immediacy of the threat [A] single slip-up . . . may have irremediable consequences; the employee himself will have no chance to recognize and rectify his mistake "); Winkle, 715 F. Supp. at 197. But see Government Employees, 885 F.2d at 892 (approving testing of mechanics despite review of work by inspectors) (citations omitted); Rushton, 844 F.2d at 565 (approving drug testing of nuclear power plant operators over first amendment objection even where plant "was designed to withstand an impaired operator").

tutionality of random testing, but lower courts have almost unanimously acknowledged the gravity of random testing.²⁹⁰ Other non-random testing programs, however, could be less intrusive. For example, under a calendar-year testing program, an employee tested in April cannot be tested again that year, and further antecedent restrictions for that year are thereby reduced.

The fundamentally intrusive aspect of the antecedent seizure under the fitness-for-duty rules is its dragnet approach. No court has suggested that hundreds of thousands of employees can be dealt with as a block.²⁹¹ In fact, the leading cases on this point have been fought over far fewer tested employees—and in one case as few as *nine*.²⁹² Although an applied challenge brought by a group of operators or security guards may leave a different impression, any court will be sincerely troubled by the breadth of a testing program lumping file clerks with machine-gunequipped guards.²⁹³ As an adjunct to the scope problem, the rate of testing (100%) is noticeably higher than the twelve percent and fifty percent rates adopted in other cases.²⁹⁴ The greater number of searches further exacerbates the extent of the antecedent search and seizure.

The NRC rules require testing for a large number of drugs and the cut-off levels are rather low.²⁹⁵ In addition, the NRC licensees retain discretion under the rules to increase the number of tested substances, and to reduce the cut-off levels.²⁹⁶ Arguably, these powers diminish the independence of the testing process from non-neutral employer manipulation. The ameliorating factors for the antecedent test search rest on the

291. Compare Hartness, 712 F. Supp. at 989 (as few as 2360 workers involved) with National Fed'n of Fed. Employees v. Cheney, 884 F.2d 603, 605 (D.C. Cir. 1989) (approximately 9000 civilians to be tested), cert. denied, 110 S. Ct. 864 (1990).

292. American Fed'n of Gov't Employees v. Cavazos, 721 F. Supp. 1361, 1372-74 (D.D.C. 1989) (considering individually "nine motor vehicle operators who would be subject to urinalysis under the Department of Education Plan").

293. This does not suggest that some lumping is improper; *Skinner v. Railway Labor Executives Ass'n* would be directly contrary to any such assertion. 109 S. Ct. 1402, 1414-18 (1989). However, where the benefits are outweighed by the extent to which any definable subgroup is prejudiced by lumping with other subgroups, the lumping is too broad.

294. Compare Transportation Inst. v. United States Coast Guard, No. 88-3429 (D.C. Cir. Dec. 18, 1989) (LEXIS-15409, Genfed library, Dist file) (50% annual testing rate for Coast Guard) with Cavazos, 721 F. Supp. at 1363 (12% annual testing rate for Department of Education employees).

295. Fitness-for-Duty Programs, 54 Fed. Reg. 24,468, 24,504 (1989) (to be codified at 10 C.F.R. pts. 2, 26) (stating drugs tested for and their cut-off levels).

296. Id.

^{290.} See American Fed'n of Gov't Employees v. Skinner, 885 F.2d 884 (D.C. Cir. 1989); Fraternal Order of Police Lodge No. 5 v. City of Philadelphia, No. 88-8511 (E.D. Pa. Apr. 7, 1989) (LEXIS-3664, Genfed library, Dist file); Hartness v. Bush, 712 F. Supp. 991 (D.D.C. 1989).

use of Health and Human Services-based procedures to ensure reliability and accuracy of the sampling techniques, which courts and commentators have greeted enthusiastically.²⁹⁷

In contrast to the pre-test restrictions, neither the test seizure nor the post-test seizures stand out as particularly invasive. The tests themselves will be made during the workday when the tested employee's time is not his own, and the physical conditions of the testing are patterned after the well-considered Health and Human Services standards.²⁹⁸ Test results are largely confidential, although there is the troubling opportunity for law enforcement officials, acting with a court order, to obtain the test results.²⁹⁹ The penalties for a positive test are significant, but are graduated to reflect the severity of the impairment problem detected.³⁰⁰ Given the virtually unparalleled numbers to be drawn into the dragnet³⁰¹ and the random character of testing,³⁰² the most significant "search and seizure" posed by the rules results from the restrictions workers will likely place on individual activities prior to the testing.

If the tremendous breadth of the fitness-for-duty rules sounds like a ticking bomb to a reviewing court, the traditional and comprehensive regulation of the nuclear industry may be the defusing mechanism. Nuclear plant workers' expectation of privacy is reduced by the nature of the industry in which they work.³⁰³ To the extent that the distinction between pervasive regulation of the *industry* and pervasive regulation of the *industry's employees* is valid, it does not control the fitness-for-duty rules. One court has stated that:

a [nuclear plant] licensee . . . is subject to a pervasive and comprehensive regulatory scheme. The NRC requires [a nuclear plant] to search each individual entering Each hand-carried and delivered package is searched. Any vehicle seeking entrance to [a nuclear plant] is searched After an individual is admitted entrance, surveillance continues through the use of closed circuit television, micro-wave transmission, and personal observation.³⁰⁴

Importantly, individual nuclear plant workers have been targets of

^{297.} See supra notes 65-67 and accompanying text.

^{298.} Fitness-for-Duty Programs, 54 Fed. Reg. 24,504.

^{299.} Id.

^{300.} Id. at 24,476.

^{301.} Id. at 24,471.

^{302.} Id. at 24,472-73.

^{303.} See supra note 222 for a discussion addressing administrative search exception.

^{304.} Rushton v. Nebraska Pub. Power Dist., 653 F. Supp. 1510, 1523-25 (D. Neb. 1987), aff'd, 844 F.2d 562 (8th Cir. 1988).

regulation since the earliest days of the industry,³⁰⁵ and as early as 1982 the NRC first warned of possible implementation of drug testing.³⁰⁶ Hence, the notion of legitimate governmental interference with the testee must be accounted for in striking the correct balance.³⁰⁷

The public safety interest served by the fitness-for-duty rules is the other side of the core neo-Kantian balancing test. The NRC must meet the burden of showing that its interests are greater than negligible, because the individual interests threatened by the fitness-for-duty rules are also greater than negligible. The public safety interest is the interest in the marginal decrease in drug usage among the tested population, from the level in a system not employing random urinalysis, and the reduction of the aggregate safety risk which the general public is believed to face.³⁰⁸

The first prong of this inquiry into public safety demands both a showing that drug usage exists in the nuclear power plant worker population, and that the fitness-for-duty rules would either deter or detect impaired employees, who would not otherwise be detected. Sufficient anecdotal evidence exists to warrant a finding that while on duty some nuclear plant employees use the drugs for which the fitness-for-duty program tests.³⁰⁹ Anecdotal evidence of drug use at the Sequoyah and Seabrook stations would be sufficient to establish this point under the standard of *Skinner v. Railway Labor Executives Association*³¹⁰ and *Na-tional Treasury Employees Union v. Von Raab*³¹¹ and their progeny.³¹²

306. See supra notes 36 & 37 and accompanying text.

307. However, just as evidence is presented here to challenge the conventional wisdom that reducing drug use by plant employees will greatly improve public safety, *see infra* notes 323-25 and accompanying text, evidence is presented to challenge the conventional wisdom that there has been an historical pattern of targeting nuclear regulations at the worker. NRC regulation, for example, has until very recently been weighted heavily toward hardware issues rather than personnel. *See supra* note 30 and accompanying text. The NRC's decision in 1986 to retreat from comprehensive drug testing regulations in favor of programs developed by the individual utilities could supercede the 1982 notice of the NRC's intention to become more active in this area. Personnel with Unescorted Access to Protected Areas: Fitness-for-Duty, 51 Fed. Reg. 27,872 (1986) (to be codified at 10 C.F.R. pt. 50). Still, the pages of NRC regulations going directly to the human factors of atomic energy probably belie the revisionist history to the contrary.

308. See supra notes 273-75 and accompanying text.

309. Personnel with Unescorted Access to Protected Areas: Fitness-for-Duty, 47 Fed. Reg. 33,980 (1982) (to be codified at 10 C.F.R. pt. 50) (citing 1 drug-related incident in 1979, 5 in 1980 and 12 in 1981).

310. 109 S. Ct. 1402, 1419 (1989).

311. 109 S. Ct. 1384, 1393 (1989).

312. See Smith v. White, 666 F. Supp. 1085, 1086-88 (E.D. Tenn. 1987) (Tennessee Valley

^{305.} Id. at 1524-25 (individuals subject to pat down searches for firearms and explosives). The current NRC regulations governing nuclear operations are rife with concern for individual activities. See, e.g., 10 C.F.R. § 25 (1989) (access authorization for personnel); id. § 34 (licenses for radiological safety activities).

More systematic statistical indicators are probably also available, and the NRC's rulemaking notice cites statistics gathered by the Commission.³¹³

Nonetheless, the fitness-for-duty rules are not testing a population with an unusually significant problem. Plant operators, particularly, are highly trained NRC-licensed specialists whose skills are in high demand. In fact, operators recently have been targets of bidding wars among the nuclear utilities, resulting in long-term contracts at high salaries.³¹⁴ Commentators have noted that nuclear power-block workers as a whole probably have demographic characteristics differing sharply from groups previously subject to intensive random urinalysis testing, such as naval or army personnel.³¹⁵ These differences probably render the nuclear plant employees less susceptible to drug use.³¹⁶ The available non-anecdotal evidence also supports the hypothesis that the fitness-for-duty-tested population has a lower incidence of drug use than the population at large.³¹⁷ So, while the NRC has enough evidence of drug use to go forward with its showing, it probably has little to spare.

Any reduction in drug consumption within the nuclear power blocks will come either through detection of impairment or through deterrence of future impairment. The NRC has virtually conceded that the

Also, one House committee report claimed that former NRC Chairman Lando Zech, Jr. stated that 61 of the nation's nuclear plants reported at least a single incident of drug or alcohol abuse. See SUBCOMM. ON GENERAL OVERSIGHT AND INVESTIGATIONS OF THE HOUSE COMM. ON INTERIOR AND INSULAR AFFAIRS, 100TH CONG., 1ST SESS., NRC COZINESS WITH INDUSTRY 5 (Comm. Print 1987).

313. Under the standard established in *Von Raab* and *Skinner*, the more comprehensive empirical information collected by the NRC surely would qualify, even without the anecdotes, even though the empirical evidence indicates that power-block usage is relatively rare. Fitness-for-Duty Programs, 54 Fed. Reg. 24,469.

314. See Bidding War for Nuclear Operators, Energy Daily, Sept. 27, 1989, at 2, col. 1.

315. NUREG-1354, supra note 40, at 79.

316. Id. at 7-9 ("Commentators thought that it was not fair to compare the military, where a proven drug problem existed prior to the implementation of testing, to the nuclear industry Substantial differences exist between military personnel and commercial nuclear power plant workers in terms of age, family responsibilities, and stability of workforce."). Ultimately, the NRC accepted these arguments and reduced the proposed rate of testing from 300% to 100% per year. Id.

317. Fitness-for-Duty Programs, 54 Fed. Reg. 24,469.

Authority plant), aff'd, 857 F.2d 1475 (6th Cir. 1988); N.Y. Times, Feb. 14, 1988, § 1, at 29, col. 6 (discussing alleged "drug and alcohol abuse among workers" at Seabrook nuclear power plant). A systematic study found very little evidence of drug use among TVA employees. See Laurent, Report Finds Random Drug Testing Unreliable, Costly, Federal Times, July 7, 1986, at 3. Again, the key is that the available evidence finds some drug use—a finding sufficient to trigger the balancing test. Another study found that drug use among nuclear power plant control room operators may contribute to certain pre-existing risks in nuclear power. See Grand Jury Cites Drug Use at Nuclear Plant, 24 Gov't. Empl. Rel. Rep. (BNA) No. 1177, at 1148 (Aug. 25, 1986).

fitness-for-duty rules do not ferret out current impairment.³¹⁸ However, the detection of *past* impairment can logically lead to the reduction of current and future impairment, particularly given the addictive nature of many of the substances for which the NRC tests. Accordingly, the Supreme Court has largely settled for indirect detection of current impairment.³¹⁹

As for the deterrence goal, random drug testing certainly will deter on-the-job use, particularly by the occasional employee-user unlikely to be detected by traditional, less invasive techniques. Also, the testing rate selected by the NRC—100% of the tested population per annum³²⁰ will ensure that fear of the tests will be widespread among users. Fear, of course, is the calling card of effective deterrence.

The fitness-for-duty program will therefore serve the government by reducing on-the-job drug impairment of nuclear power plant workers, even if the program does not, strictly speaking, cull contemporaneous use, and even if drug use at most plants is not very widespread. The paramount lesson of *Von Raab* is that anecdotal evidence is sufficient to avoid automatic rejection of the program's constitutionality and requires further examination of the public safety benefits derived from the reduction in employee impairment.

Thus, the question becomes whether the reduction in employee drug usage encouraged by the fitness-for-duty rules actually reduces public safety risks. The extent of the public risk reduction is derived from two elemental calculations: (1) the range of risks to public safety posed by the nuclear power industry; and (2) the probability that a drug-impaired employee will trigger or serve in a chain of events culminating in an accident.³²¹ The first element necessarily involves relatively broad engineering (and some would say political or normative) judgments concerning

^{318.} Id.

^{319.} Skinner, 109 S. Ct. at 1419-20; Von Raab, 109 S. Ct. at 1394-96.

^{320.} Fitness-for-Duty Programs, 54 Fed. Reg. 24,474. A distinct relationship probably exists between the rate of testing under a drug testing program and the extent to which it constitutes an antecedent search and seizure. The fitness-for-duty rules, with their 100% annual random testing rate, probably deter more employee impairment than would rules employing, for example, a 10% rate. At the same time, however, the 100% program is a more invasive antecedent search and seizure (e.g., more people will restrict private activities and more testing mistakes will be made) than a 10% testing program. Therefore, arguments like Justice Stevens' in *Skinner*—that drug testing is less constitutional where it is a relatively ineffective deterrent, *Skinner*, 109 S. Ct. at 1422 (Stevens, J., concurring)—lack vision and fail to account for the interdependence of effective deterrence and invasiveness. By the same token, a testing scheme like the fitness-for-duty rules should not be blindly deemed *more* constitutional simply because it deters a greater degree of usage than would a less invasive program.

^{321.} See supra note 286 and accompanying text.

the risks of nuclear power. By contrast, an employees' connection with an accident naturally involves fewer philosophical pronouncements and more scientific method. This forms the heart of the rights-based case against random drug testing justified on public safety grounds.³²²

The literature on the issue of the "safety" of nuclear power plants is divided into two groups. The largest group consists of "mainstream" scientists and other nuclear specialists, generally arguing that nuclear power poses a range of public safety risks substantially less significant than other technologies employed routinely by the public, and certainly much less significant than current alternatives, including energy conservation.³²³ A smaller group of scientists argue that nuclear power is either substantially less safe than commonplace technologies or alternative methods of generating electricity, particularly if the conservation option is considered,³²⁴ or that the comparative risks cannot effectively be measured.³²⁵

Precedents indicate that the issue of nuclear power's risk to public safety will be "paramount" in the court's mind and that "it goes without saying that a nuclear release affecting plant employees or the public at large would be disastrous."³²⁶ It is quite unlikely that any court will

323. See e.g., B. COHEN, supra note 15 at 93-103. Professor Cohen's work has demonstrated that the overwhelming majority of nuclear scientists believe nuclear power to be a relatively benign source of electricity. Id. at 1,256. Obviously, such collective opinion is most persuasive when limited to engineering and technical analysis comparing nuclear to the alternatives, and much less convincing when expanded to include philosophical analysis, since probably not even the most vociferous nuclear advocates argue that scientists alone should answer the question: "How safe is safe enough?" Admirably, Cohen concedes this point. Id. at 97. Other respected professional organizations, including the American Medical Association and the American Society of Mechanical Engineers have recently felt compelled to announce their support for nuclear power as a comparatively benign electricity-generating technology. See AMERICAN SOCIETY OF MECHANICAL ENGINEERS, GENERAL POSITION PA-PER ON ENERGY AND THE ENVIRONMENT 12 (1989); AMERICAN MEDICAL ASSOCIATION, MEDICAL PERSPECTIVE ON NUCLEAR POWER 46 (1988).

324. The "Union of Concerned Scientists World Watch Institute," and "Public Citizen" have been among the most vocal and visible of such groups, and certainly include a significant number of respected scientists. Their most fundamental attack, which is far beyond the purview of this Article, is on the entire science of probabilistic risk assessment.

325. WORLD WATCH INST., supra note 322, at 40.

326. Rushton, 653 F. Supp. at 1519. See also Rushton v. Nebraska Pub. Power Dist., 844 F.2d 562, 567 (8th Cir. 1988) (great "potential for harm . . . caused by a malfunction of a nuclear power plant").

^{322.} The literature analyzing the relative, absolute safety of nuclear power is voluminous, and most of it is, to put it politely, highly partisan. See B. COHEN, supra note 15, at 93-103 (argument in support of nuclear power, with substantial discussion of alternative views and sources of electricity); WORLD WATCH INST. PAPER NO. 75, REASSESSING NUCLEAR POWER: THE FALLOUT FROM CHERNOBYL 65 (1987) (opposing existing use of nuclear power); Huber, supra note 4, at 1062 (comparing environmental hazards of full range of energy-production options, including nuclear).

make the effort necessary to understand that probabilistic risk assessment³²⁷ shows that such a "disastrous" release is bizarrely unlikely, and that nuclear power is a relatively safe and benign method of generating electricity.³²⁸ However, scenarios of great public risk can always be conjured up, and since the purpose of this section of the Article is to cast doubt on the prevalent assumption that broad drug testing in the nuclear environment presents only trivial constitutional issues, the Article assumes that reviewing courts take the visceral approach to nuclear safety.³²⁹

Turning to the employee's role in the range of risks posed by nuclear power,³³⁰ it turns out that most employees play only an indirect, highly attenuated role in creating any public safety risk.³³¹ The NRC has al-

328. See supra notes 22-27 and accompanying text.

329. The NRC periodically engages in probabilistic risk assessment to analyze risk scenarios. The process sometimes borders on lurid. *See B. COHEN, supra* note 15, at 62-68, 93. *See also U.S. NUCLEAR REGULATORY COMMISSION, ANNUAL REPORT 15-17 (1989) (describing latest NRC foray into severe accident probability calculations).*

330. The discussion presented in this Article focuses on control room operators. Many other tested power block employees, including file clerks and secretaries, have less significant safety roles in plant operations. This group of nuclear plant power block employees is particularly distinguishable from other human populations filling high-risk positions. The weapontoting plant guards, of course, may be a different matter, as case law properly focuses on the tight coupling between their jobs and potentially serious consequences.

One commentator has suggested that control room operators should be more susceptible to random testing than other types of nuclear employees. See Note, A Proposal for Mandatory Drug Testing of Federal Civilian Employees, 62 N.Y.U. L. REV. 322, 365-70 (1987) (endorsing random testing for operators). However, the critical nature of the operators' job subjects them to high levels of scrutiny and arguably reduces the need for random testing.

331. Studies show that with proper training, nuclear power plant personnel can help minimize the hazard of an accident. See, e.g., Bertron, Meclot & Chevallon, Operator Organization

^{327.} At least one prominent commentator on environmental risk assessment has suggested that courts can, and therefore should, become more involved in probabilistic risk assessment. See Stroup, Hazardous Waste Policy: A Property Rights Perspective, 20 Env't Rep. (BNA) 868, 871 (Sept. 22, 1989) ("Government agencies have no better access than the courts to reliable information about the source and effect of our [environmental] pollutants, which is inherently elusive."). In fact, the fundamental nature of the quasi-utilitarian balancing test may substantially lessen the distinction between the role of judges and the role of agencies in risk assessment. See United States v. Havens, 446 U.S. 620, 634 (1980) (Brennan, J., dissenting) ("Ultimately, I fear, this ad hoc approach to [the fourth amendment] obscures the difference between judicial decisionmaking and . . . administrative policymaking."). If the balancing test tends to eviscerate the distinction drawn by Justice Brennan, then courts certainly should feel less reluctant to dive into the analysis. The NRC reports satisfaction with contemporary probabilistic techniques:

The applications of probabilistic risk assessment (PRA) in regulatory activities continued to expand in fiscal year 1988. Traditional uses of PRA... continued to prove useful and important to the safety of nuclear power plants... Major progress has been made in the applications of PRA results and insights to licensing and inspection activities.

U.S. NUCLEAR REGULATORY COMMISSION, ANNUAL REPORT 29 (1989).

ready conceded that:

[t]he [fitness-for-duty] rule is not needed to provide adequate protection of public health and safety under Section 182 of the Atomic Energy Act because there is a sufficient margin of safety inherent in the design of nuclear power reactors through provision of redundant safety systems and automatic shut down features. Adequate protection is further provided by the defense in depth of multiple containment barriers and adherence to the technical specifications and operating conditions in licenses. The rule would provide additional assurance that nuclear workers adhere to the technical specifications and operating conditions in licenses.³³²

The "two-tiered" NRC backfit scheme sets up a first tier of backfits, those required for "adequate protection of the public health and safety," and a second tier of proposed backfits which go beyond "adequate protection."³³³ The NRC "make[s] clear that economic costs may not be considered when action is necessary to restore a plant to the requisite level of adequate protection or when the level of protection must be increased to be considered adequate."³³⁴

Therefore, when it decided to conduct a backfit analysis, the NRC effectively took the position that the fitness-for-duty rules are *not* necessary to ensure an adequate level of public safety. Whatever the motivation, the NRC's own posture on this issue confirms the lack of tight coupling in the nuclear risk system's human components, suggesting a less compelling need for drug testing of all employees.³³⁵

332. BACKFIT ANALYSIS, *supra* note 2, at 24. A previous NRC study has indicated that "[a]lthough the Commission . . . cannot quantify the reduction in risk that will occur when fitness-for-duty programs exist at all plants, the potential for significant increases in risk, as a result of increased rates of human error, has been clearly demonstrated." *Id.* at 6 (citing BROOKHAVES NATIONAL LABORATORY, U.S. NUCLEAR REGULATORY COMMISSION, NUREG-1879, SENSITIVITY OF RISK PARAMETERS TO HUMAN ERRORS IN REACTOR SAFETY STUDIES FOR A PWR (1981)).

333. Id. at 24.

334. See Domestic Licensing of Production and Utilization Facilities, 10 C.F.R. § 50.109(a)(3)-(4) (1989). The backfit analysis requirement does *not* apply unless "regulatory action is necessary to ensure . . . adequate protection to the health and safety of the public." *Id.* § 50.109(a)(4)(ii).

335. This does not necessarily suggest that subgroups (e.g., operators and security guards) of the thousands of employees of each site do not play a significant safety role. It merely

for the Management of a Nuclear Accident in a Power Plant, 29 NUCLEAR SAFETY 115 (1988). Professor Perrow reaches some moderately contrary conclusions, but Perrow's work focuses mainly on the nuclear system as a whole, with heavy emphasis on hardware issues, rather than the role of operators or other employees. See C. PERROW, NORMAL ACCIDENTS: LIVING WITH HIGH-RISK TECHNOLOGIES (1984). Notably, Perrow uses illustrations other than nuclear power plants to demonstrate tight risk system coupling. Id. at 270-71, 276-81.

"The enormous range of system redundancies"³³⁶ which render an impaired operator, much less a file clerk, virtually unable to singlehandedly take action leading to a major public health threat illustrate the NRC's position.³³⁷ It therefore seems improbable that a reviewing court could find a significant public safety role for the vast majority of the tested employees.³³⁸ A nuclear power plant, much more than a criminal detection system, air traffic control, or even the highway system, is much better equipped to deal routinely with an impaired human element. As Professor Cohen observed, "I often wonder why [the scare tactics] work—when we drive on a high speed highway, on every curve we are within a *few seconds* of being killed if nothing is done—that is, if the steering wheel is not turned at the proper time."³³⁹

V. UTILITARIAN COURTS: THE APPLICABLE LIMITS

This Article has demonstrated that the individual and state interests are roughly in balance from a rights-based perspective focusing only on the individual and public safety.³⁴⁰ The core, rights-based analysis rebuts previous suggestions that random drug testing in the nuclear industry is not a close or interesting constitutional case.

337. The NRC recently withdrew a proposed rule which would have tightened educational standards for operators and their immediate supervisors, despite then-Commissioner Lando Zech, Jr.'s view that the rule was "a good idea." Kaplan, NRC Backtracks Under Heavy Industry Pressure, Legal Times, Aug. 21, 1989, at 6, col. 3. If rules which would assist operators are unnecessary to protect public safety, rules which effectively punish operators in the name of public safety are somewhat puzzling.

338. The district court in *Rushton* rejected this reliance on systems redundancies, but can be distinguished without great difficulty. First, the district court's analysis was in the first amendment context. *Rushton*, 653 F. Supp. at 1516-20. Second, the court lacked the benefit of the NRC's recent pronouncements denigrating the safety necessity of the fitness-for-duty program. *See supra* note 332 and accompanying text. Third, *Rushton* was decided before the more recent cases suggesting that the public risk system must permit little or no intervention to support drug testing.

339. B. COHEN, supra note 15, at 55.

340. This Article promised some formalism earlier, and it will be delivered now. On a scale from 1 (weakest showing) to 10 (strongest showing), the balance might be quantified as follows:

(total 10)	Antecedent seizure	9
(total 10)	Test seizure	4
(total 10)	Post-test seizure	8
(total 10)	Less discount for reduced expectation	(9)
	Total individual interest	12

suggests that even the NRC recognizes that fitness-for-duty rules are a blunt, and perhaps even dull, safety assurance instrument.

^{336.} See B. COHEN, supra note 15, at 49-66. Cohen discusses the large number of safeguards which exist and which would prevent a serious accident (meltdown) from occurring. *Id.* Public misperception rather than any basis in fact generates a false conception of danger. *Id.*

Rights-based philosophy must be careful to avoid crumbling into mere humanistic utilitarianism and, consistent with this concern, must seek to sharply limit those government claims which may justly be weighed against the individual's interests. Thus, courts following this philosophy will not consider "government interests" in: (1) promoting the activity in which the tested workers engage, (2) increasing the public's confidence in the activity in which the tested workers engage, or (3) improving the efficiency of the activity to which the tested employees are appointed.

The utilitarians, however, need not linger over such niceties, and thus are willing to balance virtually any asserted government interest against the threatened individual interest. Even the most doctrinaire utilitarian courts will collapse the entire inquiry into examining the "efficiency" of the testing regulations. The question posed will likely be whether the regulations improve the general welfare. The security of the individual is tenuous, to be sure, but devotion to the good of the whole is never more sincere. Therefore, utilitarian-influenced judges will probably disagree with their rights-based counterparts on even moderately close drug-testing cases.

The work for the courtrooms influenced by the utilitarian tradition is not finished, since these judges will be asked to consider myriad other government interests for balancing. Professor Kasimar has noted that "many of the drug testing cases percolating in the lower courts involve programs that were justified not by public safety needs, but by the general need to maintain public confidence in government employees."³⁴¹ What is to be done with these and other interests? As the Supreme Court said in another recent government workplace-search case, "[p]ublic employers have an interest in ensuring that their agencies operate in an effective and efficient manner, and the work of these agencies inevitably suffers from the inefficiency, incompetence, mismanagement or other

(total 10)	Reduction in use impairment & deterrence Size of problem	3	
(total 10)	Extent of risk Potential size	2 5	
	Testee impact	2	
	Total public safety interest	<u>12</u>	

In other words, in a rights-based court, the balance of competing interests would be virtually identical.

341. Constitutional Law Conference, 58 U.S.L.W. 2200, 2206 (Oct. 10, 1989). Kasimar voiced his support for programs based on public safety risk over those based on government employees as role models, because the latter approach has no "stopping point." Id.

work-related misfeasance of its employees."342

Also, the district court case of Fowler v. New York City Department of Sanitation,³⁴³ decided before National Treasury Employees Union v. Von Raab³⁴⁴ and Skinner v. Railway Labor Executives Association,³⁴⁵ righteously ratified the legitimacy of a broader inquiry into the relative efficiencies of the competing interests.³⁴⁶ The Fowler court wrote:

[A] small decrease in productivity among even a small percentage of public employees can lead to a massive waste of taxpayer's [sic] money The National Institute on Drug Abuse estimates the current cost of drug use by workers at \$100 billion per year. It does not require much extrapolation to appreciate the financial burden placed on public employers [Government] has a strong financial interest in taking affirmative measures designed to reduce the risk of accidents and related injuries.³⁴⁷

Whether these general utilitarian principles will eventually dominate in the courts remains an open question, even after *Skinner* and *Von Raab*, but, as Professor Kasimar notes,³⁴⁸ it is a real possibility.

A. The NRC Backfit Analysis

The NRC addresses most of these utilitarian general efficiency concerns in its statutorily mandated Backfit Analysis.³⁴⁹ The NRC's Backfit Analysis for the fitness-for-duty rules concludes that "the direct and indi-

344. 109 S. Ct. 1384 (1989).

345. 109 S. Ct. 1402 (1989).

346. Fowler, 704 F. Supp. at 1273. The Fowler court articulated a pristinely utilitarian view of drug testing regulations. The court said, "[i]t is not [a] responsibility for public safety, perceptible *a priori* in every aspect of a job that . . . [justifies testing], but rather the possible consequences of drug-induced error. Those consequences provide the measure of the government's interest." *Id.* at 1274.

347. Id. at 1275 (citations omitted).

348. Constitutional Law Conference, supra note 341, at 2206.

349. See Domestic Licensing of Production and Utilization Facilities, 10 C.F.R. § 50.109 (1989). This section states in part:

Except as provided in paragraph (a)(4) of this section, the Commission shall require the backfitting of a facility only when it determines . . . that there is a substantial increase in the overall protection of the public health and safety or the common defense and security to be derived from the backfit and that the direct and indirect costs of implementation for that facility are justified in view of this increased protection.

Id. at § 50.109(a)(3).

^{342.} O'Connor v. Ortega, 480 U.S. 709, 724 (1987) (work-related searches of employees' offices and effects).

^{343. 704} F. Supp. 1264, 1276 (S.D.N.Y. 1989) (upholding pre-employment and follow-up non-random testing of sanitation workers).

rect costs of implementing the new rule are justified in view of the increased protection [of the public]."³⁵⁰ Even if the Backfit Analysis is quantitatively accurate, a dubious proposition, it is badly flawed as an utilitarian analysis and should not be taken seriously by a reviewing court as definitive on the utilitarian virtues of the fitness-for-duty rules.³⁵¹

First, the Backfit Analysis actually balances only the *marginal costs* of the fitness-for-duty rules (the costs beyond those already imposed by the various existing utility fitness-for-duty programs) against the *total benefit* of the fitness-for-duty program (instead of limiting itself to the marginal benefits beyond those already flowing from existing programs).³⁵² This approach is simply wrong as a matter of logic. The NRC notes the Tennessee Valley Authority nuclear stations' 1979 annual expenditure of \$18.5 million on it's alcohol abuse program alone.³⁵³ Adjusting for 1990 dollars and the more than 110 reactors currently in operation, the *annual* cost of all the fitness-for-duty programs could approach that of buying a brand-new small reactor.

Commentators have noted numerous less fundamental but still substantial flaws in the Backfit Analysis.³⁵⁴ No consideration is given by the Backfit Analysis to the costs of legal challenges to the fitness-for-duty rules.³⁵⁵ These challenges will be expensive. Several commentators argued that implementation costs associated with the fitness-for-duty rules were understated in the NOPR by as much as a factor of three.³⁵⁶

There are other reasons to be wary of using the Backfit Analysis as a

353. Id. at 8 n.2.

356. Id. at 19-2.

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^{350.} BACKFIT ANALYSIS, supra note 2, at 24.

^{351.} The backfit rule allows the NRC to consider only "public safety" and "common defense" as government interests. 10 C.F.R. § 50.109(a)(3) (1989). To the extent that the government wishes to throw broader interests into the battle on behalf of the fitness-for-duty rules, it would be handicapped if the reviewing court adopted the Backfit Analysis framework.

^{352.} BACKFIT ANALYSIS, supra note 2, at 8 ("In many respects these [existing] programs compare very closely to the requirements stated in the proposed rule. As a result, the *incremental* burden to industry... is significantly reduced."). The NRC estimated the incremental cost of the programs to be upwards of a half-billion dollars, even while noting that all of the licensees already have an industry-approved program in place. *Id*. The NRC has perhaps understated the situation in conceding that "[i]f all of these backfit requirements were new to industry, the cost implications of such a program would be more significant." *Id*.

^{354.} See generally NUREG-1354 supra note 40, at 19-1 to 19-6.

^{355.} Id. at 19-4 ("The Commission agrees that there may be some costs associated with these legal challenges but has no basis for assessing these costs. Attention to quality controls, the costs of which were included, should serve to minimize these legal costs."). Indeed, the decentralized application of the fitness-for-duty rules, the provisions in the fitness-for-duty rules allowing the utilities to set independent standards for the number of drugs tested, and the cut-off levels suggest that multiple legal challenges may be brought.

proxy for an overall utilitarian efficiency theory. The Backfit Analysis explicitly and primarily considered the public safety improvement factor as part of the core, rights-based analysis.³⁵⁷ Considering public safety improvement is obviously laudable, but under the formula suggested in this Article, public safety has already been weighed in the core rightsbased balancing.³⁵⁸ To ask courts to consider public safety again, this time under the utilitarian label, would be double-counting. Also, the Backfit Analysis does not quantify the costs of false positive results to power block employees.³⁵⁹ This flaw further reduces the Backfit Analysis' value as a proxy for overall utility analysis. At a minimum, therefore, any utilitarian reviewing court should, if it wishes to add the general utility argument to the government's column, make an independent and more appropriate analysis of what the other values are.

Up to this point the Article has strained to stay within the lines of substantive analysis, and to avoid the temptation of looking at tertiary procedural issues. Substantive analysis reveals that: (1) the core balancing analysis of the governmental public safety interests against the individual interests leaves no concrete conclusion; and (2) an utilitarian reviewing court will need to do more than read a copy of the NRC's Backfit Analysis. At this juncture an important procedural point will face a reviewing court—the Energy Reorganization Act of 1974 (Act).³⁶⁰

B. Constraints on Utilitarian Courts: The Energy Reorganization Act of 1974

The history of nuclear regulation reveals a continuous and steady decrease in the government's ability to promote nuclear power. The federal promotional burden today has been shifted almost entirely to the private sector—the nuclear vendors and their utility customers.³⁶¹ Although one of the purposes of the Atomic Energy Act was to provide for a program of assisting and fostering private research and development of atomic energy, the Supreme Court has noted that, "[u]ntil 1954 . . . the use, control and ownership of nuclear technology remained a federal monopoly."³⁶² With the 1954 amendments to the Act emphasiz-

^{357.} See BACKFIT ANALYSIS, supra note 2, at 6 (considering the "[p]otential change in the risk to the public from the accidental offsite release of radioactive material").

^{358.} NUREG-1354, supra note 40, at 19-4 to 19-5.

^{359.} BACKFIT ANALYSIS, supra note 2, at 8-20.

^{360.} Energy Reorganization Act of 1974, Pub. L. No. 93-438, 88 Stat. 1233 (codified as amended at 42 U.S.C. §§ 5801-5879 (1982)).

^{361.} See, e.g., Pacific Gas & Elec. v. State Energy Resources & Dev. Comm'n, 461 U.S. 190, 194 (1983).

^{362.} Id. at 206.

ing private participation, the Atomic Energy Commission shared the promotional role with the private sector.³⁶³

By the late 1960s, critics of the nuclear industry were carping about the "fundamental conflict of interest" within the Atomic Energy Commission, which stood both as the promoter and the public guardian from nuclear technology.³⁶⁴ Contemporary scholarship has debunked this notion of conflict by demonstrating that "regulation" to *protect* public safety is conceptually the same as "promotion."³⁶⁵ However, without the benefit of more recent reexamination, Congress segregated the Atomic Energy Commission's guardian and promotional functions, through the Energy Reorganization Act of 1974.³⁶⁶

The Act carved two new agencies out of the defunct Atomic Energy Commission: the NRC, now responsible for the public safety aspects of nuclear power,³⁶⁷ and the Energy Research and Development Administration (ERDA),³⁶⁸ which is charged with developing all "alternative" energy forms, including nuclear.³⁶⁹ Even the ERDA, however, was enacted with "provisions to safeguard against unwarranted priority being given by ERDA's bosses to any single energy technology,"³⁷⁰ a clear signal to the agency not to push nuclear to the exclusion of other energy technologies under its purview.

Id.

365. See Huber, supra note 4, at 1009-13 ("Of course, the regulatory child of the AEC [the NRC] still promotes nuclear power, partly through research and development on safety matters but more directly through the preemption of inconsistent state safety regulation by the very process of granting federal licenses.") *Id.* at 1010.

366. Energy Reorganization Act of 1974, Pub. L. No. 93-438, 88 Stat. 1233 (codified as amended at 42 U.S.C. §§ 5801-5879 (1982)).

367. 42 U.S.C. § 5841(a)(1) (1982). See also Union of Concerned Scientists v. NRC, 880 F.2d 552, 559 (D.C. Cir. 1989) ("Congress intended public safety to be a paramount concern of the Commission.").

368. 42 U.S.C. § 5811 (1982). See generally Pacific Legal Found. v. State Energy Resources & Dev. Comm'n, 659 F.2d 903, 926-27 (9th Cir. 1981) ("ERDA was directed to develop all sources of energy, including nuclear, but only 'consistent with warranted priorities.' ").

369. 42 U.S.C. § 5814(e)(2) (1982).

370. S. REP. NO. 980, 93d Cong., 2d Sess. 2, *reprinted in* 1974 U.S. CODE CONG. & ADMIN. NEWS 5470, 5471.

^{363.} S. REP. No. 1699, 83d Cong., 2d Sess., reprinted in 1954 U.S. CODE CONG. & ADMIN. NEWS 3454, 3464.

The recommended legislation therefore permits the Commission to license private industry, to possess and use special nuclear materials. The United States Government, however, would retain title to such materials.... It is our firmly held conviction that increased private participation in atomic power development, under the terms stipulated in this proposed legislation, will measurably accelerate our progress toward the day when economic atomic power will be a fact.

^{364.} See generally Note, Federal Supremacy Versus Legitimate State Interests in Nuclear Regulation: Pacific Gas & Electric and Silkwood, 33 CATH. U.L. REV. 899, 910-11 (1984).

Congress also intended to silence the conflict-of-interest critics: The reorganization established by this legislation has the additional purpose of separating the regulatory functions of the AEC [Atomic Energy Commission] from its developmental and promotional functions—a response to growing criticism that there is a basic conflict between the AEC's regulation of the nuclear power industry and its development and promotion of new technology for the industry.³⁷¹

As noted, even the ERDA's powers to promote nuclear power were constrained.³⁷² It was ordered to boost nuclear power only consistent with warranted priorities.³⁷³ The Senate Report accompanying the bill explains that this was intended to placate "concern . . . that nuclear . . . might dominate the missions and directions of the new agency."³⁷⁴ The government's role in active promotion of the peaceful use of the atom, born in 1946, died in 1974.

The NRC's own charter, therefore, strictly prohibits any type of federal promotional activity. The Commission may not justify drug testing in the way so many other governmental bodies have—on grounds of its interest in maintaining public confidence or boosting its public image.³⁷⁵ While the Customs Service may perhaps rely on those rationales,³⁷⁶ Congress has said the NRC cannot. Presumably this prohibition applies with extra force where the promotional activity is intended to generate benefits to be captured by the nuclear industry rather than the general public. Although this argument might be cognizable under the Administrative Procedure Act,³⁷⁷ it is not under the fourth amendment. Thus, a utilitarian court, already inclined to consider the promotion of nuclear energy as a legitimate government interest would not presume that the NRC's design of fitness-for-duty rules deliberately exceeded its own grant of au-

^{371.} Id.

^{372.} Opponents of nuclear power, including NRC Commissioner James Asselstine, vigorously insist that the separation into two agencies has been ineffective and that the NRC "believes its job is to protect the industry and not the public." WORLD WATCH INST. PAPER NO. 75, REASSESSING NUCLEAR POWER: THE FALLOUT FROM CHERNOBYL 44 (1987).

^{373.} S. REP. NO. 980, 93d Cong., 2d Sess. 26, reprinted in 1974 U.S. CODE CONG. & AD-MIN. NEWS 5470, 5489.

^{374.} S. REP. NO. 980, 93d Cong., 2d Sess. 14, reprinted in 1974 U.S. CODE CONG. & AD-MIN. NEWS 5470, 5480.

^{375.} See, e.g., Costello v. City of Philadelphia, No. 88-8511 (E.D. Pa. Apr. 7, 1989) (LEXIS-3664, Genfed library, Dist file) (dissolving injunction against random testing of police because "public concern and safety considerations . . . [are] an adequate ground to allow" testing). See also Policeman's Benevolent Ass'n of New Jersey, Local 316 v. Township of Washington, 850 F.2d 133 (3d Cir. 1988), cert. denied, 109 S. Ct. 1637 (1989).

^{376.} National Treasury Employees Union v. Von Raab, 109 S. Ct. 1384, 1392-93 (1989). 377. See 5 U.S.C. §§ 500-76 (1988).

thority from Congress.³⁷⁸

VI. CONCLUSION: FITNESS-FOR-DUTY RULES AND THE FUTURE OF NUCLEAR POWER

The nuclear energy industry and America's war on drugs have been on a collision course throughout the 1980s. The nuclear industry has been victimized by an unfavorable political dialectic which leaves it vulnerable to increased costs and dwindling public support.³⁷⁹ Meanwhile, government-sponsored drug testing has made inroads into more workplaces. If the fitness-for-duty rules are upheld, nuclear utilities will be forced to test all employees under fitness-for-duty programs rivaled in thoroughness only by those of the military services. With these extremely tough rules in place, the identification of many drug users is certain. These rules may lead to the perception that even stringent regulations fail to guarantee safety. This will further undermine a balanced American energy policy by making nuclear power more costly than alternative forms of energy.³⁸⁰

The policy-making role is, of course, the province of the legislature and the agencies.³⁸¹ The courts are limited to reviewing the constitutionality of fitness-for-duty rules.³⁸² The greatest threat posed by these rules is approval by the courts, without adequate consideration of the broader safety issues of nuclear energy generation.³⁸³ Poorly considered approval of the new drug-testing regulations can only stoke the popular and judi-

382. Presumably, review of the efficacy of the fitness-for-duty rules, without regard to their constitutional validity, would come under either the "arbitrary or capricious" or the "substantial evidence" standards of the Administrative Procedure Act. 5 U.S.C. § 552 (1988). Either standard places a daunting burden on the fitness-for-duty challengers. See E. GELLHORN & B. BOYER, ADMINISTRATIVE LAW AND PROCESS 415-16 (1981).

383. See supra notes 22-27 and accompanying text (discussing increased fears of global warming and acid rain).

^{378.} Presumably, the NRC is equally barred by Congress from "providing public confidence" in the industry as it is from "promoting the industry," at least until a principled distinction between these two catch-phrases is articulated.

^{379.} See supra notes 14-21 and accompanying text.

^{380.} See supra notes 19-21 and accompanying text.

^{381.} Ironically, the fitness-for-duty rules make nuclear power less financially attractive at a time when policymakers are becoming much more earnest about crafting a balanced American energy policy, see Maize, The Search Begins for Energy 'Consensus Blueprint', Energy Daily, Aug. 2, 1989 at 1, col. 2, and against the backdrop of dire warnings of electrical capacity shortages in the early 1990s. See McCaughney, Generating Shortages Threaten National Security, Energy Daily, Oct. 17, 1989 at 1, col. 2 ("The declining electric generating reserve margins that confront the United States on the brink of the 1990s jeopardize the nation's future").

cial opposition to nuclear power, and further entrench the myth of impending catastrophe.

All courts seem willing to start with a core neo-Kantian analysis, pitting individual privacy interests against the government's compelling interest in protecting the public's safety. The NRC's fitness-for-duty rules present a close neo-Kantian core balance. The huge scope and ran-domness³⁸⁴ of the new nuclear program is significantly offset by the diminished privacy expectations of nuclear employees.³⁸⁵ Yet, there is little evidence of significant drug use in nuclear plants.³⁸⁶ Although catastrophic risk scenarios go hand-in-hand with nuclear energy, nuclear employees play a very limited role in those scenarios, a point the NRC effectively concedes.³⁸⁷

For the moment, however, utilitarian influences are on the ascendancy in drug-testing jurisprudence. Utilitarian courts are inclined to consider virtually any asserted government interest. However, utilitarian courts are constrained by the Energy Reorganization Act.³⁸⁸ The act bars the NRC from regulating nuclear power in such a fashion as to promote it. The courts therefore cannot consider the promotion of nuclear energy as a legitimate government interest.

Regrettably, the case for nuclear power probably will not be made. Civil libertarians frequently interested in challenging drug-testing regulations are more interested in the individual rights aspect of the dispute and, to be frank, are not natural allies of nuclear power. Moreover, the nuclear utilities, whether because of the conflict of interest inherent in owning nuclear and non-nuclear production facilities, or because they find it easier to accede than to fight another bloody backfit battle, or because the costs of complying ultimately will come from ratepayers, not stockholders, are also not inclined to fight.

The fitness-for-duty rules put the nuclear industry on the defensive. Constitutional protections may be lost in the search for highly dubious safety gains bizarrely unlikely to manifest themselves in the lifetime of nuclear plants currently in operation. The American energy generation will be restrained in unfortunate ways at a crucial juncture in the history of energy policy.

^{384.} See supra note 2 and accompanying text.

^{385.} See supra notes 228-31.

^{386.} See supra notes 314-17 and accompanying text.

^{387.} See supra notes 331-32 and accompanying text.

^{388.} See supra note 375 and accompanying text.