

Environmental Justice at the Palmerton Zinc Superfund Site, Palmerton, PA

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“Don’t tell people in this town you work for the EPA,” advised one Palmerton resident when she heard the topic I was researching. The working-class town of Palmerton, a borough of just over 5,000 people in eastern Pennsylvania, is not friendly toward the United States Environmental Protection Agency. All along the streets of town, windows of homes sport signs with a red circle and slash over the word EPA (ironically like a no smoking sign, given the industrial emissions that brought the EPA here).

Yet it is no secret why the EPA is in Palmerton. The town runs along the base of Blue Mountain, a ridge on the southern edge of the Pocono Mountains. Twelve hundred acres of the mountain that towers over the southern edge of town were stripped bare of trees by emissions from two zinc smelters (R.E. Wright 1990: 6-4). The town, the mountain, and the cinder banks at their east end were declared a Superfund site in 1982. Spraying a mixture of sewage sludge and fly ash onto the mountain has succeeded in reestablishing soil in eroded areas, and much of the once-barren mountain is now covered in grass and tomato plants. EPA-sponsored cleanups and the Zinc Company’s Neighbor-Helping-Neighbor program have restored many yards. But despite the successes of the revegetation and the testimony of the mighty maples that line Palmerton’s streets, the damage done by the zinc smelting is not fully corrected. Grass struggles to grow in many yards, and Stony Ridge (on the north side of town) is covered in fallen wood that looks petrified because the bacteria that should rot it have been killed (Morning Call 1976). And, most significantly, controversy remains over the potential impact on the health of Palmerton’s citizens.

At first glance, Palmerton looks like a straightforward, if not necessarily compelling, case of environmental injustice. An industrial corporation, looking more closely at its bottom line than at the health of the environment or the future of its workers, built up a working-class town around its smelting operation. Years later, after the plants conveniently changed ownership, action finally begins to correct the environmental damage and health risks imposed on the town. But things in Palmerton are not so simple. The people of Palmerton, particularly longtime residents who remember the heyday of smelting operations, love “the Zinc Company” (a term applied to any and all of the corporations which have owned the smelters over the years) like a father. And they resent the EPA’s intrusion on their peaceful town and the resulting image of

Palmerton as a polluted, poisoned place. The issue is complicated by studies seeming to show at one juncture that the health of Palmertonians is at risk, and at the next that there is no danger to living in the town.

There is environmental injustice here but, from the perspective of many of the victims, it is the defenders of the environment – the EPA and the small group Palmerton Citizens for a Clean Environment (PCCE) – who are the perpetrators. The case of Palmerton illustrates the importance of empowering local communities, rather than imposing notions of a good environment, in achieving environmental justice.

Zinc smelting was brought to the area by the New Jersey Zinc Company (NJZ). The location was chosen because Palmerton was just down the Lehigh River from the anthracite mining areas of the Poconos, and near the Franklin, NJ mines that supplied the first zinc ores for the company (Ketterer & Lowry 1994: 1). NJZ opened the West Plant in 1898, and the East Plant in 1911. On the site of what had once been the farming villages of Hazard and Little Gap (Ketterer & Lowry 1994: 1), NJZ built a planned community to house its employees, including a labor force imported from locations overseas (mostly in Eastern Europe). At its peak, the plant employed 3,600 workers (Ketterer & Lowry 1994: 2). In 1954, the first pollution controls were installed, in the form of an electrostatic precipitator to capture heavy metal dust. In 1967, NJZ sold the plants to Gulf + Western Industries Inc. Pollution was reduced by a factor of three beginning that year (R.E. Wright 1990: 6-4). In 1976, the company signed an unprecedented consent agreement with the state Department of Environmental Resources (DER) (Hoffmann 1976). The company was found by the EPA to be out of compliance in 1979 (Miller 1982). In 1980, zinc smelting was halted at both plants. Gulf + Western cited “a weak worldwide demand for zinc, continuing low prices and sharply rising labor costs in addition to federal and state environmental control regulations” (Miller 1982). The West Plant is currently being dismantled. The East Plant continues to operate, processing electric arc furnace dust into zinc calcine, which is shipped elsewhere for final zinc removal (Ketterer & Lowry 1994: 2). The plants were sold by Gulf + Western in 1984 to a coalition of workers, calling itself the Zinc Corporation of America (ZCA) that runs it as Horsehead Resources Development, a division of Horsehead Industries, Inc. (R.E. Wright 1990: 6-4).

In 1982, Palmerton was designated a Superfund site, under the 1980 Comprehensive Environmental Response, Compensation and Liability Act (Cohen 2000a). The site includes the

barren areas of Blue Mountain, the town of Palmerton, and a 2.5-mile-long pile containing 33 million tons of cinders (US EPA 1990). The site contains 2177 Palmerton households, plus another 581 households outside the borough (Black & Veatch 1999: 1-2). At the time Palmerton was proposed for Superfund status, PCCE was formed. The Chamber of Commerce responded by launching the Pro-Palmerton Coalition (PPC), which opposed what it saw as the extreme views of PCCE (Parkwood 1992). PPC's goal is to get Palmerton delisted from the Superfund program as soon as possible (Ziegenfuss 1999). The same year, the Palmerton Environmental Task Force (PETF) was formed, made up of representatives from state and local governments, the Chamber of Commerce, PCCE, PPC, and several at-large members of the community (Stilman 1994: AR000976). In 1983, Palmerton was added to the National Priority List (Cohen 2000a).

The EPA is convinced that the pollution caused by zinc smelting poses a serious risk to the people of Palmerton. In its response to Dr. Bonner Cohen's report criticizing what Cohen saw as incompetence in addressing Palmerton's problems, the EPA wrote, "our first and main concern has always been the health and safety of the people and the environment in the Palmerton area" (US EPA 2000b). The EPA tested 24 homes in 1991, finding household lead concentrations ranging from 400-2900 ppm (500 ppm is considered an acceptable risk in most cases, though the EPA has decided to use a 650 ppm standard in Palmerton (Black & Veatch 1999: ES-1)). Based on this study, the EPA initiated cleanup actions in the homes of the 12 residents from the sample who were willing to cooperate (Advanced GeoServices 1993: 1). A 1992 test comparing Palmerton with nearby Wind Gap and the intersection of Rt. 309 with Blue Mountain found significantly higher concentrations of zinc, lead, and cadmium in the borough. The study confirmed "that pre-1980 primary zinc smelting emissions are a major source of hazardous substances in the environment" (Ketterer & Lowry 1994: v).

On-Scene Coordinator Terry Stilman determined, in 1993, that the site met criteria for initiating a removal action, and obtained \$12 million from EPA Region 3 to reduce lead exposure for pregnant women and children less than 6 years of age (Stilman 1994: AR000973). In a 1994 memorandum, Stanley L. Laskowski of the EPA told Elliot Laws, also of the EPA, that the organization "has identified an imminent and substantial threat to public health or welfare or the environment due to the threat of release and current releases of hazardous substances, pollutants or contaminants at the Site" (Laskowski 1994).

Between 1994 and 1997, the EPA's Interim Removal Action cleaned 116 homes and 195 yards in Palmerton (Anewalt 1998c). Residents had to meet several criteria, such as an elevated lead level and the presence of children less than 6 years of age or a pregnant woman in the home, to qualify for the cleanup. The cleanup consisted of scrubbing the interiors of the home, replacing the carpet, replacing topsoil, and reestablishing the lawn (Slade 2000c). Mean lead levels in the 12 homes initially cleaned up decreased from 284 $\mu\text{g}/\text{m}^3$ to 82 $\mu\text{g}/\text{m}^3$ (Advanced GeoServices 1993: 8). At the end of the project, the EPA declared, "This monumental effort has significantly reduced the risk to Palmerton and its residents" (US EPA 1997).

EPA's current plans in Palmerton are based on the Final Risk Assessment Report (CDM 1998). This report investigated the dangers posed by four pollutants: lead, zinc, cadmium, and arsenic. Arsenic was found not to be a threat in Palmerton (1998: ES-16). Zinc could be a threat to people who consumed a high amount of homegrown vegetables, but the presence of zinc in the soil would impede growth so that a resident could not possibly grow a toxic amount of vegetables (1998: ES-19). Reductions in cadmium were deemed useless, as "most exposure to cadmium is due to background intake, with site-related exposures contributing on the average of 10 percent to total cadmium kidney burden" (1998: ES-15). Lead remained the only significant danger in Palmerton. Unacceptable lead exposure was deemed possible in most of the town (1998: ES-15). Computer modeling, which Dr. Jim Lavelle described as "one of the most sophisticated risk assessments ever undertaken," was used to interpolate the lead risk throughout town (Minutes 1998: 5). It showed the possibility for blood lead levels twice as high as the ones recorded in a 1994 University of Cincinnati study (1998: ES-10). The EPA rejects claims that lead paint is the major contributor to lead levels in Palmerton (Black & Veatch 1997: AR500234).

The EPA has the backing of the pro-cleanup group PCCE. Indeed, PCCE is pushing for an even more thorough cleanup than the EPA has proposed. The Feasibility Study released in 1999 suggested six alternatives each for soil and household dust cleanup, including a "no action" option (Black & Veatch 1999). The EPA favors an \$11 million plan that would reduce lead to a level of 650 ppm. Viacom International, one of the corporations that owns former NJZ property and is therefore being held responsible by the EPA, favors a \$16 million plan that would reduce lead to 1050 ppm but also address contamination from lead paint. PCCE supports a \$26 million plan that would achieve lead levels of 500 ppm (Slade 2000a). PCCE defends the lower standard because the Pennsylvania Real Estate Seller Disclosure Act requires disclosure of lead levels

over 500 ppm to buyers (US EPA 2000a). A higher standard would lead to situations where a property is contaminated enough to require disclosure (thus damaging its value) but not contaminated enough to qualify for cleanup (Slade 2000a). Any delay in cleanup is too long for PCCE. When the EPA announced the timetable for its cleanup action, PCCE President Louise Calvin responded “This month? Of this year and this century?” (Slade 2000c). The following January, the EPA announced that its plans would have to be delayed (Slade 2001). Bob Hosking, a consultant hired by PCCE, told the EPA at a public meeting regarding the Final Risk Assessment Report, “it seems like this entire risk assessment has been an exercise in trying to justify lower risk factors in Palmerton” (Minutes 1998: 92).

But not everyone in Palmerton is convinced of the truth of the EPA’s assessment. Michael A. Raub of PPC voiced his opinion to Charlie Root: “Simply put, our town is not a hazardous waste dump and should not be treated as a hazardous waste dump. We don’t want our town dug up” (Raub 1999: AR500358).

Part of the opposition to the EPA’s action comes from Palmerton’s intense loyalty to the Zinc Company (under whatever name or ownership). Zinc Company memorabilia is a hot item at local garage sales. Students surveyed in 1982 were not inclined to look to the company for employment, but only because of pessimism or bitterness about the reduction in the scale of its operations, and would prefer an expanding Zinc Company (Times News 1982). The EPA holds the operators of the smelters and their heirs responsible for the cleanup. A 1992 study was carried out to determine whether Palmerton’s pollution could be blamed on the operators of the two plants before 1980 and the East Plant after 1980 (Ketterer & Lowry 1994). The EPA has launched a lawsuit against Horsehead Resource Development, Horsehead Industries Inc., Viacom International, and TCI Pacific Communications (the four biggest stakeholders), and in 1999 reached a \$4.9 million settlement with nearly 200 smaller companies with involvement in Palmerton’s industrial operations (Wilkerson 1999). But residents still see the Zinc Company as being more responsive to their concerns than the EPA or DER are (Parkwood 1992: 13). Even considering the environmental damage done by the smelters, one student commented, “I’d rather have smelly air than families on welfare” (Times News 1982).

Several studies confirm residents’ suspicions that the health hazards cited by the EPA are exaggerated. In 1991, 504 residents of Palmerton and the nearby control community of East Jim Thorpe were given a battery of tests to determine their exposure to the pollutants affecting

Palmerton (Sarasusa et al. 1995: 1). No statistically significant differences in levels of any contaminant were found (1995: 9). Among children, a similar percentage – around 25 percent – had elevated blood lead in both towns (US Department of Health 1994: 22). The one difference was in urine cadmium levels among Palmertonians 40 to 75 years old. This was tied to these people having lived in the town longer (and thus having accumulated more cadmium in their bodies) and having worked at NJZ (US Department of Health 1994: 35, 41). Yet even these people still had cadmium levels below World Health Organization standards (US Department of Health 1994: 43). The study concluded, “no communitywide medical action is needed in Palmerton based on the results of this study. No further site-specific health studies are recommended” (1995: 1). Average air lead concentrations were found to be from .088 to .349 $\mu\text{g}/\text{m}^3$, well below the National Primary Air Quality Standard of 1.5 $\mu\text{g}/\text{m}^3$. Even during 1978-79, when both plants were operational, air lead was only .128 to .563 $\mu\text{g}/\text{m}^3$ (US Department of Health 1994: 6).

Those opposed to the EPA’s actions frequently cite blood lead levels tested before and after the initial 12 cleanups. Both before and after tests revealed an average blood lead level of 5 $\mu\text{g}/\text{dL}$ (Advanced GeoServices 1993: 13). A 1995 study found that 12 percent of Palmerton children had blood lead levels more than 2 $\mu\text{g}/\text{dL}$. A follow-up study in 1996 showed a decrease (Minutes 1998: 67), reinforcing the idea that the risk is decreasing the farther we get from the days when the plants were active. The average lead in Palmerton children in 1997 was 2.8 $\mu\text{g}/\text{dL}$, compared to a national average of 3.6 (US EPA 1999: AR500315)

Lead paint is cited as the larger culprit. Ninety-one percent of Palmerton homes were built before lead paint was banned (Raub 1999b). The Advanced GeoServices study of the first cleanups concluded that “lead based paint is very likely to be a significant source of lead recontamination within the home” (1993: 15). Lead paint is outside the scope of the Superfund program (Black & Veatch 1999: ES-1), although the borough has received a \$633,000 grant from the Department of Housing and Urban Development to fund a lead-safe homes project (Hessinger 1998). The Final Risk Assessment lumped lead paint and smelter-based contamination in its determination of risk (Minutes 1998: 68), even though the EPA is only authorized to clean up pollution that resulted from NJZ’s operations. J. Arthur Marvin asserted, “homes that were not contaminated with lead-based paints were not contaminated according to EPA’s criteria” (Marvin 1996). ZCA concurs in this assessment of the role of lead paint, pointing to EPA data that show 93 percent of lead exposures in Palmerton are due to lead paint (ZCA

n.d.). PPC has even charged that the EPA's cleanup actions have worsened lead problems by disturbing lead paint (Anewalt 1998c).

PCCE is viewed negatively by many in the community. PCCE President Louise Calvin was among those whose homes were cleaned as part of the Interim Removal Action. She cited frequent visits by her grandchildren as grounds for cleanup action (Slade 2000c). But other residents scoffed at this idea, claiming Calvin's grandchildren visited far too infrequently to meet the spirit of the EPA's guidelines. They portrayed Calvin and other PCCE members as just looking to get the government to pay for their houses to be remodeled. Horsehead shares this assessment, as it took out full-page ads in local newspapers, titled "Green for the Environment or Green with Envy?" to rebut a letter from PCCE (Anewalt 1999).

People are no more complimentary toward the EPA. Ray Tuttle [sic] declared that cleanup action "seems to be a self-serving interest on the part of the EPA" (Minutes 1998: 74). Jim Ward called EPA action "a shotgun approach," rather than "a serious attempt to get down to the actual sources and deal with them individually" (Minutes 1998: 70). PPC raised concerns about the EPA's motivation by questioning why no actions have been taken in Jim Thorpe, when a study showed that lead exposure levels in Jim Thorpe residents were equivalent to those in Palmerton (Raub 2000).

The Interim Removal Action was especially criticized. Responding to the Feasibility Study conducted by the EPA, PPC said, "the Interim Action was viewed locally as nothing more than a costly government giveaway program ... potential health issues were secondary in most participants' minds" (Raub 1999b: AR500354). PPC reports that 2320 of 2758 homeowners refused to let the EPA test their properties during the Interim Action (Raub 1999a). Responding to local concern that lead paint was the major culprit, the EPA promised to investigate paint separately in its Final Risk Assessment. These tests were dropped. Further, promised blood lead screenings – a more direct measure of toxic exposure than soil lead – were never done (Cohen 2000c). Those who oppose the EPA were happy to see On-Site Coordinator Michael Towle's statement on May 20, 1998 that "this one needed a lot of thinking up front that was not done" (Cohen 2000c). But despite opposition to the Interim Action, the EPA's preferred final cleanup action is a "strikingly similar" program of wiping, vacuuming, and topsoil replacement (Cohen 2000d).

Many residents worry less about the possible health hazards of pollution and more about the social effects of the EPA's involvement with Palmerton. Property values are a concern. Mary

Elizabeth Cyr wrote to the EPA, “Title and Deed notifications would surely decrease some Palmerton property values ... and discourage potential residents from locating in the town” (Cyr 1995). Palmerton in general is seen as getting a negative review in the media because its most salient feature is its status as a Superfund site (US EPA 1999: AR500321). Indeed, Dolores Ziegenfuss of PPC was pleasantly surprised that the Final Risk Assessment did not disparage the town to the degree she had anticipated (Anewalt 1998b).

The most telling concern of residents is that the EPA is not involving the community to a great enough degree. The EPA defends its practices, claiming community involvement above and beyond what is mandated by law (Black & Veatch 1997: AR500231). Thomas C. Voltaggio pointed to the comment period on the EPA proposals as giving adequate room for community involvement (Voltaggio 1998). The EPA’s Community Involvement plan calls for a variety of steps to be taken – distribution of fact sheets, town meetings, a Website, and publication in the local newspapers, *The Times News* and *The Morning Call* (US EPA 1999: AR500326-330).

But many residents do not feel as involved as the EPA makes them out to be. At the time of this writing, the EPA’s Website on Palmerton (<http://www.epa.gov/reg3hwmd/super/palmerton/menu50.htm>) had not been updated in two years – since before the release of the Final Risk Assessment. PETF wrote to the EPA numerous times (PETF 1998, Ziegenfuss 1998), requesting greater involvement in the clean-up process. Borough Manager and PETF moderator Rodger Danielson told the EPA, “the unprecedented steps taken to include community involvement during the Risk Assessment ... will be less meaningful if continued involvement is excluded” (Danielson 1998). It even enlisted the help of the Carbon County Commissioners (1998) and State Representative Keith R. McCall, who wrote “if EPA is to have any credibility at all with the residents of Palmerton, it is imperative that all involved community organizations be afforded the opportunity to serve...” (McCall n.d.). Communication problems between Palmerton and the EPA are so bad that PETF has formally requested that the EPA’s community involvement coordinator, David Polish, be removed (Cohen 2000d). The one success of these objections was the formation of a Risk Assessment Subcommittee by the EPA (PETF 1999: AR500373).

This is not to say that the people of Palmerton are not concerned about their environment. However, they see Palmerton’s environmental problems in the classic sense of “nature” being damaged, rather than in the sense of health risks in the human environment. There is widespread support for revegetation of Palmerton’s eyesores – the barren stretch of Blue Mountain and the

cinder bank. The people are frustrated when the EPA dwells on health dangers that few of them see, while the obvious problems of the mountain and cinder bank are still not fully remedied. Cohen points out that Gulf + Western had begun a revegetation program on the cinder bank. When the EPA arrived in 1993, it ordered a halt to the project (Cohen 2000a). Work was not resumed until last year (Cohen 2000d). In its response to Cohen, the EPA points out that it has begun revegetating the cinder bank, but does not address the 17-year hiatus (US EPA 2000b). Of all the possible cleanup options, the one that garnered the most support in a public opinion survey was revegetation (Parkwood 1992: iv). It didn't take EPA involvement to get Palmerton residents to be concerned about the environmental problems they can see. A 1982 survey of Palmerton High School students showed widespread concern about the damage to the natural world – one student said that “the mountain looks like it's been bombed or something” (Times News 1982).

The in-town cleanup program that has gained public support is the Neighbor-Helping-Neighbor program. Under this program, instituted in 1991, ZCA pays for the testing, lime, fertilizer, grass seed, and mushroom soil that residents need to reestablish their own lawns (ZCA 1998: AR500237). The program has restored 1,000 Palmerton yards (half of the town) and additional public lands (3rd Street ball field, 7th Street ball field, and the Borough Park), while the EPA has cleaned only 200 (Minutes 1998: 61-62, ZCA 1998: AR500245). A 51-lawn survey in 1994 found that 71 percent of lawns involved in the program were rated an 8 or 9 on a scale of 0 (poor) to 9 (very good), and an additional 27 percent were at least 6 (acceptable) (ZCA 1998: AR500242). A 1996 report showed a “remarkable” reduction in contamination as a result of Neighbor-Helping-Neighbor (Minutes 1998: 61). In 1998, a survey of 1,005 Neighbor-Helping-Neighbor properties (nearly all of them) found similar results to the 1994 study, and lawns that had been in the program longer were better off (ZCA 1998: AR500243-244). This program has been backed by Palmerton's Boy Scout Troop 41, which has revegetated numerous lawns of older residents as service projects. Five Palmerton Scouts have earned Eagle rank for their involvement with the program. The EPA knows little about Neighbor-Helping Neighbor. When Art Marvin challenged that the EPA's risk assessment used data from before the implementation of Neighbor-Helping-Neighbor, asserting that the program would have reduced the present risk from levels reported by the EPA, EPA representative Jim Lavelle could not address the issue (Minutes 1998: 62-63).

The EPA claims that public opinion is divided, rather than generally opposed to cleanup action in town (US EPA 1999: AR500324). But this is based on a standard-size EPA opinion survey in which 17 of 25 residents polled supported the EPA (Anewalt 1998a). A much broader survey of 206 residents conducted by Parkwood Research Associates found that only 28.6 percent of Palmertonians supported an immediate cleanup such as those pushed by the EPA and PCCE, while 21.4 percent said no cleanup was necessary at all (Parkwood 1992: iv). Older residents, who would be more at risk of health problems, were less likely to be concerned than newer residents (many of whom moved in and got to know the town after it was declared a Superfund site) (Parkwood 1992: iv). In general, Palmertonians saw themselves as well informed, particularly if they were older (Parkwood 1992: ii). Overall, Palmerton residents are satisfied with their town. “If it’s such a bad place to live, in Palmerton, why do all these people live here?” longtime resident Joe Plechavy Jr. asked at a 2000 meeting about the EPA’s final plan (Slade 2000b).

Palmerton shows the ways in which a paradigm of distributive justice can fail. Under a standard conception of distributive justice, the benefits and burdens of an activity should be balanced, so that no one benefits at another’s expense. In classic toxic facility examples, the benefits are seen as the economic gains experienced by the company and its customers, while the burdens are the pollutants that have damaged the site and the people living there. Distributive justice calls for these burdens and benefits to be reallocated in a just manner.

Just distribution of burdens works well in siting decisions – where to place a new facility. But what happens when the burdens and benefits have already been distributed? NJZ and its successors have already profited from smelting operations in Palmerton, and millions of consumers across the country have already gained from using products made with Palmerton zinc. The burdens – the pollutants – have already been put into Palmerton’s soil. They cannot simply be reallocated to those corporate heads and consumers who profited from NJZ’s operations. We are forced then to look to compensatory types of justice. If we cannot reallocate the original burdens and benefits, we can impose additional burdens and benefits – the obvious example being a monetary payment from the beneficiaries to the victims – to even the score. This is the EPA’s perspective. In linking pollution in Palmerton to zinc smelting operations and suing all involved parties, the EPA is attempting to impose a burden on them commensurate with

the burden they imposed on Palmerton's residents. Meanwhile, they would like to give Palmerton the benefit of free home and yard cleanups to counteract the burden of pollution.

Though it does not use the language of rights, the EPA is following James Nickel's (1993) process for determining the right to a safe environment for the people of Palmerton. Nickel identifies four stages in establishing a right: the right must be beneficial to society, all lesser avenues of achieving the goal must be unsuitable, there must be clearly identifiable dutyholders, and complying with the right must be feasible (Nickel 1993: 288). Studies culminating in the Final Risk Assessment Report (CDM 1998) were the EPA's way of establishing the risk posed by an unsafe environment. The Zinc Company's repeated failures to clean up its procedures before Palmerton was listed as a Superfund site (Miller 1982) are proof that stepping in to enforce a right would be the only way to ensure that the people of Palmerton were safe. The Hazardous Substances Source Identification Study (Ketterer & Lowry 1994) was carried out to establish that the operators of the smelters were responsible for the pollution – that they were the dutyholders. Finally, the EPA conducted a Feasibility Study (Black & Veatch 1999) to assess the costs of compliance. PCCE continues to the logical outcome of human rights theory in demanding the most thorough, though most expensive, cleanup. This more absolutist stance resembles Boerner & Lambert's "BANANA" (Build Absolutely Nothing Anywhere Near Anything) principle of pollution elimination (which, the authors note, is usually not feasible) (1995: 87). The EPA, on the other hand, is bound by the fact that "Superfund requires the selection of a cost-effective remedy" (Black & Veatch 1999: 6-11). Thus, in accordance with Mark Sagoff's (1984) description of cost effectiveness, the EPA chose its goal (650 ppm lead), and then chose the cheapest way to achieve it (the \$11 million plan).

Considering the nature of compensation that would be offered to make up for apparent injustice brings us to an interesting conclusion about the nature of burdens and benefits. The majority of Palmertonians, particularly older residents, see themselves as beneficiaries of the Zinc Company already. Their loyalty to the company is premised on all it has done for the community over the years, in terms of employment and public works. Indeed, Boerner and Lambert suggest several forms of compensation to lessen the net burden of a toxic facility – such as a hospital and parks (1995: 94) – that NJZ gave the town already.

On the other hand, Palmerton residents see the EPA's involvement as imposing burdens on the town. The bad press that the Superfund designation generates is seen as harming the town. They see government-funded interim action as a waste of taxpayer dollars, and attempts to make

the Zinc Company pay as asking too much of a struggling industry that has done predominantly good for Palmerton. EPA involvement, then, imposes a burden on Palmerton that is not offset by any benefit in the eyes of residents.

Clearly, environmental burdens and benefits cannot be objectively defined. What the EPA thinks is a fair trade-off is not the same as what residents see as a fair trade-off, because the EPA emphasizes the health hazards of pollution while residents care more about the social effects of being a Superfund site. In this way, a purely distributive paradigm fails because, while it demands fair allocation of benefits and burdens, it does not answer the question of who gets to evaluate those benefits and burdens.

Christian Reus-Smit (1996) offers an alternative to purely distributive models of justice, which encourage monopolization of defining benefits and burdens. In describing what he calls “critical-theoretical justice” (a concept known in other contexts as “self-determination”), Reus-Smit says “we should forgo the traditional emphasis on right distribution and concentrate instead on meaningful participation in institutional decision making” (1996: 106).

Max Weber (1946) explains how this condition of critical-theoretical injustice comes about in cases like Palmerton through his analysis of bureaucracy. In Weber’s model, bureaucracy is a method for rationalizing social action, for refining procedures and making them as efficient as possible (1946: 214). In doing so, bureaucracy monopolizes power. The problem occurs when the top-down nature of bureaucratic management (1946: 196) comes into conflict with the social problems it is attempting to address. If left free, bureaucracy can begin to serve the interests of bureaucracy rather than the interests of society. This is clearly the case in Palmerton. The EPA’s action in Palmerton serves few people’s interests – only the few members of PCCE feel the agency’s presence is beneficial, and the members of the EPA could earn their salaries as easily in another town as in Palmerton. What the EPA’s action does benefit is the bureaucratic structure, the adherence to rules and standards about acceptable pollution used in bureaucracy to eliminate the uncertainties of case-by-case decision-making.

Living in a polluted area involves taking a risk. Only the person taking the risk can say whether it is a fair deal. Boerner & Lambert point to several cases where safety standards are high enough that the environmental risk is clearly worth it for the potential economic benefits. This is applicable to Palmerton, where studies (US Department of Health 1994, Sarasusa et al 1995) can be reasonably interpreted to suggest that residents are at little risk of ill health. The EPA has established that residents of Palmerton have a right to a safe environment. But rights

cannot draw lines of acceptable risk. Can we say that people have a right to a 650 ppm lead standard, but not a 500 ppm standard? As Lavelle said at the Risk Assessment public meeting, the only completely safe lead level is the impossible standard of zero pollution (Minutes 1998: 74). In this context it is important to remember that rights can be waived. Residents have clearly chosen to waive their right to safety at some standard above Palmerton's current hazard levels. As Hunold and Young point out, "a risk accepted with adequate information and voluntarily is more ethically justified than an imposed or coerced risk" (1998: 86). In attempting to enforce their idea of the right to a safe environment, and its accompanying social risks, against the will of the rightholders, the EPA is creating injustice.

True justice requires that the impetus for change comes from the people who are most affected. The EPA's role should be of a facilitator, a powerful agency that can aid people in pressing their choices about acceptable benefits and burdens against corporations and elites whose power gives them a disproportionately large voice in decision-making. This would serve the democratic ideal of a government serving the people, rather than a government managing the nation for the assumed good of the citizens. The use of public information campaigns and comment periods on proposals, which the EPA sees as discharging its responsibility to be responsive to the people of Palmerton, is not enough. Approving a decision is not the same as making the decision (Hunold & Young 1998: 90).

The adoption of Hunold and Young's "communicative democracy" in Palmerton translates to concrete policy in two ways. First, the revegetation of Blue Mountain and the cinder bank may go ahead as planned. These projects have the blessing of the majority of Palmertonians. In this case, the EPA is acting as the servant of the people because it is carrying out a project they desire but do not have the resources to accomplish on their own. At the same time, the EPA must be certain to do two things. First, its public information campaign must be thorough in order to ensure that the people of Palmerton can make informed decisions. And second, it must let the direction of the project be shaped by the people. This involves listening to their concerns at all times, and presenting them with choices to make, rather than decisions to approve.

In-town pollution is a different story. Rather than allowing the EPA to decide what its responsibilities and the responsibilities of the Zinc Company are (using an assumed but incorrect Marxist paradigm of class conflict between the Palmertonian proletariat and the bourgeoisie of ZCA), the direction for cleaning up the town must come from the citizens. While it may seem

obvious to the EPA that Palmerton is excessively polluted and the Zinc Company should be forced to pay to fix it, that conclusion is not so obvious to the people of Palmerton. Further, the people are not so much opposed to cleanup as they are to forced cleanup by an outside agency. The great success of the Neighbor-Helping-Neighbor program compared to the similar Interim Removal Action demonstrates that solutions coming from the community (of which ZCA is a member) are more effective than solutions created by out-of-town bureaucrats. Further, as the name “Neighbor-Helping-Neighbor” suggests, community-based programs have other beneficial effects in bringing the community together. A crew of local Boy Scouts replacing an elderly resident’s yard is a more positive experience for the community than a powerful bureaucracy adjusting the benefits and burdens experienced by the atomistic individuals that, as Reus-Smit points out, are assumed to exist under a purely distributive paradigm (1996: 100).

In the town of Palmerton, the EPA saw a problem of distributive injustice resulting from decades of emissions by a pair of zinc smelters. But by failing to question the underlying assumptions of a distributive paradigm – asking who determines the degree of benefit or burden imposed by something – the EPA created a new environmental injustice. For true environmental justice to be achieved in Palmerton, the focus of decision making authority needs to be relocated from the EPA bureaucracy to the people of Palmerton. For the most part, the people of Palmerton would prefer to have their mountain and yards revegetated, but without the coercive stigma that comes with being part of an unresponsive Superfund program. The heart of the injustice is not the pollution done by the zinc smelters. Rather, it is the EPA’s position that “we’re here because we believe that we, and we have shown, that there are concerns to the human health environment in this town. We’re not going to abide by any census that is taken” (Minutes 1998: 76-77).

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