

D.P.U. 89-161

Page 24

The use of tar as a by-product in this country was generally limited before World War I, because of the availability of tar-based products, including chemicals and pharmaceuticals, from Germany (Exh. DPU-27, p. 14).

In addition, the physical characteristics of the tars produced by carbureted water gas and oil gas plants limited their value. Unlike tars from coal carbonization plants, tar-water emulsions produced by carbureted water gas and oil gas facilities were of irregular quality and generally contained too much water to burn (Exh. AG-208, p. 1239). These wastes were generally disposed of on- or off-site (Exh. DPU-18, p. 136).

D. State of Scientific and Engineering Knowledge Concerning the Hazards of MGP Wastes

The occupational hazards of coal combustion products were documented as far back as 1775 (Exh. AG-158). At that time, the effect was believed to be caused by mechanical irritation of the skin by soot (Exh. CO-10; Tr. XIII, p. 134). By 1876, a connection between coal tar and cancer, long suspected, was conclusively established (Tr. XII, p. 104). It still remained unclear whether cancer was caused by chemical effects of coal soot on the skin or by mechanical irritation (Tr. XIII, p. 137; Exh. CO-10, p. 5). Experiments during the early nineteenth century sought to establish what chemical fractions of coal caused cancer; and the link between the chemical properties of coal tar to cancer was established by the late 1920s and early 1930s (Tr. XIII, p. 139; Tr. XII, pp. 109). Benzo(a)pyrene, a

D.P.U. 89-161

Page 25

major carcinogen found in coal tar, was first identified in 1933 (Tr. XIII, pp. 146-147). Other carcinogens were identified in 1947 (Exh. AG-154).

Another chemical component of MGP wastes, benzene, was known as a hematological poison since the late nineteenth century (Exh. AG-99, p. 18). Benzene causes aplastic anemia (Exh. AG-178, p. 4; Tr. XIII, p. 109). Though medical science had long seen a linkage between benzene and leukemia, the first clear establishment of benzene as a human leukemogen was made in 1977 (Tr. XIII, p. 109).

Throughout the MGP era, the scientific and medical communities developed the connection of MGP wastes to human health risks. What was lacking was the determination of the level at which public health might be adversely affected by MGP wastes (Tr. XIII, p. 112). While the medical observations of the period may have been precise and based on comprehensive data collection, the relationship between the level of exposure to MGP wastes and the reaction to the exposure was still uncertain (id.). The statistical analyses now used to determine dose-response levels, including multievent modeling, were not developed until 1976 (Exh. CO-42; Tr. XII, pp. 11, 153). The technical ability to detect contaminant levels required under current occupational safety and environmental regulatory standards did not exist until the 1970s (Tr. XII, pp. 11, 153; Exh. CO-41).

D.P.U. 89-161

Page 26

The record is replete with scientific inquiry and debate over the causes of recognized health hazards as far back as 1775 (Exh. AG-158). However intense the debate over causation may have been, there seems to have been little dispute over recognition of adverse occupational health effects.

By the late 1800s, the state of knowledge associated with MGP wastes was sufficient to induce passage of environmental regulatory measures with respect to waterways. The disposal of tar and other MGP wastes into waterways was generally restricted or prohibited, by either local or state action (Exhs. AG-193, p. 342; AG-165).

Evidence contemporaneous to the MGP era demonstrates a degree of awareness by the gas industry that MGP plant operators were collecting on their land materials that represented environmental hazards and whose escape could cause injury to others. The gas industry seems generally to have understood that certain properties of MGP wastes were deleterious (Tr. XVII, pp. 79-80). For example, the disposal of spent oxides on land damaged land, leaving the particular parcel unsuitable for agricultural purposes (Exh. AG-128; Tr. VI, pp. 79-80; Tr. XI, pp. 133-134; Tr. XVI, p. 36). The industry was also concerned that the various salts and chlorides contained in ammonia still waste may have had a detrimental effect on vegetation (Tr. XV, pp. 132-133; Exh. AG-168, p. 454). It was also known that the introduction of MGP wastes into a waterway could damage oyster beds and kill fish (Exhs.

D.P.U. 89-161

Page 27

AG-167, pp. 349-350; AG-193, p. 342; Tr. XVI, pp. 36-37). Gas liquors were known to be highly toxic to fish, and rendered them unpalatable by the concentration of chemicals in the flesh (Exhs. AG-129, p. 126; Exh. AG-167, pp. 349-350; Tr. XII, pp. 67-68; Tr. XV, pp. 126, 129).

A major concern of the manufactured gas industry during this era was the potential for contamination of water supplies by the escape of MGP wastes from MGP sites. MGP wastes deposited on the ground could seep into wells and streams and render the water unpalatable whether by taste or odor (Exh. AG-128, p. 315; Tr. XII, pp. 51, 71). The disposal of ammonia wastes into the ground was considered to be a hazardous proposition because the waste could percolate into ground water and end up in a stream (Tr. XII, pp. 85-86). It was generally known that tar water waste contained hazardous constituents, including naphthalene, benzene, toluene, and xylene (Exh. AG-167, pp. 349-350). Despite the relatively limited state of hydrogeologic science, the MGP industry was aware that the discharge of these substances in concentrated form could produce adverse effects (id., p. 349).

Correspondingly, MGP operators realized the need to avert risk to the property of others from MGP waste nuisances. Concerns at industry meetings revolved around the possibility of successful legal actions against MGP operators on charges of nuisance (Exh. AG-128, pp. 314-315) (see also Section V.B.). Nuisance actions could, and were brought on a number of grounds,

D.P.U. 89-161

Page 28

including damage to land, vegetation, and waterways (id.; Exh. AG-100, p. 444; Tr. XI, pp. 130-131). Other causes of legal action cited by industry officials during this period included complaints of tarry wastes carried off by streams and later found adhering to the legs of cattle and injuring soil and crops (Exh. DPU-129, p. 128; Tr. XII, pp. 76-78).

In such circumstances, industry officials were urged to take such measures necessary to prevent any nuisance from being found at their facilities, thereby averting legal actions (Exh. AG-128, pp. 314-315). Measures taken to minimize the possibility of MGP waste's escape included the development of equipment to extract tar from water and to burn tar as boiler fuel (Exhs. AG-194, p. 226; AG-198, p. 158). The trade journals and industry meetings of the MGP era are replete with information concerning the various alternatives available to treat or dispose of MGP wastes (Exhs. AG-167, AG-198; AG-201; AG-202; AG-204; AG-211; AG-218; AG-221). Various recommendations were made as to what specific plant improvements or processes could be used to eliminate or minimize problems associated with MGP wastes (Exhs. AG-203; AG-205; AG-206, passim). The American Gas Association's various committees were actively considering the most appropriate methods to treat MGP wastes during this period (Exhs. AG-199; AG-206 [Willien]; AG-208; AG-210; AG-213; AG-214). Finally, individual gas utilities reported in the trade journals of the period on the measures they had taken to minimize the problems associated with

D.P.U. 89-161

Page 29

the disposal of residuals (Exhs. DPU-12 [Carter]; DPU-26, Sec.  
7, pp. 59-81; AG-206 [Klein]; AG-211; AG-217; CO-58; CO-59).

D.P.U. 89-161

Page 30.

IV. DESCRIPTION OF SETTLEMENT AGREEMENT

On May 1, 1990, the Settling Parties jointly filed a Settlement Agreement. The Energy Consortium refrained from participating in the Settlement Agreement but filed comments in its brief. In the Settlement Agreement, the Settling Parties agreed that, beginning on July 1, 1990 ("the Implementation Date"), each of the gas company petitioners would amortize and recover from their ratepayers over a seven-year period, without carrying charges, the environmental response costs incurred during 1989 (Settlement Agreement, § II). Previously deferred response costs would be treated in the same manner as if they had been incurred during 1989 (*id.*, § VIII). Cleanup costs incurred each year in the future would also be recovered over separate, seven-year amortization periods. The Settling Parties agreed on this compromise for ratemaking purposes without any finding regarding the prudence of the manufactured gas operations and plant decommissioning (*id.*, Preamble).

The Settling Parties propose a definition of recoverable "environmental response costs" to include all investigation, testing, remediation, litigation expenses, and other liabilities relating to manufactured gas facility sites, disposal sites, or other sites onto which material may have migrated, as a result of the operation or decommissioning of Massachusetts gas manufacturing facilities during the period from 1822 through 1978 (*id.*). The Settling Parties indicate that personal injury settlements or awards relating to manufactured gas waste sites

D.P.U. 89-161

Page 31

would be considered recoverable costs within the definition of the term "environmental response costs" (Tr. of May 9, 1990, p. 10 et seq.). The gas company petitioners made a representation that they are not aware of any personal injury suits or claims relating to the pre-1979 manufactured gas operations, waste disposal and decommissioning activities, and are also not aware of any facts that would lead them to believe that any such suits or claims will be filed or asserted (Settlement Agreement, § VII.C; Tr. of May 9, 1990, pp. 12-27). The Settling Parties specifically excluded from recoverable costs any expenses resulting from claims made by the gas company petitioners against insurance companies or third parties,<sup>8</sup> or any expenses resulting from any non-manufactured gas operations, including but not limited to by-product coke oven sites, the Plympton lead site, or PCB sites (id., § VII.A).

Under the Settlement Agreement, the Settling Parties propose that the agreement would preclude any party to the Settlement Agreement (or the Department on its own motion) in a later proceeding before the Department from challenging the propriety of recovery from ratepayers of the environmental response costs on grounds of (a) the prudence of the pre-1979 manufactured gas

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<sup>8</sup> Expenses and recoveries resulting from claims against insurers or third parties are addressed separately in the Settlement Agreement, § VI, as described infra, p. 34.



D.P.U. 89-161

Page 32

operations, waste disposal, and decommissioning activities that have resulted in the need for incurring the response costs or (b) the appropriateness of allowing rate recovery of such expenses through the recovery mechanism provided for in the Settlement Agreement. In the Settlement Agreement, the Attorney General reserved his right to challenge or contest the prudence of any action taken or not by the gas company petitioners and the amount of any costs or recoveries incurred or obtained through the prosecution of insurance and third party claims (id., § VII.B; Tr. of May 9, 1990, p. 5). The authority of the Department in this regard remains, of course, unimpaired by the terms of the Settlement Agreement.

The Settlement Agreement provides for a recovery mechanism in the form of a separate, additional element in the existing Cost of Gas Adjustment Clause. 220 C.M.R. 6.00 et seq. This element, the Remediation Adjustment Clause, would provide for a per-unit-of-gas charge equal to sum of the charge to be collected under the company's current Cost of Gas Adjustment Clause and the amount given by the environmental response cost formula (Settlement Agreement, § IV.A). This formula would consist of one-seventh of the actual response costs incurred by a company in a calendar year and to be recovered from ratepayers during the upcoming year, less a deferred tax benefit to be returned to ratepayers during the upcoming year. This amount would then be divided by the company's forecast of total firm sales volumes for the upcoming year. The Settling Parties

D.P.U. 89-161

Page 33

further agreed that the environmental response cost portion of the Cost of Gas and Remediation Adjustment Clause would be reconciled annually for each company, with the amount of any over or under collection to be debited or credited to the total annual charge for the following year (id., § IV.C).

The deferred tax benefit would be calculated as follows. For the first year of cost recovery, the deferred tax benefit would be the amount given by the entire actual response costs incurred in a calendar year multiplied by the company's net cost of capital rate (as set in the company's last base rate case and adjusted for income tax effects) and by the effective combined federal and state income tax rate. In the second year, six-sevenths of the actual response costs would be multiplied by the cost of capital and the combined tax rate; in the third year, five-sevenths of the costs would be used, and so forth until the seventh and final year, when one-seventh of the response costs would be used (id., § IV.B).

With regard to filing requirements, the Settlement Agreement requires that each company file with the Department, the Attorney General, and any other interested party all bills and receipts relating to any environmental response costs incurred in the preceding calendar year for which each company seeks to begin recovery in the upcoming year and a schedule depicting the purpose of each expenditure. This filing would occur at least ninety days before each anniversary of the implementation date. In the same filing, each company would include similar material

D.P.U. 89-161

Page 34

and information to support any expenses or recoveries from insurance or other third-party claims (id., § IV.D).

The Settlement Agreement accords a different ratemaking treatment to insurance and third-party litigation expenses and recoveries. Insurance and third-party expenses and recoveries would be shared in equal proportions between the gas company petitioners and their ratepayers. In the Settlement Agreement, one half of the expenses incurred by the gas company petitioners in the prior year in prosecuting insurance and third-party claims and one half of any recoveries or other benefits received by the gas company petitioners as a result of a judgment or settlement from insurance or third-party claims, would be credited against all annual amortization amounts that have been or are being collected through the Settlement Agreement's recovery mechanism (id., § VI).

The Settlement Agreement also provides a limitation on the total annual charge to be recovered from ratepayers: the total annual charge to a company's ratepayers would not exceed five percent of a company's total revenues from firm Massachusetts gas sales during the preceding year. If for a particular company, the annual recovery should exceed the five-percent cap, the amount in excess of the cap would be deferred and would accrue carrying charges at the company's net cost of capital (as allowed in the company's last rate case and adjusted for income tax effects) until such sum can be added to the amount to be recovered in a subsequent recovery year without exceeding the five-percent cap (id., § V).

D.P.U. 89-161

Page 35

The terms of the Settlement Agreement provided for an option to discontinue the agreed upon ratemaking treatment. Any company whose 1989 firm retail gas revenues were less than \$100 million may choose to discontinue the ratemaking treatment of the environmental response costs provided for under the Settlement Agreement in the event that the unrecovered amount of its response costs should exceed the lesser of \$2 million or 5.5 percent of its 1989 firm gas distribution revenues (id., § IX). The gas company petitioners for which this provision is applicable are The Berkshire Gas Company, Essex County Gas Company, Fall River Gas Company, Fitchburg Gas & Electric Light Company, and North Attleboro Gas Company.

If a company does provide written notice that it intends to exercise this right, then, as of the first day of the month following the date of notice, the company would no longer be allowed to recover any response costs through the mechanism provided for in the Settlement Agreement (id., § IX.A). Furthermore, any balances remaining in the company's environmental response cost account would be treated for ratemaking purposes as if they had been granted deferral of their recognition and thus not subject to disallowance for the sole reason that they occurred prior to the particular test year used by the company in pursuing rate recovery (id., § IX.B). The company may also seek base rate treatment of the balance remaining in its environmental response cost account and any response costs that it may incur in the future, plus any

D.P.U. 89-161

Page 36

expenses or recoveries resulting from insurance or third party claims (id., § IX.C). In addition, the company would bear the burden of proof with regard to the prudence of the environmental response costs for which it seeks or has received recovery from its ratepayers as if the Settlement Agreement had never occurred and it was seeking recovery of these costs for the first time. The Attorney General would then be free to challenge and the Department free to investigate the prudence of the manufactured gas operations and decommissioning activities of the company that resulted in the need to incur the response costs and the propriety of allowing rate recovery of such expenses (id., § IX.D). Finally, if the company initiates a rate proceeding for recovery of response costs, the amounts of any previous recoveries of response costs found to be reasonable by the Department in this proceeding would be credited against the amount of such response costs, if any, found to be recoverable from ratepayers in the Department's decision in that proceeding. Similarly, any amount of previous recoveries of such costs found by the Department to be unreasonable would be credited against the revenue requirement found in that proceeding (id., § IX.E).

The Settling Parties further agreed that in the gas company petitioners' future rate cases environmental response costs would not be considered in determining the level of base rates. The gas company petitioners agreed that they will not make any arguments in a subsequent rate case that the existence of the

D.P.U. 89-161

Page 37

Settlement Agreement or the effects resulting from its application justify the allowance of a higher rate of return on common equity (id., § X).

Finally, the Settling Parties agreed on the treatment to be given to gains from future sales of affected properties. In the event a company sells a former manufactured gas operations or dump site and realizes a net gain on the sale, the company would be allowed to calculate its basis in such property (for purposes of the determining the gain to be returned to its ratepayers) by including the carrying costs foregone during the amortization period on those response costs related to said property; provided that such adjustments to the company's basis do not result in the gain becoming a loss (id., § XI).

D.P.U. 89-161

Page 38

V. ANALYSIS OF THE SETTLEMENT AGREEMENT ON THE BASIS OF THE  
GENERIC RECORD

We have reviewed the Settlement Agreement on the basis of the generic investigation record in this docket and generally find it to be in ratepayers' interest. We therefore allow the Joint Motion. In this section, we set forth our reasons for accepting the Settlement Agreement. While refraining from any prudence findings, we describe our conclusions concerning the four issues examined in this docket: industry knowledge and practice, the law of the MGP era, insurance coverage, and appropriate ratemaking treatment, as set forth in the Interlocutory Order and in the Joint Petition. In turn, we assess the Settlement Agreement against our conclusions to indicate the reasons for its acceptability.

A. Industry Knowledge and Practice

Our review of the record in Section III of this Order persuades us that throughout the MGP era, the industry knew either in fact or constructively that the by-products and wastes of the MGP processes were hazardous and, in some cases, were carcinogenic and that the deposition of such materials on land or in ground or surface waters could injure that land or those waters by rendering them unfit for certain purposes. There is evidence, of course, that the ethic of the era sanctioned the use of land for such purposes. And there is further evidence that the economics of marketing MGP by-products were often so adverse as to render disposal of by-products on site or at

D.P.U. 89-161

Page 39

authorized dumpsites a more rational alternative than attempted sale, as a matter of short-run economics.

This awareness of the hazardous nature of MGP wastes does not, however, readily translate into imprudence for incurring the kind of liability imposed today by CERCLA and G.L. c. 21E. Even though this awareness may have alerted MGP operators to the risks to others and to neighboring land from MGP wastes, it is difficult, though not impossible, to infer that an MGP operator ought to have known that mere disposal on his own land or at a legal dumpsite, where no escape has subsequently occurred onto neighboring property, would leave him or his successors liable to clean up his own land or the dumpsite as part of a government-ordered remediation some two, ten, or even seventeen decades later. And even if such potential liability should have been foreseen, there would remain the difficult question whether such disposal might fairly be judged imprudent or whether risk of incurring a liability, arguably so remote, should better be viewed as a reasonable cost of doing business. The difficulty of inferring a want of care in MGP disposal practices is heightened by the evidence that the ability to measure the presence and effects of environmental contaminants at the parts-per-billion level of dilution in water was quite unknown to science during the MGP era.

Where, however, the land of others might become implicated by later escape of MGP wastes, the inference of want of care or prudence might more readily be drawn. But even there, as we



D.P.U. 89-161

Page 40

point out in our discussion of the law of the MGP era that follows, such an inference, while arguably strong, is not compelled.

It is a virtue of the Settlement Agreement that these difficult judgments are rendered unnecessary. In their place, a reasonable cost-sharing mechanism is established.<sup>9</sup> Therefore, unless and until a company entitled to invoke Section IX of the Settlement Agreement, permitting discontinuance of its ratemaking treatment, acceptance of the Settlement Agreement altogether obviates any need to render prudence judgments on the knowledge and practices of the MGP industry. We confine ourselves to observing that the Settlement Agreement's cost-sharing approach, taken as a whole, is not inconsistent with our reading of the record and of defensible inferences that might be drawn from it on the issue of industry knowledge and practice.

B. The Law of the MGP Era

Understanding MGP-era law is a key to establishing the rights and duties of MGP plant operators and their prudence in the conduct of their business. Interlocutory Order, pp. 15-16. As noted earlier, the Settlement Agreement, § II, would obviate

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<sup>9</sup> The cost-sharing mechanism provides for an approximately 50/50 sharing of cost between company stockholders and ratepayers (Tr. of May 9, 1990, pp. 28-29). The mechanism is analyzed in Section V.D of this Order, *infra*, p. 50.

D.P.U. 89-161

Page 41

any need for such prudence inquiries or findings on the part of the Department. Nonetheless, the Department has investigated the MGP-era law as part of this docket and must view the acceptability of the Settlement Agreement against that background, although, as noted, we refrain from any express finding on the prudence question.

Accordingly, we review the Settlement Agreement against pre-CERCLA law concerning (a) rights to use and restrictions imposed on the use of land generally, (b) duty owed by one landowner to another, and (c) defenses and liabilities resulting from use of independent contractors to haul, dispose of, or receive MGP wastes. The law sheds light on rights and duties in the use of MGP plant sites and legal dumpsites and on obligations to neighboring land onto which MGP wastes may have migrated.<sup>10</sup>

The pertinent law is tort law and real property law. We well recognize, of course, the need for caution in "reliance on tort analogies to define a public utility's responsibility in a

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<sup>10</sup> Finding the law of the MGP era, before the major change wrought by CERCLA, is akin to the exercise undertaken by Federal courts to determine state law in diversity suits. 28 U.S.C. § 1652. As there may not always be precedent exactly on point, courts look to relevant precedents, analogous decisions, and considered dicta. Nolan v. Transocean Air Lines, 365 U.S. 293, 295-96 (1961); Sproul v. Hemmingway, 31 Mass. [14 Pick.] 1, 5 (1833); Gray v. Boston Gas Light, 114 Mass. 149, 154 (1873). See C. Wright, Law of the Federal Courts, § 58, at 370 (4th ed. 1983).

D.P.U. 89-161

Page 42

regulated area." Commonwealth Electric Co. v. Department of Public Utilities, 397 Mass. 361, 367 (1986). But at least until the late 1920s, the MGP era was largely a time of no or of limited regulation of the gas industry (Exh. AG-117, pp. 25-26; Tr. XVII, p. 94). Thus, the best touchstone available is tort and real property law.

During most of the MGP era, land-use regulation was, when compared with late twentieth-century practice, rudimentary. R. Anderson, American Law of Zoning 3d, § 3.03, at 86, § 3.06, at 93 (3d ed. 1986); D. Hagman and J. Juergensmeyer, Urban Planning and Land Development Control Law, § 2.2, at 13, § 2.3, at 14 (2d ed. 1986). In the absence of a legislative or police restriction or of a covenant, a proprietor could "consult his own convenience in his operations above and below the surface of his ground." Greenleaf v. Francis, 35 Mass. [18 Pick.] 117, 121, 123 (1836). See Shipley v. Fifty Associates, 106 Mass. 194, 197 (1870). Ownership was a coelo usque ad centrum ("from heaven to the center of the earth"), and ownership rights could be asserted even at some inconvenience to neighbors. Greenleaf, 35 Mass. [18 Pick.], at 117, 121-22; Gannon v. Hargadon, 92 Mass. [10 Allen] 106, 109-10 (1865). Locale was a major determinant of whether legislative or police restrictions on certain uses were warranted. Commonwealth v. Tewksbury, 52 Mass. [11 Met.] 55, 57 (1846); Commonwealth v. Alcer, 61 Mass. [7 Cush.] 53, 87, 95-96 (1851). Even where restriction on the use of private property for trades "useful and beneficial to the

D.P.U. 89-161

Page 43

public" was warranted, id., it was to be exercised "only in cases amounting to an obvious public exigency." Tewksbury, 52 Mass. [11 Met.], at 57-58; Alger, 61 Mass. [7 Cush.], at 97, 102-03. Very little indication appears on our record (which is, albeit, generic and not site-specific) regarding legislative or police restrictions of the MGP industry. Indeed, if any inference is warranted, one of a favorable legislative view of the gas industry may perhaps be drawn from the frequent grants of corporate charters by special acts of the General Court (Exh. DPU-15-A).

Although landownership rights were broad during the MGP era, landowners were responsible for certain adverse consequences of use. Private ownership rights were tempered by the common law principle sic utere tuo ut alienum non laedas ("use your own property in such a way that you do not injure that of another"). Public or private nuisance<sup>11</sup> actions might lie for transgression of this maxim. Stowell v. Flagg, 11 Mass. 364, 364-65 (1814); Thurston v. Hancock, 12 Mass. 220, 224 (1815); Tewksbury, 52 Mass. [11 Met.], at 57. Even so, a landowner still retained the right "to use his land to his best advantage." Eames v. New England Worsted Co., 52 Mass. [11 Met.] 570, 572 (1846).

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<sup>11</sup> "A public nuisance is an unreasonable interference with a right common to the general public." Restatement, Second, Torts, § 821B. "A private nuisance is a nontrespassory invasion of another's interest in private use and enjoyment of land." Id., § 821D.

D.P.U. 89-161

Page 44

But where injury ensued "from an otherwise legitimate use" of his property, the landowner would have to "compensate his neighbor in damages" for the resultant nuisance, Stowell, 11 Mass., at 364-65, even where the damage was modest, Eames, 52 Mass. [11 Met.], at 572, and even where the result might be impossible to control or difficult to predict. Wilson v. New Bedford, 108 Mass. 261, 265 (1871). See also Sherman v. Fall River Iron Works, 84 Mass. [2 Allen] 524, 526 (1861); Sherman v. Fall River Iron Works, 87 Mass. [5 Allen] 213, 214-15 (1862); Shaw v. Cummiskey, 24 Mass. [7 Pick.] 76 (1828); Monson & Brimfield Manufacturing Co. v. Fuller, 32 Mass. [15 Pick.] 554 (1834); Fuller v. Chicopee Manufacturing Co., 82 Mass. [16 Gray] 46 (1860); Shipley, 106 Mass. 194. Nuisance liability might even attach for acts related to land not in the defendant's possession. Gray v. Boston Gas Light, 114 Mass. 149, 154 (1873). Moreover, a landowner was responsible not only for erecting a nuisance of his own, but also for maintaining a nuisance earlier erected on the land by another. Staple v. Spring, 10 Mass. 72, 74 (1813); Eames, 52 Mass. [11 Met.], at 572-73.

Before 1868, violation of duty to refrain from nuisance required a showing of "culpable negligence." Chandler v. Worcester Mutual Fire Insurance Co., 57 Mass. [3 Cush.] 328, 330 (1849). After 1868, a plaintiff no longer had to show negligence for certain kinds of injury to his land, for strict or absolute liability might attach. Ball v. Nye, 99 Mass. 582

D.P.U. 89-161

Page 45

(1868), adopting the rule of Rylands v. Fletcher, Law Rep. 3 H.L. 330 (1868). Where a landowner brought or collected "something on his own property not naturally there, harmless so long as it is confined to his property, but . . . mischievous if it should get upon his neighbor's land," he would be held, despite his best efforts to contain what he had collected, "responsible for damages, if he should not succeed in confining it to his own property." Shipley, 106 Mass., at 198. See Fuller, 82 Mass. [16 Gray] 46; Shipley, 106 Mass., at 199; Wilson, 108 Mass., at 265-66; Fitzpatrick v. Welch, 174 Mass. 486 (1899); Devo v. Athol Housing Authority, 335 Mass. 459, 462-63 (1957). The Rylands rule did not enlarge a landowner's duty to refrain from injury to another's property. Rather, Rylands, as adopted in Massachusetts, merely eliminated the need to prove negligence and, in effect, put certain hazardous uses of land "at the sole risk of the user," who henceforth had to provide "safeguards [against escape] whose perfection he guarantees." Ainsworth v. Lakin, 180 Mass. 397, 399 (1902).

Although the Rylands rule was denominated one of strict liability, it was not unqualified. As stated earlier, supra page 8, certain defenses, such as acts of God or unforeseeable and wrongful acts of third parties, were available. Cork, 162 Mass., at 333. Moreover, the injury had to be the natural consequence of the breach of duty. Kaufman v. Boston Dye House, Inc., 280 Mass. 161, 169 (1932).

D.P.U. 89-161

Page 46

Use of an independent contractor might offer a defense to liability. Brackett v. Lubke, 86 Mass. [4 Allen] 138, 140 (1862). Cf. Foster v. Essex Bank, 17 Mass. 479, 509 (1821). But even that defense could be overcome where an independent contractor "was without proper skill or unsuitable to do the work," Connors v. Hennessey, 112 Mass. 96, 99 (1873), or where improperly done work caused "mischief upon the land of another." Gorham, 125 Mass., at 99. See Connors, 112 Mass., at 99; Sturges v. Society for the Promotion of Theological Education at Cambridge, 130 Mass. 414, 415 (1881); Davis v. John L. Whiting & Son Co., 201 Mass. 91, 93 (1909); Pickett v. Waldorf Systems, Inc., 241 Mass. 569, 570 (1922). Use of an independent contractor by a public utility defendant might also prove an unavailing defense where statute imposed a duty. Boucher v. New York, New Haven, & Hartford Railroad Co., 196 Mass. 355, 359-60 (1907). Cf. Commonwealth Electric, 397 Mass., at 366 n.2. But even apart from statute, common law liability might attach for the wrongful consequences of the acts of an independent contractor performing under a lawful contract. Woodman v. Metropolitan Railroad, 149 Mass. 335, 339-40 (1889), citing Gorham, 125 Mass., at 240.

Having examined the law of the MGP era, we make several observations about applying it to prudence inquiries. Considering the passage of time, the unavailability of percipient witnesses to the events likely to be at issue in prudence inquiries, the general state of company records, and

D.P.U. 89-161

Page 47

the condition of MGP plant sites (many of which have been dismantled and redeveloped), we regard applying these principles of law to individual prudence inquiries would likely prove a daunting, though perhaps not impossible task. Although the general picture of the law during the MGP era is clear enough, the law was not static. Attempting to say what legal nuance or subtlety applied when MGP wastes were generated or disposed of or when contaminants may have crossed a site boundary resulting in nuisance injury (assuming such dates could be established) would be difficult, indeed (Tr. XVI, pp. 103-04).

The generic investigation in this docket also persuades us that site-specific information from contemporaneous records is likely to be fragmentary and enigmatic. Mounting a case, whether for prudence or imprudence, would probably prove, at best, extremely difficult in any case. Serious expense would be entailed on the part of the gas companies, the Attorney General, and the Department without significant likelihood of greater benefit to ratepayers in comparison with the outcome under the Settlement Agreement. Because of the inevitable hazards attendant on recordskeeping by corporate predecessors of today's gas companies, inconsistency and unfairness may result in developing a case-by-case body of MGP prudence precedent. Cases might well be decided by the chance survival or perishing of records from decades or even a century and a half ago. In addition, translating an MGP plant operator's incurrence of risk of strict liability into imprudence, while not an impossible



D.P.U. 89-161

Page 48

task, requires a nicety of judgment that is certainly open to good faith disagreement.

In contrast to all these uncertainties is the clear-cut sharing of cost and risk set forth in the Settlement Agreement. Applying the law of the MGP era might, in fact, favor recovery where hazardous materials from the MGP industry have not migrated from MGP plant sites or lawful dumpsites. While investigation of Massachusetts MGP sites has not progressed to a state of detailed assessment, the nature of the wastes is such that risk of migration offsite appears to be small or moderate (Tr. XVI, p. 38). For these reasons, we conclude that the Settlement Agreement represents a reasonable allocation of costs between shareholders and ratepayers.

C. Insurance Coverage, Litigation, and Proceeds

Massachusetts law concerning insurance coverage of MGP waste cleanup is presently inchoate at best. Some preliminary steps are being taken, to be sure, that may answer certain questions. For example, the Federal court for the Massachusetts District has certified certain questions of insurance law to the Supreme Judicial Court regarding coverage for the cleanup of New Bedford harbor. In Re Acushnet River & New Bedford Harbor Proceedings, 725 F.Supp. 1264 (D. Mass. 1989). In addition, the Supreme Judicial Court has before it an appeal on kindred issues in Hazen Paper Co. v. United States Fidelity & Guaranty Co., Hampden County Super. Ct., Civil Action No. 86-1679 (January 10, 1989).

D.P.U. 89-161

Page 49

Whether and how the Court may pronounce on these issues is not known, and the absoluteness of any resolution it offers is not certain. And, even were the Court to answer all the legal questions now before it, much time and effort would be expended to apply its answers to insurance litigation over the scores of MGP sites across the Commonwealth.<sup>12</sup> Thus, whatever the upshot of the two matters now before the Court, insurers are certain to show their customary energy and adeptness in asserting their defenses and in taking years to do so (Tr. I, p. 69, ll. 19-24). Against this background, we have assessed the insurance provisions of the Settlement Agreement.

Early in hearings, the Department expressed concern lest allowing rate recovery of all or a major part of MGP cleanup costs, as urged by the gas company petitioners on brief, would

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<sup>12</sup> Moreover, one of the most contentious issues is not before the Court in either of these cases: namely, the application of the "owned property" exclusion in standard policies on MGP sites owned by the gas company petitioners or their predecessors (Tr. II, p. 120; Attorney General Brief, pp. 141-42). The "owned property" exclusion, a typical feature of general liability insurance policies, states that the policy does not apply to damage to property owned or occupied by the insured, as, for example, an MGP plant site itself (Exh. CO-1, p. 33). Some courts apparently are disposed to construe such clauses against the insurer. Allstate Insurance Co. v. Quinn Construction Co., 713 F. Supp. 35 (D. Mass. 1989); C.K. Smith & Co. v. American Empire Surplus Lines, Inc., Worcester County Super. Ct., Civil Action No. 85-32950 (September 27, 1989). But the Supreme Judicial Court apparently has not yet spoken on point.

D.P.U. 89-161

Page 50

eliminate "a powerful incentive on the part of the companies to press their claims against their insurance companies" (Tr. II, p. 122). Section VI of the Settlement Agreement recognizes and accomodates this concern. It provides that half of any recovery against insurers or other PRPs would be retained by the gas company so recovering, while the other half would be returned to ratepayers, with adjustment for expenses for prosecuting the claim. This provision allays the Department's concern that any scheme for rate treatment, put into effect before insurance law is clarified and claims are pursued to a conclusion, must maintain a strong incentive for gas companies to assert their policy rights vigorously.

D. Ratemaking Treatment of MGP Waste Cleanup Under the Settlement Agreement

The terms of the Settlement Agreement are dispositive of the critical ratemaking issues that have been reviewed in this investigation. In particular, the Settlement Agreement would resolve, inter alia, the following matters that have received attention in this case: (1) the class of expenses they represent (e.g., whether extraordinary or nonextraordinary, recurring or nonrecurring); (2) whether the costs are recoverable through base rates or an external, mechanism similar in operation to the CGAC; and (3) the treatment of deferred remediation costs with regard to interest accrual. To establish that the Settlement Agreement, in fact, provides a reasonable outcome in disposing of these issues with the Settling Parties, a brief review of existing Department precedent is useful.

D.P.U. 89-161

Page 51

The Department has traditionally broken down utility expenses into four categories: (1) annually recurring expenses; (2) periodically recurring expenses; (3) nonrecurring expenses that are extraordinary in amount or nature; and (4) nonrecurring expenses that are not extraordinary in amount or nature.

Fitchburg Gas & Electric Light Company, D.P.U. 1270-1414, pp. 32-33 (1983). The Department typically allows annually recurring expenses and normalized values of periodically recurring expenses to be included in a company's cost of service. The Department also allows recovery of extraordinary nonrecurring expenses through amortization and collection from ratepayers over an appropriate period of time.

Following the decision in Commonwealth Electric Company, D.P.U. 88-135/151 (1988), in which the Department disallowed certain costs associated with hurricane damage because the expenses were incurred before the test year, several gas companies presented the Department with petitions to defer environmental cleanup costs for future ratemaking consideration. In response to these petitions, the Department has granted deferral accounting for cleanup costs for several companies: Colonial, Bay State, Boston Gas, and Berkshire. In granting deferral accounting, the Department noted that the sole ratemaking implication of deferral is to remove, as an impediment to ratemaking consideration, the fact that the expenditures were made before the test year that serves as the basis for a general rate proceeding. Interlocutory Order, p. 18

D.P.U. 89-161

Page 52

n. 4; Colonial Gas Company, D.P.U. 89-170 (1989); Boston Gas Company, D.P.U. 89-177 (1989); Bay State Gas Company, D.P.U. 89-81, Interlocutory Order (1989).

The Department noted in Colonial Gas, D.P.U. 89-70, that cleanup expenses relating to manufactured gas wastes can reasonably be predicted to recur over the next several years. Unlike rent, wages, or other periodically recurring expenses, it is not possible to derive a representative level of cost for MGP cleanup activities because the precise amount of the expense and its periodicity are subject to significant uncertainties, largely outside of the direct control of the companies. The Department also noted in Colonial Gas that environmental cleanup activities relating to MGP wastes have attributes of both recurring and nonrecurring expenses. Id., p. 7.

In the present generic investigation, there is little controversy on the record that the level of MGP remediation costs expected for the industry as a whole in the Commonwealth will be extraordinary in nature or amount. However, the Settlement Agreement makes no pronouncement on this issue. In creating a separate accounting mechanism to facilitate recovery of remediation costs as a separate cost item, the Settlement Agreement appears to accommodate and facilitate what in all likelihood become an extraordinary cost over time for the gas distribution industry as a whole.

D.P.U. 89-161

Page 53

The seven-year amortization of remediation expenses, without interest, appears to reflect a ratemaking treatment that the Department generally permits for extraordinary, nonrecurring costs. In amortizing extraordinary nonrecurring expenses, the Department has typically found an amortization period of between three and five years, with as long a period of ten years, to be appropriate, depending on the particular circumstances of the case. As a general practice, the Department does not allow carrying charges to accrue on unamortized balances of extraordinary costs. The Department finds that the proposed amortization of remediation expenses in the Settlement is not inconsistent with the body of Department rate case precedent, or with the record in this case. The Settlement Agreement's amortization approach provides a reasonable result for ratepayers and gas companies alike.

At a meeting with the Department on May 2, 1990, the Settling Parties provided the Department with a spreadsheet that depicts the operation of the environmental response cost recovery mechanism and the relationship of nominal costs and "real" costs recovered, given an assumed discount rate (Exh. DPU-33). The spreadsheet indicates that this mechanism would recover between approximately 43 percent and 50 percent of the present value of the remediation expenditures incurred by the gas companies, at discount rates of 15 percent and 11 percent, respectively. While the example is a fairly simple case, the Settling Parties provided it to demonstrate to the Department,

D.P.U. 89-161

Page 54

in general terms, the effect it would have on consumers. The spreadsheet exhibit (Exh. DPU-33) reinforces our view that the Settlement Agreement establishes an equitable basis for allowing gas companies to recover MGP remediation costs.

E. Additional Considerations

Several features of the Settlement Agreement add to its value for the Settling Parties and for the Department. One essential benefit of the Settlement Agreement is that for the Companies, even though the real dollar recovery of Environmental Response Costs is significantly discounted, the Settlement Agreement will dispel much of the uncertainty in the financial community about the fiscal consequence of these costs for gas companies (Exh. CO-19, pp. 21-22). From an accounting standpoint, the Settling Parties indicated that adoption of the settlement would provide a more certain basis upon which accountants and financial analysts could evaluate gas company finances in contrast to the presently uncertain climate. It is frequently observed, of course, that financial uncertainty may translate into higher capital and borrowing costs for a utility and that, sooner or later, these costs may be borne by ratepayers (*id.*, pp. 11-12). The clarity that the Settlement Agreement affords should help to assuage the concerns of the financial markets and thereby serve to reduce borrowing costs.

The Settlement Agreement would essentially preclude the Settling Parties from litigating the prudence of pre-1979 manufactured gas operations, and waste disposal and

D.P.U. 89-161

Page 55

decommissioning activities that resulted in the need to incur Environmental Response Costs. From an administrative perspective, the Settlement Agreement would greatly reduce the extent of litigation surrounding MGP issues in rate cases or other proceedings. In recent rate case filings that preceded the Settlement Agreement's filing, the MGP issues resolved by the Settlement Agreement required lengthy and exhaustive reviews that and posed further administrative burdens in reviewing rate case filings in the already constrained, six-month statutory time-limit. Thus, the Settlement Agreement not only provides a satisfactory and fair ratemaking outcome for MGP for both gas customers and the gas companies, but it does so in an efficient manner.

The Settlement also provides certain public policy benefits that, while not directly affecting ratepayers, are of general concern to the communities affected by MGP waste issues. It is apparent that the gas company petitioners' full and cooperative participation in complying with the spirit and letter of the law in remediating former MGP sites is enhanced by the certainty of ratemaking treatment established by our approval of the Settlement Agreement. By permitting cost recovery in an agreed-upon manner, the Department fully expects that gas companies will proceed to carry out their environmental responsibilities both in a cost-effective manner for ratepayers and in a cooperative fashion with environmental agencies. Uncertainty over ratemaking treatment is no longer an impediment to meeting the goals of environmental cleanup.



D.P.U. 89-161

Page 56

F. Conclusion

The Department finds that the Settlement Agreement establishes a reasonable ratemaking mechanism for dealing with environmental response costs that have been or may be incurred by the gas company petitioners. Accordingly, upon the foregoing considerations and analysis, the Department finds that granting the Joint Motion and approving the Settlement Agreement are in the public interest.

D.P.U. 89-161

Page 57

VI. ORDER

Accordingly, after due notice, hearing, and consideration,  
it is

ORDERED: That the Joint Motion of the Settling Parties be  
and hereby is allowed; and it is

FURTHER ORDERED: That the Settlement Agreement submitted by  
the Settling Parties be and hereby is approved as providing a  
fair and equitable resolution to the matters in controversy in  
the proceedings docketed as D.P.U. 89-161; and it is

FURTHER ORDERED: That the proceedings docketed as  
D.P.U. 89-161 be terminated with findings that in light of the  
terms and conditions of the Settlement Agreement, no further  
investigations are required and that the Department will not on  
its own motion in the future institute an investigation  
concerning the prudence of the conduct that resulted in the need  
to incur Environmental Response Costs as well as the ratemaking  
treatment, if any, to be accorded Environmental Response Costs.

By Order of the Department,

/s/ BERNICE K. MCINTYRE

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Bernice K. McIntyre, Chairman

/s/ ROBERT N. WERLIN

\_\_\_\_\_  
Robert N. Werlin, Commissioner

/s/ SUSAN F. TIERNEY

\_\_\_\_\_  
Susan F. Tierney, Commissioner

A true copy  
Attest;

MARY L. COTTRELL  
Secretary

Appeal as to matters of law from any final decision, order or ruling of the Commission may be taken to the Supreme Judicial Court by an aggrieved party in interest by the filing of a written petition praying that the Order of the Commission be modified or set aside in whole or in part.

Such petition for appeal shall be filed with the Secretary of the Commission within twenty days after the date of service of the decision, Order or ruling of the Commission, or within such further time as to the Commission may allow upon request filed prior to the expiration of the twenty days after the date of service of said decision, Order or ruling. Within ten days after such petition has been filed, the appealing party shall enter the appeal in the Supreme Judicial Court sitting in Suffolk County by filing a copy thereof with the Clerk of said court. (G.L. Ter. Ed., c. 25, s. 5, as most recently amended by c. 485 of the Acts of 1971)

**MISSOURI GAS ENERGY**  
A Division of Southern Union Company  
Updated through June 30, 2006  
**Revenue Deficiency**  
Reflects a Cost of Common Equity of 11.75%

Line No.	Description (a)	Ref. (b)	Required Return (c)	Earnings Deficiency (d)	Net Revenue Deficiency (e)
1	Rate Base	B	\$580,495,191		
2	Rate of Return	F	<u>8.844%</u>		
3	<b>Required Return</b>		<u><b>\$51,338,995</b></u>	\$51,338,995	
4	Adjusted Test Year Net Operating Income	A-1		<u>28,214,168</u>	
5	<b>Earnings Deficiency</b>			<u><b>\$23,124,827</b></u>	\$23,124,827
6	Multiply by Income Tax Gross-up Factor				<u>1.62308</u>
7	<b>Net Revenue Deficiency</b>				<u><u><b>\$37,533,421</b></u></u>

**MISSOURI GAS ENERGY**  
A Division of Southern Union Company  
Updated through June 30, 2006  
**Revenue Deficiency**  
Reflects a Cost of Common Equity of 11.50%

Line No.	Description (a)	Ref. (b)	Required Return (c)	Earnings Deficiency (d)	Net Revenue Deficiency (e)
1	Rate Base	B	\$580,495,191		
2	Rate of Return	F	<u>8.729%</u>		
3	Required Return		<u>\$50,671,425</u>	\$50,671,425	
4	Adjusted Test Year Net Operating Income	A-1		<u>28,214,168</u>	
5	Earnings Deficiency			<u>\$22,457,257</u>	\$22,457,257
6	Multiply by Income Tax Gross-up Factor				<u>1.62308</u>
7	Net Revenue Deficiency				<u><u>\$36,449,902</u></u>

**COMPARISON OF ACHIEVED RATE OF RETURN  
VS. AUTHORIZED RATE OF RETURN**

Description	6/30/1996 (000)	6/30/1997 (000)	6/30/1998 (000)	6/30/1999 (000)	6/30/2000 (000)	6/30/2001 (000)	6/30/2002 (000)	6/30/2003 (000)	6/30/2004 (000)	6/30/2005 (000)	12/31/2005 (000)
Net Sales Margin	\$ 119,108	\$ 121,390	\$ 123,759	\$ 130,859	\$ 125,088	\$ 141,971	\$ 136,311	\$ 144,483	\$ 142,799	\$ 154,187	\$ 159,807
Operating Expenses excluding Uncollectible Expense	(50,688)	(48,037)	(47,390)	(49,273)	(49,638)	(51,176)	(46,693)	(53,967)	(61,294)	(70,534)	(83,995)
Uncollectible Expense	(3,906)	(9,443)	(4,470)	(2,585)	(1,697)	(12,854)	(3,211)	(6,602)	(8,537)	(10,212)	(7,109)
Corporate Allocated Expenses Per Rate Case	(5,612)	(5,612)	(5,991)	(5,991)	(5,991)	(5,991)	(6,935)	(6,935)	(6,935)	(1,762)	(1,762)
Taxes Other than Income Taxes	(6,406)	(5,730)	(7,084)	(7,341)	(8,267)	(9,263)	(10,759)	(9,983)	(10,097)	(11,115)	(10,108)
Depreciation & Amortization	(14,808)	(16,344)	(19,131)	(21,740)	(22,439)	(22,986)	(20,015)	(22,691)	(23,787)	(26,400)	(28,416)
Income Taxes	(6,867)	(6,169)	(6,908)	(8,363)	(5,432)	(6,319)	(8,714)	(6,884)	(12,043)	(3,447)	(9,746)
Total Operating Expenses	88,285	91,334	90,974	95,293	93,464	108,389	96,327	107,062	112,693	123,470	119,136
Net Operating Income	\$ 30,821	\$ 30,056	\$ 32,785	\$ 35,566	\$ 31,624	\$ 33,582	\$ 39,984	\$ 37,421	\$ 30,106	\$ 30,697	\$ 40,671
Net plant from most recent rate case	\$ 359,290	\$ 359,290	\$ 431,152	\$ 431,152	\$ 431,152	\$ 431,152	\$ 503,192	\$ 503,192	\$ 503,192	\$ 531,291	\$ 531,291
Net Plant Balance at x/xx/xx	360,288	384,986	440,251	460,145	478,794	491,271	505,412	525,495	532,473	547,463	554,457
Increase in plant since most recent rate case	\$ 499	\$ 13,347	\$ 4,550	\$ 19,045	\$ 38,318	\$ 53,881	\$ 1,110	\$ 12,282	\$ 25,792	\$ 16,172	\$ 19,669
Estimated increase in deferred taxes	\$ (614)	\$ (7,367)	\$ (2,728)	\$ (8,183)	\$ (13,638)	\$ (18,632)	\$ (6,800)	\$ (11,333)	\$ (17,543)	\$ (4,343)	\$ (8,740)
Total rate base from most recent case updated for annual plant increases	\$ 347,927	\$ 354,022	\$ 420,041	\$ 429,082	\$ 442,899	\$ 453,468	\$ 496,740	\$ 503,359	\$ 510,579	\$ 534,601	\$ 533,701
Achieved Rate of Return	8.86%	8.49%	7.81%	8.28%	7.14%	7.41%	8.05%	7.43%	5.90%	5.74%	7.82%
Authorized Rate of Return	10.54%	9.46%	9.46%	9.40%	9.40%	9.40%	9.03%	9.03%	9.03%	8.36%	8.36%
Date Rates Went Into Effect	1-Feb-94	1-Feb-97		2-Sep-98			6-Aug-01	6-Aug-01	6-Aug-01	1-Oct-04	1-Oct-04
Return Deficiency	-1.68%	-0.97%	-1.65%	-1.11%	-2.26%	-1.99%	-0.98%	-1.50%	-3.13%	-2.62%	-0.74%
Earnings Deficiency	\$ (5,851)	\$ (3,434)	\$ (6,951)	\$ (4,768)	\$ (10,009)	\$ (9,044)	\$ (4,872)	\$ (8,032)	\$ (16,000)	\$ (13,995)	\$ (3,946)
Revenue Deficiency	\$ (9,531)	\$ (5,594)	\$ (11,323)	\$ (7,766)	\$ (16,303)	\$ (14,732)	\$ (7,936)	\$ (13,083)	\$ (28,062)	\$ (22,797)	\$ (6,428)
Cumulative Earnings Deficiency											\$ (86,901)
Cumulative Revenue Deficiency											\$ (141,554)

(1) - excludes property tax refunds for the years 2002-2004

\* - High end of Staff recommendation implicit in the settlement