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WASTEWATER MANAGEMENT

TITLE 5 INTERPRETIVE GUIDANCE: CONSIDERATION OF COST IN DETERMINING MAXIMUM FEASIBLE COMPLIANCE

Summary

Section 310 CMR 15.404 and 15.405 allow the Board of Health to modify the certain design and siting restrictions for the repair or upgrade of on-site septic systems when the goal of full compliance with the regulations is “not feasible”*. **In determining whether full compliance is feasible when granting local upgrade approvals, the Board of Health should appropriately consider not only physical possibility as dictated by the conditions of the site, but also the economic feasibility of the upgrade costs for that property relative to the environmental benefit gained.**

Discussion

A major premise of the 1994 revisions is that greater flexibility should be allowed in repairing or upgrading existing failed septic systems. On some sites geologic or other conditions make full compliance physically impossible; on many others, while full compliance might be physically achievable, the incremental environmental benefit of a fully complying system over a system that comes close to full compliance would not be worth the expense necessary to construct a fully complying system. The concept of “maximum feasible compliance” was intended to embody this premise: in granting local upgrade approvals under sections 15.404 and 15.405, the Board should consider whether, for example, the added benefits of a full sized leach field are worth the additional costs. In many instances the added treatment provided by the full field will outweigh marginal costs; however, where large amounts of additional fill may be required, the costs may well outweigh the benefits and a smaller field may be appropriate. In practice, DEP and many Boards have considered the economic practicality of full compliance in issuing variance decisions under the 1978 regulations, where cost considerations often served as the basis for hardship findings. The 1994 revisions intended that Boards should continue to evaluate upgrades this way, emphasizing protection of water resources and treatment

* Maximum feasible compliance may also be relevant in some grandfathered situations, see 310 CMR 15.005.

of sewage when determining which elements of the design requirements to hold more tightly to and which to be more lenient on. By establishing the local upgrade approval process, the 1994 regulations eliminated the need to make such decisions through a “variance” process, and eliminated DEP review so long as the repaired or upgraded system meets the minimum requirements listed at section 15.404 (2).

By their very nature, these determinations must be made on a case by case basis. Some general examples, however, may be illustrative.

Septic tank size: section 15.223 (1) ordinarily requires a minimum 1500 gallon septic tank. In an upgrade situation, where buildings are already in place, it may be necessary to raise a building, remove ledge or other subsurface obstructions, or install a pumping system in order to accommodate a tank this large. Any of these actions may be physically possible, but could represent a very high cost. Section 15.404 (2) allows a reduction of tank size to 1000 gallons. Where confronted with high costs to accommodate a full sized tank, the Board should give consideration to allowing the smaller tank, particularly for smaller residences with smaller waste flows.

System location, leaching field size and setbacks: similarly, existing building placement and setbacks from property lines, water resources or other features may make it difficult to site fully sized soil absorption systems without taking extraordinary steps. In these cases, upgrading the system by reducing some setbacks may be feasible, or through reducing leaching field size as listed in section 14.303 (1)(d) if a full sized field meeting the setback is not feasible. With a conventional system, the Board may allow field size reductions of up to 25%; using some of the alternative systems approved by DEP as of August 1995, the Board may allow field size reductions of up to 50%. The Board may, however, determine that neither location nor reduction in field size through conventional or alternative technologies is feasible on this particular site, and may issue a local upgrade approval for a system that meets the minimum requirements of section 15.404 (2) while reducing the setbacks from water resources as described in section 15.405 (1)(f), (g), or (h). Note that the rules establish a general preference that favors reducing setbacks from buildings or property lines over reducing leaching field size, and favors either of these approaches over reducing the setback to water resources. Of course, these approaches may also be combined: for examples, the Board may determine that in a given case maximum feasible compliance means installation of an alternative system with a reduced leaching area, and some reduction of the setback distance.

Systems in fill: in many situations where groundwater is high, fill to separate the soil absorption system above the groundwater represents the largest portion of the upgrade costs. These cases may be particularly appropriate for reductions in field size, as described above, or use of approved alternative systems. The Board may, alternatively, reduce the required separation from groundwater by a foot—in some instances, this may be more practicable. As outlined in section 15.405 (1), the Department believes that generally reductions in horizontal dimensions of the leaching field should be considered before reducing groundwater separation.

Other factors: When a system owner argues that the cost of an upgrade is excessive or unaffordable and that full compliance is not feasible, the Board should ask

the owner to provide two or three cost estimates for the upgrade, to put the discussion in clearer context. The Board in its review of the plans and estimates should consider what is driving the costs. For example, high costs may be caused by local requirements more stringent than Title 5. The Department strongly urges Boards dealing with upgrades to waive or reduce more stringent local requirements that would apply to new construction, as the Department has done in establishing the maximum feasible compliance approach. High upgrade costs could also result from overpriced, or perhaps even unnecessary, design. If the estimates seem overpriced compared to similar upgrades, the Board may wish to suggest that other estimates be obtained; if some aspects of the design are not in fact required, the Board may wish to identify these for the applicant. High costs may also sometimes result from choices the owner has made on aesthetic or other grounds, such as placement of gardens or walkways. The Department does not believe that self-imposed costs should generally be a basis for reduction of design requirements on the basis of financial feasibility.

When are costs too high? Because soil conditions, depth to groundwater, property values, and other factors vary so much across the state, it is impossible to give a single general answer. Statewide, the Department has found that upgrade costs over \$15,000 are comparatively unusual, and would encourage a close look at reducing costs over that amount - - for example, reducing fill costs by reducing leaching field size. However, in many communities with favorable conditions full system costs are only a few thousand dollars, and an estimate of \$8,000 or \$10,000 would be unusual, while in other communities where conditions are less favorable, costs may typically be \$12,000 to \$16,000 or even higher. Many commenters have suggested that costs over 10% of the assessed value of the property should be considered excessive. The Department agrees that using this figure as a general rule of thumb has some value, while recognizing that in some cases even minimal protection of public health and the environment will require costs higher than this, in other instances hardship will occur with lower impacts, and in still others (such as vacation properties) higher proportionate costs may not be a particular hardship. The Board should have solid reasons for holding to design requirements in excess of the minimum standards established in section 15.404 (2) when estimated costs from several installers show this level of impact, and should be confident that the incremental public health and environmental benefits to be gained are worth this expense. At the same time, the system owner is not the only person affected by a failing system, and the residents of areas with low assessed property values have the same right to expect adequate treatment of their neighbors' sewage as residents of more affluent areas. Again, the determination as to what will be required for a particular property must be based on whether the benefits of full compliance are worth the cost, based on the facts of each case.

Use of Alternative Systems

The use of approved alternative technology systems should be considered as an element of determining maximum feasible compliance when a system has failed and must be upgraded, as described in section 15.404. The costs and benefits of using alternative systems in a particular case are appropriately considered by the Board in determining to what extent full compliance is feasible in that situation, just as adjusting the design of a conventional system is appropriately considered. In many instances, use of an approved alternative technology may be a cost effective means of securing full compliance (for

example, reducing the required leaching field size). Alternative technologies have been approved for upgrading failed systems in situations in which conventional systems have not been allowed (for example, soils with 60 to 90 minute per inch percolation rates), providing cost effective solutions where tight tanks would have been required under the 1978 regulations.

While the Department encourages the use of alternative systems to bring failed systems into compliance, we do not expect the maximum feasible compliance approach to require the use of alternatives in all upgrade situations. In the great majority of cases, compliance can be achieved through component repairs as provided in 310 CMR 15.404, or it will be feasible to upgrade or repair failed systems with conventional systems. There will also be some circumstances in which alternative systems are not feasible. Just as the costs and environmental benefits of the moving a soil absorption system a few feet to achieve a setback or reducing a leaching area by 10% should be evaluated, so too should the costs and benefits of using a particular alternative system be evaluated in determining what is maximum feasible compliance for this site. In the setback example discussed above, the Board might find that it is feasible to add an approved alternative to an existing system and leave the soil absorption area where it is, while relocating the system to meet the setback is not feasible.

DEP has issued remedial use approvals for several alternative technologies, with substantial reduction in design requirements that would otherwise apply to conventional systems. The Board of Health may allow the use of any of these systems in accordance with those approvals without additional DEP review. Copies of these approvals have been mailed to all Boards of Health, and as additional approvals are issued these will also be provided. DEP staff is committed to providing technical assistance to Boards of Health with regard to approved alternative technologies; Boards are encouraged to contact their regional DEP offices or the DEP Title 5 Hotline (800) 266-1122 for additional information.

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