

§ 227.30

conjunction with an appropriate mathematical model acceptable to EPA or the District Engineer, as appropriate.

(2) When field data on the dispersion and diffusion of a waste of characteristics similar to that proposed for discharge are available, these shall be used in conjunction with an appropriate mathematical model acceptable to EPA or the District Engineer, as appropriate.

(3) When no field data are available, theoretical oceanic turbulent diffusion relationships may be applied to known characteristics of the waste and the disposal site.

(b) When no other means of estimation are feasible.

(1) The liquid and suspended particulate phases of the dumped waste may be assumed to be evenly distributed after four hours over a column of water bounded on the surface by the release zone and extending to the ocean floor, thermocline, or halocline if one exists, or to a depth of 20 meters, whichever is shallower, and

(2) The solid phase of a dumped waste may be assumed to settle rapidly to the ocean bottom and to be distributed evenly over the ocean bottom in an area equal to that of the release zone as defined in §227.28.

(c) When there is reasonable scientific evidence to demonstrate that other methods of estimating a reasonable allowance for initial mixing are appropriate for a specific material, such methods may be used with the concurrence of EPA after appropriate scientific review.

§ 227.30 High-level radioactive waste.

High-level radioactive waste means the aqueous waste resulting from the operation of the first cycle solvent extraction system, or equivalent, and the concentrated waste from subsequent extraction cycles, or equivalent, in a facility for reprocessing irradiated reactor fuels or irradiated fuel from nuclear power reactors.

§ 227.31 Applicable marine water quality criteria.

Applicable marine water quality criteria means the criteria given for marine waters in the EPA publication "Quality Criteria for Water" as pub-

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lished in 1976 and amended by subsequent supplements or additions.

§ 227.32 Liquid, suspended particulate, and solid phases of a material.

(a) For the purposes of these regulations, the liquid phase of a material, subject to the exclusions of paragraph (b) of this section, is the supernatant remaining after one hour undisturbed settling, after centrifugation and filtration through a 0.45 micron filter. The suspended particulate phase is the supernatant as obtained above prior to centrifugation and filtration. The solid phase includes all material settling to the bottom in one hour. Settling shall be conducted according to procedures approved by EPA.

(b) For dredged material, other material containing large proportions of insoluble matter, materials which may interact with ocean water to form insoluble matter or new toxic compounds, or materials which may release toxic compounds upon deposition, the Administrator, Regional Administrator, or the District Engineer, as the case may be, may require that the separation of liquid, suspended particulate, and solid phases of the material be performed upon a mixture of the waste with ocean water rather than on the material itself. In such cases the following procedures shall be used:

(1) For dredged material, the liquid phase is considered to be the centrifuged and 0.45 micron filtered supernatant remaining after one hour undisturbed settling of the mixture resulting from a vigorous 30-minute agitation of one part bottom sediment from the dredging site with four parts water (vol/vol) collected from the dredging site or from the disposal site, as appropriate for the type of dredging operation. The suspended particulate phase is the supernatant as obtained above prior to centrifugation and filtration. The solid phase is considered to be all material settling to the bottom within one hour. Settling shall be conducted by procedures approved by EPA and the Corps of Engineers.

(2) For other materials, the proportion of ocean water used shall be the minimum amount necessary to produce the anticipated effect (e.g., complete neutralization of an acid or alkaline