

US EPA ARCHIVE DOCUMENT

CHAPTER FOUR MANAGEMENT OF TREATMENT RESIDUALS UNDER PROPOSED §269.34

The following commenters support the provision that non-media treatment residuals should be regulated in accordance to RCRA Subtitle C requirements.

- “Under the proposal, residuals from the treatment of media could be classified as hazardous/non-hazardous contaminated media wastes (i.e., wastes that have been "separated" from the media being treated). This distinction has real-world consequences, since "waste" residuals would be subject to RCRA Subtitle C or D requirements, while "media" residuals would be subject to the new Part 269 requirements of this rule. The ETC supports the management of non-media treatment residuals under Subtitle C, consistent with Part 268 standards. Such residuals are clearly not media, but instead reflect the same physical and chemical characteristics of treatment residuals generated from process wastes. Such non-media treatment residuals must be subject to full Subtitle C control in order to provide for consistent protective management of non-media and process waste residuals. Otherwise, enforcement complexities and environmental impact could result.

Moreover, the ETC believes that compliance with the 90% treatment standard for contaminated media does not in itself assure that the residual poses sufficiently low hazards to be disposed in a Subtitle D facility. For example, soil contaminated with high concentrations of solvents could still have residual concentrations that can damage the synthetic liners of municipal landfills—or worse rapidly migrate into groundwater from unlined landfills. As a result, we believe that treated media containing hazardous constituents below the Bright Line, but still above HWIR exit levels, should be disposed in a Subtitle C facility.

The Council urges EPA to develop guidance for the management of treated media/waste residuals in accordance with this matrix.” (88)

Response: EPA appreciates this support of the proposed approach. EPA has retained, in the final regulations, the requirement that non-media residuals separated from hazardous contaminated media during treatment be managed as hazardous waste. If land disposed, these non-media treatment residuals will be subject to applicable land disposal restrictions, usually the universal treatment standards.

In addition media treatment residuals (i.e., treated soil) will remain subject to RCRA Subtitle C regulations (i.e., will require disposal in a RCRA Subtitle C facility) unless or until EPA or an authorized state determines, through application of the contained-in policy, that the soil does not or no longer contains hazardous waste, or the soil no longer exhibits a hazardous waste characteristic.

- “The Department also concurs with the proposal that non-media treatment residuals, such as carbon canisters, should be subject to management under the full requirements of RCRA, including the LDRs when generated as part of a cleanup action. Although we believe that carbon canisters generated as the result of the remediation of a petroleum release, which exhibit the Toxicity Characteristic for benzene, should be allowed to be managed as a non-hazardous waste when transported from a site for recycling/regeneration.” (112)

Response: EPA appreciates this support of the proposed approach. EPA has retained, in the final regulations, the requirement that non-media residuals separated from hazardous contaminated media during treatment be managed as hazardous waste. If land disposed, these non-media treatment residuals will be subject to applicable land disposal restrictions, usually the universal treatment standards.

Under current Agency rules carbon canisters generated through treatment of hazardous waste (including hazardous contaminated soil) are subject to the same tests for hazardousness as other wastes: they may themselves exhibit a characteristic, or, if they hold listed wastes, would be hazardous for that reason. Rules on recycling are found at 261.2 and 261.6 and are not at issue in this proceeding.

Although the following commenters believe that the management of residuals should be regulated in accordance with Part 269, they offer several concerns. One commenter believes that EPA should clarify that proposed section 269.34(a)(2) does not require that non-media residuals below-the-Bright Line must be managed as hazardous waste, unless the residual exhibits a hazardous characteristic. The following commenter requests EPA to clarify that the proposed section does not require that non-media residuals derived from the treatment of media below the Bright Line must be managed as hazardous waste, unless the residual exhibits a hazardous characteristic.

- “USWAG supports proposed section 269.34(a)(1), which provides that media residuals should be managed in accordance with the standards of Part 269. *Id.* Specifically, USWAG supports EPA’s proposal that above-the-Bright Line media that are treated to reduce contaminant concentrations below-the-Bright Line should subsequently be subject to the same management requirements as media that are below-the-Bright Line as generated. There is simply no reason to impose regulatory requirements on media treatment residuals that are different from those applicable to media with similar levels of contamination as generated, and EPA’s proposal sensibly subjects them to the same requirements.

USWAG believes that EPA should clarify that proposed section 269.34(a)(2) does not require that non-media residuals derived from the treatment of media that are below-the-Bright Line must be managed as hazardous waste, unless the residual exhibits a hazardous characteristic. Because EPA has determined that these media no longer contain hazardous waste, any residuals are not derived from treatment of a hazardous waste. However, the proposed language, by referring to the standards applicable to the waste “before treatment,” is unclear and could be interpreted to require the treatment of residuals as hazardous waste if the constituents in the residuals had originated from a listed waste. Accordingly, EPA should clarify that the derived from rule does not apply to residuals generated from treatment of media below-the-Bright Line and that therefore such residuals are not subject to Subtitle C regulation unless the residual itself exhibits a hazardous characteristic. Otherwise, if EPA were to require management of such residuals under Subtitle C, it would undermine much of what EPA hopes to accomplish with this proposal by increasing the cost and difficulty of remediation.” (59)

Response: EPA is not, at this time, taking action on the portion of the HWIR-Media proposal that would have established a “bright line” to distinguish between higher- and lower-risk contaminated media including contaminated soils and expanded the opportunities for regulatory agencies to exempt certain remediation wastes from RCRA Subtitle C requirements. If, in the future, the Agency takes action to establish a bright line, it will address these comments as necessary.

Residuals from treatment of contaminated soil will be regulated as discussed in the proposal. Non-media treatment residuals generated by treatment of contaminated soil which contains listed hazardous waste or which exhibits a characteristic of hazardous waste, will be regulated as hazardous waste, will remain subject to RCRA Subtitle C requirement including, if land disposed, applicable land disposal restriction treatment standards. Media residuals (i.e., treated soil) will also continue to be regulated as hazardous waste up to and until EPA or an authorized state determines that the soil no longer contains hazardous waste (or until the soil no longer exhibits a hazardous characteristic).

- “MANAGEMENT OF TREATMENT RESIDUALS (40CFR269.34): Bell Laboratories believes that regulatory standards for the management of media residuals are necessary under this Part. Non-media residuals should be considered waste residuals and subject to the subtitle C or D standard applicable to the waste contaminating the media before treatment. The methods used to determine whether treatment residuals are media or non-media should be addressed through guidance documents. It should not be required that media and non-media treatment residues be separated using physical or mechanical means. In those cases where the treatment method results in the destruction of the media treated, leaving only non-media residuals, the residuals should be subject to the treatment standards for the contaminating hazardous waste (UTS) and not the treatment standard for media (90% reduction in constituent concentration or 10 times the UTS alternative soil treatment standard proposed).” (42)

Response: EPA appreciates this support of the proposed approach; the Agency has retained this approach in the final regulations. Under the final regulations, residuals from treatment of contaminated soil will be regulated as discussed in the proposal. Non-media treatment residuals generated by treatment of contaminated soil which contains listed hazardous waste or which exhibits a characteristic of hazardous waste, will be regulated as hazardous waste, will remain subject to RCRA Subtitle C requirement including, if land disposed, applicable land disposal restriction treatment standards. Media residuals (i.e., treated soil) will also continue to be regulated as hazardous waste up to and until EPA or an authorized state determines that the soil no longer contains hazardous waste (or until the soil no longer exhibits a hazardous characteristic).

Regarding the separation of media from non-media residuals (i.e., soil from non-soil), the Agency agrees that separation of soil from non-soil should be accomplished by simple physical or mechanical means. This is reflected in the final regulations where soil is defined as “unconsolidated earth material composing the superficial geologic strata (material overlying bedrock), consisting of clay, silt, sand, or gravel size particles as classified by the U.S Soil Conservation Service, or a mixture of such materials with liquids, sludges or solids which is inseparable by simple mechanical removal processes and is made up primarily of soil.” The Agency further agrees that, in situations where a treatment method results in destruction of the media (e.g., in cases where an individual chose to incinerate contaminated soil) the remaining non-soil residual would be subject to the applicable RCRA Subtitle C standards including the land disposal restrictions.

EPA believes that the definition of soil currently provides adequate guidance on separation of soil from non-soil treatment residuals. The Agency will address the need for additional guidance in this area if experience implementing the program indicates it is necessary.

One commenter believes that guidance on methods for making the determination whether treatment residuals are media or non-media will be necessary.

- “p. 18810, col. 2 -- Under the proposed rule, waste residuals would be managed according to RCRA Subtitle C or Subtitle D requirements. Media residuals would remain subject to Part 269. EPA requests comment on whether the Agency should address (in the form of regulations or guidance) methods for determining whether treatment residuals are media or non-media. EPA also solicits comment on whether the approach promulgated for residuals from treatment of hazardous debris should be utilized and require that media and non-media treatment residuals be separated using simple physical or mechanical means.

In many situations, simple physical or mechanical means may not serve to distinctly separate treatment residuals that are media from those that are non-media. DOE suggests that guidance on methods for making the determination (i.e., whether treatment residuals are media or non-media) will be necessary, but suggests that the guidance not be promulgated as part of the regulations because there may be multiple ways to make the determination that would be equally acceptable. If one

approach were promulgated, it might preclude the use of equally justifiable and possibly more suitable or cost effective methods.

In situations such as the preamble describes where certain treatment methods may completely destroy the media treated, leaving only non-media residuals, DOE believes that the residuals should be evaluated based on their own characteristics to determine whether they must be classified as hazardous waste. If so, they should be required to meet LDR standards applicable to other wastes which exhibit the same hazardous characteristics. If not, further management under Subtitle C should not be required. DOE does not believe that protection of human health or the environment is enhanced by requiring that non-media residuals (especially those that have different physical or chemical attributes than the original hazardous waste that contaminated the media) meet the LDR standards applicable to the wastes that contaminated the media. To justify basing LDR treatment standards for non-media residuals on the characteristics of the residuals, rather than on the LDR standards applicable to either the original contaminating wastes or the contaminated media (if the change of treatability group principle is applied as discussed in Specific Comment V.C.8, item 1), DOE advocates using the change of treatability group principle.” (60)

Response: The Agency is not persuaded, at this time, that additional guidance is needed on the separation of soil from non-soil residuals. The Agency believes this will, in most cases, be a relatively straightforward process: either a treatment method will be based on separation of contamination from soil in which case it will result in clear soil and non-soil residuals or a treatment method will be based on stabilization or immobilization of contaminants in soil, in which case it will result in a soil residual, or a treatment method will be based on destruction of contamination in soil (i.e., incineration) in which case it will most likely result in only a non-soil residual.

The Agency will address the need for additional guidance in this area if experience implementing the program indicates it is necessary.

Some commenters are concerned about the landfill requirements of non-hazardous contaminated media.

- “The State of Utah recommends that the disposal of contaminated media, both above and below the Bright Line, should only occur at either Subtitle C or D landfills. Only Subtitle D landfills built in accordance with EPA standards which require a clay and synthetic lining should be allowed to receive non-hazardous contaminated media.” (L-02)

Response: EPA is not, at this time, taking action on the portion of the HWIR-Media proposal that would have established a “bright line” to distinguish between higher- and lower-risk contaminated media including contaminated soils and expanded the opportunities for regulatory agencies to exempt certain remediation wastes from RCRA Subtitle C requirements. If, in the future, the Agency takes action to establish a bright line, it will address these comments as necessary.

Residuals from treatment of contaminated soil will be regulated as discussed in the HWIR-Media proposal. Non-media treatment residuals generated by treatment of contaminated soil which contains listed hazardous waste or which exhibits a characteristic of hazardous waste, will be regulated as hazardous waste, will remain subject to RCRA Subtitle C requirement including, if land disposed, applicable land disposal restriction treatment standards. Media residuals (i.e., treated soil) will also continue to be regulated as hazardous waste up to and until EPA or an authorized state determines that the soil no longer contains hazardous waste (or until the soil no longer exhibits a hazardous characteristic).

- “EPA proposes in 40 CFR 269.34(a)(1) to require media residuals to “be subject to the standards of this part” (referring to part 269), and proposed 40 CFR 269.12 restricts interstate movement of

contaminated media. Though EPA proposes to require media residuals to be managed per part 269, part 269 does not address disposal requirements other than to restrict interstate movement via §269.12. It appears from the proposal that non-hazardous contaminated media could be land filled, returned to the hole from which it came, or moved within the State uncontrolled. A mechanism is required to control the ultimate disposal or future movement of non-hazardous contaminated media after the end of the remedial action to prevent inappropriate placement. It is requested that a section addressing disposal of non-hazardous media be added to the regulations. It is requested that this provision require written notification to property owners whenever non-hazardous media is transferred to another party. The notice should be required to identify the constituents and concentration of contaminants known to be present in the media as well as the regulatory status of the media (i.e. that the media was designated as no-longer containing hazardous waste). This will ensure that though the media is no longer subject to RCRA regulation, knowledge of hazardous substances will be maintained by property owners.” (97)

Response: EPA is not, at this time, taking action on the portion of the HWIR-Media proposal that would have established a “bright line” to distinguish between higher- and lower-risk contaminated media including contaminated soils and expanded the opportunities for regulatory agencies to exempt certain remediation wastes from RCRA Subtitle C requirements. Because the Agency has chosen, at this time, not to go forward with those portions of the proposal, media treatment residuals (i.e., treated soil) will continue to be regulated under RCRA Subtitle C and will be required to comply with all applicable RCRA Subtitle C requirements unless and until EPA or an authorized state determines that the treated soil no longer contains hazardous waste or the treated soil no longer exhibits a characteristic of hazardous waste.

One commenter seeks clarification for what EPA considers “potential” for cross-media transfer. [Also see Section 16.B regarding cross-media impacts.]

- “Not considering the environmental impact of the residuals unless there is a vague “potential” for cross-media transfer seems unnecessarily limiting. Given the exposure scenario used for the risk assessment performed, the adequacy of the site-specific data, and the cleanup numbers calculated, what criteria will be used to determine if a “potential” for cross-media transfer exists?” (73)

Response: EPA is not, at this time, taking action on the portion of the HWIR-Media proposal that would have established a “bright line” to distinguish between higher- and lower-risk contaminated media including contaminated soils and expanded the opportunities for regulatory agencies to exempt certain remediation wastes from RCRA Subtitle C requirements. Because the Agency has chosen, at this time, not to go forward with those portions of the proposal, media treatment residuals (i.e., treated soil) will continue to be regulated under RCRA Subtitle C and will be required to comply with all applicable RCRA Subtitle C requirements unless and until EPA or an authorized state determines that the treated soil no longer contains hazardous waste, or if the treated soil no longer exhibits a characteristic of hazardous waste.

One commenter proposes a management matrix outlined in a table.

- “EPA requests comment on the management of treatment residuals. TDS proposes a management matrix as outlined in Table 4. The Table is self-explanatory, though there are some points of note:

Just as in the case of media with constituents below the BL, TDS believes media is not suitable for Subtitle D disposal if constituents exceed the exit levels developed for the HWIR-Waste rule.

Media not meeting the criteria for disposal in Subtitle D would require Subtitle D management. State decision makers would have the option of deciding if the residual required further treatment at a Subtitle C facility or was suitable for disposal, without further treatment, in a Subtitle C landfill.

Meeting the applicable 90% treatment standard does not of itself assure that the residual is of sufficiently low hazard to no longer pose a threat in a Subtitle D environment.

For example, soil contaminated with benzene at 4000 mg/kg, well above the 500 mg/kg BL, would receive treatment to the 90% standard, resulting in a reduction of the benzene level in the treated soil to 400 mg/kg. Is this now suitable for Subtitle D disposal? Upon subjecting the treated soil to the TCLP, the extract has a benzene level of 5 mg/l, an entirely plausible outcome since the TCLP, at a 20 to 1 dilution, could yield an extract of 20 mg/l (400 mg/kg divided by TCLP dilution factor of 20).

In this case the treated media still exhibits the characteristic for benzene, a D018 waste. The treated media also exceeds the HWIR-Waste exits of 110 mg/kg and .0054 mg/l. If managed off-site, this treated media would have to be sent to a Subtitle C facility. The overseeing agency could determine that direct disposal in a Subtitle C landfill would suffice or could mandate additional treatment. Such flexibility is significant since current direct disposal costs for Subtitle C landfills are well under \$100/ton.” (25)

Response: EPA is not, at this time, taking action on the portion of the HWIR-Media proposal that would have established a “bright line” to distinguish between higher- and lower-risk contaminated media including contaminated soils and expanded the opportunities for regulatory agencies to exempt certain remediation wastes from RCRA Subtitle C requirements. If, in the future, the Agency takes action to establish a bright line, it will address these comments as necessary.

Residuals from treatment of contaminated soil will be regulated as discussed in the HWIR-Media proposal. Non-media treatment residuals generated by treatment of contaminated soil which contains listed hazardous waste or which exhibits a characteristic of hazardous waste, will be regulated as hazardous waste, will remain subject to RCRA Subtitle C requirement including, if land disposed, applicable land disposal restriction treatment standards. Media residuals (i.e., treated soil) will also continue to be regulated as hazardous waste up to and until EPA or an authorized state determines that the soil no longer contains hazardous waste (or until the soil no longer exhibits a hazardous characteristic).

One commenter argues that the management of nonhazardous treatment residuals should generally be approved by the oversight state.

- “BFI believes that the management of nonhazardous treatment residuals-- except their disposal in a permitted subtitle D landfill unit-- should be approved by the oversight state. BFI believes that the state with oversight authority should make the determination that the residual is safe for its intended use or replacement to the land without further controls. This requirement for approval is important for both media and non media waste streams.

If the treatment residual is to be managed outside of a permitted subtitle D landfill, then the oversight State responsible for approving the remedial management plan (RMP) needs to know the ultimate disposition of the material. The oversight State needs to affirmatively determine that any residual risks from other management methods will be within levels that are appropriate. This kind of decision can be easily and more reliably made on a case-by-case base by the oversight agency, than simply relying on the mechanical approach set forth under the debris rules that the Agency is proposing to adopt. If a treatment residual is sent to a permitted landfill under subtitle D of RCRA, there are sufficient substantive and administrative controls to assure safe disposal. Disposal or reuse outside of a permitted

landfill under subtitle D will not be subject to any oversight unless the disposal or reuse issue is directly addressed in the RMP.” (111)

Response: EPA is not, at this time, taking action on the portion of the HWIR-Media proposal that would have established a “bright line” to distinguish between higher- and lower-risk contaminated media including contaminated soils and expanded the opportunities for regulatory agencies to exempt certain remediation wastes from RCRA Subtitle C requirements. Because the Agency has chosen, at this time, not to go forward with those portions of the proposal, media treatment residuals (i.e., treated soil) will continue to be regulated under RCRA Subtitle C and will be required to comply with all applicable RCRA Subtitle C requirements unless and until EPA or an authorized state determines that the treated soil no longer contains hazardous waste or the treated soil does not exhibit a characteristic of hazardous waste.

The following commenter is opposed to requiring what it believes to be rigid requirements for the management of treatment residuals.

“We encourage the Agency to avoid adding yet more complication to the already over complicated Bright Line approach by establishing rigid requirements for the management of treatment residuals. In general, treatment goals in remediation are established with the final disposition of the material to be treated in mind. For example, soils intended for reuse on site as fill might be treated to an industrial land use direct contact based risk goal, while material that will be consolidated and covered might be treated to minimize groundwater impact in consideration of the effectiveness of the cover. The Agency is already proposing to interfere with these determinations via generic treatment requirements, they should not do so via generic management requirements for treated materials.

In general, three forms of treated materials arise from remedial technologies. Those comprise media treated with a destructive technology to reduce the concentration of constituents in the media (e.g. via bioremediation), media from which the contaminant has been removed and concentrated or destroyed (e.g. via soil washing, thermal desorption, ex-situ vapor extraction, air stripping) and media in which the mobility/bioavailability of the contaminants has been reduced (e.g. pozzolonic stabilization, bio/phytostabilization, geochemical alteration). Only in the case of concentrated contaminants separated from the media should EPA impose additional management standards (for example liquid organics generated by soil vapor extraction and condensation). The treated media itself should be managed per a site-specific RAP.

For example, a DuPont subsidiary is undertaking remediation to redevelop a brownfield type property. The remediation will involve the soil washing of a large quantity of soil, followed by the reuse of that soil as fill in this industrial/commercial development. The soil is being treated to concentrations that satisfy numeric criteria developed by the State and the Region for both direct contact and groundwater protection. However, due to the geochemical nature of the site soils, and the unrepresentativeness of the TCLP test, the treated soil continues to “fail” TCLP for the metal of interest after treatment, even though it passes the more representative SPLP-based groundwater protection criteria. The soil will not be placed in a sanitary landfill and will never see the aggressive conditions represented by the TCLP. However, the TCLP almost derailed the remediation, and only the use of a CAMU is allowing it to move forward. Any sort of mandatory requirement regarding the management of residuals under the Agency’s proposed approach to HWIR, under which the CAMU would be rescinded, would probably block this protective remedial strategy and potentially

scuttle this brownfield redevelopment. We also note that this example illustrates that definitions of "hazardous" have absolutely nothing to do with the risk represented by remediation waste or the proper approaches to managing them in a protective manner.

b. Stabilized materials are not waste residuals

It would be particularly inappropriate to manage stabilized materials as waste residuals. The stabilization process is an effective treatment to reduce mobility or bioavailability of constituents; the result is a "clean" treated material. To then treat that material as a waste completely undoes the benefits of the treatment. In fact, to then dispose of solidified materials in a landfill may well expose them to conditions more likely to leach constituents than on-site placement of those materials.

EPA proposes that non-media residuals from the treatment of media be subject to the RCRA Subtitle C or D standards applicable to the waste contaminating the media before treatment. On this basis, treatment of a media that is contaminated with a listed hazardous waste would require the non-media residuals from that treatment to be managed as if it were the same listed hazardous waste. We disagree.

EPA has stated on numerous occasions that the mixture rule does not apply to contaminated media because it is not a mixture of a listed waste and a solid waste. Therefore, the contained-in principle applies to contaminated media. Neither the mixture nor derived-from rules should apply to treatment residuals since neither applied to the media in the first place.

Clarification of the applicability of LDR standards to treatment residuals is also needed. For example, media for which a contained-in determination has been made prior to removal, and that is contaminated with waste disposed prior to the effective date of the applicable LDR standards, is not required to meet the LDR standards in Subpart C of Part 269. Residuals from the treatment of such media should likewise not be subject to the LDR standards.

EPA indicates that the proposal is meant to be consistent with the Agency's approach to residuals from the treatment of hazardous debris. However, the debris rule language (268.45(d)) is specific to the applicability of the LDR treatment standards. It is not intended to invoke a broader range of Subtitle C standards for the management of treatment residuals. The media and non-media residuals from the treatment of a media contaminated with a listed waste should only be subject to characterization via Subpart C of Part 261 to determine if they exhibit a characteristic." (117)

Response: EPA is not, at this time, taking action on the portion of the HWIR-Media proposal that would have established a "bright line" to distinguish between higher- and lower-risk contaminated media including contaminated soils and expanded the opportunities for regulatory agencies to exempt certain remediation wastes from RCRA Subtitle C requirements. Residuals from treatment of contaminated soil will be regulated as discussed in the proposal. Non-media treatment residuals generated by treatment of contaminated soil which contains listed hazardous waste or which exhibits a characteristic of hazardous waste, will be regulated as hazardous waste, will remain subject to RCRA Subtitle C requirement including, if land disposed, applicable land disposal restriction treatment standards. Media residuals (i.e., treated soil) will also continue to be regulated as hazardous waste up to and until EPA or an authorized state determines that the soil no longer contains hazardous waste (or until the soil no longer exhibits a hazardous characteristic).

The Agency is not persuaded, at this time, that this approach is overly complex or inappropriate. Regarding complexity, the Agency believes distinguishing between soil and non-soil residuals will, in most cases, be a relatively straightforward process: either a treatment method will be based on separation of contamination from soil in which case it will result in clear soil and non-soil residuals or a treatment method will be based on stabilization or immobilization of contaminants in soil, in which case it will result in a soil residual, or a treatment method will be based on destruction of contamination in soil (i.e., incineration) in which case it will most likely result in only a non-soil residual.

Regarding whether it is proper to require that non-soil residuals generated by treatment of soil that contains a listed hazardous waste or exhibits a characteristic of hazardous waste, be managed as hazardous waste, the Agency is not persuaded that non-soil treatment residuals should be exempted from RCRA Subtitle C requirements (even if it were possible under law to provide such an exemption). Non-soil treatment residuals will be generated through application of separation technologies. The Agency believes it is reasonable to expect, therefore, that contamination will be concentrated in non-soil treatment residuals, therefore, in the case of non-media residuals from treatment of hazardous contaminated soil, it is reasonable to require the residuals be managed as hazardous waste.

The following commenters argue that stabilized media are not hazardous materials and therefore should not be regulated as such.

- “VI. Stabilized Media Which Meet the Requirements of Part 266 Should Not Be Considered Waste Residuals and Should Not Be Subject to RCRA Subtitle C or D Standards.

Under Section V.C.7. (61 Fed. Reg. at p. 18810) of the HWIR-Media proposal, EPA requested comments regarding regulatory standards for the management of non-media treatment residuals. EPA specifically questioned whether residuals from treating media using stabilization technologies (stabilized media) should be considered waste residuals and subject to RCRA subtitle C or D.

Currently, stabilized media which is applied to the land is regulated under the requirements of a RCRA exemption in 40 C.F.R. Part 266. As discussed above, under Part 266, Encapco products must meet specific criteria before being applied to land. The recyclable materials in such products must have undergone a chemical reaction in the course of producing the product so as to become inseparable by physical means. Such products must also satisfy the current Part 268 land disposal treatment standards. Such products must also constitute legitimate recycling, and must be produced for the general public's use. See 40 CFR 266.20(b). Any further regulation of these recycled materials would bar the use of Encapco's stabilization technology. Stabilized materials that meet the requirements of Part 266 should not be subject to a wholesale designation of stabilized media as waste residuals. It is clear that the exemption for recycled stabilized media should be maintained.” (53)

Response: The exemption for hazardous waste derived products in 40 CFR Part 266 is not affected by today's action. Therefore, hazardous waste derived products made with treated contaminated soil (i.e., soil that contains listed hazardous waste or exhibits a characteristic of hazardous waste) will continue to be eligible for the exemption. However, as discussed in the preamble to today's action, the Agency will continue to require that such hazardous waste derived products achieve the existing land disposal restriction treatment standards (i.e., the applicable universal treatment standards rather than the soil treatment standards).

EPA also notes that there are significant questions as to the adequacy of even current LDR standards for hazardous wastes used in a manner constituting disposal. For example, the stabilization process does not reduce total metals concentrations. Yet total metals (rather than extractable metals) could be a highly relevant consideration in assessing potential harm from this manner of use because of the greater likelihood

of direct dispersion of the waste (since it is not buried as in a landfill, and also can be exposed to direct contact, as perhaps by vehicles or other day-to-day contact). Thus, the Agency views the current rules as stop-gap, and for this reason is not making the standards any more lenient. See 50 FR at 647 And 53 FR at 17605 (May 17, 1988).

- “Although CMA believes retreatment to attain applicable, modified, generic LDR standards may be appropriate for as generated process wastes, CMA does not believe such retreatment is appropriate for contaminated media. Assuming proper care was taken when conducting treatment, failure to achieve the proposed treatment standard should demonstrate the inability to achieve standards derived for process wastes which are inapplicable to remediation. Such failure likely results from matrix-specific difficulties which retreatment is unlikely to alleviate. Thus, treatment by the appropriate methods should automatically qualify media for "exit" from LDR requirements. If such an automatic exit is not provided, CMA supports a strong presumption that a variance will issue to such media.

Stabilized media is not a waste, and should not be considered a residual from treating a waste. This is particularly true of media which have been determined to no longer contain hazardous waste. Instead, stabilized media should be considered a media residual. Although CMA does not believe there is much ambiguity, EPA should clarify by guidance or regulation that such media is not a waste residual. As a media residual, stabilized media should not be subjected to any further treatment, once it has met the performance requirements for strength, leachability, etc., specified in the RAP.

CMA does not believe that such separation should be required. In contrast, physical or mechanical separation which can be accomplished is required to assure that materials to be treated meet the proposed definition of media. Failure to separate waste or other materials -- such as debris - from the media would require treatment of the mixture as a waste under full Subtitle C requirements. Further, separation of media is often more difficult than separation of debris.” (112)

Response: The commenter makes three suggestions: (1) if, after initial treatment, hazardous contaminated media does not meet the soil treatment standards it should, nonetheless be considered to have complied with LDRs provided reasonable care was taken in operation of the treatment system; (2) hazardous contaminated media treated by stabilization should be considered a “media residual;” and, (3) separation of media is often more difficult than separation of debris.

EPA is not persuaded that if, after initial treatment, hazardous contaminated media does not meet the soil treatment standards it should, nonetheless be considered to have complied with LDRs. EPA notes that, in these cases, if a model treatment technology were properly used (i.e., one of the technologies on which EPA based the LDR treatment standard) the generator would likely qualify for a treatment variances based on the standard that the otherwise applicable LDR treatment standard was unachievable.

EPA agrees that stabilized media should be considered a media residual. This issue is discussed further in the preamble to today’s action.

While separation of media may be more difficult than separation of debris EPA is not persuaded that it should, therefore, not be required. The definition of soil, however, makes it clear that EPA’s expectation is only for the type of separation that can be accomplished using simple physical or mechanical means.

One commenter believes there is no reason to apply the generic LDR treatment standards proposed in the rule to non-media treatment residuals.

- “Under the proposed rule, waste residuals from the treatment of hazardous contaminated media would be managed according to applicable RCRA Subtitle C or Subtitle D requirements for hazardous wastes and non - hazardous wastes, respectively. Media residuals would remain subject to 40 CFR part 269 requirements. The Agency requests general comment on this approach and whether regulatory standards for the management of non-media treatment residuals are necessary under Part 269.

Comment: Ohio EPA does not support the development of regulatory standards, under 40 CFR part 269, for the management of non-media hazardous treatment residuals. Such residuals which do not contain media are 'as-generated' wastes and should be managed in accordance with current Subtitle C requirements and 40 CFR part 268 LDR universal treatment standards. The generic LDR treat standards should only be applicable to residuals that still contain media since the interfering matrix is still present.

A purpose of this rule is to develop treatment standards that are more applicable to treating hazardous constituents contained in a matrix that complicates or inhibits the treatment of the constituents. Non-media treatment residuals result from the removal of hazardous constituents from the contaminated media and are 'as-generated' wastes. The complicating factor (the media matrix) is no longer present. Therefore, there is no technical reason to apply the generic LDR treatment standards proposed in the rule to non-media treatment residuals. In addition, to apply the generic LDR treatment standards to non-media treatment residuals or non-media remedial wastes would weaken the basis for the existing LDR program.” (L-1)

Response: EPA agrees that non-media treatment residuals from treatment of hazardous contaminated soil (i.e., soil that contains hazardous waste or exhibits a characteristic of hazardous waste) should be considered hazardous waste. These residuals will be subject to all applicable subtitle C requirements, including applicable land disposal restriction treatment standards.