6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

[EPA-HQ-OAR-2017-0427; FRL- 9994-29-OAR]

RIN 2060-AT73

National Emission Standards for Hazardous Air Pollutants for Asbestos: Notice of Final Approval for an Alternative Work Practice Standard for Asbestos Cement Pipe Replacement

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice; final approval.

SUMMARY: This document announces our approval of an alternative work practice (AWP) under the Clean Air Act (CAA) in response to a request to use new technology and work practices developed for removal and replacement of asbestos cement (A/C) pipe, which is regulated under the National Emission Standard for Hazardous Air Pollutants (NESHAP) for Asbestos. This approval specifies the operating conditions, notifications, work practices, disposal, recordkeeping and reporting requirements that must be followed to demonstrate compliance with the NESHAP for Asbestos and the approved AWP.

DATES: The AWP request for the use of close tolerance pipe slurrification (CTPS) for replacement of A/C pipes is approved as of **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER**].

ADDRESSES: The U.S. Environmental Protection Agency (EPA) has established a docket for this document under Docket ID No. EPA-HQ-OAR-2017-0427. All documents in the docket are listed on the *https://www.regulations.gov/* website. Although listed, some information is not publicly available, *e.g.*, Confidential Business Information or other information whose disclosure

is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through *https://www.regulations.gov/*, or in hard copy at the EPA Docket Center, Room 3334, WJC West Building, 1301 Constitution Avenue, NW, Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Eastern Standard Time, Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the EPA Docket Center is (202) 566-1742.

FOR FURTHER INFORMATION CONTACT: For questions about this final action, contact Mr. Korbin Smith, Sector Policies and Programs Division (D243-04), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711; telephone number: (919) 541-2416; fax number: (919) 541-4991; and email address: *smith.korbin@epa.gov*.

For questions about the applicability of this action, contact Mr. John Cox, Office of Enforcement and Compliance Assurance, U.S. Environmental Protection Agency, WJC South Building, 1200 Pennsylvania Avenue. NW, Washington, DC 20460; telephone number: (202) 564-1395; and email address: *cox.john@epa.gov*.

SUPPLEMENTARY INFORMATION:

Acronyms and abbreviations. We use multiple acronyms and terms in this document. While this list may not be exhaustive, to ease the reading of this document and for reference purposes, the EPA defines the following terms and acronyms here:

A/C	asbestos cement
ACM	asbestos-containing material
ACPRP	asbestos cement pipe replacement project
ACWM	asbestos-containing waste material

AD	applicability determination
ASTM	American Society for Testing and Materials
ASU	Arizona State University
AWP	alternative work practice
CAA	Clean Air Act
CFR	Code of Federal Regulations
CIPP	cured-in-place pipe
CTPS	close tolerance pipe slurrification
EPA	Environmental Protection Agency
HDD	horizontal directional drill
HEPA	high efficiency particulate air
NESHAP	national emission standards for hazardous air pollutants
OSHA	Occupational Safety and Health Administration
RACM	regulated asbestos-containing material, as defined in 40 CFR 61.141
VE	visible emissions, as defined in 40 CFR 61.141

Organization of this document. The information in this document is organized as follows:

I. Background

A. Summary

In a **Federal Register** document dated April 25, 2018 (83 FR 18042), the EPA provided public notice and solicited comment on a request under the CAA's Asbestos NESHAP for the use of an AWP used for replacement of A/C pipes. As explained in the notice, A/C pipes throughout the U.S. are aging and weakening, causing ruptures that waste fresh water; infiltrate and overburden publicly operated treatment works (POTWs); and pollute ground water when wastewater leaks into subsurface soils, streams, lakes, rivers, and oceans.

Because A/C pipes may be located beneath and beside major roadways and structures, and may overlap or lie beneath other utilities (*e.g.*, gas, electricity, cable), their replacement can potentially be problematic, especially in high density residential, industrial, and urban areas. These A/C pipes are potentially subject to regulation under the Asbestos NESHAP when they are replaced.

Categories and entities potentially affected by this action include those listed in Table 1 of this document.

Table 1. NESHAP and Industrial Source Categories Potentially Affected by This Final Action

NESHAP and Source Category	NAICS[1] Code
Water treatment plants	221310
Distribution line, sewer and water, construction, rehabilitation, and repair	237110
Sewer main, pipe and connection, construction, rehabilitation, and repair	237110
Storm sewer construction, rehabilitation, and repair	237110
Irrigation systems construction, rehabilitation, and repair	237110
Water main and line construction, rehabilitation, and repair	237110
Pipeline rehabilitation contractors	237120
Horizontal drilling (*e.g.*, underground cable, pipeline, sewer installation)	237990
Pipe fitting contractors	238220
Power, communication and pipeline right-of-way clearance (except maintenance)	238910
Pipeline transportation (except crude oil, natural gas, refined petroleum products)	486990
Pipeline terminal facilities, independently operated	488999
Pipeline inspection (*i.e.*, visual) services	541990
Asbestos removal contractors	562910
Asbestos abatement services	562910

[1] North American Industry Classification System.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities potentially affected by this final action. To determine whether your asbestos cement (A/C) pipe replacement project (ACPRP) would be affected by this final action, you should examine the applicability criteria in the Asbestos NESHAP (40 CFR part 61, subpart M). If you have any questions regarding the applicability of any aspect of this final action, please contact the appropriate person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section of this document.

B. How do I obtain a copy of this document and other related information?

The docket number for this final action regarding the Asbestos NESHAP is Docket ID No. EPA-HQ-OAR-2017-0427. In addition to being available in the docket, an electronic copy of this document will also be available on the Internet. The EPA will post a copy of this final action at *https://www.epa.gov/stationary-sources-air-pollution/asbestos-national-emission-standards-hazardous-air-pollutants* following official Agency signature. Following publication in the **Federal Register**, the EPA will post the **Federal Register** version and key technical documents on this same website.

C. What is the Asbestos NESHAP and how does it regulate removal of A/C pipe?

The Asbestos NESHAP is a set of work practice standards prescribed for the handling, processing, and disposal of asbestos-containing materials (ACM), and designed to minimize the release of asbestos into the atmosphere. Asbestos is a known human carcinogen and the primary route of exposure is through inhalation of asbestos fibers. The EPA's intention in the Asbestos NESHAP was to distinguish between materials that would readily release asbestos fibers when damaged or disturbed and those materials that were unlikely to result in the release of significant amounts of asbestos fibers. If dry ACM can be crumbled, pulverized, or crushed to powder by

hand pressure, it is considered friable. The potential for exposure to asbestos fibers is directly linked to the ACM potential to become friable, and then airborne. More information on the health effects of asbestos may be found at *https://www.epa.gov/asbestos/learn-about-asbestos#effects*. For more information on the Asbestos NESHAP and how it applies to A/C pipe, please see the 1990 Asbestos NESHAP amendments (55 FR 48406, November 20, 1990) and the document published on April 25, 2018 (83 FR 18042).

D. For A/C pipe replacement, what conventional work practices comport with the Asbestos NESHAP?

Asbestos Cement pipes are conventionally remediated in one of three ways: cured-in place pipe (CIPP) lining, abandoned in place, and open trenching. The CIPP lining is used only on pipes that are still in good condition, and strong enough to withstand the daily pressures of their intended use. The CIPP lining is sprayed on the interior of unbroken, inline pipes, and is used to extend the useful life of the pipe. More information on various CIPP linings, formulation, and application is available in the docket to this document. Asbestos cement pipes may also be abandoned in place, with the new pipeline laid in a separate area. The EPA issued an applicability determination (AD) on A/C pipes that are abandoned in place, which is available in the docket for this document.

Open trenching is the practice under which the entire A/C pipe is excavated and open to the ambient air. After excavation, the A/C pipe is wet-cut into 6- and 8-foot sections using a snap cutter or similar tool, wrapped for containment, and removed for disposal. For more information on snap cutters and similar tools, see "Asbestos Pipe Safety Awareness and Compliance" and "Updated Procedures for Cutting and Handling Asbestos Cement Pipe Client Revision City of Richmond Nov 2008," available in the docket for this action. Guidance documents on open

trenching work practices that comply with the Asbestos NESHAP have been developed by state and municipal agencies and are included in the docket for this document for reference. The AWP was compared to open trenching because open trenching was the only conventional work practice that involves the replacement of A/C pipe.

E. How is an AWP approved?

As explained at proposal, the 40 CFR part 61 General Provisions include what the EPA must determine in order to approve an alternative means of emission limitation. At 40 CFR 61.12(d)(1) and (2), the General Provisions require that the alternative must achieve a reduction in emissions at least equivalent to the reduction achieved by the work practices required under the existing standard, and that the **Federal Register** document permitting the use of the alternative be published only after notice and an opportunity for a hearing.

Additionally, the Asbestos NESHAP itself contains specific provisions under which the EPA should review applications for prior written approval of an alternative emission control and waste treatment method. 40 CFR 61.150(a)(4) authorizes "[u]se [of] an alternative emission control and waste treatment method that has received prior approval by the Administrator according to the procedure described in 40 CFR 61.149(c)(2)." Before approval may be granted for an AWP under 40 CFR 61.150(a)(4), 40 CFR 61.149(c)(2) explains that a written application must be submitted to the Administrator demonstrating that the following criteria are met: (1) the alternative method will control asbestos emissions equivalent to currently required methods; (2) the suitability of the alternative method for the intended application; (3) the alternative method will not violate other regulations; and (4) the alternative method will not result in increased water pollution, land pollution, or occupational hazards.

F. Upon what alternative did the EPA solicit comments?

As stated in the proposal document at section V. Request for Comments, the EPA solicited comments on all aspects of this request for approval of CTPS as an AWP for the work practice standards specified in 40 CFR part 61, subpart M, the Asbestos NESHAP.

II. What comments were received on the AWP, and what are the EPA's responses to them?

The EPA received several comments that resulted in changes to the AWP from proposal. We are responding to some of the most significant comments in this document, including those comments that resulted in changes to the AWP. Comments not appearing in this document are included in the Responses to Comments Document available in the docket (Docket ID No. EPA-HQ-OAR-2017-0427).

A. Comments Regarding Whether the EPA has met its Regulatory Requirements for Alternative Approval and Equivalency Determination

Comment: Several commenters stated that the CTPS AWP is a safer and more efficient way to remove and replace A/C pipe, that it was likely to be better than open cut, more economical, and safer for the environment. One commenter added that he and his family have been in the underground pipe replacement business since the mid-1930's and that the CTPS AWP is the safest and most cost-effective way to replace A/C pipes. The commenter further offered his advisory services to the EPA in furtherance of the CTPS AWP. A commenter stated that the CTPS AWP is a less disruptive way to replace and upgrade water and sewer pipes than open trench replacement, and that both the environmental and social impacts of pipe replacement are reduced by the CTPS AWP. The commenter expressed a preference for a trenchless method of pipe replacement in their neighborhood.

Response: The EPA agrees that CTPS, at least in certain scenarios, presents a lower potential asbestos exposure than open trenching. Both methods meet the Asbestos NESHAP objective to

minimize emissions of asbestos to the air when asbestos is disturbed. The asbestos materials for both methods are maintained in an adequately wet state during removal, transportation, and disposal. We agree with the commenter that the key to protecting the public health, and minimizing releases of asbestos to the atmosphere, is adherence to the work practices. We discussed in 83 FR 18047-48 of the April 25, 2018, document many of the attributes of CTPS, and we agree with the commenter that the CTPS procedure is also less disruptive to the public in general. We also note, as we discuss elsewhere in this document, that any applicable Occupational Safety and Health Administration (OSHA) personal protective equipment requirements (including for employees covered by 40 CFR part 763, subpart G) remain in effect and are not impacted in any way by our approval of this AWP.

Comment: The EPA received several comments questioning whether we met the regulatory requirements under both the General Provisions as well as the Asbestos NESHAP for the review and approval of AWPs under 40 CFR part 61 standards. Some commenters stated that the EPA should not approve the requested alternative because, in the commenters' opinion, the alternative did not meet these comparative objectives. One commenter was concerned that the CTPS AWP would not meet the Asbestos NESHAP requirements for the fourth objective (no increased land pollution) because the slurry may leak into the surrounding soils while, by comparison, chunks of A/C pipe can be easily picked up from the soil if broken or damaged during removal. Another commenter stated that, depending on the soil type surrounding the A/C pipe being replaced, the CTPS AWP could increase the amount of asbestos-containing waste material (ACWM) to be disposed.

Response: The Asbestos NESHAP authorizes ''[u]se [of] an alternative emission control and waste treatment method that has received prior approval by the Administrator." In addressing the

four approval criteria listed above, we evaluated (1) if the alternative method will control asbestos emissions equivalent to currently required methods; (2) if the alternative method is suitable for the intended application; (3) if the alternative method will not violate other regulations; and (4) if the alternative method will not result in increased water pollution, land pollution, or occupational hazards.

The Asbestos NESHAP does not prescribe a method for pipe replacement, but requires that the work practices used to remove, contain, and dispose of ACM release no visible emissions (VE) to the outside air (or control emissions). We evaluated the alternative and found that it meets all requirements for no VE, adequate wetting, waste handling, and disposal under the Asbestos NESHAP. Therefore, it satisfies the first criteria, that it controls asbestos emissions equivalently to the work practices of the standard.

Second, the CTPS AWP is specifically designed for the intended application. The primary consideration of the Asbestos NESHAP is to minimize emissions of asbestos to the air, which is accomplished by both open trench methods and by the CTPS AWP.

Third, the CTPS AWP does not violate other regulations, and does not supplant any other requirements pertaining to the removal, containment, transportation, or disposal of ACWM. We note specifically that any applicable OSHA requirements (including for employees covered by 40 CFR part 763, subpart G), which protect workers, remain in full effect.

Fourth, we believe use of the CTPS AWP will not result in increased water pollution, land pollution, or occupational hazards compared with open-trench and replacement, which is not required by the Asbestos NESHAP, but has been accepted as a NESHAP-compliant method for A/C pipe replacement. We compared the CTPS AWP to open-trench replacement because it is the traditional procedure for A/C pipe replacement. The CTPS AWP only exposes A/C pipe

sections that must be removed before replacement using the underground trenchless method. The bentonite clay provides a seal on the inner surface area of the annular space (tunnel) created by the CTPS equipment train and the surrounding soils, thereby trapping the slurry between the pipe perimeter and the soil, while preventing ground water intrusion into this closed space. The slurry is 'squeegeed out' of the close tolerance space between the cavity and the new pipe and is removed at the vertical access points. This results in lowering the exposure potential to workers and the general public, not an increase in the potential exposure. This sealed surface area prevents slurry from contaminating the surrounding soils, and the ACM (which is made nonfriable by the curing process of the cementitious slurry) is not free to migrate to the surface as a result of soil movement, such as frost heaves. See the April 25, 2018, document for more information on frost heaves, and see the document titled, "Bentonite Clay: Properties and Uses," in the docket to this action.

We are including in the docket a study conducted by Arizona State University (ASU) on the use of the horizontal direction drill (HDD) technique to lay underground pipe. While this was not a 'close tolerance' study, it does show that the bentonite clay effectively seals the annular space between the new pipe and the surrounding soil (evaluated in both sandy and clay soils), supports the soils above the vacant space, and prevents migration of soils into the space surrounding the new pipe. See "Evaluation of the Annular Space Region in Horizontal Directional Drilling Installations." Samuel T. Ariaratnam, Ph.D., P.Eng., ASU, 2001. The 2001 ASU study also presents in Section 2.1 an "Introduction to Drilling Fluids and Additives," which explains the properties of bentonite clay and use of both bentonite and drilling fluids in the HDD industry.

Both open trench replacement and the CTPS AWP use water to adequately wet the A/C. Additionally, the CTPS AWP uses drilling fluids and bentonite clay in suspension underground while the equipment train distributes these fluids within the close-tolerance tunnel. As explained in 83 FR 18045, the purpose of the Asbestos NESHAP is to prevent excessive emissions of asbestos to the ambient air. Because the CTPS AWP conducts most of the pipe removal underground, sealing the cylindrical cavity before and during replacement with bentonite clay, the AWP prevents the migration of asbestos into the surrounding soils, and the skim coat (the portion of waste slurry that remains on the exterior of the new pipe) that remains is both fixed and nonfriable on the new pipe. Additionally, water pollution is reduced when A/C wastewater and storm water pipes in poor condition are replaced, resulting in a reduction in water pollution; and fresh water is conserved when leaking A/C pipes are remediated. For further information on the CTPS process, see the document in the Docket to this rule, titled "Guidelines for Replacing Asbestos Cement Pipe by Close Tolerance Pipe Slurrification (CTPS)," Portland Utilities Construction Corporation, November 2018. While we considered this document during the development of the CTPS AWP, it predates the approval of the AWP. Any owner/operator performing the CTPS AWP must follow the guidelines stated in IV.D of this document.

We believe the use of the CTPS AWP will not result in increased water pollution, land pollution, or occupational hazards compared with open-trench and replacement, which is not required by the Asbestos NESHAP, but has been accepted as a NESHAP-compliant method for A/C pipe replacement. While open trenching exposes the entire length of A/C pipe to the workers and the atmosphere during removal operations, the CTPS AWP exposes A/C pipe only at the trenches at the beginning and end of the project, and at vertical access points. These areas are at the beginning of the ACPRP, the end of the ACPRP, and at a few points in between as

determined by the pipe depth, soil type (used to estimate the drag on the line), knuckles, joints, dropped sections of pipe, or broken sections of pipe. Workers are not exposed to the slurry as it is underground during pipe replacement and in containment at both the vertical access points and the vacuum truck. The slurry is contained during transportation, and is disposed of in sealed leak-tight containers. However, if workers' clothing or other materials became contaminated with slurry, it would need to be treated as ACWM and disposed of accordingly (see the definition of ACWM at 40 CFR 61.141). For this reason, we recommend workers wear disposable coveralls that can be disposed of as ACWM at the end of the ACPRP. We also are clarifying that any applicable OSHA requirements (including for employees covered by 40 CFR part 763, subpart G), which protect workers, remain in full effect. We find that the CTPS AWP will not result in increased occupational hazards compared with open trenching methods.

When replacing an A/C pipe with a new pipe of the same size (size-on-size), the A/C pipe slurry mixture is not significantly impacted by the outer soil composition, and that soil type does not play a significant role in the amount of ACWM to be disposed of when using the CTPS AWP.

The term 'close tolerance' is used to denote that the soil displacement is at a minimum for an HDD technology. The volume of waste generated using the CTPS AWP is less than that generated using open trenching because pipe disposal using open trenching landfills the A/C pipe in its unaltered form, so most of the space is taken up by the interior open space of the pipe. In comparison, CTPS AWP waste has no open, empty spaces, and all ACM waste is compactly disposed in containment.

However, when simultaneously replacing the A/C pipe with a new pipe that has a larger diameter (upsizing), the additional soil from the perimeter of the old pipe is removed with the

slurry while pulling the new pipe behind the equipment train. For example, replacing an 8-inch old pipe with a 12-inch new pipe would potentially include the soil within a 2-inch margin of the old pipe. However, this is a matter of pipe size, not soil type; that is, it is dependent upon the size of new pipe in relation to the size of the old pipe being replaced.

The soil displacement would be similar when replacing an A/C pipe with a larger pipe using open trenching and, depending on the condition of the A/C pipe, could result in a similar amount of ACWM to be disposed. For instance, conducting open trenching on an A/C pipe in poor condition could easily result in the contamination of all the surrounding soil. In that case, the soil surrounding the pipe would have to be disposed as ACWM (see 40 CFR 61.150). In such a case, the asbestos contaminating the soils would be in a friable state, rather than in a nonfriable state as it is with the CTPS procedure. We, therefore, think the two methods are generally equivalent in this regard.

We, therefore, believe the CTPS AWP does not result in an increase in water pollution, land pollution, or occupational hazards, and that it is at least equivalent to open trench replacement procedures for A/C pipe replacement.

Comment: A commenter stated that the EPA improperly allowed comparison of the CTPS AWP as demonstrated on a clay pipe, rather than on an A/C pipe, which would have more accurately demonstrated the effectiveness of the alternative. The commenter noted that the slurry from clay pipe does not necessarily re-harden into a non-friable material.

Response: The submitted evidence of the CTPS AWP shows that A/C pipe behaves similarly to the way clay pipe behaves (*i.e.*, is ground to a fine powder and suspends in slurry with drilling fluids and bentonite clay) under the CTPS process. The demonstration on clay pipe in Greenville, South Carolina, was used to demonstrate the CTPS procedure to the EPA. The slurry sample that

was collected, tested, and shown to withstand compressive strength tests at 72 and 75 pounds per square inch by an independent testing laboratory, was from A/C slurry collected from the CTPS AWP as used at an ACPRP in Tennessee.

Comment: A commenter asked if the emission reduction of friable asbestos under the CTPS AWP would be similar or more substantial than that obtained by the work practices for the removal and disposal practices currently required by the rule.

Response: We believe the potential for reducing exposure to asbestos using the CTPS AWP is similar or at least equivalent to the requirements of the existing rule. We discussed the environmental benefits of the CTPS AWP in 83 FR 18048. Further, we note that open trenching is not a work practice that is required by the Asbestos NESHAP, but we compared the CTPS process to open trenching because the work practices for open trenching comply with the Asbestos NESHAP requirements, and because open trenching is a replacement process, as opposed to re-lining or abandoning the A/C pipe in place.

Comment: We received two comments on the potential for cross-contamination from the slurry. One commenter surmised that worker exposure and potential for carry-home exposure from workers to family members would be greater, as compared to open trench removal methods. This commenter stated, "Anyone who works with slurry understands that this process is inherently messy. Slurry finds holes in its containment vessels, it splashes onto workers when being handled, and gets onto surrounding grounds and equipment even when there are no leaks in the containment process. Slurry dries on the clothes of workers, on the ground and on the equipment used to manipulate it – all of which needs to be thoroughly cleaned before the project is shut down at the end of each shift." Another commenter added, "When an item contacts the asbestos-containing slurry, it becomes a potential sources of future asbestos fiber release if and when the

slurry hardens," adding that later decontamination measures increase the potential for exposure to asbestos. This commenter added that aggressive removal techniques such as hammering, abrading, and sawing are often used to remove ACM from surfaces, and that these methods also increase the potential for future exposure when conducted in uncontrolled conditions.

Response: As with any activity involving asbestos, precautions must be taken to prevent contamination of workers and equipment. With the exception of the trenches at the beginning and end of the project, and at vertical access points, the slurry is not accessible to workers, because it is an underground replacement process. The slurry is not in contact with workers under normal operating conditions, and all asbestos is maintained in an adequately wet slurry at all points where the slurry contacts the outside air. However, if workers' clothing or other materials became contaminated with slurry, it would need to be treated as ACWM and disposed of accordingly (see the definition of ACWM at 40 CFR 61.141). For this reason, we recommend workers wear disposable coveralls that can be disposed of as ACWM at the end of the ACPRP.

Persons conducting ACPRPs using the CTPS AWP may choose to either decontaminate the equipment so that no ACM remains within or on the equipment after each ACPRP, or may use disposable linings/containers that prevent slurry from coming into direct contact with machinery, that are disposed of as ACWM. We recommend that excess wash water be properly disposed of in containment, or filtered before being allowed to be discharged as wastewater and that the filtrate be placed in containment and disposed of with other ACWM at the disposal facility. All work practices must be consistent with those required by the Asbestos NESHAP. For additional information on decontamination see section III.E below.

We note specifically that any applicable OSHA requirements (including for employees covered by 40 CFR part 763, subpart G), which protect workers, remain in full effect.

Any decontamination effort must comply with the Asbestos NESHAP work practices, as, for example, any regulated asbestos-containing material (RACM) and ACWM must be kept adequately wet (see 40 CFR 61.145(c)(6) and 40 CFR 61.150(a)(1)). Furthermore, any owner/operator of a subsequent renovation operation that disturbs this asbestos-containing skim coat (the portion of waste slurry that remains on the exterior of the new pipe) above the regulatory threshold would need to comply with the Asbestos NESHAP. Therefore, we disagree with the commenter that the potential for asbestos exposure is greater using CTPS than for open trenching.

B. Comments Regarding the Supervisor Requirements for the CTPS AWP

Comment: The EPA received a comment asking if a trained asbestos supervisor is still required to be onsite during the entire CTPS ACPRP.

Response: The onsite supervisor requirements of the NESHAP are not changed in any way under the action to approve the CTPS AWP. See 40 CFR 61.145(c)(8). Therefore, a trained asbestos supervisor must still be onsite during the entire time A/C pipe is being replaced.

C. Comments Regarding the Technical Procedure

The EPA received a number of comments questioning the effectiveness of CTPS to abate A/C pipe. Some of these commenters made suggestions to improve the work practice.

Comment: One commenter suggested that, for excavation of vertical access points, the EPA expand on these requirements. Specifically, the commenter suggested we change the requirement, "the owner/operator must not disturb A/C pipe during the digging out of these access points. Water and suction should be used to uncover as much of the A/C pipe as is needed to begin the CTPS process." The commenter suggested the following language: "The owner/operator should avoid to the extent feasible, crumbling, pulverizing, or reducing to

powder A/C pipe during the excavation of vertical access points. Water and suction, hand digging with shovels, or similar methodologies that do not crumble, pulverize, or reduce to powder A/C pipe should be used to uncover the A/C pipe as is needed to perform the CTPS process."

Response: We accept the commenter's suggested edits with one minor edit in which we change the first sentence to read "The owner/operator must avoid to the extent feasible, crumbling, pulverizing, or reducing to powder A/C pipe during the excavation of vertical access points." We agree that the added specificity better describes how to achieve our intended requirement that A/C pipe not be disturbed during the digging out of these access points, and is consistent with current work practices, which use backhoes to excavate around the trench, but hand shovels, small tools, brooms, and water to expose the A/C pipe at vertical access points. We further note that the language 'as is needed' clarifies that digging of the entire trench using hand shovels is not needed, but is used to expose the A/C pipe for removal.

Comment: A commenter surmised that the cost of disposal of the slurry would be greater than the cost of disposal of intact A/C pipes because the A/C pipe slurry would present an increase in ACWM volume and waste, and that, by extension, landfill issues, including capacity at existing landfills and disposal costs would be higher than for A/C pipe. This commenter believes the slurry would take up more space in the landfill than whole pipe because the landfill crushes the A/C pipe after it is received, thereby reducing its volume.

Response: Cost and increased waste volume are not among the equivalency determination factors that must be weighed by the EPA to determine equivalency with the standard. Increased waste volume is not land pollution because the waste is managed to prevent exposure, which is not the

case with land pollution. Because this is an alternative work practice and not a mandated requirement, the relative costs are not at issue.

Comment: Two commenters asked questions regarding the applicability of the AWP to the circumstances of the ACPRP, such as preparation of the site and the size of pipe that CTPS may be used to replace.

Response: The standard industry practice is to mark existing utilities at the surface using flag markers on yards and soil, and ink on pavement and other impervious surfaces. The size pipe that may be replaced depends upon the size of the equipment train that may be used. At this time, the equipment train is available to install pipes up to 24 inches in diameter. Therefore, at this time, CTPS may be used to replace pipes up to 24 inches in diameter. It is possible that in the future, larger pipe sizes may be able to be replaced using CTPS if equipment trains of sufficient size become available. Large pipe replacement can be completed with CTPS by using a larger HDD rig with the correct drill stem rotation speed.

Comment: A commenter suggested that the EPA specify the criteria or specific technique that must be used to ensure that no ACM contacts the inside of the new pipe.

Response: All new pipes are pressure rated and have a seal system that will not allow outside material to come in. All pipe pulling caps are sealed the same way to prevent slurry material from entering the pipe. All drilling fluid pressure is relieved through the slurry relief holes to prevent drilling fluid pressure build up. While this is standard industry practice, and the trenchless industry has used sealed pipe for many years, nevertheless, we are adding these criteria to the description of the AWP to improve the work practice.

Comment: Two commenters addressed the issue that a common decontamination technique is to use excess water to wash ACM from all equipment, and that this water would have to be

collected and disposed of as ACWM along with any other contaminated materials. A third commenter added that, based on his experience with developing decontamination procedures, decontamination of the vacuum truck would be extremely complicated if asbestos was a contaminant in the debris/sludge. A fourth commenter recommended that the AWP address handling of the slurry residue that may remain in or on the vacuum truck, truck cleaning, and disposal of any wash water.

Response: Persons conducting ACPRPs using the CTPS AWP may choose to either decontaminate the equipment so that no ACM remains within or on the equipment after each ACPRP, or may use disposable linings/containers that prevent the slurry from coming into direct contact with machinery, that are then disposed of as ACWM. We recommend that excess wash water be contained and filtered before being allowed to be discharged as wastewater and that the filtrate be placed in containment and disposed of with other ACWM at the disposal facility. All work practices must be consistent with those required by the Asbestos NESHAP. For additional information on decontamination see section III.E below.

D. Comments Regarding the Comparison Between CTPS and Other Pipe Replacement Procedures

Comment: One Commenter stated that the EPA's statement in the proposal document that no AWPs for the replacement of A/C pipes have yet been approved, leaves the impression that open trenching and pipe bursting are not approved by the EPA for asbestos emission control in the replacement of A/C pipes, and that such conduct would be a violation of the Asbestos NESHAP. Another commenter asked if other alternative pipe replacement methods, such as pipe reaming and pipe bursting, are allowed as a result of the approval of the CTPS AWP.

Response: No approval is needed for a work practice under the Asbestos NESHAP as long as that work practice comports with the existing requirements of the rule. Where a potential work practice would depart from any part of the existing rule for a regulated activity, 40 CFR 61.12(d) explains how the EPA may approve an AWP, and such approval would be required in advance of using the potential AWP. The EPA has previously determined that when the work practices for open trenching are adhered to, this practice conforms to the work practice requirements of the rule. We have neither approved pipe bursting nor pipe reaming as AWPs to replace A/C pipe. Any ACPRP such as pipe bursting or pipe reaming that exceeds the threshold amounts of RACM would be required to follow the appropriate NESHAP provisions, including the standards for active waste disposal sites at 40 CFR 61.154 and the inactive waste disposal site standards at 40 CFR 61.151 if any RACM is left in the ground.

E. Comments Regarding Inspection Requirements

The EPA received inquiries regarding what inspection requirements would apply to ensure the work practices were completed correctly.

Comment: Two commenters asked the EPA to clarify the work practices to be used when a thorough inspection reveals that sections of the A/C pipe to be replaced have been crushed or are otherwise obstructed so that the CTPS equipment train is unable to encompass all of the A/C pipe it is replacing. The commenter supported the comment with rationale from a letter dated August 7, 2015 (available in the docket), which stated, "As to inspections for asbestos and asbestos containing materials – EPA would expect an owner/operator to follow the steps described in Sections 1 through 5 and Section 8 in ASTM E2356-14 'Standard Practice for Comprehensive Building Asbestos Surveys.'" The commenter explained that the EPA would not accept the Limited Asbestos Screen (*i.e.*, Practice E2308) as a substitute for the Comprehensive

Building Asbestos Survey and does not consider the Limited Asbestos Screen as a thorough inspection. The Limited Asbestos Screen may be used to inform a thorough inspection, and can give an inspector an idea of what structures are most likely to contain ACM. However, its use is not a substitute for an inspection. American Society for Testing and Materials (ASTM) E2356-14, "Standard Practice for Comprehensive Building Asbestos Surveys," is used for building surveys to help determine the presence of asbestos in many different types of building materials.

Response: Pipes are specific facility components, not complete buildings. In buildings, some materials are often not known to be asbestos containing until after inspection, sampling, and analysis. With ACPRPs, there are only a few different types of pipes used for water handling, and A/C pipe is readily distinguishable from the other types.

By the time the ACPRP is started, the location of the A/C pipe is known. For both safety and ease, when the A/C pipe to be replaced is a confined space, or is less than 6 feet in diameter, standard industry practice for underground pipe replacement projects is for the owner/operator to use robotic cameras and videography to determine the location of the pipe, including all sections of A/C pipe. The cameras are mounted on robotics that are controlled remotely by the owner/operator. The camera makes a video recording of the interior of the pipe, and records its location within the pipe in feet and inches (or meters and centimeters); stopping and examining all suspicious areas to record the size, depth, and character of any pipe abnormality. This video enables the owner/operator to precisely locate any areas of interest in the pipeline from an above-ground location. This video is then referred to as needed by the owner/operator while conducting the ACPRP and must be made available to the on-site supervisor and/or inspector immediately upon request.

Thus, for the pipe inspection, the positive identification of ACM is accomplished by the remote videography. This is not analogous to ASTM E2356-14, for building inspections which guides the inspector through sampling of suspect ACM building materials (where the presence and/or type of asbestos is not yet known).

A thorough inspection must be conducted as part of the planning of a successful ACPRP. A leaking pipe is not necessarily one that is crushed or otherwise structurally compromised. The EPA's intent is for the owner/operator to use open trenching to remove sections of pipe that are no longer in the area encompassed by the cylindrical volume that the CTPS train will retain in the slurry, or that will impede the normal passage of the CTPS equipment train through the pipe.

However, it is unlikely that sections of pipe are collapsed in an active pipeline that is being replaced because all pipe most likely has been repaired if there were any collapsed sections. (The gravity sewer would back up if it had collapsed and water would be bursting out of the ground from force main pipes if there was a collapse.)

Once inspection has occurred (which is completed before CTPS is used) the owner/operator knows the location, diameter, and length of A/C pipe sections to be replaced. These inspections identify areas of the pipe that may be compromised (crushed, off-center, broken) and the inspection is compared to existing utility records, the records are updated, and after pipe replacement, the records are saved electronically and/or in paper format for future maintenance activities.

In this final document, we are also clarifying the difference between an inaccessible section of pipe, and an obstructed section of pipe. An inaccessible section of pipe is one that is overlain by buildings or other installments that cannot be moved, and that prevents or significantly impedes access to the pipe and replacement using open trenching procedures. Roads

and sidewalks do not necessarily create a situation where a pipe is inaccessible. An obstructed pipe is one that has section(s) that are structurally compromised to the point that they may cause or contribute to a malfunction of the HDD equipment for the CTPS AWP.

The EPA is, therefore, clarifying the above language to indicate what types of situations require removal of the pipe using other techniques before CTPS can be implemented. Obstructions that would impede or prevent the progress of the CTPS equipment train through the pipe passageway must be removed using open trenching or another method compliant with Asbestos NESHAP requirements (such as abandon in-place) before the CTPS AWP can be used. However, when obstructions occur at an inaccessible location (such as beneath a building) a different approach may be needed to complete the ACPRP (such as sealing off the old pipe and rerouting new pipes around the structure, or using HDD to lay a new pipeline beneath the structure).

Comment: Citing applicability determination index (ADI) A-150001, commenters asked how a thorough inspection is done. One of these commenters suggested the ASTM E2356-14, "Standard Practice for Comprehensive Building Asbestos Surveys," should be used to demonstrate that a thorough inspection has taken place. Another commenter stated that the alternative should consider what work practices must be done when crushed or broken pipe, possibly contaminating soil, is found onsite during an ACPRP.

Response: As explained in the April 25, 2018, document for the CTPS AWP (83 FR 18042, 18050): "Prior to using the CTPS for an ACPRP, the owner/operator would conduct underground pipe inspections (*e.g.*, by using remote technologies like robotic cameras) and shall identify, locate, and mark onto an underground utility map of the area all identified potential areas of

malfunctions, such as changes in pipe type, drops in the line, broken and off-center points, and changes in soil type."

In a previous AD from the EPA on August 7, 2015, the EPA discussed what constitutes a thorough inspection. In that AD, the EPA stated, "When EPA promulgated the regulations, the Agency elected not to define 'thorough inspection' at §61.145(a) and did not provide a definition at §61.141. The EPA did not adopt a 'one-size fits all' approach in order to accommodate the wide variety of techniques and practices that can be used to locate and identify asbestos and asbestos-containing materials used in the construction industry."

Additionally, this AD cited an ASTM standard for thorough inspection of buildings and building components. The purpose of these inspections is to identify all ACM in a building or building components, for the purposes of demolition or renovation. The EPA does not see the inspection guidance for buildings as relevant, because its use is to identify ACM in buildings before demolition or renovation where the building materials are unknown. For the CTPS AWP, the pipe has already been identified as asbestos-containing, and the decision to consider using the CTPS AWP as a replacement technique would already be under consideration. Therefore, the inspection guidance for buildings is irrelevant.

In our observation of the demonstrated CTPS AWP in Greenville, South Carolina, the operator of the ACPRP maintained a video of the pipe inspection that was conducted in advance of the actual pipe replacement work, and referred to it periodically during the ACPRP work as that work progressed. We are requiring owners/operators who use the CTPS AWP to save a video of the pipe inspection and make it available at the ACPRP work site for reference as needed by inspectors, owners, and operators during the ACPRP work. The recorded inspection must be made available for use during the replacement work so that workers can know the exact

location of any structurally compromised areas of pipe during the replacement process. The EPA is clarifying that a thorough inspection of the A/C pipe under the CTPS AWP is a visual inspection, conducted using remote robotic technology, of the entire length of pipe to be replaced, and identifies any areas of the pipe that are obstructed to the point that the CTPS equipment train cannot pass without instigating a malfunction as a result of the pipe's condition. In the event an A/C pipe has been obstructed to the point that the CTPS equipment train cannot pass through, the owner and operator must follow appropriate work practice standards in the Asbestos NESHAP such as open trench or abandon in place techniques.

F. Comments Regarding Training and Certification

The EPA received several inquiries as to the source and extent of training opportunities for using the CTPS AWP, and what inspection requirements would apply to ensure the work practices were completed correctly.

Comment: One commenter asked what training is provided to and required for owners/operators planning to use the CTPS AWP for ACPRPs.

Response: The onsite supervisor requirements of the NESHAP are not changed in any way under the action to approve the CTPS AWP; therefore, a trained asbestos supervisor must still be onsite during the entire time A/C pipe is being replaced. Appropriate training and certification should be conducted prior to the use of the CTPS AWP. Additionally, a document titled "Close Tolerance HDD AC Pipe Replacement Process," is available in the docket.

G. Comments Regarding Notifications, Recordkeeping, and Reporting Requirements

Comment: One commenter asked the EPA to clarify how the notification requirements of 40 CFR 61.145 apply to the CTPS AWP. This commenter suggested that the global positioning

system coordinates of the ACPRP using the CTPS AWP be included in the notification form that must be submitted for the project.

Response: For any ACPRP using the CTPS AWP, the 6-digit coordinates for the latitude/longitude coordinates must be recorded. We agree with the commenter that this information can be added at no additional burden to the notification and submitted to authorities with the rest of the information in the notification under 40 CFR 61.145(b) and noted also in the utility records.

Comment: A commenter asked if notification practices when using the CTPS AWP should be different than are currently required by the Asbestos NESHAP. The commenter stated that the docket does not include information that justified a different notification practice, that is, when more than 260 linear feet of A/C pipe is replaced. This commenter stated that while the document includes several recordkeeping requirements, it does not describe the purpose of each. The commenter stated that understanding their purpose would provide a clearer idea of what information to collect and how it should be stored. Another commenter stated that they support the application of the other Asbestos NESHAP requirements, including notification requirements.

Response: The notification practices of the Asbestos NESHAP are not changing. The standard notification for a renovation or demolition operation includes the location of the activity (40 CFR 61.145(b)(4)). Because ACPRPs are not necessarily located at a specific address (as is a building slated for demolition), the EPA has tailored this existing notification requirement for the location of the ACPRP to be identified using 6-digit latitudinal/longitudinal coordinates. The 6-digit latitude/longitude coordinates of each ACPRP conducted using CTPS AWP are included in the

notification so that inspectors can locate and identify pipes that have been replaced using this technique.

In terms of recordkeeping, this final document has updated the requirements for the CTPS AWP after consideration of the comments. Under the CTPS AWP, the owner/operator is required to record waste shipment records (as already required by 40 CFR 61.150(d)), records of the standard operating procedures for the certain key equipment, and malfunction records (if applicable). The owner (typically the state or municipality) is also required to record the certificate from each sample friability test.

The requirement to record waste shipment records is consistent with the NESHAP and accounts for all ACWM. These records are used to certify that the proper steps were taken in disposal of ACWM. Records regarding the standing operating procedure are used to provide consistency through the ACPRP, as well as document equipment used to show compliance with the requirements of the AWP. Malfunction records allow the review of any malfunction events as well as how each malfunction was addressed. Records of malfunction are important to show the scope of the malfunction and verifying that proper steps were taken to correct the malfunction. Friability test records provide evidence of the friability status of the sample. This is important because it is the determining factor for the regulatory status of the remaining skim coat (the portion of waste slurry that remains on the exterior of the new pipe).

In this final document, the EPA also removed certain recordkeeping requirements that appeared in the April 25, 2018, document. The recordkeeping requirements in section IV.F.1.a-g of the proposal document were removed in the final document: for information on the dates, ACPRP location, and amount of pipe, due to overlap with the existing notification requirements in 40 CFR 61.145(b)(4); for information on the disposal amount, disposal site, and disposal

manifest, due to overlap with the existing waste shipment record required by 40 CFR 61.150(d); and for the amount of slurry generated, due to a determination that this detail would not provide significant information in assisting with this AWP. Additionally, the requirement for the ACPRP report was removed, due to a determination that the report would not provide significant information in assisting with this AWP beyond the information already available in the notification and records.

Comment: A commenter recommended that the EPA indicate how long the owner/operator of a CTPS AWP process is required to maintain the signed certificate from the friability test, and suggested it be required to be maintained for the lifespan of the newly installed pipe.

Response: In the April 25, 2018, document, we did not specify the period of time the signed certificate of pipe replacement should be kept. It is important to know the exact location of all underground structures, but because they are not immediately visible, maps are maintained by the states and municipalities responsible for their maintenance. It is our understanding that state and local agencies responsible for their maintenance already keep such records on a permanent basis. We are clarifying in this final document that the signed certificate of the friability test be kept by the owner (typically the state or municipality) for the life of the pipe. In the event that the pipe being replaced is privately owned, the owner would also be responsible to keep the signed certificate of the friability test for the life of the pipe.

Comment: A commenter recommended that the EPA add to the recordkeeping requirements that the owner/operator must make the records available to the air quality regulatory authority within a certain time period upon request. The commenter also recommends that the 2-year retention requirement for the sample of slurry be extended to 5 years.

Response: We are adding a requirement to the AWP that records discussed in IV.E of this document, be made available to the regulatory authority within 15 days of request. Additionally, we disagree that the slurry sample should be kept for 5 years; we believe 2 years is an appropriate time period and corresponds to the existing recordkeeping period at 40 CFR 61.150(d).

H. Comments Regarding use of CTPS in Various Soil Types

Comment: Several commenters asked the EPA to clarify how the soil type influences the setup, use, and effectiveness of CTPS AWP. One commenter asked if the EPA has characterized the loss of slurry when pipes are replaced using the CTPS AWP in different soil types such as sandy soils or saturated soils. Another commenter stated that soil issues such as pH balance and contaminants are likely to impact the ability of the skim coat (the portion of waste slurry that remains on the exterior of the new pipe) to harden.

Response: Bentonite clay (also known as sodium bentonite) lines the annular space created by the HDD, and prevents the loss of slurry in the CTPS technique. This lining provides a barrier between soil and pipe, and, due to its expansion properties, supports the horizontal cylindrical space (or tunnel) created as the drill removes the old A/C pipe. The use of bentonite clays in suspension in the drilling fluids accomplishes two objectives: it holds the tunnel open while the equipment train proceeds through, and it prevents the migration of fluids, including A/C pipe in suspension, from migrating outside of the underground cavity. The bentonite clay lining acts as a sealant, providing a barrier between the surrounding soil and any contaminants of that soil, and the new pipe upon which the skim coat (the portion of waste slurry that remains on the exterior of the new pipe) occurs. The composition of the drilling fluids and bentonite clay may be adjusted depending on the soil type, depth (pressure), and pipe size to account for differences in

friction and suspended solids in the slurry. The composition is developed on a site-specific basis, and is formulated according to soil pH, density, depth, void space (compaction and particle size), and abrasiveness. More on the properties of bentonite clay and its uses in underground HDD are available in the docket in the document titled, "Bentonite Clay: Properties and Uses." More information on the adjustment of bentonite clay in solution and the ratio of bentonite to drilling fluids is available from the 2001 ASU Study, available in the docket, and in training materials.

I. Comments Regarding Slurry, its Management, and Disposal

The EPA received several comments asking about the characteristics of the slurry and questioning whether the work practices afford effective management of the slurry.

Comment: For the requirements in paragraph 6 of the document proposing the AWP, Slurry Characteristics, a commenter asked the EPA to clarify requirements from guidelines and noted that the requirement to release no VE appears twice in this paragraph.

Response: We are clarifying that language to read as follows: "The owner/operator would be required to ensure that the slurry is a homogenous mixture comprised of finely ground A/C pipe, drilling fluids, bentonite clay, and other materials suspended in solution that, when cured (a period of 48–56 hours), re-hardens so that it meets the sample friability test in section IV.E.2 of this document. The slurry must meet the no VE requirements of 40 CFR 61.145 and 61.150."

Comment: A commenter asked the EPA to describe the appearance of the slurry.

Response: The slurry looks and behaves like mixed cement during the CTPS process; it cures and hardens (or "sets up") in 48-56 hours from the time of collection, a slightly longer time than it takes to cure cement. More information on the appearance of the slurry can be found in the docket to this action.

Comment: One commenter asked if the slurry qualifies as a new use of asbestos per 40 CFR 763.163. Another commenter asked the EPA to clarify that under no circumstances may the owner/operator use slurry from a CTPS ACPRP as cover material at a landfill.

Response: The slurry must be disposed of in a facility authorized to receive ACWM, and it may not be reused or used, including as cover in landfills. Thus, the slurry would not qualify as a new use of asbestos in an asbestos-containing product under the regulation at 40 CFR part 763, subpart I.

Comment: One commenter asked what keeps the slurry from hardening on the way to the landfill? The commenter stated if the hardened material contains more than 1-percent asbestos, this would seem to be a violation of the Asbestos NESHAP. A second commenter stated that ACWM must be disposed of as soon as practical. A third commenter asked what is done if the slurry cannot be disposed of before it hardens, and what the disposal implications are, specifically for transportation and disposal, so that the material will not be regulated prior to disposal.

Response: The slurry hardens in 48-56 hours. Under 40 CFR 61.150(b), ACWM must be disposed of as soon as practical. Disposal of the slurry should be completed within 24 hours, so that the slurry hardens at the disposal site. If the slurry hardens in the container in which it has been collected, it cannot be removed; the collection container becomes the disposal container. This would be an undesirable outcome from the viewpoint of the owner/operator unless the collection container was intended to be disposable, but would conform with the requirements of the Asbestos NESHAP that all ACWM be contained at disposal. Standard industry practice is to dispose of the slurry at the end of each work day to prevent this outcome.

As we stated in the April 25, 2018, document for the AWP at 83 FR 18049, "The owner/operator would be required to ensure that the slurry remains in an adequately wet state during the slurrification process and remains in containment throughout the removal, transportation, and disposal processes, meeting the requirements of 40 CFR 61.145 and 40 CFR 61.150. The slurry must be contained and in slurry form at the time of disposal in a landfill permitted to accept ACWM and meeting the requirements of 40 CFR 61.154. The slurry must be managed at the disposal site using procedures meeting the requirements of 40 CFR 61.154."

We disagree with the comment that using the AWP would be a violation of the Asbestos NESHAP. As we stated in the AWP proposal at pages 10846-47, "All ACWM must be kept adequately wet and sealed in leak-tight containers (40 CFR 61.150(a)(1)) or processed into a nonfriable form, such as a nonfriable pellet or other shape (40 CFR 61.150(a)(2))." We continued on page 18047 that, "The EPA is proposing to consider the slurry that is formed by the CTPS AWP for A/C pipe to be nonfriable once hardened" (as determined by hand pressure testing on a collected sample), and on page 18048, that, "The EPA is proposing that when the CTPS work practices are adhered to as described in this document, and when the test for friability confirms that the resulting hardened slurry (skim coating) is nonfriable ACM, the resulting material can be regulated as nonfriable ACM." Note that the slurry must be disposed of in containment.

Thus, disposal of the ACWM from the CTPS process does not differ from the disposal requirements of the Asbestos NESHAP, including the requirement for disposal as soon as practical. Therefore, this is not a violation of the Asbestos NESHAP.

Comment: One commenter stated that the vacuum truck is likely to dry the slurry at the top surface, and assuming that the waste is friable, dust is likely to be pulled from this surface and

released to the ambient air during the action of the air moving across the top of the debris. Another commenter added that the use of high efficiency particulate air (HEPA) filters, required to be used on the vacuum trucks handling CTPS AWP ACPRPs, would be beyond what is currently required for A/C pipe removal practices.

Response: The vacuum trucks are enclosed, and the slurry is not exposed to the elements at the top. We have added technical literature from the underground construction industry to the docket to provide additional information on the types of equipment used throughout the industry to conduct this work. Testing of the slurry indicates the waste is nonfriable. The slurry must be in a wet state at the time of disposal, and creating a slurry of ACWM is one way to maintain adequately wet materials, as stated in the rule at 40 CFR 61.150(a)(1)(i). The use of a HEPA filter is not required for this standard.

Additionally, the no VE requirements of the rule have not been dismissed by approval of this AWP, so if the slurry were to be friable when dry, and if, as the commenter states, the surface of the slurry were to dry as a result of the air passing over the upper surface of the slurry and cause VE, this would be a violation of the rule, and work would have to stop to correct the VE.

Comment: A commenter surmised that there will likely be no information about what types or percentage of asbestos is in the slurry or how the skim coat will be regulated.

Response: The slurry is categorized as ACM. It is noted in utility records, which are used whenever pipe maintenance is conducted. Presence of ACM is noted, as is the location of each ACPRP using the CTPS AWP. This notation serves to inform future maintenance operators that the skim coat (the portion of waste slurry that remains on the exterior of the new pipe) is potentially regulated under the Asbestos NESHAP, depending on the amount of ACM to be

disturbed. This practice places the relevant information directly into the hands of persons responsible for future utility maintenance work.

Comment: A commenter recommended deletions and clarifications to a number of inspection, operation, maintenance, sample collection, testing, transportation, and disposal requirements; the commenter also offered alternative language if these sections are not deleted.

Response: We disagree that these sections should be deleted, as they are needed to determine that equipment is maintained, pipelines are thoroughly inspected, waste is properly transported and disposed of, and that the skim coat (the portion of waste slurry that remains on the exterior of the new pipe) is nonfriable and, therefore, nonhazardous as long as it is properly handled in future pipe maintenance work. However, we have reviewed other suggested edits and are rephrasing the requirement for "leak-tight wrapping" to "leak-tight container."

J. Comments Regarding Future Status of the New Pipe and Skim Coat

Several commenters asked the EPA to explain the status of the new pipe once it has been installed, and what requirements apply to the asbestos coating of the new pipe.

Comment: A commenter asked if the EPA can confirm that the skim coat remaining on the new pipe is nonfriable and adheres to the new pipe.

Response: Based on the descriptions of the CTPS train, and observations by EPA personnel of the process in operation, as long as the steps of this AWP are correctly followed, the remaining skim coat (the portion of waste slurry that remains on the exterior of the new pipe) will be nonfriable (not be crumbled, pulverized, or reduced to powder by hand pressure) and adhere to the new pipe. If the slurry sample tests as friable, it is a malfunction, and malfunction requirements apply.

Comment: Three commenters stated that future repairs to the new pipe would present the same worker hazards and soil contamination issues that exist with A/C pipe.

Response: New undeteriorated A/C pipe is nonfriable, but most ACPRPs are done because deterioration of the pipe has occurred. According to testing conducted on samples of A/C pipe slurry, the skim coat (the portion of waste slurry that remains on the exterior of the new pipe) is nonfriable ACM. Therefore, the skim coat is not any worse, but in many cases, is in a better condition that the replaced A/C pipe. Thus, the pipe that has been replaced using CTPS (so that a nonfriable ACM skim coat is present) is not uniquely different from undeteriorated A/C pipe, and, therefore, can be treated using similar practices. Moreover, the forces that caused deterioration of the old A/C pipe are no longer acting upon the skim coat, so we continue to believe that the skim coat on the new pipe remains in a nonfriable state. However, because the skim coat (the portion of waste slurry that remains on the exterior of the new pipe) is ACM, it is subject to regulation under the Asbestos NESHAP and those work practice requirements must be followed whenever repairs or maintenance activities that affect a threshold quantity of the pipe's skim coat are conducted.

Comment: Because some ACM remains on the exterior of the replacement pipe in the skim coat, one commenter stated "a majority of" should be added to the process description, so that it reads, the CTPS AWP "removes a majority of A/C pipe while replacing it with non-asbestos material."

Response: We agree with the commenter that the process description should provide a more representative description of the process. We are revising the process description to read, "the CTPS AWP removes A/C pipe that may be friable and/or in poor condition, while replacing it with non-asbestos pipe and a skim coat (the portion of waste slurry that remains on the exterior of the new pipe) of non-friable ACM."

K. Other Comments

The EPA received other comments on the proposed CTPS AWP, and these are addressed in the document, "Responses to Comments on 83 FR 18042 Notification of Request for Comments on the Proposed Approval of an Alternative Work Practice for Asbestos Cement Pipe Replacement," which is available in the docket to this document.

III. What are the EPA's decisions on suggested changes to the AWP?

The EPA is making several changes to the AWP as a result of comments received on the April 25, 2018, document, as explained below.

A. Changes to the Notification, Reporting, and Recordkeeping Requirements

The EPA is tailoring the notification requirements for the CTPS AWP based on comments received. We are requiring that the 6-digit latitudinal and longitudinal coordinates of each ACPRP conducted using the CTPS AWP be included on the notification because a street address (such as would be included for notification of renovation or demolition of a building) does not necessarily apply to an ACPRP. We believe the 6-digit latitudinal and longitudinal coordinates are analogous to a street address and can be used instead of a street address in the notification at no additional burden to the owner/operator. The latitudinal/longitudinal coordinates can be used by regulatory authorities to locate and inspect the ACPRP effectively to ensure the work practices are conducted properly, ensure the slurry is managed correctly, and verify that all transportation and disposal requirements are followed.

The EPA made changes to the recordkeeping and reporting requirements as a result of comments received on the document. In our April 25, 2018, document, the proposed AWP required owners/operators to include the 6-digit latitudinal/longitudinal coordinates of the ACPRP on the utility record notation. In addition to the utility record notation, the EPA is

requiring owners/operators to include the 6-digit latitudinal/longitudinal coordinates of the ACPRP on the notification and on any report generated as a result of a malfunction. The purpose of this requirement is to ensure that environmental regulatory authorities have the correct information on the location of any ACPRP conducted using the CTPS AWP for compliance assurance purposes.

To be consistent with the current requirements of the Asbestos NESHAP and in response to comments, we have changed the proposed recordkeeping and reporting requirements, as well as removed the requirement of an ACPRP report, as discussed in section II.G of this document.

Lastly, the signed friability certificate discussed in section IV.E.2 of this document should be kept by the owner (typically the state or municipality) for the lifespan of the newly installed pipe. The purpose of this requirement is to ensure that the relevant information on ACPRPs remains at the ready access of persons responsible for the maintenance of the pipe.

B. Clarifications to the Process Description

The EPA made changes to the AWP as a result of comments received on the document. We are revising the process description to read, "the CTPS AWP removes A/C pipe that may be friable and/or in poor condition, while replacing it with non-asbestos material and non-friable ACM."

The EPA is also clarifying the difference between pipe that is inaccessible and pipe that is obstructed. An inaccessible length of pipe is one that cannot be directly removed by open trenching due to other structures (such as sidewalks, roadways, thoroughfares, buildings, and underground utilities) in close proximity to the A/C pipe to be replaced. An obstructed length of pipe is one with a section that has dropped or collapsed in a way that precludes passage of the guide line and/or the CTPS HDD line during the replacement process.

Additionally, we are requiring owners/operators of the CTPS AWP to document on the notification that sealed pipe will be used during the ACPRP and that no slurry (which contains ACM) is able to come in contact with the inside of the new pipe.

Lastly, the EPA is clarifying that the original intention of this work practice is for the replacement of a A/C pipe with a pipe of the same diameter. Due to the nature of close tolerance pipe Slurrification, which only uses an HDD chain ¼ inch larger than the diameter of the new pipe being replaced, there would be minimal soil added to the make-up of the slurry. However, if the owner/operator chose to "upsize" (using a new pipe with a larger diameter than the existing A/C pipe), the amount of surrounding soil being added to the slurry mixture would vary. In these situations, it is the responsibility of the owner/operator to make appropriate changes to the recipe of the drilling fluid, resulting in a nonfriable product that passes the friability test discussed in IV.E.2. of this document.

C. Conducting a Thorough Inspection Of A/C Pipe

The EPA is adding to the thorough inspection requirements that owners/operators of any ACPRP must save a video recording of the inspection and make it available at the ACPRP work site for reference as needed by inspectors, owners, and operators during the ACPRP work. This is the current standard work practice across the underground construction industry.

D. Changes to the Sampling and Analysis Requirements

The EPA is requiring that a slurry sample be made available to the air quality regulatory authority within 15 days of the request. In our April 25, 2018, notice we stated that owners/operators must store a slurry sample from each ACPRP using the CTPS AWP procedure for a period of no less than 2 years. For compliance assurance purposes, we are adding a

requirement that this sample must be made available to the air quality regulatory authority for inspection within 15 days of request. We are also clarifying that the slurry sample be kept by the owner (typically the state or municipality). Because the owner is required to maintain storage of ACPRP samples, the air quality regulatory authority should go to the storage site to examine the slurry sample, rather than to request the sample be delivered or mailed; otherwise, the owner would no longer be in custody of the slurry sample for a minimum of 2 years, as required by this AWP.

E. Decontamination Procedures

Containment of all ACWM is required under the Asbestos NESHAP. The decontamination of equipment used for ACPRPs by the CTPS AWP procedure may generate wastewater bearing asbestos fibers. To achieve containment of this ACWM, we recommend owners/operators conduct decontamination so that all water is contained and filtered before being released to a storm water collection system. For more information on potential decontamination procedures that can be used to control asbestos-contaminated wash water, see "Guidelines for Enhanced Management of Asbestos in Water at Ordered Demolitions," EPA-453/B-16-002a, July 2016, which is available at *www.epa.gov/asbestos* and in the docket to this document.

F. Clarification to Disposal Requirements

The EPA is clarifying the disposal requirements as a result of comments received on the proposed document. The EPA is prohibiting use of the slurry in any public thoroughfare, in any private use as fill material, as cover material at a landfill, or in any other use. The EPA is clarifying that, in accordance with the Asbestos NESHAP, the slurry must be disposed of as soon as practicable.

IV. What is the approved AWP for replacement of A/C pipe?

A. What are the results of the EPA's review of the CTPS AWP?

The EPA found that, with some changes, the AWP described in our April 25, 2018, proposed document is at least equivalent to the work practice in the Asbestos NESHAP. The changes to the AWP in the April 25, 2018, proposed document are based on comments received as previously discussed in sections II and III of this document.

Based upon our review of the proposed AWP request, the demonstrations of the work practice, studies on HDD technology, industry guidelines, and written materials including equipment, materials, slurry characteristics, testing, and waste specifications; we conclude that, by complying with the following list of requirements, this CTPS AWP will achieve emission reductions at least equivalent to emission reductions achieved under 40 CFR 61.145, 40 CFR 61.150, and 40 CFR 61.154, as required by the applicable Asbestos NESHAP, provided that adequate wetting accompanies all vertical access points, access trenches, and manholes to prevent VE, and that the A/C cementitious material resulting from this process is properly handled and contained during and after removal and properly disposed of as required by the Asbestos NESHAP.

The patent related to this process, "Method of Replacing an Underground Pipe Section," is available from the U.S. Patent Office, patent number US8,641,326B2; February 4, 2014, and a copy is available in the docket. That patent deals with the replacement of low-pressure sewer pipes and indicates some parameters that may be different from the work practices in this document, depending on the soil composition, depth of pipe, and serviceable use of the pipe (*e.g.*, a low-pressure sewer, waste water, or fresh water pipe). While this patented process focuses on low-pressure sewer pipes, this AWP is being approved for all underground AC pipe replacement projects that properly follow the steps of the AWP. While this patented process is

one used by the company requesting approval of this AWP, an owner/operator may use other methods that comply with the guidelines of this AWP, and are not required to use the patented process.

B. What inspection, operation, and maintenance requirements would apply?

1. Inspection

a. Prior to using the CTPS for an ACPRP, the owner/operator must conduct underground pipe inspections (*e.g.*, by using remote technologies like robotic cameras) and shall identify, locate, and mark onto an underground utility map of the area all identified potential areas of malfunctions, such as changes in pipe type, drops in the line, broken and off-center points, and changes in soil type.

b. Owners/operators of any ACPRP must save a video recording of the inspection and make it available at the ACPRP work site for reference as needed by inspectors, owners, and operators during the ACPRP work.

2. Operation and Maintenance

The owner/operator of a CTPS method system is required to install, operate, and maintain the drilling head train, CTPS liquid delivery system, and all equipment used to deliver adequate wetting at all vertical access points and cut lengths of pipe in accordance with their written standard operating procedures. Records of the standard operating procedures must be kept in accordance with section IV.C.2.b of this document.

C. What notification, recordkeeping and reporting requirements would apply?

1. If an underground ACPRP meets the applicability and threshold requirements under the NESHAP, then the Administrator must be notified in advance of the replacement in accordance with the requirements of the Asbestos NESHAP at 40 CFR 61.145(b). The owner/operator must

note the location of the ACPRP on the notification form according to its 6-digit latitudinal/longitudinal coordinates. See 40 CFR 61.145(b) for more information on the notification requirements. Also see 40 CFR 61.04 for more information on the appropriate entity(ies) to notify on behalf of the Administrator. The appropriate entity(ies) are the same as the entity(ies) for other typical Asbestos NESHAP notifications under 40 CFR 61.145(b), which vary by jurisdiction as 40 CFR 61.04 explains.

2. The owner/operator is required to record and maintain for a period of 2 years:

a. Waste shipment records as required by 40 CFR 61.150(d);

b. Records of the standard operating procedures for the installation, operation, and maintenance of the drilling head train, CTPS liquid delivery system, and all equipment used to deliver adequate wetting at all vertical access points and cut lengths of pipe; and

c. Malfunction records (if applicable):

i. Records of VE events, including duration, time, and date of any VE event;

ii. Records of when and how each VE event was resolved. Indicate the date and time for each VE period, whether the VE event occurred at an exposed manhole, trench, or other vertical access point, and the number of openings to the ambient air affected; and

iii. Records of a failed friability test, resulting in a sample that can be crushed, crumbled, or reduced to powder by hand pressure.

3. The owner (typically the state or municipality) is required to record and maintain for the lifetime of the new pipe, and provide to the regulatory authority within 15 days of request, the certificate from each sample friability test as required by section IV.E.2 of this document.

4. Each owner/operator is required to submit a malfunction report to the Administrator after any malfunction occurrence. The malfunction report must include the records in section IV.C.2.c of

this document. The malfunction report must be submitted as soon as practical after the occurrence, but in no case later than 30 days. See 40 CFR 61.04 for more information on the appropriate entity(ies) to notify on behalf of the Administrator. The appropriate entity(ies) are the same as the entity(ies) for other typical Asbestos NESHAP notifications or reports, which vary by jurisdiction as 40 CFR 61.04 explains.

D. The CTPS Technique for A/C Pipe Replacement

1. By complying with the following list of requirements, this AWP will achieve emission reductions at least equivalent to emission reductions achieved under 40 CFR 61.145, 40 CFR 61.150, and 40 CFR 61.154, as required by the applicable Asbestos NESHAP.

2. Pipe at Terminals and Vertical Access Points

a. At the starting and terminal points, and at designated intervals along the length of pipe replacement, sections of pipe are exposed, and sometimes cut and removed at the vertical access points (*e.g.*, manholes, trenches).

b. The owner/operator must handle all sections of A/C pipe in accordance with 40 CFR 61.145 and 40 CFR 61.150 of the Asbestos NESHAP. Vertical access points (*e.g.*, manholes, trenches) are made at designated intervals along the length of pipe replacement for pressure relief and access to the A/C pipe to be replaced.

c. The distance between vertical access points is a function of the soil type, pipe size, pneumatic pressure on the CTPS head, and frictional drag on the line; and is determined for each project on a case-by-case basis by the owner/operator. Incorrect estimation of the vertical access point locations may result in a malfunction.

d. The owner/operator must avoid to the extent feasible, crumbling, pulverizing, or reducing to powder A/C pipe during the excavation of vertical access points. Water and suction should be used to uncover as much of the A/C pipe as is needed to begin the CTPS process.

e. Appropriate measures must be taken to prevent the slurry from coming into direct contact with the surrounding soils of the terminals and vertical access holes. The EPA recommends the use of plastic sheathing, or another type of barrier to prevent the slurry contacting the surrounding soil.

3. The CTPS Equipment Train

a. In order to achieve close tolerance and to minimize the thickness of the skim coat (the portion of waste slurry that remains on the exterior of the new pipe), the CTPS technique must use an HDD head train with a slightly larger (approximately 1/4 inch) diameter than the new pipe.

b. The CTPS technology must use a heavy duty cutting and wetting train, made of hardened carbon steel, which is able to be fed directly around the pipe to be replaced.

c. The cutting head must be drawn around the existing pipe and must grind the old A/C pipe to a fine powder using a liquid delivery system as described in section IV.D.4 of this document. In order to adequately grind the existing A/C pipe into a fine powder, the EPA recommends maintaining a minimum speed of 240 revolutions per minute (RPM) for the grinding apparatus.

d. The process must return the A/C pipe to a cementitious slurry that is a homogenous mixture and stays adequately wet through disposal according the requirements of 40 CFR 61.145.

e. The owner/operator must ensure that the CTPS train pulls the replacement pipe behind it. The new pipe must be sealed to ensure no ACM contacts the inside.

4. Requirements for Liquid Delivery

a. The CTPS HDD train must be equipped with ports to deliver liquid materials to the drilling head.

b. Drilling fluids must be delivered through these ports to reduce frictional drag on the line, to lubricate the interface along the soil to pipe line, to provide a barrier between the surrounding ground water, soil, and rock and the pipe, and to support the close tolerance cylindrical void during the pipe replacement process.

c. Drilling fluid recipe must consist of a lubrication fluid, a hole sealing fluid (bentonite clay), and a material suspension fluid.

5. Adequate Wetting and No VE

a. The owner/operator is required to ensure that no VE are discharged to the air from the slurry.

b. Any opening to the atmosphere along the pipe is a potential source of asbestos emissions to the outside (ambient) air.

c. The owner/operator must ensure that dust suppression equipment (*i.e.*, dust suppression apparatus or manual misting) is placed at each vertical access point. The EPA recommends using amended water to prevent visible emissions at vertical access points.

d. If a new trench is dug to resolve a malfunction, the owner/operator must ensure that the new trench is equipped with dust suppression and follow the procedure in section IV.D.5.a-c of this document.

6. Slurry Characteristics

a. The owner/operator would be required to ensure that the slurry (including the excess slurry that remains as skim coat) is a homogenous mixture comprised of finely ground A/C pipe, drilling fluids, bentonite clay, and other materials suspended in solution that, when cured (a period of 48-56 hours), re-hardens so that it meets the sample friability test in section IV.E.2 of this document.

b. The slurry must meet the no VE requirements of 40 CFR 61.145 and 40 CFR 61.150.

E. Sampling, Testing, and Utility Map Notation Requirements

1. Sample Collection

a. After the slurry has been pumped from the vertical access points, but before disposal, the owner/operator of a CTPS method system is required to collect a 2-inch roughly spherical wet sample of the slurry.

b. A single sample must be collected for each project discharging to a single enclosed tank.

c. The owner/operator must seal the sample in a leak-tight container and allow the sample to harden and dry (usually 48-56 hours).

2. Sample Friability Test and Certification

a. When the sample is hardened and dry, the owner/operator would be required to attempt to crush the sample by hand.

i. If the sample cannot be crushed, crumbled, or reduced to powder by hand pressure, the owner/operator would be required to certify this as follows: "The hardened slurry sample from the ACPRP conducted on (date) at (location) could not be crushed, crumbled, or reduced to powder by hand pressure. I am aware it is unlawful to knowingly submit incomplete, false, and/or misleading information and there are significant criminal penalties for such unlawful conduct, including the possibility of fine and imprisonment." The owner (typically the municipality) would be required to maintain a signed certificate of this statement so that it is available to the EPA Administrator, local, and state agency officials within 15 days of request.

ii. If the sample can be crushed, crumbled, or reduced to powder by hand pressure, the owner/operator would be required to follow the malfunction reporting requirements in section IV.C.4 of this document.

iii. If a malfunction occurs, resulting in friable ACM left along the new pipe, the friable ACM must be retrieved and properly disposed of, or the site must be treated as an active asbestos waste disposal site under 40 CFR 61.154 of the Asbestos NESHAP and, upon closure, must comply with 40 CFR 61.151, including a notation on the deed or similar instrument as required by 40 CFR 61.151(e).

b. The sample that cannot be crumbled, pulverized, or reduced to powder by hand pressure is nonfriable, and the remaining slurry from that pipe replacement operation is likewise nonfriable.

c. After testing, the owner/operator must ensure that the sample is packaged in a leak-tight container for storage, labeled "Asbestos Containing Material. Do not break or damage this sealed package," dated according to the ACPRP date of generation, stored in a secure location that is inaccessible to the general public (such as a locked storage unit), and is maintained by the owner (typically the state or municipality) for a period of 2 years.

d. After the 2-year retention period, the sample may be disposed of in a landfill authorized to accept ACWM.

e. A sample of the slurry must be made available to the air quality regulatory authority within 15 days of request.

i. Because the owner (typically the state or municipality) is required to maintain storage of ACPRP samples, the air quality regulatory authority should go to the storage site to examine the slurry sample, rather than to request the sample be delivered or mailed, because otherwise, the owner (typically the state or municipality) would no longer be in custody of the slurry sample for a minimum of 2 years, as required by this AWP.

3. Utility Map Notations

a. Owner/operators would be required to note utility maps according to the actual location identified by the 6-digit latitude/longitude coordinates of the newly laid line.

b. Notations would have to be maintained for the life of the new pipe by the owner/operator (*e.g.*, municipality or utility), and would have to be labeled as covered by a skim coat (the portion of waste slurry that remains on the exterior of the new pipe) of ACM for future work.

F. Trackable Pipeline Requirements

The owner/operator must ensure that the new pipeline is trackable by a locating wire (or other durable trackable material) laid with the new pipe.

G. Slurry Removal, Containment, Labeling, and Transportation Requirements

1. The slurry is removed at vertical access points using a vacuum attached to a tank (*e.g.*, vacuum truck).

2. The owner/operator would be required to ensure that the slurry remains in an adequately wet state during the slurrification process and in containment throughout the removal, transportation, and disposal processes meeting the requirements of 40 CFR 61.145 and 40 CFR 61.150.

3. All slurry produced as a result of conducting an ACPRP using the CTPS AWP must be labeled and transported in accordance with the corresponding requirements of 40 CFR 61.145 and 40 CFR 61.150 in the Asbestos NESHAP. The only slurry that may remain is the skim coat on the new pipe from that ACPRP. This skim coat is not subject to the removal and disposal requirements (subject to confirmation as nonfriable by the friability test), if left undisturbed in the ground.

H. Disposal Requirements

The following requirements apply to disposal of the slurry resulting from an ACPRP conducted using the CTPS AWP:

1. The slurry must be disposed of in slurry form and placed in leak tight containers in a landfill authorized to accept ACWM and meeting the requirements of 40 CFR 61.154.

2. The slurry must be managed at the disposal site using procedures meeting the requirements of 40 CFR 61.154.

3. The slurry must not be used in any public thoroughfare, in any private use as fill material, as cover material at a landfill, or in any other use.

4. In accordance with the Asbestos NESHAP, the slurry must be disposed of as soon as practicable.

I. Equipment Decontamination or Disposal

Persons conducting ACPRPs using the CTPS AWP may choose to either decontaminate the equipment so that no ACM remains within or on the equipment after each ACPRP or may use disposable linings/containers that prevent slurry from coming into direct contact with machinery and are disposed of as ACWM.

As noted in section III.E above, containment of all ACWM is required under the Asbestos NESHAP. The decontamination of equipment used for ACPRPs by the CTPS AWP procedure may generate wastewater bearing asbestos fibers. To achieve containment of this ACWM, we recommend owners/operators conduct decontamination so that all water is contained and filtered before being released to a storm water collection system. For more information on potential decontamination procedures that can be used to control asbestos-contaminated wash water, see "Guidelines for Enhanced Management of Asbestos in Water at Ordered Demolitions," EPA-453/B-16-002a, July 2016, which is available at *www.epa.gov/asbestos* and in the docket to this document.

J. Application of Asbestos NESHAP Requirements

Except as noted in section IV.G.3 of this document, all other requirements of the Asbestos NESHAP that apply to renovations, including notification requirements found in 40 CFR 61.145(b), also apply to the CTPS AWP. Additionally, waste handling and disposal requirements found in 40 CFR 61.150 and 40 CFR 61.154 apply to the slurry (except as noted in section IV.G.3 of this document) and any other ACWM that is removed at the ACPRP. This document also uses terminology as defined in 40 CFR 61.141.

It is important to note that projects may not be broken up to avoid regulation under the Asbestos NESHAP, and the EPA has clarified the requirements of the Asbestos NESHAP as they relate to a project on several occasions. The "EPA considers demolitions planned at the same time or as part of the same planning or scheduling period to be part of the same project. In the case of municipalities, a scheduling period is often a calendar year or fiscal year or the term of the contract." See 60 FR 38725 (July 28, 1995, Footnote 1). As stated in the circumvention section of the 40 CFR part 61 General Provisions at 40 CFR 61.19, "No owner or operator shall build, erect, install, or use any article, machine, equipment, process, or method, the use of which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous dilutants to achieve compliance with a VE standard, and the piecemeal carrying out of an operation to avoid coverage by a standard that applies only to operations larger than a specified size." As the Agency noted in a previous AD,[1] the relevant part of that requirement is the part that discusses the prohibition on the piecemeal carrying out of an operation to avoid coverage by a standard.

[1] Applicability Determination Number A020001. August 30, 2002. From George Czerniak, Chief, Air Enforcement and Compliance Assurance Branch, U.S. EPA Region 5, to Robert Swift.
https://cfpub.epa.gov/adi/index.cfm?fuseaction=home.dsp_show_file_contents&CFID=27301905&CFTOKEN=85118624&id=A020001.

Therefore, as required by 40 CFR 61.145(a)(4)(iii) and (iv), owners or operators (owner/operator) must predict the combined additive amount of RACM to be removed in the course of the renovation activities (or, in the case of emergency renovations, estimate that amount) over the calendar year to determine the applicability of the standard to a project.

Dated: May 30, 2019.

Panagiotis Tsirigotis,
Director, Office of Air Quality Planning and Standards.
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