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WASHINGTON, D.C. 20460

OFFICE OF
LAND AND EMERGENCY
MANAGEMENT

March 1, 2023

OLEM Directive 9234.0-07

MEMORANDUM

SUBJECT: Documenting Applicable, or Relevant and Appropriate Requirements in Comprehensive Environmental Response, Compensation, and Liability Act Response Action Decisions

FROM: Larry Douchand, Director LARRY DOUCHAND Digitally signed by LARRY DOUCHAND Date: 2023.03.01 10:03:54 -05'00'
Office of Superfund Remediation and Technology Innovation

TO: Superfund National Program Managers, Regions 1-10

Purpose

This memo's purpose is to clarify existing U.S. Environmental Protection Agency (EPA) guidance for documenting applicable, or relevant and appropriate requirements (ARARs) as required under Section 121(d)(2)[1] of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) for remedial actions. This memo and attachments apply to remedial actions and should also be considered for non-time critical removal action decisions. Regions are requested to consider these recommendations, which include recommended practice tips and an ARARs table template, in documenting ARARs throughout the response selection process, including when selecting the response action.[2]

Overall protection of human health and the environment and compliance with ARARs are threshold requirements for any remedial action under CERCLA section 121(d) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).[3] ARARs often help define remedy protectiveness and are intended to ensure the response is performed in accordance with

[1] CERCLA section 121(d)(2) specifies that remedial actions shall attain any standard, requirement, criteria, or limitation under federal environmental law or any more stringent promulgated standard, requirement, criteria or limitation under state environmental or facility siting law that is legally applicable to the hazardous substance (or pollutant or contaminant) concerned or is relevant and appropriate under the circumstances of the release. *See also* 40 C.F.R. § 300.430(f)(1)(ii)(B) ("On-site remedial actions selected in a ROD must attain those ARARs that are identified at the time of ROD signature or provide grounds for invoking a waiver under § 300.430(f)(1)(ii)(C).").

[2] The policies and procedures set out in this document are intended solely for the guidance of Government personnel. They are not intended, nor can they be relied upon, to create any rights, substantive or procedural, enforceable by any party in litigation with the United States. The Agency reserves the right to act at variance with these policies and procedures and to change them at any time without public notice.

[3] *See* 40 C.F.R. § 300.430(f)(1)(i)(A) ("*Threshold criteria.* Overall protection of human health and the environment and compliance with ARARs (unless a specific ARAR is waived) are threshold requirements that each alternative must meet in order to be eligible for selection.").

promulgated regulations or statutory provisions. In addition, ARARs frequently are determinant in establishing preliminary remediation goals, which become site cleanup levels.[4] Transparency in documenting ARARs ensures the remedy selection process provides all stakeholders (including potentially responsible parties (PRPs), states and the public) with sufficient information to comment meaningfully on the response action. Such transparency also helps ensure that the requirements to be met are fully understood for purposes of determining compliance.

Background

The NCP and EPA policy embodied in the rule's preambles[5] provide direction on ARARs[6] identification, determination, and coordination with states, tribes, and other federal agencies. However, neither the NCP nor its preambles provide specific detail on documenting ARARs in response action documents. As a result, EPA regions have documented ARARs in varying ways. In addition, some older remedy decision documents have only listed major environmental laws and regulations without identifying the specific statutory and regulatory provisions that apply to the selected remedy. This memo's recommendations for documenting ARARs with the requisite specificity will improve consistency and transparency in the response action process.

In October 2017, EPA issued a memo titled "Best Practice Processes for Identifying and Determining State Applicable or Relevant and Appropriate Requirements Status Pilot," (OLEM Dir. 9200.2-187, Oct. 20, 2017). In this memo, which was developed in collaboration with state attorneys, EPA outlines a useful approach through which EPA-state ARARs identification and involvement under the NCP occurs early in the remedial process, thereby avoiding disputes late in that process. This approach may also be a useful framework for tribes and other federal facilities when identifying ARARs. While the 2017 memo focuses on identification of ARARs and resolution of disputes, this memo focuses on how to improve the documentation of ARARs throughout the response selection process.

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[4] *See* 40 C.F.R. § 300.430(e)(2)(i) ("Initially, preliminary remediation goals are developed based on readily available information, such as chemical-specific ARARs or other reliable information ... Remediation goals shall establish acceptable exposure levels that are protective of human health and the environment and shall be developed by considering the following:(A) Applicable or relevant and appropriate requirements under federal environmental or state environmental or facility siting laws, if available."). *See also* "Clarification of the Role of Applicable, or Relevant and Appropriate Requirements in Establishing Preliminary Remediation Goals under CERCLA" (OSWER No. 9200.4-23, August 22, 1997).

[5] *See* Proposed NCP rule at 53 FR 51394 (December 21, 1988) and Final NCP rule at 55 FR 8666 (March 8, 1990).

[6] *See* 40 C.F.R. § 300.5 (*Definitions*). ("Applicable requirements" means those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal environmental or state environmental or facility siting laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance found at a CERCLA site. Only those state standards that are identified by a state in a timely manner and that are more stringent than federal requirements may be applicable. "Relevant and appropriate requirements" means those cleanup standards, standards of control, and other substantive requirements, criteria or limitations promulgated under federal environmental or state environmental or facility siting laws that, while not "applicable" to a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance found at a CERCLA site, address problems or situations sufficiently similar to those encountered at the CERCLA site that their use is well suited to the particular site. Only state standards that are promulgated, are identified by the state in a timely manner, and are more stringent than federal requirements may be relevant and appropriate.)

Implementation

This document provides a template and recommended practice tips to assist EPA regions in developing ARAR tables as part of a CERCLA response selection. This memorandum, including the attachments, clarifies existing guidance to ensure CERCLA documents are consistent with the NCP (including its preambles) and that ARAR information is transparent to stakeholders. The existing guidance on determining and documenting ARARs remains in effect; however, the example table in Highlight 6-34 in Chapter 6 of EPA's "A Guide to Preparing Superfund Proposed Plans, Records of Decision, and Other Remedy Selection Documents" (July 1999 "1999 ROD Guidance") for documenting a selected remedy's ARARs does not provide an appropriate level of specificity, such as inclusion of the exact citations to the specific statutory or regulatory requirements as required by the NCP at 40 C.F.R. § 300.400(g)(5). As such, this guidance supersedes the example table found in Highlight 6-34 of the 1999 ROD Guidance as the recommended approach for documenting ARARs in decision documents.

Attachment A provides overarching recommendations for documenting ARARs. Attachment B outlines a recommended table format for documenting the ARARs identified for remedial actions under CERCLA section 121(d)(2). This information should be included in documents associated with remedy selection, including Remedial Investigation (RI)/Feasibility Study (FS) reports, the Record of Decision (ROD), and any ROD Amendments or Explanations of Significant Differences (ESDs). This document also provides an overall perspective on the level of detail needed to support and document ARARs; it also presents tips for developing the ARARs table(s). The information and recommendations should also be considered when documenting ARARs in the Engineering Evaluation /Cost Analysis (EE/CA) and an Action Memorandum for non-time critical removal actions.

The recommended ARAR table template (Attachment B) provides for more detailed ARARs documentation than the EPA OSWER Dir. 9234.1-01 "Compliance with Other Laws Manual, Part I" (EPA/540/G-89/006, August 8,1988), Exhibits1-1, 1-2 and 1-3, to ensure greater consistency with the NCP and recent Agency response action decisions. The template, practice tips and clarifications in these documents are intended to complement existing guidance and ensure greater consistency when determining and documenting ARARs. This information will also provide transparency during ARARs selection and will facilitate compliance with the substantive requirements contained in ARARs as required by the NCP when implementing Superfund response actions.

Cc: Attachments

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Attachment A

Recommendations for Documenting Applicable, or Relevant and Appropriate Requirements in Comprehensive Environmental Response, Compensation and Liability Act Response Action Decisions

I. Purpose

This attachment highlights considerations in existing EPA guidance and policies and also provides recommended practice tips to assist regions in developing ARAR table(s) identified for remedial actions under CERCLA section 121(d)(2).[7] The information and recommendations should also be considered when documenting ARARs in an Engineering Evaluation/Cost Analysis (EE/CA) and an Action Memorandum for non-time critical removal actions. This attachment also clarifies how to document ARARs to help ensure consistency with Agency policy (as provided in the NCP preambles, guidance, and other relevant documents, etc.). The NCP and Agency policy embodied in its preambles provide guidance on ARARs[8] identification, determinations, and coordination with states, but neither the NCP nor its preambles address the specific level of detail needed to document ARARs. As a result, there have been variations among the EPA regions when documenting ARARs. The document also provides recommended practice tips to consider when evaluating what is or is not an ARAR in documents associated with remedy selection. These remedy selection documents may include a Remedial Investigation (RI)/Feasibility Study (FS) report, the Record of Decision (ROD), and any modifications made through a ROD Amendment or Explanation of Significant Differences (ESD). The information may also be useful when documenting ARARs in the EE/CA and Action Memorandum for non-time critical removal actions.

The ARARs table(s) and supporting information in CERCLA decision documents and supporting documentation should be transparent and thorough enough for all parties (including potentially responsible parties (PRPs), states and the public) to understand. The recommendations identified in this document supplement existing EPA CERCLA guidance

[7] CERCLA Section 121(d)(2) specifies that remedial actions shall attain any standard, requirement, criteria, or limitation under federal environmental law or any more stringent promulgated standard, requirement, criteria or limitation under state environmental or facility siting law that is legally applicable to the hazardous substance or pollutant or contaminant concerned or is relevant and appropriate under the circumstances of the release. See also 40 C.F.R. § 300.430(f)(1)(i)(A).

[8] See 40 C.F.R. § 300.5 (*Definitions*) ("*Applicable requirements"* means those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal environmental or state environmental or facility siting laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance found at a CERCLA site. Only those state standards that are identified by a state in a timely manner and that are more stringent than federal requirements may be applicable. "*Relevant and appropriate requirements"* means those cleanup standards, standards of control, and other substantive requirements, criteria or limitations promulgated under federal environmental or state environmental or facility siting laws that, while not "applicable" to a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance found at a CERCLA site, address problems or situations sufficiently similar to those encountered at the CERCLA site that their use is well suited to the particular site. Only state standards that are promulgated, are identified by the state in a timely manner, and are more stringent than federal requirements may be relevant and appropriate.).

regarding the appropriate level of detail when documenting ARARs (e.g., EPA OSWER Dir. 9234.1-01 "Compliance with Other Laws Manual Part I" (EPA/540/G-89/006, August 8, 1988) (e.g., Exhibits 1-1, 1-2 and 1-3, pages 1-16 through 1-54). However, the example table in Chapter 6's "Highlight 6-34" found in EPA's "A Guide to Preparing Superfund Proposed Plans, Records of Decision, and Other Remedy Selection Documents" (July 1999, "1999 ROD Guidance") for documenting a selected remedy's ARARs does not provide an appropriate level of specificity, such as inclusion of the exact citations to the specific statutory or regulatory requirements as required by the NCP at 40 C.F.R. § 300.400(g)(5). As such, the example table found in Highlight 6-34 of the 1999 ROD Guidance should not be followed.

II. Key Considerations in Identifying and Documenting ARARs

CERCLA requires that remedial actions comply with all requirements that are applicable or relevant and appropriate. "Therefore, a remedial action has to comply with the most stringent requirement that is ARAR to ensure that all ARARs are attained" absent a waiver.[9] Per the NCP at 40 C.F.R. § 300.400(g) "Identification of applicable or relevant and appropriate requirements,"

> The lead agency and support agency shall *identify* their *specific requirements that are applicable or relevant and appropriate for a particular site*. These agencies shall notify each other, in a timely manner as described in § 300.515(d), of the requirements they have determined to be applicable or relevant and appropriate. When identifying a requirement as an ARAR, the lead agency and support agency *shall include a citation to the statute or regulation from which the requirement is derived*.[10] (Emphasis added.)

Consistent with CERCLA, the NCP, and relevant CERCLA guidance, the ROD and modifications thereto are EPA-issued legal documents that demonstrate compliance with statutory and regulatory obligations.[11] In these documents, EPA should clearly describe and cite to the specific ARAR provision to ensure that the public and PRPs (including federal agencies at federal facility sites) can understand the requirements that must be complied with per CERCLA section 121(d)(2) [12] The ROD, ROD Amendment or ESD must describe the federal and state ARARs that the remedy will attain. In instances where the remedy will not meet an ARAR, the

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[9] 55 Fed. Reg. 8741 (March 8, 1990). This sentence in the preamble is EPA's response to one commenter who argued that the remedial action should not necessarily have to attain the most stringent applicable or relevant and appropriate requirement if a less stringent requirement provides adequate protection of human health and the environment. EPA disagreed.

[10] 40 C.F.R. § 300.400(g)(5).

[11] Preamble to the Final NCP at 55 Fed. Reg. 8666 at p. 8730 (March 8, 1990) ("The ROD is also a legal document that, in conjunction with the supporting administrative record, demonstrates that the lead and support agency decision-making has been carried out in accordance with statutory and regulatory requirements and that explains the rationale by which remedies were selected."). In addition, see 42 U.S.C. § 9620(e)(4) which provides that a ROD could be jointly issued by EPA and the affected federal agency at federal facility NPL sites. See also 40 C.F.R. 300.430(f)(4)(iii) ("The process for selection of a remedial action at a federal facility on the NPL, pursuant to CERCLA section 120, shall entail: (A) Joint selection of remedial action by the head of the relevant department, agency, or instrumentality and EPA; or (B) If mutual agreement on the remedy is not reached, selection of the remedy is made by EPA.").

[12] Preamble to the Proposed NCP at 53 Fed. Reg. 51394 at p. 51430 (Dec. 21, 1988). See also "Guide to Preparing Superfund Proposed Plans, Records of Decision, and Other Remedy Selection Decision Documents," EPA OSWER 9200.1-23P (July 1999), Section 6.1.1. (Purpose of ROD) at p. 6-1.

decision document must describe the invoked waiver and the justification for its invocation.[13] The FS report should reflect the same level of ARARs specificity to facilitate a meaningful comparison of remedial alternatives and to provide a clear administrative record regarding how a selected alternative in a proposed plan presented for public comment meets the ARARs criteria. Thus, the FS report should identify ARARs for each alternative considered in the FS, not just the selected alternative. In turn, only the ARARs table(s) for the selected alternative needs to be incorporated into the ROD, ROD amendment or an ESD.[14] As a result, some ARARs identified for non-selected alternatives may not be needed for the selected remedy. Thus, the decision document ARARs table(s) may differ from those included in the FS report (or EE/CA in the case of a non-time critical removal action).

'Applicable' versus 'Relevant and Appropriate' Requirements

The lead agency determines ARARs based upon an analysis of which requirements are applicable or relevant and appropriate to the distinctive set of circumstances and actions contemplated at a specific site.[15] "'Applicable requirements' are identified by a largely objective comparison to the circumstances at the site; if there is a one-to-one correspondence between the requirement and site circumstances, then the requirement is applicable."[16] "Applicability" implies that the remedial action or the circumstances at the site satisfy all of the jurisdictional prerequisites of a requirement.[17]

> There is little discretion involved in this determination. If a requirement is not applicable, the decisionmaker uses best professional judgment to determine whether the requirement addresses problems or situations that are generally pertinent to the conditions at the site (i.e., the requirement is relevant) and whether the requirement is well suited to the particular site (i.e., the requirement is appropriate).[18]

[13] 40 C.F.R. § 300.430(f)(5)(ii)(B) and (C). See 40 C.F.R. § 300.430(f)(1)(ii)(B) ("On-site remedial actions selected in a ROD must attain those ARARs that are identified at the time of ROD signature or, if necessary, the ROD must provide grounds for a waiver."). See also EPA fact sheet "Overview of ARARs Focus on Waivers" (Pub.9234.2-03/FS Dec. 1989).

[14] 53 Fed. Reg. 51438 (Dec. 21, 1988) ("The decision on which alternative to select is made at the end of the process and is based on the balancing of the selection of remedy criteria. ARARs will differ depending upon the specific actions and objectives of each alternative being considered…").

[15] 55 Fed. Reg. 8741 (March 8, 1990).

[16] 53 Fed. Reg. 51436-37 (Dec. 21, 1988).

[17] *See* EPA OSWER Dir. 9234.1-01, "CERCLA Compliance With Other Laws Manual Part I"(Aug. 8, 1988), Section 1.2.2 Definitions of Applicable and Relevant and Appropriate., p. 1-10.

[18] 53 Fed. Reg. 51437 (Dec. 21, 1988). *See also* 40 C.F.R. § 300.400(g)(2) ("If based upon paragraph (g)(1) of this section, it is determined that a requirement is not applicable to a specific release, the requirement may still be relevant and appropriate to the circumstances of the release.").

Jurisdictional prerequisites[19], while key in the applicability determination, are not the basis for relevance and appropriateness.[20] Pursuant to 40 C.F.R. § 300.400(g)(1):

> The lead and support agencies shall identify requirements applicable to the release or remedial action contemplated based upon an objective determination of whether the requirement specifically addresses a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance found at a CERCLA site.[21]
>
> If, based upon paragraph (g)(1) of this section, it is determined that a requirement is not applicable to a specific release, the requirement may still be relevant and appropriate to the circumstances of the release. In evaluating relevance and appropriateness, *the factors in paragraphs (g)(2)(i) through (viii) of this section shall be examined, where pertinent*, to determine whether a requirement addresses problems or situations sufficiently similar to the circumstances of the release or remedial action contemplated, and whether the requirement is well-suited to the site, and therefore is both relevant and appropriate. The pertinence of each of the following factors will depend, in part, on whether a requirement addresses a chemical, location, or action. The following comparisons shall be made, where pertinent, to determine relevance and appropriateness: (i) the purpose of the requirement and the purpose of the CERCLA action; (ii) the medium regulated or affected by the requirement and the medium contaminated or affected at the CERCLA site; (iii) the substances regulated by the requirement and the substances found at the CERCLA site; (iv) the actions or activities regulated by the requirement and the remedial action contemplated at the CERCLA site; (v) any variances, waivers, or exemptions of the requirement and their availability for the circumstances at the CERCLA site; (vi) the type of place regulated and the type of place affected by the release or CERCLA action; (vii) the type and size of structure or facility regulated and the type and size of structure or facility affected by the release or contemplated by the CERCLA action; and (viii) any consideration of use or potential use of affected resources in the requirement and the use or potential use of the affected resources at the CERCLA site."[22] (Emphasis added.)

Importantly, "EPA has discretion to determine whether any, all, or only a portion of a requirement is relevant and appropriate, consistent with the factors set out in final rule § 300.400(g)(2); however, once determined to be relevant and appropriate, all relevant and appropriate portions of the requirement must be applied as though they were applicable (again, unless a waiver is

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[19] 53 Fed. Reg. 51437 (Dec. 21, 1988) ("Statutes and regulations are sometimes made up of discrete requirements, each requirement having its own set of jurisdictional prerequisites. EPA has found that with these authorities often only some requirements within a regulation are relevant and appropriate. In contrast with an applicable requirement, flexibility exists to identify discrete 'appropriate' portions of a regulation which may be mixed with 'appropriate' portions of other regulations in a manner that makes good environmental sense for the site."). *See* EPA OSWER Dir. 9234.1-01, "CERCLA Compliance With Other Laws Manual Part I"(Aug. 8, 1988), Exhibit 1-6 ARAR Jurisdictional Prerequisites., p. 1-63.

[20] 55 Fed. Reg. 8743 (March 8, 1990).

[21] 40 C.F.R. § 3400.400(g) ("*Identification of applicable or relevant and appropriate requirements*.").

[22] 40 C.F.R. § 3400.400(g)(2).

available)."[23] Only those requirements that are determined to be both relevant and appropriate must be complied with.[24] A decision on whether a requirement is both relevant and appropriate is based on the best professional judgment of the decision maker, taking into account the pertinent factors.[25]

More Stringent State ARARs

CERCLA section 121(d)(2)(A) provides that remedies must comply with any promulgated standard, requirement, criteria or limitation (hereinafter referred to as a "standard" or "requirement") under a state environmental or facility siting law that is more stringent than any federal standard, requirement or limitation if applicable or relevant and appropriate to the hazardous substance or release in question.[26] In general, EPA considers state regulations under federally authorized programs to be federal requirements.[27] Where no federal ARAR exists for a chemical, location or action, but a state ARAR does exist, or where a state ARAR is broader in scope than the federal ARAR, the state ARAR generally is considered more stringent.[28]

For purposes of identification and notification of promulgated state standards, the term "promulgated" means that the standards are of general applicability and are legally enforceable.[29] "The phrase 'of general applicability' is meant to preclude consideration of state requirements promulgated specifically for one or more CERCLA sites as potential ARARs."[30] For a state requirement to be a potential ARAR, it must be applicable to all remedial situations described in the requirement, not just CERCLA sites.[31] Per 40 C.F.R. § 300.400(g)(5): "When identifying a requirement as an ARAR, the lead agency and support agency shall include a citation to the statute or regulation from which the requirement is derived."[32] Typically, only those state standards that are identified by a state in a timely manner and that are more stringent than federal

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[23] 55 Fed. Reg. 8726 (March 8, 1990). Note, however, for those remedial actions that utilize and can justify an ARAR waiver, the remedy "must also provide adequate protection of human health and the environment in order to be eligible for selection as the remedy." *Id.*

[24] 53 Fed. Reg. 51436 (Dec. 21, 1988).

[25] 55 Fed. Reg. 8743 (March 8, 1990) (Preamble to final rule referencing preamble to the proposed rule emphasized that a requirement must be both relevant and appropriate; this determination is based on "best professional judgment." The preamble to the final rule further also provides that with respect to some statutes or regulations, only some of the requirements may be relevant and appropriate to a particular site, while others may not be.).

[26] 53 Fed. Reg. 51437 (Dec. 21, 1988). *See also* 40 C.F.R. § 300.400(g)(4) ("Only state standards that are promulgated, are identified by the state in a timely manner, and are more stringent than federal requirements may be applicable or relevant and appropriate.").

[27] 55 Fed. Reg. 8742 (Mar. 8, 1990).

[28] 53 Fed. Reg. 51435 (Dec. 21, 1988).

[29] *Id. See also* 40 C.F.R. § 300.400(g)(4) and EPA OSWER Pub. 9234.2-05/FS, "CERCLA Compliance with State Requirements" (Dec. 1989).

[30] 53 Fed. Reg. 51438 (Dec. 21, 1988) ("EPA believes that Congress did not intend CERCLA actions to comply with requirements that would not also apply to other similar situations in that State.").

[31] *Id*.

[32] *See* 55 Fed. Reg. 8746 (Mar. 8, 1990) ("EPA expects, however, that states will substantiate submissions of potential ARARs by providing basic evidence of promulgation, such as a citation to a statute or regulation and, where pertinent, a date of enactment, effective date, or description of scope. Because a citation is the minimum needed to positively identify a requirement, EPA has added regulatory language requiring both lead and support agencies to provide citations when identifying their ARARs.").

requirements may be ARARs.[33] In addition, a state standard(s) must be consistently applied or it may be waived under CERCLA section 121(d)(4).[34] For a state standard to be identified as a chemical-specific ARAR and the basis for clean-up levels selected for a remedy, it must be more stringent than any Federal ARAR standard. For example, some states have promulgated drinking water standards or groundwater protection standards for certain chemicals that are more stringent than the EPA's Safe Drinking Water Act Primary Drinking Water Standards maximum contaminant levels (MCLs) for the same chemical.

Similarly, states have promulgated regulations to implement the Clean Water Act section 402 program. As recognized in the preamble to the final NCP:

> For example, in the preamble to the proposed NCP**,** EPA cited the example of a state antidegradation statute that prohibits the degradation of surface water below a level of quality necessary to protect certain uses of the water body (53 FR 51438). If promulgated, such a requirement is clearly directive in nature and intent. State regulations that designate uses of a given waterbody and state water quality standards that establish maximum in-stream concentrations to protect those uses define how the antidegradation law will be implemented are, if promulgated, also potential ARARs.[35]

State advisories, guidance or other non-binding requirements, as well as standards that are not of general applicability, will not be considered potential ARARs.[36] In some cases, a promulgated state requirement requires interpretation. The EPA Administrator has declared: "In the absence of promulgated interpretative regulations or other promulgated, binding authority, EPA has considerable latitude in determining how to apply an ambiguous state requirement."[37]

Substantive v. Administrative Requirement

State and federal requirements must be substantive in nature to qualify as ARARs. On-site[38] portions of response actions need only comply with "substantive" aspects of ARARs rather than

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[33] Although this does not preclude EPA from coordinating with a State in the identification of applicable or relevant and appropriate State ARARs. *See* 40 C.F.R. § 300.515(d) "(*State involvement in the RI/FS process*). When the state and EPA have entered into a State Memorandum of Agreement ("SMOA"), the SMOA generally should address at what points in the remedial process the lead and support agencies should engage and specify timeframes for support agency input on ARARs. In the absence of a SMOA, the lead and support agencies shall discuss potential ARARs/TBCs during the scoping of the RI/FS in accordance with 40 CFR 300.430(e)(9) and consult one another throughout the remedy selection process to ensure ARARs/TBC are updated as needed.

[34] 40 C.F.R. § 300.430(f)(1)(ii)(C)(*5*).

[35] 55 Fed. Reg. 8746 (March 8, 1990).

[36] 53 Fed. Reg. 51437 (Dec. 21, 1988).

[37] Decision of Administrator Carol M. Browner, *In the Matter of: Mather Air Force Base and George Air Force Base, California*, April 22, 1993 at p. 4. See also, 55 Fed. Reg. 8746 (March 8, 1990) ("Even if a state has not promulgated implementing regulations, a general goal can be an ARAR if it meets the eligibility criteria for state ARARs. However, EPA would have considerable latitude in determining how to comply with the goal in the absence of implementing regulations. EPA may consider guidelines the state has developed related to the provision, as well as state practices in applying the goal, but such guidance or documents would be TBCs, not ARARs.").

[38] 40 C.F.R. § 300.5, (*Definitions*) ("on-site" means "the areal extent of contamination and all suitable areas in very close proximity to the contamination necessary for implementation of the response action.").

any corresponding "administrative" requirements.[39] In contrast, once remediation waste is transferred off site, the action must comply with both the substantive and administrative aspects of applicable requirements,[40] including obtaining or complying with any required permits.[41]

Substantive requirements typically are those requirements that pertain directly to actions or conditions in the environment. Examples of substantive requirements include quantitative health- or risk-based restrictions upon exposure to types of hazardous substances (*e.g.*, MCLs establishing drinking water standards for particular contaminants), technology-based requirements for actions taken upon hazardous substances (*e.g.*, incinerator standards requiring particular destruction and removal efficiency), and restrictions upon activities in certain special locations (*e.g.*, standards prohibiting certain types of facilities in floodplains).[42]

Administrative requirements typically are those mechanisms that facilitate the implementation of the substantive requirements of a statute or regulation and include the approval of, or consultation with, administrative bodies, issuance of permits, documentation, reporting, recordkeeping and enforcement.[43] Requirements which do not in and of themselves define a level or standard of control are considered administrative.[44] The determination of whether a requirement is substantive or administrative need not be documented.[45]

III. ARARs Table Specificity

The ARARs for remedial alternatives (in the case of an FS) and for the selected remedy (in the case of a ROD or other remedy decision document, such as a ROD Amendment or ESD) generally should be listed in a table(s) that is consistent with CERCLA, the NCP and the relevant EPA CERCLA guidance[46] on ARARs documentation as well as the recommendations provided herein.

In January 2012, the EPA Administrator issued a final decision resolving the Marshall Space Flight Center (MSFC) Federal Facility Agreement dispute ("Marshall Decision"). The decision addressed the requirement of specificity in identifying ARARs and determined that the ARARs table in the Operable Unit-12 ROD (which was the subject of the dispute) contained the

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[39] 42 U.S.C. § 9621(d)(2)(A) & (e)(1). *See* EPA OSWER Dir. 9234.1-01, *CERCLA Compliance With Other Laws Manual Part I* (Aug. 8, 1988), Executive Summary, Compliance with Substantive and Administrative Requirements at p. xvi.

[40] However, off-site legal requirements are not considered ARARs.

[41] As explained in the preamble to the proposed NCP (53 Fed. Reg. at p. 51443), the permit exemption in CERCLA section 121(e)(1) was added to the statute in 1986 to "reflect Congress' judgment that CERCLA actions should not be delayed by time-consuming *and duplicative* administrative requirements such as permitting, although the remedies should achieve the substantive standards of applicable or relevant and appropriate laws." (emphasis added). A "duplicative" administrative requirement is avoided by using the CERCLA remedy selection process (e.g., proposed plan supported by an RI/FS with adequate information documenting substantive compliance with ARARs which allows for meaningful public participation) that serves as the functional equivalent for the permitting process that would otherwise be used to establish discharge limits and other requirements.

[42] *CERCLA Compliance With Other Laws Manual Part I*, *supra*.

[43] *See* EPA OSWER Dir. 9234.1-01, *CERCLA Compliance With Other Laws Manual Part I* § 1.2.2. (Definitions of Substantive and Administrative Requirements) at p. 1-11 (Aug. 8, 1988).

[44] 53 Fed. Reg. 51443 (Dec. 21, 1988).

[45] *Id*.

[46] EPA OSWER Dir. 9234.1-01, *CERCLA Compliance With Other Laws Manual Part I* and Part II (Aug. 8, 1988 and Aug. 1989).

appropriate degree of specificity.[47] The Marshall Decision also reiterated the Agency's policy in the NCP that producing a laundry list of statutes and regulations that might be ARARs for a particular site is not sufficient:

> Furthermore, the language of CERCLA Section 121(d)(2)(A) makes clear, and program expediency necessitates, that the *specific* requirements that are applicable or relevant and appropriate to a particular site be identified. It is not sufficient to provide a general "laundry" list of statutes and regulations that might be ARARs for a particular site. The State, and EPA if it is the support agency, must provide a list of requirements with *specific* citations to the section of law identified as a potential ARAR, and a brief explanation of why the requirement is considered to be applicable or relevant and appropriate to the site.[48]

In addition, the Administrator noted that the ARARs documentation in a ROD needs to have a sufficient level of detail to inform the public and any PRP of the specific requirements for the contemplated remedial activities to ensure compliance with the ARARs of the selected remedy.[49]

To Be Considered Category

Other information that does not meet the definition of ARAR may be necessary to determine what is protective or may be useful in developing Superfund remedies.[50] "To be considered" (TBCs) are non-promulgated criteria, advisories, etc., that can be consulted along with and in addition to ARARs.[51]

> In addition to applicable or relevant and appropriate requirements, the lead and support agencies may, as appropriate, identify other advisories, criteria, or guidance to be considered for a particular release. The ''to be considered'' (TBC) category consists of advisories, criteria, or guidance that were developed by EPA, other federal agencies, or states that may be useful in developing CERCLA remedies.[52]

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[47] A copy of the 2012 EPA Administrator's decision on the Marshall dispute can be found at https://www.fedcenter.gov/Announcements/index.cfm?id=20465&pge_prg_id=39032&printable=1.The ARARs table(s) in the Marshall OU-12 ROD provided the specific citation to the section of the law or regulation pertinent to the response action; the legal prerequisite to the law/regulation applicability; a requirement summary; and a description of the media being addressed, triggering action or location characteristic. This format is consistent with the NCP and EPA's *Compliance With Other Laws Manual Parts I and II* (OSWER 540-G-89—006, Aug. 1988 and 1989).

[48] Marshall Decision at p. 2 (quoting 55 Fed. Reg. 8746, (March 8, 1990) and adding emphasis).

[49] The Marshall Decision stated: "Providing specificity and detail in identifying and describing federal and state ARARs ensures that there is an adequate level of transparency in the remedy selection process, meaningful and knowledgeable opportunities for public participation throughout the process, and informed buy-in by potentially responsible parties who are paying to clean up contaminated sites." Marshall Decision at p. 1.

[50] 53 Fed. Reg. 51436 (Dec. 21, 1988).

[51] *Id*. at 51435 (Dec. 21, 1988). See also 55 Fed. Reg. 8745 (March 8, 1990) ("TBCs may, however, be very useful in helping to determine what is protective at a site, or how to carry out certain actions or requirements.").

[52] 40 C.F.R. § 300.400(g)(3). See also 40 CFR 300.430(b) ("*Scoping*…. Specifically, the lead agency shall... (9) Initiate the identification of potential federal and state ARARs and, as appropriate, other criteria, advisories, or guidance to be considered.").

While the Marshall Decision was specific to documenting ARARs in a ROD at that site, the basic framework is generally useful when identifying other non-promulgated criteria, advisories or guidance(s) that may be TBCs[53] for the response action and included in an ARARs table(s).

When identifying TBCs, the Agency has more discretion as there are no prescribed factors in the NCP for evaluating such information. Best professional judgment generally should be used, and the ROD ARARs/TBC tables generally should only identify those substantive portions of the TBC that help inform or support the response action's protectiveness of human health and the environment. For example, in identifying an EPA Drinking Water Health Advisory as a TBC, the chemical and the associated concentration would typically be identified. In the case of more lengthy technical guidance documents, such as "Final Covers on Hazardous Waste Landfills and Surface Impoundments" (EPA 530 SW-89-047, July 1989), it may be appropriate to identify the specific section(s) of the guidance providing the technical specifications the response action will follow for capping waste in place. It may be appropriate to include the specific portions of TBCs in an ARARs table with the recommended format or to identify them separately in the FS or decision document (*e.g.*, ROD, ROD Amendment or ESD). A laundry list of TBCs generally is not helpful for understanding what aspects of the guidance should be considered for the selected remedy and, as such, should be avoided.

Recommended Practice Tips

Below are some recommended practice tips to consider when making ARARs determinations and documenting ARARs.

1. The ARARs table(s) should not be a laundry list of all regulations or statutes considered. The table(s) should include only those regulations and statutes that are specific to the scope of the response action, its location and the media it is addressing, although additional ARARs may be included that apply to a contingency action identified in the decision document.[54] Note that ARARs included in an FS report (which address all the remedial alternatives that were evaluated) may differ from those in the decision document due, for example, to the specific circumstances of the selected remedy.

2. The ARARs included in the table should identify and cite the specific sections of the regulation or statute that constitute ARARs. An entire chapter or section of a regulation (*e.g.*, 40 CFR Part 264) or a statute generally should not be cited.

3. The table(s) generally should not include citations to portions of the regulation or law that include administrative requirements. Alternatively, a "NOTE" can be included below the entire requirement in the table or as a footnote to clarify that the administrative portion of

[53] See 53 Fed. Reg. 51436 and 51498-99 (Dec. 21, 1988) ("The 'to be considered' (TBC) category consists of advisories, criteria, or guidance that were developed by EPA, other Federal agencies, or States and that may be useful in developing CERCLA remedies."). Examples include health advisories, reference doses, and EPA and state technical guidance on how to perform specific response activity. Generally, only federal risk assessment guidance documents are identified as TBCs since State risk assessment guidance documents may use risk assumptions (*e.g.*, exposure periods or other factors) that are not consistent with federal risk guidance.

[54] For instance, for a groundwater monitored natural attenuation (MNA) remedy, a pump and treat remedy may be discussed in the ROD as a contingency in case the MNA remedy does not meet the required performance standards. In that case, ARARs pertaining to a pump and treat remedy may be identified in the decision document.

the regulation is not considered an ARAR or explain how it will be addressed under the CERCLA process.

4. Regulatory standards that are only for aesthetic purposes[55] generally do not constitute ARARs, and should generally not be included in the ARARs table. For example, secondary MCLs based on organoleptic concerns (taste, odor, color) alone generally are not considered chemical-specific ARARs since they are not considered health-based standards. Note that standards related to protection of certain locations or that require actions be taken due to the location's special characteristics may qualify as location-specific ARARs.[56]

5. Non-environmental regulations should not be included in the ARARs table (*e.g.*, Occupational Safety and Health Administrative [OSHA] regulations, state building codes) as these do not qualify as ARARs under CERCLA §121(d)(2).[57] Note that state facility siting requirements or standards can be considered as location-specific ARARs per CERCLA § 121(d)(2) depending on the site-specific circumstances.[58]

6. An Executive Order (EO) generally should not be included in the ARARs table. Instead, EO compliance can be discussed under a ROD's protectiveness criterion (rather than the ARARs criterion). In limited situations, an EO's substantive provisions may be identified as TBC guidance, but an explanatory footnote should be provided as to an EO's directive status.

7. A permit should not be identified as an ARAR since it is not typically promulgated and is considered 'administrative' in nature.[59] The substantive portion of the regulation on which a permit condition might be based can potentially be an ARAR[60], and substantive provisions in a general permit may be TBC guidance provided they support remedy protectiveness.

8. State ARAR entries generally should include citation(s) only to the section(s) of the state regulation or statute that are more stringent than federal standards. [Note: A federal regulation or statute generally would not be cited when there is no federal counterpart to the state regulation/statute or when the state requirement is more stringent than the federal requirement (See Subsection *More Stringent State ARARs* above).]

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[55] Note that EPA may however consider such standards as part of remedy implementation such as site restoration activities for areas that were disturbed while conducting the remedy.

[56] See Attachment B and *CERCLA Compliance With Other Laws Manual Part I* (Aug. 8, 1988), Section 1.2.3.2 Location-Specific Requirements, p. 1-25.

[57] See 40 C.F.R. § 300.150 *Worker health and safety* ("(a) Response actions under the NCP will comply with the provisions for response action worker safety and health in 29 CFR 1910.120) ....(e) Requirements, standards, and regulations of the OSH Act and of state OSH laws not directly referenced in paragraphs (a) through (d) of this section, must be complied with where applicable. Federal OSH Act requirements include, among other things, Construction Standards (29 CFR part 1926), General Industry Standards (29 CFR part 1910), and the general duty requirement of section 5(a)(1) of the OSH Act (29 U.S.C. 654(a)(1)).").

[58] See EPA OSWER Pub. 9234.2-05/FS, *CERCLA Compliance with State Requirements* (Dec. 1989).

[59] *See CERCLA Compliance With Other Laws Manual Part I* § 1.2.2. (Definitions of Substantive and Administrative Requirements) at p. 1-11, *supra*.

[60] 53 Fed Reg. 51394 at 51438 (Dec. 21, 1988) ("Further, unless limitations found in site-specific State permits are based on promulgated ARARs, such limitations will not be considered potential ARARs.").

9. Where a state requirement extensively incorporates federal regulatory citations by reference or where a state requirement is substantially the same as a federal one, the table may include citations for both the state regulation and the federal regulation. [Note: This recommendation facilitates the requirement's review since often there is familiarity with the federal regulations, such as the Resource Conservation and Recovery Act (RCRA) regulations, which might not be as clear when only the state regulation is referenced.]

10. Specific TBCs may be included in the ARARs table(s) but should be identified as TBC. Generally, the specific portion(s) of a TBC that supports CERCLA remedy protectiveness should be identified if the guidance includes other sections that do not pertain to the remedy. Guidance and risk-based calculation tools that are not protective of human health in accordance with CERCLA (*e.g.*, 10^{-4} to 10^{-6} excess cancer risk, hazard index [HI] of 1, etc.) should not be identified as TBC. Only those guidances or sections of guidances that are actually used to develop either the remedy's cleanup standards or that provide guidance on remedy implementation should be identified as TBCs.

Attachment B:

Example Template for
Documenting Applicable, or Relevant and Appropriate Requirements
in Comprehensive Environmental Response, Compensation and Liability Act Response Action Decisions

I. Recommended ARARs Table Format

To help ensure transparency and facilitate meaningful public participation opportunities in the remedy selection process as well to help ensure that the response action requirements to be met are fully understood by all parties (including PRPs, states and the public) for purposes of compliance, the ARARs table(s) generally should provide the following specific information, preferably in a table with separate columns:

- Description of the media addressed, triggering action or location characteristic.
- Requirement or summary of the requirement.
- Jurisdictional prerequisite to the regulation or statute's applicability along with designation of whether the requirement is "applicable" or "relevant and appropriate."
- Exact citation to the specific requirement in a regulation or statute.

NOTE: For the To Be Considered ("TBC") category, the same information and format is recommended, but the 'TBC' term is used instead of "applicable" or "relevant and appropriate" and the name of the document (*i.e.*, guidance) is provided in lieu of a citation.

II. Practice Tips:

EPA has divided potential ARARs into three categories to facilitate their identification. These categories; however, are not used to make specific ARARs determinations.

Chemical-specific ARARs are usually health- or risk-based numerical values or methodologies used to determine the acceptable amount or concentrations of chemicals that may remain in, or be discharged to, the ambient environment.[61]

Location-specific ARARs generally are restrictions placed upon the concentration of hazardous substances or the conduct of activities solely because they are in special

[61] 53 Fed. Reg. 51437 (Dec. 21, 1988) and EPA Fact Sheet *Overview of ARARs -Focus on ARAR Waivers*, I. D. Types of ARARs, Pub. 9234.203/FS (Dec. 1989).

locations. Some examples of special locations include floodplains, wetlands, historic places and sensitive ecosystems or habitats.[62]

Action-specific ARARs are usually technology- or activity-based requirements or limitations on actions taken with respect to hazardous wastes, or requirements to conduct certain actions to address particular circumstances at a site.[63]

The ARARs generally should be organized in table(s) under one of the following overarching categories (although some requirements may not fall neatly into this classification scheme): Chemical-, Location-, and Action-specific ARARs. Alternatively, a separate table for each ARARs category generally can be included: Chemical-specific ARARs; Location-specific ARARs; and Action-specific ARARs. [Note: Specific TBC guidance may also be included in the table(s) but identified as TBC.]

It may be appropriate to separate each ARARs table by media (*i.e.,* groundwater/soil/sediment) in cases where the media are addressed separately in the FS/ROD. Within each set of tables there may be sub-headers included to identify what media/area or action a specific ARAR addresses. For example, within the Action-specific ARARs table, it may be appropriate to include sub-sections on the installation and closure of monitoring wells, underground injection, landfill closure/capping, waste characterization, waste treatment and disposal, control of air emissions, *etc*.

Below is an example of an ARARs table excerpted from the B.F. Goodrich Superfund Site, Calvert City, Marshall County, Kentucky, Record of Decision (February 2020), which includes recommended columns for presenting the ARARs information with some example language and sub-headers breaks within the table. These excerpts are not intended to capture all ARARs related to a specific media, location, or action or a specific site.

Regions may include additional columns, including, for example, a column that briefly describes the remedy action that will meet the substantive provision of an ARAR, or they may describe this information in text of the decision document. Also attached is an example table identifying Clean Air Act National Emission Standards for Hazardous Air Pollutants (NESHAP) regulations under 40 C.F.R. Part 61 for control of asbestos emissions, which may be ARARs for certain CERCLA response actions.

[62] *Id*.
[63] *Id*.

1. Chemical-specific ARARs

Media/Action	Requirement	Prerequisite	Citation
	Protection of Surface Water Quality		
Minimum criteria applicable to all surface waters	The water quality criteria for the protection of human health related to fish consumption in Table 1 of Section 6 of this administrative regulation shall apply to all surface water at the edge of the assigned mixing zones except for those points where water is withdrawn for domestic water supply use. (a) The criteria are established to protect human health regarding the consumption of fish tissue and shall not be exceeded. • For those substances associated with a cancer risk, an acceptable risk level of not more than one (1) additional cancer case in a population of 1,000,000 people, or 1 x 10-6 shall be utilized to establish the allowable concentration.	Presence of pollutants in surface waters of the Commonwealth (including mixing zones, with the exception that toxicity to aquatic life in mixing zones shall be subject to the provisions of 401 *KAR* 10:029, Section 4) – **relevant and appropriate**	401 *KAR* 10:031 § 2(3)
Criteria for surface water designated as *Warm Water Aquatic Life Habitat*	The allowable instream concentration of toxic substances, or whole effluents containing toxic substances, which are noncumulative or non-persistent with a half-life of less than 96 hours, shall not exceed: a. 0.1 of the 96 hour median LC_{50} of representative indigenous or indicator aquatic organisms; or b. A chronic toxicity unit of 1.00 utilizing the 25 percent inhibition concentration, or LC_{25}.	Discharge of toxic pollutants to surface waters of the Commonwealth designated as *Warm Water Aquatic Life Habitat* – **applicable**	401 *KAR* 10:031 § 4(1)(j)(1)
	The allowable instream concentration of toxic substances, or whole effluents containing toxic substances, which are bioaccumulative or persistent, including pesticides, if not otherwise regulated, shall not exceed: a. 0.01 of the 96 hour median LC_{50} of representative indigenous or indicator aquatic organisms; or b. A chronic toxicity unit of 1.00 utilizing the LC_{25}.		401 *KAR* 10:031 § 4(1)(j)(2)
	(b) Allowable instream concentrations for specific pollutants for the protection of warm water aquatic habitat are listed in Table 1 of 401 *KAR* 10:031 § 6 shall not be exceeded.	Discharge of pollutants to surface waters of the Commonwealth designated as *Warm Water Aquatic Life Habitat* – **applicable**	401 *KAR* 10:031 § 4(1)(j)(5)

Media/Action	Requirement	Prerequisite	Citation
Remediation of Contaminated Groundwater			
Restoration of groundwater (*areas located outside the barrier wall*)	Shall not exceed the Safe Drinking Water Act (SDWA) National Revised Primary Drinking Water Regulations: maximum contaminant levels (MCLs) for *organic and synthetic contaminants* specified in 40 C.F.R. 141.61(a) and (c). • Vinyl chloride 2 *u*g/L • Benzene 5 *u*g/L • Carbon tetrachloride 5 *u*g/L • 1,2-Dichloroethane (EDC) 5 *u*g/L • Trichloroethylene (TCE) 5 *u*g/L • 1,1-Dichloroethylene (DCE) 7 *u*g/L • cis-1,2-Dichloroethylene (DCE) 70 *u*g/L • Monochlorobenzene 100 *u*g/L • Tetrachloroethylene (PCE) 5 *u*g/L • 1,1,2-Trichloro-ethane (TCA) 5 *u*g/L	Restoration of groundwater classified as Class IIA or Class IIB (which are an existing or potential source of drinking water) – **relevant and appropriate**	40 C.F.R. § 141.61(a) and (c) MCLs for organic contaminants 401 *KAR* 8:250 Section 1
	Shall not exceed the SDWA National Revised Primary Drinking Water Regulations: maximum contaminant levels (MCLs) for *inorganic contaminants* specified in 40 C.F.R. 141.62(b). • Arsenic 10 *u*g/L • Mercury 2 *u*g/L	Restoration of groundwater classified as Class IIA or Class IIB (which are an existing or potential source of drinking water) – **relevant and appropriate**	40 C.F.R. § 141.62(b) MCLs for inorganic contaminants 401 *KAR* 8:250 Section 1

C.F.R. = Code of Federal Regulations
KAR = Kentucky Administrative Regulations
MCL = maximum contaminant levels
SDWA = Safe Drinking Water Act

2. Location-specific ARARs/TBC

Location	Requirement	Prerequisite	Citation
	Wetlands		
Presence of Wetlands	Shall take action to minimize the destruction, loss or degradation of wetlands and to preserve and enhance beneficial values of wetlands.	Federal actions that involve potential impacts to, or take place within, wetlands – **TBC** *NOTE*: Federal agencies required to comply with E.O. 11990 requirements.	Executive Order 11990 Section 1(a) *Protection of Wetlands*
	Shall avoid undertaking construction located in wetlands unless: (1) there is no practicable alternative to such construction, and (2) that the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use.		Executive Order 11990, Section 2(a) *Protection of Wetlands*
Presence of Wetlands (as defined in 44 C.F.R. § 9.4)	The Agency shall minimize[64] the destruction, loss or degradation of wetlands. The Agency shall preserve and enhance the natural and beneficial wetlands values.	Federal *actions affecting or affected by Wetlands* as defined in 44 C.F.R. § 9.4 – **applicable**	44 C.F.R. § 9.11(b)(2) and (b)(4) *Mitigation*
	The Agency shall minimize: Potential adverse impact the action may have on wetland values.		44 C.F.R. § 9.11(c)(3) *Minimization provisions*
	Floodplains		
Presence of Floodplains designated as such on a map[65]	Shall take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health and welfare, and to restore and preserve the natural and beneficial values served by floodplains.	Federal actions that involve potential impacts to, or take place within, floodplains – **TBC** *NOTE*: Federal agencies required to comply with E.O. 11988 requirements.	Executive Order 11988 Section 1. *Floodplain Management*
	Shall consider alternatives to avoid, to the extent possible, adverse effects and incompatible development in the floodplain. Design or modify its action in order to minimize potential harm to or within the floodplain		Executive Order 11988 Section 2.(a)(2) *Floodplain Management*

[64] "*Minimize* means to reduce to smallest amount or degree possible." 44 C.F.R. § 9.4 Definitions.

[65] As provided in 44 C.F.R. § 9.7 *Determination of proposed action's location*, Paragraph (c), Floodplain determination, one generally should consult the FEMA Flood Insurance Rate Map (FIRM), the Flood Boundary Floodway Map (FBFM) and the Flood Insurance Study (FIS) to determine if the Agency proposed action is within the base floodplain.

Location	Requirement	Prerequisite	Citation
Presence of Floodplains designated as such on a map	Where possible, an agency shall use natural systems, ecosystem processes, and nature-based approaches when developing alternatives for consideration.	Federal actions that involve potential impacts to, or take place within, floodplain – **TBC** *NOTE*: Federal agencies required to comply with E.O. 13690 requirements.	Executive Order 13690 Section 2. (c)
Aquatic Resources			
Location encompassing aquatic ecosystem as defined in 40 C.F.R. § 230.3(c)	Except as provided under section 404(b)(2), no discharge of dredged or fill material is permitted if there is a practicable alternative that would have less adverse impact on the aquatic ecosystem or if it will cause or contribute to significant degradation of the waters of the United States.	Action that involves the discharge of dredged or fill material into waters of the United States, including jurisdictional wetlands – **relevant and appropriate**.	40 C.F.R. § 230.10(a) and (c)
	Except as provided under section 404(b)(2), no discharge of dredged or fill material shall be permitted unless appropriate and practicable steps have been taken that will minimize potential adverse impacts of the discharge on the aquatic ecosystem. 40 CFR § 230.70 *et seq.* identifies such possible steps.		40 C.F.R. § 230.10(d)

C.F.R. = Code of Federal Regulations
E.O. = Executive Order
TBC = To Be Considered

3. Action-specific ARARs

Action	Requirement	Prerequisite	Citation
Site Preparation, Construction, and Excavation			
Activities causing fugitive dust emissions	No person shall cause, suffer, or allow any material to be handled, processed, transported, or stored; a building or its appurtenances to be constructed, altered, repaired, or demolished, or a road to be used without taking reasonable precaution to prevent particulate matter from becoming airborne. Such reasonable precautions shall include, when applicable, but not be limited to the following: • Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land; • Application and maintenance of asphalt, oil, water, or suitable chemicals on roads, materials stockpiles, and other surfaces which can create airborne dusts; • Covering, at all times when in motion, open bodied trucks transporting materials likely to become airborne; • The maintenance of paved roadways in a clean condition; and • The prompt removal of earth or other material from a paved street which earth or other material has been transported thereto by trucking or earth moving equipment or erosion by water.	Fugitive emissions from land-disturbing activities (e.g., handling, processing, transporting or storing of any material, demolition of structures, construction operations, grading of roads, or the clearing of land, etc.) – **applicable**	401 *KAR* 63:010 § 3(1) and (1)(a), (b), (d), (e) and (f)
Waste Characterization – Primary Wastes (contaminated media and debris) and Secondary Wastes (wastewaters, spent treatment media, etc.)			
Characterization of solid waste	Must determine if solid waste is excluded from regulation under 40 C.F.R. § 261.4.	Generation of solid waste as defined in 40 C.F.R.§ 261.2 – **applicable**	40 C.F.R. § 262.11(a) 401 *KAR* 32:010 § 2
	Must determine if waste is listed as a hazardous waste in Subpart D of 40 C.F.R. Part 261.	Generation of solid waste which is not excluded under 40 C.F.R.§ 261.4 – **applicable**	40 C.F.R. § 262.11(b) 401 *KAR* 32:010 § 2
	Must determine whether the waste is (characteristic waste) identified in subpart C of 40 C.F.R. part 261 by either: (1) Testing the waste according to the methods set forth in subpart C of 40 C.F.R. part 261, or according to an equivalent method approved by the Administrator under 40 C.F.R.§260.21; or (2) Applying knowledge of the hazard characteristic of the waste in light of the materials or the processes used.	Generation of solid waste that is not listed in Subpart D of 40 C.F.R. Part 261 and not excluded under 40 C.F.R.§ 261.4 – **applicable**	40 C.F.R. § 262.11(c) 401 *KAR* 32:010 § 2

Action	Requirement	Prerequisite	Citation
	Must refer to Parts 261, 262, 264, 265, 266, 268, and 273 of Chapter 40 for possible exclusions or restrictions pertaining to management of the specific waste.	Generation of solid waste which is determined to be hazardous waste – **applicable**	40 C.F.R. § 262.11(d) 401 *KAR* 32:010 § 2

C.F.R. = Code of Federal Regulations
KAR = Kentucky Administrative Regulations
SDWA = Safe Drinking Water Act

4. Asbestos ARARs Table

Action	Requirements	Prerequisite	Citation(s)
General Standards—Asbestos Demolition, Collection, Packaging and Disposal			
Activities potentially causing asbestos emissions	Discharge no visible emissions to the outside air during the collection, processing (including incineration), packaging and transporting of any asbestos-containing material generated by the source, or use one of the emission control and waste treatment methods specified in paragraphs (a)(1) through (4) of this section.	Owner or operator of any source covered under the provisions of § 61.145 *Standard for demolition and renovation* **– applicable**	40 C.F.R. § 61.150(a)
Emission control methods	Adequately wet asbestos-containing waste material as follows: • Mix control device asbestos waste to form a slurry; adequately wet other asbestos-containing waste material; and • Discharge no visible emissions to the outside air from collection, mixing, wetting, and handling operations, or use the methods specified by § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air; and • After wetting, seal all asbestos-containing waste material in leak-tight containers while wet; or, for materials that will not fit into containers without additional breaking, put materials into leak-tight wrapping; and • Label the containers or wrapped materials specified in paragraph (a)(1)(iii) of this section using warning labels specified by Occupational Safety and Health Standards of the Department of Labor, Occupational Safety and Health Administration (OSHA) under 29 CFR 1910.1001(j)(4) or 1926.1101(k)(8). The labels shall be printed in letters of sufficient size and contrast so as to be readily visible and legible. • For asbestos-containing waste material to be transported off the facility site, label containers or wrapped materials with the name of the waste generator and the location at which the waste was generated.	Owner or operator of any source covered under the provisions of § 61.145 *Standard for demolition and renovation* **– applicable**	40 C.F.R. § 61.150(a)(1)(i) – (v)

Action	Requirements	Prerequisite	Citation(s)
Emission control for processing	Process asbestos-containing waste material into nonfriable forms as follows: (i) Form all asbestos-containing waste material into nonfriable pellets or other shapes; (ii) Discharge no visible emissions to the outside air from collection and processing operations, including incineration, or use other method specified in § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented, the outside air.	Owner or operator of any source covered under the provisions of § 61.145 *Standard for demolition and renovation* – **applicable**	40 C.F.R. § 61.150(a)(2)(i) and (ii)
Emission control for asbestos-containing waste after demolition	Adequately wet the asbestos-containing waste material at all times after demolition and keep wet during handling and loading for transport to a disposal site. Asbestos-containing waste materials covered by this paragraph do not have to be sealed in leak-tight containers or wrapping but may be transported and disposed of in bulk.	Facilities demolished where RACM (as defined in 40 CFR § 61.141), is not removed prior to demolition according to §61.145(c)(1)(i)-(iv) or for facilities demolished according to § 61.145(c)(9) – **applicable**	40 C.F.R. § 61.150(a)(3)
Disposal of asbestos-containing waste material	All asbestos-containing waste material shall be deposited as soon as practicable by the waste generator at: • A waste disposal site operated in accordance with the provisions of § 61.154, or • An EPA-approved site that converts RACM and asbestos-containing waste material into nonasbestos (asbestos-free) material according to the provisions of § 61.155. • The requirements of paragraph (b) of this section do not apply to Category I nonfriable ACM that is not RACM.	Owner or operator of any source covered under the provisions of § 61.145 *Standard for demolition and renovation* – **applicable**	40 C.F.R. § 61.150(b)(1)-(3)
Pre-transport of asbestos-containing waste material	Mark vehicles used to transport asbestos-containing waste material during the loading and unloading of waste so that the signs are visible. The markings must conform to the requirements of §§ 61.149(d)(1)(i), (ii), and (iii).	Owner or operator of any source covered under the provisions of § 61.145 *Standard for demolition and renovation* – **applicable**	40 C.F.R. § 61.150(c)

Action	Requirements	Prerequisite	Citation(s)
Standards for Demolition and Renovation Activity			
Inspection of facility for asbestos	Prior to the commencement of the demolition or renovation, thoroughly inspect the affected facility or part of the facility where the demolition or renovation operation will occur for the presence of asbestos, including Category I and Category II nonfriable ACM. The requirements of paragraphs (b) and (c) of § 61.145 apply to each owner or operator of a demolition or renovation activity, including the removal of RACM. NOTE: The *Notification requirements* of paragraph (b) of § 61.145 are considered "administrative' and therefore not identified as ARARs. However, some of the information included in the notice, for example a description of work to be performed and methods to be employed, work practices and engineering controls used to comply with the requirements of Subpart M, including asbestos removal and waste-handling emission control procedures should be included in the CERCLA decision document (e.g., ROD, Action Memorandum) and/or a subsequent Remedial Action or Removal Action Work Plan.	Demolition or renovation of a facility which may cause a disturbance of friable asbestos material and exceed the thresholds in 40 CFR 61.145(a)(1) **– applicable**	40 C.F.R. § 61.145(a)
RACM Thresholds	In a facility being demolished, all the requirements of paragraphs (b) and (c) of § 61.145 apply, except as provided in paragraph (a) of § 61.145, if the combined amount of RACM is (i) At least 80 linear meters (260 linear feet) on pipes or at least 15 square meters (160 square feet) on other facility components, or (ii) At least 1 cubic meter (35 cubic feet) of facility components where the length or area could not be measured previously. NOTE: The *Notification requirements* of paragraph (b) of § 61.145 are considered "administrative' and therefore not identified as ARARs.	Demolition of a facility which may cause a disturbance of friable asbestos material **– applicable**	40 C.F.R. § 61.145(a)(1)
Requirements for buildings determined to be structurally unsound	Only the requirements of § 61.145(c)(4) through (c)(9) apply.	Facility being demolished under an order of a State or local government agency, issued because the facility is structurally unsound and in danger of imminent collapse **– applicable**	40 C.F.R. § 61.145(a)(3)
	Adequately wet the portion of the facility that contains RACM during the wrecking operation.		40 C.F.R. § 61.145(c)(9)

Action	Requirements	Prerequisite	Citation(s)
Procedures for asbestos emission control	Remove all RACM from a facility being demolished or renovated before any activity begins that would break up, dislodge, or similarly disturb the material or preclude access to the material for subsequent removal. RACM need not be removed before demolition if: (i) It is Category I nonfriable ACM that is not in poor condition and is not friable. (ii) It is on a facility component that is encased in concrete or other similarly hard material and is adequately wet whenever exposed during demolition; or (iii) It was not accessible for testing and was, therefore, not discovered until after demolition began and, as a result of the demolition, the material cannot be safely removed. If not removed for safety reasons, the exposed RACM and any asbestos-contaminated debris must be treated as asbestos-containing waste material and adequately wet at all times until disposed of. (iv) They are Category II nonfriable ACM and the probability is low that the materials will become crumbled, pulverized, or reduced to powder during demolition.	Demolition or renovation of a facility which may cause a disturbance of friable asbestos material and exceed the thresholds in 40 C.F.R. 61.145(a)(1) – **applicable**	40 C.F.R. § 61.145(c)(1)(i)-(iv)
Procedures for asbestos emission control *con't*	When a facility component that contains, is covered with, or is coated with RACM is being taken out of the facility as a unit or in sections: (i) Adequately wet all RACM exposed during cutting or disjoining operations; and (ii) Carefully lower each unit or section to the floor and to ground level, not dropping, throwing, sliding, or otherwise damaging or disturbing the RACM.	Demolition or renovation of a facility which may cause a disturbance of friable asbestos material and exceed the thresholds in 40 C.F.R. 61.145(a)(1) – **applicable**	40 C.F.R. § 61.145(c)(2)
	When RACM is stripped from a facility component while it remains in place in the facility, adequately wet the RACM during the stripping operation.		40 C.F.R. § 61.145(c)(3)
Procedures for asbestos emission control *con't*	Component shall be stripped or contained in leak-tight wrapping, except as described in § 61.145(c)(5). If stripped, either: (i) Adequately wet the RACM during stripping; or (ii) Use a local exhaust ventilation and collection system designed and operated to capture the particulate asbestos material produced by the stripping. The system must exhibit no visible emissions to the outside air or be designed and operated in accordance with the requirements in § 61.152.	A facility component covered with, coated with RACM (as defined in 40 C.F.R. § 61.141), taken out of the facility as a unit or in sections pursuant to 40 C.F.R. § 61.145(c)(2) – **applicable**	40 C.F.R. § 61.145(c)(4)(i) and (ii)
	The RACM is not required to be stripped if the following requirements are met: (i) The component is removed, transported, stored, disposed of, or reused without disturbing or damaging the RACM. (ii) The component is encased in a leak-tight wrapping. (iii) The leak-tight wrapping is labeled according to § 61.149(d)(1)(i), (ii), and (iii) during all loading and unloading operations and during storage.	Large facility components such as reactor vessels, large tanks, and steam generators, but not beams containing RACM (as defined in 40 C.F.R. § 61.141) – **applicable**	40 C.F.R. § 61.145(c)(5)(i)-(iii)

Action	Requirements	Prerequisite	Citation(s)
Requirements for RACM (i.e., removed or stripped)	For all RACM, including material that has been removed or stripped: (i) Adequately wet the material and ensure that it remains wet until collected and contained or treated in preparation for disposal in accordance with § 61.150; and (ii) Carefully lower the material to the ground and floor, not dropping, throwing, sliding, or otherwise damaging or disturbing the material. (iii) Transport the material to the ground via leak-tight chutes or containers if it has been removed or stripped more than 50 feet above ground level and was not removed as units or in sections. (iv) RACM contained in leak-tight wrapping that has been removed in accordance with paragraphs (c)(4) and (c)(3)(i)(B)(*3*) of § 61.145 need not be wetted.	Generation of RACM (as defined in 40 C.F.R. § 61.141), from demolition or renovation of a facility – **applicable**	40 C.F.R. § 61.145(c)(6)(i)-(iv)
Removal of RACM in freezing temperatures	The owner or operator need not comply with paragraph § 61.145(c)(2)(i) and the wetting provisions of § 61.145(c)(3). Shall remove facility components containing, coated with, or covered with RACM as units or in sections to the maximum extent possible. NOTE: Under § 61.145(c)(7)(iii), must record the temperature in the area containing the facility components at the beginning, middle and end of each workday and keep daily temperature records available for inspection. Recordkeeping requirements are generally considered "administrative' and therefore not identified as ARARs.	Removal of RACM (as defined in 40 C.F.R. § 61.141), when the temperature at the point of wetting is below 0˚C (32˚F) – **applicable**	40 C.F.R. § 61.145(c)(7)(i)-(ii)
Burning of facility containing asbestos	If a facility is demolished by intentional burning, all RACM including Category I and Category II nonfriable ACM must be removed in accordance with the NESHAP before burning.	Demolition of a facility which may cause a disturbance of friable asbestos material and exceed the thresholds in 40 C.F.R. 61.145(a)(1) – **applicable**	40 C.F.R. § 61.145(c)(10)
Capping Asbestos Waste In-Place			
Standards for inactive asbestos waste disposal sites	Must comply with one of the following: • Either discharge no visible emissions to the outside air from an inactive disposal site subject to this paragraph; or • Cover the asbestos-containing waste material with at least 15 centimeters (6 inches) of compacted non-asbestos-containing material, and grow and maintain a cover of vegetation on the area to prevent exposure of the asbestos-containing waste material; or • Cover the asbestos-containing waste material with at least 60 centimeters (2 feet) of compacted non-asbestos-containing material, and maintain it to prevent exposure of the asbestos-containing waste	Closure of an area that received asbestos-containing waste materials – **relevant and appropriate**	40 C.F.R. § 61.151(a)(1)-(3)

Action	Requirements	Prerequisite	Citation(s)
Warning signs for disposal site	Display warning signs at all entrances and at intervals of 100m (328 feet) or less along the property line of the site or along the perimeter of the sections of the site where asbestos-containing waste material was deposited.	Closure of an area that received asbestos-containing waste materials that does not include a natural barrier to adequately deter access by the general public **– relevant and appropriate**	40 C.F.R. § 61.151(b)(1)
Warning signs for disposal site *con't*	The warning signs must: (i) Be posted in such a manner and location that a person can easily read the legend; and (ii) Conform to the requirements for (20"x14") upright format signs specified in 29 C.F.R. 1910.145(d)(4) and this paragraph; and (iii) Display the legend as prescribed in § 61.151(b)(1)(iii) located in the lower panel with letter sizes and styles of visibility at least equal to those specified in § 61.151(b)(1)(iii).	Closure of an area that received asbestos-containing waste materials that does not include a natural barrier to adequately deter access by the general public **– relevant and appropriate**	40 C.F.R. § 61.151(b)(1)(i)-(iii)
Fence for disposal site	Fence the perimeter of the site in a manner adequate to deter access by the general public.		40 C.F.R. § 61.151(b)(2)
Deed notice for asbestos waste disposal site	Record, in accordance with State law, a notation on the deed to the facility property and on any other instrument that would normally be examined during a title search; this notation will in perpetuity notify any potential purchaser of the property that: • The land has been used for disposal of asbestos-containing waste material; and • The survey plat and record of the location and quantity of asbestos containing waste disposed of within the disposal site required in § 61.154(f) have been filed with the Administrator; and • The site is subject to 40 C.F.R. part 61, Subpart M. NOTE: Recordation of deed notice that informs potential purchaser on the waste disposal site is considered a substantive requirement for post-closure.	Closure of an inactive disposal area that received asbestos containing waste materials **– relevant and appropriate**	40 C.F.R. § 61.151(e)(1)-(3)

ACM = asbestos-containing material
ARAR = applicable or relevant and appropriate requirement
C.F.R. = *Code of Federal Regulations*
RACM = regulated asbestos-containing material
Subpart M = National Emission Standard for Asbestos located at 40 C.F.R. 61.140 *et.seq*.