DEPARTMENT OF TRANSPORTATION

Research and Special Programs Administration

49 CFR Part 195

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RIN 2137–AC34

Pipeline Safety: Areas Unusually Sensitive to Environmental Damage

AGENCY: Research and Special Programs Administration (RSPA), DOT.

ACTION: Final Rule.

SUMMARY: This final rule defines drinking water and ecological areas that are unusually sensitive to environmental damage if there is a hazardous liquid pipeline release. We refer to these areas as unusually sensitive areas (USAs). RSPA created this definition through a series of public workshops, pilot testing, a technical review of the pilot test results, and extensive collaboration with a wide-range of federal, state, public, and industry stakeholders. This final rule does not require specific action by pipeline operators but will be used in existing and future regulations.

DATES: Effective February 20, 2001.

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SUPPLEMENTARY INFORMATION: RSPA began its process to define unusually sensitive areas in 1992, when Congress amended the federal pipeline safety statute. The amended statute (49 U.S.C. 60109) required the Secretary of Transportation (Secretary) to prescribe regulations that establish criteria for identifying each hazardous liquid pipeline facility and gathering line located in an area that the Secretary describes as unusually sensitive to environmental damage if there is a hazardous liquid pipeline accident. We refer to these unusually sensitive areas as USAs for short. In 1996, Congress again amended the statute to require the Secretary to consider areas where a pipeline rupture would likely cause permanent or long-term environmental damage. We described these legislative mandates in more detail in the notice of proposed rulemaking (NPRM) (64 FR 73464; December 30, 1999) to define USAs.

To fulfill the legislative mandate, RSPA began a series of public meetings and workshops to gather information to help us establish criteria for identifying USAs. We held meetings with other federal agencies and the pipeline industry to work out a definition. We held a series of public workshops to openly discuss draft definitions for USAs. These workshops helped develop guiding principles for determining which resources to concentrate on, a model of how the USA process could work, and helped define terms used to describe USAs. The workshops also identified drinking water and ecological resources that are of great importance to the nation and filtering criteria to identify those resources that could sustain permanent or long term damage if affected by a release. Participants at these meetings and workshops included representatives from the U.S. Coast Guard; the Departments of Interior, Agriculture, and Commerce; the Environmental Protection Agency (EPA); the American Waterworks Association; The Nature Conservancy; academia; the hazardous liquid pipeline industry and the public. Greater discussion on these workshops and meetings is found in the NPRM.

Notice of Proposed Rulemaking

On December 30, 1999, RSPA issued a NPRM to define USAs (64 FR 73464). The NPRM focused on drinking water and ecological resources. Cultural resources, recreational resources, and economic resource areas were not considered in the NPRM. RSPA determined that these areas should be addressed as a separate risk factor and under separate regulations.

The NPRM proposed to identify USAs through a process that began by designating and assessing environmentally sensitive areas (ESAs), determining which ESAs are potentially more susceptible to permanent or long term damage from a hazardous liquid release (areas of primary concern), and finally identifying filtering criteria to determine which areas of primary concern can sustain permanent or long-term damage or are necessary for uninterrupted drinking water consumption by the human population. The areas that resulted from this process were the proposed USAs.

Under the proposed USA definition, drinking water areas of primary concern are a subset of all surface intakes and groundwater-based drinking water supplies that provide potable water for domestic, commercial, and industrial users. These include public water systems, wellhead protection areas, and sole source aquifers. Definitions for these resources can be found in the NPRM and at the end of this final rule. Proposed filtering criteria included the depth and geology of a drinking water resource and if the public water system has an adequate alternative drinking water supply. Additional information on the proposed filter criteria can be found in the NPRM.

The proposed ecological USA candidates focused on the characteristics of rarity, imperilment, or the potential for loss of large segments of an abundant population during periods of migratory concentration. These included threatened and endangered (T&E) species, critically imperiled and imperiled species, depleted marine mammals, and migratory waterbird concentration areas. Definitions for these resources can be found in the NPRM and at the end of this final rule. Proposed filtering criteria included the extent to which a species is vulnerable to extinction, areas that are critical to multiple sensitive species, and areas where a large percent of a species population could be impacted. Additional information on the proposed ecological filter criteria can be found in the NPRM.

How RSPA Will Use the USA Definition

RSPA will use the USA definition in current and future pipeline safety regulations. Any regulatory application of this definition will be aimed at ensuring that operators implement appropriate additional protective measures for pipelines that could affect USAs. We anticipate using the USA definition in the following regulations.

• *Integrity Management Rule.* RSPA issued a final rule titled ''Pipeline Safety: Pipeline Integrity Management in High Consequence Areas (Hazardous Liquid Operators with 500 or more miles of pipeline)'' on November 3, 2000, and it was published in the **Federal Register** on December 1, 2000 (65 FR 75378). The rule establishes new requirements to provide additional protection to high consequence areas. High consequence areas include USAs, populated areas, and commercially navigable waterways. The rule requires hazardous liquid pipeline operators who own or operate 500 or more miles

of pipeline to assess, evaluate, repair, and validate through analysis the integrity of any pipeline segment that could affect a high consequence area. Operators must develop and follow an integrity management program that provides for continually assessing the integrity of all pipeline segments that could affect any high consequence area, through internal inspection, pressure testing, or other equally effective assessment means. The program must also provide for periodically evaluating the pipeline segments through comprehensive information analysis, promptly remediating potential problems found through the assessment and evaluation, and ensuring additional protection to the segments and high consequence areas through preventative and mitigative measures.

This integrity management rule was the first in a series of rulemakings that ultimately will require all regulated pipeline operators to have integrity management programs. This initial action covers about 87% of all the hazardous liquid pipelines in the U.S. These pipelines have the greatest potential to adversely affect critical areas, based on the volume they transport. RSPA is now preparing a NPRM with similar requirements for the remaining hazardous liquid pipelines currently regulated under 49 CFR Part 195. RSPA will then issue proposed integrity management program requirements for natural gas pipeline operators.

• *Risk-based Alternative to Pressure Testing Older Hazardous Liquid and Carbon Dioxide Pipelines.* Operators may elect a risk-based alternative in lieu of hydrostatically testing certain older pipelines (49 CFR 195.303). The alternative establishes test priorities based on the inherent risk of a given pipeline segment. One of the risk factors is to determine the pipeline segment's proximity to environmentally sensitive areas. In the preamble to the final rule, RSPA explained that it would consider defining the environmental factor in a future rulemaking once a definition of environmentally sensitive areas was finalized.

• *Response Plans for Onshore Oil Pipelines under 49 CFR part 194.* Operators must consider areas of environmental importance that are in or adjacent to navigable waters for spill response planning. RSPA intends to amend the definition of environmental importance to include USAs. These regulations were mandated by the Federal Water Pollution Control Act as amended by the Oil Pollution Act of 1990 (OPA).

• *Area Contingency Plans.* 49 CFR part 194 also requires operators ensure their spill response plans are consistent with applicable Area Contingency Plans (ACPs). ACPs establish response strategies and priorities for a given area based on a local community assessment of all sensitive zones within that area. ACPs are created by Area Committees that are established under the U.S. Coast Guard in the coastal zone and by the U.S. Environmental Protection Agency in the inland zone. Area Committees base response priority and strategy determinations on environmental sensitivity, along with social, cultural, political, and economic sensitivities. Not all areas identified by the ACPs are USAs. The USA definition is not intended to dictate how a specific response should be undertaken, rather the definition provides a national perspective on environmental sensitivity considerations. We expect that pipeline operators and Area Committees will work cooperatively to consider the USA information when validating existing plans or revising plans during the normal 5-year planning cycle.

• *Low Stress Pipelines.* On July 12, 1999, RSPA issued a final rule extending part 195 regulations to certain pipelines operating at 20% specified minimal yield strength (SMYS) or less (39 FR 35465). In that final rule, RSPA deferred proposing to regulate non-volatile liquid low stress pipelines in rural sensitive areas since these areas had not been defined. We stated that we would reconsider the issue once there was a sensitive area definition.

USA Pilot Test, Public Workshop and Technical Review

RSPA conducted a pilot test to determine if the proposed USA definition could be used to identify and locate unusually sensitive drinking water and ecological resources using available data from government agencies and environmental organizations. Texas, California, and Louisiana were the states chosen to test the proposed USA definition. These states contain approximately 45% of the nation's hazardous liquid pipelines and considerable drinking water and ecological resources.

RSPA collected drinking water, ecological, and base map data for the pilot test. Computer models were created from the proposed USA definition to process the collected data. RSPA used a geographic information system (GIS) to run the computer models and create maps of the USAs. The results of the pilot test can be found on the following web site: http://ops.dot.gov./pilotresults.htm.

The pilot test verified that the proposed USA definition could be used to identify and locate USAs. The pilot helped identify the types of data and the data attributes needed to run the computer models and what data are currently available in the pilot states. The pilot also helped in testing and modifying the model where incomplete data were not available.

On April 27–28, 2000, RSPA conducted a public workshop to discuss the pilot test results and begin a technical review of those results. Workshop participants included drinking water and ecological resource experts from federal and state agencies, academia, environmental groups, and the public. RSPA also solicited drinking water and ecological experts to provide a formal technical review of the pilot results. These technical reviewers included the Department of the Interior's Fish and Wildlife Service, the Department of Agriculture's Forest Service, the Department of Commerce's National Marine Fisheries Service, the U.S. Environmental Protection Agency (EPA) Office of Groundwater and Drinking Water, Louisiana Department of Environmental Quality, Louisiana Natural Heritage Program, Texas Natural Resource Conservation Commission, Railroad Commission of Texas' Environmental Services Division, California Department of Fish and Game, University of California Davis, Colorado State University, University of Alabama, Dartmouth College, and The Nature Conservancy.

Discussions at the workshop included background on the USA initiative, the proposed drinking water and ecological definitions, models that were used to apply the proposed definition, data that was gathered, how the data was processed using a GIS, and maps of the resulting USAs. Presentations from the workshop and a detailed summary of the workshop can be viewed from RSPA's USA Internet page: http://ops.dot.gov/init.htm#usa. Workshop participants also submitted their comments to the docket on this rulemaking.

Discussion of Comments Received From the Public Workshop and Technical Review

The formal technical reviewers and other workshop participants stated the proposed USA definition and the computer model created from the proposed definition are reasonable and a significant start to defining USAs. They offered various suggestions for improving the proposed USA definition,

the computer model created from the proposed definition, and the process used to create USA maps.

Drinking Water Recommendations

1. *Replace wellhead protection areas (WHPAs) with source water protection areas (SWPAs), specifically the areas of primary influence.*

A WHPA is an area surrounding a water well or well field that supplies a public water system through which contaminants are likely to pass and eventually reach the water well or well field. SWPAs are being created under a new EPA program, the Source Water Assessment Program (SWAP). The SWAP expands EPA's Wellhead Protection Program to cover surface water and places where groundwater interacts with surface water, in response to the 1996 Amendments to the Safe Drinking Water Act. State agencies are obtaining additional information than the data used to create the WHPAs in order to create SWPAs.

Under SWAP, state agencies must perform a source water assessment for each public water system to analyze existing and potential threats to the quality of the public water. As part of the assessment, the state must delineate the SWPA for the public water system. All source water assessments and SWPAs must be completed by May 2003.

The NPRM proposed that a WHPA for a community water system or a non-transient non-community water system that obtains its water supply from a Class I or Class IIA aquifer and does not have an adequate alternative source of water for a backup be considered a USA. The NPRM discussed community water systems, non-transient non-community water systems, and Class I and IIA aquifers in detail. Definitions for these terms can be found in the NPRM and at the end of this final rule.

The formal technical reviewers and other workshop participants agreed that RSPA should replace WHPAs with SWPAs. These commenters stated that SWPAs are more appropriate since they are an expansion of the WHPAs and the SWPAs should be more accurate than the WHPAs. In addition, states are focusing their attention away from WHPAs and onto SWPAs. Therefore, the WHPAs may become obsolete over time.

Since the SWAP is a new program, commenters suggested that RSPA continue to use WHPAs where SWPAs have not yet been identified. However, RSPA found that a few SWPAs have already been delineated as of August 2000.

RSPA agrees with the commenters and in the final rule has replaced WHPAs with SWPAs. Where SWPAs have not been created, WHPAs will be used to identify USAs.

2. *Replace the Pettyjohn et al. Aquifer Classification Scheme with SWPAs.*

In the NPRM, RSPA proposed to use the Pettyjohn *et al.* aquifer classification scheme as a way to determine which ground water sources are more susceptible to contamination from a hazardous liquid release. The Pettyjohn *et al.* aquifer classification scheme can be found in EPA Report 600/2–91/043, ''Regional Assessment to Aquifer Vulnerability and Sensitivity in the Conterminous United States,'' August 1991. Under this classification scheme, aquifers are ranked as Class I (a–d), II (a–c), III, or U. Class I aquifers are surficial or shallow, are permeable, and are highly vulnerable to contamination. Class II aquifers are consolidated bedrock aquifers that are moderately vulnerable to contamination. Class III aquifers are consolidated or unconsolidated aquifers that are overlain by more than 50 feet of low permeability material and have a low vulnerability to contamination. Class U aquifers are undifferentiated aquifers where several lithologic and hydrologic conditions exist.

One technical reviewer stated that it may be appropriate to replace the Pettyjohn *et al.* aquifer classification scheme used in the NPRM with SWPAs. Under the Source Water Protection Program, there are three components of source water assessment: (1) Delineating the boundaries of areas providing source waters to public water supplies (the SWPA); (2) identifying, to the extent practical, the origins of certain unregulated contaminants in the water supplies; and (3) determining the susceptibility of the source waters of the public water system(s) to contamination.

For groundwater supplies, the SWPA delineation methods are very similar to the WHPA delineation methods, and many States are using previously delineated WHPAs as SWPAs for groundwater supplies. However, delineation of a SWPA is only the first step in the assessment process. The susceptibility analysis is a critical component of the program to identify those SWPAs that are most susceptible to contamination, and it has not been completed for most of the country.

The Pettyjohn *et al.* aquifer classification scheme is a similar approach to determine the susceptibility of an aquifer to contamination. Since states will not complete their source water assessments until May 2003, RSPA considers it appropriate to continue to use the Pettyjohn approach that was characterized in the NPRM. RSPA will consider replacing the Pettyjohn et al. aquifer classification scheme with completed source water assessment data in the future. If we determine the SWPAs are an appropriate replacement to the Pettyjohn et al. aquifer classification scheme, we will issue a NPRM seeking comment on revising the USA definition.

3. *Make a preliminary drinking water USA a USA unless it is verified that an adequate alternative drinking water source exists. Change the adequate alternative drinking water source definition to extend the amount of time needed for the backup water source from one month to six months for groundwater systems.*

In the computer model created from the proposed USA definition, a drinking water resource passes through a series of filtering criteria to determine if the resource is susceptible to contamination from a pipeline release. Drinking water intakes and WHPAs that pass these filtering criteria are called preliminary drinking water USAs. All preliminary drinking water USAs are put through a final filter criterion—Is there an adequate alternative drinking water source that the preliminary drinking water USA can pull from? The NPRM proposed that an adequate alternative drinking water source be defined as a source of water that currently exists, can be used almost immediately with a minimal amount of effort and cost, will meet the short-term (at least one month) consumptive and hygiene requirements of the existing population of impacted customers, involves no perceptible change in water quality, and is temporary (until a long term alternative can be put in place, if necessary).

During the pilot test, RSPA telephoned public water suppliers to determine if an adequate alternative drinking water source existed for preliminary drinking water USAs. If the public water supplier stated that an adequate alternative drinking water source existed, the drinking water resource did not become a USA. If the public water supplier could not be reached or if the information received from the supplier was too ambiguous to decipher, the preliminary drinking water source stayed as a preliminary drinking water USA and did not become a final USA. In the pilot states, the success rate for determining whether there was an adequate alternative drinking water source varied widely, from only 45 percent for California, to nearly 85 percent for Louisiana.

The formal technical reviewers and workshop participants recommended that RSPA modify how the computer

model created from the proposed USA definition processes adequate alternative drinking water sources. Commenters stated that all preliminary drinking water USAs should be treated as USAs unless the public water supplier states that an adequate alternative drinking water source exists. Most reviewers commented that, if it was not feasible to determine whether there was an adequate alternative drinking water source, the default assumption should be that there is no adequate alternative source.

Participants and reviewers also recommended that RSPA change the proposed adequate alternative drinking water source definition to extend the amount of time needed for the backup water source for groundwater systems. Commenters stated that, in their experience, most spills that have affected surface water intakes resulted in short-term shutdowns of the intakes and that one month would be appropriate for surface water intakes. However, for groundwater systems, one month would not be enough time. Contamination to a groundwater system may take longer than a month to clean up and new wells might have to be drilled and connected to the water distribution system. Therefore, commenters suggested that the backup time be changed from one month to six—twelve months for groundwater systems.

RSPA agrees with both recommendations and has incorporated them into the final rule. RSPA believes that six months is a sufficient amount of time for an adequate alternative drinking water source for a groundwater system.

4. *Remove the doubling of WHPAs in sole source aquifers.*

In the NPRM, RSPA proposed as USAs an area twice that of the WHPAs if the following conditions existed:

- The WHPA was in a sole source aquifer,
- The sole source aquifer was a Class I or IIa aquifer as determined by the Pettyjohn, et al., aquifer classification scheme, and
- There was not an adequate alternative drinking water source available.

EPA defines a sole or principal source aquifer as one which supplies at least 50 percent of the drinking water consumed in the area overlying the aquifer. These areas can have no alternative drinking water source(s) which could physically, legally, and economically supply all those who depend on the aquifer for drinking water.

Workshop participants and technical reviewers stated that RSPA should rely on the analysis conducted by a state and should not second guess a state by doubling the WHPA. Each state has set up delineation programs that include scientific analytical methods to determine the appropriate size of the WHPA. Therefore, the states can most competently determine the correct protection area that should be used.

RSPA agrees with these comments. The final definition does not double the SWPAs or WHPAs in sole source aquifers.

5. *Update the definition for a Community Water System.*

In the NPRM, RSPA proposed to define a community water system as ''a public water system that provides water to the same population year round.'' RSPA agrees that the final USA definition should use EPA's current definition for a community water system, as defined by statute. The current definition is ''A public water system that serves at least 15 service connections used by year-round residents of the area served by the system or regularly serves at least 25 year-round residents.''

6. *Change the Filter Criteria to Consider All Class II Aquifers, Not Just Class IIa.*

In the NPRM, RSPA proposed that the WHPAs for community water systems or non-transient non-community water systems that obtain their water from a Class I or IIa aquifer and do not have an adequate alternative source of water for a backup be considered USAs. Class II aquifers are consolidated bedrock aquifers that are moderately vulnerable to contamination. They include the following sub-classes:

Class IIa: Higher Yield Bedrock Aquifers. Consist of fairly coarse sandstone or conglomerate that contain lesser amounts of interbedded fine-grained clastics and occasionally carbonate units. In general, well yields must exceed 50 gallons per minute (gpm) to be included in this class.

Class IIb: Lower Yield Bedrock Aquifers. Consist of the same clastic rock types present in the higher yield systems. Well yields are commonly less than 50 gpm.

Class IIc: Covered Bedrock Aquifers. Consist of Class IIa and IIb aquifers that are overlain by less than 50 feet of unconsolidated material of low permeability.

One technical reviewer recommended that all Class II aquifers (Pettyjohn *et al.,* 1991) be considered. We are not adopting this recommendation. RSPA believes that class IIb and IIc are not significantly at risk of contamination from a release from a hazardous liquid pipeline. The USA delineation process is intended to identify those resources that are unusually sensitive to damage from a pipeline release. Lower-yield aquifers are at less risk of contamination because response actions should be effective in containing and cleaning up the spilled oil before the well becomes contaminated.

7. *Include sole source aquifers that are karst in nature USAs.*

One technical reviewer recommended that RSPA include all sole source aquifers that are karst in nature as USAs. Another reviewer recommended that the final USA definition include the recharge areas of the sole source aquifers that are karst in nature. Karst aquifers are composed of limestone or dolomite where the porosity is derived from connected solution cavities. They are often cavernous, with high rates of flow. These types of aquifers are very susceptible to contamination and EPA's data show at least one case of significant contamination in a karst aquifer as a result of a hazardous liquid pipeline release in the recharge area of the aquifer.

The recharge area is the area contributing to the groundwater that may flow to the aquifer over a long time. Recharge areas for karst aquifers often include sinkholes, disappearing streams, etc. where surface contaminants can directly enter the aquifer. Even rapid and effective spill response is not likely to prevent groundwater contamination in these areas.

RSPA agrees that the recharge area of karst aquifers are highly susceptible to contamination from a hazardous liquid pipeline release. RSPA does not agree that the entire karst aquifer is unusually sensitive. Although contaminants, once introduced, will flow rapidly within the aquifer, they cannot readily be introduced in non-recharge areas. According to the Pettyjohn et al. aquifer classification system, if there are 50 feet or more of imperious material overlying the aquifer, it is a Class III aquifer and is of low susceptibility of contamination, even if it is karst in nature.

In the NPRM, RSPA proposed that the WHPAs for community water systems or non-transient non-community water systems that obtain their water from a Class I or IIa aquifer and do not have an adequate alternative source of water for a backup be considered USAs. A recharge area of a sole source aquifer that is karst in nature would be considered part of a Class I aquifer. The NPRM proposed that WHPAs be doubled for sole source aquifers to provide additional protection. While RSPA did not propose to include the

entire recharge area for sole source aquifers that are karst in nature, RSPA did show intent to provide these areas with additional protection.

RSPA has conducted a national review of sole source aquifers that are karst in nature and has determined that including the recharge areas for these aquifers would only cause a minor increase in the amount of land mass identified as a USA. Therefore, RSPA has included the recharge areas of sole source aquifers that are karst in nature in the final USA definition.

8. *Where possible, consider artificial penetrations from abandoned wells, injection wells, seismic shot holes, etc.*

Three technical reviewers and several workshop participants expressed concern that artificial penetrations into an aquifer would provide a pathway for aquifer contamination that was unaccounted for in the Pettyjohn et al. aquifer classification. Artificial penetrations include abandoned wells, monitoring wells, injection wells, seismic shot holes, and improperly constructed water wells that allow groundwater interflow among aquifers. Artificial penetrations are of particular concern in many areas, including those with oil and gas exploration and production. In spite of the concern of the technical reviewers and workshop participants, the lack of data on the locations of these artificial penetrations makes it impossible to consider them in state or regional mapping applications or risk assessments at this time.

Ecological Recommendations

1. *Include in the USA definition all resources RSPA was asked to consider in the federal pipeline safety statute.*

One technical reviewer recommended that USAs include all resources that RSPA was asked to consider in 49 U.S.C. § 60109. These resources include critical wetlands, riverine or estuarine systems, national parks, wilderness areas, wildlife preservation areas or refuges, wild and scenic rivers, and critical habitat for threatened and endangered species.

RSPA has determined that not all of these resources should be considered USAs at this time. Congress required RSPA to establish criteria defining locations where unusually sensitive resources might incur permanent or long-term ''environmental'' damage in the event of an oil spill. Congress added the words ''permanent'' and ''long-term'' when it amended the USA identification requirements in 1996 (49 U.S.C. 60109). As we explained in the NPRM, rather than focus on the geographic boundaries of these areas, we focused on particular ecological species and drinking water resources in these areas that could suffer irreparable harm from a hazardous liquid release. We believe that protecting those particular species and resources now will concentrate prevention, mitigation, and response resources on areas that are most susceptible to permanent or long-term damage.

We believe that this approach satisfies the statutory mandate. We ran computer models that tested including various categories of resources, including all resources listed in the statutory mandate, for which existing data bases permitted computer modeling. Based on our analysis of all information currently available, we believe that by focusing on the particular ecological species and drinking water resources that could suffer irreparable harm, we will pick up a substantial extent of resources within the National Parks, National Wildlife Refuges, National Wilderness Areas, National Forests, and other resources that do not meet the filtering criteria being used in this rulemaking. Based on information currently available, it is not possible at this time to determine the extent of coverage in these nationally important resources areas.

Although we have not included these other areas in this rulemaking, RSPA will consider extending protection to other environmentally sensitive and vital resources through future rulemaking. Other areas that will be considered include the National Parks, National Wildlife Refuges, National Wilderness Areas, National Forests, and other cultural and sensitive environmental resources that do not meet the filtering criteria being used in this rulemaking.

The following provides additional information on some of the particular resources listed in the federal pipeline safety statute:

Critical Wetlands

RSPA has not been able to find a strict definition of critical wetlands or a consistent program that identifies critical wetlands that could be applied to the ecological USA program. ''Critical wetland'' in many cases is a generally applied term used in a wide variety of situations.

The most prevalent use of this term is in relation to issuance of permits for impacts to wetlands under Section 404 of the Clean Water Act. Some states have developed special conditions, mainly related to water quality criteria, that limit use of nationwide and other general permits in certain waters. The term ''critical wetland'' is used by a few states in this regard, however, the types of wetlands considered as ''critical'' differ from state to state.

The term ''critical wetland,'' when used in permitting programs, tends to require additional scrutiny to permit applications. It does not preclude the approval of permits. Indeed, permits are approved for these ''critical wetlands,'' subjecting these areas to environmental impacts.

Although the USA definition does not use the term ''critical wetlands,'' the definition does include wetlands that are represented in the Ramsar program (Wetlands of International Importance) and the Western Hemisphere Shorebird Reserve Network (WHSRN) program. These wetlands include the Florida Everglades, the Okefenokee Swamp in Georgia, Cheyenne Bottoms in Kansas, and Ash Meadows in Nevada. The protection of rare and endangered species in ecological USAs also contributes to the protection of wetland habitats. For aquatic and wetland species, the computer model created from the proposed and final USA definition identifies potentially larger polygonal areas as USAs (using a five mile radius around the species occurrence locations, as well as a one-fourth mile buffer into adjacent upland habitats), relative to terrestrial species (using a one mile radius), increasing the amount of wetland or aquatic area protected.

Finally, as a result of technical reviewer and workshop participant comments and other public comments to the NPRM, RSPA has revised the USA definition to include all occurrences of aquatic and aquatic-dependent USA candidate species. This will further increase the number and extent of wetlands captured as USAs. Our discussion about including these species is found later in this document.

Riverine or Estuarine Systems

Rivers and estuaries are extensive geographic features. Although all rivers and estuaries are important national resources, RSPA has decided to focus on the most sensitive portions that contain critically imperiled, imperiled, and threatened and endangered species.

Many rivers and estuaries are captured in whole or part by the final definition. Areas such as the Chesapeake Bay estuary, the Delaware Bay estuary, San Francisco Bay, Florida Bay (in Everglades National Park), the Copper River delta in Alaska and the Altamaha River in Georgia will be captured as USAs due to their recognition in the Ramsar and/or WHSRN programs. USAs formed due to the presence of rare and endangered species also result in the protection of

estuaries and rivers. As an example, many estuaries, rivers, and streams in the California pilot test became ecological USAs because they contained critically imperiled salmon populations. Also, much of the Pearl River in the Louisiana pilot became a USA because it contained three or more occurrences of endangered and imperiled species.

National Parks, Wildlife Refuges, Wildlife Preserves, Wilderness Areas and Wild and Scenic Rivers

We refer to these areas collectively as management areas, since they are managed primarily by the Departments of Interior and Agriculture. All of these areas are very important national resources. Rather than focus on the geographic boundaries of these areas, the proposed USA definition focuses on many areas within the boundaries as potential ecological USAs because of the presence of other protected species or natural communities.

Management areas tend to receive more USA designations because there is more information on the ecological resources in these areas. Endangered and rare species surveys, migratory waterbird surveys and enhancement projects, and detailed natural resource mapping efforts are much more prevalent in management areas compared to lands under other types of ownership and management. Accordingly, under this rule, large portions of our national parks, wildlife refuges, etc. are likely to be identified and protected as USAs even without explicitly including these important national resources as a USA. Based on data currently available for our analysis, it is not possible to determine the exact extent of coverage with the boundaries.

Designated Critical Habitat for Threatened or Endangered Species

During the public workshops that were held to help identify USAs, designated critical habitats (DCH) were considered as possible ecological USA candidates. RSPA chose to focus on the locations of the species rather than DCH because the location is a more focused identification of where the rare species currently exists. RSPA expects large areas of DCH to be USAs based on the presence of rare species. Due to the way in which critical habitats are described for some species, converting the DCH text descriptions to geographic boundaries would be difficult and, in some cases, impossible. We believe that protecting those particular species and resources now will concentrate prevention, mitigation and response resources to areas that are most susceptible to permanent or long-term damage.

As new ecological information becomes available to RSPA and we identify and locate additional USAs, the operator has responsibility to apply this new information in its integrity management program.

2. *Include additional species concentration areas, such as rookeries.*

Four technical reviewers and workshop participants recommended that the USA definition include additional species congregation areas, such as migratory, breeding, calving, spawning, and nursery areas. Congregation areas are currently covered in the proposed definition through inclusion of Ramsar and Western Hemisphere Shorebird Reserve Network (WHSRN) sites. These sites protect highly significant migratory waterbird concentration areas and habitats. In these areas, a very large percent of a water bird species population concentrate, creating a situation where a relatively abundant species might have a large percentage of its population impacted by a petroleum spill. One of the best examples of this type of concentration area is the portion of Delaware Bay where 80–90 percent of the red knot (a shorebird) population stops-over to feed during migration.

RSPA researched additional species aggregation and concentration areas and found standard definitions, classifications, and databases do not exist or are not complete enough to include them in the USA model. Of our three pilot states, only the eastern portion of Louisiana had additional species concentration data.

From our research, we concluded that we should consider adding two programs to the ecological component of the USA definition when complete data is available: Colonial waterbird nesting sites and Important Bird Areas. Colonial waterbirds include seabirds and wading birds, such as herons, egrets, ibises, pelicans, gulls, and terns. Colonial waterbird nesting data are currently collected by many state resource agencies. States collect the data in a relatively standardized way, but the type of information collected and its format, quality, availability, etc. varies widely between states and even within individual states. This variability makes identifying unusually sensitive or highly significant colonies very difficult to impossible on a national or range-wide basis.

To address the variability problem, two related national programs spearheaded by the USGS Biological Resources Division (BRD) are currently under development. One effort is to establish a national monitoring program for colonial waterbirds and a centralized database. The other is to develop a management plan for colonial waterbirds throughout North America. The USGS BRD's Patuxent Wildlife Research Center can be contacted for more information about these programs (http://www.pwrc.usgs.gov/ or phone: 301/497–5753).

Important Bird Areas (IBAs) is a relatively new program headed by the American Bird Conservancy and the National Audubon Society to identify unusual or highly significant concentration bird areas. Criteria established for certain types of sites in the IBA program might be comparable to criteria used in the Ramsar and WHSRN programs. IBAs include wintering, breeding, and migratory sites and also cover additional species groups (IBA is not limited to migratory waterbirds). However, the exact criteria used to determine IBAs are not currently available and supporting data for different sites are still in development, making it difficult to evaluate sites for inclusion in the USA model. Furthermore, geographic information and/or maps to delineate IBA locations do not exist. A published account of the most significant IBAs for each state is expected in the near future. For more information about IBAs, contact the American Bird Conservancy (http://www.abcbirds.org/ or phone: 540/253–5780).

Once complete data are available, RSPA will evaluate the data and determine whether to include these programs in the USA definition. If we determine that these programs should be included as USAs, RSPA will issue a NPRM seeking pubic comment on revising the USA definition.

3. *Add rare ecological communities (habitats), such as California's vernal pools.*

Five technical reviewers and various workshop participants recommended that RSPA add rare ecological communities (habitats) to the USA definition. RSPA carefully considered including rare ecological communities when developing the proposed USA definition. RSPA did not include them in the proposed definition because of the quality of the rare ecological community data at the time these resources were being considered. At that time, data providers indicated that the classification systems, nomenclature, conservation status ranks, etc. for the ecological community data were still in development and were not consistent.

RSPA was concerned that different state groups and other data providers were using different classification

schemes, different naming conventions, inconsistent status ranks, etc. Therefore, RSPA did not include rare ecological communities in the proposed definition. Since that time, data standards for the natural community data have greatly improved.

RSPA agrees that critically imperiled and imperiled rare ecological communities should now be included as ecological USA candidates, with the caveat that the natural community data must match recent nomenclature and conservation status rank conventions. RSPA believes including these resources in the final definition is consistent with our expressed intent to focus on resources that are susceptible to permanent or long term damage if affected by a release. All the same filtering criteria will be applied.

RSPA tested a modification of the proposed definition that included rare communities. In our pilot states, adding rare communities increased the amount of land mass by less than 1% in Louisiana and California. It did not increase the land mass covered in Texas.

4. *Make imperiled, threatened and endangered, and depleted marine mammal species that are aquatic or aquatic dependent or are terrestrial and have a limited range USAs.*

Several technical reviewers and workshop participants recommended that RSPA modify the proposed definition to increase the USA species representation. For USAs, increasing species representation would increase the percent of critically imperiled, imperiled, threatened and endangered, and depleted marine mammal species that are covered as USAs.

Technical reviewers and workshop participants discussed several ways to increase representation. One suggestion was to add as USAs all species that are aquatic or aquatic dependent and species that are terrestrial with a limited range (occupying a small area or can not move far). These species are more susceptible to permanent or long term damage since they are less likely or less able to avoid or leave an impacted area. These species are more likely to have all or a large part of the area they occupy or use as habitat or food sources disturbed, impacted, or destroyed during a spill.

RSPA tested a modified USA definition that included aquatic or aquatic dependent species and species that are terrestrial and have a limited range. For terrestrial species, RSPA reviewed the ecological databases for the pilot states to determine an appropriate value for ''limited range.'' RSPA determined that five acres was an appropriate value. Five acres or less seemed to successfully discriminate between those terrestrial species that have small ranges versus those that are easily recognized as wide-ranging species. Rare terrestrial species with limited ranges include most critically imperiled, imperiled and threatened and endangered plants and invertebrates.

The following table compares the representation statistics that were achieved for imperiled species and threatened and endangered species with the proposed rule and the statistics achieved when we add aquatic, aquatic dependent, and limited range species. The representation statistics for critically imperiled species were 100% for both the proposed definition and the modified definition since all critically imperiled species are USAs.

	Imperiled species	Threatened & endangered species
Proposed rule	TX: 70% representation	TX: 90% representation.
	LA: 30% representation	LA: 60% representation.
	CA: 93% representation	CA: 98% representation.
With changes	TX: 99% representation	TX: 90% representation.
	LA: 97% representation	LA: 92% representation.
	CA: 100% representation	CA: 100% representation.

RSPA agrees with the technical reviewers that these species should be made USAs. Adding these species is consistent with our intent in the proposed definition to provide additional protection to species in or near water. In the computer model created from the proposed USA definition, species that are aquatic or aquatic dependent are given a five mile buffer instead of the one mile buffer given to species that are terrestrial. In the pilot states, adding aquatic, aquatic dependent, and limited range species increased the amount of land mass by less than 2% in Texas, 4% in California, and 13% in Louisiana.

5. *Change multi-species protection areas (MSPAs) from three overlapping species to two overlapping species. Also, change MSPA to ''multi-species assemblage areas.''*

In the proposed USA definition, a MSPA is defined as an area where three or more different critically imperiled or imperiled species, threatened or endangered species, depleted marine mammals, or migratory waterbird concentrations co-occur. Several technical reviewers and workshop participants recommended that MSPAs be changed from three overlapping species to two overlapping species to increase representation.

The following table compares the representation statistics that the proposed rule achieved for imperiled species and threatened and endangered species with the proposed rule and the statistics achieved when we change MSPAs from three overlapping species to two overlapping species. The representation statistics for critically imperiled species were 100% for both the proposed definition and the modified definition since all critically imperiled species are USAs.

	Imperiled species	Threatened & endangered species
Proposed rule	TX: 70% representation	TX: 90% representation.
	LA: 30% representation	LA: 60% representation.
	CA: 93% representation	CA: 98% representation.
With MSPA changes	TX: 84% representation	TX: 96% representation.
	LA: 63% representation	LA: 80% representation.
	CA: 97% representation	CA: 99% representation.

Comparing the representation statistics when adding aquatic, aquatic dependent, and limited terrestrial species with changing MSPAs from three overlapping species to two shows greater representation is achieved by adding aquatic, aquatic dependent, and limited terrestrial species. This modification will result in covering larger assemblage of species vulnerable to extinction and provides greater species protection. Therefore, in the final USA definition, RSPA chose to include the aquatic, aquatic dependent, and limited terrestrial species. RSPA did not change MSPAs from three overlapping species to two.

Various workshop participants and technical reviewers also recommended that we change the term ''multi-species protection area'' to ''multi-species assemblage areas.'' RSPA agrees that this would be a more accurate portrayal of these areas and has changed the term in the final rule.

6. *Add species and ecological community occurrences that are in the best condition and are therefore the most viable, as identified by the Natural Heritage Programs' element occurrence rank (EORANK) or some other measure.*

One technical reviewer recommended that RSPA consider including those rare species and ecological community occurrences that are in the best condition and are therefore the most viable. The Natural Heritage Programs assign EORANKs to species and ecological community occurrences based on a population's size, condition, and landscape context. An EORANK of A means the species or community occurrence is in excellent condition and an EORANK of B means it is in good condition. EORANKs of C and D refer to occurrences that are marginal or poor. EORANKs of H and X refer to historical and extirpated occurrences.

Rare species and ecological community occurrences with an EORANK of C or D are considered in other areas. All critically imperiled species and community occurrences are USAs, regardless of their EORANK. Imperiled species and ecological community occurrences, threatened and endangered species occurrences, and depleted marine mammal species occurrences that have an EORANK of C or D are USAs if the species is aquatic, aquatic dependent, or has a limited terrestrial range, or if it is part of a MSPA or migratory waterbird concentration area.

RSPA agrees that rare species and community occurrences that are in the best condition and are therefore the most viable should be added as USAs. Adding these rare species and community occurrences ensures that the highest quality or most important occurrences for the remaining rare species and community occurrences (those that are not aquatic or aquatic dependent, or part of a multi-species assemblage area) are included as USAs. Accordingly, RSPA has added to the USA definition imperiled, threatened or endangered, or depleted marine mammal species occurrences and imperiled ecological community occurrences that have an EORANK of A or B. All critically imperiled species and community occurrences are already treated as automatic USAs.

RSPA tested a modification of the proposed definition that included the most viable rare species and ecological community occurrences. In our pilot states, adding rare communities increased the amount of land mass by less than 1% in Texas, by 2% in California, and by 4% in Louisiana.

7. *Use the state conservation status ranks (S-ranks) to exclude extinct and historic species.*

One technical reviewer recommended that RSPA use the state conservation status ranks to remove species that are historical or extirpated. RSPA agrees to remove the species and ecological communities with an S-rank of SX in the computer model that will be created from the final USA definition. RSPA will not remove the species or communities with an SH ranking because there is sufficient variability in how this ranking is used and a possibility that the occurrence is still present that RSPA elects to err on the side of including SH occurrences.

8. *Include only occupied habitat for terrestrial species with large ranges.*

One technical reviewer recommended that RSPA include only those areas designated as being occupied for terrestrial species that have large ranges. This concept is already incorporated into the computer model created from the proposed USA definition. For species with large ranges that are mapped as polygons, areas described as ''potentially'' containing a species are not used in the computer model. Also, large polygonal distributions that are not classified as ''occupied habitat'' or ''specific bounded areas'' (*e.g.*, areas where the specific boundaries of the species occurrence were mapped) are not used in the computer model.

9. *Include state listed threatened and endangered species and state priorities.*

Two technical reviewers recommended that RSPA consider including state listed threatened and endangered species and resources that the state considers important. RSPA considered including these species and resources, but found that state listings do not always reflect the nationwide, or range-wide, abundance of a species. In many cases, a species may be ranked or listed in a state because it is near the edge of its range and is therefore rare within that state. The species may be relatively abundant in the adjacent states. State rankings and listings can also be highly variable due to differences among states in ranking and listing procedures and regulations. For these reasons, RSPA does not agree that these resources should be included.

Miscellaneous Recommendations

The technical reviewers and workshop participants also provided recommendations that apply to both the drinking water and ecological portion of the proposed rule, or to items that were not proposed in the NPRM. These include the following:

1. *Include cultural and Indian tribal concerns, economic, and recreational areas as USAs.*

One technical reviewer recommended that RSPA include the above resources as USAs. The proposed definition concentrated on drinking water and ecological resources. The NPRM did not propose to include other sensitive resource areas. Before proposing the USA definition, we sought extensive comment from drinking water experts, ecological resource experts, and interested public parties. We would not want to include these other areas now without an opportunity for public comment and evaluation by experts. RSPA intends to define other sensitive resource areas that need additional protection in a future rulemaking and will consider cultural and Indian tribal concerns, economic and recreational areas as a part of this process.

2. *Update USAs on a periodic basis, possibly every 4–5 years.*

Several technical reviewers and workshop participants stated that USAs need to be updated on a regular basis or they would become obsolete over time. RSPA agrees. RSPA intends to identify the locations of USAs through a comprehensive collection and analysis of drinking water and ecological resource data, contingent on the availability of funding and resources. These areas will be mapped using the National Pipeline Mapping System. Operators, other government agencies and the public will have access to these maps through the Internet. Individuals will be able to view maps of USAs and other high consequence areas nationally or by state, county, zip code, or zooming in or out of a particular area. Operators will then be able to use the maps as a guide to determine which areas of their

pipeline could affect USAs. Operators may need to contact resource agencies to obtain additional information on a particular species or drinking water intake in a USA. Nothing in this mapping, however, changes the definition of an USA in this rule.

RSPA will map USA locations on a state by state basis, beginning with the states that have the largest number of liquid pipeline miles. RSPA expects to complete the first ten states by the end of the year. These states include Texas, Oklahoma, Kansas, Louisiana, Illinois, Wyoming, New Mexico, California, Missouri, and Montana. The remaining states are expected to be completed by the end of 2001.

RSPA recognizes that inventories and maps of USAs have to be updated on a periodic basis to incorporate new information and databases. RSPA intends to update the USA maps every five years, contingent on the availability of funding and resources. RSPA will review new or revised drinking water and ecological programs and databases at that time and will incorporate new databases into the computer model created from the final USA definition at that time. RSPA will announce in the **Federal Register** and through other communication networks when revised USA maps are available.

RSPA will also analyze new, revised, or refined drinking water and ecological programs every five years to determine if other programs should be added to the USA definition. RSPA will propose any revisions to the USA definition in a notice of proposed rulemaking.

3. *Create a petitioning process to correct, add, or remove USA designations.*

The pipeline safety regulations (49 CFR 190.331) allow interested persons to petition the Associate Administrator for Pipeline Safety to establish, amend, or repeal a substantive regulation. There is no need to create a separate process for USAs.

4. *Use regional, state, and local data sets, not just data sets that meet national standards.*

Various technical reviewers and workshop participants recommended that RSPA use regional, state, and local data sets when processing the computer model created from the USA definition. RSPA uses state databases as the primary data source for the USA computer model.

The drinking water USA computer model relies on data solely provided by the states. State aquifer maps are used to determine aquifer classifications. State data on the well location, depth, source, etc. are used to identify the aquifers used by the wells. Source-water and wellhead protection programs are implemented at the state and local level.

The ecological USA computer model uses data from the state Natural Heritage Programs (NHP) on rare and endangered species locations. The Environmental Sensitivity Index (ESI) and related ecological data sets are also used to augment the NHP data in coastal and marine areas. ESI data are developed primarily by federal agencies, although some states have their own ESI programs (*e.g.,* Texas, Maine, Florida, Alabama). Regardless of the managing authority, the content of the ESI data sets are derived primarily from state agency sources.

National programs often provide the guidance for these state-implemented programs. RSPA considers it important that USAs be defined in a consistent manner nationwide. This requires data that conform to some common standard. The NHP and ESI data sources both conform to published national standards. The fact that they are nationally standardized also makes the application of the USA computer model much more uniform across states. Attempting to obtain, organize, and validate data that are not nationally standardized would require significant effort, time, and money well beyond RSPA's limited resources. Each additional data set would need to be evaluated for consistency and accuracy. Independently evaluating a wide variety of local, state, and regional data sets would not be feasible and could impede the creation of USA maps for the nation.

Other local, state, and regional groups may submit their data to the appropriate state NHPs. This would assure that their information will be considered when revised USA maps are generated in future updates. Local, state, and regional groups may also participate in U.S. Coast Guard area planning meetings, or they may contact the NOAA Scientific Support Coordinator or the appropriate state contact in their area so that they can be identified as potential data providers when ESI data sets are developed and updated.

Discussion of Comments in Response to NPRM

In addition to the technical review and workshop comments, RSPA received 24 additional comments to the NPRM. Most of these comments mirrored those received from the technical reviewers. RSPA received comments from ten government agencies (EPA Office of Emergency and Remedial Response; EPA Regions 3 and 8; U.S. Department of the Interior; U.S. Department of Commerce; U.S. Department of Energy; State of Missouri, Department of Natural Resources; State of Wyoming, Department of Environmental Quality; Hill Country Underground Water Conservation District; and the City of Austin), six advocacy groups (The Working Group on Community Right to Know, Environmental Defense, Friends of the Aquifer, Fuel Safe Washington, McHenry County Defenders, and STOP), two trade associations (American Water Works Association and the American Petroleum Institute), three pipeline operators (Equilon, Tosco, and BP Explorer), two separate comments from Argonne National lab, and one additional member of the public (Ruth Ellen Schelhaus). Most commenters expressed support for the proposed rule.

Drinking Water Recommendations

The following briefly discusses the public comments (those not from the technical reviewers or workshop participants) to the drinking water portion of the proposed rule that mirrored those received from technical reviewers and workshop participants. Our rationale for accepting or rejecting these recommendations is discussed in more detail in the previous section on technical reviewer comments.

1. *Replace WHPAs with SWPAs.*

Nine commenters recommended that RSPA replace WHPAs with SWPAs. RSPA agrees and has made this change to the final rule.

2. *Replace the Pettyjohn et al. Aquifer Classification Scheme with SWPAs.*

Two commenters recommended that RSPA consider replacing the Pettyjohn et al. aquifer classification scheme used in the NPRM with SWPAs. Since states will not complete their source water assessments until May 2003, RSPA considers the approach proposed in the NPRM to be appropriate at this time. RSPA will consider replacing the Pettyjohn et al. aquifer classification scheme with completed source water assessment data in the future. RSPA will issue a NPRM seeking comment on revising the USA definition if we determine the SWPAs are an appropriate replacement to the Pettyjohn et al. aquifer classification scheme.

3. *Make a preliminary drinking water USA a USA unless it is verified that an adequate alternative drinking water source exists. Change the adequate alternative drinking water source definition to extend the amount of time needed for the backup water source from one month to six months for groundwater systems.*

Various commenters recommended that RSPA modify how the model processes adequate alternative drinking

water sources. They stated RSPA should treat a preliminary drinking water USA as a USA unless the public water supplier states that an adequate alternative drinking water source exists. Commenters also recommended that RSPA change the adequate alternative drinking water source definition to extend the amount of time needed for the backup water source for groundwater systems from one month to six—twelve months for groundwater systems. RSPA agrees with these recommendations and has incorporated them into the final rule.

4. *Remove the doubling of WHPAs in sole source aquifers.*

Five commenters recommended that RSPA rely on the WHPA analysis conducted by the States and not double the WHPAs. RSPA agrees and has removed the doubling.

5. *Update the Community Water System definition.*

RSPA agrees and has included EPA's most current definition.

6. *Include sole source aquifers that are karst in nature as USAs.*

One commenter recommended that RSPA include all sole source aquifers that are karst in nature as USAs. RSPA does not agree that the entire karst aquifer is unusually sensitive but does agree that the recharge areas of these aquifers are. RSPA has included the recharge areas of sole source aquifers that are karst in nature as USAs.

7. *Where possible, consider artificial penetrations from abandoned wells, injection wells, seismic shot holes, etc.*

One commenter urged us to consider artificial penetrations into the aquifer. RSPA agrees that artificial penetration is a concern, but the lack of data on the locations of these artificial penetrations makes it impossible to consider this factor at the current time. RSPA will reconsider revising the USA definition to include this factor when better information is available.

The following discusses comments on drinking water resources received to the NPRM that the technical reviewers did not address:

1. *Make all drinking water areas of primary concern USAs. Do not use filtering criteria.*

In the proposed USA definition, drinking water areas of primary concern are identified. These areas are a subset of all surface intakes and groundwater-based drinking water supplies that provide potable water for domestic, commercial, and industrial users. Filtering criteria are applied to the areas of primary concern to determine which areas are more susceptible to contamination from a hazardous liquid release. Proposed filter criteria include the depth and geology of a drinking water resource and if the public water system has an adequate alternative drinking water supply.

Eight commenters recommended that RSPA remove the proposed drinking water filter criteria and make all drinking water areas of primary concern USAs. RSPA does not agree with this recommendation. The majority of the technical reviewers and workshop participants agreed that certain drinking water resources are more susceptible to permanent or long term damage than others. Removing the filter criteria would make drinking water resources that have a very low or no probability of becoming contaminated from a release USAs.

2. *Remove the adequate alternative drinking water source filter.*

In the proposed USA definition, drinking water areas of primary concern do not become USAs if an adequate alternative drinking water source exists. Five commenters recommended that RSPA remove this filtering criterion. The commenters stated that these alternatives may not always be available, pipeline operators do not have the expertise to determine if an alternate source exists, and available water supply and demand are subject to dramatic change over time.

Removing this filter criterion would make all water intakes and WHPAs for community water systems and non-transient non-community water systems USAs. RSPA does not agree that this filter should be removed. Drinking water USAs are areas where a hazardous liquid release could represent an imminent threat to human health, due to contamination of community drinking water supplies. If an alternate source of drinking water is available, there is no immediate threat to human health. A community could switch to the alternative source and the alternative water source would provide the same water quality for essential uses.

RSPA will determine if an adequate alternative drinking water supply is available by contacting operators of community water supplies that have been determined to be preliminary USAs. Pipeline operators will not make this determination. RSPA will also re-assess the adequate alternative drinking water supplies when USAs maps are updated.

3. *Add industrial water intakes as drinking water USAs.*

One commenter asked us to consider industrial water intakes as USAs. RSPA does not agree. Threats to industrial water intakes do not, by themselves, pose an imminent threat to human health. Temporary shut-down of an industrial surface water intake poses more of an economic impact than a health impact. While such impacts are real and their avoidance is desirable, economic reasons alone do not justify treating industrial intakes as an unusually sensitive area.

4. *Include all aquifers as drinking water USAs.*

One commenter asked us to consider treating all aquifers as USAs. RSPA researched the impact of including all aquifers as USAs and determined that this addition would make the majority of the United States a USA. This would dilute RSPA's and the industry's ability to focus additional prevention, mitigation, and response measures on those areas most in need of additional protection from a hazardous liquid release. In addition, not all aquifers have the ability to be impacted by a hazardous liquid release. Some aquifers are so deep or are of such geology that a hazardous liquid release could not reach and consequently impact the aquifer. Therefore, RSPA does not agree with the commenter.

5. *Include the entire aquifer of all sole source aquifers as drinking water USAs.*

Two commenters recommended that RSPA include all sole source aquifers as drinking water USAs. RSPA does not agree. RSPA researched EPA's guidance on sole source aquifers. EPA notes that the ground water's vulnerability to contamination can vary considerably within an aquifer. Therefore, EPA does not endorse using sole source aquifer status as the determining factor in making land use decisions that may impact ground water quality. EPA recommends that site-specific hydrogeological assessments be considered along with other factors to determine the vulnerability of the area to contamination.

RSPA has followed EPA's guidance. RSPA has used the EPA aquifer vulnerability classification of Pettyjohn et al. (1991) to identify those ground water wells that are at risk of contamination from a pipeline release. RSPA has defined as USAs the SWPA or WHPA around each well to represent the USA for the vulnerable aquifers. States designate these areas to protect wells from a broad range of chemical contaminants. These state delineations consider the hydrogeological features important in determining the well's vulnerability to contamination. RSPA believes this is the best approach to identify the drinking water intakes most susceptible or unusually sensitive to a pipeline release.

6. *Include aquifer recharge zones as drinking water USAs.*

Three commenters recommended that RSPA include aquifer recharge zones as drinking water USAs. RSPA does not agree. The recharge zone is the entire area contributing to groundwater that may replace water drawn from an aquifer, such as by a community water supply. The time periods for water (and contaminant) transport in this zone can be very long, sometimes on the order of hundreds to thousands of years. RSPA believes that the WHPAs and SWPAs are the more appropriate areas to focus USAs. When designating WHPAs and SWPAs, states consider the ability of contaminants to reach and affect the public water supply within 2–5 years.

RSPA has revised the USA definition to add the recharge zones of sole source aquifers in karst areas. Aquifers in karst areas are very susceptible to contamination if a hazardous liquid release occurs in the area. Sole source aquifers are the sole or primary drinking water source for an area and have no adequate backup water source. Because these areas can suffer long-term damage from a pipeline release, we have included them as USAs.

Ecological Recommendations

The following briefly discusses the public comments (those not from the technical reviewers or workshop participants) to the ecological portion of the proposed rule that mirrored those received from technical reviewers and workshop participants. Our rationale for accepting or rejecting these recommendations is discussed in greater detail in the section on the technical experts' comments.

1. *Include all resources RSPA was asked to consider in the federal pipeline safety statute as USAs.*

Seven commenters recommended that RSPA include all resources listed for consideration in 49 U.S.C. § 60109 as USAs. These resources include critical wetlands, riverine or estuarine systems, national parks, wilderness areas, wildlife preservation areas or refuges, wild and scenic rivers, and critical habitat for threatened and endangered species.

RSPA has not included them. Congress required us to establish criteria defining locations where unusually sensitive resources might incur permanent or long-term environmental damage in the event of an oil spill. Congress added the words ''permanent'' and ''long-term'' when it amended the USA identification requirements in 1996. Not all areas and resources listed in the statute are subject to permanent or long term environmental damage. RSPA believes Congress intended that RSPA focus on protecting those areas where additional prevention, mitigation, and response measures are most needed. Including all areas RSPA was asked to consider in the mandate would divert resources to areas that are not susceptible to permanent or long-term damage. All areas that are sensitive cannot be defined as ''unusually sensitive'' if the expected focusing of attention is to occur. Thus, instead of including all listed areas at this time, we decided to focus on the drinking water and ecological resources within these areas that would likely suffer irreparable harm if affected by a release. Although RSPA has not included these other areas in this rulemaking, we will consider extending protection to other environmentally sensitive and vital resources through future rulemaking.

2. *Include additional species concentration areas, such as rookeries and Important Bird Areas.*

Four commenters recommended that RSPA include additional species congregation areas, such as migratory, breeding, calving, spawning, and nursery areas. RSPA researched additional species aggregation and concentration areas and found standard definitions, classifications, and databases do not exist or are not currently in a format that would support their inclusion in the USA model. Two programs that RSPA will consider in the future are the colonial waterbird nesting sites and Important Bird Areas.

3. *Add rare ecological communities (habitats).*

Five commenters recommended that RSPA add rare ecological communities (habitats) to the USA definition. RSPA agrees and has revised the final rule to add these resources. The natural community data will be treated the same as the rare and endangered species data, in that critically imperiled and imperiled natural communities will be USA candidates and filtering criteria will be applied.

4. *Make species that are aquatic or aquatic dependent and species that are terrestrial and have a limited range USAs.*

One commenter recommended that RSPA modify the proposed rule to increase species representation by adding all aquatic or aquatic dependent species and terrestrial species with a limited ranges as USAs. These species are more susceptible to permanent or long-term damage since they are less likely or unable to avoid or leave an impacted area. These species are more likely to have all or a large part of the area they occupy or use as habitat or food sources disturbed, impacted, or destroyed during a spill. RSPA agrees and has added these species as USAs.

5. *Change multi-species protection areas (MSPAs) from three overlapping species to two overlapping species.*

Three commenters recommended that RSPA modify the NPRM to increase species representation by changing the MSPAs from three overlapping species to two overlapping species. RSPA tested this change and found that the representation statistics improved when we added aquatic, aquatic dependent, and limited terrestrial species as USAs. Therefore, RSPA decided to include the aquatic, aquatic dependent, and limited terrestrial species as USAs and did not change MSPAs from three overlapping species to two.

6. *Add species and ecological community occurrences that are in the best condition and are therefore the most viable, as identified by The Natural Heritage Program's element occurrence rank (EORANK) or some other measure.*

Three commenters recommended that RSPA include rare species and ecological communities that are in the best condition and are therefore the most viable as USAs. RSPA has made this change to the final rule.

7. *Include only the occupied habitat for terrestrial species with large ranges.*

Three commenters recommended that RSPA include only those areas designated as being occupied for terrestrial species that have large ranges. This concept is already incorporated into the computer model created from the proposed USA definition.

8. *Include state listed threatened and endangered species and state priorities.*

Seven commenters recommended that RSPA include state listed threatened and endangered species and resources important to the state. RSPA considered including these species and resources, but state listings do not always reflect the nationwide, or range-wide, abundance of a species. State rankings and listings can also be highly variable due to differences among states in ranking and listing procedures and regulations. For these reasons, RSPA does not agree that these resources should be included.

The following discusses comments on ecological resources received to the NPRM that were not addressed by the technical reviewers:

1. *Include all environmentally sensitive areas.*

Three commenters recommended that RSPA make all environmentally sensitive areas USAs. RSPA does not agree. Environmentally sensitive areas are part of the USA definition and identification process in that we

considered and evaluated these areas to determine USA candidates. Not all environmentally sensitive areas are unusually sensitive. Making all environmentally sensitive areas USAs would divert prevention, mitigation and response resources to areas that are not susceptible to permanent or long-term damage. To do so would not be consistent with the statutory mandate in 49 U.S.C. 60109.

2. *Include all resources in the oil spill Area Contingency Plans (ACPs) and areas subject to soil erosion or subsidence.*

One commenter recommended that RSPA include all ACP resources as USAs. RSPA does not agree and has not included these areas in the final definition. Ecological resources identified in the ACPs comprise all environmentally sensitive areas. Including all environmentally sensitive areas would divert prevention, mitigation and response resources to areas that are not susceptible to permanent or long-term damage. This final rule does not decrease the status of any ecological resource identified in the ACPs, nor does it decrease the amount of protection afforded these areas under the Oil Pollution Act of 1990.

The commenter also recommended that RSPA include all areas subject to soil erosion and subsidence. Soil erosion and subsidence are risk assessment factors that are related to pipeline vulnerability (the likelihood of a pipeline release). They have no direct relationship to ecological sensitivity (how sensitive a resource is to a disturbance or impact).

3. *Make all ecological candidates USAs. Do not use filtering criteria.*

Six commenters recommended that RSPA remove the filtering criteria used to identify ecological USAs. The majority of the technical reviewers and workshop participants agreed that certain species are more susceptible to permanent or long term damage. Likewise, most technical reviewers and workshop participants accepted that all individual occurrences of all candidate species do not need to be USAs. Therefore, RSPA will continue to use filter criteria.

RSPA has not filtered imperiled species since these species are closest to the brink of extinction. RSPA has also not filtered aquatic, aquatic dependent, or limited terrestrial species since they are the most vulnerable and sensitive to spill impacts. In addition, the most viable species occurrences are not filtered. This ensures that the best examples of each candidate species are protected as USAs. Finally, clusters or ''hot spots'' of species vulnerable to extinction are not filtered. The multi-species USAs provide protection to unique areas where groups of species vulnerable to extinction co-occur.

4. *Include vulnerable species as USAs or USA candidates.*

Three commenters recommended that RSPA include vulnerable species as USAs. Vulnerable species are defined by The Nature Conservancy as rare species, typically with 21 to 100 occurrences or 3,000 to 10,000 individuals.

RSPA considered including vulnerable species as USA candidates. RSPA held detailed discussions with experts in the field of conservation biology, including representatives from The Nature Conservancy. Through these conversations, we decided that USA candidates should be limited to critically imperiled and imperiled species. If a pipeline release impacts a critically imperiled or imperiled species, it could eliminate 5% to 100% of the known occurrences for that species. If a pipeline release impacts a vulnerable species, the largest impact would be an elimination of less than 5% of the known occurrences for that species. Vulnerable species are picked up in part by the USA definition since several of these species are also federally listed threatened or endangered species. RSPA will consider including vulnerable species and other sensitive resources in a future rulemaking.

Miscellaneous Recommendations

The following briefly discusses the public comments (those not from the technical reviewers or workshop participants) that mirrored those received from technical reviewers and workshop participants. Our rationale for accepting or rejecting these recommendations is discussed in more detail in the previous section on technical reviewer comments.

1. *Include cultural and Indian tribal concerns, economic, and recreational areas as USAs.*

Eleven additional commenters recommended that RSPA include the above resources as USAs. The proposed definition focused on drinking water and ecological resources that needed additional protection. We would not want to now include other areas not proposed without an opportunity for public comment and technical review. RSPA intends to define other sensitive resource areas that need additional protection in a future rulemaking and will consider cultural and Indian tribal concerns, economic and recreational areas as a part of this process.

2. *Update USAs on a periodic basis, possibly every 4–5 years.*

Six commenters stated that USAs need to be updated on a regular basis or they would become obsolete over time. RSPA agrees. RSPA intends to identify the locations of USAs and to map these areas. RSPA will update the USA maps every five years, contingent on the availability of funding and resources. RSPA will review new or revised drinking water and ecological programs and databases at that time and will incorporate new databases into the computer model created from the final USA definition at that time. RSPA will announce in the **Federal Register** and through communication networks when revised USA maps are available.

RSPA will also analyze new, revised, or refined drinking water and ecological programs every five years to determine if other programs should be added to the USA definition. RSPA will propose any revisions to the USA definition in a notice of proposed rulemaking.

3. *Create a petitioning process to correct, add, or remove USA designations.*

Eight commenters recommended that RSPA create a petitioning process to add, modify, or appeal a USA designation. The pipeline safety regulations (49 CFR 190.331) allow interested persons to petition the Associate Administrator for Pipeline Safety to establish, amend, or repeal a substantive regulation. There is no need to create a separate process for USAs.

4. *Use regional, state, and local data sets, not just data sets that meet national standards.*

Two commenters recommended that RSPA use regional, state, and local data sets when creating USAs. RSPA agrees and uses state databases as the primary data source for the USA computer model created from the proposed definition. However, RSPA considers it important that USAs be defined in a consistent manner nationwide. This requires data that conform to some common standard. Attempting to obtain, organize, and validate data that are not nationally standardized would require significant effort, time, and money well beyond RSPA's limited resources. Each additional data set would need to be evaluated for consistency and accuracy. Independently evaluating a wide variety of local, state, and regional data sets would not be feasible and could impede the creation of USA maps for the nation.

The following discusses miscellaneous comments received to the NPRM that technical reviewers did not address:

1. *Consider short-term damage caused by a release.*

Seven commenters recommended that RSPA consider the short-term effects of

a hazardous liquid pipeline release. Several of these commenters recommended that RSPA specifically consider the short term effects of a release on waterways and fish. Short term effects are those that are reversible or can be mitigated by interim actions.

RSPA does not agree that short term effects should be a major consideration when designating USAs. However, RSPA has placed high priority on protecting human health, even in the short term, in defining an adequate alternative drinking water source as one that must be readily available, of the same water quality, and must be able to supply the community for at least a one month period of time for surface water intakes and for at least six months for ground water wells. In addition, RSPA has added all species vulnerable to extinction that rely on water or are terrestrial and can not move far. Including all resources that could suffer short-term injuries would cover the majority of the U.S.

2. *RSPA should designate and map USAs.*

Four commenters stated that RSPA should designate and map USAs. As mentioned above, RSPA intends to identify, designate, and map the locations of USAs through a comprehensive collection and analysis of drinking water and ecological resource data, contingent on the availability of funding and resources. These areas will be mapped using the National Pipeline Mapping System. Operators, other government agencies and the public will have access to these maps through the Internet. Individuals will be able to view USAs nationally or by state, county, zip code, or zooming in or out of a particular area. Operators will then be able to determine which areas of their pipeline could impact USAs. Operators may need to contact resource agencies to obtain additional information on a particular species or drinking water intake in a USA.

Discussion of Comments and Modifications Received From the Technical Hazardous Liquid Pipeline Safety Standards Committee

On May 3–4, 2000, the Technical Hazardous Liquid Pipeline Safety Standards Committee (THLPSSC) met to discuss and vote on the USA proposed rule. The THLPSSC is RSPA's statutory advisory committee for hazardous liquid pipeline safety. The Committee has 15 members representing industry, government, and the public. Each proposed hazardous liquid pipeline safety standard must be submitted to the THLPSSC for the Committee's view as to its technical feasibility, reasonableness, cost-effectiveness, and practicability. During the May meeting, the THLPSSC deferred from voting on the USA proposed rule stating the members of the committee would like the results of the technical review before voting.

On September 11, 2000, the THLPSSC again convened by teleconference to discuss and vote on the proposed rule. A transcript of the meeting is in the docket. Nine Committee members voted the proposed rule and its regulatory analysis as technically feasible, reasonable, cost-effective, and practical, with modifications. One THLPSSC member abstained from the vote. Most of the suggested modifications mirrored those received from the technical reviewers. RSPA has added to the final rule all of the THLPSSC's recommended changes that passed a majority vote. The following discusses each recommended change:

1. *Modify the NPRM to add the most viable USA candidate occurrences (critically imperiled, imperiled, threatened and endangered, and depleted marine mammals occurrences) as USAs.*

The THLPSSC voted 10 to 1 in favor of this recommendation. The committee member that voted against the proposal stated the vote was negative because she would be voting yes on a motion to include all USA candidates as USAs.

2. *Modify the NPRM to add rare communities.*

The THLPSSC voted unanimously in favor of this recommendation.

3. *Modify the NPRM to make the USA candidate species that are aquatic or aquatic dependent or are terrestrial and have a limited range USAs.*

The THLPSSC voted 7 to 4 in favor of this recommendation. One THLPSSC member abstained from the vote.

4. *Include in the preamble to the final rule that RSPA intends to consider in a future rulemaking the inclusion of vulnerable species as USAs.*

The THLPSSC voted unanimously for RSPA to add to the preamble of this final rule that we will consider adding vulnerable species as USAs in a future rulemaking.

5. Replace WHPAs with SWPAs.

The THLPSSC voted unanimously in favor of this recommendation.

6. *Change the adequate alternative drinking water source definition to extend the amount of time needed for the backup water source from one month to six months for groundwater systems. Make preliminary drinking water USAs interim USAs when it can not be verified that an adequate alternative drinking water source exists. Interim USAs would be treated like all other USAs and this would give a quality code to individuals looking at the data.*

The THLPSSC voted 10 to 2 in favor of this recommendation. One THLPSSC member abstained from the vote. One voter against the proposal stated the vote was negative because she would be voting for the removal of the adequate alternative drinking water filter later.

7. *Modify the adequate alternative drinking water source definition to include the ability of the alternative source to provide fire fighting capabilities.*

The THLPSSC voted 6 to 5 in favor of this recommendation.

8. *Remove the doubling of WHPAs in sole source aquifers.*

The THLPSSC voted unanimously in favor of this recommendation.

9. *Make the recharge areas of sole source aquifers that are karst in nature USAs.*

The THLPSSC voted unanimously in favor of this recommendation.

In addition to the THLPSSC's recommendations that passed a majority vote, the Committee also discussed other recommendations. These include the following:

- Include colonial waterbird data, which are additional species concentration areas,
- Remove the USA filtering criteria,
- Create a simultaneous rule that would cover cultural and other natural resource areas,
- Change the adequate alternative drinking water source definition to extend the amount of time needed for the backup water source from one month to six months for surface water systems,
- Make preliminary drinking water USAs final USAs when it can not be verified that an adequate alternative drinking water source exists.
- Remove the adequate alternative drinking water source filter criterion, and
- Make all sole source aquifer recharge areas USAs.

None of these recommendations passed a majority vote and RSPA has not included them in this final rule.

Resources Not Included in the Final Rule

There are many other resources that government agencies, environmental organizations, and others consider sensitive to a hazardous liquid pipeline release. These include national parks, wetlands, wildlife preservation areas, refuges, fish hatcheries, vulnerable species, cultural resources, recreation areas, and economic resource areas. RSPA currently protects these resources

under 49 CFR parts 194 and 195. RSPA will consider extending protection to other environmentally sensitive and vital resources through future rulemaking and will consider the above listed resources as a part of this process.

Mapping of USAs

RSPA intends to identify the locations of USAs through a comprehensive collection and analysis of drinking water and ecological resource data, contingent on the availability of funding and resources. These areas will be mapped using the National Pipeline Mapping System. Operators, other government agencies and the public will have access to these maps through the internet. Individuals will be able to view USAs and other high consequence areas nationally or by state, county, zip code, or zooming in or out of a particular area. Operators will then be able to determine which areas of their pipeline have the ability to impact USAs. Operators may need to contact resource agencies to obtain additional information on a particular species or drinking water intake in a USA.

As additional ecological and drinking water resource information becomes available, and RSPA identifies and locates additional USAS, the operator has the responsibility to apply this new information in its integrity management program.

RSPA will map USA locations on a state by state basis, beginning with the states that have the largest number of liquid pipeline miles. RSPA expects to complete the first ten states by the end of the year. These states include Texas, Oklahoma, Kansas, Louisiana, Illinois, Wyoming, New Mexico, California, Missouri, and Montana. The remaining states are expected to be completed by the end of 2001.

RSPA recognizes that inventories and maps of USAs have to be updated on a periodic basis to incorporate new information and databases. RSPA intends to update the USA maps at least every five years, contingent on the availability of funding and resources. RSPA will review new or revised drinking water and ecological programs and databases and will incorporate new databases into the computer model created from the final USA definition. RSPA will announce in the **Federal Register** and through other communication networks, including during inspections, when revised USA maps are available.

Regulatory Analyses and Notices

A. Executive Order 12866 and DOT Policies and Procedures

The Department of Transportation considers this action to be a significant regulatory action under section 3(f) of Executive Order 12866 (58 FR 51735; October 4, 1993). Therefore, it was forwarded to the Office of Management and Budget. This final rule is significant under Department of Transportation's regulatory policies and procedures (44 FR 11034; February 26, 1979) because of its significant public and government interest.

This final rule has no cost impact on the pipeline industry or the public because it is only a definition.

The USA definition is used in the ''Pipeline Safety: Pipeline Integrity Management in High Consequence Areas (Hazardous Liquid Operators with 500 or more miles of pipeline)'' (65 FR 75378; December 1, 2000) final rule and potentially other current or future regulations. A cost-benefit analysis has been prepared for the Integrity Management rulemaking. RSPA will perform a cost-benefit analysis on any other rulemakings that require operators to take specific actions on pipelines that could affect USAs.

B. Regulatory Flexibility Act

This final rule will not impose additional requirements on pipeline operators, including small entities that operate regulated pipelines. Based on the above information showing that there is no economic impact of this rulemaking, I certify, pursuant to Section 605 of the Regulatory Flexibility Act (5 U.S.C. 605), that this final rulemaking would not have a significant economic impact on a substantial number of small entities.

C. Federalism Assessment

This final rule has been analyzed in accordance with the principles and criteria contained in Executive Order 13132 (''Federalism''). This final rule does not adopt any regulation that:

(1) has substantial direct effects on the States, the relationship between the national government and the States, or the distribution of power and responsibilities among the various levels of government;

(2) imposes substantial direct compliance costs on State and local governments; or

(3) preempts state law.

Therefore, the consultation and funding requirements of Executive Order 13132 (64 FR 43255: August 10, 1999) do not apply. Nevertheless, RSPA worked with state government representatives from Texas, California, and Louisiana to review our USA pilot test results. RSPA also conducted an aggressive communication plan to notify interested parties, including states, of our USA work.

D. Executive Order 13084

The final rule has been analyzed in accordance with the principles and criteria contained in Executive Order 13084, ''Consultation and Coordination with Indian Tribal Governments.'' Because the final rule does not significantly or uniquely affect the communities of the Indian tribal governments and does not impose substantial direct compliance costs, the funding and consultation requirements of Executive Order 13084 do not apply.

E. Paperwork Reduction Act

On December 30, 1999 (64 FR 73463) RSPA published the USA NPRM. In the NPRM, RSPA stated ''This proposed rulemaking contains no information collection that is subject to review by OMB under the Paperwork Reduction Act of 1995.'' No comments were received on this issue. Therefore, RSPA concludes that this final rule contains no paperwork burden and is not subject to OMB review under the Paperwork Reduction Act of 1995.

This final rule, like the proposed rule, is simply a definition. The USA definition is used in the ''Pipeline Safety: Pipeline Integrity Management in High Consequence Areas (Hazardous Liquid Operators with 500 or more miles of pipeline)'' (65 FR 75378; December 1, 2000) final rule and potentially other current or future regulations. A paperwork burden analysis has been prepared for the Integrity Management rulemaking. RSPA will perform a paperwork burden analysis on any other rulemakings that require operators to take specific actions on pipelines that could affect USAs.

F. Unfunded Mandates Reform Act of 1995

This final rule does not impose unfunded mandates under the Unfunded Mandates Reform Act of 1995. It does not result in costs of $100 million or more to either State, local, or tribal governments, in the aggregate, or to the private sector, and is the least burdensome alternative that achieves the objective of the rule.

G. National Environmental Policy Act

RSPA has analyzed the final rule defining USAs in accordance with section 102(2)(c) of the National Environmental Policy Act (42 U.S.C. Section 4332), the Council on

Environmental Quality regulations (40 CFR Parts 1500–1508), and DOT Order 5610.1D. An Environmental Assessment was prepared for the initial USA definitions proposed in a Notice of Proposed Rulemaking (64 FR 73464). RSPA did not receive any public comment on the Environmental Assessment. We have revised the Environmental Assessment to evaluate the USA definition changes made in response to public and other agency comments. Both the Environmental Assessment and modifications are available in the Docket.

The Environmental Assessment provides sufficient evidence to determine that the provisions of the final rule are expected to have no significant impact on the environment. Therefore, in accordance with 40 CFR Section 1508.13, RSPA has made a Finding of No Significant Impact (FONSI) for the final rule defining USAs. The FONSI is available in the Docket. The basis for arriving at this conclusion is summarized below.

The final rule establishes definitions delineating how specific drinking water and ecological resources that are unusually sensitive to environmental damage will be identified. These definitions alone do not pose any new requirements on pipeline operators, and thus have no impact on the environment. However, in the Environmental Assessment, RSPA examined current and potential future regulations to project what future environmental impacts might be expected.

RSPA has recently published a final rule on Pipeline Integrity Management in High Consequence Areas (65 FR 75378; December 1, 2000). This rule establishes new requirements for operators operating 500 or more miles of hazardous liquid pipeline to provide additional protection for high consequence areas, which include USAs. This rule specifies new requirements to assess, evaluate, repair, and validate the integrity of pipelines that could affect high consequence areas. As part of this rulemaking, RSPA prepared an Environmental Assessment to understand the impacts of these requirements (available in Docket No. 99–6355). RSPA concluded that the combined impacts of the integrity management rule provisions to protect high consequence areas will result in positive environmental impacts. The number of incidents and the environmental damage from failures in and near high consequence areas are likely to be reduced. However, from a national perspective, the impact is not expected to be significant for the pipeline operators covered by the final rule. RSPA has issued a FONSI for the integrity management rule (also available on the Docket).

RSPA also examined other regulatory requirements which could be impacted by the definition and identifications of USAs. These are:

- Integrity Management in High Consequence Areas for Operators Operating less than 500 Miles of Pipeline. This rule is expected to be similar to the new rule for larger pipeline operators described above.
- Risk-based Alternative to Pressure Testing Older Hazardous Liquid and Carbon Dioxide Pipelines (49 CFR 195.303). Environmental sensitivity is a risk factor to be considered in setting pressure test schedules. RSPA may clarify that USAs must be considered in identifying areas of environmental sensitivity.
- Response Plans for Onshore Oil Pipelines (49 CFR 194). Areas of environmental importance are to be addressed in response plans. RSPA may amend the definition of environmental importance to include USAs. Area Committees and OPS may use the USA definition in reviewing and validating response plans and response plan revisions.
- Jurisdiction of Rural Low Stress Pipelines. Currently pipelines operating at low stress in rural areas are exempt from compliance with 49 CFR 195 requirements. RSPA may consider removing this exemption for low stress lines that could impact USAs.

RSPA's initial assessment is that each of the above changes would have some positive environmental impacts in reducing the likelihood of pipeline spills and/or minimizing the consequences should a spill occur. However, without specification of the particular regulatory requirements, projections of the expected benefits are highly uncertain. When RSPA establishes specific requirements in these area, Environmental Assessments will be performed to fully understand the impacts and guide decision-making.

List of Subjects in 49 CFR Part 195

Anhydrous ammonia, Carbon dioxide, Hazardous liquids, Petroleum, Pipeline safety, Reporting and recordkeeping requirements.

In consideration of the foregoing, RSPA hereby amends 49 CFR part 195 as follows:

PART 195—[AMENDED]

1. The authority citation for part 195 continues to read as follows:

Authority: 49 U.S.C. 5103, 60102, 60104, 60108, 60109, 60118; and 49 CFR 1.53.

2. Section 195.2 is amended by adding a new definition in alphabetical order to read as follows:

§ 195.2 Definitions.

* * * * *

Unusually sensitive area (USA) means a drinking water or ecological resource area that is unusually sensitive to environmental damage from a hazardous liquid pipeline release, as identified under § 195.6.

3. Section 195.6 is added to read as follows:

§ 195.6 Unusually Sensitive Areas (USAs).

As used in this part, a USA means a drinking water or ecological resource area that is unusually sensitive to environmental damage from a hazardous liquid pipeline release.

(a) An USA drinking water resource is:

(1) The water intake for a Community Water System (CWS) or a Non-transient Non-community Water System (NTNCWS) that obtains its water supply primarily from a surface water source and does not have an adequate alternative drinking water source;

(2) The Source Water Protection Area (SWPA) for a CWS or a NTNCWS that obtains its water supply from a Class I or Class IIA aquifer and does not have an adequate alternative drinking water source. Where a state has not yet identified the SWPA, the Wellhead Protection Area (WHPA) will be used until the state has identified the SWPA; or

(3) The sole source aquifer recharge area where the sole source aquifer is a karst aquifer in nature.

(b) An USA ecological resource is:

(1) An area containing a critically imperiled species or ecological community;

(2) A multi-species assemblage area;

(3) A migratory waterbird concentration area;

(4) An area containing an imperiled species, threatened or endangered species, depleted marine mammal species, or an imperiled ecological community where the species or community is aquatic, aquatic dependent, or terrestrial with a limited range; or

(5) An area containing an imperiled species, threatened or endangered species, depleted marine mammal species, or imperiled ecological community where the species or community occurrence is considered to be one of the most viable, highest quality, or in the best condition, as

identified by an element occurrence ranking (EORANK) of A (excellent quality) or B (good quality).

(c) As used in this part—

Adequate Alternative Drinking Water Source means a source of water that currently exists, can be used almost immediately with a minimal amount of effort and cost, involves no decline in water quality, and will meet the consumptive, hygiene, and fire fighting requirements of the existing population of impacted customers for at least one month for a surface water source of water and at least six months for a groundwater source.

Aquatic or Aquatic Dependent Species or Community means a species or community that primarily occurs in aquatic, marine, or wetland habitats, as well as species that may use terrestrial habitats during all or some portion of their life cycle, but that are still closely associated with or dependent upon aquatic, marine, or wetland habitats for some critical component or portion of their life-history (*i.e.,* reproduction, rearing and development, feeding, etc).

Class I Aquifer means an aquifer that is surficial or shallow, permeable, and is highly vulnerable to contamination. Class I aquifers include:

(1) Unconsolidated Aquifers (Class Ia) that consist of surficial, unconsolidated, and permeable alluvial, terrace, outwash, beach, dune and other similar deposits. These aquifers generally contain layers of sand and gravel that, commonly, are interbedded to some degree with silt and clay. Not all Class Ia aquifers are important water-bearing units, but they are likely to be both permeable and vulnerable. The only natural protection of these aquifers is the thickness of the unsaturated zone and the presence of fine-grained material;

(2) Soluble and Fractured Bedrock Aquifers (Class Ib). Lithologies in this class include limestone, dolomite, and, locally, evaporitic units that contain documented karst features or solution channels, regardless of size. Generally these aquifers have a wide range of permeability. Also included in this class are sedimentary strata, and metamorphic and igneous (intrusive and extrusive) rocks that are significantly faulted, fractured, or jointed. In all cases groundwater movement is largely controlled by secondary openings. Well yields range widely, but the important feature is the potential for rapid vertical and lateral ground water movement along preferred pathways, which result in a high degree of vulnerability;

(3) Semiconsolidated Aquifers (Class Ic) that generally contain poorly to moderately indurated sand and gravel that is interbedded with clay and silt. This group is intermediate to the unconsolidated and consolidated end members. These systems are common in the Tertiary age rocks that are exposed throughout the Gulf and Atlantic coastal states. Semiconsolidated conditions also arise from the presence of intercalated clay and caliche within primarily unconsolidated to poorly consolidated units, such as occurs in parts of the High Plains Aquifer; or

(4) Covered Aquifers (Class Id) that are any Class I aquifer overlain by less than 50 feet of low permeability, unconsolidated material, such as glacial till, lacustrian, and loess deposits.

Class IIa aquifer means a Higher Yield Bedrock Aquifer that is consolidated and is moderately vulnerable to contamination. These aquifers generally consist of fairly permeable sandstone or conglomerate that contain lesser amounts of interbedded fine grained clastics (shale, siltstone, mudstone) and occasionally carbonate units. In general, well yields must exceed 50 gallons per minute to be included in this class. Local fracturing may contribute to the dominant primary porosity and permeability of these systems.

Community Water System (CWS) means a public water system that serves at least 15 service connections used by year-round residents of the area or regularly serves at least 25 year-round residents.

Critically imperiled species or ecological community (habitat) means an animal or plant species or an ecological community of extreme rarity, based on The Nature Conservancy's Global Conservation Status Rank. There are generally 5 or fewer occurrences, or very few remaining individuals (less than 1,000) or acres (less than 2,000). These species and ecological communities are extremely vulnerable to extinction due to some natural or man-made factor.

Depleted marine mammal species means a species that has been identified and is protected under the Marine Mammal Protection Act of 1972, as amended (MMPA) (16 U.S.C. 1361 *et seq.*). The term ''depleted'' refers to marine mammal species that are listed as threatened or endangered, or are below their optimum sustainable populations (16 U.S.C. 1362). The term ''marine mammal'' means ''any mammal which is morphologically adapted to the marine environment (including sea otters and members of the orders Sirenia, Pinnipedia, and Cetacea), or primarily inhabits the marine environment (such as the polar bear)'' (16 U.S.C. 1362). The order Sirenia includes manatees, the order Pinnipedia includes seals, sea lions, and walruses, and the order Cetacea includes dolphins, porpoises, and whales.

Ecological community means an interacting assemblage of plants and animals that recur under similar environmental conditions across the landscape.

Element occurrence rank (EORANK) means the condition or viability of a species or ecological community occurrence, based on a population's size, condition, and landscape context. EORANKs are assigned by the Natural Heritage Programs. An EORANK of A means an excellent quality and an EORANK of B means good quality.

Imperiled species or ecological community (habitat) means a rare species or ecological community, based on The Nature Conservancy's Global Conservation Status Rank. There are generally 6 to 20 occurrences, or few remaining individuals (1,000 to 3,000) or acres (2,000 to 10,000). These species and ecological communities are vulnerable to extinction due to some natural or man-made factor.

Karst aquifer means an aquifer that is composed of limestone or dolomite where the porosity is derived from connected solution cavities. Karst aquifers are often cavernous with high rates of flow.

Migratory waterbird concentration area means a designated Ramsar site or a Western Hemisphere Shorebird Reserve Network site.

Multi-species assemblage area means an area where three or more different critically imperiled or imperiled species or ecological communities, threatened or endangered species, depleted marine mammals, or migratory waterbird concentrations co-occur.

Non-transient Non-community Water System (NTNCWS) means a public water system that regularly serves at least 25 of the same persons over six months per year. Examples of these systems include schools, factories, and hospitals that have their own water supplies.

Public Water System (PWS) means a system that provides the public water for human consumption through pipes or other constructed conveyances, if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. These systems include the sources of the water supplies—*i.e.,* surface or ground. PWS can be community, non-transient non-community, or transient non-community systems.

Ramsar site means a site that has been designated under The Convention on Wetlands of International Importance

Especially as Waterfowl Habitat program. Ramsar sites are globally critical wetland areas that support migratory waterfowl. These include wetland areas that regularly support 20,000 waterfowl; wetland areas that regularly support substantial numbers of individuals from particular groups of waterfowl, indicative of wetland values, productivity, or diversity; and wetland areas that regularly support 1% of the individuals in a population of one species or subspecies of waterfowl.

Sole source aquifer (SSA) means an area designated by the U.S. Environmental Protection Agency under the Sole Source Aquifer program as the ''sole or principal'' source of drinking water for an area. Such designations are made if the aquifer's ground water supplies 50% or more of the drinking water for an area, and if that aquifer were to become contaminated, it would pose a public health hazard. A sole source aquifer that is karst in nature is one composed of limestone where the porosity is derived from connected solution cavities. They are often cavernous, with high rates of flow.

Source Water Protection Area (SWPA) means the area delineated by the state for a public water supply system (PWS) or including numerous PWSs, whether the source is ground water or surface water or both, as part of the state source water assessment program (SWAP) approved by EPA under section 1453 of the Safe Drinking Water Act.

Species means species, subspecies, population stocks, or distinct vertebrate populations.

Terrestrial ecological community with a limited range means a non-aquatic or non-aquatic dependent ecological community that covers less than five (5) acres.

Terrestrial species with a limited range means a non-aquatic or non-aquatic dependent animal or plant species that has a range of no more than five (5) acres.

Threatened and endangered species (T&E) means an animal or plant species that has been listed and is protected under the Endangered Species Act of 1973, as amended (ESA73) (16 U.S.C. 1531 et seq.). ''Endangered species'' is defined as ''any species which is in danger of extinction throughout all or a significant portion of its range'' (16 U.S.C. 1532). ''Threatened species'' is defined as ''any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range'' (16 U.S.C. 1532).

Transient Non-community Water System (TNCWS) means a public water system that does not regularly serve at least 25 of the same persons over six months per year. This type of water system serves a transient population found at rest stops, campgrounds, restaurants, and parks with their own source of water.

Wellhead Protection Area (WHPA) means the surface and subsurface area surrounding a well or well field that supplies a public water system through which contaminants are likely to pass and eventually reach the water well or well field.

Western Hemisphere Shorebird Reserve Network (WHSRN) site means an area that contains migratory shorebird concentrations and has been designated as a hemispheric reserve, international reserve, regional reserve, or endangered species reserve. Hemispheric reserves host at least 500,000 shorebirds annually or 30% of a species flyway population. International reserves host 100,000 shorebirds annually or 15% of a species flyway population. Regional reserves host 20,000 shorebirds annually or 5% of a species flyway population. Endangered species reserves are critical to the survival of endangered species and no minimum number of birds is required.

Issued in Washington, DC December 8, 2000.

Kelley S. Coyner,

Administrator.

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