

U.S. DEPARTMENT OF ENERGY

## PREPARATION OF ENVIRONMENTAL VOLUME

### I. GENERAL

This volume shall be submitted with the original proposal and must be found acceptable prior to contract negotiations and award. The Environmental Volume shall provide, in detail, all information as outlined in the following sections.

### II. CONTENT

#### A. ENVIRONMENTAL INFORMATION DESCRIBING THE PROJECT AND THE PROJECT SITE(S).

This section of the Environmental Volume shall contain a detailed, self-contained description that summarizes the proposed action, its alternatives, and, most importantly, the existing environment. It shall be prepared in the following format:

##### 1. Summary

This section shall contain a succinct summary of the proposed project and its potential environmental, safety, health, and socioeconomic impacts. A brief description of any construction and operation activities, including the duration and schedule shall also be provided. The summary shall focus on both beneficial and detrimental impacts, as well as any major risks associated with constructing, operating, maintaining, and dismantling/disposing of the proposed test facility, if applicable.

##### 2. Proposed Project and Its Alternatives

###### a. Proposed Project

This section shall discuss the objectives of the proposed project, and shall describe the proposed site, system, and/or process. It shall also describe the work to be performed, the schedule, associated requirements (e.g., land, natural resources), and any changes that will be necessary to the existing site, system, or process.

The description shall include a project site plan and topographic map of the area. Any off-site facility requirements shall also be identified in this section.

###### b. Alternatives to Proposed Project

A complete description of likely alternatives to the project, including a "no action" alternative, shall be provided. The description shall address technology-specific aspects of the action, such as process design configurations, and site-specific considerations, such as alternative waste disposal sites, etc.

##### 3. Existing Environment

This section shall discuss the existing environment at the project location(s). The principal proposer and all proposed subcontractors shall discuss the following:

###### a. Land Use

This section shall provide a description of the affected land area and its dimensions; a discussion of current land usage (e.g., farming, industrial, etc.); and descriptions of nearby pipelines and transmission lines, as well as transportation access (rail, road, barge, etc.).

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b. Atmospheric Conditions/Air Quality

This section shall identify the air quality control regions where the project is located; and describe the local climate and existing air quality conditions in the immediate vicinity of the proposed site.

c. Hydrologic Conditions/Water Quality

This section shall identify any watersheds and downstream drainage, surface and groundwater quality (nearby aquifers and the depth of groundwater) in the project area, existing floodplains, unique aquatic habitats, recreational areas, public water supplies; describe any constraints on water availability imposed by treaties, court decree, state and Federal water laws; and identify existing wastewater treatment and/or disposal facilities.

d. Geologic/Soil Conditions

This section shall describe the topographic stability (e.g., formations and/or faulting), the productivity of soil, any unique soil species, and the soil's susceptibility to erosion.

e. Vegetation and Wildlife Resources

This section shall describe any indigenous flora and fauna, state and Federally listed endangered or threatened species and their habitats, and sensitive habitats such as wetlands, floodplains, or other ecologically sensitive terrain.

f. Socioeconomic Conditions

This section shall discuss the population in the project area, and shall describe the employment and labor mix.

g. Historic/Cultural Resources

The section shall describe any historic and/or cultural places in the project area, as well as archeological sites.

h. Visual Resources

This section shall describe any scenic vistas or existing aesthetic landscaping in the project area.

i. Health and Safety Factors

This section shall discuss **current** emissions (toxic and non-toxic), effluents, and noise levels at the project area.

B. ENVIRONMENTAL IMPACTS OF THE WORK TO BE PERFORMED.

This section of the Environmental Volume shall describe the anticipated environmental impacts from the project. It shall describe all impacts and consequences of the project (at the selected site[s] and the alternative site[s], if appropriate). The existing environment (described in Section A.3) shall be evaluated in terms of the potential impacts from any construction, operation/testing, and disposition activities. Any mitigative measures that will address these impacts shall also be identified.

The description shall address the environmental categories listed below. Please ensure that all direct, indirect, short-term, and long-term impacts resulting from project activities are identified clearly.

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1. Land Use

This section shall describe land use impacts from any construction and operation activities; waste disposal problems (for non-toxic, toxic, and/or hazardous substances); and effluent discharges requiring the development of settling ponds.

2. Atmospheric Conditions/Air Quality

This section shall discuss projections in air quality changes; estimated process emissions (e.g., stack emissions); construction emissions from land disturbance or the operation of machinery/equipment, solid waste disposal operations, coal handling, etc.; and the source, emission rate, duration, and frequency of all emissions.

3. Hydrologic Conditions/Water Quality

This section shall describe any changes in groundwater/surface water quality and quantity, stream diversion resulting from construction, runoff from storage piles (source, discharge rate, discharge frequency and duration), leachates from waste disposal sites; and wastewater treatment and discharges.

4. Geologic/Soil Conditions

This section shall describe any subsidence that might be caused by construction; any possible erosion, stream diversion, floodplain and wetland intrusion, and any increase or decreases in soil permeability and filtration.

5. Vegetation and Wildlife Resources

This section shall describe any impacts to indigenous flora and fauna, state and Federally listed endangered species and their habitats, and sensitive habitats such as wetlands, floodplains, or other ecologically sensitive terrain.

6. Socioeconomic Conditions

This section shall describe any increases/decreases in labor requirements or changes in labor mix.

7. Historic/Cultural Resources

This section shall describe any disturbance to historical or archaeological sites caused by construction, interference with Native American tribal or other religious practices or sites; impacts on local community character.

8. Visual Resources

This section shall describe any impacts to scenic vistas or existing aesthetic landscaping.

9. Health and Safety Factors

This section shall discuss occupational hazards of project activities; exposure to toxic/hazardous substances; and increases in ambient noise, odor, and heat.

10. Solid and Hazardous Wastes

This section shall describe any and all waste material that is generated from project activities. This description shall include the source/type of any and all wastes produced (e.g., fly ash,

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bottom ash, scrubber sludge, etc.), and the approximate weight, density, and volume of the waste, and its method of disposal, location, and any permitting requirements necessary.

### 11. Impacts on Regional or Local Plans

This section shall describe any impacts to regional or local plans for fuel, water resources, solid waste, land, air quality, and labor force; commitment of resources and opportunities to reuse and recycle resources (wastes, water).

### C. POTENTIAL LIABILITY TO DOE OF EXISTING CONDITIONS AT THE SITE(S).

This section shall discuss any potential conditions for exposing the DOE to previous liability. It should detail any previous research, development, construction, and/or demonstration testing that could potentially have impacts on the existing project site(s) and therefore, the proposed project.

### D. ABILITY TO MEET COMPLIANCE REQUIREMENTS AT THE SITE(S).

This section shall identify all of the environmental laws and regulations (Federal, state, and local) for which compliance would be necessary. It should include, but should not be limited to the Resource Conservation and Recovery Act, the Comprehensive Environmental Response, Compensation, and Liability Act, Toxic Substance Control Act, Water Pollution Control Act, Clean Air Act, and Occupational Safety and Health Act. Any necessary permits, manifest, etc., shall be discussed.

The proposer's strategy for meeting all compliance requirements shall be discussed in detail. Identify the best available control technology and feasible practices for compliance with Federal air, land use, and water quality statutes. In addition, whether the proposed site is in attainment or non-attainment with current standards shall be discussed.

### E. EXPERIENCE AND APPROACH TO THE IDENTIFICATION AND RESOLUTION OF ENVIRONMENTAL ISSUES.

This section of the Environmental Volume shall consist of a discussion of the following areas:

1. All directly related education/experience of key project members in each of the following areas:
  - Air quality management
  - Surface water and ground water management
  - Solid and liquid waste management and disposal practices
  - Noise, land use, ecological resources, archaeological, cultural, and historical resources management
  - Environmental permit applications, amendments, and renewals
2. The offeror's experience in addressing and resolving environmental concerns during the performance of past projects of similar size and complexity including the obtaining of necessary permits.
3. Any of the offeror's existing written environmental policies, procedures, or plans currently in place and considered essential to the conduct of the offeror's commercial business operation.