3.14 Public Health

3.14.1 Proposed Action

Public health issues associated with the proposed Rusk Permit Area include potential water quality effects from the mining operation, including use of chemicals during reclamation; air quality effects from mine-related air emissions; and noise and lighting effects on sensitive receptors. The potential direct impacts to these resources are discussed in Sections 3.2, 3.8, and 3.12, respectively. Public health issues related to potential cumulative impacts include water quality and air quality effects from power plants and other lignite mines in the area. The potential cumulative impacts to water resources and air resources are discussed in Sections 3.2 and 3.8, respectively.

This section summarizes the potential effects to the public health of local residents from mine-related direct and cumulative water quality, air quality, and noise and lighting effects.

3.14.1.1 Water Quality Effects

The USEPA (Federal Register 2000) has identified issues regarding the disposal of coal combustion materials (i.e., bottom ash and fly ash) in surface impoundments that lack adequate controls (e.g., groundwater monitoring, liners). However, the Proposed Action does not involve the disposal of coal ash.

Sabine would contract with qualified individuals or companies to apply fertilizers and pesticides on reclaimed areas, as needed, to ensure successful reclamation. These contractors would operate in accordance with manufacturer recommendations and agency regulations regarding application rates and handling of materials. No bulk fertilizer or pesticide materials would be stored on the mine site, and associated waste materials would be disposed of at appropriate off site facilities. Spills or other accidental releases would be handled in accordance with Sabine's SPCC Plan, which addresses accidental releases of hazardous materials used at the facility. Use of fertilizers and pesticides on the reclaimed areas at the Rusk Permit Area is not anticipated to constitute a risk to water quality in local streams or groundwater based on the implementation of spill prevention measures and adherence to recommended application procedures. Therefore, use of these materials is not expected to pose a health risk to surrounding residents.

Construction, operations, and reclamation and closure activities are not anticipated to result in public health effects associated with water quality impacts of the Proposed Action. No cumulative effects to public health associated with water quality impacts are anticipated.

3.14.1.2 Air Quality Effects

As discussed in Section 3.8.1.3, the criteria for impacts to air quality are the lowest concentrations at which adverse human health effects from exposure to air pollution are known or suspected to occur. The primary NAAQS set limits to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly. Also, as discussed in Section 3.8.1.3, the USEPA has developed national emission standards for HAPs, which are known as MACT standards; none of the MACT standards proposed or promulgated to date apply to lignite mining operations. Some trace elements in lignite are classified as HAPs. Although these trace element concentrations are comparable to those in soils, the increased airborne movement of these materials during project construction, operations, and reclamation may be cause for concern. However, any impacts are expected to be localized near mining activities.

Estimated air pollutant emissions for 2011 (anticipated mine year 1), which is estimated to be the year of maximum construction emissions, are provided in **Table 3.14-1**. As shown in this table, no criteria pollutants exceed the de minimis emission thresholds of 100 tpy that would be applicable to a project subject to General Conformity rules. USEPA is reconsidering the 2008 ozone standard. Depending on the

outcome of their decision, the proposed Rusk Permit Area could be designated nonattainment for ozone. If a nonattainment designation is made, the emissions of VOC and NO_X could be subject to the 100 tpy General Conformity de minimis emission threshold. Based on the predicted de minimis emissions rate, the air quality impacts of construction are not anticipated to have adverse health effects.

Table 3.14-1 Construction Exhaust Emissions (tons per year)

Year[1]	VOC[2]	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$
2011	0.44	2.31	7.66	0.008	0.37	0.35
Total	0.44	2.31	7.66	0.008	0.37	0.35

[1] Construction activities are assumed to occur during mine year 1, which, pending receipt of permits, is anticipated to be year 2011.

[2] Expressed as total hydrocarbons.

Source: HDR 2010f.

Estimated air pollutant emissions associated with operations, based on the change in emissions from 2008 (pre-project) to 2012 (anticipated mine year 2), are provided in **Table 3.14-2**. The year 2012 was selected as representative of the first year of full operations. As shown in this table, no criteria pollutants would exceed the General Conformity de minimis emission threshold of 100 tons per year; therefore, the air quality impacts of operations are not anticipated to have adverse health effects.

Table 3.14-2 Change In Annual (2012 – 2008) Operations Emissions (tons per year)

Year	VOC[1]	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$
2012 – 2008	1.24	9.58	26.98	0.031	1.26	1.22
Total	1.24	9.58	26.98	0.031	1.26	1.22

[1] Expressed as total hydrocarbons.

Source: HDR 2010f.

Major sources of HAPs are defined as sources that emit 10 tons per year of any of the listed toxic air pollutants, or 25 tons per year of a mixture of air toxics. There are no sources in the proposed Rusk Permit Area that would be classified as major sources.

The primary sources for HAPs in the Rusk Permit Area would be motor vehicles and other non-stationary diesel engines. As a result of the many vehicle and fuel changes in the last 40 years, air toxics emissions have been greatly reduced from highway vehicles and off road engines. New vehicles today emit 90 percent less air toxics on a per-mile basis than the uncontrolled models of 1970 (USEPA 2000). Today's lower-sulfur diesel fuels also are important in reducing emissions of particulate matter and other air toxics from diesel trucks.

As indicated in Section 3.8.2.1, the low levels of HAPs emitted during construction and operations in the Rusk Permit Area would be unlikely to present a health hazard to the public.

The existing Pirkey Power Plant is considered an existing project (see Section 2.7) for the consideration of potential cumulative impacts with the proposed Rusk Permit Area effects in this EIS. The cumulative impact assessment considered whether there would be an "…impact to the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions…" (CEQ 1997). As discussed in Section 3.8.2, the air quality impacts of the Rusk Permit Area would be primarily particulate emissions from the mining and handling of lignite. There also would be

some point source emissions from mining and lignite handling equipment. These emissions are anticipated to be localized within and near the Rusk Permit Area and would be below levels that would constitute a health hazard. Therefore, it is not anticipated that the direct and indirect impacts of the proposed project would overlap with emissions from the existing Pirkey Power Plant resulting in cumulative environmental impacts.

Since the proposed Rusk Permit Area is replacing lignite from the South Marshall Permit Area of the South Hallsville No. 1 Mine in a phased manner with no change in power plant utilization, no cumulative impacts from the two mines are expected. The proposed Marshall Lignite Mine would provide lignite to Norit Americas, Inc.'s existing activated carbon plant in Marshall, Texas, replacing the existing lignite supply for this plant. Since there appears to be no strong trend for an overall increase of lignite utilization in the near future with the opening of new mines to provide fuel for new power plants, no cumulative air quality impacts would be expected.

3.14.1.3 Noise Effects

There are no federal, state, or local noise regulations that would govern the proposed Rusk Permit Area. However, in order to evaluate potential impacts from the proposed project, the impact assessment in this EIS was based on a 10 dB increase in noise level as a relative criterion, and an absolute noise limit of 65 dBA L_{dn} to evaluate projected project-related noise.

Sabine has conducted studies to determine ambient noise levels and to estimate noise emissions from the proposed project at residences and other sensitive receptors in proximity to the proposed mining activities (see Section 3.12). The USACE reviewed the study results and independently evaluated potential noise impacts. Results of the impact assessment indicate a few instances of residences in close proximity to the Rusk Permit Area where individual and combined project-related noise emissions would exceed the HUD 65 dBA standard and where noise levels would be above existing ambient background noise (see Section 3.12.2.1). These impacts would be most noticeable during nighttime operations. Dragline noise emissions, in particular, would exhibit pure tonal qualities that may be noticeable above other noise levels, particularly during nighttime hours. Mitigation measures are being considered to reduce the effects of noise emissions (see Section 3.12.4.1, Noise and Visual Resources). Temporary noise levels slightly in excess of the HUD standard are not expected to cause adverse health effects. There would be no noise-related cumulative public health effects.

3.14.1.4 Light Effects

As discussed in Section 3.12.2.1, there would be an increase in night lighting during nighttime operations of the proposed Rusk Permit Area. Nighttime operations would introduce new lighting into what is now a rural and generally dark area. The night lighting would be most noticeable during weather conditions of low clouds or hazy conditions, which would result in greater light reflection. These effects would vary depending on the location of the receptor residence to the active pit area. Sabine has committed to the use of light shields to direct the lights downward, to the extent possible. Increased night lighting is not expected to result in adverse health effects. No cumulative light effects to public health are anticipated.

3.14.2 No Action Alternative

Under the No Action Alternative, the mine-related effects identified for water quality, air quality, noise, and lighting, as discussed above, would not occur as the construction, operation, and reclamation activities associated with the proposed Rusk Permit Area would not occur. Existing localized water quality, air quality, noise, and lighting effects associated with the ongoing operations at the South Marshall Permit Area would continue through approximately 2027; no adverse effects to public health are anticipated from these continued operations.