#### 4.2.1.3 Air Quality and Noise

Construction and operation activities associated with the No Action Alternative and the proposed storage alternatives would generate criteria and toxic/hazardous pollutants. To evaluate the air quality impacts at Hanford, criteria and toxic/hazardous concentrations from the No Action Alternative and the proposed storage alternatives are compared with Federal and State standards and guidelines. Impacts to human health from radiological and chemical airborne emissions are described in Section 4.2.1.9.

In general, all of the proposed storage facilities would emit the same types of air pollutants during construction. It is expected emissions would not exceed Federal, State, or local air quality regulations. $PM_{10}$ and TSP concentrations will be increased, especially during peak construction periods.

The principal sources of emissions during construction include the following:

- Fugitive dust from land clearing, site preparation, excavation, and wind erosion of exposed ground surfaces
- Exhaust and road dust generated by construction equipment, vehicles delivering construction materials, and vehicles carrying construction workers

During operation, impacts from each of the individual storage facilities with respect to the concentrations of criteria and toxic/hazardous air pollutants are predicted to be in compliance with Federal, State, and local air quality regulations or guidelines. Table 4.2.1.3–1 presents the estimated pollutant concentrations for each of the proposed storage alternatives, indicating little difference between alternatives with respect to impacts to air quality.

Emission rates attributed to operation of the proposed storage facilities are presented in Tables F.1.3–1 to F.1.3–3. [Text deleted.] Air pollutant emission sources associated with operations include the following:

- Operation of boilers for space heating
- Operation of diesel generators and periodic testing of emergency diesel generators
- Exhaust and road dust generated by vehicles delivering supplies and bringing employees to work
- Toxic/hazardous pollutant emissions from facility processes

Noise impacts during either construction or operation are expected to be low. Air quality and noise impacts for each storage alternative are described separately. Supporting data for the air quality and noise analyses are presented in Appendix F.

**AIR QUALITY**

An analysis was conducted of the potential impacts on air quality from emissions from each of the storage alternatives described in Section 2.2.1.

Section 176 (c) of the 1990 CAA Amendments requires that all Federal actions conform with the applicable SIP. The EPA has implemented rules that establish the criteria and procedures governing the determination of conformity for all Federal actions in nonattainment and maintenance areas. These are discussed in Section 4.1.3. The attainment status of the area in which Hanford is located is discussed in Section 3.2.3. Since the area is considered to be an attainment area for the criteria pollutants, the proposed actions at this site do not require that a conformity analysis be performed.

**Preferred Alternative: No Action Alternative**

This alternative utilizes estimated air emissions data from total site operations at Hanford assuming continuation of site missions as described in Section 3.2. These data reflect conservative estimates of criteria and toxic/hazardous emissions at Hanford. The emission rates for the criteria and toxic/hazardous pollutants for No Action are presented in Table F.1.2.2–1. Table 4.2.1.3–1 presents the No Action concentrations. Increased $PM_{10}$ and TSP concentrations may occur due to ongoing construction associated with other activities (that are outside of the scope of the PEIS) under the No Action Alternative. Concentrations of all other criteria and toxic/hazardous air pollutants at the site boundary or public access highways are expected to remain within applicable Federal, State, and local ambient air quality standards.

**Upgrade Alternative**

***Upgrade Without Rocky Flats Environmental Technology Site or Los Alamos National Laboratory Plutonium Subalternative***

*Modify Existing Fuels and Materials Examination Facility for Plutonium Storage*

It is expected that pollutant concentrations will remain within applicable Federal and State ambient air quality standards during modification of the FMEF.

During operation, concentrations of criteria and toxic/hazardous air pollutants are predicted to be in compliance with Federal, State, and local air quality regulations or guidelines. Estimated pollutant concentrations attributable to increased operations associated with this storage alternative, plus the No Action concentrations, are presented in Table 4.2.1.3–1. Concentrations of air pollutants are expected to be the same with or without the RFETS or LANL material.

*Construct New 200 West Area Facility for Plutonium Storage*

In addition to the types of sources of emissions during construction associated with the No Action Alternative and the storage upgrade alternatives, fugitive dust resulting from the operation of a concrete batch plant would be an additional emission source associated with construction of a new facility.

Increased $PM_{10}$ and TSP concentrations may occur during the peak construction period, and during dry and windy conditions. Appropriate control measures would be followed to minimize pollutant concentrations during construction. Concentrations of all pollutants at the site boundary or public access highways would remain within applicable Federal and State ambient air quality standards during construction.

During operation, concentrations of criteria and toxic/hazardous air pollutants are predicted to be in compliance with Federal, State, and local air quality regulations or guidelines. Estimated pollutant concentrations attributable to increased operations associated with this storage alternative, plus the No Action concentrations, are presented in Table 4.2.1.3–1. Concentrations of air pollutants are expected to be similar with or without the RFETS or LANL material since pollutant emissions are the result of combustion of fossil fuels for heating the facility.

***Upgrade With All or Some Rocky Flats Environmental Technology Site and Los Alamos National Laboratory Plutonium Subalternative***

*Modify Existing Fuels and Materials Examination Facility for Plutonium Storage*

Air quality impacts for construction and operation for this option are expected to be similar to those previously described for modifying the FMEF.

*Construct New 200 West Area Facility for Plutonium Storage*

Air quality impacts for construction and operation for this option are expected to be similar to those previously described for the new Pu storage facility.

**Consolidation Alternative**

*Construct New Plutonium Storage Facility*

Air quality impacts for construction and operation for this option are expected to be similar to those for the options previously discussed for the Upgrade Alternative.

**Collocation Alternative**

*Construct New Plutonium and Highly Enriched Uranium Storage Facilities*

The collocation of Pu and HEU materials facilities would be located in the same area as the consolidated Pu materials facilities and would have similar air quality impacts, with the following exceptions.

During operation, emissions would be slightly higher, as shown in Appendix F. Concentrations of criteria and toxic/hazardous air pollutants are predicted to be in compliance with Federal, State, and local air quality regulations or guidelines. Estimated pollutant concentrations attributable to increased operations associated with this storage alternative and No Action are presented in Table 4.2.1.3–1.

**Subalternative Not Including Strategic Reserve and Weapons Research and Development Materials**

Air quality impacts for construction and operation for this subalternative are expected to be similar to those previously described for the Upgrade With All or Some RFETS and LANL Pu Subalternative, the Consolidation Alternative, and the Collocation Alternative. Since the same facility or a slightly smaller facility would be constructed or upgraded, the construction activities would be expected to have the same or less emissions. Storage of a smaller quantity of material would be expected to result in less emissions during operation of the facility as a result of reduced combustion emissions, laboratory operations, and other activities. [Text deleted.]

**Phaseout**

Phaseout of existing Pu inventories as a result of consolidating Pu at another site is expected to result in a small reduction in air pollutant concentrations from the No Action concentrations and would be in compliance with Federal and State standards. Some emissions may occur as a result of transporting materials from Hanford. Quantity of emissions is dependent on transportation mode.

**NOISE**

The location of the storage facilities relative to the site boundary and sensitive receptors was examined to evaluate the potential for onsite and offsite noise impacts. Noise sources during construction may include heavy construction equipment and increased traffic. Increased traffic would occur onsite and along offsite local and regional transportation routes used to bring construction material and workers to the site.

**Preferred Alternative: No Action Alternative**

Nontraffic noise sources associated with continued interim storage (No Action) and other ongoing missions are the same as described in Chapter 3. The continuation of operations at Hanford would result in no appreciable change in traffic noise and onsite operational noise sources from current levels. Nontraffic noise sources are

located at sufficient distance from offsite areas that the contribution to offsite noise levels would continue to be small. Due to the size of the site, noise emissions from construction equipment and operations activities would not be expected to cause annoyance to the public. Some noise sources may be located close enough to onsite noise sensitive areas to result in impacts, such as disturbances of wildlife.

**Upgrade, Consolidation, and Collocation Alternatives**

Nontraffic noise sources associated with the storage alternatives would be similar to those for existing facilities as discussed in Chapter 3. Nontraffic, operational noise sources associated with the alternatives include new or existing equipment and machines (cooling systems, vents, motors, and material handling equipment). These noise sources would be located at sufficient distance from offsite areas that the contribution to offsite noise levels would be small. Due to the size of the site, noise emissions from construction equipment and operations activities would not be expected to cause annoyance to the public. Some noise sources may result in impacts, such as disturbance of wildlife.

**Subalternative Not Including Strategic Reserve and Weapons Research and Development Materials**

Noise impacts for construction and operations for this option are expected to be almost the same to those previously described for the Upgrade With All or Some RFETS and LANL Pu Subalternative, the Consolidation Alternative, and the Collocation Alternative because noise impacts are based on the use of the facility and not the size. [Text deleted.]

**Phaseout**

A reduction in noise levels associated with facility operations may result from the phaseout of storage facilities.