

2.17-1 INTRODUCTION

This section of Chapter 2 assesses the potential effects on public health from Project 1, Shaft and Bypass Tunnel Construction. The determination of impacts is based on the analysis results reported in the other relevant sections of Chapter 2 of this EIS. As detailed below, the potential effects could be influenced by air quality, water quality, hazardous materials, or noise within the study areas and impacts on water supply users. The associated analyses pertaining to the overall public health conditions of the study areas are summarized below, along with an evaluation of the potential for predicted temporary significant adverse impacts.

The potential for significant predicted temporary adverse impacts on public health during bypass tunnel operation is discussed in Chapter 5, “Probable Impacts of Bypass Tunnel Operation,” Section 5.5, “Public Health.”

2.17-2 PUBLIC HEALTH ASSESSMENT

2.17-2.1 AIR QUALITY

Project 1, Shaft and Bypass Tunnel Construction is expected to result in a temporary increase in air emissions (see Section 2.11, “Air Quality,” for further details). The sources of these emissions would be construction-related traffic and on-site construction-related mobile and stationary sources. The U.S. Environmental Protection Agency (EPA) has established National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. To demonstrate compliance with these standards, maximum predicted off-site incremental concentrations from expected Project 1 construction emissions were added to conservative background conditions. With Project 1, the maximum predicted total concentrations of carbon monoxide, sulfur dioxide, nitrogen dioxide, PM₁₀, and PM_{2.5} would be below the applicable NAAQS at both the west and east connection sites. Therefore, there are no predicted temporary significant adverse public health impacts from air quality during Project 1 construction.

2.17-2.2 WATER QUALITY

As described in Section 2.8, “Natural Resources and Water Resources,” and Section 2.14, “Infrastructure,” Project 1 would not result in any significant adverse impacts to water quality. Therefore, there are no predicted temporary significant adverse public health impacts to water quality during Project 1 construction.

2.17-2.3 HAZARDOUS MATERIALS

As described in Section 2.9, “Hazardous Materials,” Project 1 is not expected to result in predicted temporary significant adverse impacts related to hazardous materials. During construction, there is some potential for hazardous materials to be present at both the west and east connection sites and along the water main extension and dewatering pipeline route. To avoid impacts associated with these sources, a number of preventative measures would be implemented to minimize exposure (see Section 2.9, for further details). With the preventative measures in place, Project 1 is not expected to result in predicted temporary significant adverse impacts related to hazardous materials. Therefore, there are no predicted temporary significant adverse public health impacts from hazardous materials during Project 1 construction.

2.17-2.4 NOISE

As described in Section 2.13, “Noise,” construction of Project 1 would result in predicted temporary significant adverse noise impacts at several receptors both west and east of the Hudson River. The largest public health concerns related to noise are potential predicted temporary significant adverse impacts during overnight hours at sensitive locations, such as residences.

WEST OF HUDSON

The maximum allowed sound pressure values for residential districts between the hours of 7 PM and 7 AM specified by the Town of Newburgh Code is expected to be exceeded near the west connection site with the construction of Project 1. However, under existing conditions the measured existing noise levels in the west of Hudson study area can exceed the Town of Newburgh Code limits during the applicable time periods.

As noted in Section 2.13, “Noise,” in the west of the Hudson study area, construction of Project 1 would result in predicted temporary significant adverse noise impacts at ~~the exterior of two residences~~ residential locations within the area shown in Figure 2.13-13. These temporary significant adverse noise impacts would be expected to occur ~~primarily~~ during the third shift, between the hours of 11 PM and 7 AM, when there are very low existing ambient noise levels expected in these locations. The predicted noise level increases, which were up to 6.6 dBA above existing levels, could occur for approximately 5 to 6 years. Based on the duration and magnitude of the predicted exceedances, there would be predicted temporary significant adverse noise

impacts at these locations. Furthermore, qualified residences that would be expected to experience interior noise levels that exceed the level considered acceptable by CEQR criteria during overnight periods as a result of construction of Project 1 would be eligible for receptor controls, such as windows and air conditioners, to bring interior noise levels within the acceptable range according to CEQR (see Appendix 2.19-2) ~~However, at these residences the interior $L_{10(1)}$ noise levels during construction of Project 1 would be acceptable (less than 45 dBA) even with windows open for the 11 PM to 7 AM period.~~

Therefore, no significant adverse public health impacts from noise in the west of Hudson study area are expected from Project 1 construction.

EAST OF HUDSON

The maximum allowed sound pressure values for residential districts between sunset and 8 AM specified by the current Town of Wappinger Noise Code is expected to be exceeded near the east connection site with the construction of Project 1. However, under existing conditions the measured existing noise levels in the east of Hudson study area can exceed the Town of Wappinger Noise Code limits during the applicable time periods.

Construction of Project 1 would result in predicted exceedances of the CEQR impact noise guideline. These predicted incremental noise levels at the exterior of residences were up to 25 dBA above existing levels and are expected to occur primarily at residences adjacent to the east connection site. Based on the duration and magnitude of the predicted exceedances, there would be predicted temporary significant adverse noise impacts at ~~these locations~~ residential locations within the area shown in Figure 2.13-14. Furthermore, qualified residences that would be expected to experience interior noise levels that exceed the level considered acceptable by CEQR criteria during overnight periods as a result of construction of Project 1 would be eligible for receptor controls, such as windows and air conditioners, to bring interior noise levels within the acceptable range according to CEQR (see Appendix 2.19-2) ~~However, for locations where a predicted temporary significant adverse noise impact would occur near the east connection site, the interior $L_{10(1)}$ noise levels during construction of Project 1 would be acceptable (less than 45 dBA) with windows closed for the 11 PM to 7 AM period.~~

Therefore, no significant adverse public health impacts from noise in the east of Hudson study area are expected from Project 1 construction.

2.17-2.5 WATER SUPPLY USERS

During Project 1 construction, the Rondout-West Branch Tunnel (RWBT) would remain in operation at all times and would continue to provide high-quality, safe drinking water to New York City and upstate consumers. Therefore, there are no predicted temporary significant adverse public health impacts on water supply users during Project 1 construction.

An analysis of the potential impact on the water supply from stopping the flow of water through the RWBT and unwatering the tunnel so repairs can be made during the connection of the bypass tunnel is discussed in Chapter 4, “Probable Impacts of Project 2B—Bypass Tunnel Connection and RWBT Inspection and Repair, including Wawarsing.” *