



**Larimer County Analysis –
Technical Memorandum No. 15
Air Quality Impact and Mitigation Report**

Prepared for:
Larimer County

Prepared by:
**Northern Integrated Supply Project
Water Activity Enterprise**

February 2020

Memorandum

Date: February 17, 2020
To: Christie Coleman, Northern Colorado Water Conservancy District
From: Dustin Collins, Technical Group Manager Air Quality – Pinyon Environmental, Inc.
Project: Northern Integrated Supply Project
Subject: Larimer County 1041 Permit: Air Quality Management Plan

Introduction

The memorandum (memo) presents the Air Quality Management Plan (Plan) developed for the Northern Integrated Supply Project's (NISP or the Project) use in the NISP Water Activity Enterprise's (WAE) 1041 Permit application. In accordance with Larimer County Land Use Code requirements, the purpose of this Plan is to document the potential sources of air emissions, identify strategies for minimizing emissions, propose a plan to implement those strategies, and confirm all applicable state and federal requirements will be followed.

Project Overview

Northern Colorado Water Conservancy District (Northern Water), acting by and through the NISP WAE, has contracted Pinyon Environmental, Inc. (Pinyon), to provide environmental compliance services during the pre-construction phase of the Project. The Project will provide a new reliable water supply to Northern Colorado and consists of constructing the following in Larimer County:

- Glade Reservoir Complex, which includes Poudre Valley Canal improvements, and construction of the forebay area, the dam structure (including intake and release structures), a pump station, and recreation areas located adjacent to the new reservoir
- A realigned portion of U.S. Highway 287
- New pipeline conveyance systems, which include the Northern Tier, Poudre Intake, Glade Release, and County Line Alignments

The purpose of the Project is to meet a portion of the NISP Participants' (15 towns and water districts in Larimer, Weld, Morgan, and Boulder counties) current and projected future water supply needs. The overall goal of the Project is to provide 40,000 acre-feet of new, annual water to the NISP Participants.

This Plan only covers work associated with Glade Reservoir and NISP conveyance system in unincorporated Larimer County (Figure 1). Larimer County 1041 Permit Requirements do not apply to Colorado Department of Transportation (CDOT) highway relocations. As a result, the scope and effects of the realignment of U.S. Highway 287 will be evaluated per Larimer County requirements as a separate process.

8.11.1 - Applicability

The Larimer County, Land Use Code, 8.11 Standards for All Development – Air Quality Standards states that:

A. *"All subdivisions, conservation developments, planned land divisions, minor land divisions, special exceptions, special reviews, and site plan reviews must comply with air quality standards in this section."*

B. *“The county planning and health and environment departments will review air quality mitigation plans and recommend they be accepted or rejected prior to the public hearing process.”*

For reasons described below under 8.11.3, an air quality mitigation plan is not required to be developed.

8.11.2 – General

Section 8.11.2 General states:

“Developments must comply with all county, state, and federal air quality standards and must reduce potential emissions where feasible.”

The Project will be required to comply with state and federal air quality standards, the extent to which will be determined by the equipment used and activities during the construction and operations phases, along with the potential to emit that is expected to be calculated during both phases.

For example, the Colorado Department of Public Health and Environment (CDPHE), Air Pollution Control Division (APCD) will require submittal of Air Pollutant Emission Notices (APENs) to disclose potential emissions. The APEN emission levels will determine if permit applications are required to be submitted and issued permits are required to be maintained. Permit applications that could be applicable may require the Mining Operations APEN (Form APCD – 222), the General Permit 03 (GP 03) for Land Development Projects, the Engine APEN (Form 201), or some combination thereof. NISP will communicate with CDPHE APCD prior to and throughout the permit application process to be sure the applicable forms and required permit application package are completed for proper authorization.

Federal requirements may be applicable depending on equipment types, sizes, construction dates, and other parameters. For example, New Source Performance Standards (NSPS) Subpart JJJJ may be applicable if there are stationary internal combustion engines planned that are constructed after June 12, 2006. In that case the Project would follow required emissions limitations, stack testing requirements, and reporting specifications for any and all applicable engines.

This full state and federal applicability analysis will be completed as the dates of construction become closer and the full Project parameters are known.

8.11.3 – Minimizing Air Quality Impacts

Section 8.11.3.A specifies that an air quality mitigation plan is required for applicants for projects *“...involving more than 200 dwelling units, or more than 2,000 projected vehicle trips per day...”*

An air quality impact analysis was completed for the Project’s Final Environmental Impact Statement (FEIS) in June of 2018 to present potential to emit for applicable pollutants. The impact analysis includes expected Project parameters such as equipment types and Project phase durations. Predicted vehicle trips per day that will be needed during construction and operation were also included. Based on the values presented, the maximum amount of vehicle trips per day for the proposed Project is estimated to be 1,126 which is well below the 2,000 trip threshold for requiring the air quality mitigation plan. That value is considered a conservative estimate because it is unlikely all areas and phases of construction could potentially have maximum truck trips occurring on the same single day. Additionally, some of those truck trips would take place outside of Larimer County, but are included here for simplicity of the analysis.

Based on that information, this submittal does not include the development of a separate air quality mitigation plan.

Section 8.11.3.B requires that this “*air quality management plan must identify potential sources of air emissions, identify possible strategies for minimizing emissions and propose a plan for implementing those strategies. The strategies must include those methods that are available, feasible, and economically reasonable.*”

Potential Sources of Air Emissions

Potential air emissions will result from construction activities, with sources such as:

- On road vehicle traffic exhaust
- On road vehicle traffic fugitive dust
- Construction vehicle equipment exhaust
- Construction vehicle equipment fugitive dust
- Wind erosion

Potential air emissions will also result from long-term operation of the Project, with sources such as:

- Biogenic sources from microbial decomposition
- Fugitive dust from exposed shoreline
- Exhaust from recreational activities, including travel to and from the Project site
- Indirect emissions from electrical pumping sources

Strategies for Minimizing Emissions

Emissions minimization and control measures are required by CDPHE for various equipment and phases of construction activity. The Project will comply with CDPHE emissions requirements that are applicable to the Project.

Examples of fugitive dust control measures include:

- Watering or treating with chemical dust suppressant roadways, storage piles, and loaded trucks
- Covering loaded haul trucks
- Limiting size of both loaded and unloaded haul vehicles
- Limiting speed traveled for all vehicles traveling unpaved roads
- Washing and/or treating the exterior of haul trucks

CDPHE requires methods to limit fugitive dust from surfaces that have had land disturbance on them. Practices include planting vegetation cover, installing synthetic cover, compacting soil, and watering or chemically suppressing loose dirt.

The Project will minimize non-road vehicle (construction vehicle) exhaust by using or converting portions of the construction vehicle fleet to newer model engines that are expected to be more fuel efficient and require less overhauling and maintenance. Some of the engines in the construction fleet would be expected to meet Environmental Protection Agency (EPA) nonroad Tier 4 standards. As stated in the FEIS, Nitrogen Oxides (NO_x) emissions can be reduced significantly if even a portion of the construction vehicles meet Tier 4 standards. The FEIS emission calculations make the assumption that there will be a 75% NO_x reduction from vehicle exhaust emissions.

Strategy Implementation

Implementation of the above control measures will be done at various phases of the Project. The main strategy is for the Project to develop air management plans that will be followed where appropriate. For example, the fugitive dust control plan will present the control measures to reduce fugitive dust, the timing for implementation of those measures, and the methodology for how they will be done. All personnel working on the Project will be required to follow the fugitive dust control plan throughout the duration of the Project.

Compliance with vehicle exhaust standards will be done through informing those involved with the planning of vehicles on-site of those standards. For example, when requests for proposals (RFP) are issued to those working on the Project, the RFP will require any responders to confirm with their scope submitted that they understand how to comply with exhaust standards.

8.11.4 – Fugitive Dust During Construction

Section 8.11.4.B states *“Developments must comply with the following standards: 2. If a development disturbs more than 25 acres or exceeds six months in duration, state air quality regulations require a fugitive dust control plan; an air pollution emissions notice; and a permit from the CDPHE. For proposals in this category, a fugitive dust control plan must be submitted with the final plat or site plan application, and a state permit must be obtained prior to construction activity.”*

As identified in 8.11.2 above, it is expected that the Project will be required to submit APENs and evaluate permitting thresholds for CDPHE APCD compliance prior to any construction activity. It is also expected that the Project will exceed CDPHE thresholds of 25 acres and the six-month duration requiring the development of a fugitive dust control plan. The fugitive dust control plan will be developed under the timing required by CDPHE, which is expected to be during the permit application process. In accordance with the requirements under this standard, the fugitive dust control plan will be submitted to Larimer County to have on file.

8.11.5 – Compliance with Air Pollution Control Regulations

Section 8.11.5.A states *“In Colorado, land uses with the potential to emit air pollutants above certain defined thresholds must report those potential emissions and obtain an air emission permit...”*

Section 8.11.5.B states *“Developments that have emission sources regulated under state regulations must submit the following documentation regarding control of air emissions: 1. An air pollutant emission notices..., and 2. A Colorado Air Emissions Permit. This permit must be submitted prior to operating the facility.”*

As discussed in sections above, the Project will comply with all applicable CDPHE APCD air quality regulations in a manner consistent with state guidelines prior to the construction and operation of the Project. Any air permit that is obtained through CDPHE APCD would be submitted to Larimer County to have on file prior to operations.

Conclusions

The efforts summarized in this Plan have been designed to inform the County of potential air quality impacts from the Project, and detail how air quality emissions will be managed. NISP will comply with all applicable air quality standards and will follow through with all mitigation commitments provided herein and in other relevant Project documents.

Figure 1



U.S. Highway 287
Realignment

Glade Reservoir
170,000 acre-feet

Galeton Reservoir
45,600 acre-feet

Horsetooth Reservoir

NISP Delivery Pipeline

Galeton Pipeline



Wellington
Poudre Valley Canal

Fort Collins

Loveland

Ault

Larimer & Weld Canal

Severance

Windsor

New Cache Canal

Greeley

Cache la Poudre River

Big Thompson River

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