

**Susitna-Watana Hydroelectric Project  
(FERC No. 14241)**

**Air Quality Study  
Study Plan Section 15.9**

**Part D: Supplemental Information to  
June 2014 Initial Study Report**

Prepared for

Alaska Energy Authority



**SUSITNA-WATANA HYDRO**

*Clean, reliable energy for the next 100 years.*

Prepared by

HMMH

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## 1. INTRODUCTION

Section 1 (Part A) of the June 2014 ISR for this Air Quality Study (Study Plan 15.9) details the development of this study from the Revised Study Plan (RSP) in 2012, through the end of the 2013 study season. Section 7 of the ISR (Part C), filed in June 2014, sets forth AEA's plan and schedule, at that time, for completing this study and meeting the objectives of the RSP.

As detailed in Section 2.2 of the ISR Part D Overview, various circumstances have required AEA to extend the original timeframe for completing the Commission-approved Study Plan. However, AEA has completed Study 15.9 since the filing of the ISR in June 2014. As detailed below, AEA's recent activities for Study 15.9 have consisted of the following:

- On October 23, 2014, AEA held an ISR meeting to discuss the results and status of the Air Quality Study.
- The study team reviewed and summarized on-site meteorological data collected at the Watana Dam site and two nearby locations.
- The study team updated the climate and meteorology table to reflect the most recent (i.e., 2014) meteorological data collected from nearby weather stations.
- The study team updated ambient air quality monitoring tables to reflect the most recent three-year (2012 to 2014) ambient air quality data collected from nearby Alaska Department of Environmental Conservation (ADEC) and National Park Service (NPS) monitoring locations.
- The study team reviewed and incorporated relevant information from the AEA Engineering Feasibility Report into the Project emissions qualitative discussion.
- The study team reviewed and summarized recent dust control research conducted by the Alaska Department of Transportation and Public Facilities, (ADOT&PF) Research, Development & Technology Transfer and the Alaska University Transportation Center for inclusion in the Best Management Practice section.
- The study team completed the Study Completion Report in November 2015.

The primary purpose of this Part D Supplemental Information to the ISR is to report on the implementation of the Study Plan from the filing of the ISR in June 2014, through the filing of this ISR Part D. In light of this additional implementation, AEA has now completed Study 15.9 in a manner that meets the objectives of the Commission-approved Study Plan.

## 2. BACKGROUND

### 2.1. Purpose of Study

The goal of the air quality study is to ensure that the proposed Project does not violate National Ambient Air Quality Standards (NAAQS) per 40 CFR Part 50 and state air quality standards in

Alaska Administrative Code (AAC) 18 AAC 50 (under the authority of Alaska Statutes [AS] 46.03 and 46.14).

The study objectives are established in RSP Section 15.9.1:

- Assess the current conditions of the area against applicable state and national air quality standards.
- Review and summarize existing air monitoring data in the area.
- Determine attainment status of the study area (i.e., unclassifiable/attainment, non-attainment, maintenance).
- Quantify short-term (construction) and long-term (operational) emissions.
- If applicable, analyze ground-level impacts using air dispersion models.
- If applicable, evaluate indirect mobile source emissions from additional traffic generated.
- Compare Project emissions to the Without-Project alternative.
- Evaluate potential emission reductions from Railbelt fossil-fuel utility plants if the Project is operating.
- Develop information to be used in the identification of potential mitigation measures, if necessary, to reduce emissions during construction.

## 2.2. Study Components

This study consists of the following components:

- Document existing conditions.
- Estimate Project emissions.
- Summarize baseline fossil fuel generation emissions.
- Analyze and compare With-Project emissions to Without-Project emissions.
- Identify best management practices.

## 3. STATUS, HIGHLIGHTED RESULTS, AND ACHIEVEMENTS

The following tasks were completed in 2013 and reported in Part A of the June 2014 ISR for Study 15.9:

- Documented existing conditions using meteorology, climate and air quality monitoring data from nearby air monitoring and meteorological stations.
- Estimated Project emissions qualitatively for construction emissions.

- Summarized Baseline Fossil Fuel Emissions from Railbelt facilities.
- Analyzed and compared With Project Emissions to Without Project emissions.
- Identified Best Management Practices based on a review of EPA guidance for reducing diesel exhaust emissions as well as controlling fugitive dust during construction activities.

The study team has completed the following activities for Study 15.9 since the June 2014 filing of the ISR:

- Reviewed and summarized on-site meteorological data collected by AEA at the Dam site and two nearby locations.
- Updated the climate and meteorology table to reflect the most recent (i.e. 2014) meteorological data collected from nearby weather stations.
- Updated ambient air quality monitoring tables to reflect the most recent three-year (2012 to 2014) ambient air quality data collected from nearby ADEC and NPS monitoring locations.
- Reviewed and incorporated relevant information from the AEA Engineering Feasibility Report (MWH, 2014) into the Project emissions qualitative discussion.
- Reviewed and summarized recent dust control research conducted by ADOT&PF Research, Development & Technology Transfer and the Alaska University Transportation Center for inclusion in the Best Management Practice section.

#### 4. SUMMARY OF STUDY 15.9 DOCUMENTS

Since filing of the RSP in 2012, AEA and FERC have prepared several documents pertaining to this study. To aid review by FERC staff and licensing participants, each of these documents is listed below. Each of these documents is accessible on AEA's Project licensing website (<http://www.susitna-watanahydro.org/type/documents/>) by clicking on the entry in the "Link" column in the table. In addition, these documents are available on FERC's eLibrary system (<http://www.ferc.gov/docs-filing/elibrary.asp>), in Docket No. P-14241.

| Title  | Date       | Description  | Link                                     |
|--|------------|--|--|
| 15.9. Air Quality Study (Revised Study Plan) | 12/14/2012 | This document presents the plan this study, including goals, objectives, the study area, and proposed study methods for the air quality study. | <a href="#">RSP for Study 15.9</a>       |
| FERC Study Plan Determination for Study 15.9 | 2/1/2013   | This document presents FERC approval of Study 15.9, which approved AEA's Revised Study Plan with no recommended changes.                       | <a href="#">FERC SPD for Study 15.9</a>  |
| Draft Initial Study Report for Study 15.9    | 2/3/2014   | This draft of the ISR summarized the study methods and variances during the  | <a href="#">Draft ISR for Study 15.9</a> |

| Title   | Date       | Description   | Link  |
|---|------------|---|---|
|   |            | 2013 study season, and presented preliminary data collected for Study 15.9. This draft ISR was later republished as Part A of the final ISR.  |   |
| Initial Study Report for Study 15.9                             | 6/3/2014   | This document is the Initial Study Report (Parts A, B and C) for Study 15.9. Part A republishes the Draft ISR. Part B identifies supplemental information and errata in Part A. Part C presents study modifications and plans for completing the study. | <a href="#">ISR Part A for Study 15.9</a><br><a href="#">ISR Part B for Study 15.9</a><br><a href="#">ISR Part C for Study 15.9</a> |
| Initial Study Report Meetings, October 23, 2015 (Parts A and B) | 11/15/2014 | Transcripts and AEA's agenda and PowerPoint presentations for the ISR meeting concerning Health Impact Assessment filed by AEA.   | <a href="#">Transcripts from ISR Meeting</a><br><a href="#">Materials from ISR Meeting</a>  |
| Air Quality Study (15.9) – Study Completion Report              | 11/6/2015  | Study Completion Report: a summary of field results in 2013-2014.   | <a href="#">SCR for Study 15.9</a>  |

## 5. NEW STUDY DOCUMENTATION SUPPLEMENTING THE ISR

The following table identifies and describes additional reports and other documents that update, refine, or otherwise supplement certain sections of the ISR pertaining to this Study 15.9, during AEA's continued implementation of the Study Plan since the ISR was filed in June 2014.

| ISR Reference     | Description   |
|-------------------|---|
| Part A, Section 4 | This Section is updated and supplemented by the Study Completion Report Section 4, describing 2013-2014 study plan implementation.                |
| Part A, Section 5 | This section is updated and supplemented by the Study Completion Report Section 5, describing the results of 2013-2014 study plan implementation. |

## 6. VARIANCES

### 6.1. 2013 Study Season

The following variance is reported in the June 2014 ISR:

- The quantitative analysis of future emissions associated with Project Construction was deferred in 2013.

### 6.2. 2014 Study Season

The following variances occurred following the filing of the June 2014 ISR.

- The June 2014 ISR discussed deferring the quantitative analysis of future emissions associated with Project construction until more specific data from the Engineering Feasibility Report was available. Quantitative analysis requires much more specific and detailed equipment use information than provided in the Engineering Feasibility Report, including but not limited to specific types and number of equipment, duration of activity, engine types, and specific levels of vehicle, aircraft and rail operations. AEA has instead provided a qualitative assessment of Project-related emissions in Section 5.2 of the Study Completion Report.

## **7. STUDY PLAN MODIFICATIONS**

### **7.1. Modifications Identified in ISR**

As detailed in Section 7 of the ISR (Part C), AEA identified no modifications of the methods for this study.

### **7.2. Modifications Identified since the June 2014 ISR**

The following modification, added after the June 2014 ISR and prior to the 2014 field season, was implemented during the 2014 field season:

- Quantitative analysis requires much more specific and detailed equipment use information than provided in the Engineering Feasibility Report, including but not limited to specific types and number of equipment, duration of activity, engine types, and specific levels of vehicle, aircraft and rail operations. AEA has instead provided a qualitative assessment of Project-related emissions as discussed in Section 5.2.

## **8. STEPS TO COMPLETE THE STUDY**

The field work, data collection, data analysis, and reporting for this study successfully met all study objectives in the FERC-approved Study Plan. In light of the results, variances, and modifications described above, AEA has completed this study.