

122.21(r)(10) Comprehensive Technical Feasibility and Cost Evaluation Study for Kahe and Waiau Power Plants



Project Summary

ALDEN is part of a Team contracted by Electric Power Research Institute to develop the §122.21(r)(10) Technical Feasibility and a Cost Evaluation Study at two Hawaii Electric Company (Hawaii Electric) power plants (Kahe and Waiau). This study explores intake technology options for meeting the entrainment best technology available standards at both sites.

Client

Hawaii Electric Company (HECO)

Location

Kahe and Waiau Generating Stations
Kapolei and Pearl City, HI

Year

2016

FOR MORE INFORMATION,

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Project Overview

Hawaii Electric Company (HECO) requested the § 122.21(r) in order to assess their Kahe and Waiau Power Plants in regard to 316(b) compliance. The core 122.21(r) studies (2,3,4,5, and 8) had already been completed for these facilities, so Alden was tasked with completing the rest (10, 11, 12). Under the rule, all facilities that withdraw more than 125MGD an engineering study of the technical feasibility and a cost evaluation study under 122.21(r). This involved analyzing the impact of implementing fine-mesh modified traveling water screens (TWS) and narrow-slot wedgewire screens as viable options to reduce entrainment and providing guidance on which course of action would be best.

Work Performed

Following a review of existing conditions at each power facility, Alden completed the 122.21(r) studies for HECO's Kahe and Waiau Power Plants which explored the best avenues for compliance under 316(b) in respect to technical and financial feasibility. Much information for the r(2,3,4,5,8) reports was already compiled, so the main focus was to complete the (r(10, 11, 12)) reports. These take the technologies previously identified as the best courses of action and analyze them for technological and cost feasibility, biological efficacy, and other environmental impacts. Alden completed these tasks for each facility, exploring each avenue of compliance to a fine scale, taking into account factors such as biological effectiveness and permitting, and the entire process was detailed in a comprehensive report.

Project Highlights

- Alden completed a 122.21(r) study for Kahe and Waiau Power Plants for HECO, which involved a technical, biological, and cost analysis of modifications needed for compliance under 316(b).
- Alden provided analysis and consulting on the most feasible direction for both the Kahe and Waiau facilities.