# CANDELARIA HYDROELECTRIC PROJECT
# DESIGN AND COMMISSIONING

The Candelaria Hydroelectric Project is a new 4.5 MW project located near Senahu, Guatemala. The project diverts water into an 8-foot-diameter horseshoe-shaped tunnel (1300 feet long) after it has passed through the existing 16 MW Secacao Powerhouse. The water is then transitioned into a 48" diameter (ID) (1219 mm) penstock where it flows under pressure to the Candelaria Powerhouse located on the bank of the Candelaria River. The project has approximately 137 meters of gross head, and a maximum flow rate of 3.8 cubic meters per second. The length of the penstock is approximately 731 meters. The owner of the project is Hidroelectrica Candelaria, S.A.

EES Consulting's scope of work included project management, engineering final design, final construction drawings, specifications and contracting documents, services during construction to assist with getting the project built; review of design drawings and calculations prepared by others, and commissioning assistance. During construction, EES Consulting provided bidding assistance, limited construction inspection, production of O&M manuals, and review of contractor submittals, as well as start-up and testing assistance services. EES Consulting prepared contracts for: supply, supervision of installation, start-up and testing of turbines, generators, auxiliary equipment, switchgear, controls and main transformer; supply of the penstock; design, supply and installation of switchyard, transmission line and communications cables; and the general construction contract. Jack Snyder assisted the owner during startup and commissioning and provided operator training. The project began commercial operation in June 2006.

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