

Monitoring flare stack burnout

APPLICATION A121

Type of Company: Public Utility

Location: Washington State

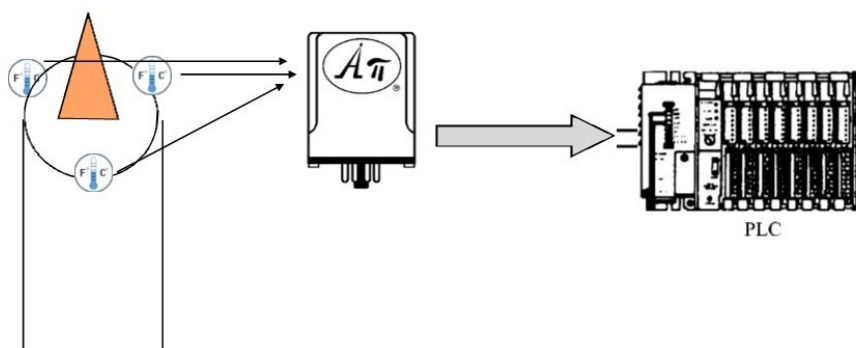
A gas flare, alternatively known as a flare stack, is a gas combustion device used in industrial plants such as petroleum refineries, chemical plants, and natural gas processing plants. Flare stacks are primarily used for burning off flammable gas released by pressure relief valves during unplanned over-pressuring of plant equipment. During plant or partial plant startups and shutdowns, flare stacks are also often used for the planned combustion of gases over relatively short periods.



By Varodrig -Ula platform, Wikimedia Commons

The Engineering Issue

- The engineer has to add local indication and a PLC for logging and alarm notification functions to the current burn-off flame monitoring system on an emissions flare stack.
- They currently use 3 individual thermocouples each displaced by 120° and connected to three separate chart recorders. This configuration is due to the wind causing the flame to lean away from the stack.



API built a custom-modified API 4130 G L unit which removed the burnout detection circuitry so there is no conflict with the burnout detection current from the current chart recorders. The API engineering team also recommended the customer get the EXTSUP option, since the Allan Bradley SLC500 PLC the customer is using requires a single-ended input instead of a differential input.

Problem. Solved.