

# S-80-02-A High Energy Spark Igniter

## Case Study

### Background

Project Name: Carbon II Coal Power Plant Station, Mexico, 4 x 350MW

Owner: Comisión Federal de Electricidad (CFE)



Boiler: Mitsubishi/Foster Wheeler

### Situation

The Carbon II Power Plant in Mexico consist of 2 x 350 MW Front Fired and 2 x 350 MW Tangentially fired boilers. Each boiler consists of 20 burners, igniting heavy oil and coal. To prevent fuel build up inside a boiler, all power plants are dependent on their ignition system to include a reliable High Energy Spark Igniter also known as HESI.

### Challenge

For an igniter to reliably combust the fuel, it is crucial to select a product that can deliver the appropriate amount of power and spark rate. At the Carbon II Power Plant, heavy fuel oil is utilized in its oil guns to ignite the main coal burners. To ignite heavy fuel oil, high energy delivered at a moderate to high rate of spark is necessary.

When it came time to upgrade igniter power packs at the plant, the first option the end users considered was to replace like for like. However, the end user was looking for a HESI with better performance and a lower cost. That's when Safe-Fire was challenged to provide an alternative product that can perform in their demanding HFO application.

## Solution

Utilizing 20 years of experience in servicing the combustion industry, Safe-Fire not only accepted the challenge, we committed to deliver a HESI product that provides enhanced spark performance at a price well below the competition. Utilizing the end user's key requirements as the guide for a solution, Safe-Fire engineered a new solid state HESI known as the S-80-02-A. A HESI that delivers 33 Joules of stored energy at 15 Sparks Per Second, efficiently igniting heavy oil.

## Result

Safe-Fire's newly developed solid state HESI provided:

- Superior spark performance
- Cost savings – Approximately 20% per unit
- Custom solution to a specific problem

