

Case study

Power Station Upgrade

France

Project Summary

Project: Refinery Modernization
Application: Gas Turbine Starter System
Turbine size: 1650 kW

Nidec's Role

Nidec Industrial Solution was selected to engineer and install a plug-and-play starter system for the gas turbine in a refinery's power station. The custom solution included a driver, cabling and other starter components that had been pre-configured off-site in a compact, modular container.



The challenge:

Designing a new gas turbine starter system for a power station located on a constrained site

Constructed in the 1930s and expanded two decades later, one of France's largest refinery complexes is also among its oldest. With a refining capacity of 210,000 barrels a day, the refinery underwent a modernization program in recent years to bring its health and safety features and control technologies up to contemporary standards.

This program included replacing the gas turbine starter system in the refinery's power station, with the goal of lowering emissions, reducing energy consumption and improving turbine startup efficiency.

Finding a space for the new starter system, however, would present a challenge. Added after the original power station's construction, the gas turbine already took up considerable space, and its existing starter was located in a difficult-to-access site.



The solution:
A containerized starter system

Nidec Industrial Solutions responded with a starter system that would respond rapidly, efficiently and reliably to load changes at the gas-powered power station. Designed to enable the turbine to ramp up or down quickly, the new starter improves the turbine performance while also minimizing fuel consumption.

To minimize installation time and costs, Nidec Industrial Solutions's solution was engineered to fit within the power station's existing footprint – and without modifying its existing layout. The driver, cabling and other starter components were configured in a compact, modular container that Nidec Industrial Solutions engineered to fit into the only space available on the site's footprint.

Because the complete system could be built and tested off-site prior to installation, this plug-and-play solution reduced installation time and costs as well. After it was delivered to the site, it needed only to be attached to a base plate and connected to the turbine, and it was ready to operate.

System components supplied by Nidec Industrial Solutions

- 1650kW starter for Gas Turbine GE-6FA

