

KSTRONG[®]
UNRIVALED SAFETY.

KS GROUP

CASE STUDY

**23.3-MEGAWATT (MW)
DIESEL POWER PLANT**



VERTICAL LIFELINE SYSTEM FOR DIESEL TANK FARM

AFF7000 VERTICAL WIRE LIFELINE SYSTEM

PROJECT CASE STUDY

Client : 23.3-Megawatt (MW) Diesel Power Plant, Cebu, Philippines
Industry : Power Generation
Project name : Installation of Vertical Lifeline System for Diesel Tank Farm
Products used : AFF7000 Vertical Wire Lifeline System (installed on tank farm ladders)
Installed and Supervised By : KStrong Certified Installer - Top-Rigid Industrial Safety Supply Incorporated.

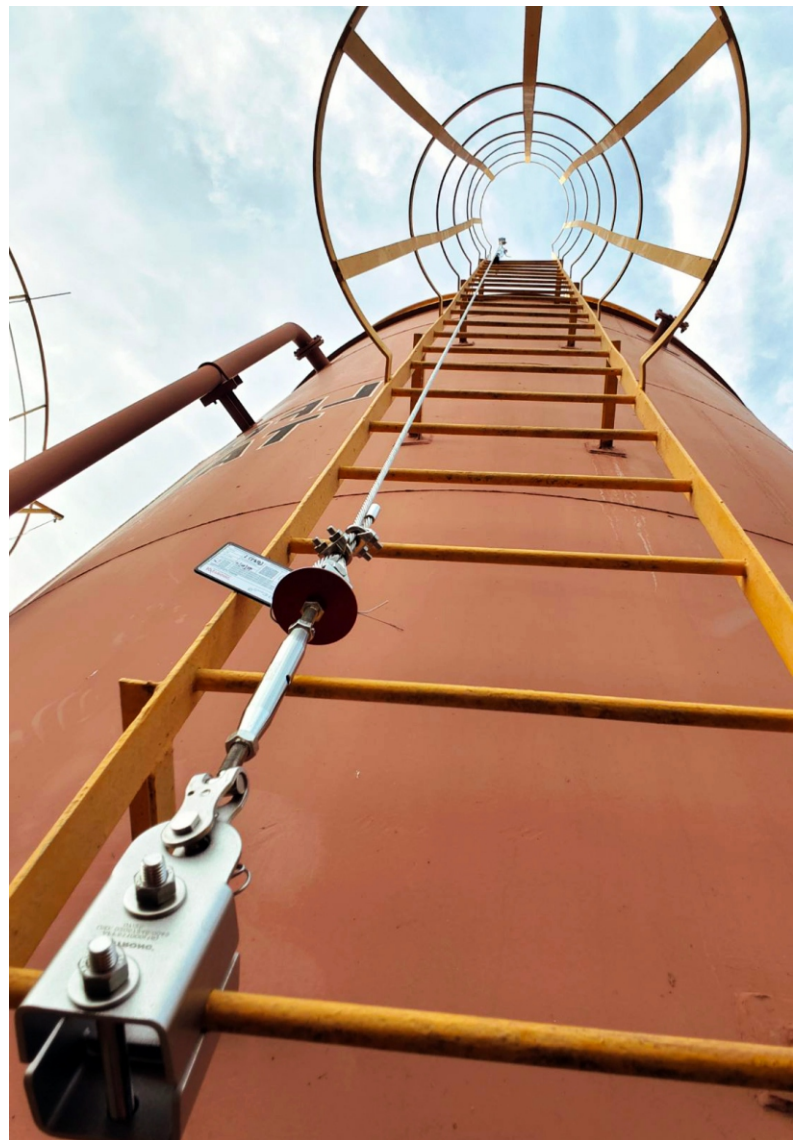
Background

The client operates a **23.3-megawatt diesel power generation facility located in Cebu, Philippines**. The power plant plays a critical role in ensuring reliable electricity supply, making operational safety and compliance a top priority. Central to the plant's operation is its diesel tank farm, which stores fuel essential for continuous power generation.

Routine inspection, monitoring, and maintenance activities are conducted on the diesel tank farm to ensure fuel integrity, operational efficiency, and environmental safety. These activities require maintenance and operations personnel to frequently access elevated areas using fixed ladders installed on the diesel storage tanks.

Historically, the ladders were equipped with ladder cage systems. However, evolving **global safety standards and regulatory updates—specifically OSHA Standard 1910.28**—have rendered ladder cages insufficient for fall protection on newly installed or modified ladder sections. Under this regulation, ladder cages are no longer accepted as a primary means of fall protection, and ladder safety systems or personal fall arrest systems are now required.

To align with these updated requirements and pro-actively reduce fall hazards, the client initiated a safety upgrade project focused on **improving fall protection for personnel working at height within the diesel tank farm**.



Client Requirement

The client identified the need for a **comprehensive, long-term fall protection solution** that would address regulatory compliance, worker safety, and operational practicality. The key requirements included the following:

Regulatory Compliance

- Achieve full compliance with OSHA Standard 1910.28 for fixed ladders, particularly for ladder sections that had been replaced or modified.
- Eliminate reliance on ladder cages and transition to a compliant ladder safety system recognized under international safety standards.
- Enhanced Worker Safety
- Provide continuous fall protection for personnel climbing and descending diesel tank farm ladders.
- Minimize the risk of severe injuries resulting from slips, missteps, or loss of balance during routine inspections and maintenance activities.

Operational Efficiency

- Implement a system that allows smooth, uninterrupted climbing without restricting movement or slowing down daily inspection tasks.
- Ensure the solution is suitable for frequent and repetitive access, as inspections are part of routine plant operations.
- Certified and Reliable System
- Use a certified vertical lifeline system designed specifically for industrial and power generation environments.
- Ensure the system meets recognized international safety and quality standards.
- Durability and Environmental Resistance
- Install a solution capable of withstanding outdoor exposure, fuel facility conditions, and long-term use with minimal maintenance requirements.
- Ensure long service life and consistent performance under demanding operating conditions.



KStrong Solution

KStrong proposed and implemented the **AFF7000 Vertical Wire Lifeline System on the 9 diesel tank farm ladders**, providing a modern, compliant, and highly reliable ladder safety solution.

The AFF7000 system is designed to provide **continuous vertical fall protection for workers accessing fixed ladders**. It consists of a guided cable lifeline and a fall arrester that travels smoothly along the cable as the user climbs. In the event of a slip or sudden movement, the fall arrester automatically locks onto the cable, arresting the fall and significantly reducing the risk of serious injury.

KStrong's installation approach ensured seamless integration with the existing ladder structures while minimizing disruption to ongoing power plant operations. The **system effectively replaced 9 ladder cages as the primary fall protection method**, fully aligning with OSHA 1910.28 requirements.

Key Benefits Delivered

- Continuous fall protection during ascent and descent on tank farm ladders
- Improved worker confidence and safety during inspections and maintenance
- Compliance with international safety and regulatory standards
- Durable and corrosion-resistant components suitable for industrial environments
- Minimal impact on daily operations and inspection schedules

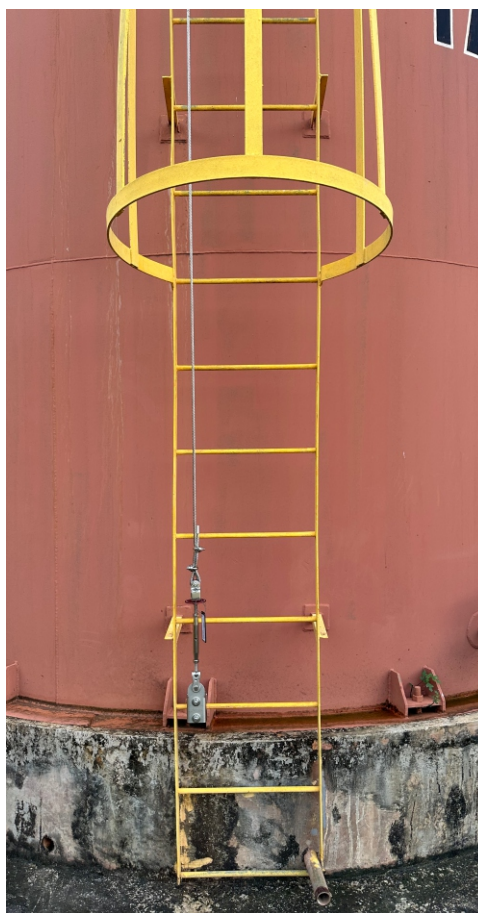
Results and Impact

Following the installation of the AFF7000 Vertical Lifeline System, the client achieved **improved compliance with safety regulations and significantly enhanced fall protection for workers operating at height**. Maintenance personnel can now **perform routine inspections with increased confidence**, knowing they are continuously protected against fall hazards.

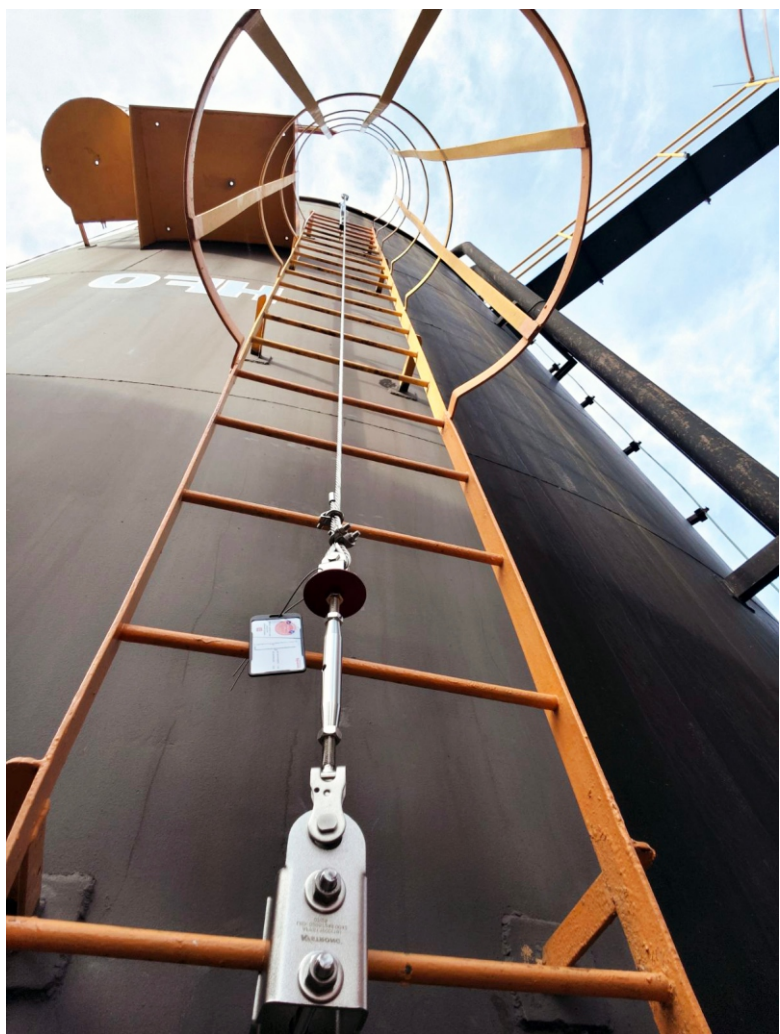
The project reinforced the client's commitment to workplace safety, regulatory compliance, and proactive risk management—key factors in ensuring uninterrupted power generation and workforce well-being.

About KStrong

The founders of KStrong have been successfully manufacturing personal protective equipment globally for over 25 years. With the support of a large team of highly experienced research and product development specialists along with global manufacturing facilities, KStrong is poised to become the preeminent brand of choice for personal protective safety products. KStrong takes pride in assuring careful measures to ensure all products meet applicable government codes and professional standards, such as EN, AS/NZS and ANSI. We look forward to helping your company protect its most valued possession, its workers!



Project Gallery





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