



# CASE STUDY

## *Performance Evaluation of GigaTorque GX™ Timing Belts in Fin Fan Applications*

### **GigaTorque GX™**

**Company Name**

Vistra Corp

**Industry**

Power Generation

**Location**

Texas

**Application**

Fin Fan Systems, 50 units



## Overview

At a Vistra Corp power generation facility in Texas, maintaining consistent performance across fin fan systems had become a persistent challenge. The operation relied on Poly Chain® GT™ Carbon™ belts that required frequent adjustment, leading to increased maintenance demands and operational inefficiencies. With approximately 50 fin fans in operation, these issues compounded over time, creating a significant maintenance burden, along with increased downtime and labor costs.

## Key Challenges

- High-heat operating conditions
- Constant re-tensioning requirements
- Ongoing maintenance demands
- Increased downtime and labor costs

# The Solution

MBL (USA) Corporation introduced the Mitsubishi GigaTorque GX™ 200G14M3850 timing belt as a direct replacement solution.

To validate performance, the facility conducted a structured, two-year side-by-side evaluation under real operating conditions:

- GigaTorque GX™ vs. Poly Chain®GT™Carbon™ comparison
- Two sets of fin fans were tested simultaneously
- 30 belts evaluated per manufacturer

The GigaTorque GX™ timing belt demonstrated superior performance in high-temperature conditions, eliminating the need for frequent re-tensioning while maintaining consistent operation.



Overhead view of fin fans systems at the Vistra Corp energy facility.



The Mitsubishi GigaTorque GX™ timing belt, developed for optimal power transmission, integrates high-tensile carbon fiber, a proprietary H-NBR rubber compound, and specially treated nylon tooth fabric. Prioritizing strength and flexibility has resulted in a narrower belt width, enhancing machinery performance through space efficiency and reduced weight. Additionally, the GigaTorque GX™ ensures remarkable lightness and quiet operation. These attributes enable it to replace metal chains.

**Rubber:**  
H-NBR

**Cord:**  
Carbon Fiber

**Tooth Fabric:**  
Special Nylon

**Temp Range:**  
-4° to 212°F

## CHARACTERISTICS

- ▶ Outstanding power transmission
- ▶ Compact design
- ▶ High-speed drive
- ▶ Reduced maintenance frequency
- ▶ Enhanced noise reduction
- ▶ High-temperature resistance
- ▶ Weather resistant

## PROFILE & RANGE

Measurements in mm

Profile	Tooth Height	Belt Thickness	Pitch	No. Teeth	Range
G8M	3.5	6.10	8	80-560	640-4480
G14M	5.6	9.8	14	71-315	994-4410

# The Results

The results were clear and measurable. By eliminating the need for routine re-tensioning, maintenance activity was significantly reduced across all fin fan systems. During the two-year trial, 30 belts per manufacturer were evaluated across two fan sets, with GigaTorque GX™ demonstrating consistent performance in high-heat conditions. Following the trial, the facility transitioned fully to GigaTorque GX™, replacing Poly Chain®GT™Carbon™ belts across all 50 fin fans.

- Eliminated routine re-tensioning
- Reduced maintenance labor
- Lower replacement frequency and costs
- Proven in a two-year side-by-side trial

# Summary

By switching to GigaTorque GX™ belts, the Vistra Corp power generation facility eliminated routine tensioning requirements and reduced maintenance demands across 50 fin fan systems operating in high-heat conditions. The successful two-year evaluation supported a full facility-wide conversion and positioned the solution for expansion across additional sites.

*Poly Chain®GT™Carbon™ is a registered trademark of the Gates Corporation*



**MBL (USA) CORPORATION**  
601 Dayton Road • Ottawa, IL 61350  
Toll Free: 1-877-625-7832  
mblusa.sales@mitsuboshi.com  
[www.mblusa.com](http://www.mblusa.com)