Wind Service Division
One Standard for Safety, Quality & Repairs
- Across North America
Experienced engineering with a complete toolbox

IPS applies hundreds of years of collective engineering experience to your reliability challenges, drilling down into the root causes of failure with state-of-the-art technologies.

IPS ENGINEERING

The reliability power generation requires

IPS delivers custom-engineered solutions for electric motor and generator reliability. Our Wind Service Division provides service and repair, manufacturing and distribution to solve complex operating problems other companies can’t.

IPS WindGuard™ — New Class H rewind comes with 60-year log life aging curve

WindGuard™ is the rewind wind power can’t kill. The new electric insulation system redefines wind turbine reliability, with the dielectric strength to prevent standard failure modes and the assurance of a five-year warranty.

Test results set a new industry standard benchmark

- Surge test @ 10 PU - 40 kV, 0.2 µs rise time without failure
- AC hi-pot to 10x designed voltage, 17.5x operating voltage
- Voltage endurance greater than 5x phase voltage without failure

IPS WindGuard™

WindGuard tests like a high-voltage rewind and comes with a five-year warranty.
IN-SHOP REPAIR SERVICES

We attack failure modes in electric motors and generators — eliminating the root causes of repeat events and unplanned downtime inside the nacelle. Whether we repair or replace, our goal is to make your rotating assets more reliable.

IPS in-shop repair services for wind turbines include:

**Electrical repair**
- Wind generators up to 3+ MW
- Pitch and yaw motors, cooling fans and pumps
- Electronic boards

**Mechanical repair**
- Wind turbine main shafts
- Slip rings
- Heat exchangers

For a complete list of IPS in-shop repairs for wind power, visit [https://www.ips.us/wind-power](https://www.ips.us/wind-power)
UP-TOWER SERVICES
IPS leads the wind power industry in up-tower service

Commitment to safety
We maintain an active commitment to a safe work environment, with a dedicated Health, Safety and Environmental Manager overseeing one safety standard for all IPS locations across North America.

IPS field service technicians maintain certification in up-tower safety and our corporate policy is to exceed all federal and state safety regulations — for an Experience Modification Ratio well below the industry average.

Industry-leading experience and capabilities
IPS field service technicians do more repair work up-tower, to minimize your downtime and lost revenue. They handle heavyweight couplings, end bells and slip rings, and do precision machining inside the nacelle.

We know and service every brand and size of wind turbine, delivering one standard for safety, quality and repairs across North America.
Complete North American coverage

Our coast-to-coast footprint means shorter response times for service. IPS maintains a nationwide, rapid-response truck fleet, fully equipped for work on-site and up-tower.

Every IPS service center has its own fleet for on-site pickup and delivery, so we can meet the crane at tower — reducing downtime and generator handling.

Field services + engineering

IPS has the predictive and preventive maintenance your wind turbine fleet needs, with experienced technicians using state-of-the-art diagnostics on-site to consult with IPS engineers across the country.

IPS up-tower technicians work closely with our engineers to apply diagnostics and analytics, drilling down into root cause analysis. We solve problems such as torsional resonance and flexure modes, and perform pre-end of warranty inspections to detect and address failure modes.

IPS up-tower repair services for wind turbines include:

**Electrical repair**
- Wye ring testing and replacement
- Doble® Testing
- Motor Circuit Evaluation (MCE)

**Mechanical repair**
- Wind turbine main shafts
- Change outs — rotor leads, bearings and slip rings
- Field machining

**Predictive/preventive maintenance**
- Laser alignment
- Motion Amplification
- Thermography

For a complete list of IPS up-tower services for wind power, visit https://www.ips.us/wind-power
We engineer, repair, replace or remanufacture to minimize downtime and help you keep your run-time commitments. Our coast-to-coast service centers and strategic warehousing maintain inventories, so you don’t have to tie up capital.

IPS has master distributor agreements with leading OEMs and our engineers work with OEM-level manufacturing capabilities.

This is a short list of wind power parts and motors IPS has in stock:

- Generator and gearbox components
- Bearings — Steel, Insocoat and ceramic
- Replacement motors — pitch, yaw, cooling pump and all metric motors
- Generator couplings
- Pitch control battery packs
- Encoders
- Power slip rings — new or rebuilt
- Pitch control slip rings
- Custom slip rings

For a comprehensive list of wind generators and parts in stock, visit https://www.ips.us/wind-power
Generator exchange, remanufacture and storage

Our deep inventories of generators in various sizes help to limit your capital investment and control crane costs. The coast-to-coast IPS footprint means we can exchange and remanufacture failed units quickly and cost-effectively.

We also provide asset storage and management for leading wind farms and OEMs across North America.

We stock generators for a wide range of wind turbines including:

- Gamesa 2.0 — (ABB and Cantarey)
- GE 1.5 MW, 1.6 MW, 1.7 MW, 1.85 MW — (Hitachi and Winergy)
- NEG Micon 750, 900, 950 — (ELIN)
- Siemens 1.3 MW — (ELIN)
- Siemens 2.3 MW — (ABB and Winergy)
- Vestas V-47 660 kW — (ABB, Leroy Somer, POTENCIA and Weier)
- Vestas V-80 1.8 MW — (ABB and Weier)
- Vestas V-82 1.65 MW — (ELIN and Winergy)

Line reactor exchange

IPS Engineering offers significant reliability upgrades for wind turbine line reactors, applying our expertise in rewind technologies and equipment design.

These units offer superior dielectric performance and heat transfer throughout the inductors, for higher breakdown voltages, increased efficiency and longer service life.
IPS coordinates our coast-to-coast service for an Unmatched Customer Experience.

Your single source for 24/7 national fleet coverage

Does working with a changing roster of local service and repair shops make your mission harder? It’s time to talk with IPS.

Learn more about our wind power services and national fleet coverage at www.ips.us.