

# LINE REACTOR EXCHANGE PROGRAM

Upgrading inductor performance and reliability

## WIND POWER FIELD SERVICE

Lake Benton, MN

507.368.4015

Shreveport, LA

800.366.6030

Winnipeg, MB

204.237.6066

## WIND POWER PRODUCT SALES

Litchfield, MN

888.694.6200

## WIND POWER SERVICE CENTERS

Chicago, IL

800.978.4559

Denver, CO

800.448.0899

Indiana, PA

800.537.0097

Litchfield, MN

888.694.6200

Portland, OR

800.366.4951

Shreveport, LA

800.366.6030

Winnipeg, MB

204.237.6066



*Remanufactured line reactor, including IPS upgrades ready for shipment.  
(Pictured: Upgraded line reactor for GE 1.5, 1.5S and 1.5SLE turbines)*

IPS engineers applied their expertise in rewind technologies, insulation systems and equipment design to significantly upgrade the reliability of existing wind turbine line reactors. Our approach to remanufacturing line reactors targets problems instead of symptoms, drilling down for root cause analysis and setting the stage for definitive solutions. Our proprietary line reactor remanufacture process and design upgrades provide superior insulation dielectrics and heat transfer throughout the inductors. The resulting benefits are higher breakdown voltages, increased efficiency and extended service life.

### How the IPS Line Reactor Exchange Program works

Wind operators exchange their failed line reactors for replacements remanufactured to IPS engineering specifications, and backed by a one-year warranty. When customers place an order, IPS adds a core deposit for the failed unit. Customers have fifteen days to return the failed unit to IPS—once we've inspected and approved the returned unit for repair, it becomes a replacement unit and IPS issues a credit for the core charge. Our line reactor exchange program maintains stocked inventory to minimize total downtime. Please call **888-694-6200** to request a quote.

- Exchange units available for immediate delivery
  - GE part no. 121X1220FC01
  - Hitran part no. ZP0015-80
- IPS upgrades include:
  - Increased thermal rating
  - Additional cooling ducts
  - Increase in copper conductor
  - Impedance within 1% of rating
- 1-year warranty



*All line reactors are tested before and after remanufacture*



*Exchange units in stock for immediate delivery*

# IPS Wind Power Services

## WIND POWER FIELD SERVICE

Lake Benton, MN

507.368.4015

Shreveport, LA

800.366.6030

Winnipeg, MB

204.237.6066

## WIND POWER PRODUCT SALES

Litchfield, MN

888.694.6200

## WIND POWER SERVICE CENTERS

Chicago, IL

800.978.4559

Denver, CO

800.448.0899

Indiana, PA

800.537.0097

Litchfield, MN

888.694.6200

Portland, OR

800.366.4951

Shreveport, LA

800.366.6030

Winnipeg, MB

204.237.6066

## UP-TOWER FIELD SERVICES

- Generator and gearbox repair
- Bearing changeouts and upgrades
- Slip ring replacements, refurbishments and upgrades
- Grounding system upgrades
- Rotor lead changeouts
- Housing and component rebuilds
- Brush holder upgrades
- Pitch tube seal replacements
- Up-tower shaft repair
- General labor and maintenance
- Scheduled and emergency maintenance
- Predictive and preventive maintenance, including electric and mechanical diagnostics

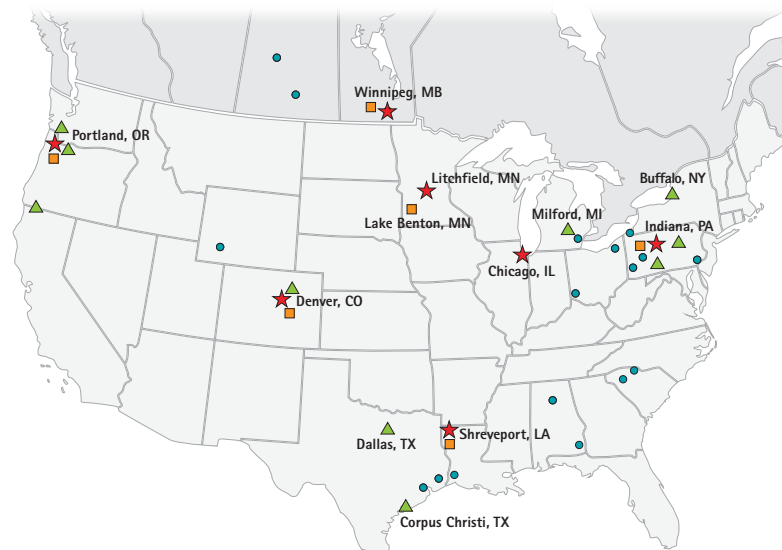
## IN-SHOP REPAIR SERVICES

- Authorized OEM repair
- Electrical repair
  - Generators—rewind, recondition, mechanical and machining
  - Pitch and yaw motors
  - Oil pump motors
  - Cooling fans
  - Hydraulic pump motors
  - Electronic board repair
- Mechanical repair
  - Generator and gearbox housings
  - Gearboxes and gears
  - Main and High-speed shafts
  - Slip rings
  - Heat exchangers
  - Coil manufacturing up to 15 kV
  - Premium VPI systems up to 15 kV

## PRODUCTS AND PARTS SALES

- Generator and gearbox components
- Bearings—Steel, Insulated and Ceramic
- Brush holder retrofit
- Replacement motors—pitch, yaw, cooling pump and all metric motors
- High-speed generator couplings
- Pitch control battery pack upgrades
- Generator encoders—hollow and solid shaft
- Power slip rings—new or rebuilt
- Pitch control and custom slip rings
- Shaft grounding systems
- Auto-lubrication systems
- Brake pads
- Brushes and brush holders
- Shaft grounding rings
- Pitch encoders

ONE STANDARD FOR SAFETY, QUALITY AND REPAIRS—ACROSS NORTH AMERICA



- ★ Wind Power Service Centers
- ▲ Wind Power Sales
- Wind Power Field Service
- IPS Regional Service Centers



[www.ips.us/wind](http://www.ips.us/wind)

©2016 Integrated Power Services  
04/16