

## Hydraulic Power Units (HPU)



### Solutions for Rotating Machinery Control & Safety

**CASE RMC is an industry leader in the design and implementation of hydraulic pressure systems for your rotating equipment.** Our Hydraulic Power Unit (HPU) product offering can supplement your existing hydraulic system, or we can provide a complete hydraulic system replacement, including the Tank, Pump / Motor assemblies, and Monitoring instrumentation. We also provide conversions of low pressure to high pressure (EHC) systems.

Our HPUs are designed with maintenance and reliability in mind. Upgrading or replacing will provide the following benefits:

- **Improved Reliability**
  - Fault Tolerant components (redundant Pumps / Motors) with on-line testing and on-line repair
  - Improved filtration through redundant filter assemblies with on-line testing and on-line filter replacement
  - Replacement / removal of older and degraded components reducing potential contamination of fluid
- **Improved Diagnostics, Troubleshooting, and Maintenance**
  - Critical Parameters (Alarms and Trips) are monitored and can be logged
  - Isolation valves, access, and redundant components allows for extensive on-line maintenance
- **Improved System Functionality**
  - Communication link to the plant DCS available for display and operation in the control room Critical parameters are monitored, utilized for alarming / trip indication
  - Testing through dedicated dynamic HMI / DCS displays available
  - Allows for turbine valve actuation and testing of valves without requiring starting or operation of the turbine

**Hydraulic systems provided for all steam, gas, and hydro turbine applications. Designed to provide highly reliable operation and online maintenance with virtually uninterrupted hydraulic supply.**

*Delivering Value  
Oriented Solutions &  
Services*

*Redundant Hydraulic  
Power Units*

*Typical Applications*

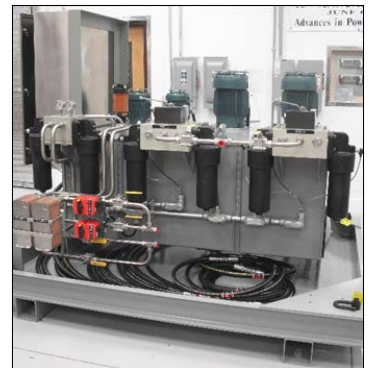
*Various System  
Configurations*

**CASE RMC, LLC** delivers excellence in Rotating Machinery Control with nearly 400 years of combined industry experience. Headquartered in Northern Colorado, CASE RMC is centrally located to support North American and Global clients. Together CASE RMC and Wunderlich-Malec can provide complete process control, safety, and rotating machinery controls for the most demanding project requirements. Customers can expect attention to detail, follow through, and prompt service **24 hours a day, 7 days a week**.

CASE RMC offers a variety of Hydraulic Power Units (HPU) for any steam, gas, or hydro turbine application. The HPU can also be applied to any application requiring continuous, virtually uninterruptible hydraulic fluid pressure. Typical designs include redundant motor / pump assemblies with online replaceable duplex filter designs. CASE RMC addresses customers' challenges with cost-effective solutions which are custom designed, installed, and commissioned requiring minimal burden on the customer. The HPU may be seamlessly integrated with controls systems and the plant DCS. CASE RMC will get your hydraulic system to industry standards for cleanliness, meeting ISO4006. With the continuous monitoring of critical parameters of your fluid, (e.g. temperature, pressure and filtration DP, etc.), basic maintenance is accomplished with minimal effort.

**Typical applications include:**

- MHC to EHC Steam Turbine Conversion
- Existing Hydraulic System Upgrade / Conversion
  - Upgrade Existing Motor / Pump Assembly
  - Flooded Suction Conversion
  - Kidney Loop Upgrade / Cooling System Upgrade
  - Accumulator Upgrade
  - Unloader Valve Replacements (Typical Westinghouse Conversion)



## Typical Features

CASE RMC designs **Custom Hydraulic Power Units** to meet **Customer Needs**

- HPU Control (Local / remote hardwired OCP / PLC, control system or DCS)
- Redundant Motors / Pumps / Filtration / Control
- Customized Instrumentation
- Kidney Loop Filtration and Cooling Reservoir Heating and Cooling
- Accumulator Banks
- Customized Tank / Drip Pan Configurations

## Pre-Commissioning Duplex HPU



## Post-Commissioning Duplex HPU



## Design, Fabrication, and Testing by Case RMC

**CASE RMC** is an industry leader in the design and implementation of hydraulic pumping systems for your rotating equipment. All assemblies are designed by CASE RMC utilizing over 30 years of HPU implementation on different OEM equipment and various types of applications. All applications are customized designs starting with a robust level of design features ensuring effective operational and maintenance service for years to come. CASE RMC procures all components and performs all assembly and testing at CASE RMC. Customer Witnessed Factory Acceptance Testing is available and provided for the entire system (Controls, Actuation and Hydraulics).

**CASE RMC** utilizes industry standard, commodity components to ensure long lasting assembly that is also cost effective and easy to maintain. Our product offering can supplement your existing hydraulic system, or we can provide a complete hydraulic system replacement, including replacement of including the Tank, Pump / Motor assemblies, and Monitoring instrumentation

Specific designs available for GE, WH, Allis Chalmers and many other OEMs. Additionally, CASE RMC provides Superior Documentation and System Training. Proven products from a proven supplier.

**Bottom line, we guarantee results.**

# Experience you can build on since 1981

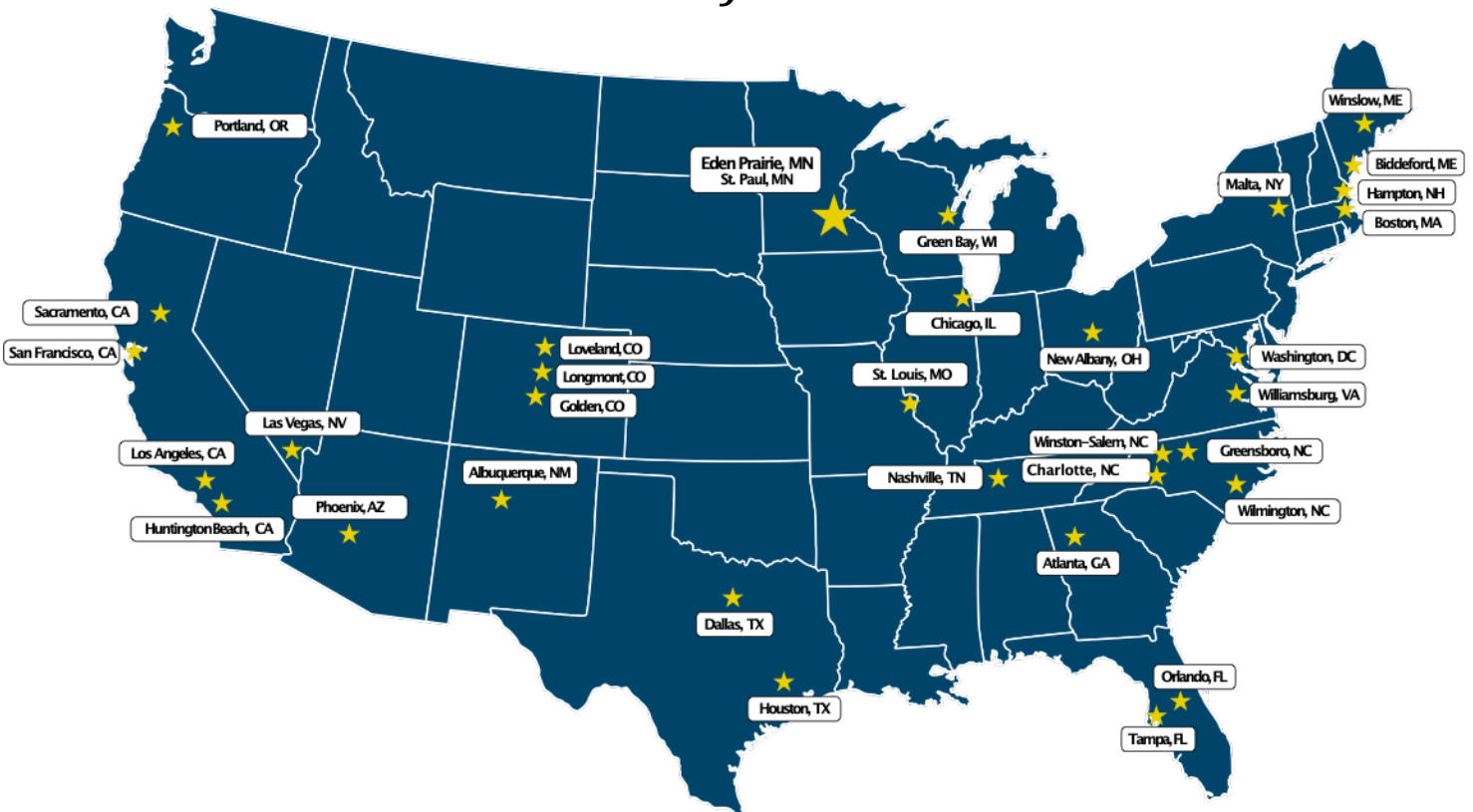
CASE RMC with Wunderlich-Malec offers clients complete control solutions for most power generation and industrial plants with turbines and compressors. By managing a more complete scope clients are freed from coordinating multiple vendors.

As an experienced engineering company with offices throughout the United States, we are uniquely qualified to *deliver value engineering services that lower costs, improve quality and accelerate project schedules.*

With over 450 experienced professionals, our team is one of the largest and most well-established engineering, system integration and process automation providers in North America;

- Architect Design
- Mechanical Design
- Power Electrical Design
- Controls and Automation
- Environmental Compliance
- Realtime Documentation
- System Integration
- Mechanical Fabrication
- Process Skids
- Power Distribution Control
- Modular Control Enclosures
- Plug & Play Construction

## Centers of Excellence



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