



# INTEGRATED POWER

## SYSTEMS AND SERVICES

**INTEGRATED POWER** *for unique applications*

*HM Cragg is proud to offer  
**Integrated Power Systems and Services,**  
where we make out-of-the-ordinary solutions  
for backup power applications a reality.*



a product of





**HM Cragg's  
Integrated Power  
Serves . . .**

- Emerging and alternative markets
- Distributed networks, network closets and "edge" networking
- High tech manufacturing
- Industrial process control
- Machine builders, OEM's
- Water/waste water
- Transportation including railroad, bridges, tunnels, tollways
- Government/military
- Oil and gas
- Marine

**Why Integrated Power?**

**Support** – We're your collaborator, from concept to full-implementation.

**Resource Management** – Leverage our highly capable team as part of yours.

**Broaden Project Scope** – Deliver more than just products.

**Time Management** – Keep the project on schedule.

**Value Creation** – Keep the project within budget while maximizing value.

**Risk Reduction** – Mitigate errors and failures using validated, fully functional systems, pre-tested before they ship.

**Diversify and Grow Business!**

**We Create Customized Backup Power Solutions For:**

- Unique datacenter applications
- Harsh or extreme environments, including:
  - High/low temps
  - Water/humidity
  - Dust/dirt
  - Caustic chemicals
  - Outdoor/direct sun
- Extended runtime situations
- Ruggedized, shock and vibration attenuation

**5 VARIATIONS OF INTEGRATED POWER**

**Variant 1  
Assembly**

**Solution includes:**

- Kitting and bundling
- Asset tagging
- IT enclosure builds that include:
  - wire/cable management
  - UPS, EBM, PPDM, ePDU, eATS
  - web/management card installation/programming
  - environmental monitoring
- System configuration validation, testing and certification

**Project Example:  
National Data Carrier Network**

- ✓ Edge Network Infrastructure upgrade
- ✓ Project and logistics management (235 sites, 1-5 UPS/site)
- ✓ Install/program network management card
- ✓ Asset tagging
- ✓ Shipped to location to meet customer's installation schedule



**Variant 2  
Modifications to Standard Products**

**Solution includes:**

- ePDU customization
- UPS line cord installation
- Custom cable assemblies
- Firmware flash/up and down
- Enclosure holes and cutouts
- Accessory installation

**Project Example:  
Portable 3-Phase Power System**

- ✓ Line-cord cable assemblies and connectors installed to hardwired, 3-Phase UPS
- ✓ Custom din-rail mounted power distribution panel manufactured
- ✓ Custom 3-Phase pin and sleeve Hubble-style cable assemblies
- ✓ Custom ePDU's input cable assemblies and output receptacles installed
- ✓ System started up, customer-defined test procedure completed
- ✓ Custom documentation and test results provided



**Variant 3  
Power Systems Integration**

**Solution includes:**

- Multiple manufacturers' content
- Standard and modified components
- Validated configurations
  - custom UPS and battery
  - climate control and ventilation
  - industrial enclosures and accessories
  - cabling, wire and connectivity management
- Qualification testing of designs
- Custom user documentation

**Project Example:  
Converged Infrastructure, Municipality**

- ✓ Uptime racks (integral 13,000BTU/1-ton cooling)
  - 1 dedicated power
  - 4 power distribution/customer's own IT equipment
- Custom biometric security
- ✓ 36KW Blade UPS
- ✓ Network management and communications
- ✓ System test, custom user/installation manuals
- ✓ Batteries refreshed/re-labeled



**Variant 4  
Engineered Solutions**

**Solution includes:**

- Design/execution based on concept/ drawing or complete specifications
- Project definitions, scope of work, schedule and budget
- Component specification, supplier selection and costing
- Bill of material, proposal, pricing
- Approval/manufacturing drawings
- Submittal documentation
- Manufacturing
- Integration, system build user manuals and installation documentation
- Startup, testing and validation
- Logistics management and delivery
- Startup/turnover

**Project Example:  
SCADA Monitoring System Backup**

- ✓ 4-post rack, side skins, roof and 8U filler panels
- ✓ 3KVA UPS, 5U EBM, MBB MBP-conformal coating
- ✓ Custom ePDU
- ✓ Custom engineered surge/inrush arresting device with customer provided load profile and inrush
- ✓ Custom MBP mounting panel with flush/clean install
- ✓ Input/output and communications terminal blocks/relays
- ✓ User and installation documentation, submittals and drawings
- ✓ Test and validation
- ✓ Packaged for overseas transit



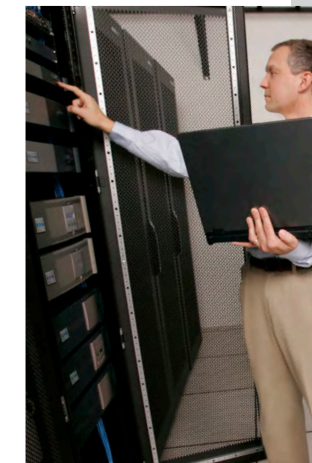
**Variant 5  
Field/Installation Services**

**Solution includes:**

- Site Survey/define project scope of work
- Project and logistics management, asset tagging
- Removal and Disposal of line-corded equipment. Certificate of Destruction as required
- Installation and integration of line-corded equipment incl. UPS, EBM, MBP, ePDU, eATS
- Installation and programming of management card
- Power and networking connections completed
- System startup, full-functional test
- Options:
  - 3 or 5 yr extended warranty
  - management software installed
  - on-site training

**Project Example:  
Hospital Network Closet Upgrade**

- ✓ Site survey completed for 96 network closets
- ✓ Logistics and delivery coordinated with technician's arrival
- ✓ Uninstalled aged 1-phase UPS equipment
- ✓ Installed UPS, eATS and ePDU's
- ✓ Programmed IP addresses and installed software
- ✓ 2-day software training
- ✓ 5-year warranty w/ 4-hour response
- ✓ Project completed after-hours over 5 days
- ✓ Provided comprehensive reporting and certificate at conclusion of project



**What do our customers say about Integrated Power?**

*"HM Cragg's sales folks were able to work with us and close the sale, but that's when the real work began. It was building the project and doing what they said they were going to do. The best part is, the engineers from HM Cragg were involved on project side as well as the assembling, manufacturing and the integrating, which is huge! These guys were available and in the project from the beginning and until it shipped. It was a start to finish button-up project with no mistakes and a quality end product. Having a partner like HM Cragg makes these projects easy to accomplish and makes us want to take on more and more, as we have a partner who can get it done for us!"*

**- Nate Ellsworth, Owner**  
N1 Critical Technologies, Inc.



# Why HM Cragg?

## Values

- **Together we are Better** – a true partner and extension of your organization's capabilities
- **Strive for Excellence** – provide the best solution possible
- **Create and Innovate** – more than just another parts supplier, we're your collaborator, providing a total solution

## People

- Decades of experience supporting power-related projects

## Support

- Applications engineering, technical pre-sales support
- Direct customer interaction, joint sales calls, training
- Marketing – campaign strategy, electronic and print material development, direct mail, eMarketing support
- Product availability – in-stock in our distribution centers
- Project management



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