Proposal for Power Plant Management, Fuel Efficiency Optimization, Design Assistance, Generator & Spare Parts Supply, Onsite Service and Maintenance, Installation & Upgrade, Local Labor Training and Supervision.



US Power & Environment is the most proactive, flexible and innovative full-service wholesale dealer, installer, servicer and maintainer of fuel-efficient diesel and natural gas power plants on Earth.



### **Mission Statement:**

To be the most proactive, flexible and innovative full-service wholesale dealer, installer, servicer and maintainer of fuel-efficient diesel and natural gas power plants on Earth

FACTORY & USP&E TRAINED TECHNICIANS ON-SITE

#### MILLIONS SAVED IN FUEL EFFICIENCY OPTIMIZATION

OEM SPARES FAST TRACKED & MANAGED ONLINE



SERVICE CENTERS NATIONWIDE & AROUND THE WORLD

NEW/SURPLUS GENERATORS WITH WARRANTIES AT WHOLESALE

EXPERT DESIGN, INSTALLATION CONSTRUCTION, START-UP & COMMISSIONING



### **EXPERIENCE YOU CAN TRUST**

Long ago, if you needed something fast, you could only buy from someone down the street — someone local, regardless of adequate supply or service. Those days are over. If you choose the right vendor, today's technological advances allow for high quality and extreme speed combined with significant cost savings, regardless of location.

For over 40 years, USP&E has been a global leader in new and used power generation systems and equipment. We are known for our creative, efficient, and proactive approach to accommodating clients' power generation requirements. Doing business in over 140 countries, we travel around the world to meet face-to-face with buyers, sellers and facility managers on multiple continents with different languages, cultures and customs. We've grown our facilities in strategic locations in the Unites States since 1968. Our sophisticated tools, streamlined processes, and large buying capacity mean reduced downtime and costs for our clients. We have many years experience supporting clients beyond initial equipment sales, from setup and commissioning to ongoing expert power plant supervision.

### SERVICE

We provide consistent products, services and support wherever your facilities are located. When it comes to customer satisfaction, our 100% commitment to honesty, integrity and excellence is what drives customers back to us again and again. USP&E is dedicated to growing our operations by positive word-of-mouth. The bottom line is that, no matter the hour, no matter the deadline, we always put our client's needs ahead of our own.

### CAPACITY

We have state-of-the-art paved and enclosed warehousing, complete with docks, cranes, forklifts, and extensive inventory. Our professional staff is trained in customer service protocol geared toward both domestic and international clients. USP&E is designed and managed to exceed your expectations when it comes to repairs, maintenance, used generator inventory, expedited parts shipping, refueling and full turnkey installations. We offer same-day order processing from small parts to large equipment.

### EXPERTISE

Let our expertise save you as much as 20% per year in fuel oil, spare parts costs and asset life efficiencies. We KNOW the equipment we sell. Our Onsite Diesel Service and Maintenance Teams provide operational precision and detailed reporting. With many years in the field, our teams of professionally trained prime power service technicians have the experience, dedication and management skills required to maximize fuel efficiencies and asset life, while minimizing equipment failures. Whether working in South America or North West Africa, USP&E has the capability and resources to handle all your power plant maintenance and service needs so that you can focus on running your business.

### **CLIENTS AROUND THE GLOBE**

USP&E has successfully completed turnkey installation, start up, maintenance and emergency repair projects in North America, Africa and around the World. Our Clients Include:

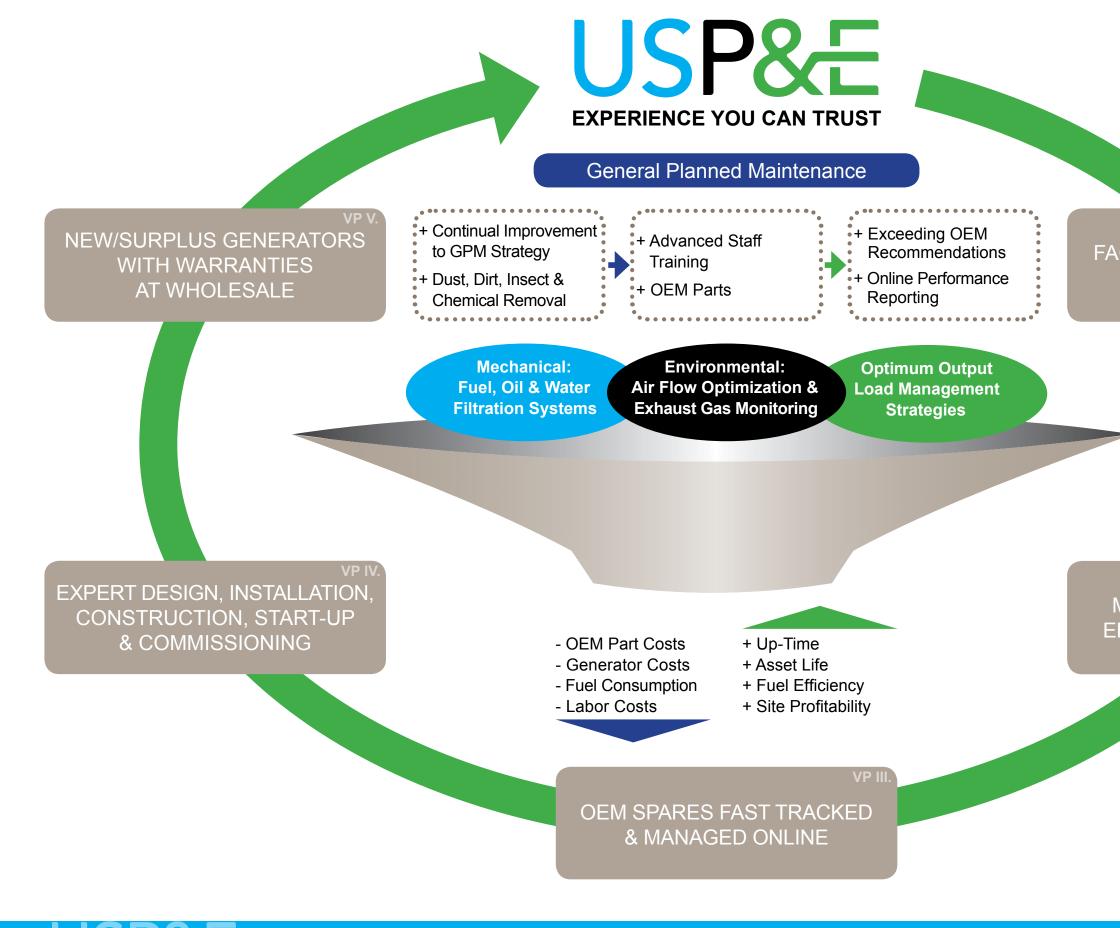
- UPS
- Continenta
- Red Cross
- Cricket Cor
- FEMA
- BEC Engin
  - State of Tex
- Switch & D
- Carlson Wa
- AT&T
- Mary Kay
- Resolute L
- USA Borde
- Mustang C
- Petro Hawl
- Magna Ele



### USP&E ONSITE CUSTOMER SERVICE AND MAINTAINENCE SAMPLE N+2



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STAND BY BAY	1.25M CAT SERVICE BAY



POWERING BUSINESS. EMPOWERING PEOPLE

### FACTORY & USP&E TRAINED TECHNICIANS ON-SITE

### MILLIONS SAVED IN FUEL EFFICIENCY OPTIMIZATION



## FACTORY & USP&E TRAINED TECHNICIANS ON-SITE

VP I.

### **USP&E – CUSTOMER SERVICE AND MAINTENANCE AGREEMENTS (CSMA)**

### USP&E – Our Team Approach Through the CSMA Model

Every piece of Caterpillar, Cummins, Rolls Royce and Wartsila equipment we sell at USP&E is designed and built to provide maximum productivity and operating economy throughout its working life. However, it is USP&E that can help you simultaneously achieve the operational efficiencies and maintain that built-in value through a Customer Service & Maintenance Agreement (CSMA).

A Customer Service & Maintenance Agreement is an arrangement between you and USP&E that helps you lower your cost per unit of production. Agreements are tailored to fit your business needs and can range from simple Preventive Maintenance Kits to sophisticated On-site Service and Maintenance Programs. No matter which option you choose, you can be assured that USP&E will provide you with careful planning and ongoing attention that will help you succeed.

When you have a CSMA in place with USP&E, you have more time to do what you do best - run your business. Our professionally trained technicians assist you by maintaining your equipment and driving down operating costs. In the end, everyone's goal is the same: helping you get more work done at a lower cost.

Perhaps the most important feature of any CSMA is flexibility. There are no pre-set requirements or specific products and services that you must agree to buy. A CSMA is customized to your needs. Your agreement may include as few or as many pieces of equipment as you wish. You can cover individual systems, single pieces of equipment, or entire fleets. Your USP&E representative will work with you to determine the best strategies to maximize productivity and minimize costs for your Caterpillar, Cummins, Rolls Royce and Wartsila power generation equipment.

Customer Service and Maintenance Agreements are not just for large pieces of equipment and they are not just for new equipment either. The need to get more work done at a lower cost is the same, regardless of age or application.

#### A Partnership That Gets More Done.

In the end, a CSMA is a partnership between you and USP&E that will help you succeed by leveraging our equipment management expertise. With a CSMA, you get more than just a piece of our Power Generation Equipment, you get the support of our entire company.

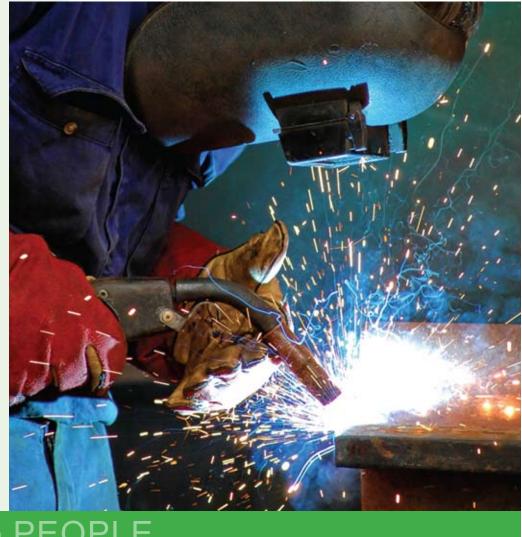
CSMA's are an excellent tool for maximizing the asset life of your power generation equipment. Agreements can also be written after the sale to help you control costs and improve availability. You get access to trained experts who know more about your Caterpillar, Cummins, Rolls Royce and Wartsila equipment than anyone else. USP&E can provide service in a more timely, efficient and cost-effective manner than anyone else. You will have direct contact numbers to USP&E technicians whom you have met in person and know by name. Ultimately, you save money, improve availability and have more time to concentrate on other important aspects of your business.

### Effective Equipment Management: the key to optimizing efficiencies and minimizing costs.

 Component repairs and/or overhauls can be accurately anticipated — enabling scheduled downtime to be performed with minimal interuptions to your production.

- higher resale value.

All of these factors impact your bottom line. A CSMA can reduce these and other costs by placing a variety of service duties into the expert hands of your USP&E technicians. It sounds simple, but the fact is, you may wear a number of hats in your business — from operator to equipment manager and service technician. A CSMA can cover any or all of your equipment management needs, maximizing the value of your precious power generation assets.



## **POWERING BUSINESS. EMPOWERING PEOPLE**

 A CSMA can maximize service life and minimize costs by repairing before failure occurs.

 Through a CSMA, your Lead Service and Maintenance Technician can help improve maintenance record keeping.

Enhanced maintenance and performance reporting means

### WHAT TO EXPECT FROM YOUR ONSITE **POWER TEAM**

Your technicians at USP&E do not sit in corner offices in the air conditioning while others do all the work. Our diesel technicians and engineers are very proud to roll up their sleeves and lead by example when it comes to absolutely any task, no matter how big or how small. Furthermore, exclusively specializing in Power Generation, all our efforts are focused to ensure maximum asset life while minimizing asset expenses. Our highly competent team of dynamic service managers are also efficient and proactive technicians ranked in the top 5th percentile of their industry. Our teams are professionally educated and formally mentored in the latest technologies and state-of-theart tools. With access to USP&E's world class parts inventory system and a huge supply of spare parts specifically ordered and stocked for your equipment, NO ONE knows or is better prepared, to care for your diesel generators like USP&E. At USP&E, Power is our business.

While we are best known for our unbeatable prices on new and low-hour power generation equipment, service after the sale of your equipment is where USP&E offers our clients the most value. After all, you may spend millions of dollars for your equipment initially, but this is often only a fraction of your total power generation equipment expenses over time. USP&E specializes in helping our clients manage the service and maintenance of their equipment, whether planning for scheduled maintenance or minimizing downtime due to repair interventions. Our teams on the ground are at your disposal to advise you in your asset management decisions.

"Genius is one percent inspiration and ninety-nine percent perspiration."

—Thomas A. Edison

### **USP&E ONSITE POWER PLANT SUPERINTENDENTS:**

### Kevin Dixon

Kevin Dixon leads a team with over 400 years of combined mechanical and electrical design, installation, service, maintenance and repair experience. His men are well trained, professional mechanics and electricians with tremendous power plant management experience and managerial aptitude. Kevin and his team are comfortable working around the clock to rebuild or repair engines, trouble shoot switchgear or expedite parts. A recognized expert in the fields of Fuel Efficiency Optimization and Power Plant Maintenance, Kevin has a proven track record managing power stations across the continents of Africa, Asia and Europe.

### **Kevin Malloy**

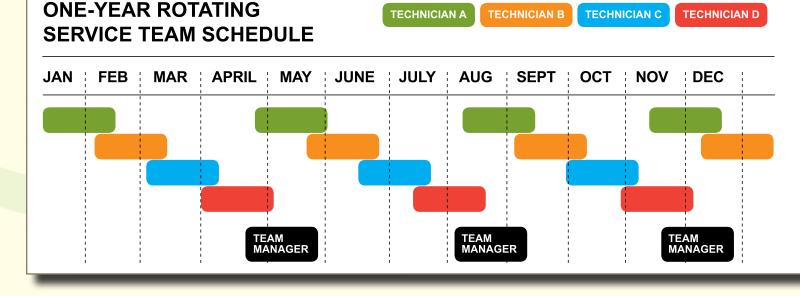
As a Power Plant Superintendent for USP&E, Kevin Malloy has successfully worked in Mali, Ghana, Kenya, Tanzania, South Africa and the UK. Specializing in controls, switchgear, electrical and mechanical operations, fuel efficiency optimization, management reporting, staff training and emergency repairs, Kevin is one of our most well-rounded technicians. With over 14 years of experience in power plant management, Kevin is well known in Africa and abroad as a dedicated, proactive and professional power plant superintendent.

### **Carl Daugherty**

Carl, in addition to having an MBA, has over twenty years as a Project Engineer, Project Manager, Construction Manager and Project Coordinator for electrical projects all over the world, ranging from 2 – 300 Megawatts.

### **OTHER SENIOR MEMBERS OF OUR INTERNATIONAL POWER PLANT MANAGEMENT GROUP:**

- Kevin Thompson 9 years experience



## **POWERING BUSINESS. EMPOWERING PEOPLE**

- Tony Devlin 25 years experience
- Robert White 15 years experience
- Will Gruver 10 years experience
  - Dan Trudeau 14 years experience
- Hans Boss 4 years experience
- Tony Thompson 15 years experience
- Peter Newman 21 years experience
- Aaron Mayfield 4 years experience
- Nathaniel Winn 3 years experience
- Chad Cheshier 4 years experience

#### Note:

Start of rotation should be scheduled to commence 4 weeks prior to start up. Each assignment is for 6-8 weeks. All technicians are factory trained. management certified, professional and hard working direct employees of USP&E with average diesel engine experience of over 20 years.

### **USP&E GLOBAL POWER INSTITUTE – EXPERTISE YOU CAN TRUST**

USP&E invests thousands of dollars each year in advanced electrical, mechanical, switchgear, energy efficiency and power plant management training for our staff. Here are just a few of the courses that we require both our Local and Non-local Team Members to master:

#### Generation

This curriculum is aimed at all personnel who are involved in plant maintenance including operators, maintenance technicians, craftsmen and management. Our Objective is to present techniques used in modern plants to measure on an ongoing basis, the rate of deterioration of equipment, analysis and interpretation of such information, and the resultant implementation of predictive maintenance.

- Condition Monitoring
- Combined Cycle Technologies
- **Diesel Power Plant Operation**
- **Distribution System Training**
- **Environmental Protection Control**
- **Electric Utility Management**
- **Electrical Relay Test & Maintenance**
- **Electrical Troubleshooting Skills**
- **Electrical Fundamentals**
- Gas Turbine Power Generation
- Heat Rate Optimization
- Hydro-Electric Power Plant Operations
- Steam Power and Co-Generation •
- System Protection Technology
- Power Plant Control Room Operator Training

### **Power Plant Condition Monitoring**

This program is aimed at all personnel who are involved in power plant maintenance including operators, maintenance technicians, craftsmen and management. Our Objective is to present techniques used in modern power plants to measure on an ongoing basis, the rate of deterioration of equipment, analysis and interpretation of such information, and the resultant implementation of predictive maintenance.

### **Diesel Power Plant Operation**

This program is designed to aid in upgrading knowledge and understanding of diesel power generation. It covers the practical aspects of operation and maintenance of installations including local, remote control and monitoring. The program is presented at the technician level.

### **Distribution System Training**

After a brief review of electrical fundamentals, this program moves on to cover various aspects of distribution system technology. Topics include distribution networks and equipment, system protection, control and automation, equipment testing and maintenance, and the distribution system operator's role. It is presented on the technician level and knowledge of basic electrical theory is assumed.

#### **Environmental Protection Control**

This program is designed to aid in upgrading knowledge and understanding of environmental concerns as they relate to thermal power generating plants. It covers most of the common equipment and processes in use today to ensure that the power generation plant is in compliance with environmental legislation.

### **Electrical Troubleshooting Skills**

This series of award winning interactive CD ROM training programs are ideal for learning proven troubleshooting techniques and applying them in a very realistic simulated environment.

#### **Electrical Fundamentals**

This series will provide you with an overall understanding of Electrical Fundamentals including Ohms Law, AC Circuits, Transformers and Three Phase Systems.

### **Gas Turbine Power Generation**

This program will train personnel on the operation and maintenance of gas turbines and associated equipment including combined cycle operation.

### Heat Rate Optimization

This program is designed to aid in upgrading knowledge and understanding of the integrated fossil fuel power plant, and improve the operator's ability to optimize thermal efficiency and equipment reliability, thereby improving the plant's economic performance. This program is available in both Imperial and Metric forms.

### System Protection Technology

This program will train personnel on the principles of protection systems, including different schemes used in the protection of: generators, buses, transmission & distribution lines, transformers, motors, etc.

### **Power Plant Control Room Operator Training**

Provides Plant Control Room Operators with the knowledge and skills required to operate a power plant Distributed Control System (DCS) and associated plant systems. Each module in the course describes the plant system, associated system controls and typical procedures used during, startup, normal and shutdown operations.

USP&E's dedication and commitment to ongoing education is what keeps our staff at the forefront of technology. In fact, leveraging the internet and our online educational resources has greatly contributed to putting USP&E technicians at the highest echelon of expertise. While all of our staff are Factory-Trained (many over several decades), utilizing 21st Century technology has given our staff the ability to truly and comprehensively address our clients' needs. There is no problem we cannot fix. There is no facility we cannot improve. Just try us. Our men love the challenge. It's what we live for.

"Learning is not attained by chance, it must be sought for with ardor and attended to with diligence."

## **POWERING BUSINESS. EMPOWERING PEOPLE**

—Abigail Adams

### VP II.

### MILLIONS SAVED IN FUEL **EFFICIENCY OPTIMIZATION**

### **USP&E AND FUEL EFFICIENCY – ALLOW US TO** SAVE YOU MILLIONS OF DOLLARS PER YEAR

USP&E is a proven expert in the field of Fuel Efficiency Optimization. Utilizing a number of proprietary and recognized technologies and strategies USP&E works with each client to customize a USP&E Optimal Fuel Efficiency Strategy (UOFES) that is thoroughly researched and designed to both maximize asset life and minimize fuel costs over the life of the equipment.

An industry leader in this field, USP&E has designed and maintained UOFES's that are saving literally millions of dollars per year in fuel costs. Given the enormous increases in fuel costs over time, leveraging our expertise can almost completely offset the cost much of your power plant maintenance – in the savings alone.

### **USP&E & STATE-OF-THE-ART CONTROL** SYSTEMS AND SOFTWARE

Cutting-edge technology is nothing new to the Onsite Power Plant Service Team of USP&E. The International Service Team of USP&E is well versed in the use of virtually every OEM generator and switchgear control software on the marketplace. Whether working on Cat, Cummins, Detroit, Wartsila, Rolls Royce or other power plant package, USP&E power plant superintendents and senior technicians have been trained to utilize the most advanced control software on the market in order to view myriad parameters that relate to engine

operation. Our master service technicians monitor and adjust these engine parameters on an hour by hour basis in order to ensure peak performance and achieve our client's operational efficiency objectives.

### **OUR CONTROL SYSTEM SOFTWARE PROGRAMS CAN ALSO PERFORM THE FOLLOWING FUNCTIONS:**

- Diagnostic tests
- Sensor calibration
- Flash downloading
- Set programmable parameters
- Control and adjust spinning reserve

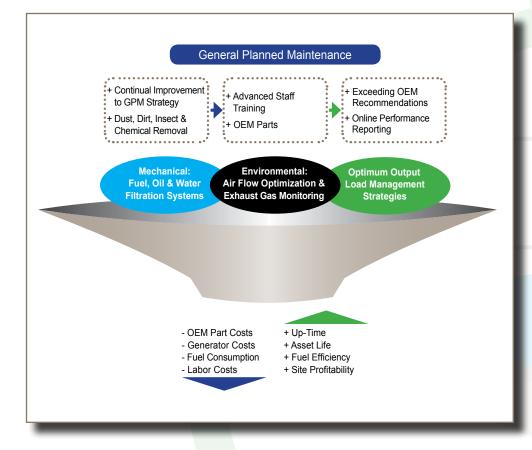
These computer-based control systems also allow our service technicians to look inside the engine while it is operating and change parameters, or even flash an updated program to the personality module within the ECU. This eliminates the need for removing the ECU or breaking its seal, which could introduce moisture or particles to the unit and shorten its usable life. USP&E's International Service Team utilizes a myriad of switchgear and engine control software programs to maintain the highest possible engine efficiency and to track all pertinent engine parameters, which directly relate to the mechanical efficiency of the engine and the time between failure (TBF) of its parts. These software based systems are often the basis for many of our reporting features and, in the hands of our experts, a very useful and instructive diagnostic tool.

"If all you ever do is all you've ever done, then all you'll ever get is all you've ever got." Texas Proverb as quoted in "Hot. Flat & Crowded"

—Thomas Friedman



## CONTINUAL IMPROVEMENT TO THE GENERAL PLANNED MAINTENANCE PROGRAM – OUR HALLMARK



### **PREVENTATIVE DIAGNOSTICS: OIL CONSUMPTION** AS AN OVERHAUL INDICATOR

Oil consumption, fuel consumption and maintenance information can be used to estimate the total operating cost for your engine. Oil consumption can also be used to estimate the required capacity of a makeup oil tank that is suitable for the maintenance intervals.

Oil consumption is in proportion to the percentage of the rated engine load. As the percentage of the engine load is increased, the amount of oil that is consumed per hour also increases. The oil consumption rate (brake specific oil consumption) is measured in grams per kW/h (lb per bhp). Consult your USP&E technician for assistance in determining the typical oil consumption rate for your engine.

When an engine's oil consumption has risen to three times the original oil consumption rate due to normal wear, an engine overhaul should be scheduled. There may be a corresponding increase in vibration and a slight increase in fuel consumption.

USP&E performs daily preventative diagnostic testing to ensure your assets are being maintained at the highest possible standards.

### **PREVENTATIVE DIAGNOSTICS: SEVERE OPERATION**

One of the biggest advantages of outsourcing your power plant's maintenance to USP&E is our unceasing effort to maximize the life of your assets. One of the central ways your asset life is diminished is through unforeseen or undetected Severe Operation exposure. Severe operation is the use of an engine that exceeds current published standards for that engine. Severe operation can accelerate component wear. Engines that are operating under severe conditions may need more frequent maintenance intervals for the following reasons:

- Maximum reliability
- Retention of full service life

USP&E performs a thorough diagnostic evaluation to ensure that the proper maintenance strategies required for your specific engines are initiated. Some of the factors that contribute to severe operation are environment and improper maintenance practices. USP&E makes every effort to maximize asset life through avoiding all possible severe operation factors.

> "Whatever is worth doing at all, is worth doing well." -Philip Dormer Stanhope, Earl of Chesterfield

### **PREVENTATIVE DIAGNOSTICS: FACTORS** THAT DECREASE ASSET LIFE

### **Extreme Ambient Temperatures**

Extended operation in environments that are extremely cold or hot can damage components. Valve components can be damaged by carbon buildup if the engine is frequently started and stopped in very cold temperatures. Extremely hot inlet air reduces the performance capabilities of the engine.

### **Dust, Dirt and Airborne Chemicals**

Unless equipment is cleaned regularly, extended operation in a dirty environment can damage your equipment. Built up mud, dirt and dust can encase components, making maintenance difficult. This buildup can contain corrosive chemicals and salt. Corrosive chemicals and salt can damage some components. USP&E believes strongly in maintaining the cleanest possible power plants in the industry.

### **Improper Maintenance Practices**

- coolant/antifreeze

As a driving force behind your daily power plant maintenance regimen, USP&E will work to minimize these Severe Operation factors, maximizing fuel efficiency and optimizing asset life.

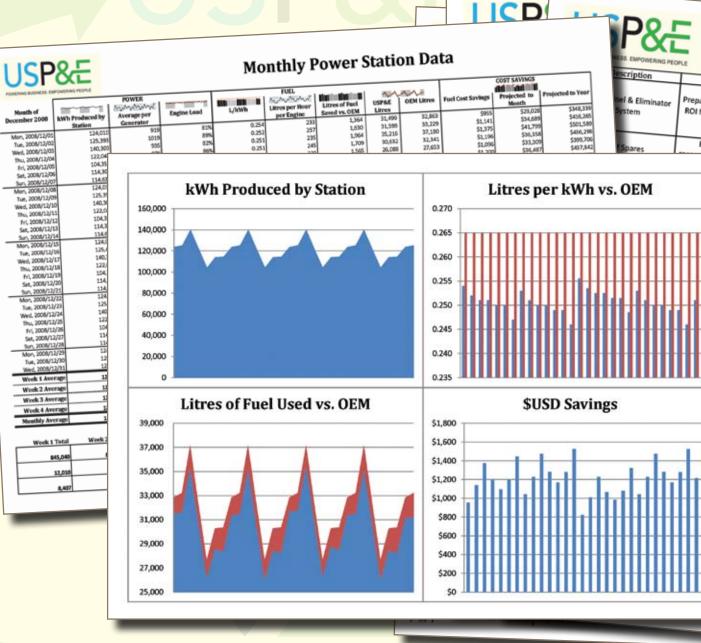
Extension of maintenance intervals

• Not using recommended fuel, lubricants and

### **USP&E PERFORMANCE REPORTING**

Utilizing time-tested processes and reporting software that is the most advanced in the field of power plant management, your USP&E site technicians are trained to provide daily fuel efficiency results, project management spreadsheets, installation punch lists, power station reports, urgent spare parts required reports, power plant inventory reports and weekly work accomplished reports. Whereas many companies provide one or two of these reports but only upon request, USP&E believes in proactive, regular and thorough communication with Site Management. Info related to generators, switchgear, fuel consumption, spares management, staff training, and scheduled maintenance calendars is available to our clients in real time via an online, web-based, password-protected access portal. Our clients can log in via any computer in the world and with their USP&E user name and password can view and download their reports in real time. These reports include:

- Power Station Summary Report-at-a-Glance table gives a brief overview of USP&E Men on Site, Daily Work Achieved, Injuries Sustained, Days Without Incident, Parts Needed Urgently, Weekly and Annualized Fuel Consumption / kwh, Savings Achieved and Ongoing Construction, Installation, Upgrade and Overhaul Projects we are actively managing.
- 2. USP&E's Weekly, Monthly and Annualized Fuel Savings Graphs demonstrate visually the actual and projected fuel savings in USD over various time ranges.
- 3. Our Project Management Punch Task Lists include those projects that we are currently working on in addition to our Power Plant Management Duties. Often times these projects include Design Upgrades, Ongoing Construction, River Pump / Generator Installations and Repairs, Special Plant Maintenance Projects, Switchgear Repair, Modifications and Engine Overhauls.



4. The Weekly Power Plant Work Report allows USP&E Power Plant Staff to effectively and proactively communicate with Site Management our specific power plant accomplishments and weekly objectives. 5. Our Urgent Spares Required Report lists parts that need to be ordered. This spreadsheet tracks Client Part Number, Bin Number, and USP&E Part Number, Unit Costs, Estimated Freight Charge, Estimated Delivery, Engine Spec Number and Position Number.

## POWERING BUSINESS. EMPOWERING PEOPLE

Power Station Task List								
	L	ast Upda	ter					
	Notes		10	han a fair	2008/11/07			
	posal for site including Mounted Oil Eliminate on all CATs.	or Systems		%	Initial study shows cost at \$60			
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	Equipment and In Confirm Schedulir River Pump pipes	g	90%	۲	Ongoing			
	notors, pumps, tan bolts, nodify, and deliver el Tanks	s, and	40% 80%	•	Yet to be delivered - sand			
	inks to 7 RP Genera		80%	•	Complete - waiting delivery to			
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	2 - still to be Locat anks - generator/p	pumps (	0% %					
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	River Submersibles ts and drop into Ri gear containers an	ver 0%						
	PD1, 2, 3, and 4, Motors, Pumps an	0%	0					
	ent at River Pump	0%	•					
	trical Installation fuel spill basin so	0% 100%						
	rollers - Local and x 28	100%	•		Completed			
	ission	95%	•	Kumara PLC to s	an busy programming tart and load Gensets			
	lissioning Team lioning Team with	100%		Engi	ine Ready to start			
	o . com with	100%			Complete			

### **OEM SPARES FAST TRACKED** & MANAGED ONLINE

VP II

### **USP&E's Parts Ordering, Online** Inventory Management Reporting & Cost **Savings Capabilities**

Whether you are managing a few machines or an entire fleet, you need quick access to the right parts. USP&E's Online Parts Store System gives you the freedom to manage the spares you have, order additional spares quickly and track existing orders efficiently - saving thousands of dollars per year.

Through our interactive parts inventory management website that is customized to show you real-time inventory levels of spare parts at your facility, USP&E can facilitate and streamline:

- Ordering
- Shipping Logistics & Receiving
- Invoice Reconciliation
- Inventory Audits and Reporting

Each of USP&E's Onsite Power Plant Teams take full responsibility to inventory, order, stock and refresh all parts at your facility. In order to do this, each of our Lead Generator Technicians, in conjunction with USP&E's Global Supply Chain Management Department, work to offer each client world class service related to:

- **USP&E Service Information System** (USIS) - Caterpillar, Cummins, Rolls Royce and Wartsila parts books containing over 1.5 million serial number-specific parts - online at your fingertips.
- **Fast-Tracked Global Supply Chain Management** – Saving our clients millions per year, USP&E offers exclusive Fast Track Shipping and Logistics Services through hubs in Brussels, Houston and Perth to clients for consumable and spare parts.
- Interactive Website USP&E's clients view actual real-time spares inventory levels and recommended spares required lists with prices, shipping information, and an integrated procurement connection that allows our clients to achieve millions in transaction costs reductions, depending on current practices.
- **Efficiency** Real-time inventory reports maintained online allow your USP&E technicians to communicate with corporate, each other, our clients and our shipping logistics teams in order to provide precision reporting and proactive spares inventory management reducing costly air freight requirements.
- Instant Information Real-time price and availability helps us make informed purchasing decisions even after business hours – online and with highly customized inventory controls.
- **Options** Alternate parts options such as remanufactured, dealer exchange and used are automatically displayed and available for purchase via your online USP&E Parts Store.
- **Tracking** Online order history, invoice review and remanufactured core status help you keep accurate records. Email order acknowledgements confirm your order and help you stay informed.
- **Cost Savings** All of these benefits can result in significant transaction cost savings.



## **POWERING BUSINESS. EMPOWERING PEOPLE**

### EXPERT DESIGN, INSTALLATION, CONSTRUCTION, START-UP & COMMISSIONING

### **CONSTRUCTION SERVICES**

Mission Critical Facilities such as Power Plants and Data Centers are vital for large and small businesses and USP&E prides itself on our innate ability to recognize our client's requirements and the budget required to complete this intricate portion of their overall facility requirement. Our team of Construction Professionals has completed in excess of 6 million square feet of Power Plants and Mission Critical Facilities in various Tier Level configurations.

USP&E's Construction Professionals are not just Mission Critical Facility specialists; they can provide any facet required by our clients for construction or renovation projects. They are experienced in facility commissioning, facility evaluation, and all aspects of the construction process. USP&E offers project/ program management, general contracting, construction management, and consulting services. There is no job too small or too large for our experienced and friendly team.

### INTEGRITY

We at USP&E are committed to integrity and ethical conduct. We promote an environment that nurtures, promotes, and supports the principles of empowerment and responsibility. Paramount to our commitment is continued validation and support of the highest ethical standards of fairness and confidentiality. We respect differences and embrace diversity. We are committed to equitable treatment and mutual respect for all of our employees and clients.

### "BUILDING GREEN, LIVING IT." A Mantra We Embrace:

Grow our company while constructing quality sustainable facilities for our client community Respect the sustainable challenges of our clients by providing innovative solutions through value added services E ducate and implement sound practices and methods as predicated by LEED<sup>®</sup> and Green Advantage<sup>®</sup> guidelines Environmentally friendly products and materials are to be considered for all projects N urture client relationships through Trust, Integrity, and Professionalism

### COMMITMENT

VP IV.

USP&E is dedicated to providing quality products and services that consistently meet or exceed the needs and requirements of our clients. It is the responsibility of USP&E and each of its employees to maintain consistent professional communications and relationships with our clients and to maintain our commitment to the highest standards of service, business practice, and safety.

### SAFETY

Our emphasis on safety shows not only our commitment to maintaining a safe and qualified workforce, but demonstrates our commitment to completing your project in a timely and efficient manner. USP&E pride ourselves in taking OSHA standards to the next level and require the safest workplace possible for our employees, subcontractors, customers and anyone who enters our area of operation.

We are dedicated to elevating the standard for safety in the construction industry. All subcontractors and vendors of USP&E are required to adhere to our innovative safety program as well as all applicable state, federal and local codes and regulations. Our program provides employees and subcontractors with the tools, knowledge and resources needed to increase safety, reduce risk, and improve loss control on every project.

- \$2,000,000 Personal and Advertising Injury

- \$2,000 Deductible
- Comprehensive Global SOS Insurance for All Staff



### **GENERAL LIABILITY INSURANCE**

- USP&E carries the following minimum insurance.
- \$5,000,000 General Aggregate
- \$5,000,000 Products & Completed Operations
- \$1,000,000 Each Occurrence Limit
- \$100,000 Fire tenants legal
- \$20,0000 Medical Expenses

## **NEW/SURPLUS GENERATORS** WITH WARRANTIES AT WHOLESALE

### **DIESEL GENERATOR & POWER PLANT SALES**

Why Buy a New or Used Diesel Generator from USP&E?

- Pricing We have the best pricing in the US on Diesel and Natural Gas Generators, OEM Parts and Switchgear. We also supply, service and install plant equipment, UPS, Leibert Air Conditioners & Data Center Equipment.
- Expertise With over 40 years experience selling and renting used diesel generators and over two decades experience installing them, we leverage our vast expertise to find the solution that perfectly fits our client's goals and expectations.
- **Turnkey –** With over a gigawatt in power plant construction and sales under our belts, we love what we do and have built our business on referrals and repeat customers. It is our constant aim to be HONEST and SERVICE-ORIENTED about each project with the explicit intention of winning clients "for life"!
- **Inventory –** USP&E has a HUGE selection of diesel generators, natural gas generators, used Cat generators, used Cummins generators, new Baldor generators, and accessories and can ship them to you TODAY.

### **#1 RANKING EQUIPMENT SUPPLIER** IN THE WORLD

Cutting-edge technology is nothing new to the Onsite Power Plant Service Team of USP&E. Ranked #1 on Google, USP&E's International Service Team is well versed in the use of virtually every OEM generator and switchgear control software on the marketplace. Whether working on Cat, Cummins, Detroit, Wartsila, Rolls Royce or other power plant package, USP&E power plant superintendents and senior technicians have been trained to utilize the most advanced control software on the market in order to view myriad parameters that relate to engine operation. Our master service technicians monitor and adjust these engine parameters on an hour by hour basis in order to ensure peak performance and achieve our client's operational efficiency objectives.

### **USP&E – POWERING BUSINESS. EMPOWERING PEOPLE**

USP&E's Bloomington, MN and Dallas, TX-based offices, assisted by in-house product technical and operations specialists, have the experience gained from supplying, repairing, installing and maintaining on-site energy systems around the world. Our portfolio includes an extensive range of products for standby, prime and continuous operation using prime movers, diesel generators and switch gear from leading suppliers. In short, we provide the most reliable and trusted products, services and support wherever your facilities are located.



In addition to selling customized energy solutions for over 40 years, USP&E has been renting generator packages since 1968 as well. Our new fleet of Cummins KTA50G3 packages offer the flexibility of a staff-maintained hire fleet of USP&E designed, ISO containerized, sound attenuated units for use in virtually any application in the world. Our hire packages can be direct coupled to utility/mains and come fully featured with synchronizing/paralleling switchgear on board, HV and LV transformers, distribution cables and even a container stocked with the consumable spares you'll require, no matter how remote the region of operation. USP&E's KTA50-powered fleet has low hours and are great for short term relief during rebuilds and service or during premature engine failure emergencies. Alternatively, our Hire Packages are often utilized for 2 and 4 year applications as they offer an affordable options with minimal up-front costs, outstanding fuel efficiency and overall performance, and modest monthly installment payments to cover mobilization and usage fees.

## POWERING BUSINESS. EMPOWERING PEOPLE

### **RENTAL / HIRE OPTIONS FOR MUCH LESS**





### **COMMUNITY INVOLVEMENT**

Because of our commitment to corporate social responsibility, USP&E is a proud sponsor of charities serving Africa by helping build schools, care for children in need, prevent disease, and bring hope to war-torn regions. Please join us in supporting organizations like these — and help to truly make a difference in people's lives in Africa and around the world.

**Compassion International** (www.compassion.com) seeks to "change the world one child at a time" through its Child Survival, Child Sponsorship, and Leadership Development programs, with initiatives addressing AIDS and malaria, in addition to its primary focus on Growth Monitoring, Oral Rehydration Therapy, Breast-feeding, Immunization, Female Literacy, Food, and Family Planning.

Every Orphan's Hope (www.everyorphan.org) seeks to love, protect, and care for orphans affected and infected by the HIV/AIDS pandemic. Programs include AfricaTrek Missions, Camp Hope, Orphan Sponsorship, Orphan Homes, Orphan Sunday, and the Goodnews Wristband. USP&E staff have made trips to Africa to assist in the care of these orphans.

Feed My Starving Children (www.fmsc.org) is committed to feeding starving children hungry in body and spirit. Their simple focus on preparing meals designed especially for starving children in over 60 countries is saving lives every day. USP&E staff prepare meals for one million children or more each year.

Samaritan's Purse (www.samaritanspurse.org) seeks to "aid... the world's poor, sick, and suffering" via Relief and Development, Operation Christmas Child, World Medical Mission, Children's Heart Project, and the HIV/AIDS Prescription for Hope. "Since 1970, Samaritan's Purse has helped meet needs of people who are victims of war, poverty, natural disasters, disease, and famine..."

### IN CONCLUSION

Thank you for the opportunity to discuss your power generation service and maintenance requirements. We are very honored and excited to earn your ongoing power plant service and maintenance business.

For more information, see us Online at:



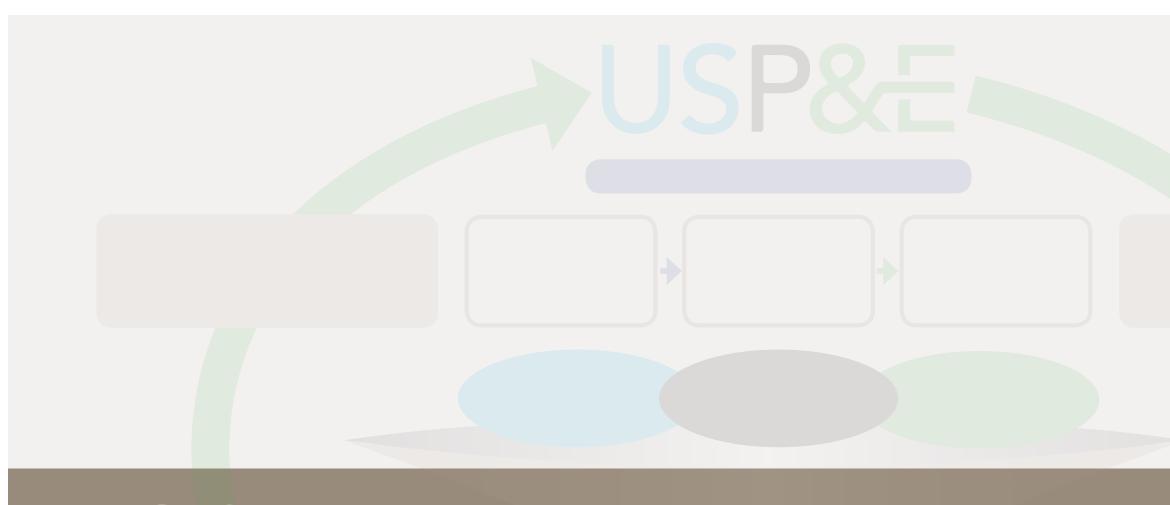
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www.uspowerco.com

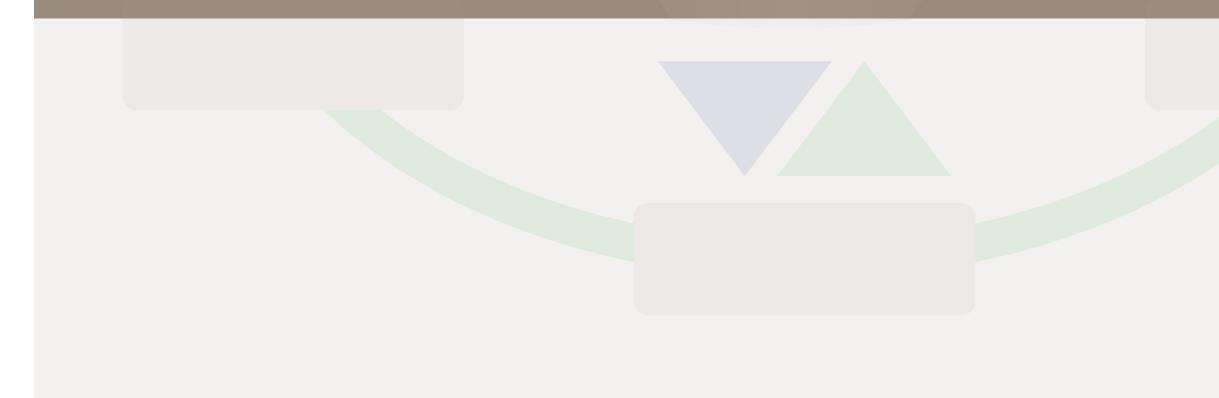
www.generatorserviceafrica.com

www.datacenterbuild.com





# USP& PROCEDURAL GUIDELINES: POWERED BY EXPERTISE



• 2 DAILY CHECKLIST	TENANCE & FUE	EL INSPECT	TIONS SUMM	MARY		The following and are the most tho	WERED BY EXPE lists of USP&E Procedur rough demonstration of ce and maintenance exc
ngine	Switch Model Model N Serial N	Gear No No	Indel		EDENTIAL INDICATORS (PDI'S)	yours every single tin daily reporting, throug	ations business. Our obj ne. We do this through o gh the strict adherence t gh regular, proactive con
olts mps power factor	3516B DAILY V Generator#	VISUAL CH	ECK OF PRI	ESSURE DIFF Week#	ERENTIAL INDICATORS (PDI'S)	Year	
Minor/Major PM checks Da	Visually inspect visible position,	the PDI's fo or air restric	r a tripped co tion reaches	prede 3516B	OIL CHANGE PROCEDURE	n locks in the	
Pre-start Readings	Maximum allowable psid for the air filter e			ter e	TASK	DESCRIPTIVE NOTES	MECHANIC
R6P <sup>©</sup> Inspection Engine Fluid Levels	Maximum allowable psid for the oil filter of Maximum allowable psid for the fuel filter		ilter Step 1	NOTE: ENSURE THAT ENGINE WILL NOT START Drain oil into a suitable container	a suitable container Note: The oil must be drained a literation	MECHANIC	
Fluid Leaks Fuel Line Filter * All Coolant Hoses	If any air filter PDI's are tripped, reset and m lead technician. If any PDI's are tripped on t			on t Step 2	Close and secure drain valve.	Note: The oil must be drained while it is warm to ensure waste particle suspension. Collect any oil samples that are required.	
Engine Coolant Heat		Sunday	Monday	T Step 3	Remove and replace oil filter elements	Drain the oil filter housing into a suitable container. Remo	
All Pulley Belts	Air filter (L)					Clean cover, spring, retainer, O-ring and filter based	ve nsion)
Battery Cables	Air filter (L/C)					in the off filters.	
Battery Water Leve	a			Step 4		Install oil filter housing cover, O-ring, spring and retainer. Torque cover bolts 55 +/- 7Nm (41 +/- 5 lb ft)	
Alarm Annunciator	Oil filter			Step 4 Step 5	Fill crankcase with oil.	Do not over fill.	
Electrical Connect Annunciator Panel	N			Step 6	Shut-down engine.	Check for proper oil pressure and check for leaks.	
NOTE: All readings are daily un	-			Final step	Secure area	Re-check oil level, add as needed. Clean-up any oil, parts or equipment that is in the area.	
	_		_			Signature	

PROCEDURAL GUIDELINES: POWERED BY EXPERTISE

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standard urpassed . You see, s to exceed , precise, rocedural ation.

### **USP&E'S SERVICE SCHEDULE**

### **1. DAILY VISUAL CHECKS**

- Fuel system for water and sediment.
- Cooling system, coolant level
- Engine air pre-cleaner
- Engine oil level
- R6P Visual 58-point inspection

### **2. SERVICE ONE CHECK**

- The service one check is a standard service check. performed every 500-service hours. On the initial service check the engine valve lash and fuel injectors will be inspected/adjusted.
  - » Engine oil filters – replaced
  - Engine fuel filters replaced »
  - Engine oil replaced >>
  - Engine crankcase breather clean/replace >>
  - Belts inspected/adjusted/replaced >>
  - Battery electrolyte level checked >>
  - Engine oil sample obtained >>
  - Cooling system coolant sample obtained >>
  - Cooling system supplemental coolant additive tested/adjusted
  - Fan drive bearing lubricated >>
  - Generator bearings lubricated >>
  - » Hoses and clamps adjusted/replaced
  - Radiator inspected/cleaned >>
  - » Air shut-off test

### 3. SERVICE TWO CHECK (LIGHT-CHECK)

- The service two check looks closely at the mechanical functionality of the engine/generator mounting at 2000 service hours and also incorporates the standard service check.
  - » Engine mounts checked
  - Generator isolation mounts checked >>
  - » Crankshaft vibration damper inspected
  - » Turbochargers inspected

### 4. SERVICE THREE CHECK (LIGHT CHECK)

- The service three check is performed at 4000 service hours and also incorporates the standard service check.
  - » Engine valve lash inspect/adjust
  - » Fuel injector inspect/adjust

- The service four check is performed at 6000 service hours and also incorporates the standard service check.
  - Magnetic pick-ups clean/inspect

**5. SERVICE FOUR CHECK (LIGHT CHECK)** 

- » Air shut-off damper remove/check
- » Alternator inspection
- Cooling system water temperature regulator replace
- » Fuel injector inspection/adjustment
- Starting motor inspection >>
- Prelube pump inspection >>
- » Water pump inspection

### 6. A-CHECK (TOP END OVERHAUL)

- The A-Check is performed at 9000 service hours and replaces the Electronic unit injectors. The standard service check is also incorporated.
- Inspect the following components.
  - » After cooler core
  - Camshaft
  - Driven equipment (alignment) >>
  - » Engine Control Module (ECM)
  - » Oil suction screen (inspect/clean)
- Inspect, and if necessary replace the following components.
  - Camshaft followers
  - Cylinder head assembly
  - Scavenge oil pump
  - Engine wiring harness
  - Exhaust manifold seals
  - Exhaust manifold bellows
  - Fuel pressure regulating valve »
  - Fuel priming pump
  - Fuel transfer pump inlet manifold gaskets >>
  - Inlet manifold seals
  - Oil pump »
  - Prelube pump
  - Pushrods
  - Rocker arms
  - Spacer plates
  - Turbocharger
  - Software updates

### 7. B-CHECK (SECOND-TOP END OVERHAUL)

- » Crankshaft
- - » Pistons

### 8. HEAVY CHECK (MAJOR OVERHAUL)

- » Piston rings
- » Main bearings
- Camshaft bearings
- Connecting rod bearings
- Crankshaft seals
- Electronic unit injectors
- Gear train bushings
- » Gear train bearings

## PROCEDURAL GUIDELINES: POWERED BY EXPERTISE

 The B-Check is performed at 18000 service hours, it replaces and inspects the same components as the A-Check with the exception of the following components. The standard service check is also incorporated.

Inspect the following additional component.

Inspect, and if necessary replace the following additional components.

» Cylinder liners Piston pins » Connecting rods » Connecting rod bearings

 The heavy check is performed at 27000 service hours. The standard service check will also be incorporated.

• The heavy check/major overhaul inspects the same components as the B-Check with the exception of the following components.

» Oil cooler core » Fuel transfer pump » Engine mounts Crankshaft vibration damper » Camshaft thrust washers

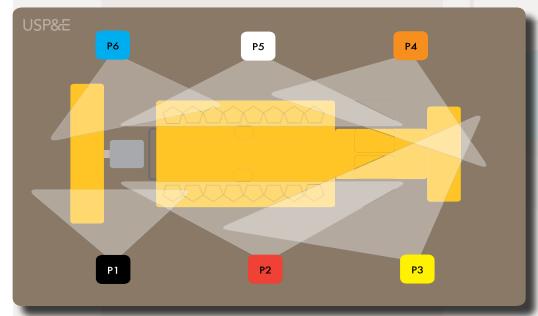
The heavy check replaces the following components.

Crankshaft thrust washers

## **RADIAL SIX POSITION VISUAL INSPECTION**

USP&E's R6P daily inspection involves a trained technician checking every item visible from six positions around every gen-set. The positions create overlapping zones, ensuring essential redundancy during each inspection. This process was created to eliminate the possibility of errors.

USP&E's R6P visual inspection covers 58 components and is guaranteed to provide 100% overall coverage of the engine/power plant, every day.



### **COMPONENTS INSPECTED IN EACH POSITION:**

#### **Position 1:**

- Left side radiator
- Left radiator fan shroud/guard •
- Left radiator support brackets
- Left radiator coolant lines and connect points •
- Radiator fan drive motor
- Drive motor belts
- After cooler temperature sensor
- Atmospheric pressure sensor
- Primary engine control module •
- Left turbo outlet pressure sensor

- Fuel filter pressure sensor (filtered)
- Fuel filter pressure sensor (unfiltered)
- Engine coolant temperature sensor
- Engine oil pressure sensor (filtered)
- Engine oil pressure sensor (unfiltered)

### **Position 2:**

- · Engine control module circuit breaker
- Left turbo exhaust temperature sensor
- Engine start aid solenoids
- Crankcase breather assembly
- Left turbo inlet pressure sensor
- Left air filter pressure differential indicator's
- Left turbo chargers
- Left turbo charger lubrication drain lines
- Left turbo charger lubrication supply lines
- Left exhaust system

### **Position 3:**

- Starter motors
- Generator control panel (left side)
- Left air shut-of solenoid
- Engine speed timing sensor
- Engine speed sensor (EMCP)
- Left air filter assembly
- Emergency stop (E-stop) switch

### Position 4:

- Generator control panel (right side)
- Right air shut-off solenoid
- Right air filter assembly

### **Position 5:**

- Right turbo inlet pressure sensor
- Right turbo exhaust temperature sensor
- Oil fill cap security
- Oil cooler assembly





## **PROCEDURAL GUIDELINES: POWERED BY EXPERTISE**

- Engine alternator circuit breaker

- Prelube motor

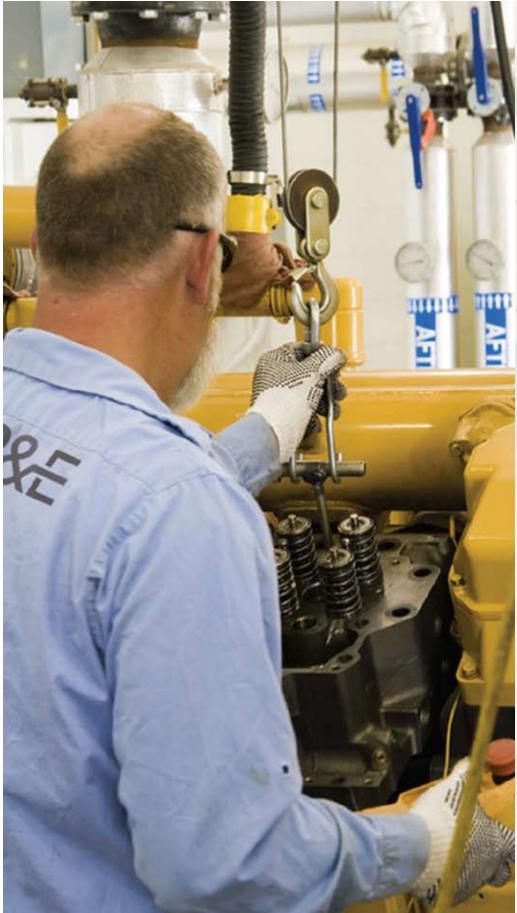
### **Position 6:**

- Engine alternator
- Oil filter housing assembly
- Secondary fuel filter housing assembly
- Fuel prime pump assembly
- Right side radiator

- Radiator fan assembly

- Right turbo chargers
- Right turbo charger lubrication drain lines
- Right turbo charger lubrication supply lines
- Oil level gauge (dip stick)
  - Right exhaust system
  - Crankcase pressure sensor
  - Prelube pressure switch
- Electronic instrument panel
- Right radiator fan shroud/guard
  - Right radiator support brackets
- Right radiator connect points

Note: Visual inspection of all fluid leaks, seeps and sweating, electrical wiring harness chaffing and fraying, exposed conductors and damaged connectors will be conducted from all six inspection positions during USP&E's daily R6P visual inspection.



### **POWER TRANSFER PROCEDURE:**

Normal Generator Power Transfer from Standby to Prime-Online.

- Pre-check and start standby Power Plant, allow power plant to stabilize.
- Inform switch gear control personnel which power plant is ready to be switched to prime-online and which power plant is to enter the off-line cool down for servicing.

**Emergency Generator Power Transfer from Standby** to Prime-Online.

In the event of a power plant failure, or an audible, visual or monitored abnormality that might cause damage to a power plant.

- The standby power plant will be readied for prime-online, while the switchgear control personnel are informed of which unit is coming off-line (depending on the nature of the problem, this power plant may already be off-line).
- The standby power plant will be placed on prime-online as soon as the rpm's and pressures are confirmed normal.
- The target time line for emergency power transfer is less than 5-minutes from the time of indicated abnormality.

### **MEGOHMETER TESTING**

This test ensures the integrity of your generators insulation.

- Electrical windings in generators are covered with epoxy insulation. Vibration, general usage or moisture can break the epoxy down and cause electrical shorts.
- A Megohmeter Test will identify any decrease in your generator's epoxy capacity, saving you from a major repair bill or replacement of the generator.
- Recommended every six months for Prime or Continuous applications, every 12 months for load management or standby applications.

### INFRARED TESTING OF SWITCHGEAR PROCEDURE

Infrared Testing measures your electrical distribution switchgear for problem areas or hot spots.

- •

### LOAD BANK TESTING PROCEDURE

Load Bank Testing confirms the ability of your generator to produce a given kW and attain proper engine operating temperature. Benefits of Load Bank Testing are:

- copper windings

# PROCEDURAL GUIDELINES: POWERED BY EXPERTISE

• Our experts are trained to visually and manually inspect the physical, electrical and mechanical condition of your electrical distribution switchgear and visually inspect for bus alignment.

• Our experts are trained to scan distribution equipment and:

Remove all necessary covers prior to scanning

Provide written report, which includes:

Problem areas or hot spots

Temperature rise between hot spot & normal reference area

Cause of heat rise

Phase imbalance, if present

All areas scanned

Replace removed covers

Exercising of cooling system

Reseat engine piston rings in the cylinders and liners

• Burn off carbon deposits in the combustion chamber, injector nozzles, piston rings, turbocharger and exhaust system

Dissipate any condensation build-up on generator's

Engine safety shutdowns will be fully tested



enjoy lower parts, generator, fuel and labor costs, while increasing up-time, asset life, fuel efficiency, and profitability, with our reliable new and used diesel generators, power generation equipment parts, and comprehensive onsite maintenance and support services. USP&E is the most proactive, flexible and innovative full-service wholesale dealer, installer, servicer and maintainer of fuel-efficient diesel and natural gas power plants on Earth.



**NEW/SURPLUS GENERATORS** WITH WARRANTIES AT WHOLESALE



### US Power & Environment's customers

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