



CEMS Reporter

CONTINUOUS EMISSIONS MONITORING SYSTEMS NEWS

FALL 2000

MIND OVER MATTER: CUSTOMER COLLABORATION PRODUCES EDR SUCCESS AND INDUSTRY-WIDE KNOWLEDGE

Whenever new air monitoring regulations come into play, there is always a slight oscillation that goes through the regulated community. Utilities, power suppliers and other affected sources study the often complex rules to determine if and how they apply to their situation. Air Compliance Vendors must rise to the challenge of developing the solutions that will meet the requirements outlined in the revised rules. And together the industry moves forward on a shared agenda to improve the way we deliver products and services to the public.

This past year saw the implementation of the mandatory Acid Rain-affected sources EDR 2.1 upgrade. The regulatory changes allowed affected sources to take advantage of new reporting variations and required each of them to upgrade their Data Acquisition and Handling System (DAHS) software to comply. KVB-Enertec worked diligently through all the regulatory phases of the process and developed FOCUS 2.1 as their NTAHS solution to the new requirements.

The Clean Air Markets Division of the USEPA extended the regulatory deadline by two weeks to allow affected sources to comply with the new rules. This speaks volumes about the complex nature of the revised regulations. KVB-Enertec supported the submittal of 70 percent of the first quarter EDRs through their FOCUS 2.1 Phase I software implementation plan. Phase II, which was the upgrade implementation of the remaining installed base, was enhanced through the introduction of the Monitoring Plan Accuracy & Validation Service (MPAS) program and was completed in the second quarter of 2000.

(continued on page 3)

KNOWLEDGE AND TEAM WORK DRIVE DETROIT EDISON MONITORING PROGRAM



Don Fleischmann, leading the Detroit Edison air monitoring team, works with KVB-Enertec CEM systems, NTAHS systems and an opacity monitor.

In some ways, air monitoring regulations could be said to resemble the tax code: The rules are complex and any two regulations might be interpreted three different ways. Which is why Don Fleischmann, CEMS Quality Assurance Engineer at Detroit Edison, values a knowledgeable and reliable full-service CEMS vendor.

Over the past two years, Fleischmann has been at the forefront of a system-wide team partnering with KVB-Enertec to address the utility's environmental monitoring needs. Their uptime success can be attributed to the technical capabilities and commitment of both the customer and vendor. Detroit Edison engineers and technicians are experts at recognizing the specific requirements of the utility and their operations. The support group at KVB-Enertec brings a sophisticated level of regulatory, software development and hardware experience to the team.

Detroit Edison is the largest utility in Michigan, operating nine plants that have 23 stacks regulated under the Acid Rain program. In 1999 it sold over 55 billion kilowatthours. About 85 percent of this power was generated on 20 coal fired units operating with KVB-Enertec NTAHS Data Acquisition and Handling Systems. It delivers energy to 2.1 million residential, commercial and industrial customers over a 7,600 square-mile region. *(continued on page 2)*

LASER OPACITY MONITOR IMPROVES ACCURACY

Required to track opacity at its Monroe plant on a stack fed by two large boilers, Detroit Edison faced a common problem: temperature changes. Whenever one of the boilers was shut down or brought up again, the temperature shift on one side of the stack would push the monitor out of alignment. The skewed results, often inappropriately high, had to be reported as actual data. The temperature also changed naturally over time, requiring a technician to climb the stack periodically to realign the monitor or to do quarterly audits.

The solution was found with the KVB-Enertec EPA3 Laser Opacity Monitor, the only opacity system using a laser to deliver consistently accurate data. The EPA3 has a small laser beam aimed at a larger target area with a single pass design that maintains the monitor's calibration. As a result, the KVB-Enertec monitor remains accurate through temperature shifts and other changes over time. With the EPA3, the utility also avoids sending a technician up the stack for audits since the tests are conducted from the



The KVB-Enertec EPA3 Laser Opacity Monitor solved an ongoing problem caused by temperature shift at a Detroit Edison plant.

The utility also has five KVB-Enertec Continuous Emissions Monitoring Systems collecting data at two plants. A KVB-Enertec EPA3 monitor has improved opacity reporting accuracy (see story on page 1) and the utility relies on the KVB-Enertec 24/7 software maintenance program for ongoing support and to quickly resolve problems.

The relationship began in 1998 when Detroit Edison decided to replace their Unix DAHS with an NT-based system during a Y2K changeover. After reviewing six available products, they selected the KVB-Enertec NTDAHS because the software met their needs and had been proven on the market.

NEW SYSTEMS KEEP PACE

One of the first challenges for the new team was managing the changeover schedule to minimize data loss. Installation began in January 1999 and the goal was to complete one system a week. All 18 NT data acquisition systems were operational by May, right on target.

"Even though we had purchased a standard package, every plant had their own configuration," Fleischmann said. "The software was so flexible that we could make many of the necessary adjustments almost on the fly. On the other hand, the field engineers put in the hours when it was required to meet the schedule.

"Our big concern was that we might be down and have to substitute data, but we were never out for more than the allowable four-hour margin and some plants didn't lose any data at all."

The frantic pace continued for the utility as two KVB-Enertec CEM systems and an NTDAHS were installed at its Conners Creek plant in June of 1999. In May of 2000, two additional monitoring systems were installed when local regulations changed and Detroit Edison agreed to go beyond the federal requirements by monitoring the four Conners Creek boilers separately instead of the two common stacks.

Also in 2000, a KVB-Enertec monitoring system and NTDAHS were installed at the River Rouge power plant. Under the circumstances, the schedule was again tight, with 16 weeks from placing the order to start-up.

"In the end, you'd be hard pressed to find a system that's down around here," Fleischmann said. With better than 99% uptime at many of the plants, the system-wide average is over 95% due to an instrument that occasionally fails calibration.

ACCESS TO MORE INFORMATION

With the KVB-Enertec NTDAHS systems, operators are given more information in a friendlier format, according to Fleischmann. "The systems have increased the operators level of understanding about the CEMS and they can respond more knowledgeably to an alarm."

System-wide engineers also have access to mission critical data for management reports and analysis. The Corporate DAHS option automatically updates files on the enterprise system as plant data changes. The copied files also serve as another safety margin for the utility.

"The regulatory systems and rules are very complicated, on all levels, including the federal, state and local permits," Fleischmann said. "It's extremely helpful to have knowledgeable engineers and software developers from KVB-Enertec to work with us in resolving, and avoiding, potentially problematic issues."

24/7 SERVICE BRINGS PEACE OF MIND IN AN UNPREDICTABLE WORLD

Unfortunately, problems are not schedulable at a convenient hour. With the 24-hour operation at most plants, urgent situations can arise in the early morning hours or on weekends when it is difficult to obtain corporate approval for a service call. If not managed immediately, however, a minor problem can grow into a major crisis resulting in lost data or fines.

PacifiCorp, a subsidiary of Scottish Power, is a utility serving parts of Oregon, Idaho, Washington, Utah, Wyoming and California. It has 19 coal fired and three gas fired units operating with KVB-Enertec NTDAHS software on hardware supplied by other vendors. The units have been covered under the KVB-Enertec 24/7 service plan since 1994.

"The good news is that it's been awhile since we needed to call them after hours, but when we do, KVB-Enertec always responds immediately," Bill Lawson, PacifiCorp Manager of Environmental Compliance said. "You can never tell what is going to happen. A few months ago, a hard disk crashed. The problem was resolved professionally and as quickly as possible," explained Lawson.

As part of the program, KVB-Enertec technicians have the ability to dial into each of the plants directly to perform online diagnostics. They also have the option of connecting through a corporate workstation that allows access to the system-wide LAN if the local phone lines are down or unreliable.

"We just call and the KVB-Enertec staff takes care of the problem. We don't have to worry about the number of incidents or when they occur and it's not an issue of getting a purchase order," Lawson said.



Northern California Power Agency's Balta Ramirez uses a KVB-Enertec CEMS to monitor a low emissions turbine system at levels below 3 ppm.

SUCCESS WITH AND

Looking for more are turning to turbine troublesome if not Agency (NCPA) has turbine with ammonia KVB-Enertec CEM

The Lodi, CA plant and provides power stay under 3 ppm

injection control system, according to Balta Ramirez, NCPA Le

To sustain the permit levels, the automated ammonia catalyst to the KVB-Enertec monitoring system. Emissions remain between

"The monitoring system itself has been consistently reliable preventive maintenance and taking preemptive action to avoid

EPA SPEAKS AT USER MEETING, NEW STEERING COMMITTEE ANNOUNCED

EPA representatives discussed proposed changes to Part 75 rules at the September 2000 KVB-Enertec User Group Meeting, the third held this year. The meeting covered CEMS design, laser opacity monitoring, EDR reporting and other topics. Shown below, the EPA's Bob Vollaro and George Croll congratulate members of the first KVB-Enertec Steering Committee.



The new KVB-Enertec Steering Committee at the Las Vegas users group meeting (from left to right): Bob Vollaro, EPA, guest speaker (front); Lori Trout, SRP (front); George Croll, EPA, guest speaker; Don Fleischmann, Detroit Edison (front); Kevin Thomas, Minnkota; Doug Braff, Minnesota Power (front); Shawn Husson, Oklahoma Gas & Electric; and Bill Lawson, PacifiCorp.

LOW-EMISSION ALTERNATIVES TO GENERATING ELECTRICITY, MANY PLANTS CAN NOW MONITOR NO_x AT UNDER 3 PPM USING A LOW-EMISSIONS TURBINE. EXPERIENCE IS A GREAT TEACHER. THE NORTHERN CALIFORNIA POWER PLANT HAS FULLY MONITORING NO_x AT UNDER 3 PPM USING A LOW-EMISSIONS TURBINE FOR OVER FOUR YEARS. THE 49.9 MEGAWATTS TURBINE, EQUIPPED WITH A LOW-EMISSIONS CATALYST, HAS BEEN OPERATING SINCE APRIL 1996. THE TURBINE PROVIDES AS VOLTAGE SUPPORT FROM CHICO IN THE NORTH TO FRESNO AND SACRAMENTO CITIES. IT HAS COMPLIED WITH LOCAL OPERATING REQUIREMENTS TO MONITOR NO_x BY INTEGRATING ITS CEMS WITH AN AUTOMATED AMMONIA CATALYST SYSTEM. THE SYSTEM IS SET TO CONTROL AT 2.8 PPM WITH THE RESULTING DATA SENT TO THE STATE DEPARTMENT OF PESTICIDE REGULATION, BASED ON THE MONITORING SYSTEM'S PROVEN ACCURACY OF ±0.1 PPM. "AFTER FOUR YEARS OF OUR OPERATION," RAMIREZ SAID. "THE KEY IS TO MONITOR PROBLEMS THAT CAN ARISE FROM NORMAL OPERATION."

low-emission alternatives to generating electricity, many plants can now monitor NO_x at under 3 ppm using a low-emissions turbine. Experience is a great teacher. The Northern California Power Plant has fully monitoring NO_x at under 3 ppm using a low-emissions turbine for over four years. The 49.9 megawatts turbine, equipped with a low-emissions catalyst, has been operating since April 1996. The turbine provides as voltage support from Chico in the north to Fresno and Sacramento cities. It has complied with local operating requirements to monitor NO_x by integrating its CEMS with an automated ammonia catalyst

system. The system is set to control at 2.8 ppm with the resulting data sent to the state department of pesticide regulation, based on the monitoring system's proven accuracy of ±0.1 ppm. "After four years of our operation," Ramirez said. "The key is to monitor problems that can arise from normal operation."

MAKING BACK-UP MORE RELIABLE

Few and far between, still there are those once in a lifetime moments when the last words you want to hear are, "Sorry, there's no recent back-up." These are the words that could cost you thousands of dollars in lost information and fines.

At KVB-Enertec, we have taken a proactive approach to helping our customers develop healthy back-up habits. The new Emergency Back-Up and Repair Kit available to KVB-Enertec DAHS customers offers step-by-step instructions and flow charts for maintaining and restoring daily, monthly and full or master back-ups. The laminated charts can be posted for onsite reference and the kit also includes a discussion on strategies and a schedule to simplify the process.

Back-ups are vital to successful CEMS operations and the KVB-Enertec NTDAHS streamlines the process with several features written into the software. Back-up utility programs are pre-configured on most systems to automatically generate tapes at a designated time each day, including any open files. A desktop icon also is provided to create on-demand and monthly full-system back-ups without any additional configuration from the user.

Customers can order the back-up emergency and repair kit through KVB-Enertec customer service at 800-582-1670 or email at service@KVB-Enertec.com.

Mind Over Matter (continued from page 1)

Through the combined commitment of customers and supplier, KVB-Enertec successfully implemented and submitted approximately 400 EDRs in the new format. All of this was completed by the original deadline of July 31, 2000. All received top scores. And all successfully submitted third quarter EDRs with FOCUS 2.1. KVB-Enertec is serious about the business of compliance and proved it by meeting every aspect of the new regulations, including the mandatory implementation deadlines.

The success of the FOCUS 2.1 program was the result of more than regulatory expertise, good programming and efficient conversion planning. It grew out of the long-term partnerships that KVB-Enertec has nurtured with its customers for almost 30 years. The company's policy is to encourage customers to work directly with its key personnel on a daily basis.

"We recognize that the first-hand experience of specialists working in the field is a vital asset to a plant's monitoring program," said Rick Whiffen, KVB/Enertec President. "On the other hand, it is the plant managers and engineers who are the experts at operating their facilities and we are always learning from them as well," he added.

FOCUS 2.1 grew out of this collaboration. It was designed around a regulatory requirement then went beyond the point of rule to consider how work is done in the field and improve the process. We were looking to go beyond the core regulatory needs and address known "ease of use" features of the software. Features and new applications tied to Flow to Load, Day View and Certification Testing have received great reviews from end users across the entire NTDAHS user base.

This commitment extends to all areas of the KVB-Enertec product offerings, from turnkey Continuous Emissions Monitoring Systems to 24/7 emergency services. We are constantly improving and growing through the exchange with our customers. It is this resulting body of knowledge that will be our most enduring and important contribution to the industry.



The KVB-Enertec crew in California.



The KVB-Enertec team in Pennsylvania.

To all our friends,
our colleagues, our customers:

Our warmest wishes for a
Joyful And Prosperous New Year

Seasons Greetings from
all of us at KVB-Enertec

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NEWS BRIEFS

- KVB-Enertec earned a place on the **GE Qualified Vendors List** following an audit by General Electric Packaged Power L.P. The critique of the KVB-Enertec California facility included sales, contract review, engineering, purchasing, production control, receiving inspection, in-process inspection and test, final inspection and shipping.
- The next **FOCUS EDR Training Workshop** will be held February 22 and 23, 2001 at the New Horizons Corporate Training Center in King of Prussia, PA. The workshop is a hands-on technical program on using KVB-Enertec FOCUS software to maintain regulatory compliance. Information can be found at www.KVB-Enertec.com and reservations made by emailing rsvp@kvb-enertec.com or calling 215-996-4064.

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