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When AEMP Past President Dave Markey, CEM, was asked by a prospective member what he could expect to get from AEMP membership, he answered, “Exactly what you put into it.” That was almost five years ago, and his words still echo. As your outgoing National President, I’d like to tell you a little about my journey down the volunteer trail with AEMP.

Past President Ron Hutchinson, CEM, invited me to attend an AEMP meeting in Peoria, Ill., in 2001. Relatively new to fleet management, and out of my great respect for Ron’s abilities, I tagged along. It didn’t take long to realize that I was in the midst of the country’s foremost fleet managers and professionals from across the industry, I also rubbed shoulders with AEMP Partners for Growth and leading-edge companies such as Caterpillar, John Deere, Volvo, Manitowoc, International Truck, BP Castrol, QUALCOMM, Trimble, and Construction Equipment magazine, along with a wide range of quality vendors and distributors. Even a relative novice like me soon recognized the amazing opportunity to network with solution providers for many if not all of my pressing fleet-management concerns. How was I going to start down the “green” road, how could I possibly start integrating the vast amounts of data pouring into fleet management, or what telematic provider might I choose?

Talk about networking opportunities. Soon I found myself conversing with fleet managers sharing ideas and discussing solutions to current issues, leaders in fleet management such as Dale Warner, CEM, winner of the 2007 Fleet Masters award; Bob Decker, Chairman of the Board of AEMP’s Foundation, who defines commitment and vision; Greg Kittle, CEM, an amazing intellect with great sense of purpose; Marilyn Rawlings, CEM, someone you just have to meet to immediately learn what “focus and professionalism” mean. All past presidents of AEMP, I give my thanks to each of them for their help and encouragement.

My journey down the leadership road was enabled by our energetic and talented Executive Director, Stan Orr, CAE. I can tell you that without his tutelage and insightful leadership our association’s progress would be greatly diminished. Thank you to Stan and his awesome staff.

And if you will permit me just one more thank you I would be remiss if I did not mention the person most responsible for affording me the time and energy to serve. My wife Kathie, mother of four children, grandmother to five, somehow manages to balance career and family and be great at both. I cannot imagine balancing both my fleet-management job and association duties without this great lady at my side.

I encourage you to join and to lead alongside this amazing group of people. I am confident that your commitment will lead you on a similar journey of discovery. Come and work with incoming President Mike Bates, who I am sure that you will come to admire as a true industry professional.

Hopefully, as Dave Markey suggested, I’ve “put something into it.” It has been my great pleasure to serve as your national president.
### Association of Equipment Management Professionals

**Membership Application**

**Primary representative**

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**Additional representative(s)**

**Who recommended you to AEMP?**

**Please check main industry involvement:**

- [x] Aviation ground equipment
- [ ] Construction
- [ ] Dealer/Distributor
- [ ] Education
- [ ] Energy
- [ ] Environmental
- [ ] Equipment Supplier
- [ ] Government
- [ ] Logging
- [ ] Manufacturer
- [ ] Mining
- [ ] Parts Supplier
- [ ] Utilities

**To apply for full membership as an equipment user, please choose one of the following options:**

- [x] Organization ($760 - includes up to five members)
- [ ] Individual or Trade Press ($220)
- [ ] University, Trade School, etc. ($105)
- [ ] Retired ($50)
- [ ] Add-on ($220)

**To apply for associate membership as a vendor, please choose one of the following options:**

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- [ ] Service, Support, Dealership-1 (Under $1 million in gross sales) ($595 - includes one member)
- [ ] Service, Support, Dealership-2 (More than $1 million in gross sales) ($845 - includes up to two members)
- [ ] Add-on ($220)

**Method of Payment**

- Attached is my payment of $ for annual dues.
- [ ] Check, P.O. number
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Get Help with Emissions Compliance

As hard as it can be to comply with ever-tightening emissions regulations, it can be even more difficult to find the information you need to make compliance decisions. The new Association of Equipment Management Professionals (AEMP) Emissions Central web site can help with links to the facts you need, including:

- The latest developments on biofuels: “Fuel-maker Tesoro Corp. has sued to block California regulations that would boost the biofuel’s content in gasoline to 10 percent by 2010. The San Antonio company, which owns refineries in Los Angeles and the Bay Area city of Martinez, has filed a lawsuit seeking a preliminary stay and eventual nullification of the new gasoline rules.”
- A quick look at changing emissions regulations in your state or a state in which you plan to be working: “Four Arizona companies that voluntarily disclosed and corrected environmental violations have seen penalties waived by the U.S. Environmental Protection Agency.”
- Developments in emissions technology: “Eberspaecher N.A. has developed exhaust technology that will enable heavy-truck engine manufacturers to meet stringent new EPA emissions standards without sacrificing fuel economy. New exhaust systems under development at Eberspaecher can reduce critical heavy-truck emissions by up to 90 percent.”
- A way to calculate what emissions regulations will cost you: “The Diesel Emissions Quantifier is an interactive tool to help state/local governments, fleet owners/operators, municipalities, contractors and others to estimate emission reductions and cost effectiveness for clean diesel projects. Estimates are made using specific information about a fleet.”
- Data on federal and state emissions regulations. Although it already contains an abundance of helpful information, the site, which was launched in October 2008, is a work-in-progress and AEMP needs your help. If, in your journey to emissions compliance, you uncover resources that could help other fleet managers, or if your state emissions agency proposes legislation, please let us know. Simply email the information to sara@aemp.org. In that way, we can continue to improve the site and provide equipment managers with the best emissions resources possible.

Need help now?

If you need specific help that you cannot locate on Emissions Central, check out AEMP’s Emissions Forum, where equipment managers can post questions and answers on emissions issues, and alert other equipment managers to potential problems.

Please note: The emissions forum is an AEMP members-only site and will require your user name and password to access. If you need assistance, please call (970) 384-0510 or email barb@aemp.org.

Make the 2009 AEMP Annual Meeting a Priority

If you have not registered yet for the 27th AEMP Management Conference & Annual Meeting to be held March 15-17 at the International Plaza Resort in Orlando, do it today. This conference has never been more important than it is now with today’s turbulent times.

At the management conference—the industry’s only event specifically designed for fleet-management professionals—40 top fleet managers and industry experts will present sessions designed to provide:

- Solutions to the most critical fleet management issues
- Strategies for more effective asset management
- Skills for working more efficiently in today’s fast-paced environment.

The annual meeting provides many opportunities to network with fleet managers and includes AEMP’s 2009 Trade Show & Exhibition.

During the convention, you can attend the Construction Equipment Managers Institute and earn CEUs toward CEM certification.

For information or to register, visit www.aemp.org.
Telematics Summit Scheduled

AEMP will hold another Telematics Summit in Chicago, February 25. The organization is currently spearheading an industry initiative to develop solutions for the delivery of key telematics data directly to equipment users in a format that will allow them to manage their mixed heavy-equipment fleets more effectively.

To date, several OEMs have agreed to work with AEMP to explore possible solutions, including Caterpillar, John Deere, Komatsu, Manitowoc, Volvo and Case.

Presentations scheduled for the Summit include:
- “What Telematics Integration Means to Today’s Asset Manager”
- “An Exploration and Discussion on File Standardization”
- “Implications and Future Steps for OEMs and AEMP”
- “Challenges to Success”
- “Expanding AEMP’s Technology Committee to Encompass the Equipment Triangle”

Any OEM that currently utilizes telematics in their equipment will benefit from this summit. However, AEMP is requesting each OEM limit its attendees to key decision makers engaged in the development and implementation of telematics solutions. If your company would like to be a part of this ongoing series of summits and the telematics solution, please contact AEMP at (970) 384-0510 or stan@aemp.org.

Crane Safety Moves To Center Stage

If you missed the AEMP/Construction Equipment magazine webinar December 3 on crane safety, you can still tune in.

“With the number of highly publicized crane accidents across the country and around the world, this web-based seminar has immediate application to construction equipment fleet managers,” said Rod Sutton, editor in chief of Construction Equipment and constructionequipment.com. “We are fortunate to be able to partner with AEMP to present this timely and relevant online education.”

In the webinar, Ronald Kohner, P.E., an expert inspector, who has 38 years in the crane industry and has been involved in lifting projects around the globe is joined by Chris Ryan, CEM, VP-Equipment at Boh Bros. in New Orleans. The two discuss upcoming crane regulations and safe crane use, including a safe crane and work environment, and the need for proper use of the crane by knowledgeable personnel.


Industry Leaders to Address AEMP

Experts in key issues ranging from emissions regulations to equipment theft and from benchmarking to telematics solutions will address the 27th Management Conference & Annual Meeting March 15-17 in Orlando.

Emissions regulation is one of the most confusing and potentially expensive issues facing today’s fleet manager. Mike Buckantz, recognized authority on on- and off-road emissions regulation, will present the latest developments in emissions regulations for fleet managers and a look at what you’ll have to do to prepare for the changes.

With equipment theft on the rise, jobsite security is more important than ever. David Schillingford, Founder and President of the National Equipment Register, a national database of stolen construction equipment, will discuss the true cost of equipment theft and what you can do to combat this problem.

Benchmarking, applied correctly, can improve performance, productivity, quality and customer satisfaction. At the conference, Greg Kittle, CEM, Equipment Operations Manager for Ryan Central, will present “Benchmarking for Asset Managers,” a session every equipment manager should attend.

In “Using OEM Telematics Systems,” Robert Andrade, CEM, Vice President of Equipment/Asset Management at Parsons, with 30 years of experience in equipment management for both large and small companies, will explain how telematics can help equipment managers increase productivity while reducing downtime.

For more information, or to register, visit AEMP’s website at www.aemp.org.
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- Develop skills for working more efficiently in today’s fast-paced environment.
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Is Your Shop Rate What It Should Be?

Here’s how to crunch the numbers to find out.

By G.C. Skipper, Contributing Editor

All it takes to develop an accurate shop rate are a knowledge of the basic principles of accounting—and a commitment to "leave no stone unturned" in the search for costs. As easy as that is to say, it won’t be that easy to do. However, these fleet managers have developed successful strategies for establishing shop rates that work.

“Fleet managers must know what their costs are—both internal and external—and keep full control of what is being paid out of their budgets,” says William E. DeRousse, fleet maintenance superintendent for the City of Everett, Wash. “Those costs should be separated into business costs and support costs. Business costs will determine your shop rate. Support costs (parts room, specification writing, and fueling operation) and other non-business expenses should be covered by an individual equipment charge or percentage mark up. The important thing to remember is to keep the costs separate. If you don’t, your shop rate will not reflect the true cost of running your business.”

To develop a shop rate, include salaries, benefits, uniforms, fuel, parts, building rentals, depreciation costs, capital equipment replacement costs, office and shop supplies, membership dues and even subscriptions.
COSTS AND RATES

The City of Everett, Wash., calculates its fully loaded labor rate based on total operating cost and total billable hours.

Total Wages and Benefits (110, 120, 160, 170, 180, 210) $242,140
1 Working Supervisor and 1 Electronic Tech., Office Support Staff
City Support Costs (910, 920, 940, 950, 960, 980) $39,304
Office Overhead Costs (260, 310, 470, 494, 620, 630) $10,560
Asset Replacement & Operating Costs (640 & 000) $550
Shop Costs, (350, 480) $4,589
Training (441, 442, 443, 444, 445, 446) $1,100
Professional Services (410) $ -
Leases (450, 660) $550
Dues/Memberships (491) $330
Subscriptions (492) $440

Total Operating Cost $299,563

Total Hours Available (2 x 2088) 4,176
Sick Hours Available (12 days x 8 hrs x 2) (110)
Vacation Hours Available (200)
Holiday Hours Available (11 days x 8 hrs x 2) (176)
Training, Meetings, Cleanup, Misc. - 3% (25)
Supervision (368)

Billable Hours 3,297
Total Operating Cost $299,563
Total Hours +3,297

Fully Loaded Labor Rate $90.86

The chart on the facing page is an example of the detail DeRousse uses to develop his shop rate. The City of Everett has three business units: main automotive repair shop, radio repair shop and parts room operation. Each is a stand-alone business that must be competitive and make enough money to pay the unit’s expenses.

The first part of the chart breaks down the cost for the equipment repair shop. The second is DeRousse’s calculation of the number of hours that are available to bill customers. After deducting sick leave, vacations, meetings, cleanup time and training, the estimated billable hours each year for two technicians is 3,297 out of a possible 4,176. (One technician is a working supervisor.)

“Based on these numbers, we divide the hours that are available to bill into our total operating cost of $299,563 for the radio shop and come up with a fully loaded labor rate for 2008 of $90.86 per hour,” says DeRousse. “For the automotive repair shop, our fully burdened labor rate is $87.89 per hour. Our parts room mark up for 2008 is 28 percent.”

Some fleet managers are told by their accounting departments what was spent in previous years and given a dollar amount that is equal to or a slightly more than the previous budget to work with.

“That is rapidly becoming an obsolete method as more responsibility is given to fleet managers to not only manage the repair of the equipment, but to know how and where each dollar has been spent,” says DeRousse. “It may take more time and more control of your fleet operation to develop a shop rate from scratch, but it’s still the best choice.”
To develop a shop rate, include salaries, benefits, uniforms, fuel, parts, building rentals, depreciation costs, capital equipment replacement costs, office and shop supplies, membership dues and even subscriptions. Be particularly aware of the fees internal departments charge for services they provide your department or division.

“Internal charges can be unnecessarily high and should be negotiated to be competitive,” says DeRousse. “I spoke recently with a fleet manager who is being charged $2 million a year by his IT department. The charge made his shop rate $100 higher than local repair shops. You can’t be competitive with inflated costs like that.”

Even after you have all the numbers pertaining to your projected costs and you establish your shop rate, the job isn’t over.

“You don’t want to overcharge or undercharge your customers,” says DeRousse. “Your income and expenses must balance out and that might need to be reviewed several times a year, depending on what outside factors are influencing your costs,” says DeRousse. “However, in most cases your shop rate can be evaluated and set at the beginning of each budget year.”

**Getting specific**

Curtis Rhodes, fleet manager, for the City of Surrey, B.C., Canada, developed his shop rate this way.

“I calculate wages; employee benefit packages, including vacation pay, sick time, medical and dental fees, and long-term medical costs; and overhead, such as electricity, heating, building costs, support staff, parts and clerical,” he says. “I start with a base number, say, $29.62. I add $6.52 (22 percent) for benefits, $4.44 (15 percent) for overhead, and $4.44 (15 percent) for support staff and arrive at a shop rate of $45.02 per hour.”

Frederick Chun, fleet service manager for Tacoma, Wash., established his hourly shop rate and full-service maintenance rate using the labor rates; shop operating expenses, including utilities; and supervisory costs.

“Other key factors we consider are our billable rate to recover our labor costs and the inflationary factor, because we lock our rates in for two years in line with our budget cycle,” he says. “It’s very difficult and I’ve made some mistakes that resulted in under- or over-charging.”

To avoid errors, Chun works closely with the administrative and finance staffs to develop accurate information and analyzes various scenario to establish accurate rates.

**Cover your costs**

David Greenlee, CEM, fleet manager for Alyeska Pipeline Service Co. in Fairbanks, Alaska, calculates his company’s shop rate by incorporating all the costs into an hourly rate he can charge out.

“If you are a commercial shop, you want to have all your costs, plus your fee rolled into the rate,” he says. “You’re looking for cost recovery, so you have to know what your overhead costs are to determine the rate. If you don’t, you can’t really recover them properly or defend them if someone in your organization challenges them.”

As a fleet becomes larger, Greenlee says, fleet managers eventually come to the point where they have to decide whether to increase or decrease their shop rates.

“For the most part, we review our shop rate annually, but we do take a look at them every time there is a change in the status quo,” he says. “If there’s a labor cost change or change in electricity, heating or air conditioning, for example, we want to determine whether or not we should absorb the change or wait to change the rate at the next appropriate time.”

If you add technicians seasonally, you should consider the impact of that change.

“If you add technicians, it’s possible your rate would go down a little,” says Greenlee. “Since facility costs stay roughly the same, more technicians allow you to spread the cost over more people. As a result,
Operating Expenses

This report, used in developing shop rates for the City of Everett, Wash., tracks the operating expenses for the motor vehicle department from 2004 to 2007. The most striking change is the spiraling cost of fuel.

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries and Wages</td>
<td>$1,499,909</td>
<td>$1,446,805</td>
<td>$1,467,772</td>
<td>$1,550,307</td>
<td>$1,621,755</td>
<td>$1,693,179</td>
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<tr>
<td>Overtime, Hazard Duty</td>
<td>$9,555</td>
<td>$13,034</td>
<td>$8,083</td>
<td>$7,727</td>
<td>$23,764</td>
<td>$25,000</td>
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<td>Day Laborer/Seasonal</td>
<td>$22,260</td>
<td>$18,580</td>
<td>$34,591</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Other Pay</td>
<td>$2</td>
<td>$10</td>
<td>$30</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
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<tr>
<td>Employee Benefits Taxes</td>
<td>$473,396</td>
<td>$544,128</td>
<td>$506,398</td>
<td>$560,630</td>
<td>$555,759</td>
<td>$510,254</td>
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<tr>
<td>Uniforms &amp; Clothing</td>
<td>$6,969</td>
<td>$9,312</td>
<td>$9,049</td>
<td>$8,018</td>
<td>$9,000</td>
<td>$9,000</td>
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<tr>
<td>Office &amp; Operating Supplies</td>
<td>$27,362</td>
<td>$27,396</td>
<td>$25,677</td>
<td>$39,148</td>
<td>$20,000</td>
<td>$30,000</td>
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<tr>
<td>Fuel Purchased for Resale</td>
<td>$1,014,043</td>
<td>$1,517,651</td>
<td>$1,833,592</td>
<td>$2,156,794</td>
<td>$2,600,000</td>
<td>$2,833,800</td>
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<tr>
<td>Items Purchased for Inventory</td>
<td>$635,840</td>
<td>$683,984</td>
<td>$814,285</td>
<td>$1,283,768</td>
<td>$1,125,563</td>
<td>$1,252,076</td>
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<td>Small Tools/Equipment</td>
<td>$39,225</td>
<td>$27,246</td>
<td>$28,021</td>
<td>$24,123</td>
<td>$24,000</td>
<td>$35,000</td>
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<td>Professional Services</td>
<td>$53,589</td>
<td>$63,367</td>
<td>$71,483</td>
<td>$74,568</td>
<td>$100,000</td>
<td>$80,000</td>
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<td>Misc. Travel/Training</td>
<td>$10,413</td>
<td>$10,218</td>
<td>$13,183</td>
<td>$9,806</td>
<td>$10,000</td>
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<td>Operating Rental/Lease</td>
<td>$9,520</td>
<td>$6,480</td>
<td>$3,945</td>
<td>$4,446</td>
<td>$5,000</td>
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<td>Utility Services</td>
<td>$45,329</td>
<td>$47,846</td>
<td>$57,592</td>
<td>$58,802</td>
<td>$62,000</td>
<td>$65,000</td>
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<td>Repairs &amp; Maintenance</td>
<td>$244,299</td>
<td>$239,877</td>
<td>$269,191</td>
<td>$363,543</td>
<td>$365,000</td>
<td>$395,000</td>
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<td>Dues &amp; Memberships</td>
<td>$2,100</td>
<td>$2,072</td>
<td>$2,031</td>
<td>$2,260</td>
<td>$3,000</td>
<td>$3,200</td>
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<tr>
<td>Subscriptions</td>
<td>$4,063</td>
<td>$4,254</td>
<td>$2,184</td>
<td>$4,016</td>
<td>$4,000</td>
<td>$4,000</td>
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<td>General Services</td>
<td>$2,939</td>
<td>$2,846</td>
<td>$8,439</td>
<td>$5,111</td>
<td>$5,000</td>
<td>$4,000</td>
</tr>
<tr>
<td>Improvements Not Bldg</td>
<td>$0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fixed Assets, Mach. &amp; Equip.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$17,265</td>
<td></td>
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<tr>
<td>Int Professional Services(1)</td>
<td>$106,560</td>
<td>$150,312</td>
<td>$141,180</td>
<td>$139,872</td>
<td>$130,065</td>
<td>$157,797</td>
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<td>Interfund Telecomm.</td>
<td>$19,488</td>
<td>$9,312</td>
<td>$18,636</td>
<td>$16,560</td>
<td>$16,092</td>
<td>$16,949</td>
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<td>Interfund Supplies</td>
<td>$9</td>
<td></td>
<td>$30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interfund I.T.</td>
<td>$8,748</td>
<td>$10,752</td>
<td></td>
<td></td>
<td>$17,808</td>
<td>$26,220</td>
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<td>Interfund Operating Rent</td>
<td>$111,024</td>
<td>$122,652</td>
<td>$133,800</td>
<td>$141,132</td>
<td>$147,191</td>
<td>$150,439</td>
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<tr>
<td>Interfund Insurance Services(2)</td>
<td>$69,924</td>
<td>$65,436</td>
<td>$53,640</td>
<td>$43,032</td>
<td>$46,153</td>
<td>$48,786</td>
</tr>
<tr>
<td>Other Interfund Svc &amp; Chgs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$270</td>
<td></td>
</tr>
<tr>
<td>To Reserve Account</td>
<td>(in 480)</td>
<td>(in 480)</td>
<td>$60,000</td>
<td>$30,000</td>
<td>$5,000</td>
<td>$5,000</td>
</tr>
<tr>
<td>Actual</td>
<td>$4,416,557</td>
<td>$5,040,844</td>
<td>$5,528,221</td>
<td>$6,413,554</td>
<td>$6,896,150</td>
<td>$7,359,700</td>
</tr>
</tbody>
</table>
Considerations in Calculating Shop Rates

Despite the complexities of the mathematical process used in developing shop rates and the fact that private fleets have profit-making objectives while public fleets seek to break even, there are commonalities in developing a shop rate. Both types of fleets share certain key elements and features, such as:

- Labor rates—If there are overtime hours involved, combine straight time and overtime into a single rate.
- Support costs—Charge out costs such as supervision, administrative and a portion of facility costs (utilities, for example).
- Consumables—Many shops include the cost of consumables in establishing a shop rate, such as the cost of parts that are not charged to a customer.
- Environmental fees—This covers costs such as fluid disposal. “The easiest way to set this fee is by using a flat percentage of the rate,” says David Greenlee, CEM, fleet manager for Alyeska Pipeline Service Co. in Fairbanks, Alaska. “For every hour, there is a certain percentage on the entire bill to cover this. For every productive hour you’ve got on a machine, you’ll get a return on all your overhead expenses.”
- Thorough staff analysis to determine what you really need—“The more people you have, the more administration you need and the more time it takes to provide that administration, not to mention the increased insurance costs,” says Roger Thompson, vice president with consulting firm Bucher, Willis & Ratliff based in Kansas City, Mo. “The key, and perhaps one of the most difficult calls, is to determine if your shop is staffed properly.”
- Scheduling shop work—“If you wait for equipment to break down and then make the repairs, your rate is going to be very high,” says Thompson. “That is management by crisis.”
- Preventive maintenance—PM is vital. It drives your staffing. If PM is poor, it is going to require more people.
- Age of your fleet—An aging fleet requires more parts and more people to maintain it. “That’s counter-productive to running a first-class fleet operation,” says Thompson.
- Technician training—If technicians are poorly trained, you’ll have a high number of callbacks and increased costs.
- Parts availability—“If you have poor parts management or can’t get the parts you need, you’ll have more equipment sitting in the shop rather than working on the jobsite,” says Thompson.

your actual cost may come down. However, you still might be able to charge your existing rate and give yourself a little cushion.”

In all these calculations, Greenlee works on the premise that you can never know too much about what you do.

“There are always things you overlook, especially if you’re developing a shop rate for the first time,” he says. “For example, there may be things you can’t see that someone else is paying for—taxes on the facility, for example. You may not see them as part of your fleet expenses because there is no monthly bill. Or you might buy a product that you don’t use very often and pay for it over several years.”

Greenlee also makes it a point to watch for hidden costs.

“There might be facility maintenance issues—things you have to do, such as repair one of your garage doors or modify your facility in some way,” says Greenlee. “These types of costs don’t happen every day, but being ready for them gives you a reserve fund to cover them. Otherwise, you’ll have to absorb that cost another time. It’s going to happen, so it’s better to be prepared for it in advance. If you’re new on the job, there should be budgets from prior years that you can look at or somebody more experienced you can talk to.”

Don’t forget the supervisor

Today’s fleet managers are more in tune with the business aspects of running a multi-million fleet operation. They understand the importance of keeping an eye on their costs, billings reimbursements, technician productivity, support staff and equipment service intervals.

Roger Thompson, vice president with consulting firm Bucher, Willis & Ratliff based in Kansas City, Mo., advises fleet professionals to consider how much time is spent with upper administration to support the fleet operation.

“Fleet managers need to know what portion of their costs is clerical staff needed to support fleet services and what portion is for parts,” he says, “But they also should take into account the administration costs for the shop, such as the fleet manager’s time and supervisory per-
The City of Everett, Wash., provides the list of fees, shown here, to all its customers.

<table>
<thead>
<tr>
<th>Fee detail</th>
<th>Fee amount per...</th>
<th>per...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automotive shop rate</td>
<td>$ 87.72</td>
<td>...vehicle/equipment</td>
</tr>
<tr>
<td>Radio shop rate</td>
<td>$ 90.86</td>
<td>...communication repair work</td>
</tr>
<tr>
<td>Fuel surcharge</td>
<td>$ 0.07</td>
<td>...gallon of fuel</td>
</tr>
<tr>
<td>Fuel surcharge (2)</td>
<td>$ 0.15</td>
<td>...gallon of fuel</td>
</tr>
<tr>
<td>Hazardous waste fee, warranty, spec writing, L&amp;I &amp; Fuel tax refund</td>
<td>10.76%</td>
<td>...work order billable hr.</td>
</tr>
<tr>
<td>Parts processing fee</td>
<td>28%</td>
<td>...parts ordered</td>
</tr>
<tr>
<td>Pool car rental (1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff Car</td>
<td>$ 4.00</td>
<td>...hour, max of $32/day</td>
</tr>
<tr>
<td>Pick-up truck (S-10 type)</td>
<td>$ 4.00</td>
<td>...hour, max of $32/day</td>
</tr>
<tr>
<td>Van, 11 passenger</td>
<td>$ 12.00</td>
<td>...hour, max of $96/day</td>
</tr>
<tr>
<td>Accident and outside vendor repair fee</td>
<td>28% or flat $100, if cost is &gt;$300.00</td>
<td>...cost of requesting bids, arranging repairs, etc.</td>
</tr>
</tbody>
</table>
| Indirect fees paid by MVD for departments            | (actual cost is transferred to the appropriate department) | ...hazardous waste disposal for items received from department...
| Parking fee (2)                                      | $ 25.00           | ...month and vehicle |
| Overtime                                             | 1½ times the automotive or radio shop’s rate |                 |
| Call Out/Back                                        | 3 hours minimum at the overtime rate |                 |
| Sick leave/L&I                                        | 5%                | ....work order billable hour |

(1): for City Departments only  
(2): Non-City customers

sonnel costs. It’s important to use all overhead that supports the shop when calculating your shop rates.”

Admittedly, Thompson says, there’s a lot of math involved.

“By doing this you come up with what a truly burdened labor rate, which only about 40 percent of the shops in the United States use,” he says. “The other shops are just using the mechanics’ time, insurance and parts costs to calculate the shop rate, which probably isn’t a true picture of what their shop rate actually is.”

According to Thompson, the reason many construction companies avoid the in-depth mathematical process necessary to determine what their actual shop rates are is because they’re primary concern is doing what it takes to return the equipment to the jobsite.

“In contrast, municipalities that use a fully burdened labor rate are not profit-makers, he says. “Municipalities are break-even operations. They develop rates based on historic data.”

Developing and maintaining a good shop rate is a balancing act, says Thompson.

That balancing act, however, doesn’t have to be on a high wire without a net—not if you stick to the basic principles of accounting in developing a shop rate that covers the obvious and the not-so-obvious costs of doing business.
Paradise Lost?

How one fleet manager is working to cut emissions.

By G.C. Skipper, Contributing Editor

Given that Hawaii’s emission levels are among the lowest in the country and that, in a recent study of 100 U.S. locations, Hawaii generated the least carbon dioxide of the areas surveyed, you’d think cutting fleet emissions would not be a high priority.

“Hawaii is 2,500 miles from anywhere, and one of the biggest sources of pollution we have is Kilauea, a volcano on the slopes of Mauna Loa,” says Lorne Fleming, CEM, director of the equipment division of Grace Pacific in Honolulu. “That volcano has been blasting since 1986, and it continues to inject mass quantities of noxious material into the atmosphere.”

Fleming is intensely pro-active in his efforts to control emissions in his mixed fleet of 1,200 units. “Aina is a word Hawaiians use to describe their strong connection to the land,” he says. “Although emissions have a limited effect on Hawaii because of where we are, it’s just something we need to do to take care of the world.”

With seven hot-mix asphalt plants on five islands, Grace Pacific is one of Hawaii’s largest locally owned hot-mix asphalt producers and does about 70 percent of the asphalt paving work in the state. Hawaiian employees own about 40 percent of the company, and Fleming says it wasn’t difficult to convince the company’s managers and senior executives to reduce emissions in the fleet.

When two U.S. Environmental Protection Agency grants became available—one administered through the American Lung Association and one through Chevron—Fleming didn’t hesitate. “We identified five pieces of equipment that were probably most suited for engine change-outs—two Caterpillar 773 rock trucks, a Cat 992 wheel loader and two large stationary generators powered by Cummins engines,” says Fleming. “All of them had old mechanical fuel-injection systems and were pre-1993, so they essentially had no Tier-level engines.”

Three of the engines were Caterpillar 3412s, and Fleming replaced them with Caterpillar ACERT engines. With the two generators, it made more sense to replace them.

According to Fleming, Grace Pacific has traditionally been pro-active in environmental matters. For example, the company has an active spill-containment program. “As part of our sensitivity to what is happening to the environment, we
started cleaning up emissions three years ago," he says. “It took about six months of planning to find out how we were going to reduce fleet emissions and what approach made sense. Then we started putting those plans into action.”

Those efforts are already showing results.

“It’s always good to show people that what you have done has had an effect,” says Fleming. “One of the first things we noticed when we put our two rock trucks back into service was that the great black pall hanging over the quarry was gone. Because our quarry is below grade, air doesn’t move through it well. When you put pieces of equipment under load, especially when the operator is accelerating uphill, exhaust belches out vast quantities of particulate matter. By the middle of the day, you could literally see a pall over the whole quarry. Now it’s gone.”

The second change they noticed was that the rock trucks suddenly had the same work cycles as the newer trucks.

“We saw a benefit in power and in mileage,” says Fleming. “Miles per gallon rose from 2 or 2½ to 4 or 5, and instead of running 14-minute cycles, the older trucks now cycle in 10 minutes, the same as the newer trucks.”

The only downside Fleming reports is complaints from the operators that the new engines are noisier compared to the old ones.

“They may be noisier, but the noise level isn’t over the limit,” he says.

Another step Fleming has taken in his clean-up efforts is to stop equipment operators from excessive idling.

“Grace Pacific uses real-time GPS on virtually everything, and if a truck or piece of equipment idles more than five minutes, we shut it off,” he says. “I can sit at my laptop in the car or at my computer in the office and receive an alert that someone is idling more than five minutes. We shut the equipment off and, afterwards, have a conversation with the operator.”

Other steps Fleming has taken to decrease emissions are to burn only low-sulfur fuel in on- and off-highway equipment—which he says wasn’t much of a challenge, because low-sulfur fuel is essentially all that’s available in Hawaii—and retrofit equipment with after-treatment systems, such as particulate filters and/or oxidation catalysts.

“We’re also working on crankcase emissions by recovering the oil, burning the vapors and returning any trapped oil to the oil pan,” he says. Fleming is doing something else, too, but he is reluctant to talk about it.

“I hate snake oil with a passion,” he says. “I’ve had everyone from Tom Cruise to Tom Jones in my office promoting one product or another that is supposed to improve fuel economy. I’ve tried about a hundred of them and threw them all away.”

Until now, that is.

“We’re using a fuel additive that has taken us from 3.8 mpg to 6.3 in some vehicles—same trucks, same usage and same amount of time,” he says. “We’re not a for-hire trucking company. The only trucks we run operate internally. I’ve run a fuel economy analysis on 20 other trucks in the fleet, and they all show a significant increase in fuel economy using the additive. As I say, I hate snake oil and I don’t know why this additive works. I can only tell you that it does.”

To convince OEMs and vendors to participate in what Fleming is trying to accomplish, he relies on the Equipment Triangle.

“We believe passionately that the vendor and manufacturer are our partners,” he says. “When we look to buy a new piece of equipment, I always bring in the vendor and the OEM representative and tell them ‘We’re buying your equipment and we’re going to give you money. We expect you to be as committed to the success of that equipment and the success of Grace Pacific as we are. By buying your product, we’re insuring you stay in business. You have to give us the same kind of commitment.’ As a result, what few issues have come up have been addressed quickly and honestly.”

Fleming’s message is clear.

“Fleet professionals should understand that one company can make a difference and that difference just might be good for everyone,” he says. "EM"
Prepare for the Unexpected

What to do before you get an unannounced visit by the EPA, OSHA or other regulatory agency.

By G.C. Skipper, Contributing Editor

In 1910, William D. Boyce gave fleet managers a sound piece of advice when he urged members of the organization he had founded, the Boy Scouts of America, to “Be Prepared.”

Any fleet manager who has ever experienced an unannounced visit from a government agency, such as the Occupational Safety and Health Administration (OSHA) or the U.S. Environmental Protection Agency (EPA), knows only too well the wisdom of being prepared.

Bob Turner, CEM, is director of the fleet management department for the City of St. Petersburg, Fla., which once operated a car wash and a stream wash for hosing down heavy equipment. The water flowed into a drain system that was pumped out every two or three months. About 10 years ago, he installed a recycling system in the wash area. What Turner didn’t know was that the wastewater flowed into the stormwater system and not into the sewer.

“The wash facility is about 65 feet from our fuel site,” he says. “Representatives from the EPA, which, in our case, are from the county Department of Health, have been coming by regularly to monitor the fuel site. These visits have been going on for 10 or 12 years—after we installed the recycling wash system.”

About a year ago, during a routine inspection, a new inspector noticed the wash facility.

“The visit happened on a day when we had had a lot of rain, and water was running off the wash area into the storm drain,”
The Inspector Told Her Superiors in Tampa That She Thought the Area Needed an Inspection.

The Tampa team agreed, and not long afterward, we had an unannounced inspection of the wash facility.

“They found that we were in violation,” says Turner. “We didn’t have a permit on our recycling system, which hadn’t been a requirement when it was installed, and the wash water emptied into the storm drain, which we didn’t know. As a result, we were fined about $10,000.”

As soon as Turner was told the wash facility was in violation, he shut it down. Subsequently, Turner was given an opportunity to present his side of the situation at a hearing before the agency. At the hearing, he pointed out that the EPA had been inspecting the area for nearly a dozen years and no one had ever said anything about the wash facility. He told them a professional company came in every three months to clean out the recycling tank and that he thought he’d been doing everything correctly.

In response, the agency told Turner he could find all the regulations in a manual that was updated every two or three years.

“I told them I had looked at the last manual, and there was no way in the world I could tell what had been changed from previous manuals,” he says. “I suggested they consider an amendment that identified the sections that had been changed.”

The outcome was that the fine was reduced to $2,700.

“They were very nice but they wouldn’t eliminate the fine altogether,” says Turner. “We weren’t angry or upset. It’s just a bureaucracy, and we understand that. As for the new inspector, I think her performance is probably judged by how many fees she collects.”

As of today, the wash facility is still closed. According to Turner, bringing it up to code would require installation of a cover over the drain, connecting everything to the sanitary system and building a wall to keep the overspray from leaving the wash area, among a host of other things.

“We’d possibly have to replace the whole wash system,” he says. “And I’m just not sure it’s worth doing.”

Another fleet manager, John McCorkhill, fleet director for the City of Lynchburg, Va., recently visited a municipal repair shop in a major city that had spent $500,000 for a large truck wash system four or five years ago. It still hasn’t been installed.

“They couldn’t get a state license to install the equipment because of its proximity to a stream,” he says.

The “snowball” effect

David Greenlee, CEM, is fleet manager for the Alyeska Pipeline Service Co. in Fairbanks, Alaska.

“On the pipeline, we have quite a lot of contact with government agencies,” he says. “We’re a private entity, but we have relationships with many government agencies that are responsible for pipeline oversight.”

Those relationships fall by the wayside if, for whatever reason, you have a violation that attracts attention, says Greenlee.

“If you do, they’re going to come in,” he says. “All the agencies, to a certain extent, communicate with each other. If they suspect a problem—safety, environmental or whatever—or find a problem during an audit or a com-
If you get an unannounced inspection from a government agency, inspectors will be alert for proper labeling on containers.

**Shared Problem Protection**

Sometimes, especially with environmental waste material, fleet managers find themselves in a situation where they share a drain system with other facilities, says David Greenlee, fleet manager, Alyeska Pipeline Service Co. “If the shop introduces some type of exotic chemical into the shared drain, it can wind up back in recycled oil, for example, and play havoc with the refining process at the refinery,” he says.

To avoid THIS, Greenlee suggests:
- Know what you’re putting down the drains.
- Have a system in place to identify all wastes you generate.
- Keep wastes segregated.
- Keep a log of waste disposal.
- Label wastes correctly.
- Deal with waste appropriately and regularly.

Whether a complaint is made by a disgruntled employee, an ex-employee or a passerby, the result is the same. “Instead of coming to the fleet or the shop for information, they call the regulatory system to investigate,” says Brewington.

**Get ready for it**

You can take steps to prepare for unexpected inspections. Thompson recommends preparing for unannounced visits by making sure you have a formal program in place.

“Write down your safety mission and goals,” says Thompson. “You have to have formal guidelines or procedures in place that everyone follows. And be sure to put it in writing.

“Documentation should be someplace where anybody can locate it,” says McCorkhill. “We strive for paperless systems, but not everyone has access to a computer, so in this case keeping a paper backup is a must.”

Create a checklist and complete inspections—and the checklist—regularly. Keep all of the details on record.

“A checklist should show that you’ve done inspections, the dates you did them, any problems you found and what corrective action was taken to resolve the program,” says Thompson. “Dates are very important. If you don’t include the dates, inspectors will want to know if the situation went on for months before it was corrected or was corrected immediately.”

Brewington says he often finds that shops have manuals on how to operate equipment safely, but few of them have written policies for safety procedures.
“For example, if you’re going to have a temporary fuel storage facility on a construction site, one of the first things you should do is identify the local codes that pertain to that storage facility—containment, setback distances, and so forth,” he says. “There may also be regulations that the local fire marshal, EPA or OSHA have enacted. You need to know what they are to avoid any hassles down the road.”

On projects of any significance, the project owner should know who to contact locally to cover your regulatory bases.

Greenlee suggests fleet professionals assign a specific person or hire someone to be responsible for environmental issues.

“Have them find out exactly what the regulations are,” he says. “Have them do a walk through and look at your processing and records. Tell them you expect a potential audit by government agencies and you want to know what you’re doing right and what you’re doing wrong.”

Greenlee also suggests contacting the government agency directly and telling them you want to make sure you’re in compliance.

“Usually they like that,” he says. “They’re very helpful if they know you’re trying to improve.”

**Ask for an inspection**

McCorkhill invited inspectors into the Lynchburg facility.

“I didn’t want them coming here unannounced, so I phoned OSHA,” he says. “I told them I was very fortunate to work in a first-rate facility that had opened in 2001, but since facilities age, I wanted them to tell us if we were doing anything we shouldn’t be. I asked them to delineate any OSHA policies and procedures we were not meeting so we could have them corrected immediately.”

The OSHA representatives arrived and found 26 minor items.

“They gave us two months to introduce corrective measures,” says McCorkhill. “The visit actually ended up being an enjoyable experience.”

The proactive approach worked well for McCorkhill, because it’s been more than a year since the OSHA visit, and they haven’t returned. However, if you’re operating an older facility, or worse, if you don’t have inspection procedures in place, you might want to re-think offering such an invitation.

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**When There’s a Knock On the Door**

When you open the door to find an OSHA, EPA or other agency inspector standing there, it’s too late to do anything but invite them in. However, while it may be a fait accompli, there are still things you can do to make the best of the situation.

John Brewington, founder and president of Brewington & Co. a provider of consultant services to fleets, suggests:

- Contact the appropriate people in your organization (management, safety, and/or risk management) and make them aware of the ongoing inspection.
- Be hospitable, maintain control of the situation and learn as much as possible about their reasons for being there. Document who they are—names, contact information, etc.
- Whenever possible, answer “yes” or “no.” Don’t volunteer any information over and above what they ask for.
- Move the visitors through the facility or location as quickly as possible.
- Make notes on what the inspectors said and what information you provided.
- Update the appropriate people in your organization on the inspection details.
How to Make the Switch to ULSD

Initial use of ultra low sulfur diesel in non-road equipment may require more frequent fuel-filter changes.

By Barbara Goodrich and Terry Oftedal

Ultra low sulfur diesel (ULSD) is a diesel fuel with a maximum of 15-ppm sulfur content. Diesel engines equipped with advanced emissions after-treatment devices, such as catalyzed diesel particulate filters (DPF) or diesel oxidation catalysts (DOC), need to use ULSD in order to prevent damage because these devices are poisoned by exposure to higher levels of sulfur.

Most on-road 2007 engines are equipped with after-treatment to make it possible to meet the U.S. Environmental Protection Agency (EPA) emissions standards. Now most non-road Interim Tier 4 and Final Tier 4 vehicle engines will utilize sulfur-sensitive after-treatment technologies to meet the EPA emissions standards.

The following table outlines the schedule for non-road engines to meet Interim Tier 4 and Final Tier 4 emissions standards:

**EPA’s Non-Road Emissions Regulation Compliance Schedule**

<table>
<thead>
<tr>
<th>Power Level, kW</th>
<th>Emissions Standard</th>
<th>Standard Implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>130 – 560</td>
<td>Interim Tier 4</td>
<td>January 1, 2011</td>
</tr>
<tr>
<td>56 – 130</td>
<td>Interim Tier 4</td>
<td>January 1, 2012</td>
</tr>
<tr>
<td>19 – 37</td>
<td>Interim Tier 4</td>
<td>January 1, 2008</td>
</tr>
<tr>
<td>37 – 56*</td>
<td>Interim Tier 4</td>
<td>January 1, 2008</td>
</tr>
<tr>
<td>37 – 56</td>
<td>Tier 3</td>
<td>January 1, 2008</td>
</tr>
<tr>
<td>37 – 56*</td>
<td>Final Tier 4</td>
<td>January 1, 2013</td>
</tr>
<tr>
<td>37 – 56</td>
<td>Final Tier 4</td>
<td>January 1, 2012</td>
</tr>
<tr>
<td>130 – 560</td>
<td>Final Tier 4</td>
<td>January 1, 2014</td>
</tr>
<tr>
<td>56 – 130</td>
<td>Final Tier 4</td>
<td>January 1, 2015</td>
</tr>
</tbody>
</table>

*Optional

In California, diesel fuel made the transition to 15-ppm sulfur fuel for all on-road and non-road diesel fuel sold on September 1, 2006.

As required by the EPA, the transition to ULSD in the other 49 states for the on-road began on October 1, 2006, where at least 80 percent of the fuel sold must meet the 15-ppm sulfur maximum. The remaining 20 percent can be 500-ppm sulfur fuel (supplied from smaller oil refineries). On October 1, 2010, 100 percent of the diesel fuel sold at the retailer must meet the 15-ppm sulfur maximum.

There is an exception for rural areas of Alaska until 2010. A single grade of diesel fuel is generally distributed to rural Alaska, since carrying two grades could result in significant economic hardship for these rural communities. Alaska and the EPA have an agreement that rural areas will begin transitioning highway and non-road diesel fuel to ULSD beginning June 1, 2010, and ULSD fuel must be at retailers by December 1, 2010. However, if in these rural areas, an on-road vehicle has a 2007 or newer engine or if a non-road vehicle has an Interim Tier 4- or Final Tier 4-compliant engine equipped with catalyzed after-treatment devices, ULSD must be used in those vehicles.

The sulfur level of non-road diesel fuel will transition per the following schedule for all states except California and Alaska:
Beginning June 1, 2006, when EPA required that at least 80 percent of the on-road diesel fuel be ULSD, many refineries switched completely to producing ULSD for both on- and off-road applications. With limited tankage for diesel fuel, it was not practical for refineries to carry two diesel fuels with different sulfur levels.

Non-road diesel fuel use accounts for about 18 percent of diesel fuel sales. Current estimates are that about 90 percent of the non-road diesel fuel sold is ULSD containing a red dye.

Watch for deposits

For older vehicles that have previously operated on high-sulfur diesel fuel (>500 ppm sulfur), ULSD may adversely affect fuel system components (mainly seals) and/or loosen deposits in the vehicle fuel tanks.

ULSD has greater solvency than diesel fuels with higher sulfur content. Because the fuel can loosen deposits on fuel storage tanks, inspect and remove any debris. In addition, owners and operators should monitor their current diesel-powered vehicles for potential fuel leaks or premature fuel filter plugging during the changeover to ULSD fuel.

Fuel consumption may change

 Depending upon how the ULSD fuel was processed, there may be a slight increase in fuel consumption compared to higher sulfur fuel. Actual equipment measurements have shown fuel consumption increases to 3 percent.

Injector deposits and wear

The same oil refinery process that is used to remove sulfur also removes oxygen, nitrogen, aromatic compounds and other key characteristics in diesel fuel, which are considered natural lubricity agents and antioxidants. Some of the process methods used to make ULSD can produce fuels predisposed to forming injector deposits in high-pressure common rail (HPCR) fuel systems.

These deposits can result in rough running, misfires and power loss. If this occurs, contact your fuel supplier. There are also some detergent-containing fuel conditioners sold in the after-market that will help prevent the formation of these deposits. However, not all detergents work. Check with your dealer for products approved by your equipment manufacturer. ULSD fuels must meet the same lubricity requirements as 500-ppm sulfur diesel fuels, which is up to 520-micron maximum wear scar diameter as measured on a High Frequency Reciprocating Rig (HFRR) test.

As necessary, additives are introduced prior to retail sale to restore lubricity removed during the sulfur removal process. The lubricity spec is important to older vehicles as many of the older vehicle’s fuel injection systems are lubricated by the diesel fuel. Reduction in the lubricity value will affect the wear rate on the older injection systems. If you are concerned that your

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Non-Road Fuel Sulfur Content (ppm) maximum at retailer

<table>
<thead>
<tr>
<th>EPA October 1, 2007 Limit**</th>
<th>EPA October 1, 2010 Limit**</th>
</tr>
</thead>
<tbody>
<tr>
<td>500</td>
<td>15</td>
</tr>
</tbody>
</table>

**Small refineries, except those in the Northeast/Mid-Atlantic region, who accumulate sulfur credits and, therefore, have an exception, are allowed a delay. However, by June 1, 2010, all non-road diesel fuel made by small refineries with exceptions must be 500-ppm sulfur maximum and by June 1, 2014, it must be 15-ppm sulfur maximum.

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When purchasing cold-flow improvement additives for cold-weather operation, be sure the product is formulated to work in ULSD.
The Official Publication of the Association of Equipment Management Professionals

Cold-flow changes

ULSD fuel is a more paraffinic fuel than 500-ppm sulfur fuel and has a different wax distribution. Cold-flow improvers that worked in 500-ppm sulfur fuel may not provide the same performance in ULSD fuel.

When purchasing cold-flow improvement additives for cold-weather operation, be sure the product was formulated to work in ULSD; these products also work in 500-ppm sulfur fuel. The cold-flow performance is important to keep fuel filters from gelling and the vehicle operating in colder temperatures. Check with either your fuel supplier or dealer.

As with any after-market additive, be sure the product has been approved by your equipment/engine manufacturer.

Microbial growth

Due to its lower sulfur content, ULSD is more prone to microbial growth than 500-ppm sulfur fuel. Long periods of fuel storage can create an ideal environment for microbes to grow in fuel storage and vehicle tanks. These microbes can plug fuel filters resulting in increased replacement of fuel filters. Tanks are most vulnerable at seasonal changes, summer to fall and winter to spring.

Watch for dark, slimy growth at the interface area between the diesel fuel and the water-bottom or throughout the fuel. There may also be a "rotten egg" odor. Look for slime on the interior walls of the tanks and in the sump area—check water drawn from the sump area for slimy debris.

Microbial growth can multiply rapidly and may form into long strings, mats or globules. They can only be removed from the fuel system by a diesel-fuel biocide.

If you suspect microbial growth in your fuel tanks, contact your fuel supplier. Diesel-fuel biocide treatments are also available at many dealers. A regular fuel-tank biocide treatment schedule can prevent microbial growth.

Owners and operators should monitor their current diesel-powered vehicles for potential fuel leaks or premature fuel filter plugging during the changeover to ULSD fuel.
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