LIQUID RECYCLING

used oil | parts cleaning | anti-freeze | filters & absorbents | wastewater | chemicals

TAKE A LOOK INTO THE
ANTIFREEZE RECYCLING
INDUSTRY INCLUDING AN UPDATE ON
TECHNOLOGY AND A RECYCLER’S TECHNICAL
PERSPECTIVE ON THE INDUSTRY.

ROAD TO REFORM
THE LATEST ON NORA’S PCB/
TSCA REFORM.

SURPRISE INSPECTION
DO YOU AND YOUR EMPLOYEES KNOW
HOW TO HANDLE IT?

2015 NORA ANNUAL
CONFERENCE & TRADE SHOW
INFORMATION AND REGISTRATION FORM
ENCLOSED. VIEW THE TENTATIVE AGENDA, TRADE
SHOW FLOOR PLAN, AVAILABLE SPONSORSHIPS,
AND KEYNOTE SPEAKER INFORMATION.
Member Referral Challenge

Member Get a Member • Member Get an Exhibitor

Refer one member who joins and you receive a $100 American Express gift card

Refer a second member who joins and you receive another gift card

Refer a third member who joins and you receive a 50” TV or iPad

Refer one member who joins AND exhibits at the 2015 Trade Show and you receive a 50” TV or iPad

Email info@noranews.org with an email, phone, name, and company name for the prospective member. Your gift will be shipped to your home. Your name must be listed on the “referred by” line of the member application or exhibitor form.

Offer eligible from May 11, 2015 to October 30, 2015. To be eligible, the company you refer cannot be a current NORA member or a former NORA member who was active within the last year. Only one company may receive credit for a new member or exhibitor. In case of a tie, a coin flip will be used.
In addition to used oil, NORA members recycle a variety of different liquids — including spent antifreeze. When properly collected and recycled, used antifreeze does not pose a threat to the environment. Some NORA members specialize in collecting and/or processing used antifreeze, while others simply collect it as part of their used oil routes and transport it to an antifreeze recycler.

NORA actively encourages and promotes antifreeze recycling. In 2008, NORA approved “Recommended Best Management Practices (BMP) for Used Antifreeze Generated by the Vehicle Service Industry.” This document (located at www.noranews.org) is intended for NORA members to share with their local states to adopt. It suggests that used antifreeze recycled in compliance with the BMPs is exempt from hazardous waste characterization and regulation. The BMPs provide specific collection and storage instructions for generators.

NORA members have been actively involved in ASTM committees to help promote the inclusion/acceptance of used antifreeze derived products as part of various standards. This ensures NORA antifreeze recyclers are treated fairly.

In 2011, NORA approved a set of Frequently Asked Questions about antifreeze generally and antifreeze recycling specifically. The information is located at www.noranews.org under Industry Information. It is designed for the general public to become familiar with our sector and the benefits provided by antifreeze recycling.

This issue features several articles about antifreeze recycling. All NORA members will benefit by reading these and becoming more familiar with this important sector of our industry.

NORA believes every drop of spent antifreeze should be collected and recycled and will work for policies that encourage this.

I would like to thank Dennis Kelly and Drew Frye for their leadership for this group over many years. NORA is a member driven association and the progress NORA has made for antifreeze recycling can be directly attributed to Dennis, Drew and the others who have served on NORA’s Antifreeze Working Group that meets at the Winter and Mid-Year Meetings.
1. How long has your company been in the industry? How/why was the company established?

I started recycling antifreeze in 1995, 20 years ago as a means to make a living. The goal at that time was to go out every day and sell one drum of antifreeze to someone.

2. What services do you provide? What products do you provide?

Products Plus, Inc. currently provides several types of antifreeze/coolants, windshield washer fluid, industrial heat transfer fluids and used antifreeze recycling.

3. Where does your company provide service?

Products Plus, Inc. is based in Ozark, Missouri and we have 3 other distribution locations. St. Louis, Kansas City and Stillwater, Oklahoma. Out of these 4 locations, we provide service in 9 states throughout the Midwest.

4. Why are you a member of NORA? How does NORA help you build your business?

John Panasewicz, with Clear Choice Antifreeze, invited me to a NORA meeting in Las Vegas years ago and I’ve been attending ever since. NORA has been a great asset for networking and learning about the industry outside of my daily circle. It’s good to get a chance to share ideas and listen to others.

5. What are the biggest challenges and opportunities you see facing the antifreeze recycling industry over the next five years?

After 20 years, Recycled Antifreeze is becoming accepted within the industry but our biggest challenge to grow will be the used antifreeze feed stock. Similar to the used oil market, extended service intervals of vehicles and fluids are affecting the number of gallons we collect and sell to our customers. We have made great strides in reaching out geographically, we hope to continue that and keep filling in the gaps of our existing foot print.
“NORA has been a great asset for networking and learning about the industry outside of my daily circle.”

- Tommy Ayers
NORA MEMBER RELADYNE ACQUIRES PALATINE OIL COMPANY OF ILLINOIS

RelaDyne, a provider of lubricants, fuel, diesel exhaust fluid (DEF), and industrial reliability services announced that it has acquired Palatine Oil Company (“POC”). POC is one of Chicagoland’s largest LTL (Less than Truckload) fuel marketers and has been servicing the market as a fuel and lubricant distributor for more than 40 years. This acquisition further establishes RelaDyne’s commitment to growth in the lubrication and fuel markets positioning the combined company as one of the largest fuel marketers in the Chicagoland area.

NORA MEMBER SYNERGY HYDROCARBON RECOVERY ANNOUNCES EAST COAST RE-REFINERY

Synergy Hydrocarbon Recovery LLC, an environmental services provider to the automotive industry announced the completion of its used oil re-refinery in Kingsland, Georgia. The refinery will produce vacuum gas oil (VGO), low sulfur cutter and a vacuum tower asphalt extender. This re-refinery is strategically located along the southeastern coast of Georgia. The site provides convenient access to highway, railway and waterway transportation.

“Our approach to the Industry has always been one of forward thinking,” said CEO Elliott Paul. “The Refinery is State of the Art with the most modern environmental controls technology has to offer. This facility will provide a safe destination for over 24,000,000 gallons of used oil collected annually throughout the Southeastern United States”

NORA MEMBER VESCO OIL CORPORATION ACQUIRES BRITSCH INC.

NORA Member Vesco Oil Corp. has acquired Wauseon, Ohio-based fuels and chemicals distributor Britsch Inc. Vesco co-owners and general managers announced the transaction and said in a statement this week that the deal grows the company’s geographic footprint and expands its product and service offerings in Ohio. “Joining forces with a great company like Britsch Inc. is central to our plans to grow and remain independent,” Epstein Stotland said in a statement.

NORA MEMBER OLEIN RECOVERY CORPORATION’S CEO NAMED 2015 EXPORTER OF THE YEAR BY PUERTO RICO MANUFACTURER’S ASSOCIATION (PRMA)

Congratulations to Jorge Gonzalez-Camp, Chief Executive Officer of NORA Member Olein, who was named 2015 Exporter of the Year by the Puerto Rico Manufacturer’s Association (PRMA) during their annual convention last week.

AB 628 BEING PUSHED TO A TWO YEAR BILL

California AB 628, which would expand the definition of used oil to include used bio-based lubricants, has been converted to a two year bill. This is a positive development supported by NORA. Essentially, this means the bill will not be considered in 2015 but may be considered in 2016. There are many unanswered questions related to the recycling industry’s ability to responsibly manage this material as well as definitional concerns. NORA will keep its members updated on the bill. See page 28 for more information on AB 628 and NORA’s position on this topic.

ADVANCED WASTE SERVICES ACQUIRED BY COVANTA ENVIRONMENTAL SOLUTIONS

On May 15, 2015, NORA Member Advanced Waste Services was acquired by Covanta Environmental Solutions LLC. The decision to merge will allow AWS to broaden its services, geography, and financial resources. All important contact information will remain the same.

XL GROUP PLC ANNOUNCES COMPLETION OF CATLIN GROUP LIMITED ACQUISITION

NORA Member XL Group plc announced on May 1, 2015 that it has completed the acquisition of Catlin Group Limited following the parties’ previously announced entry into an agreement on January 9, 2015 to acquire all of the capital stock of Catlin to form a combined business. The closing of the transaction follows the receipt of all necessary regulatory approvals, Catlin shareholder approval, and sanctioning of the scheme of arrangement by the Supreme Court of Bermuda.

CALIFORNIA SB 778 TABLED UNTIL NEXT YEAR

California Senate Bill 778 would have required all automotive oil
sold in California to meet a higher quality standard, defined as oil which requires changing at 10,000 mile intervals, by 2018. Drivers will still have the opportunity to change their oil when desired, but SB 778 will remove the need to change it more frequently, which often results from poor quality oil. The bill will be reconsidered in 2016.

NORA MEMBER HYDRODEC GROUP PLC MAKES FIRST COMMERCIAL OIL SALE FROM AUSTRALIAN PLANT

NORA Member Hydrodec Group plc, the cleantech industrial oil refining group, is pleased to confirm that it has made its first commercial oil sale from its Australian plant now re-located to Southern Oil’s Bomen facility in Wagga Wagga. The re-located plant is fully commissioned, and the tolling arrangement with Southern Oil has commenced. The plant will not only benefit from operating efficiencies under a single operating structure, but also offer better logistics and other location advantages. Hydrodec can also confirm that commissioning of the rebuilt and expanded plant in Canton, Ohio remains on schedule for first oil in May, a sequential startup of all six processing trains during the month and first commercial sales expected before the month end as previously advised.

ENVIROTECH’S PRESIDENT JEFF LOEBNER VOTED TO ASA BOARD OF DIRECTORS

NORA Member Envirotech’s President, Jeff Loebner, has been voted to the Board of Directors of the American Subcontractors Association. Thank you to Jeff and all NORA Members who choose to go the extra mile in their professional and personal communities.

SHARE YOUR NEWS!

If you have news you would like to share with the industry, email info@noranews.org.

For more than 85 years, Senn Dunn has been helping businesses reduce on-the-job risk while increasing employee morale. With our specialized comprehensive SDProComp® program, we’ll help you build a workers’ compensation plan that successfully manages your risk and improves your business outcomes. That’s just one of the reasons Senn Dunn consistently retains 95% of our clients. Get connected with our risk management consultants today.
Question: Are POTWs allowed to receive truckloads of industrial wastes that could or should be going to commercial CWTs?

This has been a burning question and complaint by the NORA members for at least 30 years. When Publicly Owned Treatment Works (POTWs) take certain wastestreams they are in effect unfairly competing with the commercial centralized waste treatment (CWT) facilities.

During the 2015 NORA Mid-Year Meeting in Chicago this issue was raised again by several NORA members from across the USA. It was noted in the meeting that the Chicago POTWs might be considering taking trucked industrial wastes from neighboring counties which could have a significant negative impact on the NORA members operating as CWTs. Under several conditions it is clear that POTWs are not allowed to take the vast majority of industrial wastes, this is addressed in the following paragraphs.

As background to this issue, EPA began developing the Centralized Waste Treatment Effluent Limitations Guidelines (CWT-ELG) 25 years ago; the regulation was eventually finalized on December 22, 2000. From the very beginning NORA represented the CWT industry during this process. During the 10 years it took EPA to finalize the CWT ELG, NORA and its members complained to EPA about the competitive advantage that POTWs’s had in taking many hauled waste streams and the resulting potential negative environmental impacts. At that time we asked EPA to address the issue.

In the Federal Register (Vol. 65, No. 247/ December 22, 2000) the final CWT-ELG preamble did strongly address this issue on pages 81259 and 81620. From these pages the clear message is that POTWs are not allowed to receive by any means (sewer, truck, rail, etc.) EPA industrial categorical ELG wastewaters that do not already comply with the established pretreatment standards.

There are 58 industrial categorical ELGs which include the vast majority of industrial waste streams that a CWT may handle. For example these include ELGs covering most types of metal finishing, metal foundries and forming, chemical manufacturing, pulp and paper, petroleum processing, building materials, etc.

This requirement is emphasized in the following excerpted paragraph from the CWT-ELG:

“In addition, the CWA also requires EPA to establish pretreatment standards for indirect dischargers—those introducing wastewater to a POTW either by pipe or sewer or by transporting the waste by truck or rail to the POTW. These standards are designed to prevent the discharges of pollutants that pass-through, interfere or are otherwise incompatible with POTW operations. The standards are technology-based and analogous to technology-based effluent limitations applicable to direct discharges. Once EPA has established pretreatment standards, no indirect discharger may introduce wastewater to a POTW for which there are pretreatment standards except in compliance with the standard. The CWA specifically prohibits the owner or operator of any source from violating a pretreatment standard. See section 307(d) of the CWA. This prohibition applies whether the wastewater is discharged through a sewer system or sent to a POTW by truck or rail.” (page 81259)

For POTWs that have industrial discharges they must have an EPA or State approved industrial pretreatment program and be in compliance with the requirements. This is emphasized in the following excerpt from the CWT-ELG:

“The regulations at 40 CFR Part 403 also require all POTWs with a design flow greater than 5 MGD per day to develop a pretreatment program. Moreover, EPA or a State may require a POTW with a design flow that is less than or equal to 5 MGD to develop a pretreatment program if warranted by circumstances in order to prevent pass through or interference. See 40 CFR 403.8(a). These pretreatment programs must require compliance with all applicable pretreatment standards and requirements by industrial users of the POTW. See 40 CFR 403.8(f) (ii). Furthermore, each POTW developing a pretreatment program must develop and enforce specific local limits to implement the general and specific prohibition against pass-through and interference. See 40 CFR 403.5(c). Thus, any POTW subject to the requirement to develop a pretreatment program that accepts waste that does not comply with a general or specific prohibition or with national effluent pretreatment standards is in violation of the regulations.” (page 81260) These wastes have to be treated by either the categorical industry facility or a CWT.
In 1999 EPA published the “Guidance Manual for the Control of Wastes Hauled to POTWs” which again stresses that national effluent pretreatment standards must be achieved prior to introduction to a POTW regardless of the mode of transportation. Also, EPA recommends that all wastes entering the POTW comply with the local pretreatment limits established for that POTW. EPA has had Webinar’s about this as recent as 2013, therefore POTWs should be very aware of what is required by EPA.

Of course there are other hauled wastes that each POTW can evaluate receiving, such as septage and chemical toilet wastes. Others listed by EPA might be some bilge waters, coolants, restaurant grease trap wastes, groundwater remediation water, used glycols, contaminated stormwater, and others. Obviously, some CWTs also treat these waters.

For more detailed information I recommend going to the EPA website to review the references I have discussed here and others. I would welcome any comments and questions you may have.

Jack Waggener is a Professional Engineer and Senior Consultant to NORA. If you have a question you would like Jack to address in the next issue, email info@noranews.org. To Contact Jack Waggener, PE, email Jack.Waggener@aecom.com
From June 17-19, over 200 national and international leaders from the liquid recycling industry came together in Chicago for networking, business development and to explore various opportunities and threats facing the industry.

During this event, NORA committees and working groups met to discuss opportunities and threats for recyclers of used oil and related materials. In addition to committee meetings, attendees heard a presentation on the direction of the oil market and had multiple opportunities for networking including the receptions and other informal gatherings.

The meeting minutes, photos, and other related materials are available for members by visiting the “Members Only Resource Center” on www.noranews.org.

OIL MARKET OUTLOOK: WHICH WAY NOW?
BY: BLAKE ESKEW

Blake Eskew, Vice President of IHS Oil Markets and Downstream Research and Consulting, gave a presentation titled, “Oil Market Outlook: Which Way Now?” during lunch at the Mid-Year Meeting. Eskew addressed recent developments and the future outlook for crude oil and products, with a focus on trends in domestic crude oil production and pricing, residual fuel supply and consumption, and developments in the bunker market.

For those who missed the presentation, it is available to NORA members on www.noranews.org in the “Members Only Resource Center.”
The core mission of the International Used Oil Research Institute (IUORI) is to research, develop and implement best practices for the international used oil recycling industry. The IUORI also serves as an industry watchdog, monitoring practices in an effort to educate, protect and promote better health and safety practices within the used oil international recycling industry.

The Institute is committed to being an active participant in developing educational resources for the advancement of technological discoveries in the used oil industry. In addition to its work with U.S. national accredited universities, the IUORI is dedicated to the development, promotion and compliance with international environmental laws, as well as federal, state and local regulations within the U.S. as a responsible steward of our natural resources and better management of human health and environmental standards.

The IUORI advocates the collaborative efforts between stakeholders within industry, academia, regulatory agencies and concerned citizens in securing technology and practices which provide a long-term strategic approach to the management of our industry’s challenges throughout the world.

At Aaron Oil Company we focus on providing Quality, Service, Customer Satisfaction and Efficiency in everything we do. Doing so has allowed us to create longstanding relationships and build a business that has served the Southeast for more than three decades. Our commitment to excellence has led to collaborative partnerships and process developments unlike any others, as well as the development of one of the most experienced teams of engineers, researchers, managers and employees in the industry.

The company is in a continuous state of development of new technologies, management software, automation, robotics and best available technologies in the used oil and petroleum reclamation industry. The experts at Aaron Oil are setting new standards for the industry by creating new strategies, new markets and concepts unlike any other service provider in the world.
At the NORA Winter Meeting, participants explored many topics, including:

- Progress on NORA’s PCB/TSCA Reform Effort.
- NORA’s efforts to overturn state bans on the use of Vacuum Tower Asphalt Extenders (VTAE) was updated including a review of the recently approved NORA specification for the material.
- The status of the Ozone Transport Commission on promulgating solvent degreasing regulations.
- Ideas for 2015 NORA Conference sessions.
- Environmental, health, and safety issues.
- Effluent guidelines for produced wastewater from oil and gas wells.
- The effect of Diesel Exhaust Fluid causing ammonia/urea in spent antifreeze streams.
- Review of antifreeze ASTM standards update.
- Much more.

To review these topics in detail, review the committee meeting minutes by visiting the Members Only Resource Center at www.noranews.org.
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Not sure how to access these files?

Go to www.noranews.org. Click the “Members Only Resource Center” button on the home page. Sign in to your member account. If you are not aware of your username or password, email info@noranews.org or call (703) 753-4277. Once you are signed in, click “Documents and Reports,” then click “NORA Group/Committee Resources.” Scroll to the committee documents that you are looking for.

- Antifreeze Committee
  - Sample: NORA Standard Operating Procedure
- Distilled Fuels Working Group
  - Economics of Distillation
  - Impressions of the Russian Used Oil Market
  - Markets for VGO Product
- Government Affairs Subcommittee on Research
  - LCA Updates
  - Tennessee Research Project
- Re-Refined Lubricant Working Group Minutes
  - AB 628: Comments Submitted to EPA
  - Advanced Processing Plants
- Used Oil Recycling Council
  - Rewriting of the EPA’s Definition of Used Oil
  - DRAFT: NORA EPA Risk-Based Approvals to Manage, Treat or Dispose of Polychlorinated Biphenyl (PCB) Remediation Waste
- Wastewater Working Group
  - Comments Submitted to EPA on MDL Procedure

OPEN CALL FOR NORA BOARD CANDIDATES
Looking to become more involved in your industry?

NORA prides itself on being a member driven organization. NORA membership, event attendance and value continue to increase each year. This is entirely because of the efforts of the volunteer leadership of the association. They provide the direction and strategy that allows NORA to provide more value to members. If you are interested, you are strongly encouraged to participate. NORA is always in search of new ideas to make our association better.

This is an open call for candidates for the 2016-2017 NORA Board of Directors. There are a total of five open Board seats this year. Three are for Recycling Members and two are for Associate Members. If you would like to nominate yourself, or someone else, please email info@noranews.org by September 23rd at Noon Eastern. NORA will contact you to review the board position responsibilities and answer your questions. The term for each Board seat is two years (2016-2017). Generally, Board members are requested to be at the three NORA events each year as well as on 2-3 additional phone calls per year.

In addition to Board seats, the association is also seeking individuals to serve on a variety of government affairs committees for 2016. These positions are not elected; the President appoints them. NORA thanks those who have served in the past and encourages members to help lead our industry into the future.
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NORA member Safety-Kleen, A Clean Harbors Company, graciously hosted a plant tour at the beginning of NORA’s Mid-Year Meeting.

Over 75 participants at the 2015 NORA Mid-Year Meeting had the unique opportunity to tour the largest base oil re-refinery in the world on June 17, 2015.

Safety-Kleen’s facility in East Chicago, Indiana is the largest base oil re-refinery in the world. The facility began operating in 1991 and has annual throughput of about 120 million gallons of used oil. In addition, the facility has on-site blending capabilities.

NORA thanks Safety-Kleen for their hospitality.
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The 2015 NORA Annual Conference & Trade Show will be held November 11-14, 2015 in Orlando, Florida at the Omni Orlando Resort at Championsgate. Join 400+ industry leaders for networking, business development, and education.

**TRADE SHOW - 94% SOLD!**

The NORA Trade Show will feature over 50 exhibit spaces with companies displaying the latest products and services available to the liquid recycling industry. See page 27 for the current trade show floor plan. Companies interested in exhibiting should contact Casey Parker at (703) 753-4277 or casey@noranews.org. Visit www.noranews.org for more information.

**SPONSOR THE EVENT**

Many sponsorship and advertising opportunities are available for the 2015 NORA Conference & Trade Show. For as little as $150, you can support your industry as well as promote your company. For more information, visit www.noranews.org or see pages 22-24. Contact Casey Parker at casey@noranews.org or (703) 753-4277 to reserve your sponsorship today.

**REGISTER NOW**

Register online to attend the Conference at www.noranews.org or fill out the form on page 21. Register early to ensure you receive the lowest price and a room in the discounted NORA room block.

**HOTEL INFORMATION**

NORA has secured a block of hotel rooms at the Omni Orlando Resort at Championsgate for just $199/night. Most attendees will arrive on Wednesday, November 11 and leave on Saturday, November 14. Exhibitors may want to arrive on Tuesday, November 10, to allow time for exhibit set up. To reserve your room, call 1-800-THE-OMNI and mention the NORA Conference, or book online at www.noranews.org > “Events”. For more information on the hotel, visit www.noranews.org.

Please note that the only valid ways of securing a room in the NORA room block are by calling the Omni Hotel or booking through the NORA website.
2015 NORA Conference Registration Form

Complete one form for each person. Only one form required to include payment information.

EXHIBITORS: Do Not Use This Form - Use Exhibitor Agreement Form

Contact Info

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Registration Choices

Full Registration (you may assign/change names to the registration at any time) includes all conference sessions, conference materials, opening reception (members only), two continental breakfasts, breaks and Friday Night Closing Party Dinner. Payment must be faxed or postmarked by the dates to be eligible for the discounted prices.

PRICES

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Is this your first time attending a NORA Meeting?  Yes  No

Payment Options

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- ☐ Visa
- ☐ MasterCard

All payments are in US Dollars, drawn on US Bank.

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Billing Street Number & Zip (if different than above)

Email to send receipt (if different than above)

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Credit Card Only: Email casey@noranews.org or fax 703-753-2445
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Questions: Call 703-753-4277 or email casey@noranews.org

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To secure your room, call 800-THE-OMNI and ask for the NORA Conference or reserve your rooms online at www.noranews.org > Events.

Cancellations through August 28: A $100 service charge. Between August 29 - October 2: 50% refund of the registration fee. No refunds after October 2.
SPONSORSHIP & ADVERTISING OPPORTUNITIES

Gain exposure for your company at the premier event in the liquid recycling industry. All members, even those not attending the conference, may sponsor to help make this an amazing event. For just a small contribution, you can support your industry and promote your business. All sponsorships will be featured on the NORA website with a link to your company’s website, in Liquid Recycling Magazine which is distributed to 2,000 industry leaders, on oversized signage at the conference and in the conference books which are distributed at the event and posted on the NORA website. Contact casey@noranews.org with any questions. Items with an * are assigned via lottery on August 7, 2015 - email casey@noranews.org to be entered in the lottery.

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  Your logo will be prominently featured on the front cover of the NORA Conference Book and on all name badges. You receive the back cover ad of the conference book. Your company will be thanked at the opening session. In addition, your logo will be screenprinted on the tote bags distributed at registration. Only one available.

- **Golf Lunch Sponsor**  $3500
  Your company will be recognized on the box lunches placed in each cart at the start of the tournament. This sponsorship includes two FREE golf tournament registrations and a Golf Hole Sponsor Sign. Only one available.

- **Lanyard Sponsor**  $2800
  Your company logo will be printed on the lanyard handed to all attendees.

- **Key Card Sponsor**  $2800
  Your logo will be printed on key cards distributed to NORA guests at hotel check-in.

- **Audio / Visual Sponsor**  $2750
  Your logo will be prominently displayed when the ‘splash screen’ is displayed in the main meeting room. As an added bonus, this sponsorship includes a free full page color ad in the conference book (a $600 value).

- **Water Bottle Sponsor**  SOLD  $2290
  Your logo will be printed on the bottles of water that will be set at every seat at the beginning of the conference on Thursday morning.

- **Notebook Sponsor**  $2100
  Your logo will be on the notebook placed at each seat at the beginning of the conference.

- **Keynote Speaker Sponsor (Lou Holtz)**  $2000
  Your company will be thanked prior to the keynote address given by Lou Holtz and you will have the opportunity to address the entire group for one minute. Your logo will appear on a large screen behind the speaker at the beginning of the keynote address. In addition, you will have an exclusive opportunity to privately meet with Lou Holtz before the event.

- **Gold Sponsor**  $1800
  Your logo will be printed on the front cover of the NORA Conference Book and on large signage at the event. You receive a complimentary full page ad in the event book. Your company will be thanked at the conference opening session. Includes a golf hole sponsorship and company logo printed on the fabric conference bags. - 10 available

- **Drink Ticket Sponsor**  $1000
  Your logo will be printed on the drink tickets for the Wednesday Opening Reception and on signs around the bar. Please order by October 30 to allow time for printing. - 8 available

- **Floor Sponsor**  $800
  Your full-color logo or ad will be displayed on 3 large floor signs in the lobby of the conference center.

- **Charging Station Sponsor**  $600
  Your logo will be prominently displayed at a charging station near the registration desk to supply power for mobile devices.

- **Bag Sponsor**  $550
  Your logo will be printed on the conference bags distributed to attendees. Available through October 5 to allow time for printing.

- **Grand Opening Exhibit Reception**  $450
  Your logo will be prominently displayed on all signs for the reception and printed next to the event on conference agendas.

- **Bag Insert Sponsor**  $325
  You provide the insert and NORA will distribute it in the conference or golf bags. Examples include hats, coozies, flyers, etc. Please deliver items to hotel by November 9.

- **Spouse Brunch Sponsor**  $300
  Your logo will be printed next to the event on conference agendas.

- **Candy Bowl Sponsor**  $275
  Your logo will be displayed around the NORA Candy Bowl at the registration table. - Only six available

- **Thursday Continental Breakfast**  $250
  Your logo will be prominently displayed on signage at the breakfast and included next to this event on conference agendas.

- **Friday Continental Breakfast**  $250
  Your logo will be prominently displayed on signage at the breakfast included next to this event on conference agendas.

- **Golf Hole Sponsor**  $225
  Your logo will be printed on a sign placed at one of the holes during the golf tournament.
**CONFERENCE BOOK ADVERTISING**

The conference book is distributed to attendees, new members who join throughout the year and posted on the NORA website. Attendees refer to this book for contact information for all attendees and exhibitors, event agenda, and exhibitor and speaker information. NORA will design your ad for free.

- Back Cover Ad .............................................................. Included with premier sponsorship
- Inside Front Cover Ad * .................................................. $1100
- Inside Back Cover Ad * ................................................... $925
- Full Page Color Ad (7-1/2” x 10”) ......................................... $600
- Full Page Black & White Ad (7-1/2” x 10”) ............................. $475
- Half Page Color Horizontal Ad (7-1/2” x 5”) .......................... $475
- Half Page Black & White Horizontal Ad (7-1/2” x 5”) ............... $260
- Half Page Color Vertical Ad (3-3/4” x 10”) ......................... $475
- Half Page Black & White Vertical Ad (3-3/4” x 10”) ............... $260
- Third Page Color Ad (7-1/2” x 3-1/2”) ................................. $375
- Third Page Black & White Ad (7-1/2” x 3-1/2”) ........................ $200
- Color Logo by Company Index (1” high) ................................. $150
- Color Logo by Exhibitor Index (1” high) ................................. $150

**SUBMIT SPONSORSHIP/ADVERTISING FORM**

**CONTACT INFORMATION**

Name
Title
Company
Email

**PAYMENT OPTIONS**

Total Amount Due $___________

- □ Check (payable to NORA)
- □ American Express
- □ Visa
- □ MasterCard

Name on Card
Signature
Card Number
Exp. Date
Security Code
Billing Street Number & Zip (if different than above)
Email to send receipt (if different than above)

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SPONSORSHIPS

- **NAMING RIGHTS** (Exclusive)
  - **LUB-LINE**
  - $10,000

- **LEVEL 1 SPONSOR** (only 4 available)
  - $5,000
  - Large Logo on Conference Book Cover
  - Reserved table for 10 in premier location at closing party
  - Large Logo on Commemorative Photo Jacket
  - Large Logo displayed at Closing Party
  - Closing Party Sponsor ribbon on badge
  - Recognized at Closing Party dinner
  - Color Full Page Ad in Conference Book ($600 Value)
  - Color Logo with Company/Exhibitor Index in Conference Book
  - Logo on “Thank You” Page in post-Conference Magazine

- **LEVEL 2 SPONSOR** (only 8 available)
  - $2,000
  - Logo on Conference Book Cover
  - Logo on Commemorative Photo Jacket
  - Large Logo displayed at Closing Party
  - Closing Party Sponsor ribbon on badge
  - Recognized at Closing Party dinner
  - Color Half Page Ad in Conference Book ($475 Value)
  - Color Logo with Company/Exhibitor Index in Conference Book
  - Large Logo on “Thank You” Page in post-Conference Magazine

- **LEVEL 3 SPONSOR** (only 12 available)
  - $1,000
  - Name on Conference Book Cover
  - Logo on Commemorative Photo Jacket
  - Logo displayed at Closing Party
  - Closing Party Sponsor ribbon on badge
  - Recognized at Closing Party dinner
  - Black & White Logo with Company Listing in Conference Book
  - Logo on “Thank You” Page in post-Conference Magazine

- **LEVEL 4 SPONSOR**
  - $500
  - Small Logo on Commemorative Photo Jacket
  - Small Logo displayed at Closing Party
  - Closing Party Sponsor ribbon on badge
  - Recognized at Closing Party dinner
  - Black & White Logo with Company Listing in Conference Book
  - Small Logo on “Thank You” Page in post-Conference Magazine

- **LEVEL 5 SPONSOR**
  - $250
  - Small Logo on Commemorative Photo Jacket
  - Small Logo displayed at Closing Party
  - Closing Party Sponsor ribbon on badge
  - Recognized at Closing Party dinner
  - Black & White Logo with Company Listing in Conference Book
  - Small Logo on “Thank You” Page in post-Conference Magazine

CONTACT INFO

Name

Company

PAYMENT OPTIONS

Total Amount Due $ _____________

☐ Check (payable to NORA) ☐ American Express ☐ Visa ☐ MasterCard

Name on Card

Signature

Card Number ☐ Exp. Date Security Code

Billing Street Number & Zip (if different than above) Email to send receipt (if different than above)

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Check or Credit Card: Mail to 7250 Heritage Village Plaza, Suite 201 Gainesville, VA 20155
Questions: Call 703-753-4277 or email casey@noranews.org
Heritage-Crystal Clean is one of the fastest-growing used oil and environmental service companies in the USA. We are a long-standing member of NORA, and we actively support the following initiatives:

- Improving the regulatory framework for managing PCB’s in used oil through the NORA TSCA Workgroup
- Working toward establishing an industry standard for Vacuum Tower Asphalt Extender and an official ASTM spec through the NORA VTAE Workgroup
- Representation of the used oil re-refining industry through the NORA Re-refining Council

We continue to invest in our business and expand our geographic service area and scope of services, and we are pleased to work with other NORA members to improve the standards and visibility of our industry.

Check out our website: www.crystal-clean.com or call us at 847-836-5670 for more information.
### 2015 CONFERENCE & TRADE SHOW

#### TENTATIVE AGENDA

**WEDNESDAY, NOVEMBER 11**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>10:00 AM</td>
<td>Exhibitor Set Up</td>
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<tr>
<td>2:00 PM</td>
<td>Conference Check-In/Registration</td>
</tr>
<tr>
<td>3:15 PM</td>
<td>Board Member Meeting</td>
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<tr>
<td>4:00 PM</td>
<td>New Member/Board Member Reception</td>
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<tr>
<td>4:30 PM</td>
<td>Grand Opening Reception in Trade Show</td>
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**THURSDAY, NOVEMBER 12**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>7:00 AM</td>
<td>Continental Breakfast in Trade Show</td>
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<tr>
<td>8:00 AM</td>
<td>Conference Sessions Open</td>
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<tr>
<td>9:55 AM</td>
<td>Refreshment Break in Trade Show</td>
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<tr>
<td>10:30 AM</td>
<td>Spouse/Guest Brunch</td>
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<tr>
<td>12:15 PM</td>
<td>24th Annual NORA Golf Tournament</td>
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**FRIDAY, NOVEMBER 13**

<table>
<thead>
<tr>
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<tr>
<td>7:30 AM</td>
<td>Continental Breakfast in Trade Show</td>
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<tr>
<td>8:30 AM</td>
<td>Conference Sessions</td>
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<tr>
<td>10:00 AM</td>
<td>Refreshment Break in Trade Show</td>
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<tr>
<td>11:30 AM</td>
<td>Tear Down</td>
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<tr>
<td>11:30 AM</td>
<td>Conference Sessions</td>
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<td>5:00 PM</td>
<td>NORA Closing Party</td>
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**SATURDAY, NOVEMBER 14**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>6:00 AM</td>
<td>NORA Annual Fishing Expedition</td>
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RESERVE YOUR BOOTH TODAY!
The 2015 NORA Trade Show is currently 94% sold. Visit www.noranews.org for more information or call Casey Parker at (703) 753-4277 to reserve your booth.

CURRENT LIST OF EXHIBITORS (AS OF 7/10/15, SUBJECT TO CHANGE)

<table>
<thead>
<tr>
<th>Company Name</th>
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<tbody>
<tr>
<td>Air Products and Chemicals, Inc.</td>
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<td>ATEK Access Technologies</td>
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<tr>
<td>BASE Engineering Inc.</td>
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<td>Build-All Corporation</td>
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<tr>
<td>Catalyst Trading Co.</td>
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<td>Chemical Engineering Partners</td>
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<td>Continental Refining Company</td>
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<td>Cuda Aqueous Parts Washers</td>
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<td>DesertMicro</td>
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<td>Dexsil</td>
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<td>Dolphin Centrifuge</td>
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<td>Environmental Resource Associates</td>
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<td>Erpek Engineering &amp; Consulting</td>
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<td>Fountain Industries LLC</td>
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<td>GIG Karasek - InCon Process Systems</td>
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<td>Paratherm Heat Transfer Fluids</td>
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<td>Senn Dunn Insurance a Marsh &amp; McLennan Agency Company</td>
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<td>Summit Environmental Technologies</td>
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<td>Sweet Gazoil Inc.</td>
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<td>VTA GmbH &amp; Co., KG</td>
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<td>XL Insurance</td>
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CALL FOR INTERESTED SPEAKERS AND TOPIC IDEAS
FOR THE 2015 NORA CONFERENCE & TRADE SHOW

NORA needs your help to create an incredible set of education and knowledge sessions for the 2015 NORA Annual Recycling Conference. Our goal is to deliver helpful, practical, real-world information to attendees to help you grow and prosper.

We are constantly on the lookout for new speakers and topic ideas. We're looking for speakers and topic ideas to drive the momentum and help us build the best educational program yet.

NORA members have already submitted these session ideas:

- DEF Situation
- Market Analysis
- Business Evaluation
- Social Media/Marketing
- Hiring/Firing Practices
- Emerging Markets/World Markets
- Political Climate/Political Strategy
- New Technologies - Pitch/Presentation

If you have additional topic ideas you would like addressed, or are interested in speaking about one of the listed topics, please email a proposal to info@noranews.org.

Please note: Proposals promoting specific company products or services will not be accepted.

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There are various threats that could prevent recycling of otherwise valuable recyclable materials. For example, PCB contamination of used oil renders the used oil a useless material and a major liability. Mixing petroleum-based used oil with used bio-based lubricants means the used oil mixture cannot be re-refined. Used antifreeze is also vulnerable to contamination — and the culprit is DEF, the acronym for Diesel Exhaust Fluid.

As a product, DEF is not a culprit; it is a hero in the fight against air pollution, particularly motor vehicle exhaust containing oxides of nitrogen. DEF is the key component of what is called “selective catalytic reduction” or SCR technology. Motor engine SCR systems (patented in 1957) use ammonia-based fluids to react with oxides of nitrogen to form nitrogen and water, causing a major reduction in air pollution.

While DEF deserves flying colors and other accolades in its battle against the evil oxides of nitrogen, it can, in itself, become a pollutant. If the ammonia (urea) in DEF creeps into used antifreeze destined for recycling (even in very tiny quantities) it ruins the opportunity for the antifreeze to be recycled. (It is also harmful to used oil destined for recycling.) Also, any ammonia in antifreeze can cause serious damage to radiators or other equipment made with aluminum or brass.

Used antifreeze that cannot be recycled leads to expensive disposal problems. The solution? Strict segregation and continuous education. Vehicle maintenance facilities maintain SCR technology and provide many other services such as replacing the antifreeze in vehicle radiators. The danger of inadvertently mixing DEF with antifreeze is always present.

To help educate those who need to know, NORA has prepared guidance to generators explaining the basic problem and the urgent need to keep DEF far away from used antifreeze (and used oil). NORA has also written to the manufacturers of antifreeze products and DEF products urging them to educate their customers on the need for good management practices.

NORA has invited these manufacturers to work with NORA to devise and implement a joint effort to address the DEF contamination problem. Part of this effort would be warnings on containers of antifreeze and DEF as well as brochures directed at the managers and employees of vehicle maintenance facilities. This effort has just begun and NORA will keep you posted on all late-breaking news in its never-ending battle to defeat the contaminants of recyclable materials.
Later, the Automotive Oil Change Association (“AOCA”), which represents the quick-lube industry, also signed on to the letter.

CALIFORNIA BIO-LUBE BILL, A.B. 628, MAY GET RECYCLED
NORA Submits Letter of Concern, Did it Make the Difference?
By Chris Harris, NORA General Counsel

It was approved by the Committee on Environmental Safety and Toxic Materials by a vote of 6 to 1 and then passed the California Assembly on May 7th by a vote of 60 to 16. Then, just before the Senate Committee hearing, the author of the bill, Assembly Member Richard Bloom (D.- Santa Monica), effectively killed A.B. 628 – at least for this year. Why?

But first, some background information on A.B. 628.

According to Mr. Bloom, “varying interpretations of state and federal law related to the treatment of used oil are creating unintended barriers to expanding the market for recycling of high quality biosynthetic motor oils. Many companies have spent years developing bio-based, biosynthetic motor oils for use in automobiles. Independent testing not only shows biosynthetic motor oils to be among the highest rated products for protecting engines and machinery, they also are bio-based, biodegradable, nontoxic, and do not bio-accumulate in marine organisms… AB 628 seeks to update and clarify existing law surrounding the regulation of these blended used oils.”

Sounds pretty reasonable. Who could be against that? Also, the bill added only three words to California’s definition of used oil. In addition to the existing definition of used oil being derived from refining crude oil and synthetic oil, A.B. 628 would add “from any source” as an expansion of the scope of “synthetic oil.” The clear intent of those three words was to ensure that used oil from bio-based lubricants had the same special status as petroleum-based used oil. And if used bio-based lubricants had the same regulatory status as petroleum-based used oil, then presumably they would be handled in the same manner. When a quick lube oil changer drained your crankcase, the used bio-based lubricant would be tossed in the same used oil container as the used petroleum-based lubricant.

While the quantity of bio-based lubricants in commerce today is minuscule, it is a growing “green” industry favored by environmental activists, particularly in California. After the passage of A.B. 628, the next obvious step would be to mandate that all automotive lubricants sold in California must have a minimum bio-lube content of, say, 25 percent. In addition, all vehicles operated by the state and local governments must use only bio-based lubricants.

The trouble with this pleasantly green scenario is that petroleum oil and bio-based oil don’t mix. NORA and several of its re-refiner members took a very close look at the likely results of this bio-based green scenario, concluding that A.B. 628 was the perfect example of the law of unintended consequences. In a four-page letter to the chairman of the Senate Committee on Environmental Quality (the committee scheduled to hold a hearing on A.B. 628), NORA, Safety-Kleen, Clean Harbors, DeMenno/Kerdoon and World Oil Corporation1 explained that

“[t]he primary problem presented by AB 628 is that petroleum and biodegradable lubricants are incompatible and must be kept segregated. The used oil recycling industry simply cannot distill and re-refine used lubricants consisting of a combination of petroleum and biodegradable lubricants. The chemistry of these two categories of lubricants is too dissimilar to permit the re-refining of any mixture of these materials. Accordingly, mixing these lubricants during collection and storage will cripple the state’s used oil refineries. There is also no technology commercially available today that can efficiently separate the animal-and-plant-fat phase of the mixture from the petroleum phase once they have been commingled.”

NORA and its members pointed out that bio-lube manufacturers should not assume that the existing recycling system designed for used petroleum oils could accommodate an entirely different form of lubricants. In addition, because the specifications of marine fuels specifically prohibits the inclusion of bio-derived materials, the mixing of bio-based used oil and petroleum-based used oil could
be a devastating blow to DeMenno/Kerdoon’s marine fuels market. Since California policy favors re-refining, and California is the home of several major re-refining facilities, the “green” scenario envisioned by Assembly Member Bloom was not really a rosy scenario.

Shortly after the NORA letter was circulated to the key legislators, Assembly Member Bloom requested that the Senate hearing on A.B. 628 be cancelled and he took his bill off the legislative calendar for consideration this year. While that is very good news, NORA does not wish that A.B. 628 be dead and buried. NORA would like A.B. 628 to be re-refined and recycled and put to a higher and better use. Specifically, NORA will request that Assembly Member Bloom transform his bill so that a life cycle analysis of used bio-based lubricants will be launched. NORA and many of its members participated in a multi-year (and multi-million dollar) life cycle analysis of California’s management of used oil. NORA’s proposal is that a new chapter of that study (a careful analysis of the numerous recycling issues involving bio-based used oil) be undertaken. Sounds pretty reasonable. Who could be against that? Indeed, it would be legislation that everyone could endorse.

For over 30 years, Tradebe has focused on providing our clients the highest quality sustainable waste management services, using the most advanced technologies. During 2013, we managed more than 2 million tons of waste, recycling more than 60% of that waste into beneficial products and substitute fuels.
As the metallurgy in cooling systems has evolved to the point where aluminum is the primary alloy, so too has the coolant chemistry to be more specific to protect modern cooling systems. The days of “conventional green” and “nitrite-silicate hybrids” as factory-fill coolant have come and gone already. Although aftermarket demand is still strong for these coolants for older vehicles. When Ford and Chrysler switched from hybrid coolant to OAT coolant in 2011 and 2013, respectively; a turning point occurred in the industry. This transition from hybrid to OAT coolant as factory-fill was in fact sparked by problems observed with compatibility of these coolants with aluminum radiators manufactured using a specific type of brazing compound.

The coolant chemistry has become more sophisticated not only to be compatible with new aluminum systems and protect light weight alloys, but also to protect these systems for a much longer period of time. Conventional coolants typically lasted 2 years in light-duty passenger cars before a drain and refill was needed. The hybrid chemistries improved on extending the service interval by lasting 3-5 years while taking into account the changes occurring in system metallurgy. Today, OAT coolants have a much longer service interval, lasting 6-11 years based on the manufacturer’s recommendations.

Coolant additive technologies can be put into three main categories.

Conventional — This is sometimes referred to as Inorganic Additive Technology (IAT). Corrosion inhibition with traditional packages. Such chemicals may include nitrite, nitrate, silicate, borate, phosphate, molybdate, and azoles.

Hybrid — These are packages that use an organic acid as the primary corrosion inhibitor and also heavily depend on various inorganic supplements such as silicate, nitrate, phosphate, and molybdate.

Heavy-duty versions may contain nitrite. Three substantial subcategories exist: American hybrids may not use benzoate, a common organic acid in European coolants, but a different organic acid and otherwise look similar to conventional fully-formulated approaches. European styles rarely use phosphate; Asian styles rarely use silicate and may use multiple carboxylates in combination.

Organic Acid Inhibition — Packages that rely primarily on carboxylic acids and azoles. They generally do not contain silicate or borate. Heavy-duty versions may also contain nitrite or molybdate, or both, but they still fall in the OAT family.

Technological advancements in coolant chemistry were also brought about by a strong desire to reduce the environmental impact of frequent drain and refill intervals. The environmental impact of “serviceable fluids” like antifreeze and lube oil is driving a healthy industry devoted to recycling these fluids in a responsible manner.

There are two important industry standards governed by ASTM International for both recycled and virgin engine coolants.


The ASTM specifications above do have prerequisites in order to meet the standards explicitly. For example, ASTM D3306 requires that glycol recovered from used antifreeze must meet the raw material quality specification ASTM E1177 prior to blending the finished engine coolant.

continued...
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Every night, Pik generates a list of stops for your drivers for the next day, based upon its analysis of which Customer needs a pick-up or is already on a pre-set schedule. With a single click, Pik can optimize the planned route and manage vehicle scheduling.

When drivers start work each day, they download the daily scheduled route list to their smart phone/tablet. We also offer a low cost option for drivers to complete and file their daily DOT 'Vehicle Inspection Report', right from their smart phone or tablet.

Each pick-up creates a PDF format receipt with a digital signature and drivers can attach a picture of the pick-up site, a CoD check, a faulty valve: *Anything!* A driver can view a map of all their scheduled stops and can even see real time traffic conditions while they’re on the road.

When a pick-up is completed, a receipt is emailed to your Customer. You can also arrange to automatically pay your suppliers when you purchase products for recycling.

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Create regular pick-up schedules to suit your Customer's business needs.

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Works equally well for scheduling pick-ups of motor oil, diesel, antifreeze, hydraulic fluids: ANY liquid or solid waste like oil filters, rags or waste paper!

Multiple real-time online reports
- Real-time vehicle tracking and service order status
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(407) 212-9445  |  info@mobiuslogistics.biz
Separate specifications do exist for engine coolants prepared from recycled glycols that do not meet the requirements established in specification ASTM E1177.


Recycled antifreeze has received some scrutiny in the past as it was deemed inferior to “virgin” products. However, that viewpoint has certainly been shadowed by the great number of high quality recycled antifreeze producers, today. Early in the development of the recycled antifreeze industry, it was true that “magic boxes” with blinking lights were sold to shops as a do-it-yourself solution to recycling and increasing profitability. High quality recycled antifreeze products are produced only by reclaiming the glycol (freeze point depressant) and stripping all contaminants and residual corrosion inhibitors from the glycol. That glycol or glycol/water mixture is then used as a raw material to formulate an engine coolant that can perform as well as virgin products.

Free markets offer lots of competition. As such, there will always be variation in the quality of products and producers in a particular market. For example, a product that is reportedly made from “virgin” materials may not meet industry specifications and may have questionable performance. The true question of quality is the responsibility of individual companies to ensure that the products they produce are governed by a quality process. Most States in the US require registration of antifreeze products. This helps to ensure that consumers are protected and the products meet at least a minimum quality requirement. Remember, engine coolants are performance-based products, not simply a colored fluid that prevents damage due to freezing!

There are a couple of recurring questions in the industry that affect both recycled and virgin antifreeze producers.

**Coolant Colors:**
Why are there so many different colors and can color be used to identify the coolant type? Using color to identify a coolant can really only be useful for OEM, factory-fill coolants. In the aftermarket, there are simply too many variations for color to be a useful determinant.

**Compatibility:**
Is a particular engine coolant “compatible” with other coolants? This question is the source of much debate that will likely continue. The industry struggles to define “compatibility”, simply due to a wide variety of methods used to “measure” compatibility. It is generally accepted that different coolant types not be mixed. For example, topping off an OAT coolant with a conventional (IAT) coolant should be avoided. Conventional and some hybrid coolants are formulated to perform at a high pH (typically 9.8 to 10.8). The high pH creates a more stable formulation to keep inorganics, like silicates for example from dropping out of solution. Conversely, OAT coolants are designed to perform at a lower pH (typically 8.0 to 9.0). Studies have shown that mixing OAT coolants with alternative OAT coolants, even if the composition varies, does not have a detrimental effect on performance. Similarly, mixing of hybrid with other hybrid chemistries is generally acceptable. The same can be said for mixing conventional chemistries.
This transforms used oil, waste oils, marpol and asphalt flux into diesel. It is simple, reliable and truly efficient. One of 5 innovations under international patent applications.

**International Engineering Services**

Our engineers have extensive experience in crude refining and heavy oil upgrading. For the past 20 years, they specialized in used and waste oil technologies. Their engineering work provides high quality, innovative, client and market oriented solutions:

1- **Diagnostics:** Finding ways to improve your operations and margins
2- **New plant design:**
3- **Enhance performance of existing plants:**
   a. Reduce equipment fouling
   b. Treat more types of feedstock (not just ULOs)
   c. Increase the quality and quantity of valuable products
   d. Stabilize and make products meeting specifications without expensive hydrotreating.

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**For Inquiries**

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**Patent Applications**

Anti-Fouling distillation (PCT/CA2013/050111)
Fouling resistant cracking (PCT/CA2011/050207, PCT/CA2013/050091, PCT/CA2013/050092)
Stabilizing/desulphurlzing (PCT/CA2011/050117)
It is not surprising that the question of compatibility becomes more complicated when there is uncertainty about the type of coolants that are being mixed. It is always best to follow the recommendations of the vehicle manufacturer by reviewing the owner’s manual. There is usually a statement about mixing different coolants. For example, the owner’s manual for the 2013 Nissan Altima Sedan reads “This vehicle contains Genuine NISSAN Long Life Antifreeze/Coolant (blue). The life expectancy of the factory-fill coolant is 105,000 miles (168,000 km) or 7 years. Mixing any other type of coolant or the use of non-distilled water will reduce the life expectancy of the factory-fill coolant.” It goes on to state that “when adding or replacing coolant, be sure to use only Genuine NISSAN Long Life Antifreeze/Coolant (blue) or equivalent.”

These statements appear to be well directed. However, how does one determine if a coolant is “equivalent”? Therein lies the source of confusion that the industry is facing. Again, the important thing to remember is avoid mixing different coolant types.

Sometimes things happen! In a perfect world coolants would never need topping-off and they would never be mixed with other coolants. In reality, these things happen and quite often. According to TMC RP 338A, “mixing of coolants up to 20% or less is of little concern.” This certainly seems reasonable. In addition, laboratory studies have shown that quality coolants will tolerate some mixing and still perform well. After all, the development of hybrid coolants was a blending of conventional and OAT technologies. One should understand that the best solution avoids mixing coolants in great proportions.

What chemistries are recyclers using? It is always a challenge to balance the number of products a truck can carry with the available space. However, a common product line offered in bulk or drum service includes four antifreezes; Conventional (Green), Hybrid (Heavy-Duty), OAT (Light-Duty), and OAT (Heavy-Duty). With this line up most applications can be addressed.

Although the antifreeze industry has undergone many changes in recent years, one thing is clear. Antifreeze products formulated with the latest engine coolant technologies are complex, sophisticated fluids that offer high performance and operate in much more demanding conditions.

REFERENCES:

Air Products: Investing in Hydrotreatment Capability

Air Products’ Hydrotreatment Laboratory will be coming on-stream in the next few months. Air Products continues to focus on the growth of the Waste Oil Refinery and use its knowledge to support re-refiners. Prior to the NORA annual meeting, Air Products issued a press release announcing the construction of a new hydrotreatment laboratory. This will enable companies with small hydrotreaters, such as waste oil recyclers, to perform tests on their material before changing their larger processes. Air Products will be able to assist current hydrogen customers as well as other hydrotreaters with strategies to minimize their cost. The new lab has the benefit of multiple reactors, variable flow and pressure capability, process pressures up to 2000 psig and flexible interconnection. Air Products has gained a vast knowledge of hydrotreatment through 50+ years of supplying gases and technology to purify new and different materials in the crude oil industry. Simulating various hydrotreatment processes in the new lab, can help Air Products:

- Optimize hydrotreatment severity for the specific set of waste oil impurity and process conditions
- Optimize oil to hydrogen ratio
- Understand waste oil impurities and their effect on discoloration and off-spec oil
- Identify differences in performance between various catalysts

Refiners will be able to test things such as feedstock changes or variation, a new catalyst or new operating conditions before applying the change within their process.

Air Products team can help determine how to use industrial gases more effectively and efficiently. They strive to assist their customers by generating and now testing ideas that can allow for safe and profitable growth.

For more information, contact Tim Lebrecht at lebrectd@airproducts.com

Hydrotreatment lab coming on-stream soon to help Air Products customers develop strategies to minimize costs.

Need hydrogen for recycling waste oil?

Air Products cryogenic hydrogen compressor system can give you:

- High pressure, high flow flexibility
- Lower capital expense
- Reduced operating costs through minimized vent losses
- Increased efficiency through load-following

1-610-706-4730
(mention code 5514)
As previously reported, NORA has been working with EPA to address the problem of PCBs in used oil. None of us want PCBs in our used oil. We have safeguards in place and procedures to protect against PCB contamination. But stuff happens. And when it does, current EPA rules and regulations force us into an unnecessary, wasteful and costly nightmare. Too often, even when PCB concentrations are below 50 ppm, the anti-dilution rule makes all of the contaminated oil unusable. We lose the value of our product and we have to pay someone else to destroy the contaminated oil.

In recent months, NORA has submitted a detailed proposal to EPA and has met with both EPA staff and senior management to discuss our proposal. Everyone we have met at EPA has shown a real understanding of our problems and a sincere interest in working with us to solve them. That is very good news for the entire industry.

Our proposal to deal with the anti-dilution rule is to create a conditional exemption for NORA members who choose to adopt Best Management Practices for Prevention of PCB Contamination. The exemption would provide new options for the management of PCB contaminated used oil and, as a general rule, allow use of the oil in its “as found” PCB concentration.

Our proposal would also deal with the problem that EPA’s PCB regulations do not specifically recognize re-refining as an appropriate management option for PCB contaminated used oil. To address that problem, we have proposed that EPA include re-refining as an approved management option under the conditional exemption. That would give our members additional options and tools to deal with a PCB hit.

With perseverance and creativity, the PCB/TSCA Reform Effort has been breaking new ground and building a path forward. The wheels of government move slower than we would like but the good news is that they are moving – and they are moving in the right direction.
HAS YOUR COMPANY CONTRIBUTED TO THE 2015 PCB/TSCA REFORM PROJECT?

NORA continues to raise money for the 2015 PCB/TSCA Reform Project.

Thank you to those who have already donated:

- NORA's Match Program: $30,000
- Heritage - Crystal Clean: $15,000
- Valicor Environmental Services: $5,000
- Future Environmental Inc: $5,000
- Vertex Energy Inc: $5,000
- Universal Lubricants, LLC: $2,500
- Usher Oil Company: $2,500
- Environmental Specialists: $2,500
- Luzon Oil Co., Inc: $1,800
- Atlantic Industrial Services Inc.: $1,500
- Environmental Energy, Inc.: $1,500
- Akron Canton Waste Oil Company: $1,000
- Lube-Tech Liquid Recycling, Inc.: $750
- Arizona Waste Oil Services, Inc: $500
- Valley Environmental Services LLC: $500
- Nuset Industries, Inc.: $500
- Clean Green: $500

Since the beginning of the year, NORA has raised $76,050. In order to reach our goal, NORA needs your help. The association is asking for all members to participate in this effort to fully fund this vital project, and raise the remaining $23,950.

Please contact the NORA Office at (703) 753-4277 or info@noranews.org to let us know the amount you would like to pledge.
“Recycling” can describe anything from a cosmetic polish to extensive remanufacturing; the right process meets the needs of the user and the economics of the times, and both change. 25 years ago antifreeze was green concentrate, diluted with whatever water was available, and the old stuff went down the drain. Recycling processes were often crude; simple filtration and a dose of fresh additives. Applicable standards were few; the ASTM specification and most OEMs specifically forbade recycled coolants. Today, automotive coolant life expectancies have increased from 25,000 miles to 100,000 miles, chemistries have evolved, and only systems that produce virgin-grade glycols meet even basic requirements. ASTM defines fully reprocessed coolants within the same standards as virgin, greatly expanding market acceptance, but also raising the technology bar. Back-of- the truck and bathtub recycling are gone forever, replaced by more complex, and expensive systems...and that is a good thing.

**Physical Treatment.**

Early recycling process resembled oily wastewater treatment. Oil was separated, followed by a pH adjustment to precipitate heavy metals and scale, and filtration for clarification. While this does not produce acceptable coolant, many systems include chemical pretreatment to improve equipment reliability and the performance of later steps; all membrane systems and some distillation systems will otherwise foul within days, and certain contaminants may pass through. More robust distillation systems require only rudimentary settling, and oil removal, avoiding the pretreatment expense.

**Vacuum Distillation.**

The basic premise is that most contaminants in used antifreeze have boiling points considerably higher than ethylene glycol (the base ingredient in engine coolants and the only part that is reusable), and that if vaporized, only clean glycol and water will pass over. Evaporation is performed under vacuum to reduce the boiling point and reduce thermal decomposition.

Because the used AF is typically less than 50% glycol, the initial portion of each batch must be discarded (water boils off first), along with a 3-4% contained glycol. Still bottoms (about 5%) are typically disposed of by landfill or waste-to-energy.

**Vacuum Distillation with Fractionation.**

In this technology, the vapors produced in the vacuum distillation evaporator are introduced into a separation tower containing either packing or trays, a small amount of condensate (water) is returned to the top to produce rain (reflux), and a small amount of heat is introduced in the bottom to induce steam stripping (reboil). Numerous evaporation and condensation cycles within the column product bottom glycol that is <2% water and a top that is distillate <0.5 % glycol. While the column and related controls introduce some additional complexity and capital expense, there are few moving parts and very little maintenance on this section. In addition to removing water from the glycol—the glycol specification ASTM E 1177 allows only 0.5 % water—the process also removes many important volatile contaminants, including ammonia, alcohols, petroleum solvents, and some odors. The basic engine coolant specification (ASTM D3306), from which all OEM standards derive, requires that coolants be blended using E 1177 glycol.

The distillate water contains contaminants (ammonia, alcohols) and cannot be used to formulate coolants. Simple carbon treatment allows reused in the cooling tower or POTW disposal. Blend water used to make coolants must meet ASTM requirements (D 3306.4.6) and is typically RO treated tap water.
Membranes.

The basic principle is one of size and charge exclusion; if particle, molecule, or ion is too large or carries significant charge (divalent ions such as calcium) it will be rejected. While true RO membranes can remove all ions from water, the membranes used for antifreeze recycling are actually slightly more course nano membranes; the pores must be large enough to pass ethylene glycol, limiting contaminant removal capabilities. As a result, post treatment with DI resin (see below) and carbon is obligatory. Additionally, because of the many small passages in membrane modules and the dependence on small pores, any glitch in pre-treatment and certain polymeric contaminants can ruin membranes very quickly, impacting reliability and economics. Regular chemical cleaning is required.

Because membrane process do not increase the concentration of the feed, concentrate glycol must be purchased to boost the final product. Additionally, about 15-20% of the feed is rejected by the membrane; fortunately, this waste stream is recyclable by vacuum distillation processers.

Post Treatment.

While these processes may produce compliant glycol without further treatment, nearly all recyclers polish the glycol through one or more additional steps to increase purity, improve aesthetic qualities, and provide some back-up quality control. These steps include:

- Fixed Bed Carbon. Color, odor, and certain organic impurities are reduced by slow contact with appropriate carbon, typically a 10x40 mesh coconut shell carbon and a residence time of a few hours. Do not use acid washed carbon; hydrochloric acid is used to remove metal contaminants, leaving a chloride residual, which has tight limitis in finished coolants. Do recycle the first volume as a rinse (fines and anion/cation contamination), and filter 1 micron to catch remaining fines.

- Deionization Resin. Mixed beds further reduce nitrate, borate, chloride and silicate as to required for certain formulations. However, if used to remove more than a few ppm of these ions, the bed life will be very short. DI beds can be self-regenerated or leased on an exchange program.

Ancillary equipment.

In addition to the process equipment, there are supporting equipment needs:

- Tankage. Includes used antifreeze, process wastes, blend water, glycol, and blended products.

- Laboratory for basic quality control. Coolant derived from recycled antifreeze goes in customer vehicles for periods up to 5 years; off-specification product can cause real damage. The glycol must be tested during and after production, and fingerprint tests confirm that coolants have been properly blended.

- Transportation. Used AF collection and delivery of at least 4 formulated products.

What technology is best for you?

Talk to technology vendors and hear their story. Within each basic technology there are many variations on the market, each with compromises and advantages. Contact NORA members and see how they feel about their choice. However, we see several macro trends. Distillation has become far more popular than membrane processing because it is easier to understand, more tolerant of feed variation, and generally more reliable in operation; a single contaminated feed batch is unlikely to cause equipment damage, though it can plug up and or produce off-spec product. Fractionation to produce concentrate, originally popular because of its ability to produce the concentrate the market demanded 25 years ago, may be coming back; it reduces transportation costs for larger recyclers, removes volatile contaminates (ammonia), and delivers compliance with ASTM E1177 and D 3306 (pre-dilutes do not technically comply with D 3306). The down side is increased capital cost. However, with improved technologies come improved products and increased market access, and that spells a bright future for recycling.
1) One person should be designated as the person who will be responsible for handling the investigation/inspection. Usually this is the EH&S officer. There should be a second person designated in case the primary person is unavailable. How the matter is handled depends in large part on what the issue is. So, the designated person should attempt to determine if it is a routine inspection (much less significant), a response to a spill, a follow up to a prior investigation, or a criminal inspection (the most significant). Either way, remain professional and call counsel immediately.

2) Obtain the name, title, and business card for each regulator who shows up. Find out the basis for the inspection/investigation. If it is a criminal investigation, make sure outside counsel is called and tell the officers that you want counsel present for the investigation.

3) Make sure that someone is with the officers the entire time they are at the facility. Do not let them wander around alone. If possible, take them only to the area under investigation and not on a facility-wide tour (unless it is a regularly-scheduled inspection). It is always a good idea to take photos (or better yet a video) of exactly what the officers are doing while they are there, so that there can be no argument about it later. Plus, this prevents “vigilante” tactics.

4) If there is a demand for documents, you have to be careful. If it is a regularly scheduled inspection, or an investigation based on a spill response, normally you should give them whatever documents they request. Keep in mind, that no matter what kind of inspection it is, you should have all of your environmental documents backed up on a hard drive and/or a flash drive. That way they have no reason to seize your computers. If it is a criminal inspection, however, they are not supposed to seize anything (documents or samples) without a search warrant, and you do have the right to refuse to hand over records without a search warrant. If they have a search warrant, make a copy of it along with any affidavit from an individual that supports the warrant. Again, tell the regulators that you would like counsel to look at the search warrant to guide you on what to produce (i.e. to make sure that it is not crafted so broadly that they get every document in your system). If you do produce documents, you should keep a log of exactly what you have produced. You can request that the documents be scanned and bates labeled before they’re turned over. It is best if one person is the “custodian of the records” on what was taken, and what may later be requested. If privileged documents are withheld – keep a log of what those documents are.

5) If the regulators want to take samples, either request that they provide split samples, or you take samples of the same material. Do not wait because rain, time delays, etc. can change the characteristics of the samples. Again, if it is a criminal search warrant, the authority to take samples, and the sampling locations should be listed in the warrant.

6) Interrogation of employees – Do not idly chat with the regulators. Answer their specific questions only. If the interrogation occurs at the plant, tell the regulators that you want counsel present during the investigation. Make sure that either counsel or some other officer of the company is in the interrogation so that there is no opportunity for “brow-beating” the lone witness. Ask that the interrogation be taped. When the interrogation is complete, have a debriefing meeting with the employee, and outside counsel as soon as possible after the interrogation, so that the witness’s recollection is fresh.
7) Generate a list of which employees the government is likely to speak with based on the subject matter of the investigation and meet with them ahead of time to go over the scope of the investigation and their rights when being interrogated.

8) Ask for an exit interview – what was the purpose of the investigation, what issues were found, did they find any violations (or when will they notify you if any violations were found), go over a list of the items seized. Determine what follow up will need to be done, and what are the “next steps”.

CUSTOM NOTICE FOR EMPLOYEES
Available Online For NORA Members

Download a customizable document to post in order to guide employees in handling any onsite investigation, subpoena, demand for records, or request for sampling by a Governmental Agency. Visit www.noranews.org > Members Only Resource Center > Documents and Reports > Business Documents.

Continental Refining Company now accepts transmix. Transmix is produced when refined petroleum products gasoline and diesel are mixed together. Once these refined products are combined the combination no longer meets the approved refined fuel guidelines, this combined product cannot be used as a finished fuel. CRC has developed a processing unit that refines transmix back into gasoline and diesel. CRC is able to recycle fuel and offer wholesalers, jobbers and environmental companies a solution for their mixed fuel problems.

CRC is capable of processing up to 5,500 barrels per day refined products.

Transmix is accepted in the facility Monday thru Friday 8 AM until 3 PM. Each load of transmix brought into the facility is tested for CRC fuel specification guidelines.

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Somerset, Kentucky  |  (606) 679-6301
By 1936 Oldsmobile had been producing a wide variety of models for the better part of four decades.

Records indicate that one of the more than 200,000 Oldsmobiles of all models manufactured in 1936 was an “F” series Sport Coupe with a rumble seat.

During the next 78 years six different owners took care of the car through good times and bad. All six owners lived in Pennsylvania.

Then, after a through restoration, the car in October 2014 was taken to an antique car show and put up for sale.

That is where Randy Denchfield first saw the beautifully restored three-window Oldsmobile Sport Coupe. Denchfield, has long been attracted to three window coupes regardless of pedigree.

A lengthy discussion with the owner took place inside the Oldsmobile because of a passing rain shower. Denchfield gave the owner a cash deposit. The next weekend Denchfield drove to Scranton, PA., pulling a trailer. He claimed his 3,054-pound prize, becoming the seventh owner, and towed it home to Chevy Chase, MD.

Since he now has more time to thoroughly inspect his Oldsmobile Sport Coupe he has found no surprises, unpleasant or otherwise. He has learned that Oldsmobile built 2,838 cars like his, each one with a six-cylinder engine developing 95 horsepower. The advertised base price on such a vehicle was $739.

To help the engine breathe both sides of the engine hood were ventilated with three sets of louvers. Mounted atop the engine is the oil bath air cleaner.

The sporty Oldsmobile rides on 6.50x16-inch white sidewall tires supporting the car on a 115-inch wheelbase. Each wheel is dressed up with trim rings.

Because this car is equipped with a rumble seat instead of a trunk the spare tire is mounted vertically inside the cabin in a compartment behind the passenger seat. Behind the driver’s seat is another compartment where the jack and tools are stored. Both compartments are conveniently out of sight.

Oldsmobile designers addressed the lack of cargo space on this model by installing a luggage rack on the rear of the car which can be folded close to the car when not in use. When the rack is in the horizontal position it can accommodate a small steamer trunk.

Both side of the car have rubber covered running boards but Denchfield finds that entering and exiting the cozy cabin is easier by stepping over the running board. Once inside the cabin the craftsmanship of the restorer is evident from top to bottom. Denchfield marvels at the attention to details.

Although the needle on the speedometer is ready to climb to 100 miles per hour Denchfield doubts that his car has ever come close to such a speed, “It won’t go over 60, I’m sure,” Denchfield says.

Steering the car requires some muscle and determination to turn the shoulder-wide banjo-spoke steering wheel.

The task of stopping the car is made easier because it is equipped with hydraulic brakes.
The three-speed manual transmission is shifted through the gears via the gear shift lever sprouting from the floor.

Inserting the key into the ignition slot on the dashboard is required but that alone will not start the Oldsmobile. The starter, located above the accelerator pedal, must be stepped upon.

Ventilation is provided by the cowl ventilator and both doors also have enormous vent windows which can be cranked open to direct air into the cabin.

Not anywhere near the two-piece, 10-inch high, windshield can a defroster vent be located. However, under the passenger side of the dashboard is a two-door heater.

Located in the center of the dashboard near the ignition, cigarette lighter and throttle is the AM radio.

Regarding what he calls his coffee and cream Oldsmobile Denchfield happily reports, “It looks as good underneath as on the top.”

11 NEW MEMBERS JOIN NORA SINCE LAST ISSUE OF LIQUID RECYCLING

**COMPANY** .......................... **CONTACT** .......................... **LOCATION** .......................... **PHONE**

Advance Fuel Technologies & Environmental Services .................................................. Jorge Perez ............................................. Jupiter, Florida ............................................. (844) 238-3835

American Recovery L.L.C ................................................................. Dwight Daigle ........................................ Houma, Louisiana .............................. (985) 879-4002

Coreven Processing ................................................................. Spencer Robert ................................... The Woodlands, Texas ................ (832) 482-4594

E & E Technologies ................................................................. Tom Murray ........................................ Dallas, Texas ............................ (940) 360-8790

Graymills ................................................................. Thomas Kucklick ........................................ Chicago, Illinois ...................... (773) 477-4100

MemPore Corp ................................................................. Alan Fox ................................................ Nepean, Ontario .......................... (613) 823 9125

Mobius Logistics LLC ................................................................. Edward Hall ........................................ Winter Park, Florida .................. (407) 212-9445

PFL ................................................................. Curtis Chandler ........................................ Naples, Florida .......................... (239) 390-2885

Reinca, S.A. ................................................................. Bertha Echeverri .................................. San Pedro Sula .......................... (504) 9979-9843

Rice Oil & Environmental ................................................................. David Charlton .................................. Akron, Ohio ........................ (330) 376-4157

VTA GmbH & Co., KG ................................................................. Bob Schavey ........................................ Rock Hill, South Carolina ........ (803) 980-2882

INDUSTRY CALENDAR

**2015 NORA CONFERENCE & TRADE SHOW**
November 11-14, 2015  •  Orlando, FL
www.noranews.org > Events

**2016 NORA WINTER MEETING**
February 17-19, 2016  •  San Antonio, Texas
www.noranews.org > Events
How is your company connected to the industry?

Dober’s Cooling System Division (CSD) develops innovative anti-corrosion and anti-scaling chemistries for heavy duty diesel and light duty gasoline engine cooling systems, which include environmentally-friendly options for recycled antifreeze producers.

Dober is focused on technology leadership, we are active members of many industry organizations, and participate in standardization decisions that make it easier for our products to be used safely by filtration companies, antifreeze and coolant blenders, recycled antifreeze blenders and heat transfer fluid blenders.

What products/services does Dober provide to the industry?

We provide high-performance and cost-effective chemical formulations, and specialize in additive chemistries. Our products include:

• Antifreeze Additives / Coolant Blending Syrups
• Supplemental Coolant Additives (SCA’s)
• Water Treatment Chemicals
• Cooling Systems Cleaners
• Heat Transfer Fluid Additives
What value do you find in NORA membership to expand your business opportunities?

NORA offers an ideal forum for networking with antifreeze recyclers and discussing the most important issues facing the industry.

How do your products assist NORA members in the antifreeze recycling industry or other segments?

After the glycol has been reclaimed from used antifreeze, a high quality antifreeze product can be made by blending the glycol with water and Dober additives. Using Dober additives offers the antifreeze blender consistent quality, easy blending with single syrup formulations, and unmatched technical and product support. Our product development emphasizes high performance chemistry, coolant stability, and the control of scale formation due to hard water minerals and other contaminants. ASTM specified testing is completed on-site in our performance test lab complex, which is staffed by a team of chemists and PhDs with over a century of combined experience.

What are the biggest challenges and opportunities you see facing the antifreeze recycling industry over the next five years?

The outlook is good for the recycled antifreeze industry. With an increased acceptance of high quality recycled antifreeze and growing support for environmentally sound initiatives, opportunities are plentiful. The challenge will be for the industry to recycle more spent antifreeze. Currently, only about 12% is collected of the annual 225,000,000 gallons of antifreeze sold each year in the US. For the industry to grow beyond the current volume, stronger initiatives to collect more used antifreeze are needed.

“NORA offers an ideal forum for networking with antifreeze recyclers and discussing the most important issues facing the industry.”
A. E. Rosica & Co.
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(703) 405-6278
Investment Banking

Accurate Energy
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Accurate-Energy specializes in providing recycled fuel oil products, environmental services, and creative market approaches for customers who require exceptional service and value.

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Air Products is the global leader in hydrogen production and services. Additionally, Air Products provides atmospheric gases such as nitrogen, oxygen, & argon, and technology to enable customers to become more productive, energy efficient and sustainable.

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Reclamation of auto fluids to Include oil; Gasoline; Antifreeze

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Scientific Research/Chemical Analytical Testing

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