



LIFE LINE

VOLUME 27 ISSUE 1

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By Mike Durham

DIRECTOR'S LOG

Mother Nature can be Mean!

As I prepare to write this for our quarterly Life Line Newsletter, the title above comes to mind. As we saw in Katrina, the Haiti earthquake, and now the Japan earthquake and tsunami, Mother Nature seems determined to overwhelm our best guesses as to what she will do next. (Or maybe our most optimistic hopes as to what she *will not do* next.)

During Katrina the wind driven water topped the flood walls and levees in New Orleans and ultimately collapsed the flood walls in several locations. The protective measures that were engineered to prevent the very flooding that resulted from Katrina were defeated by Mother Nature. Of course, we have many who always blame the designers and builders for not going strong enough or building high enough to beat her. But the truth is she is too powerful for us to totally contain....

As the homeless in Haiti seek shelter from the tropical rains under tarps, scavenged tin or other makeshift coverings, we can't help but think, boy, Mother Nature is mean!

Now, we experience the earthquake in Japan, with the tsunami which followed minutes later. I have lived on this earth for many years, and have seen old footage of movies of past disasters, and scenes from Hiroshima and Nagasaki. But, I have never seen anything to equal the scenes on the internet and TV news that I have observed after the tsunami. Ships, autos, trucks, buildings, and whatever was in the path of the water was moved inland, pulverized and subsequently washed back seaward. At this writing, over 20,000 people are missing and are likely dead. Where there were thriving towns and cities, there is littered, but barren landscape. Where there were farms and orchards, there are houses, boats, ships, cars, trucks and litter scattered about. Most houses are scraps of lumber, piled high on top of whatever is underneath. Courageous and heroic rescue crews comb piles of refuse looking for signs of life.. or death. Families comb the lists of evacuees in shelters, praying to find a name of a missing loved one. Survivors brave snow and cold weather without electricity, with shortages of basic foodstuffs and water. As if that is not enough, the nuclear plant woes..

As the past Safety Manager for Gulf States Utilities Company, I had some limited involvement in the building

and licensing of the River Bend Nuclear Plant. During this experience, I learned a lot about nuclear power, and I favor its use in our fuel mix for generating electricity. I believe the River Bend Nuclear Plant is safe. As I write this the scenario has not played out in Japan's two nuclear plants struck by the earthquake and tsunami, so I don't know what will happen in the next few days and weeks.

For our readers, there is a website set up by the Massachusetts Institute of Technology (MIT) Nuclear Science and Engineering Department that is very informative: <http://www.mitnse.com/>. It is a blog that is updated periodically and provides information that is superior to what is on news channels and Internet news outlets. From the MIT site I learned that the Tokyo Electric Power Company (Tepco) has released tentative assessments of the scale of the tsunami at the Fukushima nuclear power plants, putting it at over 10 meters (~33feet) at Daiichi, and over 12 meters (~40 feet) at Daini. (Wikipedia says 46 feet, so who knows for sure?). Add to the height of the water the fact that boats, ships and barges are on top of that surge makes it even more devastating.

The Fukushima power plants were required by regulators to withstand a tsunami. At the Daiichi plant the tsunami design basis was 5.7 meters (18.7 feet) and at Daini, 5.2 meters (17 feet). From this information, it is clear that the design basis was not adequate for the actual tsunami that struck. In the Nuclear Safety Commission of Japan's [Regulatory Guide for Reviewing Seismic Design of Nuclear Power Reactor Facilities - NSCRG: L-DS-I.02](#) (Published in May 1978, revised in 2006) it provides the basic guidance for earthquake related landslide and tsunami protection for

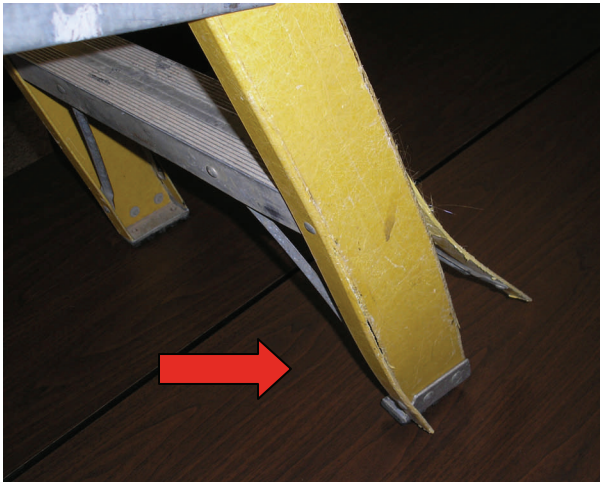
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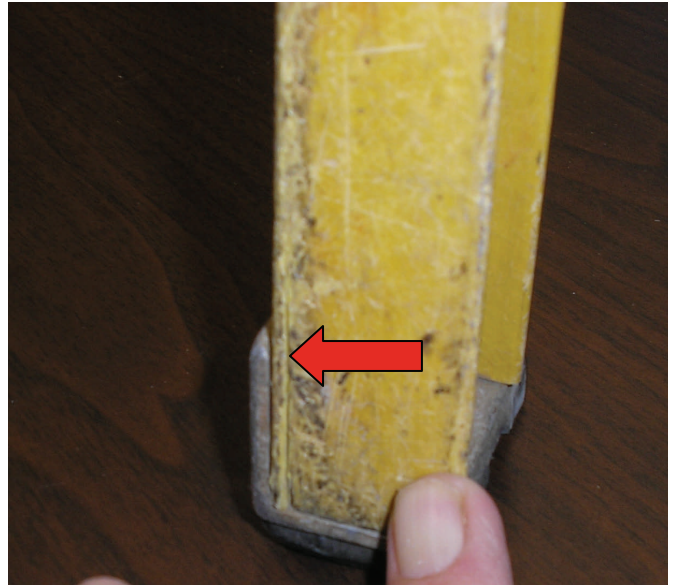
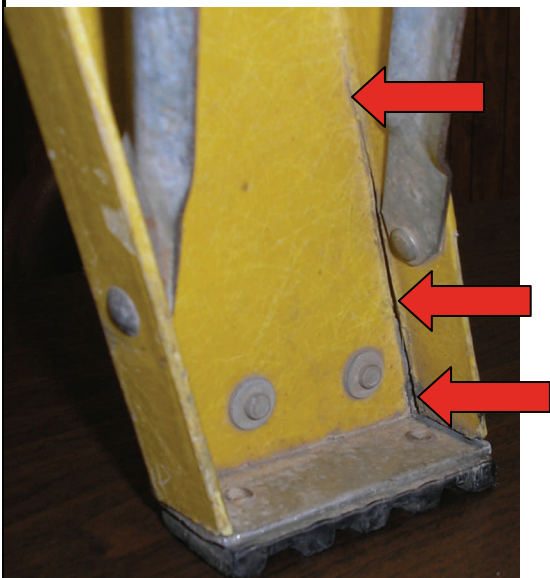
Near Miss – Fiber glass Ladder Failure

An employee placed his foot on the first step of the ladder and the left ladder leg failed. He did not receive an injury since he did not begin to climb the ladder.



Inspect the channel supports of ladders to ensure there is no cracking or broken fiber-glass.

Note the cracking on other support leg that did not fail.



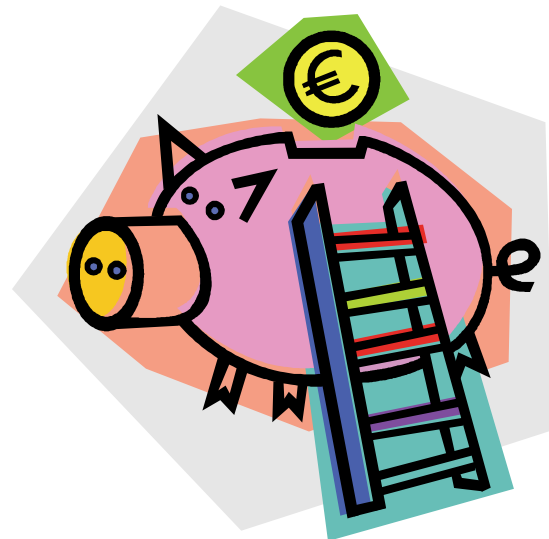
Inspect ALL support legs for cracking!

Do Not repair the cracks, REPLACE the ladder!!

Ladders can be used for many years, but they need to be handled, used, and inspected properly.

Potential causes for cracking of the ladder support legs include:

- * Too much load on ladder
- * Poor handling of ladder by allowing it to “hit the ground” when setting it up.
- * Using the ladder improperly by NOT opening fully, and just using 2 of the 4 support legs.



Director's Log (Continued)

Japan's nuclear plants. From the document:

- "8. The Facilities shall be designed with sufficient consideration to the accompanying events of earthquakes in the following terms.*
- (1) Safety functions of the Facilities shall not be significantly impaired in the seismic events by the possible collapses of the surrounding grounds above the foundations.*
- (2) Safety functions of the Facilities shall not be significantly impaired by tsunami which could be reasonably postulated to hit in a very low probability in the service period of the Facilities."*

There are 10 pages of detailed instructions on the design requirements for earth movement and shaking in the earthquake, but just one sentence each on the two important "side effects". It is interesting to note that the Fukushima plant's lifetime was 40 years, and unit 1 exceeds that life span if you consider the start of construction (July, 1967) as the beginning of the life span. Starting with commercial operation, the design lifespan ended March 26, 2011. So they cut it pretty close, or almost made it...

But back to Mother Nature, she can pack a punch. We can never out-wrestle or out-smart her, but we can do our best to be ready to respond to her mean streaks. Evacuation plans, emergency preparations, and recovery operations can be mapped out in advance of the worst case scenarios, and we must respond in this regard. I am afraid, however, for a myriad of reasons, we will never be totally prepared, nor totally safe. We will do our part and remain vigilant, and "manage the risk".

Our hearts and prayers go out to our friends, the people of Japan. Most of us wish we could do more to help, and I admire the stealth and endurance of the citizens as they cope with the devastation and sorrow.

On campus we have a large number of bikes, and we must be careful to avoid hitting them while driving. Recently I noticed a bike trying to pass a Tiger Trails bus on the right while the bus was making a right turn. As the bus made the turn, the biker was crowded to the curb, and, fortunately, the bus driver was checking his/her mirrors and saw what was happening. The bus driver stopped and allowed the bike rider to get the bike up on the sidewalk.

I frequently hear stories of close calls from others, and some of our Facility Service employees have expressed concern that the bike riders do not seem to follow the rules

of the road. Safety for bike riders has been improved dramatically since the gates have been installed, but we must exercise care.

In 2011, we are placing more emphasis on accident prevention. In this edition of the *Life Line*, you will find accident statistics that go into considerable detail about the accidents and where they occurred. As we refine our processes we will further delve into accident causes and provide more information to you on a quarterly basis. If you have ideas about how we might better raise awareness on accident prevention, please give us a call at 578-8507.

The Laboratory Safety Accreditation Program is up and running, and we have accredited two labs in the AgCenter this month. Prasanta K. Subudhi, Associate Professor, and Dr. Niranjana Baisakh, Assistant Professor – Research, have both passed the accreditation audit, and certificates have been awarded to them for this accomplishment. The presentations were made by Dr. John Russin, Vice Chancellor, Ag Experiment Stations, and yours truly. This process is an excellent vehicle for assuring our PIs that their labs are "up to snuff" in safety and environmental requirements, and we look forward to every lab on campus gaining this accreditation. [Bob Ardoin](#) is spearheading this effort for us and questions should be addressed to him.

Recently the LSU Student Government *Committee on Campus Services and Development* and student volunteers, under the leadership of Marcus Anderson, made a survey of nighttime lighting levels on campus. They went out on a very cold night and made a good survey, which they have turned over to Facility Services for corrective action. We are planning a lighting walk on April with LSU staff assisting Marcus' student volunteer crew to check these areas and others on campus for lighting problems. Our thanks to Marcus and his team for this initiative!

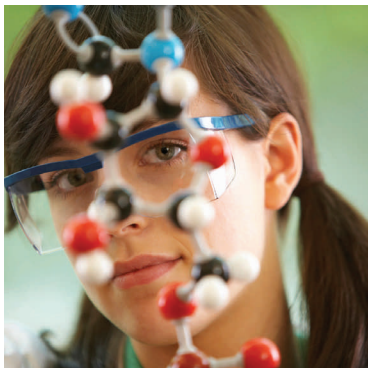
Summer is upon us. The grass is green, temperatures are moderating, and the oak leaves are on the trees. I love this time of the year, and actually bought a boat for my grandson and I to go fishing. Let's keep safety first in all that we do so we don't experience an accident that spoils our vacation time.



Protecting Your Eyes

Your eyes provide you with insight to the World!
Protecting your eyes from damage:

Eye protection can be broken down into 3 Major types:



Wear **safety glasses** when performing work that generates flying objects. When working over-head, dust and debris often falls into the un-protected eye. Safety glasses are marked on the frame and the lenses that they meet the A.N.S.I. standards for impact resistance



Second, there are **goggles**, which form a protective seal around both eyes. There are two basic types of goggles; impact and chemical. Chemical goggles have indirect ventilation paths protecting the worker from chemical splashes. Impact goggles have direct ventilation holes and provide protection against direct impact or large particles.

A **face shield** is worn with safety glasses or goggles. Face shields provide additional protection for the face, and are worn when grinding, wire-wheel-brushing, welding, or transferring corrosive materials such as acids or caustics.

Cylinder Safety

New Laboratory Safety Training Course

EHS has added *Cylinder Safety* to the on-line laboratory training modules provided through the Chemical Management System. The on-line training currently consist of four modules:

- **Cylinder Safety,*
- **Hazardous Waste,*
- **Basic Laboratory Safety, and*
- **Emergency Response.*

Annually, Laboratory personnel should review the training modules and take the associated test. You can use the attached link or go to the EHS web site to access the training. You do not have to be a Chemical Inventory User to take the training, just type in your name and answer the required information.

[EHS On-line Training](#)

Feel free to call EHS at 578-5640 with questions or concerns.



LSU Lakes – A Risk Management Perspective

Over the years, everyone who has worked or attended LSU or lived in Baton Rouge has walked or driven by the LSU Lakes. This Lake System (see map) consists of seven urban lakes ranging in size from 3 to 195 acres with approximately 300 acres in total. The man-made lakes were formed in the 1930's when cypress swamps were timbered and dammed.

The largest of these lakes is University Lake. It covers some 195 acres, but is only 2.5 feet deep, on average. University Lake is owned by LSU and BREC leases the Wampold Memorial Park Area from the University. The six other Lakes are owned by LSU, BREC, and Private Parties.

As the spring season approaches and the weather warms, usage of the Lake Area will grow to include joggers, walkers, bikers, kayakers, boaters, fishermen, etc. It is important to remember that even though this area is one of the most beautiful areas of campus; unseen hazards do exist and proper usage of the lake must be observed.

Rules and recommendations

Here are a few of the BREC rules regarding the use of Wampold Park:

- * Under no circumstances can a public park be used for commercial, religious or political purposes.
- * All Neighborhood Parks close at dark.
- * Pets must be leashed at all times and droppings removed.
- * No alcoholic beverages may be brought onto or sold on BREC property
- * Firearms, explosives and weapons of any type are prohibited in all park areas.
- * Fireworks of any type are prohibited in all parks without permit. BREC will issue permits for some group functions. (See contact information below.)

You should also observe the following recommendations when using the LSU Lake area:

- * You must have a State Fishing License when fishing in the Lake.
- * It is not recommended that you swim in the lake. The Lake is very shallow and the bottom may hide debris that can cause injuries. (i.e. broken glass, etc.) It is recommended that shoes be worn when entering the lake. Also, care should be taken when walking or fishing on the banks of the lake. Fill material has been placed at the lakes edge over the years to prevent erosion. Some of this material contains broken concrete and rebar with sharp edges.
- * Please do not throw objects into the lake or litter. A bird sanctuary exists on the east side of the lake; making environmental quality of the utmost importance.

Water Quality

The water quality of the lakes has been questioned over the years. The following explanation of the lake system by the US Army Corps of Engineers sheds some light on the subject:

“Expansion of residential development and the LSU campus surrounding the lakes led to the rapid development of infrastructure and drainage systems, which further subdivided the original lake into its present configuration of seven lakes. The aquatic ecosystem has undergone hydrologic modifications in past years due to unintentional (community development and expansion) human intervention. These activities and others have resulted in limited freshwater inflow and circulation, eutrophication, sewage infiltration, stagnation, limited exchange of nutrients, sedimentation, collapsing drainage infrastructure, retreating bank edges, lack of depth and other factors that limit the performance and health of the aquatic ecosystem.”

The ambient water quality is monitored by the Louisiana Department of Environmental Quality and the LSU Department of Renewable Resources. While the water quality is considered safe for fishing and boating; the lakes are subject to low oxygen reading during the warmer months due to shallow average depth. Fish kills can occur also during these warmer months.

A plan to deepen University Lake, improve the shoreline, and reduce erosion has been developed by the Corps of Engineers; but, until funding can be provided by LSU and BREC, the plan will be on hold.

Contact Information

If you have questions about using Wampold Park please contact BREC at www.brec.org or call 225-272-9200.

If you have questions about LSU Risk Management or Environmental Health and Safety please contact Michael Hooks at 578-5640.



This is a fictionalized report of an eye injury caused by chemical exposure:

Wilson realized he was the last member of his janitorial team to finish. They waited for him to finish before they moved on to other restrooms. He was worried he was not going fast enough. He thought his safety glasses were slowing him down, so he took them off. He made it through cleaning four more restrooms before his luck ran out. The white bottle of bowl cleaner was almost empty, so he hurriedly poured all of what was left into the first toilet. Some of it splashed up into his face.

The next thirty seconds permanently changed his life.

What Happens During An Eye Injury

| Elapsed time | What Wilson Feels | What his eyes suffer |
|--------------|---|--|
| 1 seconds | The first thing he feels is the wetness on his face | The toilet bowl cleaner was 23% hydrochloric acid |
| 3 seconds | Then his eyes begin to sting | The acid spreads over the eye surface |
| 5 seconds | He stands up blinking away the tears that are flowing from his eyes. | Corrosive burns begin on the eye surface, including underneath the lid. |
| 7 seconds | The stinging quickly becomes pain. It seems that his eyes are on fire | Permanent eye damage has begun |
| 10 seconds | Acting on reflex he hurries to the nearby sink, thrusts his face under the tap, and turns the water on full | The eye surface is being corroded away |
| 15 seconds | He quickly switches the water from side to side washing each eye in turn. | The water begins to wash away some of the acid, but the pH in the eye is still less than 1. The under side of the eyelid starts to burn. |
| 20 seconds | But the pain continues to increase | Nerve cells in the eyelid begin to die |
| 1 minute | His coworkers join him at that point drawn by Wilson's painful cries. | One third to one half of the acid has been washed out of the Eyes |
| 20 minutes | They help Wilson wash out his eyes for 20 minutes, at which point his pain becomes almost bearable | All of the acid has been washed out of Thomas' eyes. Pain still prevents him from opening his eyes |
| 1 hour | The crew take him to the emergency room at a nearby hospital. His eyes are again flushed with water and he is seen by a doctor. | Wilson discovers that he has permanently lost 15% of his vision. |
| | | He can no longer drive at night, and has trouble reading more than a few minutes at a time |

E.H.S. Lab Safety Accreditation

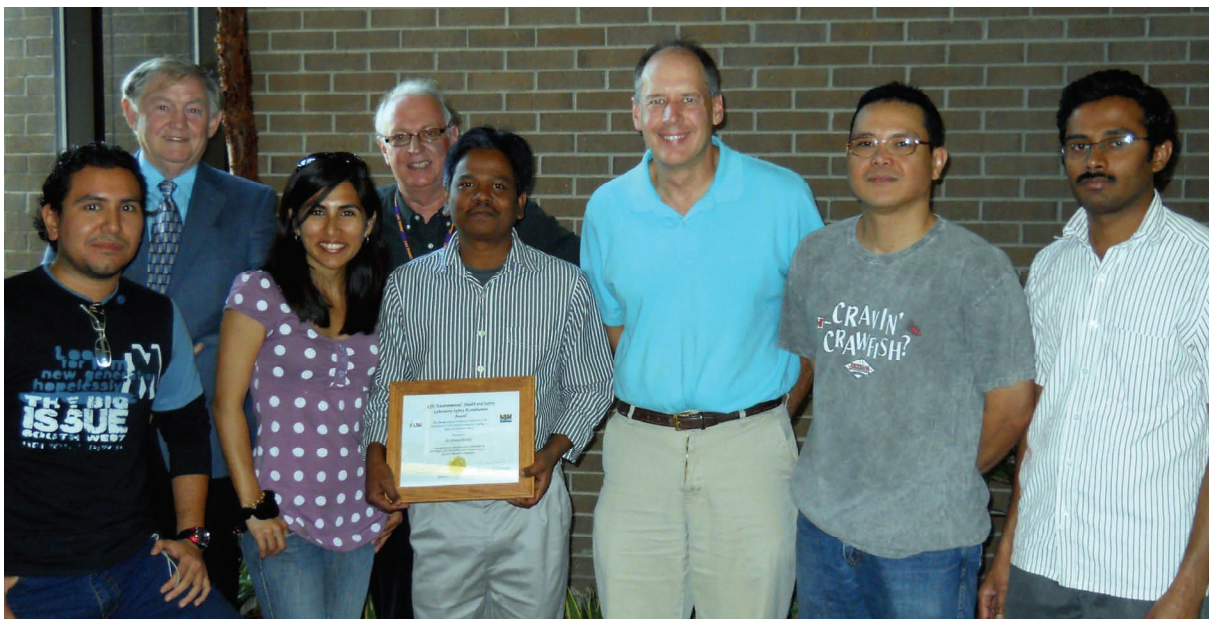
Dr. Prasanta Subudhi and Dr. Niranjana Baisakh, from the LSU Ag Center, were the first two Principal Investigators to be awarded the **LSU Environmental, Health and Safety Laboratory Safety Accreditation**.

Congratulations to Dr. Subudhi, Dr. Baisakh and to Dr. Don LaBonte, Director of the School of Plant, Environmental and Soil Sciences. Dr. Subudhi and Dr. Baisakh, supported by their groups, worked closely with EHS to meet all the requirements of the Safety Accreditation Audit.

Dr. John Russin, Vice Chancellor of the LSU Ag Center and Mr. Mike Durham, Director, E.H.S., made the presentation to the PI's and their groups.



Front row (left to right): Dr. Prasanta Subudhi, Dr. John Russin, Teresa DeLeon, Ramesh Dhakal, Chad Judy
Back Row: Mike Durham, Dr. Don LaBonte, Bob Ardoin, Hanama Reddy, Dr. Karan Ratna



Front row (left to right): Luis Eduardo Sanchez Timm, Lina Bernaola, Dr. Niranjana Baisakh (PI), Dr. Don LaBonte, Dr. Arnold Parco, Dr. Mangu Venkata
Back Row: Mike Durham, Bob Ardoin

Year-To-Date Accidents

We all can learn from accidents. Tracking accidents and their root causes provide a resource to us in how to prevent them from re-occurring. Like the previous article on the “Eye Injury,” we remind ourselves of the importance of following proper safety procedures, and “short-cut prevention.”

During the first 2 months of 2011, there were 29 accidents reported to the Risk Management department.

[Link to Summary of Accidents](#)

Departments in BLUE are linked to a report that provides more details of the accidents.

***** **Driving on State business** *****

Annually, complete and submit the Driver Authorization form.

This [link](#) takes you to the form.

When signing the form, be sure to note the accident reporting requirements, along with the responsibility for paying any traffic fines as a result of citations received;

“...I understand that I must report any accident while performing state business to my supervisor as soon as possible, and complete a “Driver’s Accident Report Form” (DA 2041) within 48 hours. I also understand that I am responsible for reporting any citations I receive, and to pay any traffic fines levied as a result of the citations.”...

Note: When the University receives a citation generated from automatic traffic control devices such as radar vans, trailers or “red-Light cameras”, Property Management will forward the citation to the department that is assigned the vehicle. That department will transfer the Liability for the ticket to the driver, who is responsible for paying or resolving the fine.

The [on-line Safe Driver training](#) should be completed by drivers every 3 years, or repeated if citations are received.

Safe Driving Tips

- * Wiper Blades in Good shape
- * Tires– proper pressure and tread
- * Fluid levels checked and good
- * Seat belts worn
- * Have a well-rested “Good Attitude”

When we are followed by a “tail-gator,” the risk of a rear-end accident increases To improve your chances when “being tail-gated”,

- * maintain your speed yet increase your following distance from 2 seconds to 4 seconds. This allows you to brake slowly if necessary to allow the tail-gator time to also apply their brake.
- * Drive on the “right side” of your lane to allow the tail-gator to see the brake-lights of the vehicle in front of you.

State Law Reminders:

State Law requires headlights ON when wipers are ON due to rain.

Intersections, where the stop-light lost power, should be treated as a 4-way stop.

State law PROHIBITS Texting while driving.

Same Name!! NEW LOOK...

www.ehs.lsu.edu

Check out our re-designed website!!



Free Paint

Facility Services has surplus paint in various colors that cannot go to state surplus, but can be used for University business. If you would like to pick up paint, contact David Perault at 578-5567.

++++ Safety Meetings +++++

As a minimum, Department Safety meetings should be conducted Quarterly. This newsletter can be used as safety meeting material. Please route through your department via e-mail and request a “return receipt,” or circulate with “sign-in” sheet containing printed name/date/ and initial.

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