

New Mexico State University

ENVIRONMENTAL HEALTH & SAFETY

ANNUAL REPORT 2013

INTRODUCTION

MISSION

Environmental, Health and Safety is [committed to facilitating University safety, health and environmental protection](#) by providing and coordinating programs and services that support teaching, learning and research activities. Through these EH&S programs and our partnerships with various constituents of the campus and regulatory agencies, we prevent personal injury, recognize and control hazards, minimize risk and loss, and provide leadership in environmental stewardship.

EH&S fulfills its mission to make NMSU a safe work and learning environment and ensure regulatory compliance by implementing programs and services in eight major areas.

1. [Education, Training & Protective Equipment](#)
2. [Hazardous Waste & Materials Management](#)
3. [Health & Safety Inspection](#)/Facility Audits/[Activity](#) & Work [Reviews](#)
4. Regulatory Compliance Assistance
5. [Accident, Incident, & Exposure Investigations](#)
6. [Exposure Prevention/Indoor Air Quality](#)
7. Radiation Safety, Licensing & Permitting
8. Safety Standard & Procedures
9. Environmental Compliance

VISION

Our vision at NMSU is to be recognized as a premier university. NMSU will not be recognized as such, unless the University demonstrates a strong commitment to protecting the health and safety of employees, students and the public as well as protecting the environment. Our goals are to have a workplace free of injuries and hazardous exposures, to prevent or minimize any adverse impact to the environment, to provide services of the highest quality to the NMSU system and to be recognized as leaders in the areas of environmental protection, health and safety. Responsibility for health, safety and environmental protection will be an integral requirement of all employees and students of New Mexico State University.

DEPARTMENT VALUES

Our department will be comprised of individuals committed to our mission and values and the highest professional practices and standards. We provide quality services to our customers by understanding their individual needs and measuring our effectiveness. We carry out our responsibilities with knowledgeable professionalism. We provide creative, reasonable and timely solutions. We empower and require accountability of our staff in a supportive work environment where we can achieve our full potential.

Staff will practice their profession by following recognized scientific principles and management practices, factually informing affected parties of their findings in an honest, straightforward manner, exhibiting the highest level of integrity, honesty and empathy, while never compromising the public's welfare. Staff will strive to be involved in continual education and professional development, to provide superior customer service in all areas, to perform service only in the areas of their competence and maintain information as confidential when appropriate.

OVERVIEW OF 2013

- NMSU Chemical Engineering Department Head honored with Friend of Safety Award.
- EH&S continued to score the high in customer satisfaction with at least 70% of respondents satisfied to extremely satisfied with EH&S services in all categories except one.
- Faculty research support continued with services such as detailed protocol review and membership on most research oversight committees.
- University growth and EH&S personnel to provide safety support is a continued focus.
- System wide safety training was provided to a total of 4,481 persons in over 288 safety classes, a 8% increase over last year.
- Loss control program includes off campus and main campus facility inspections, lab and shop inspections, safety equipment certifications, activity reviews, hazardous materials spill response, accident investigation and air complaint reviews.
- Employee injury and illnesses continued in the trend of more than 50% reduction in cases with lost or restricted work days for six consecutive years!!
- The number of general room inspections completed increased by 111%; this increase is attributed to focus on tracking individual rooms and new inspections at all remote facilities and all campus locations.
- The lab inspections performed increased 16% from the previous year which includes follow up inspections of poor and failing labs.
- EH&S completed certification inspections on 925 units of laboratory safety equipment, including eyewashes, emergency showers and exhaust hoods using student inspectors.
- There were 89 responses to incidents primarily involving indoor air quality complaints and minor hazardous materials spills/incidents. The 52% decrease compared to last year was an unusually high incidence of mold investigation in 2011.
- Remote campuses and Ag. Science Centers were serviced by EH&S to include annual room and lab inspections, and instructor lead safety training and certification for forklift drivers.
- Asbestos abatements increased about 60% as shown by number and duration of projects, state required permit under NESHAP, and volume of waste produced increased more than 200%.
- Picked up, researched, processed, and shipped 44,000 pounds of waste in 2013 compared to 67,000 pounds averaged over the previous five years. The team managed over 2,600 different waste items.
- Responded to 2 emergency calls for hazmat spills.
- Aggressively implemented education and inspection to successfully lower the amount of biohazardous waste generated by 75%.
- Formal NM Environment Department Hazardous Waste compliance inspection with 28 violations noted for the campus and with immediate corrective action and 143 page

- report, NMSU received letter of resolution with no penalty.
- Completed nine detailed reports in compliance with NMSU's Title V Air Permit, and natural gas usage tracking under Federal Greenhouse Gas Management Plan.
- Continued support of Biosafety Program through committee application reviews, provisions for monthly training facility, registration and maintenance of records. Provide waste management and disposal of biohazardous wastes generated by laboratories.
- An emergency preparedness health disaster tabletop was held with 50 representatives from NMSU and regional agencies, including Department of Health and SW Border Food Safety and Defense. We produced a formal after action report.
- Lead the development of NMSU's Hazard Mitigation Plan to be incorporated in the Dona Ana County Hazard Mitigation Plan and awaiting approval by FEMA
- Issued validation for 1212 drivers licenses and as many permits, of which 207 were for utility cart use; this is slightly less than previous four year average.
- Second place Research Council Creative Activities award for Minimum Personal Protective Equipment poster

NMSU CHEMICAL ENGINEERING DEPARTMENT HEAD HONORED WITH FRIEND OF SAFETY AWARD

Writer: Tiffany Acosta

David A. Rockstraw, New Mexico State University Chemical Engineering Department Head and Robert Davis Distinguished Achievement Professor, has been honored as a "Friend of Safety." He was recognized by Environmental, Health & Safety for his efforts to enhance the culture of environmental, health and safety at the university.



"What impressed me the most last year was when Dr. Rockstraw drove an explosive compound from his department over to our lab and then personally led the deactivation of the explosive," said Drew Kaczmarek, EH&S assistant director. "Dr. Rockstraw took ownership of a high hazard material and safely stabilized the material to a state where it could be sent off as a regular hazardous waste - also literally saving thousands of dollars that would have been needed to bring in an explosive expert."

In a surprise announcement at the engineering roundup, Jan. 13, Rockstraw was presented with an engraved globe, representing the impact safety leaders make in the world.

"I was surprised at the safety award because I didn't know that EH&S offered such an award," Rockstraw said. "This was a team award earned by every member of the Chemical Engineering Department who thinks often about safety; I was just the one doing a lot of the talking."

Under Rockstraw's leadership the culture of laboratory safety has made positive strides. He established requirements for minimum personal protective equipment and enforces the policy. The Chemical Engineering Department has gone nearly two years without lost research work or laboratory-related injury.

For graduate research in the Chemical Engineering Department, Rockstraw requires all work processes be written and approved by experts on the various hazards before work can begin. He created a required monthly safety seminar for chemical engineering faculty, staff and students, fire extinguisher training and case studies of chemical lab and chemical plant accidents.

In addition, Rockstraw directed a workshop to train Chemical Engineering personnel to self-audit the entirety of the department's facilities, compiled more than 100 findings from the audits, and then ensured each of the findings were corrected.

In the department, Rockstraw established the Sentinel for Safety awards program and an occupational safety webpage (http://chemeng.nmsu.edu/che_safety.htm) where Chemical Engineering personnel can find needed safety-related resources. Rockstraw also was honored with the Donald C. Roush Excellence in Teaching Award at the 2014 spring convocation ceremony.

Created in 2008, the "Friend of Safety" award was inspired by two professors, Chemistry Professor Michael Johnson and Regents Professor in Plant and Environmental Sciences, Mary O'Connell, whom have strived to improve safety in the science areas.

FS CUSTOMER SATISFACTION SURVEY

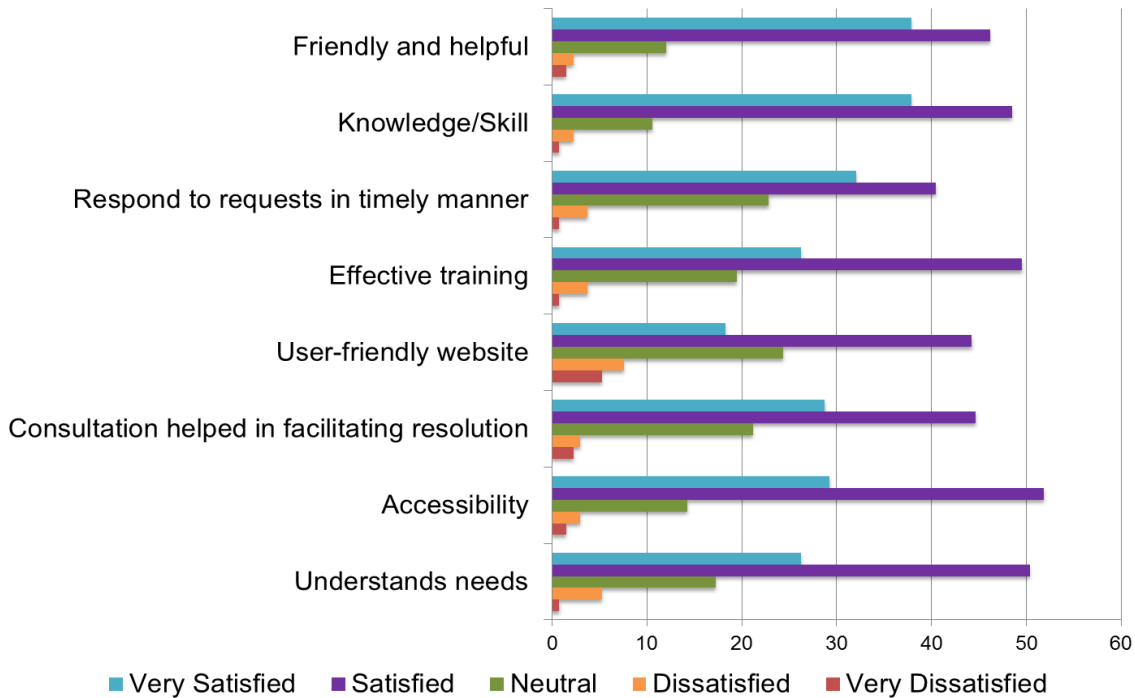
Environmental Health & Safety was reorganized to Facilities and Services (FS) in July 2010 and has participated in FS's customer satisfaction survey each year with positive improvements. There was a decrease in the number of respondents that have utilized EH&S services from 2012 to 2013; however, there was an overall positive response regarding the knowledge, helpfulness, and friendliness of EH&S staff. The only area of dissatisfaction was the EH&S website, which was not seen as user-friendly or helpful by 13% of respondents.

From the survey, FS determined 133 respondents had utilized EH&S's services in 2013. EH&S was graded from "Very Dissatisfied" to "Very Satisfied" by each respondent in each of the following categories:

- EH&S understands the needs and requirements of the user's department
- EH&S is accessible to its customers
- EH&S consultation helped facilitate the resolution of the user's problem or issue
- EH&S website is user friendly and helpful in providing access to information, forms, manuals, etc. that the user needs
- EH&S staff provide effective training
- EH&S staff responds to requests, or problems, in a timely manner
- EH&S staff are knowledgeable in their areas of specialty
- EH&S staff are friendly and helpful when contacted for services

The results of the survey are shown in the graph below.

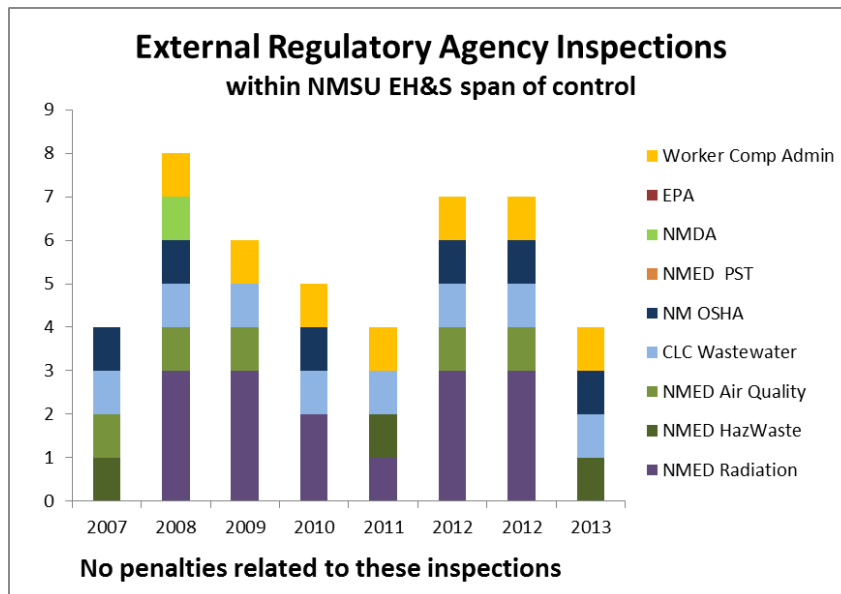
Fall 2013 FS Customer Satisfaction Survey Results (EH&S)



Based on the survey results, at least 40% of respondents had high levels of satisfaction in each of the categories. At least 70% of respondents were “Satisfied” to “Very Satisfied” with EH&S services in all categories except one.

COMPLIANCE INITIATIVES & RESEARCH SUPPORT

The realm of regulatory compliance and span of responsibility for EH&S is growing. These



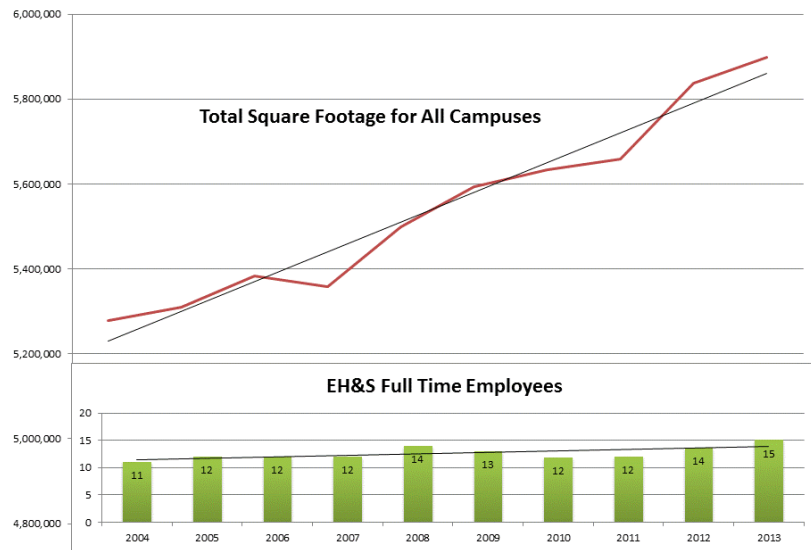
areas are highly visible and frequently audited. EH&S environmental program compliance responsibilities were recently expanded and now include: Stormwater management, Drinking Water, Solid Waste, Wastewater and Spill Prevention Controls and Countermeasures. Every year, EH&S facilitates several regulatory compliance inspections from various State of NM and City of Las Cruces

agencies. Audits by the controlling agencies may have some findings, however, quick and effective resolutions have resulted in no penalties for 21 years for those programs within EH&S span of control.

In addition to providing regulatory guidance to faculty, EH&S department personnel provide protocol review, experimental plan assistance, annual inspection, training and hazardous material disposal for research; all of these services are integral to our faculty's undertaking safe and legally compliant research. There are three faculty research oversight committees with significant EH&S implications: the Radiation Safety Committee, the Institutional Biosafety Committee, and the Animal Care and Use Committee. These committees fulfill specific federal regulatory requirements in the areas of safe use and containment of radioactive and biological materials research and animal protections at NMSU. EH&S participates in faculty research oversight committees, and provides administrative support for the Radiation Safety Committee (RSC).

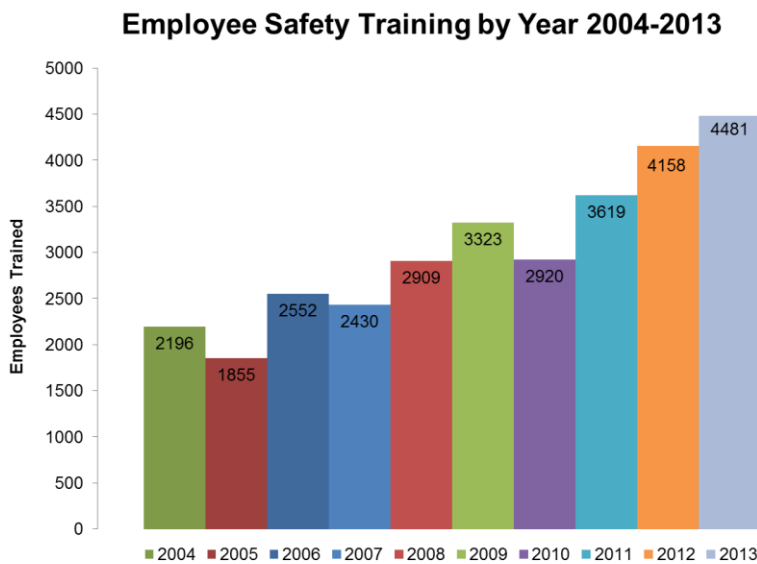
UNIVERSITY GROWTH AND EH&S SUPPORT

The chart shows a dramatic trend of increasing footprint of usable space without the corresponding increase in personnel to provide safety services. Increasing safety staff and services is a primary goal and focus of EH&S and Facilities and Services.



CENTRALIZED SAFETY TRAINING

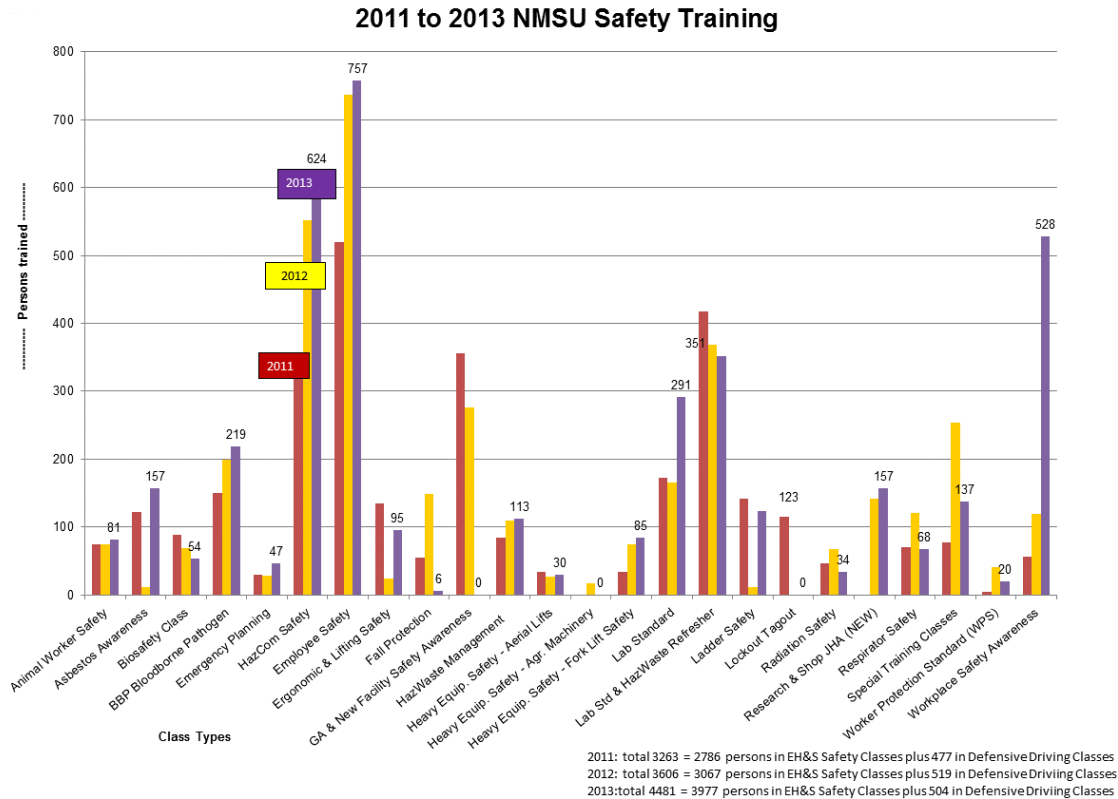
In 2013, EH&S provided 288 safety classes. EH&S staff was able to deliver safety training (including defensive driving) to a total of 4,481 participants during 2013. The total includes



all safety training that EH&S staff provided to NMSU Las Cruces, remote campuses, twelve Agricultural Science Centers and Carlsbad Environmental Monitoring and Research Center.

The number of persons trained increased 7% from 2012. There has also been a 32% increase compared to the previous five year average, and an overall 104% increase since 2004

The classes cover over 24 different safety topics. The topics include 17 different routinely offered safety courses and special sessions such as Workplace Safety Awareness, Worker Protection Training, Lab Standard Refresher, Graduate Assistant orientation, and other special requests. Each class offers compliance with different regulatory standards, NMSU policy, and the State Risk Management's Loss Prevention and Control Rule.



Compared to 2012, there were changes in participation in Safety Training by course.

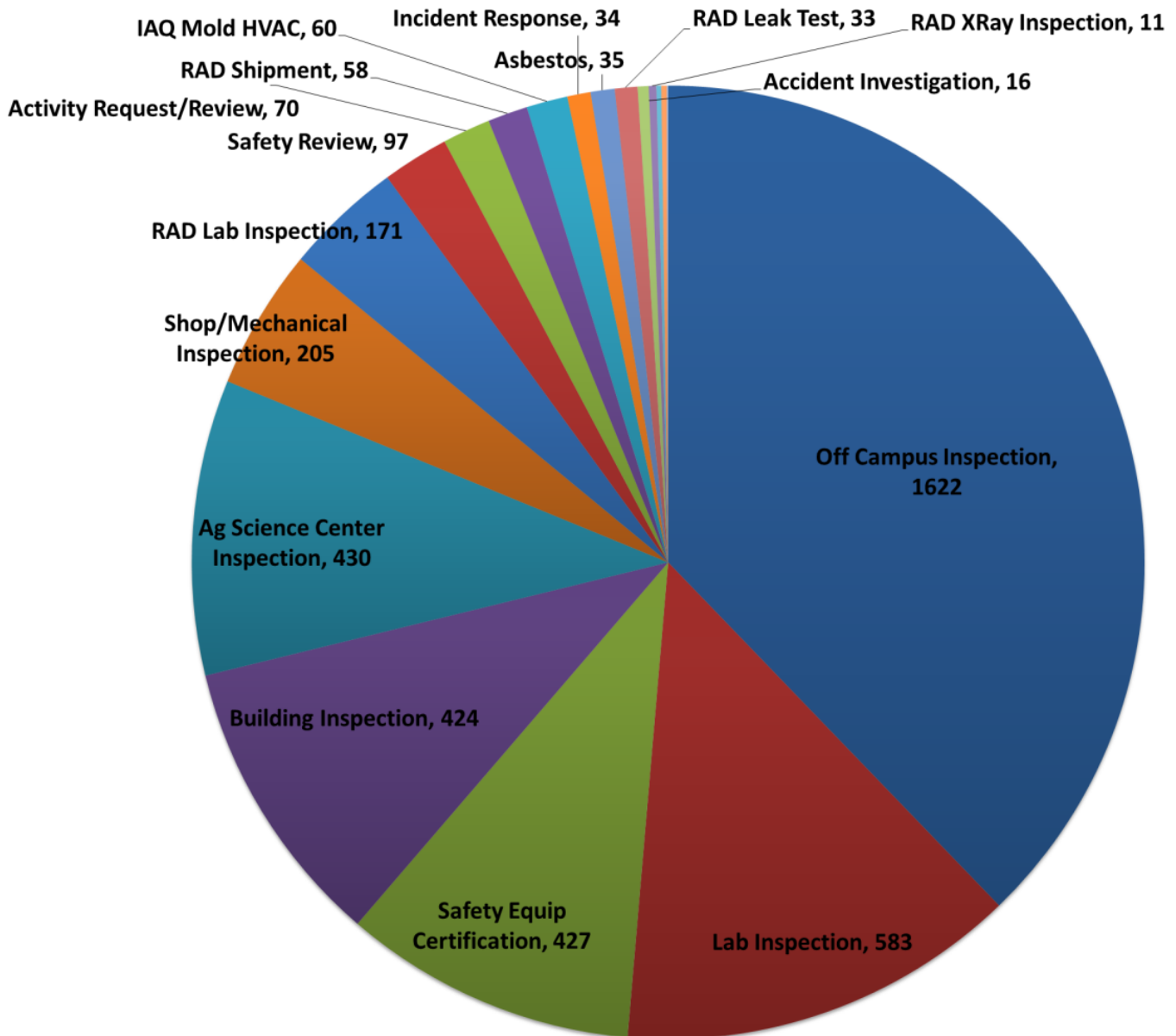
Overall, we have developed strong partnerships with academic, science and research departments through our safety training program. This is evidenced in repeated requests for EH&S staff to present special sessions on current safety issues which helps departments comply with OSHA's annual lab refresher training requirement.

Training Program Goals

- Transition to new learning management system -Training Central
- Continue improving safety training opportunities through on-line training
- Restructure Defensive Driving course for more efficient delivery
- Work with facilities supervisors to improve annual training compliance and focus on priority areas
- Identify lab personnel training compliance through lab inspections and research protocol reviews

LOSS CONTROL PROGRAM OVERVIEW

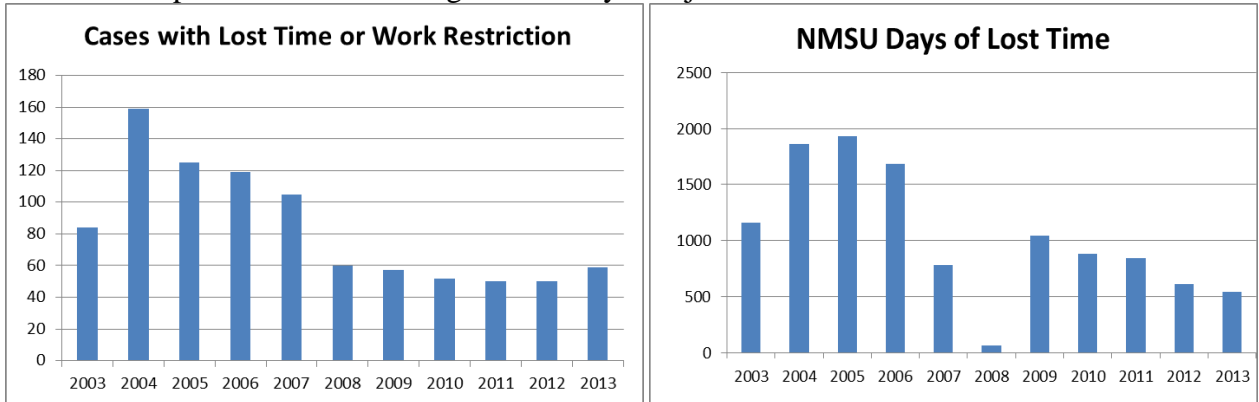
To minimize and reduce personnel losses from work related injury and illness EH&S provides NMSU with an aggressive, proactive loss control program. This is multi-approach safety surveillance of workers and workplace as well as after the fact injury investigation to prevent similar incidents. The graph below demonstrates most of EH&S's activities throughout 2013, with the exception of safety training.



For 2013, the safety surveillance activities were comprised of facility inspections, safety equipment certifications, lab hazardous materials inspections, activity and work site reviews, complaint responses, accident investigations, and lab decommissions. Over 90% of EH&S activities focus on proactive inspection of hazardous work areas and ensuring correctly functioning safety equipment.

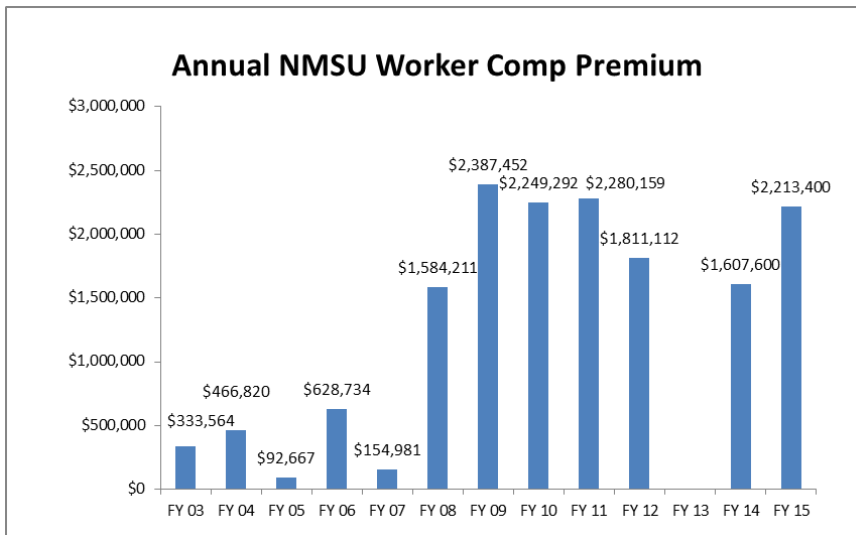
EMPLOYEE INJURY & ILLNESS

There is a continued trend of less injury and illness cases; a greater than 50% decrease for cases with lost or restricted work days and this trend has persisted for six years. During the past five years, we have maintained an average 52% reduction in lost days compared to previous four year average (ignoring the anomaly in 2008 attributed to new FTE tracking data). This year was the lowest OSHA lost time case rate in the 10 year history showing continued improvement in reducing the severity of injuries that occurred.



The decrease in the more severe cases correlates with several initiatives including: addition of new safety inspectors, training in Spanish, increased funding for building safety repairs and safety upgrades, delivery of safety training related to injury trends, building and hazardous area inspections and a new workers compensation coordinator position started in 2008.

The worker compensation insurance premiums are based on five years of experience and were starting to decline as a reflection of the reduced injury rates. **However, this year the premium increased based on solvency issues at the level of State Risk Management.** Maintaining reduction in workers compensation claims has a significant positive financial impact on the



institution and more importantly maintaining the quality lives of our greatest resource.

Loss Control Goal

➤ Maintain low injury rate through training, inspections and timely facility repairs to improve workplace safety and ultimately reduce medical costs, lost work and insurance premium.

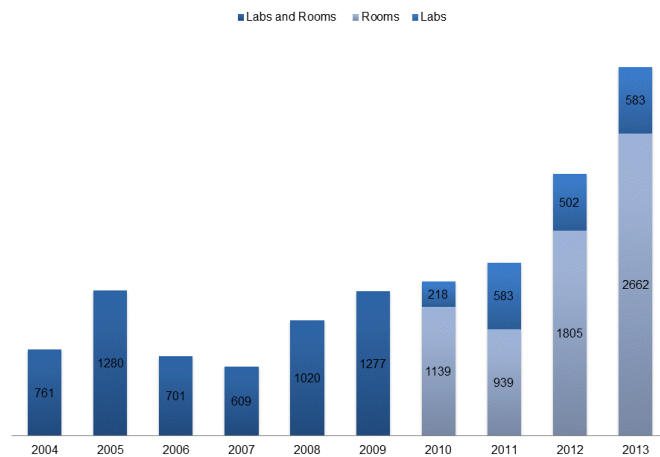
INSPECTIONS & SAFETY SERVICES

In 2013, EH&S completed inspections, workplace checks, and investigations of campus buildings, public areas, shops, classrooms and research facilities, as well as remote farm facilities. As part of the inspection process, EH&S invested approximately \$100,000 of BRR funding via about 300 work orders on the Las Cruces campus. At facilities across the state, EH&S provided details to correct safety deficiencies, identify concerns and dangerous conditions at campus facilities and other NMSU areas, respectively.

The annual inspections of **high hazard areas** includes labs, shops, chemical storage areas, warehouse and plant operations, construction sites, mechanical rooms, and machine use areas. The annual facility safety inspections are required by Worker’s Compensation Administration and State Risk Management Loss Control Rule (effective 2008) and required by several OSHA regulations.

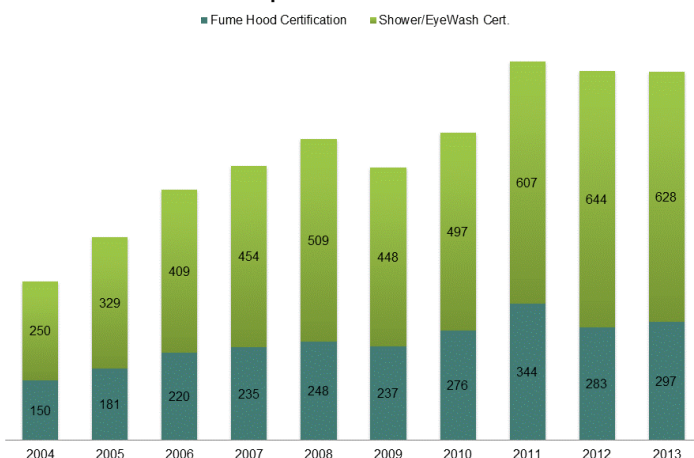
Beginning in 2010, EH&S began to separately track the number of labs and rooms inspected every year, as shown on the graph. In 2013, the total number of room and detailed lab inspections completed by EH&S inspectors increased by approximately 41%. Compared to 2012, the room inspections completed increased by 47%. This increase is attributed to a focus on completing inspections at *all* remote facilities and *all* campuses. Those located outside of Las Cruces were previously inspected intermittently. In 2013 new inspections include DACC at Chaparral, East Mesa, Gadsden, Hatch, Sunland Park and the NMDA Veterinary Diagnostic Services.

2004-2013 Lab and Room Inspections Performed



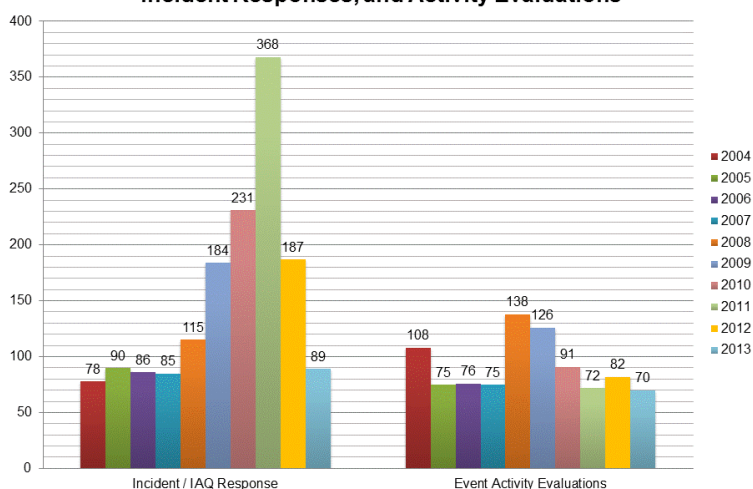
The number of lab inspections performed increased by 16% from the previous year. This increase is likely due to several initiatives including secondary inspections of “poor” and “failing” labs, an increase in off-campus facility lab inspections and getting department safety personnel involved with the inspection process who helped identify additional lab spaces.

2004-2013 Fume Hood and Shower/Eyeshower Inspections Performed



Operable safety equipment is a critical component of an effective safety program. EH&S completed certification inspections on laboratory safety equipment, including eyewashes, emergency showers and exhaust hoods using student inspectors. All safety equipment which failed the certification was retested after repairs were completed and this is included in the overall number of certifications performed.

2004-2013 Loss Control Activities, Incident Responses, and Activity Evaluations



There were 89 responses to incidents primarily involving indoor air quality complaints and minor hazardous materials spills/incidents, a 52% decrease compared to last year. There was an unusually high incidence of mold investigation in 2011. Data shown from 2009 through 2013 includes mold and asbestos concerns. The event activity evaluations included 70 reviews of employee work activities, evaluation and authorization for non-routine campus events,

which is a 15% decrease from 2012. The latter is done in conjunction with Campus Activities Office and Conferences Services.

Remote Area Inspections

All NMSU components and entities need safety services and the importance of routine safety inspections and training became a tragic reality eight years ago. The root cause of the worker fatality was determined to have a number of contributing factors, including need for routine safety training and workplace inspections. Steps were taken to initiate training and inspection services for all 12 Agricultural Science Research Centers (ASC's) and farms seven years ago and we have progressively provided the same services to all remote campuses.

In 2013, experienced EH&S staff provided on-site safety training and inspections to 12 of 12 ASC facilities, the Carlsbad, Grants and DACC campuses including DACC main, East Mesa, Hatch, Gadsden, Chaparral, Sunland Park. This is the first year we have accomplished all DACC locations as they have grown tremendously in recent years. In addition, inspections were performed at NMDA Veterinary Diagnostics Services and PSL Flight Operations. The comprehensive reports for these remote area inspections include details on noted safety deficiencies with corrective actions and a summary prioritizing safety concerns for their executive leadership.

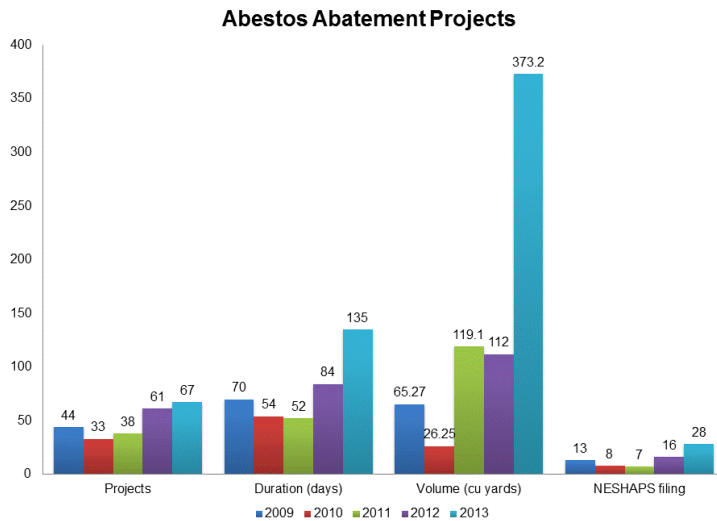
Inspection Program Goals

- Continue to provide inspection for all DACC sub-campuses throughout the state
- Increase number of general building inspections/ share load with Fire Department
- Increase inspection budget as new square footage is added to the NMSU system

ASBESTOS MANAGEMENT AND ABATEMENT

In 2013 EH&S continued to provide NMSU departments with timely and professional response in regard to asbestos, mold and lead management. EH&S established a NMSU Asbestos Management Program in 2009. The program is to help ensure proper identification and management of asbestos containing materials in the older (pre -1981) NMSU buildings and automotive shops and classrooms. Asbestos abatement for minor building remodels and general maintenance is contracted out under EH&S project oversight. The EH&S BRR funds asbestos remediation and special waste disposal.

EH&S has one dedicated employee and an alternate which are annually qualified as asbestos inspectors. EH&S responsibilities include providing immediate initial inspections, ensuring surveys and monitoring to assess potential environmental hazards and conducting Asbestos Awareness Training for campus personnel.



EH&S asbestos project support increased about 60% as shown by number and duration of projects, state required permit filed under NESHAP, and volume of waste produced in 2013. During the year EH&S completed 67 abatement projects, 28 of which required permitting through NESHAP. There was an overall increase in asbestos abatement and a large increase in duration and volume of waste. All abatements are performed and monitored by licensed contractors. Several mold

assessments were also completed during this same period.

EH&S provides asbestos awareness training in English and Spanish. Facilities maintenance employees attend refresher training informing on potential locations and types of materials that may contain asbestos and NMSU procedure for notification. EH&S provides for contractor to ensure appropriate containment and abatement is performed prior to NMSU employee work in these areas. The annual asbestos training sessions provided as part of the 4 hour maintenance safety training was effective in meeting compliance requirements. Specific maintenance involving class IV non-friable asbestos and those with documented negative exposure are allowed activities when using trained NMSU employees.

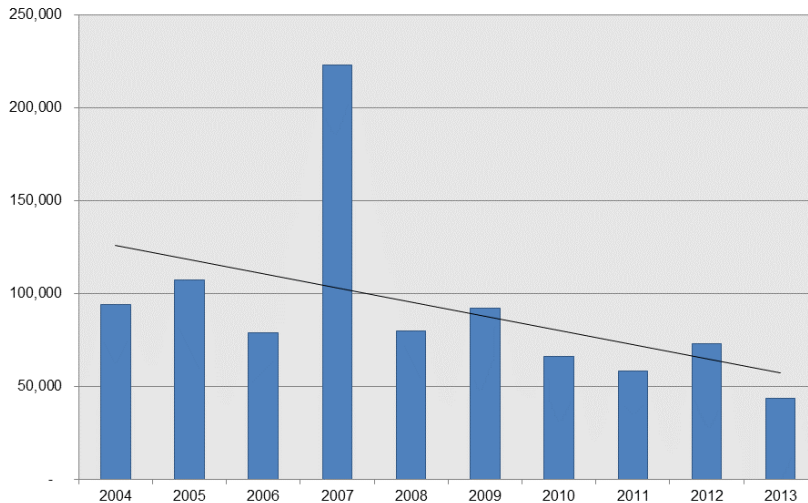
Asbestos Management Program Goals ongoing

- Thorough surveys to identify asbestos containing materials prior to projects
- Abatement of all asbestos containing materials – no encapsulation
- Improving tracking and identification of known asbestos using software tool

HAZARDOUS WASTE MANAGEMENT PROGRAM

The EH&S environmental compliance team picked up, researched, processed, and shipped

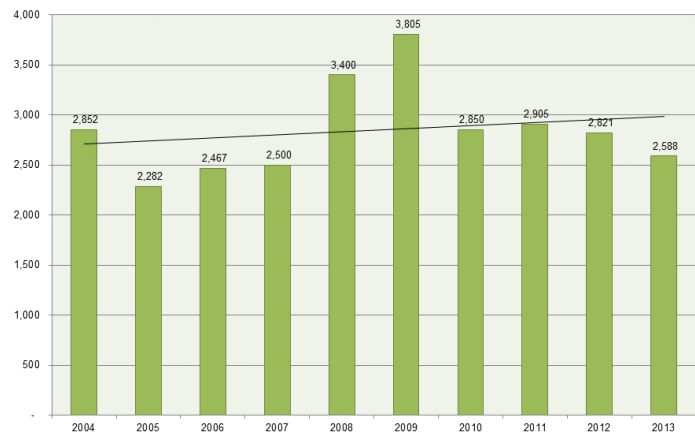
Total Pounds of All Hazardous Waste Managed



44,000 pounds of waste in 2013 compared to 67,000 pounds averaged over the previous five years. The unusually high poundage noted in 2007 is because a large number of transformers were disposed. The noted trend of decreasing hazardous waste is evident and good trends of overall hazardous waste reduction. This is especially important as the cost of waste disposal increases (See cost issues).

The number of items handled on the Las Cruces campus decreased this year, but the overall trend is still slightly increasing. EH&S focus on lab safety and chemical inventory has resulted in more disposal of high hazard containers that must be packaged separately. Handling and processing high hazard chemicals (with potential to be explosive) requires more focus and care to ensure safety for all. The team managed about 2,600 different items compared to 3,100 items averaged over the previous five year; an 8% decrease from last year.

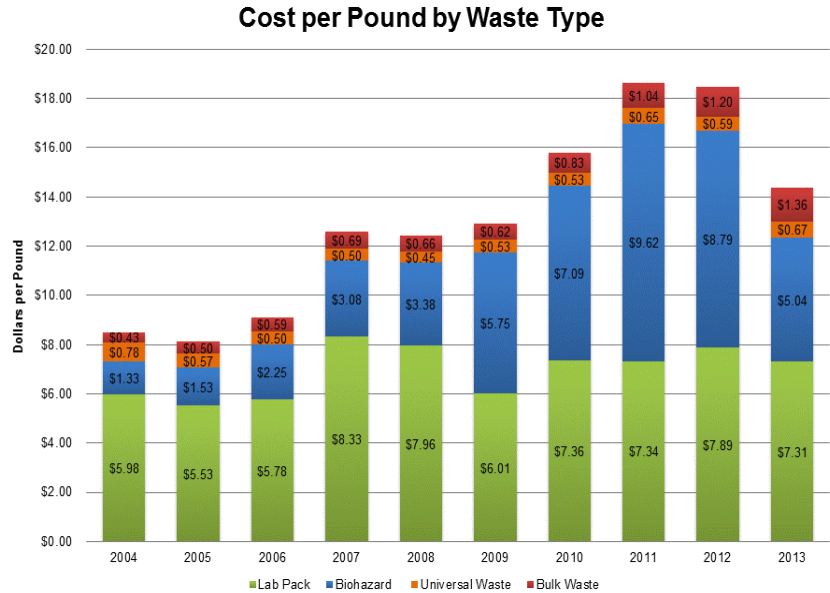
Total Items of Hazardous Waste Handled



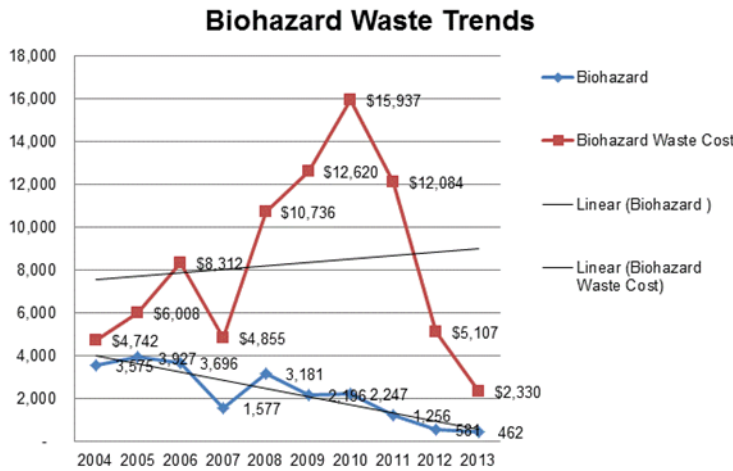
Increased laboratory inspections and As larger volumes of higher hazard chemicals are disposed Most of the non-routine waste workload resulted from large chemical clean outs (greater than 50 chemical items at one time) from 16 different departments/labs: Chemistry (3), Biology (4), EPPWS (3), SWAT, PSL, WERC, DACC, Central Plant, and Library. Overall, all hazardous waste items were disposed of legally and without any significant environmental health or safety incidents. Physically opening chemicals and pouring/mixing compatible chemicals into 55-gallon drums keeps the cost per pound for disposal low. Mixing chemicals is risky however, and requires keen attention to detail. In cumulative, the 4.5 FTE team spent 50 hours in restrictive, encapsulating protective suits and respirators while mixing chemicals on 24 different days. Overall, no significant adverse reactions occurred during mixing activities.

WASTE VOLUME AND COST TRENDS

Overall, there was a decrease in the cost per pound for disposal in 2013. The biggest impact resulted from newly negotiated biowaste disposal contract by autoclaving. The escalating cost of incineration was out of control and it is a nationwide problem. Time and effort to identify alternative disposal options for biowaste really paid off. We are also now seeing the new pricing on the main hazardous waste contract placed out as a request for proposal in 2011.



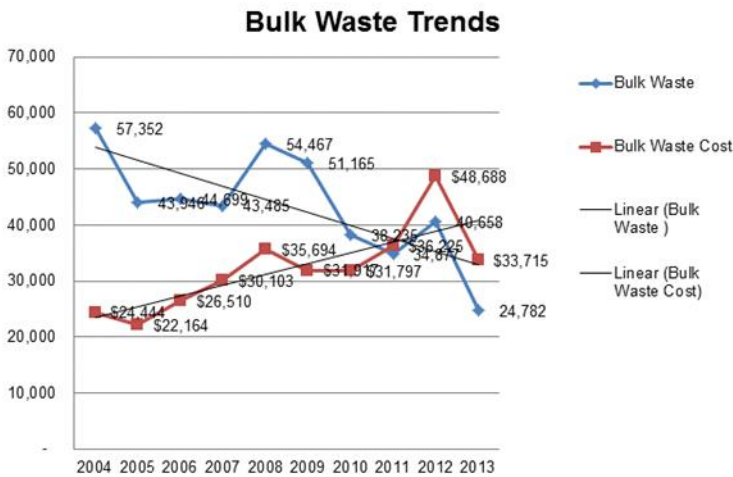
NMSU experienced continued yearly escalating cost for biohazardous waste disposal that was unmanageable because there is only one local vendor. To combat the cost, in 2010 the team *aggressively implemented educational and inspection processes to successfully lower the*



amount of biohazardous waste generated on campus by 75%.

The pounds of biohazardous waste were cut in half from 2010 to 2011 due to higher scrutiny of biohazardous waste streams. Additional educational efforts to ensure only biohazardous waste items were placed in biohazardous waste containers resulted in cutting waste volume in half again. In summer of 2012 the team negotiated a better contract rate for the disposal of

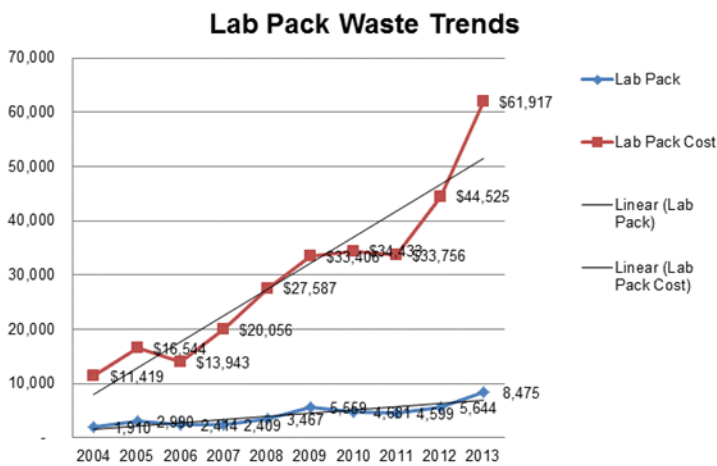
biohazardous waste drums and price per container dropped from \$400 to \$100 each. The waste price dropped because of stricter segregation and switching treatment technologies from incineration to steam sterilization which is sufficient for the majority of NMSU biohazardous waste. *This dual approach results in huge cost savings that will continue forward for years to come.*



It is important to note that the largest waste stream by pound “bulk hazardous waste” is also the lowest cost per pound. The average cost per pound of hazardous chemical waste varies by almost 10 fold with bulk waste being the lowest and biohazardous waste being the highest. *EH&S contains the waste cost by researching and combining similar waste types so that 60% of the chemical waste can be shipped in bulk*

containers for disposal. The cost of bulk waste this year was \$1.36 per pound compared to \$7.31 per pound for lab pack waste which is shipped off without additional handling. *The cost savings in 2013 was \$147,000 in avoided disposal fees that is due to bulking 60% of the chemical waste versus lab packing.*

Increased laboratory inspections and focus on chemical inventory has resulted in disposal of high hazard chemicals that must be packaged separately. As larger volumes of higher hazard chemicals are disposed, the overall cost for lab pack waste increased. The use of highly toxic,



reactive and highly hazardous chemical and their mixtures produces materials that cannot be safely comingled and disposed through bulk waste.

To be most cost effective, the team coordinates with eleven different environmental services contractors: Clean Harbors, Veolia, Waste Mgt., Stericycle, Fuels, NEMS, Interlab, A&B Labs, Hudson Tech, Arizona Waste Oil Service, and PSC. By

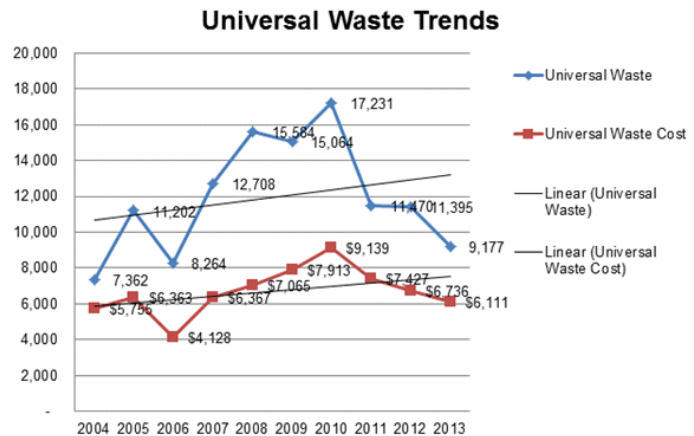
using specialized contractors for different projects, we are often able to reduce disposal/regulatory costs by thousands of dollars. Coordinating with numerous contractors however leads to additional complexities with manifests, transportation, and billing. Overall, NMSU’s 44,000 pounds of hazardous waste was disposed of at a total cost of \$104,000.

Overall per pound disposal costs in 2013 decreased from 2012 by approximately 10%.

RECYCLED WASTE

Campus operations, instruction and research programs generate a wide variety of hazardous and special wastes. Although EH&S cannot control the types or volume of wastes being generated, we do strive to recycle as much as legally possible. Special contracts are established for the routine Universal Waste streams including mercury containing bulbs, equipment such as thermostats, and non-PCB transformers. The mercury, oils and metals are recycled to the extent possible. Other wastes like mine tailings must be tested and qualify for special waste landfill. Recycle for reuse was affected for halon and CFC cylinders.

Recycling small volumes of these types of wastes requires additional effort because of the additional research, testing, coordination and various contracts required but it avoids the disposal expense. Environmental Health & Safety staff seek to find these alternate solutions and dedicate the additional effort in a commitment to sustainability at NMSU.



HAZARDOUS WASTE REPORTS & INSPECTIONS

Hazardous waste reports, inspections and standard operating procedures (SOPs) are also essential components of a successful waste management program. Federal and State mandated reports completed and filed accurately and on time were: Tier II Chemical Inventory, Hazardous Waste Fees (2), PCB Log, and Biennial Hazardous Waste. There were **two external regulatory inspections** in 2013. In April, NMSU underwent a formal, unannounced NM Environment Department Hazardous Waste compliance inspection. Four inspectors reviewed EH&S operations/records, and conducted a walk-through of almost all labs on campus to see firsthand how hazardous waste is managed. Findings identified 28 violations, most in labeling and containers not closed. Immediate work with each Primary Investigator resulted in EH&S leading the compilation of 143 page corrective action report to NMED in 14 days post inspection. Because of that effort, NMSU received letter of resolution with no penalty.

In December 2013, City of Las Cruces City Utilities Industrial Pretreatment Program personnel conducted a formal, half-day inspection of campus waste disposal operations. No significant negative findings were noted.

Hazardous Waste Management Program Goals

- Continuously assess hazardous and universal waste processing to ensure we safely dispose of all NMSU hazardous waste in a legal and cost-effective manner.
- Emphasize waste minimization and compliance specific to high hazard waste
- Continue to educate all personnel generating waste to keep waste minimized and ensure compliance with all environmental laws, especially in regards to closing/labeling containers and segregating incompatible waste streams.

TITLE V AIR PERMIT AND NSR AIR PERMIT

EH&S completed/ensured nine detailed air reports were filed accurately and on time to EPA/NMED: Annual air report, (2) semi-annual air reports, air emissions inventory, turbine test protocol, turbine air emissions test results, air fees, generator location/operational log, and new Federal Greenhouse Gas (GHG) Registration/Report. These reports ensure we are

documenting compliance with all environmental laws, collecting appropriate data, and identifying positive trends to build on or negative trends for correction to better protect health and the environment. The new Federal GHG Report was the most complex and required NMSU to start tracking/reporting all natural gas usage on campus (not just gas used at the Central Plant), and all propane usage at stationary equipment sources. This is a good example of new, increasing regulation that EH&S must interpret, lead implementation on, and manage at NMSU. To best ensure a successful clean air program EH&S continues to visit the Central Plant at least monthly to meet with key staff on air issues and averages a monthly conference call with Consultants to stay current on complex, changing regulations. As special projects increase and new environmental regulations are passed, additional EH&S staffing is needed to meet the new demands

STORM WATER MANAGEMENT PROGRAM (SWMP)

New environmental program activities for EH&S were related to regulatory compliance of the EPA-issued MS4 (municipal separate storm sewer system) permit. Each year NMSU submits an annual report (to EPA) reporting progress over the previous year, as well as outlining best management practices (BMPs) to complete during the upcoming year. Accomplishments in 2013 include the following

- Submitted the annual update report to EPA and NMED Surface Water Quality Bureau on September 25, 2013.
- Completed 13 of 25 available 2013 BMPs.
- Integrated a storm water awareness training module into the NMSU Hazards Communication training.
- The SWMP web page is now managed by EH&S and accessible from both the Facilities and Services and EH&S web pages.
- Implemented SWMP compliance scheduling (for routine requirements) into the EH&S Compliance Calendar.
- Successfully mentored three civil engineering technology students through internships.
- All critical documents are filed on a well-managed network location.

SOLID WASTE

Regulatory compliance of NMSU's solid waste falls into two distinct categories; closure activities associated with the former NMSU landfill, and compliance of our two solid waste facilities (Aggie Recycling, and the NMSU Green Waste Compost Facility). 2013 solid waste accomplishments include:

- Submitted a Closure Post-Closure report to the NMED Solid Waste Bureau on May 31, 2013.
- Submitted the three NMED-required annual Solid Waste Management reports on time.
- Submitted all required quarterly methane monitoring reports on time.
- Submitted one of two semi-annual ground water sampling monitoring reports on time. The second event was not completed due to dry wells, however EH&S coordinated in advance with NMED, the requirement was waived, and the wells replaced.

DRINKING WATER

Because of the potential adverse health effects, providing the NMSU community is one of the most critical environmental oversight activities. In 2013 drinking water accomplishments include:

- Close collaboration with Facilities and Services plumbing personnel to ensure all compliance testing is performed on schedule and reported appropriately.
- EPA-required Consumer Confidence Report; this report was submitted to the NMED in May and posted to the NMSU website, per the required deadlines.

WASTEWATER

NMSU has wastewater discharge permit 82211 with the City of Las Cruces, as they receive/treat all NMSU wastewater. Complying with the discharge permit requirements comprises my compliance activities in this area. 2013 accomplishments include:

- Completed four quarters of the required sampling and reporting to the City of Las Cruces on schedule.
- Coordinate the two required biannual compliance sampling (4 per year) with no violations.
- Implemented wastewater compliance scheduling (for routine requirements) into the EH&S Compliance Calendar.
- City of Las Cruces conducted a formal annual inspection of several wastewater impact areas including paint shop and mechanical shops. There were no violations however, several issues required regular follow up with various NMSU entities and City of Las Cruces.

SPILL PREVENTION CONTROLS AND COUNTERMEASURES (SPCC)

EPA is the lead federal response agency for oil spills occurring in “inland waters” (which can include dry arroyos), and requires qualified facilities, such as NMSU, to prepare, certify, and implement an SPCC Plan. During 2013, EH&S coordinated the production of an SPCC report (NMSU main campus specific) and conducted the required inspections in order to comply with this regulatory requirement.

RADIATION SAFETY MANAGEMENT

The use of radioactive material used for research and teaching at NMSU is regulated by the New Mexico Environment Department Radiation Control Bureau (NMRCB) as authorized under the New Mexico Radiation Protection Regulations (NMAC 20.3). The University holds two radioactive material (RAM) licenses issued by the NMRCB. The first is a “Broad-Scope Type AB” Radioactive Materials License which defines the specific types, terms and conditions for using radioactive material on the main campus. The second license held by NMSU is a “Facility-Specific” Radioactive Materials License which defines the type, terms and conditions for using radioactive materials at the Carlsbad Environmental Monitoring & Research Center (CEMRC). The CEMRC is a small NMSU-owned research laboratory containing several radiochemistry labs. The CEMRC facility is located near the Carlsbad Branch Campus in Carlsbad New Mexico and is managed by the College of Engineering.

The NMRCB also regulates all analytical, medical and dental x-ray machines and other radiation producing devices in use at NMSU. These devices must be registered with the NMRCB which then issues Certificates of Registration (COR) to NMSU. The COR defines the type of allowable use, specific requirements and restrictions for the devices. Currently NMSU maintains 7 active CORs. Analytical x-ray (primarily x-ray diffraction and x-ray fluorescence) machines are located in several departments and locations across main campus. In addition, an x-ray diffraction machine is located in the CEMRC facility. Diagnostic medical x-ray machines are located in the Health Center, the Athletics Department and the Human Performance, Dance and Recreation Department. The Dona Ana Community College next to main campus has several dental x-ray machines in the teaching dental clinic.

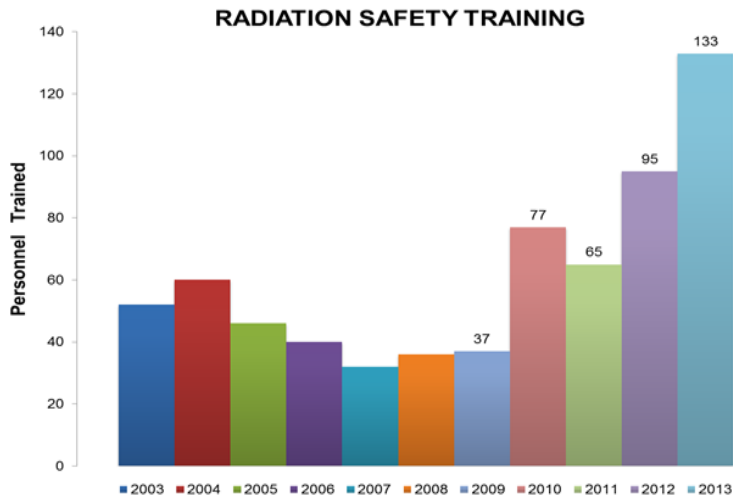
NMSU RADIATION SAFETY COMMITTEE AND EH&S RADIATION SAFETY PROGRAM

The NMSU Radiation Safety Committee (RSC) was formed to establish university radiation safety policies and provide broad administrative oversight of the use of radioactive material and radiation producing devices in use at NMSU. This is to ensure that the university is in compliance with all applicable radiation protection regulations. The RSC is currently comprised of 7 faculty and staff with expertise in various technical areas and techniques related to the safe use of radioactive materials and radiation producing devices. In addition to establishing policy, the RSC reviews/ approves all applications from faculty and staff requesting to use radioactive material or a radiation producing device at NMSU. Oversight of the committee extends to all NMSU facilities including branch campuses, farms and any other NMSU entities off the main campus that use radioactive materials or radiation producing devices. A formal review of the NMSU radiation safety program is conducted by the RSC annually based on a detailed compliance report prepared by the Radiation Safety Manager.

The day to day administrative and technical duties required to manage the NMSU radiation safety program are performed by the Radiation Safety Manager (RSM) and technical staff working in the EH&S department. The RSM provides oversight of and support to all NMSU main campus and off main facilities including branch campuses, farms and other NMSU entities using radioactive materials or radiation devices. The RSM is responsible for, among other things,

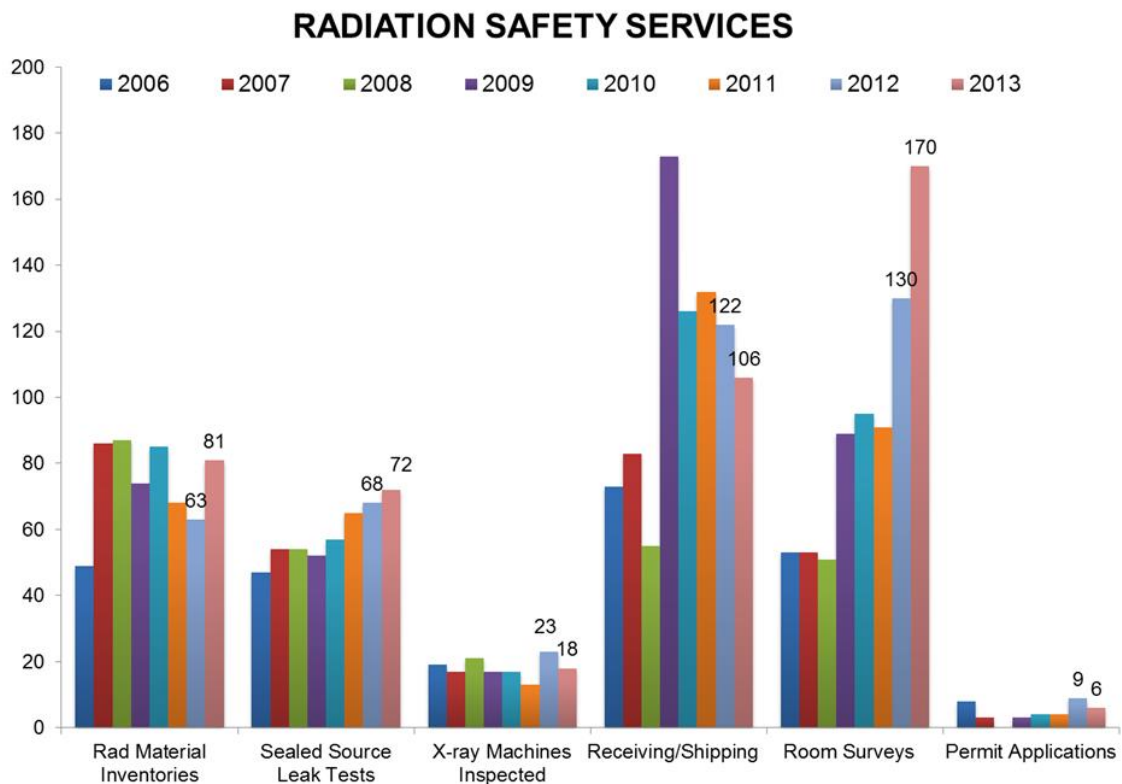
- Ensuring that RAM licenses and CORs issued to NMSU by the NMRCB are maintained and are up to date.
- Management of legal records mandated by radiation protection regulations.
- Serves as the primary liaison between the university and various radiation regulatory agencies.
- Provides an interface between the RSC and NMSU faculty/staff using or wanting to use radioactive materials and radiation producing devices.
- Identifying any changes to federal and state radiation regulations that may affect university.

- Developing and teaching various types of radiation safety training classes for faculty, staff and students.



This includes annual assessment of compliance with initial and refresher training requirements. In 2013, overall 80% of radiation workers (106/133 workers) were current on their radiation safety training.

- Maintaining a university-wide inventory of licensed radioactive materials and ensuring that inventories are reconciled semi-annually.
- Maintaining a university-wide inventory of all x-ray machines, instruments containing sealed sources and any other ionizing radiation producing devices.



- Approving all orders and transfers of radioactive material and radiation-producing devices at NMSU facilities including CEMRC. This function includes receipt and delivery of all incoming radioactive material packages on main campus and at the CEMRC. Receipt surveys entail performing regulatory-required package radiation dose rate and removable contamination checks. In addition, the RSM ensures all outgoing radioactive material and device shipments are properly packaged and shipping documentation meets DOT requirements

- Performing semi-annual inspections of labs authorized to use radioactive materials. Inspections increased in 2012 and 2013 with addition of CEMRC metrics.
- Performing regulatory required Sealed Radioactive Source Contamination Leak Tests semi-annually. The number of tests conducted increased in 2013 from previous years as sealed sources were added to the NMSU inventory.
- Ensuring x-ray machines are inspected at least annually as required by radiation protection regulations.
- Collecting, store and ultimately dispose of various types of radioactive wastes generated by NMSU researchers.
- Facilitating applications from faculty and staff requesting to use radioactive material or a radiation producing device.

RADIATION SAFETY PROGRAM HIGHLIGHTS AND CHANGES

CEMRC Radioactive Material License Modification

A request to modify the CEMRC Radioactive Material License was approved by the NM Radiation Control Bureau in July 2013. The modification increased the allowable activity limits of several key radioisotopes.

Laser Safety Program

A new laser user basic safety class was completed and is offered to the campus community on an as needed basis. It should be offered generally as an on-line course through the NMSU Training Central in 2014.

Building /room surveys are in progress to identify laboratories across campus where lasers are in use and a university-wide inventory of Class 3B and Class 4 lasers is being compiled. The goal is to bring the NMSU Laser Safety Program into compliance with ANSI Z136.1, American National Standard for Safe Use of Lasers.

Radioactive Waste Disposal

In the summer of 2013, 18 bulk drums of radioactive waste weighing ~2,700 pounds were picked up at the Las Cruces campus. There were 19 containers of radioactive waste weighing ~1600 pounds picked up at the CEMRC for processing and disposal. A summary of the waste picked up for disposal in 2013 is shown below.

Las Cruces Campus Radioactive & Mixed Waste Disposal Summary

Description	Quantity (pounds)
Dry Bulk Lab Waste & Contaminated Soil	1,500
Aqueous Wastes	190
Mixed Flammable Liquids & Liquid Scintillation Cocktail	335
Solidified U-nitrate Waste & mixed Calibration/Check Sources	650
Total Cost	\$40,000

CEMRC Radioactive & Mixed Waste Disposal Summary

Description	Quantity (pounds)
Dry Bulk Lab Waste	700
Aqueous Wastes	300
Liquid Mixed Wastes	600
Total Cost	\$55,000

Radiation Safety Program Goals

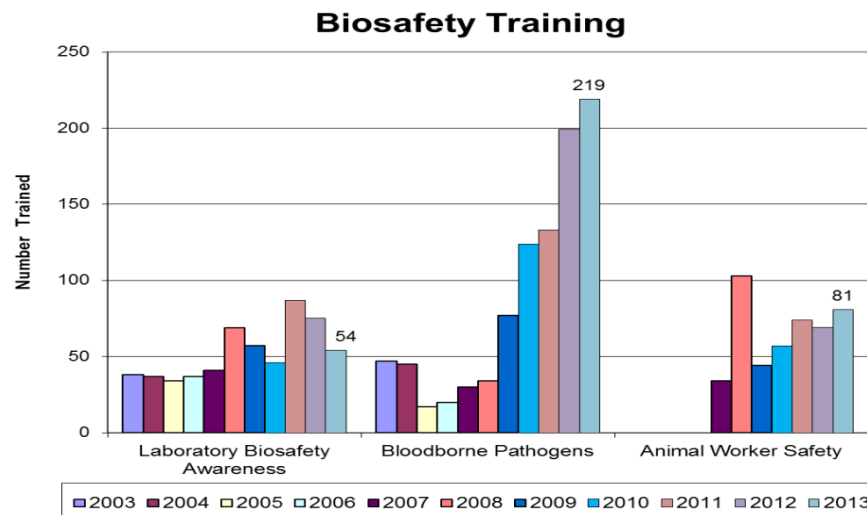
- Continue to maintain a high quality, customer-oriented and regulatory compliant radiation safety program.
- Routinely dispose of radioactive wastes generated at NMSU main campus and at the CEMRC facility.
- Implement a new on-line Basic Laser Safety Class through NMSU Training Central.
- Complete the Class 3B and Class 4 laser inventory and begin documenting formal hazard assessment/evaluations for each system.
- Update the NMSU Radiation Safety Manual before Sept 2014.
- Renew the Las Cruces Broad-Scope type A/B RAM license in Sept 2014.

BIOSAFETY MANAGEMENT

The one EH&S position in biosafety was vacated January 2010 and EH&S ensured continuity of critical biosafety functions (protocol reviews, training and inspections) by hiring an interim part time Biosafety Manager. On July 1, 2010, the Biosafety Manager position and program responsibilities were assumed by Research Compliance Office and a full time Biosafety Manager was hired November 2010. The decision to reorganize the position was based on the source of funding and desire to expand the position for a wider breadth of research compliance issues.

EH&S works closely with the Biosafety Manager and maintains a strong role in the biosafety mission by providing the following direct support and services:

- Training equipment and facilities.
- Administrative support for monthly biosafety training including scheduling classes, web based registration, and managing training records.
- Web based Bloodborne Pathogen (BBP) training module delivers required annual refresher training and chart shows a consistent increase in BBP training (therefore, increased compliance)



- Handling and disposal for all biohazardous waste requiring incineration. To combat the escalating cost, in 2010 EH&S *aggressively implemented educational and inspection processes to successfully lower the amount of biohazardous waste generated on campus by 75%*. In summer of 2012 the Hazardous Waste team negotiated a better contract rate for the disposal of biohazardous waste drums and price per container dropped from \$400 to \$100 each. The waste price dropped because of stricter segregation and switching treatment technologies from incineration to steam sterilization which is sufficient for the majority of NMSU biohazardous waste. *This dual approach results in huge cost savings that will continue forward for years to come.*
- Personnel training requirements are based on the nature of the materials used in the respective teaching and research activities at NMSU. For example, persons working at the University Health Center, Police, Fire and Emergency Services based on their contact with patients or members of the public are considered to have a routine potential for exposure to human blood, internal body fluids and “unfixed” tissue and therefore are required to attend annual training in bloodborne pathogen (BBP) exposure control. With the addition of the EH&S developed web based bloodborne pathogen training in 2010, the compliance with this **annual** training mandate has more than tripled from previous years and continues to climb. The on-line BBP training was developed and released at the beginning of 2010, providing readily accessible BBP training for the NMSU system.
- Acting as voting primary reviewer and voting member of the Institutional Biosafety Committee (IBC).
- Collaboration with Biosafety Manager on safety programs and emergency preparedness response.
- EH&S support of the Institutional Animal Care and Use Committee (IACUC) – this was requested by Chair to ensure continued involvement of EH&S. This is critical for success of the occupational health and safety program for animal workers.
- A full exposure hazard assessment for plumbers and waste water handlers was performed in 2013, the training and immunization was implemented in 2014.

Biosafety Program Goals

- Continue to support all biosafety training classes.
- Increase compliance with annual training requirement for Bloodborne Pathogens.
- Continue to provide cost effective and legal biohazardous waste disposal service.

SAFETY INITIATIVES AND EMERGENCY PREPAREDNESS

Since the events of 9/11, Environmental Health & Safety has coordinated Safety & Security Initiatives at the beginning of each semester to raise awareness and we collaborate with other departments in emergency planning and training. The emergency preparedness events this year include:

- Distribution of NMSU Safety, Health & Security initiatives news and updates to annual requirements for emergency planning.
- Testing of Department Emergency Action Plans through unannounced fire drills.
- Testing of the Emergency Notification Tools & updating emergency contact lists.
- Chairing Communicable Disease Preparedness Committee and assisting in 16 departmental Continuity of Operations Plans (CoOP) and designation of essential personnel.

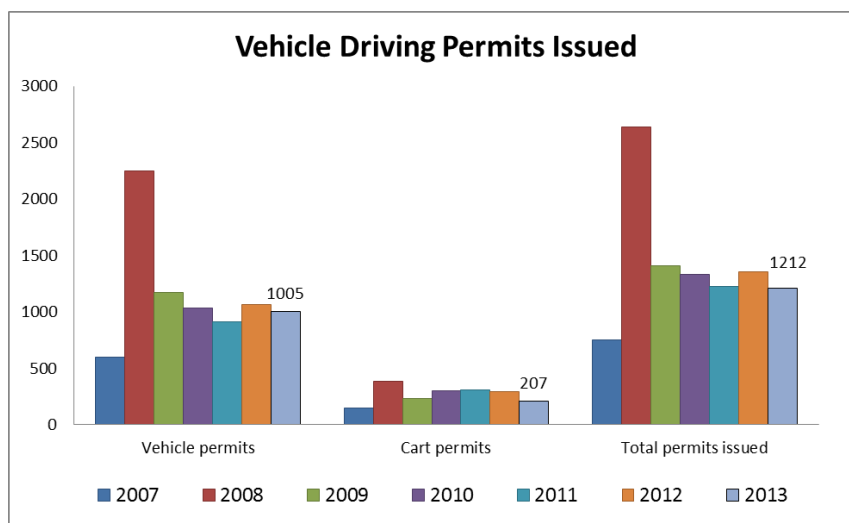
- Monthly collaboration with key NMSU staff on Emergency Planning Committee.
- Annual Refresher Laboratory Safety Seminar for 351 faculty, staff and students working in a lab environment .
- Annual Refresher Workforce Safety Training for Facilities employees to include 132 employees that received 4 hours of focused safety training.
- Annual Culture of Safety presentation for 60 College of Engineering faculty and staff
- Annual Float Safety Training for staff participating in Homecoming parade and float inspections .
- Distributed 291 pairs of safety eye protection to new lab personnel taking Lab Safety.
- Participated in new faculty orientation fair.
- Enhanced safety message to reinforce supervisory responsibility for safety training and protective equipment. This was signed by the President of the university.
- An emergency preparedness health disaster tabletop was held with 50 representatives from NMSU and regional agencies including Department of Health and SW Border Food Safety and Defense. A formal after action report was produced.
- Over 40 individuals (NMSU and UTEP) participated in Hazardous Materials Response 8 hour preparedness course.

- NMSU has participated with Dona Ana County in development of a Hazards Mitigation Plan that was submitted to FEMA and currently awaiting approval.

Emergency Preparedness Program Goals

- Maintain NMSU Las Cruces CoOP's and expand Continuity of Operations Planning throughout the NMSU system through training and guidance documents.
- Implement Hazard Mitigation Plan goals once approved by FEMA (five year goal).

PERIODIC DRIVER LICENSE VERIFICATION



The peak number of permits shown in 2008 results from the first periodic license validation and permit renewal. This year, 2013, a total of 1212 driver's licenses were validated and new permits issued to each employee approved by a manager to drive a university vehicle.

The total number of permits issued to drive a

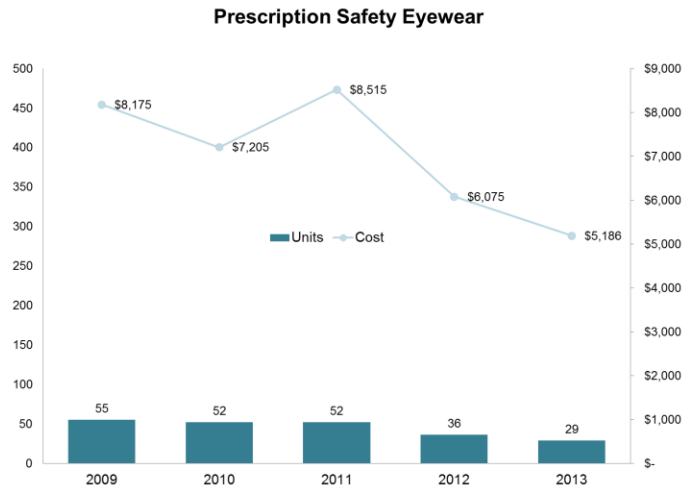
utility cart is consistently around 200 permits. Both of these license validations are required by State Risk Management under the NMSU Loss Control Program and university policy.

Driver Safety and Risk Management Program Goal

- Continue to provide loss control through license review and NMSU specific defensive driving course and cart safety program.

SAFETY EYEWEAR

In 2013 EH&S dispensed and billed a total of 196 requests for safety eyewear consisting of 29 pairs of prescription and 167 non-prescription safety eyewear. The decrease in prescription eyewear sales is related to re-staffing and specialized training for the position that provides this service. This EH&S service is beneficial to NMSU as a mechanism to ensure safety eye protection meets the American National Standards Institute (ANSI) standards.



CREATIVE RESEARCH AWARD

More than 40 research posters were presented at the 13th annual University Research Council's Research and Creative Activities Fair Oct. 4 at New Mexico State University. The annual fair is sponsored by the Office of the Vice President for Research. The Personal Protective Equipment educational posters won second place. These posters were developed through a collaborative effort including EH&S, photographer Susan Rockstraw (NMSU student), and Print Ninjas (local business). Life size wall mounted posters are permanent displays in high traffic laboratory building corridors.



University Research Council judge Mary O'Connell, left, discusses a poster representing a research project titled "Minimum Lab PPE (Personal Protective Equipment)," by Katrina Doolittle, right, and David Schoep, not pictured, of the Department of Environmental Health & Safety.