

**Solving From Within
Utilizing Self Inspections to Meet Environmental Standards**

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Abstract

In March of 2004, The University of Georgia (UGA) received a mandate from the state's Environmental Protection Division (EPD), Georgia's regulatory enforcement branch. This order from the EPD stated that UGA was to inspect all laboratories and chemical storage areas within a six-month period for hazardous waste compliance issues and to provide monthly updates to EPD, providing updates concerning the status of these inspections.

The University of Georgia's Environmental Safety Division (ESD) had, up to that point, performed safety and environmental inspections annually in every lab on campus. However, given the size of ESD's workforce, combined with recent budget cuts, it was not realistic to expect the same group to add an additional hazardous waste inspection, which required more detail and finish the tasks in half the time. The solution ESD created for this challenge was to produce a system that would enable each individual lab to perform its own hazardous waste inspection as required by Georgia's Environmental Protection Division (EPD).

Introduction of the Organization

Chartered by the Georgia General Assembly Jan. 27, 1785, in Savannah, The University of Georgia has the distinction of being the first state chartered university and the birthplace of the American system of public higher education. Its main campus located in Athens, Georgia, consists of 368 buildings on 614 acres with total acreage of 42,064 residing on 31 counties in the state of Georgia. UGA's total student enrollment is 33,878 with 8,463 of those students enrolled in graduate and professional programs. UGA operates on a 1.1 billion dollar budget and is supported by a workforce of 9,830.

A land and sea grant university, UGA has traditionally been recognized as a leader in environmental, agricultural, veterinary, business law and education disciplines, but is also assuming its role as a leader in molecular biology, genetics and biochemistry fields as well. UGA tied for 20th in U.S. News and World Report's 2003 list of the 50 top public universities in America. U.S. News and World Report ranks UGA 5th among public universities and 35th among all universities in its 2003 list of "Great Schools at

Great Prices.” Kiplinger Magazine ranks UGA 4th on its list of the 20 best public colleges that “combine great academics with reasonable costs.” UGA was 6th in the magazine’s previous ranking. UGA is 9th among 345 public and private colleges on the Princeton Review’s “Best Academic Bang for your Buck” list. Because about 98 percent of in-state first-year students come to UGA on the HOPE Scholarship, which covers tuition costs, the University was ranked by Money Magazine as one of nine “unbeatable deals” nationwide where students can attend college tuition-free. The magazine also listed UGA as the 6th overall best buy in the Southeast, and 27th in the nation, among some 1,100 institutions evaluated.

Statement of Initiative

One of the results of a surprise environmental compliance inspection from the state’s Environmental Protection Division (EPD) was an order stating all labs and chemical storage areas at UGA would be inspected for compliance with specific EPD regulations within six months. One of UGA’s Environmental Safety Division’s missions is to perform a general safety inspection of every laboratory annually but the division is not equipped with sufficient personnel resources to add an additional, hazardous waste specific inspection on to the division’s workload.

Failing to meet the EPD requirements was not an option as in doing so would open up the possibilities for extensive fines, which have reached in the millions of dollars for other universities charged with hazardous waste violations. Since UGA was facing a university-wide problem, ESD searched for a university-wide solution and created one with the laboratory self-inspection initiative. A program was started that would empower

each lab to perform this EPD mandated inspection on its own in a manner that complied with EPD requirements and would attain compliance status within the six month time frame. Listed below are some of the requirements that were not optional for the program to be a success:

- All labs and chemical storage areas must be inspected within a six-month period.
- These inspections must cover a list of specific concerns included in the EPD order.
- All personnel performing these inspections must be properly trained on hazardous waste regulations and with regards to the specific concerns put forth by the EPD.
- Monthly reports had to be conveyed to the EPD, relating the status of the project with regards to inspections and training.
- Must be completed in-house by existing UGA personnel, as no funds were available for out-sourcing.

Design

Once the decision was made to go with the laboratory self-inspection, a project coordinator was chosen. There would be a massive number of inspections performed (over 1000) and many employees would have to receive training. One person had to be chosen to coordinate training, create the checklists needed for the inspections, provide technical assistance to employees and finally elucidate all of this information and data to the state's regulating authority (EPD).

First, a website was created in which employees performing the self-inspections would be directed to.

<http://www.esd.uga.edu/nov>

This website contained an overview of the project and listed all instructions needed for employees to effectively inspect their lab. A checklist of compliance issues was created and placed in the instructions with other links necessary to properly educate personnel on how to perform the lab self-inspection.

<http://www.esd.uga.edu/nov/cltable.pdf>

Environmental Safety Division had developed an effective online hazardous waste training course and this was used as the foundation for which employees would be educated for completing the self-inspection. A link to this web-based training was placed in the online checklist and was augmented by other links within the checklist containing information needed by self-inspectors such as material safety data sheet retrieval and lists of peroxide formers (chemicals that can become unstable and explosive with the passage of time). The inspectors were instructed to print the checklist and perform the inspection based on its contents. Any item found to be out of compliance was to be corrected immediately and documented on the inspection checklist. Once all of the checklist tasks were completed, the inspector was instructed to fill in six blanks on the website which contained specific information on lab location and authority. The information contained in the six blanks was then emailed automatically to the project coordinator via the same website for documentation. All administrative tasks of performing self-inspections were handled by the website, making the process user friendly, fast, simple and efficient for the users.

The self-inspection initiative was extremely cost-effective, requiring no additional personnel or equipment purchases. ESD's project coordinator and one management information specialist designed the system completely in-house to run on a web server already in use by ESD. It also required no additional staff or equipment purchases on the laboratory end as any lab with an employee and computer with Internet access could complete the process. To duplicate this initiative, an institution needs only a management information specialist, lab technician, web server and a web development program, most of which are already in supply by many departments at most universities.

Implementation

The actual time spent getting the self-audit initiative operational on the web was minimal, three to four hours. Much more time was spent notifying and providing consultation to the university community. Letters were sent to deans, department heads and principal investigators explaining the structure and necessity of the self-audit procedure. Environmental Safety Division underwent reorganization in 1999 and has since worked painstakingly to build a cooperative relationship with the research community, an effort that paid dividends during this project. It was important that every level at the university understand this project, its importance and the probable outcome of non-compliance. Environmental Safety Division also operates an email listserv named the safety list, which was utilized to advertise self-audits, as it serves over 900 applicants at UGA. Meetings were held with UGA's Chemical and Laboratory Safety Committee to solicit input and help disseminate information concerning the project's inception and purpose. The project coordinator's contact information was distributed with every piece

of communication so that nobody would have to feel intimidated or stranded by the new process. It was required that the entire university community be made aware of the self-audit initiative because it was a new practice but also imperative that everyone understand the process to guarantee the results met with approval from the regulatory authorities.

Benefits

The benefits of this program were both direct and indirect. Some were anticipated while others were pleasant surprises.

- **Cost Savings:** UGA had no options in its time frame, the inspections had to be complete in six months and that was not possible with the current level of staff at ESD. Completing the exercise in six months meant adding additional permanent staff, hiring temporary workers and expending more resources to train them or out-sourcing the entire operation. Training and enabling current lab staff to perform the inspections themselves, required no additional investment of capital.
- **Time Savings:** The new method of self-audits allowed UGA to finish on time, within the allotted six months. This would not have otherwise been possible without removing ESD personnel from other projects that are vital to the university's everyday operations.
- **Efficacy:** It became obvious that inspectors became much more interested in safety and environmental issues within their labs when allowed to perform the inspection themselves as opposed to having an outsider come in to perform the

audit. It is speculated that the inspectors took safety and environmental deficiencies more serious when they were allowed to arrive at the conclusion on their own. The detail to which some inspections were performed was startling and corrective actions taken far surpassed any previous effort from lab personnel, taken as a whole. Lab employees found and disposed of more hazardous chemical waste as evidenced by the rise in hazardous waste pick-up requests and the sharp rise in training attendance.

Retrospect:

The usage of self-inspections was a success in every sense and there is little to nothing that will be done differently when this method is used again. Of course other institutions would have to make slight changes to meet their necessities but this project proves the basic model is a viable alternative to the old method of sending central inspectors out to service the entire university. One observation that was proven to be a constant advantage throughout the entire project was the positive cooperation received throughout the university community. This can be directly attributed to the fact that, since reorganization, ESD has received strong annual support from the highest levels of the university's senior administration and this has allowed ESD to build the culture necessary to meet the goals of this type of project. The idea of utilizing self-inspections to meet environmental standards is a strong candidate for a best practice as it was proven to be advanced enough to meet every regulatory requirement, simple enough to be effectively utilized and accepted by lab personnel, efficient enough to finish on schedule and require but the most minimum usage of ESD personnel and capital resources while displaying a

broad range of applicability and providing results reproducible by many universities and institutions.

