

Proposed Session: Mobile Technology for Environmental Compliance

This session is intended to update Environmental Professionals on mobile technology, mobile devices, apps, and intrinsically safe cases for environmental compliance work in the plants. There are three Abstracts and three Presenters for this session. Elizabeth Drake will chair this session.

Mobile Technology Improves a Plant's Environmental Compliance Status while Reducing Compliance Costs by Elizabeth Drake

Using iPads in Industrial Plants that Require Intrinsically Safe Electronic Equipment by Joseph Nixon

Environmental Reports and Photographic Documentation Using Mobile Technology by Marshall Bayless

Mobile Technology Improves a Plant's Environmental Compliance Status while Reducing Compliance Costs

Presenter: Elizabeth Drake, President of CS₂ Inc., 1301 Regents Park Drive, Suite 100, Houston, Texas 77058, Office (281) 286-1861, Email edrake@cs2inc.com

Abstract

To date, environmental compliance has been monitored, inspected, and captured on paper in the plants. The workflow of paper-based compliance documentation has been labor intensive. Furthermore, the ease of demonstrating environmental compliance has been difficult due to the inefficient and ineffective storage and retrieval of paper and electronic compliance records. Utilizing mobile technology and an electronic-based workflow will improve a facility's environmental compliance status with more accurate compliance data, more accountability and traceability of compliance documentation, and more efficient and proficient records management. The streamlined work-flow will elevate business intelligence and improve the bottom-line with an improved efficiency of man-hours. However, industry has been slow to accept and utilize mobile technology for environmental compliance in the plants.

There are concerns that need to be addressed for industry to accept and implement mobile technology for environmental compliance in the plants. The first area of concern is data security. Industry is a target of the press, public, and Agencies, thus data security is of utmost importance. The second area of concern is the control of the mobile devices to avoid their misuse by employees, as access to play games or download inappropriate internet sites is unacceptable in the plants. The third area of concern is the need for intrinsically safe mobile devices for flammable areas within the plants. The fourth area of concern is the management of the mobile devices.

This presentation discusses how the areas of concern are handled securely, safely, and easily, and presents new intrinsically safe cases available today. This presentation concludes with the power and benefits of harnessing mobile technology in the plants to improve environmental compliance and reduce costs.

Using iPads in Industrial Plants that Require Intrinsically Safe Electronic Equipment

Presenter: Joseph Nixon, Senior Environmental Specialist, CS₂ Inc., 1301 Regents Park Drive, Suite 100, Houston, Texas 77058, Office (281) 286-1861, Email jnixon@cs2inc.com

Abstract

The iPad, with its numerous applications, can be an invaluable alternative to using pen and paper when working in an industrial plant that mandates the use of an intrinsically safe electronic device. However, the use of this type of device has been slow to implement in industrial plants, because iPads are not manufactured to the specifications for intrinsically safe certification. Recently, a reliable solution has been developed that will allow industrial plants to take full advantage of the iPad's mobile technology, while satisfying the need for intrinsically safe electronic equipment.

This presentation will demonstrate an intrinsically safe iPad and sample applications that would normally be used in areas of an industrial plant, such as hazardous waste container storage areas and tanks subject to weekly or daily inspections.

Environmental Reports and Photographic Documentation Using Mobile Technology

Presenter: Marshall Bayless, Environmental Specialist, CS₂ Inc., 1301 Regents Park Drive, Suite 100, Houston, Texas 77058, Office (281) 286-1861, Email mbayless@cs2inc.com

Abstract

There are multitudes of environmental reporting applications that require photographic documentation. Some of these reporting applications include Affected Property Assessment Reports (APARs), Release Determination Reports (RDRs), and Phase I Environmental Site Assessments (Phase I ESAs). In each of these reporting applications, there is a common thread of information that is to be provided, and that information consists of a direction, location, and description. SkyzPhoto is a photos plus notes single application for professionals that allows its users to capture photos on a mobile device, then add notes directly on or within the photos, place drop pins for detailed point locations with a note capability, and automatically stamps the date, time, direction, and location of the photos. This presentation will demonstrate SkyzPhoto on a rugged iPad and sample applications. SkyzPhoto is a free app that can be downloaded from the App Store.



EDUCATION

- 1987 M.S., Chemistry, Texas A&M University, College Station, TX
- 1984 B.S., Chemistry, East Carolina University, Greenville, NC
Minor, Computer Science, East Carolina University, Greenville, NC

EXPERIENCE OVERVIEW

Ms. Drake is the President of an environmental and engineering firm, and has over 26 years of technical, operations, and regulatory experience in the chemical and hazardous waste management industries. Ms. Drake has worked the recent 18 years as a Senior Project Manager for numerous \$5 K to \$4 MM environmental, process engineering, and energy projects for government, chemical, petrochemical, pharmaceutical, cement, gas pipeline, hazardous waste, and manufacturing facilities nationwide. All of her projects were completed on schedule, within budget, and to the client's satisfaction. She provided leadership, technical expertise, and support on all projects, and ensured quality in the resulting products to maintain client satisfaction.

In her prior experience, Ms. Drake worked 6 years in operations in chemical plants and a commercial hazardous waste incineration facility. As a Technical Process Superintendent, she specialized in production planning, hazardous waste blending, and the development of process optimization programs to increase production to ~ 1MM lb hazardous waste/day. As a research chemist, she specialized in combustion, corrosion, and process chemistry research and development for 6 chemical plants located throughout the United States. Her work at two facilities won her company awards for the successful implementation of a process optimization program and a patent application for her process development work.

As President of a successful environmental and engineering firm, Ms. Drake has won 3 Texas A&M University Aggie 100 Awards. Her company was ranked Number 6 in 2005, Number 36 in 2008, and Number 20 in 2009 in the top 100 performing companies owned and operated by Texas A&M University graduates. She was awarded the Women's Legacy Award by Texas A&M University in 2009 for her mentoring work with students and faculty at the University.

In 2010, Ms. Drake was a founder of Infinite Skyz, LLC, a firm dedicated to creating enterprise mobility solutions for businesses in all industries. The company specializes in custom, innovative, and smart software applications for all mobile devices. The company also develops and sells apps on the App Store. With Ms. Drake's optimization experience, she is assisting facilities nationwide in streamlining their environmental and safety workflows with mobile technology to improve compliance and lower costs.



EDUCATION

1985 B.S., Surface Mine Reclamation, Frostburg State University

EXPERIENCE OVERVIEW

Mr. Nixon is a Senior Environmental Specialist having over 27 years of environmental compliance experience, including: solid and hazardous waste management; regulatory compliance training of hazardous waste facility personnel; and, assessment of facilities' compliance with applicable regulations, permit conditions, and best management practices.

Mr. Nixon is a former Regulatory Information Specialist and Deputy Director of the U.S. EPA's RCRA/Superfund/EPCRA Industry Assistance Hotline. During his Hotline experience, Mr. Nixon gained an expert level of knowledge of the Federal and State regulations and guidance implementing the RCRA, CERCLA, and EPCRA programs. He has maintained this expertise in his post-Hotline experience as a consultant to many industry sectors, including the chemical, petroleum, pharmaceutical, waste management, and transportation industries. He has also worked as a consultant to government agencies including the U.S. Environmental Protection Agency, U.S. Department of Energy, Metropolitan Transit Authority of Harris County (Houston METRO), and the Port of Houston Authority.

Under the RCRA hazardous waste management program, Mr. Nixon has assisted owners and tenants in their efforts to comply with the requirements applicable to waste classification, accumulation, transportation, treatment, storage, disposal, recycling, waste minimization, recordkeeping, and reporting. Mr. Nixon has also assisted numerous facilities by developing and presenting training programs for facility personnel who manage hazardous waste. In this capacity he served as a member of a training team that provided RCRA training to facilities nationwide, including General Electric, Hercules, Ciba Geigy, Union Carbide, and Square D Company.

Mr. Nixon has performed numerous compliance assessments for facilities that manage hazardous waste, industrial solid waste, medical waste, and municipal solid waste. These facilities include: NASA's government and tenant organizations at Johnson Space Center, Ellington Field, and Sonny Carter Training Facility. He has also performed compliance assessments at many other facilities including: BP North American Products, 3M Corporation, and Houston METRO.

Mr. Nixon has prepared waste management and air quality permits and permit modifications for numerous clients' facilities. These clients include: Vertellus Agriculture & Nutritional Specialties LLC, Gulf Bayport Chemicals, Inc., Mallinckrodt Inc., Metton America, Inc., and TOTAL Petrochemicals, Inc. As a part of the permit application process, Mr. Nixon also provided assistance in the public participation process. This included public notices, public meetings, and public comment responses.



EDUCATION

1998 B.S.E.T, Structural Analysis and Design University of Houston– Downtown

EXPERIENCE OVERVIEW

Mr. Bayless is an Environmental Specialist having over 9 years of environmental air emission testing and compliance consulting experience including: combustion performance testing, hospital medical infectious waste incineration management, regulatory compliance training of hospital medical infectious waste incineration facility personnel, and assessment of facilities' compliance with applicable regulations, permit conditions, and best management practices.

While working as an environmental air emission tester, Mr. Bayless assisted facilities in their efforts to comply with the regulatory requirements following the standards outlined under the Texas Commission on Environmental Quality (TCEQ) rules, Title V program, and EPA Title 40 of the Code of Federal Regulations Part 60. In this capacity he performed site testing, followed by laboratory analysis, including the reduction and interpretation of raw data, and concluded with the preparation of performance and compliance test reports. The majority of the jobs required hands-on experience while testing sources such as boilers, engines, incinerators, flares, furnaces, heaters, turbines, and other types of fossil fuel fired combustion devices.

While working as an Environmental Health and Safety Consultant for the University of Texas Medical Branch, Mr. Bayless used his regulatory expertise to assist in complying with Title V and new source review permits. His responsibilities included: Annual Emission Inventory Reporting, Mass Emission Cap and Trade Reporting, semi-annual deviation reporting, preparing applications for minor permit revisions and permit alterations, and performing Continuous Emission Monitoring System Audits, Spill Prevention Control and Countermeasure Audits, and Visible Emission Audits. His responsibilities also included: providing assistance in updating the Municipal Separate Storm Sewer System (MS4) permit, and the Site Operating Plan requirements of the Medical Waste Permit; providing assistance in preparing annual waste summary reports for waste streams generated at the facility; and, evaluating and updating the Environmental Management System to ensure compliance with all aspects of the State and Federal regulations, policies, and procedures related to the facility's Title V and new source review permits.

More recently, Mr. Bayless has been providing support to the Metropolitan Transit Authority of Harris County (Houston METRO) for the light rail expansion during the last 3 years. Mr. Bayless' responsibilities include: performing affected property assessments; evaluating sampling and analysis data; preparing site closure reports; and, preparing maps and drawings using AutoCAD and geographical information system (GIS) software.