

BAY AREA  
ENVIRONMENTAL  
SAFETY  
GROUP

MEETING  
TIME AND  
LOCATION

Tuesday

Aug. 12, 2008

11:30 am— 1:00 pm

Ramada Inn

Silicone Valley

1217 Wildwood Ave.  
Sunnyvale, CA.

For Directions,  
go to  
[www.assesj.org](http://www.assesj.org)

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# Safety Insider

AUGUST 2008

## August Meeting Announcement

### Heat Illness Prevention Awareness – Useful Tips to Educate your Workforce

Presented by

**Michael Frye,**  
**Foster City**  
**District Mgr,**  
**Cal/OSHA**  
and  
**Andrew Peterson,**  
**EH&S Manager,**  
**Xilinx**

Mr. Michael Frye, despite cracking the whip for the enforcement arm of the Cal/OSHA, is a genuine gentleman who cares about workers' safety and employers' economic output. Michael draws from the extensive contents of his safety cabinet (20 plus year of experience, knowledge, and stories from the field) - adding flair to his presentation - to highlight the value of taking care of workers.

Also on the agenda is Mr. Andrew Peterson, a young and dynamic CIH who

graduate from UC Berkeley. Andrew spent a better part of a decade performing accident prevention work and has been in charge of environmental, health and safety at Xilinx for the past eight years. Andrew will present a different perspective in looking at the heat illness standard and coming up with fascinating ways to both comply with the Standard and to protect his workers (roofing work) from heat stress and heat stroke.



**Please note the change in venue and date.**

**This is our annual Joint Meeting with the San Jose Chapter of ASSE. This meeting, which will be hosted by ASSE, will take place on Tuesday, one week earlier than our regular BAESG meetings and will be held at the Ramada Inn, just off of Highway 101 and Lawrence Expswy.**

## Green Building Basics

From the California Integrated Waste Management Board Website:

<http://www.ciwmb.ca.gov/GreenBuilding/Basics.htm>

Buildings account for one-sixth of the world's fresh water withdrawals, one-quarter of its wood harvest, and two-fifths of its material and energy flows (Roodman and Lenssen, 1995). Building "green" is an opportunity to use our resources efficiently while creating healthier buildings that improve human health, build a better environment, and provide cost savings.

### What Makes a Building Green?

A green building, also known as a sustainable building, is a structure that is designed, built, renovated, operated, or reused in an ecological and resource-efficient manner. Green buildings are designed to meet certain objectives such as protecting occupant health; improving employee productivity; using energy, water, and other resources more efficiently; and reducing the overall impact to the environment.

### What Are the Economic Benefits of Green Buildings?

A green building may cost more up front, but saves through lower operating costs over the life of the building. The green building approach applies a project life cycle cost analysis for determining the appropriate up-front expenditure. This analytical method calculates costs over the useful life of the asset.

These and other cost savings can only be fully realized when they are incorporated at the project's conceptual design phase with the assistance of an integrated team of professionals. The integrated systems approach ensures that the building is designed as one system rather than a collection of stand-alone systems.

Some benefits, such as improving occupant health, comfort, productivity, reducing pollution and landfill waste are not easily quantified. Consequently, they are not adequately considered in cost analysis. For this reason, consider setting aside a small portion of the building budget to cover differential costs associated with less tangible green building benefits or to cover the cost of researching and analyzing green building options.

Even with a tight budget, many green building measures can be incorporated with minimal or zero increased up-front costs and they can yield enormous savings (Environmental Building News, 1999).

### What Are the Elements of Green Buildings?

Below is a sampling of green building practices.

#### Siting

- Start by selecting a site well suited to take advantage of mass transit.
- Recycled content paving materials, furnishings, and mulches help close the recycling loop.

- Protect and retain existing landscaping and natural features. Select plants that have low water and pesticide needs, and generate minimum plant trimmings. Use compost and mulches. This will save water and time.

### **Energy Efficiency**

- Most buildings can reach energy efficiency levels far beyond California Title 24 standards, yet most only strive to meet the standard. It is reasonable to strive for 40 percent less energy than Title 24 standards. The following strategies contribute to this goal.
- Passive design strategies can dramatically affect building energy performance. These measures include building shape and orientation, passive solar design, and the use of natural lighting.
- Develop strategies to provide natural lighting. Studies have shown that it has a positive impact on productivity and well being.
- Install high-efficiency lighting systems with advanced lighting controls. Include motion sensors tied to dimmable lighting controls. Task lighting reduces general overhead light levels.
- Use a properly sized and energy-efficient heat/cooling system in conjunction with a thermally efficient building shell. Maximize light colors for roofing and wall finish materials; install high R-value wall and ceiling insulation; and use minimal glass on east and west exposures.
- Minimize the electric loads from lighting, equipment, and appliances.
- Consider alternative energy sources such as photovoltaics and fuel cells that are now available in new products and applications. Renewable energy sources provide a great symbol of emerging technologies for the future.
- Computer modeling is an extremely useful tool in optimizing design of electrical and mechanical systems and the building shell.

### **Materials Efficiency**

- Select sustainable construction materials and products by evaluating several characteristics, such as reused and recycled-content; zero or low off-gassing of harmful air emissions; zero or low toxicity; sustainably harvested materials; high recyclability; durability; longevity; and local production. Such products promote resource conservation and efficiency. Using recycled-content products also helps develop markets for recycled materials that are being diverted from California's landfills, as mandated by the Integrated Waste Management Act.
- Use dimensional planning and other material efficiency strategies. These strategies reduce the amount of building materials needed and cut construction costs. For example, design rooms on 4-foot multiples to conform to standard-sized wallboard and plywood sheets.
- Reuse and recycle construction and demolition materials. For example, using inert demolition materials as a base course for a parking lot keeps materials out of landfills and costs less.
- Require plans for managing materials through deconstruction, demolition, and construction.
- Design with adequate space to facilitate recycling collection and to incorporate a solid waste management program that prevents waste generation.

### **Water Efficiency**

- Design for dual plumbing to use recycled water for toilet flushing or a gray water system that recovers rainwater or other nonpotable water for site irrigation.

- Minimize wastewater by using ultra low-flush toilets, low-flow shower heads, and other water conserving fixtures.
- Use recirculating systems for centralized hot water distribution.
- Install point-of-use hot water heating systems for more distant locations.
- Use a water budget approach that schedules irrigation using the California Irrigation Management Information System data for landscaping.
- Meter the landscape separately from buildings. Use micro-irrigation (which excludes sprinklers and high-pressure sprayers) to supply water in nonturf areas.
- Use state-of-the-art irrigation controllers and self-closing nozzles on hoses.

### **Occupant Health and Safety**

Recent studies reveal that buildings with good overall environmental quality can reduce the rate of respiratory disease, allergy, asthma, sick building symptoms, and enhance worker performance. The potential financial benefits of improving indoor environments exceed costs by a factor of 8 and 14 (Fisk and Rosenfeld, 1998).

Choose construction materials and interior finish products with zero or low emissions to improve indoor air quality. Many building materials and cleaning/maintenance products emit toxic gases, such as volatile organic compounds (VOC) and formaldehyde. These gases can have a detrimental impact on occupants' health and productivity.

Provide adequate ventilation and a high-efficiency, in-duct filtration system. Heating and cooling systems that ensure adequate ventilation and proper filtration can have a dramatic and positive impact on indoor air quality.

Prevent indoor microbial contamination through selection of materials resistant to microbial growth, provide effective drainage from the roof and surrounding landscape, install adequate ventilation in bathrooms, allow proper drainage of air-conditioning coils, and design other building systems to control humidity.

### **Building Operation and Maintenance**

Green building measures cannot achieve their goals unless they work as intended. Building commissioning includes testing and adjusting the mechanical, electrical, and plumbing systems to ensure that all equipment meets design criteria. It also includes instructing the staff on the operation and maintenance of equipment.

Over time, building performance can be assured through measurement, adjustment, and upgrading. Proper maintenance ensures that a building continues to perform as designed and commissioned.

## Steps to Ensure Success

- Establish a vision that embraces sustainable principles and an integrated design approach.
- Develop a clear statement of the project's vision, goals, design criteria, and priorities.
- Develop a project budget that covers green building measures. Allocate contingencies for additional research and analysis of specific options. Seek sponsorship or grant opportunities.
- Seek advice of a design professional with green building experience.
- Select a design and construction team that is committed to the project vision. Modify the RFQ/RFP selection process to ensure the contractors have appropriate qualifications to identify, select, and implement an integrated system of green building measures.
- Develop a project schedule that allows for systems testing and commissioning.
- Develop contract plans and specifications to ensure that the building design is at a suitable level of building performance.
- Create an effective incentives and oversight.

## For More Information

- California Integrated Waste Management Board Green Building Web site (this site): [www.ciwmb.ca.gov/GreenBuilding/](http://www.ciwmb.ca.gov/GreenBuilding/). Includes the manual Designing With Vision: A Technical Manual For Material Choices In Sustainable Construction (Pub. #431-99-009). Hard copies are available from the publications clearinghouse at 1-800-CA-WASTE.
- Sustainable Building Technical Manual, <http://www.sustainable.doe.gov/freshstart/articles/ptipub.htm>
- A Guide to Irrigation Water Needs of Landscape Plants in California: [www.dpla.water.ca.gov/urban/conservation/landscape/wucols/](http://www.dpla.water.ca.gov/urban/conservation/landscape/wucols/)
- Department of Health Services, Indoor Air Quality Web site: [www.cal-iaq.org](http://www.cal-iaq.org)
- U.S. Department of Energy Web site: [www.sustainable.doe.gov/buildings/gbintro.shtml](http://www.sustainable.doe.gov/buildings/gbintro.shtml)
- Environmental Building News: [www.buildinggreen.com/](http://www.buildinggreen.com/)
- U.S. Green Building Council Web site: [www.usgbc.org](http://www.usgbc.org)

## City of San Diego's Ridgehaven Green Building

At a glance, the Ridgehaven Building appears identical to its neighbor. In 1996, however, the 73,000 sq ft. Ridgehaven Building was completely renovated with many cost-effective sustainable performance methodologies and technologies. As a result, the Ridgehaven Building now uses 65 percent less total energy than its nearly identical neighbor, yielding a saving of more than \$70,000 in annual utility costs. This equates to \$1 per sq ft. in annual savings. Even more important, the building occupants love its light and "healthy" atmosphere, boosting their productivity (Gottfried, 1999).

## Green buildings on the rise

**From the US Environmental Protection Agency, Jun. 11, 2008**

Green building continues to gain momentum as it demonstrates numerous opportunities to improve the impacts of buildings on the environment and health. To acknowledge this growing trend and EPA's expanded role in it, EPA has released a new video on green buildings in its Green Scene series. The video features Dr. Bill Sanders, director of EPA's National Center for Environmental Research, talking about how EPA is encouraging and supporting green building, and how homeowners can take simple steps to green their homes. EPA recently issued a new green building strategy to facilitate the mainstream adoption of green building practices. The strategy builds upon and calls for better coordination among existing programs, such as Energy Star and WaterSense, which are designed to reduce the impacts of buildings and development.

The strategy also includes an increased focus on research. In fact, EPA already has invested a significant amount of funding in green building research, including more than 80 grants and fellowships awarded by the National Center for Environmental Research. The center has also awarded more than \$5 million through its Small Business Innovative Research contracts.

Understanding the benefits of green building on people is important, as Americans spend nearly 90 percent of their time in buildings. Currently, buildings are responsible for nearly 40 percent of U.S. energy use and about 40 percent of U.S. carbon dioxide emissions, the primary greenhouse gas. But there are many opportunities to reduce these impacts in the buildings where we live, work and play.

## Proposition 65 Regulations Moved from Title 22 to Title 27 of the California Code of Regulations

Extended Comment Period - Proposition 65 Regulatory Update Project Labor Code Mechanism Regulatory Concept

Information available at: <http://www.oehha.ca.gov/>

## Are Your Employees Sick of Hearing About Safety?

**By Roger Pollari in Occupational Health and Safety· June 2008**

**A national lab offers three simple tactics to improve safety communications.**

Organizations that care about their employees care about safety and will go to great lengths to communicate the importance of working safely. Regular safety meetings, creative safety contests, safety Web sites, sharing lessons learned—safety communicators tend to use a variety of methods to distribute procedures and critical safety information to help employees plan and perform work.

However, the safety message sometimes falls on deaf ears, especially when employees feel they're being overloaded with safety information to the point where they are sick of hearing about it. This poses a conundrum for safety communicators: Should they keep pouring on the safety or should they lighten up? How much is the right amount?

Organizations that do not stress the importance of safety to their employees send the message that low safety performance is acceptable. The attitude that sales or productivity takes precedence over working safely translates to an increase in on-site accidents and injuries. Even worse are outfits that do not want to hear their employees' opinions about safety. There are plenty of real-life examples where employees received negative safety enforcement by way of threats, repercussions, and even termination for refusing to perform jobs they felt were unsafe.

Ultimately, effective safety communication leads to greater safety awareness and fewer on-the-job accidents, which leads, in turn, to lower medical and insurance costs.

A safe workplace certainly should not be taken for granted, but if you are seeing signs of "safety message overload," such as decreasing participation in safety incentive contests or a sluggish trend in readership of safety Web sites, it may be time to reevaluate how the message is delivered.

### **PNNL's Approach**

At the Department of Energy's Pacific Northwest National Laboratory in Richland, Wash., the safety of employees, the public, and the environment is a top priority, and safety communications are essential. PNNL is a DOE Office of Science national laboratory that solves complex problems in energy, national security, and the environment and advances scientific frontiers in the chemical, biological, materials, environmental, and computational sciences. Safety issues confronting the 4,000 staff range from ergonomics and icy sidewalks to the operation of sophisticated scientific equipment and the handling of toxic chemicals and nuclear materials.

Any incident outside normal operations is recorded, corrected, and examined for cause and lessons learned. As a 32-year veteran of the laboratory, I coordinate those efforts. PNNL also maintains an aggressive, proactive safety program that has earned the lab star status in DOE's Voluntary Protection Program.

The lab promotes safety through monthly newsletters; programs including Lessons Learned/ Operating Experience and Voluntary Protection Program initiatives; an internal, one-stop safety Web site featuring articles and safety topics; and safety committees where employees and managers address safety concerns and possible improvements in an open, collaborative environment.

Yet I found recently that not everyone is thrilled with open information sharing. After issuing what was intended to be a helpful lessons learned e-mail geared at electrical workers, I and a dozen staff and managers received a blunt response from a researcher who called the e-mail "annoying spam." Instead of starting a reply-to-all rivalry, I took this as an opportunity to sit down and have a face-to-face conversation with the researcher in order to gain his opinion and evaluate how safety can be more effectively communicated at the laboratory.

In speaking to the researcher, I found that often the problem isn't that employees mind the onslaught of safety communications; they just want information that pertains to their jobs. In this case, although the researcher was listed as an electrical worker, he needed only a one-time briefing on the 8,000-volt power supply he worked on; he did not need the recurring training he was receiving through communications related to thermostats, locks and tags, and other electrical subjects.

As a result of the meeting, I came up with three simple best practices for improving the effectiveness of safety communications to employees.

### **Sing the right lyrics to the choir.**

Preaching the virtues of personal protective equipment (PPE) to administrative staff who spend eight hours a day glued to their chairs and chained to their monitors? Teaching about PPE is valuable to some recipients but not as useful to office workers as extolling the benefits of proper posture and ergonomic awareness. Aim your message at the right audience.

### **Keep your e-mail clean.**

The extra steps you take in making the message physically easier to digest reaps multiple benefits, not the least of which is preserving your reader's precious time. Forward the essentials, avoiding long e-mail strings littered with unwanted trailers that don't add to the message. If the copy of the e-mail you are forwarding is missing a document, be sure to get and include it with yours. Better yet, build it into the body of your message.

Look at your message like a maze: The more straight passages you give readers to walk through, the quicker they get to the end (the point) and back to their jobs. Every layer of forwarded data readers must scroll through conveys the ultimate message that the topic is remote from their situation. And remember, it's always a good idea to add a short lead-in that explains why you're sending this message in the first place.

### **Brave face-to-face communication.**

While safety meetings, forwarded e-mails, and links to safety articles have a purpose in the workplace, don't shy away from verbal communication, even if the possibility of a confrontation exists. If you're hearing a low grumble from the back row during safety presentations or receiving not-so-subtle hints from employees such as, "Why do I get these safety e-mails? They don't pertain to me," take a deep breath and then take the initiative. Often, by using a gentle yet direct approach, you'll discover the cause for the complaining, as well as insights into how you can make your safety communications more effective—and you'll get it straight from the people you most want to influence: your employees.

A small investment in analyzing the safety hazards different groups of your employees encounter, then tailoring safety messages for each group, will deliver a great return in productivity and lower costs.

## Household compost as good for soil as conventional fertilisers, say EU Researchers

Source: European Commission, Environment DG, Jun. 12, 2008

Since 2005, conventional disposal of organic waste has been prohibited in Sweden. Instead, this waste is incinerated or separated at source, processed (composted or anaerobically digested) and recycled as fertiliser on crop land. A new study has investigated the use of organic waste from different sources as a fertiliser and found that residue from biogas production is an effective fertiliser.

Household waste (compost), residue from biogas production<sup>1</sup> and sewage sludge can be used as fertilisers on crop land, along with more traditional fertilisers such as pig slurry, cow manure and NPS<sup>2</sup> mineral fertiliser. Using compost made from organic waste on crop land is a cheap alternative to mineral fertilisers and improves soil structure and water-holding capacity. In addition, organic waste applications increase levels of microorganisms, reduce the need for chemical weed control and suppress plant diseases. Microbial activity in soil is thought to be a better indicator of soil quality than chemical properties. The combination of soil and waste management contributes to carbon capture strategies, as carbon from the organic waste becomes incorporated into the soil.

In this study, researchers investigated changes in soil microbial and chemical properties following applications of compost, residue from biogas production, and sewage sludge, as well as pig or cow manure and NPS fertiliser. The compost and biogas residue performed equally well as or better than the other fertilisers in improving soil health. Key changes in the chemical properties of soil following fertiliser application included:

- A rise of 0.2 units in pH using compost and pig manure, compared to NPS
- An increase of 20 per cent in phosphorous levels using compost and sewage sludge, compared to biogas residue and NPS
- An increase of 9 per cent in potassium levels using all fertilisers, apart from NPS

However, plots treated with compost exceeded the Swedish Environmental Protection Agency's threshold for all heavy metals, with lead and zinc being especially high, and plots treated with sewage sludge exceeded copper threshold values, although this did not have a negative impact on soil microbial activity.

The majority of microorganisms living in soil are heterotrophs, which depend on carbon for survival. Increased microbial activity was observed in plots treated with residue from biogas production, which contains high concentrations of easily degradable carbon. The highest proportions of active microorganisms were found in plots treated with residue from biogas production (mixed 50/50 with mineral N) or NPS and these treatments produced the highest crop yields. However, the rate at which microbes release minerals for use by plants following treatment with compost were too slow to meet the nitrogen requirements of agricultural plants, consequently lower crop yields were observed in these plots. This suggests that compost may need to be used in combination with other fertilisers.

Soil is a non-renewable resource that is vital for ecosystem survival. The European Commission has put forward a communication and framework directive<sup>3</sup> for soil protection. It states that soil is subject to a series of degradation processes including erosion, decline in organic matter, local and diffuse contamination, sealing (the loss of soil resources due to the covering of land for housing, roads or other construction work and compaction). In combination, these threats can ultimately result in arid or desert conditions.

## The global green revolution

**Source: Frost & Sullivan, Jun. 20, 2008**

“Because of the time we are living, we want to take a deep look at innovative green technologies and green growth opportunities for existing industries, entrepreneurs and green oriented investors”. With these words Frost & Sullivan Chairman David Frigstad announced yesterday the executive symposium - The Global Green Revolution 2008: Driving Growth Through Sustainable Technology and Innovation.

The event is a new feature of the 4th Annual Growth, Innovation and Leadership 2008: A Frost & Sullivan Global Congress on Corporate Growth. The one-day symposium which will focus on strategies for seizing real market opportunities for sustainable technology innovation to drive growth will take place on 17 September, 2008 in San Francisco, California. Venture capital and corporate venture fund executives will provide insight on the rapid pulse of investment in green technology and examine top growth opportunities. Additionally, companies that have successfully driven growth via green technology innovation and investment will be highlighted.

The Global Green Revolution 2008 will include interactive presentations, live interviews and success stories that address green strategies and how to integrate them into a company's growth plans. The executive symposium will identify top global marketplace opportunities and new business models in the green space.

'The Global Green Revolution 2008 event , ' notes Frost & Sullivan Chairman David Frigstad “will bring participants together to brainstorm, network and structure strategic partnerships that match investors to green growth ideas and technologies.'

Following the executive symposium, Frost & Sullivan will honour sustainable technology leaders across various industries at the 2008 Green Excellence Awards Reception and Banquet.

Registration for this year's program will fill up quickly, so participants are urged to confirm their participation and join Frost & Sullivan's roster and the veritable who's who at our CEO Networking Dinner and the 2008 Green Excellence Awards Receptions and Banquet.



## Greening Fire Suppression Systems

by Brian Carnazza, P.E., LEED AP, and Edward Orazine, P.E., *Building Safety Journal*, June 2008

To date, most environmental efforts within the fire suppression industry have involved specialized systems including foaming agents, carbon dioxide and clean agents, and national and local green building initiatives have largely overlooked available opportunities related to traditional fire suppression systems. Moving forward, we should begin to seek ways to reduce the environmental impacts of all fire suppression systems during design and testing.

### Foaming Agents

Foam concentrates and expanded foams are generally safe with regard to exposure to humans but, unless specifically indicated, can impact the environment if allowed to flow freely into watershed areas.

The base properties of typical foaming agents include nitrates, phosphorous and organic carbon, which can act as fertilizer and promote unwanted plant growth in ponds and streams, and may also be toxic to animal life. Because dissipated foaming agents take time to biodegrade, sewage treatment facilities should be contacted prior to conducting discharge tests. Alternatively, renting a tanker truck to properly dispose of the discharge will ensure that the foam does not get into the water supply system. In any case, the manufacturer should be contacted for information on proper handling and discharge containment.

Newer systems that use less water and biodegradable foams are being developed and should be considered as well

### Clean Agents

The use of halons in fire suppression systems was phased out in the early 1990s to comply with the Montreal Protocol because they were determined to cause significant damage to the ozone layer. In addition, they have a long life in the atmosphere and a high global warming potential (GWP). Hydrofluorocarbons (HFCs)—which have zero ozone depletion potential—were provided as an alternative

but their GWP, while a significant improvement over halons, is substantial enough to have raised some major concerns of late. According to the 2007 Intergovernmental Panel on Climate Change assessment report, commonly manufactured HFCs have an atmospheric lifetime of approximately thirty years and a GWP of 3,200. This raises the possibility that HFCs may follow halons in being restricted or even banned in the future.

Inert agents such as argon may generally be considered to have a minimal environmental impact. Carbon dioxide (CO<sub>2</sub>) is also available, but it is widely recognized as a global warming agent and there have been recent efforts by the U.S. Environmental Protection Agency to limit its use. Proponents argue that CO<sub>2</sub> is a natural byproduct of other processes and reusing it as a fire suppressant is practical and efficient. Typical disadvantages to the use of inert agents are that their discharge reduces oxygen concentration—a potentially serious threat to occupant health and safety—and that systems employing them may take up significant floor area and require special construction such as pressure relief vents in enclosed spaces.

There are therefore two primary factors to consider with regard to clean agents: achieving a safe and effective fire suppression system without increasing a facility's carbon footprint, and minimizing lifetime costs by avoiding systems that may need extensive modifications or replacement to meet future regulatory requirements.

### **Automatic Sprinkler Systems**

The most effective means of addressing environmental impact and sustainability is through design and construction, and automatic sprinkler systems are well-established in terms of both design and effectiveness.

An optimized sprinkler system design effectively uses the available water source, requires the minimal necessary number of components, and employs techniques and technologies that make it adaptable to future building modifications. Minimizing variations in piping can reduce construction waste and promote more efficient installation, and may eliminate the need for a fire pump and reduce water waste. Even though fire pumps only run intermittently, providing a more efficient engine will reduce their environmental impact in terms of both exhaust and noise. In addition, the proper design of the valve or pump room—including proper insulation and efficient heating systems to prevent freezing—can maximize the life of the system and ease future modifications.

Other items to review in the design of automatic sprinkler systems include proper connections for flow and flow testing. For example, fire pumps may be provided with recirculation loops and circulation relief valves to avoid over-pressurization or discharge relief back to a supply tank or greywater tank. Provided that the local authorities permit the use of water meters instead of discharging hose streams, this should save water during system tests and may allow the waste water to be reclaimed (the greywater tank designer and fire protection engineer should determine if the tank is large enough for this purpose and can accept the installation of a simple hose connection). Additionally, flexible connections and arm-overs can be used to provide a means for easily relocating sprinklers with minimal need for additional materials if the system designer incorporates appropriate flow restrictions due to friction losses.

### **Summary**

Fire protection systems serve the purpose of life safety and should never be compromised. However, just like any other building system, they can be designed, sourced, installed and maintained in a manner that reduces their impacts on the environment.

## **First US environmental impact study for manufacture of plastic plumbing pipe released**

**Source: Business Wire, Jul. 2, 2008**

The Plastic Pipe and Fittings Association (PPFA) is releasing North America's first Life Cycle Inventory (LCI) for the manufacture of plastic plumbing pipe. Richard Church, PPFA's Executive Director stated: "The release of this completed LCI report to PPFA members, LCI databases and the general public allows for increased transparency of the industry's sustainability efforts, expands knowledge about the relative environmental impacts of its products and underscores PPFA's sustainability leadership."

The LCI (a component of a Life Cycle Analysis) is the first phase of three planned for a complete Life Cycle Analysis (LCA) on plastic plumbing pipe. It evaluated the environmental profiles of selected pipes most commonly used in three plumbing applications: service lines, water distribution, and drain, waste and vent (DWV) applications. Plastic pipe manufacturing data was modeled by Franklin Associates, using resin production

The PPFA LCI will be submitted to LCI databases and to the Building for Environmental and Economic Sustainability (BEES) program. BEES is a National Institute of Standards and Technology (NIST) program and an ISO compliant LCA- based selection tool. LCA-based product selection tools are critical for unbiased green and sustainable building material and product decision making. PPFA encourages other piping material industries to develop and submit LCI data to LCI databases to allow for greater transparency.

The LCI report studied included: 4-inch solid wall PVC pipe, made with both virgin resin and 50% postconsumer recycled (PCR) content, cellular core PVC pipe, and ABS pipe with solid and cellular core for drain, waste, & vent (DWV) applications; 1-inch Polyethylene (PE) pipe and PVC pipe for inlet pressurized water supply applications; and ¾-inch CPVC & PEX tubing for Hot and Cold Water Distribution (HCWD) applications.

The report explores the environmental benefits of plastic cellular core and recycled content DWV pipe, and potential energy, landfill reduction, and carbon dioxide implications of energy recovery from waste-to-energy incineration of post-consumer plastic pipe. It also considers the environmental impacts from the extraction of natural gas and petroleum (the raw material feedstocks for plastic resins), through the production of resin to the manufacture of the products.

Some conclusions based on the LCI are:

- Light weight piping products generally have lower environmental burdens than heavier products so they reduce manufacturing, transportation and disposal burdens.
- Plastic piping systems show a relatively low energy consumption profile in their manufacturing process. Therefore, plastic pipe extrusion processes are clean and low impact manufacturing operations.
- Reducing emissions of CO<sub>2</sub>, a greenhouse gas, could be accomplished by the selection of products with lower total process and transportation energy requirements, such as plastic pipe.

## European green buildings market to see exponential growth

**Source: Frost & Sullivan, Jul. 1, 2008**

As all the EU member states look to reduce their energy consumption, new programmes such as the Green Building Programme and the Energy Performance of Buildings Directive (EPBD) were implemented to help the EU save energy around 75% by the end of 2020. With oil prices skyrocketing throughout Europe, the demand for alternative energy sources is paramount. Green Buildings is a fairly new concept that has been recognized as a necessary EU initiative. These new buildings serve as the catalyst across the market for building technologies and services. For the past decade this new market has garnered praise and attention as the need for energy efficiency comes to the policy making forefront.

'On an average the Green Buildings Programme aims to achieve reduction of energy consumption by 25% on all new buildings built with the traditional building materials,' explains Priya Cheriyan, Analyst, Building Technologies for Frost & Sullivan. 'The EPBD lays down guidelines to realize energy saving potential in the buildings sector which is estimated at 28% thereby reducing the total energy use across the EU by 11%. Hence, it is the strong catalyst for the growth of this market.'

While every state is aware of the need for 'Green Buildings', the term took on different meanings in the various EU states. In general, Frost & Sullivan found that the majority of States focus on reducing the energy consumed as heat and electricity for both commercial and residential houses.

These measures are implemented in different waves despite the fact that all these States are headed for energy savings around 75% by the end of 2020. With residential housing consuming an estimated 3 times more energy than commercial, the importance of green buildings is clear.

The EPBD legislation helped to clear up any inconsistencies, but full implementation differs due to the varying national programmes and priorities.

Countries like Denmark, Austria, Germany, Sweden and Finland are farther along in their national implementation. This is credited to the increased awareness of the benefits of Green Buildings, as well as various programmes, such as rewards, which extrinsically motivate developers to choose Green Buildings. For example, in Austria, constructors are rewarded €30,000 for ensuring that a building meets the Green Building requirements. Denmark leads the pack at 60% full EPBD implementation, due to the existing Building Labeling Scheme, which ensured green buildings since 1997. These countries have quickly found success.

However, in countries more concerned with nuclear power, these energy efficiency policies are slowly implemented. States like Hungary, Bulgaria, Czech Republic, Slovakia and Poland, although quite aware of the environmental importance of these measures, are less successful in its administration.

Frost & Sullivan finds that, 'It is peremptory for all the EU states to follow the EPBD legislation so that a uniform system can be developed to classify buildings as green across the EU. However, there is still no defined paradigm to assess and classify buildings as Green Buildings in the EU as compared to the US. Defining the market size individually and collectively in the EU states is untenable in these circumstances.'

This promising market still needs to mature. The answer seems to lie in the uniform certification grants of buildings that comply with current standards, as well as award programmes. As demonstrated through Austria and Denmark's success, these methods will propel the market share in the commercial and public buildings stock to reaching its full potential.

'Over the last 10 years, the green buildings market has experienced exponential growth,' concludes Priya Cheriyan. 'Experts are optimistic about the continued growth and evolution of this market with expected growth predictions for the next 10 years at 30%.'

All research included in subscriptions provide detailed market opportunities and industry trends that have been evaluated following extensive interviews with market participants.

On green technologies and green growth opportunities Frost & Sullivan will host an executive symposium this September. The symposium, titled The Global Green Revolution 2008: Driving Growth Through Sustainable Technology and Innovation, will focus on strategies for seizing market opportunities through green technologies. It will take place on 17 September, 2008 in San Francisco, California.

## **McCain and Obama`s plans to combat climate change**

**from the Environmental News Network, Jul. 3, 2008**

Regardless of who is elected next November, both candidates agree that climate change is a fact and not a theory. "I know that climate change is real," said John McCain. "We can have a debate about how serious it is, but the debate about climate change is over." John McCain and Barack Obama however vary widely in their response to this issue, leaving the American people with a choice of approaches when choosing the

president. McCain's primary tools include implementing a cap and trade system for emissions and utilizing greater amounts of nuclear power and "clean" coal.

## **McCain**

### **Cap and Trade**

"Cap and trade is being implemented in Europe and they have stumbled and they've had problems but it is still the right thing to do," said John McCain. "It is what we did in relation to acid rain."

McCain is calling for a 60% reduction in carbon emissions by 2050. One of the reasons McCain supports this approach is because it encourages the market to respond with the lowest cost approach. He believes the market will correct itself with the use of cleaner technologies without the need for intervention, such as a tax credit or major investment from the government.

One challenge with this plan is that we don't operate in a truly free market, which is needed for the market to correct the problem. Large subsidies exist for all sources of energy, although renewable energy has had less consistent ones. Many of the hidden costs of pollution are not accounted for, even under a cap and trade system. For example, who is paying for the hospital visits when a child has an asthma attack from air pollution?

### **Nuclear Power**

"Nuclear power has got to be part of any real meaningful effort that we are going to make to reduce greenhouse gas emissions," said McCain. "It has got to be part of the equation."

McCain encourages development of nuclear power. Despite his view that the market should correct itself, in May of 2005 and January of 2007, McCain and Lieberman introduced climate change bills that would give billions in subsidies to the nuclear industry. McCain proposes the construction of 45 new nuclear reactors by 2030.

### **Renewable Energy**

Although McCain says that he supports renewable energy, he has not set specific targets. John McCain's website makes no mention of solar, wind, renewable energy, or even public transportation under the section on climate change and has no section on energy.

The Senate was one vote shy of passing an economic stimulus package earlier this year that contained an incentive for solar energy. McCain didn't show up to vote. He also does support the subsidies for ethanol that are currently in place.

"Coal fired power plants," said McCain "are being proposed to be built all over this country" | If you can generate that power and set up a station that is powered by solar, by God I would love it, but you know we don't have that technology." Despite the advancement of renewable energy in recent years, McCain doesn't support incentives similar to what he has proposed for nuclear power and "clean" coal.

### **Fossil Fuels**

McCain has expressed support for "clean" coal and concern about the construction of additional conventional coal powered plants. He recently told a Missouri State University audience that he will pledge \$2 billion to make "clean" coal a reality.

McCain had supported a moratorium on offshore oil drilling until recently. He now is showing increasing support for opening up offshore areas to drilling.

'I believe it is time for the federal government to lift these restrictions and to put our own reserves to use,' McCain said in June. 'As a matter of fairness to the American people and a matter of duty for our government, we must deal with the here and now, and assure affordable fuel for America by increasing domestic production.'

## **Obama**

Barack Obama also supports a cap and trade system, but with higher emission reduction goals than McCain. Obama has also shown support for nuclear energy, but hasn't shown the same level of support demonstrated by McCain. His energy plan has more diversity in the solutions presented.

## **Cap and Trade**

Obama supports a cap and trade system to reduce carbon emissions by 80% below 1990 levels by 2050. His plan involves the auction of all pollution credits, with some of the revenue being used for clean energy and energy efficiency.

## **Fuel Economy Standards**

"We are going to raise fuel efficiency standards on cars because that is the only way that we can actually lower gas prices over the long-term and I know you need that," said Obama.

Doubling fuel economy standards within the next 18 years is a priority to Obama. Research in engines and advanced lightweight materials will help meet this goal. He also wants to assist auto makers in increasing fuel economy standards through loan guarantees and tax credits for domestic auto manufacturers.

## **Next Generation Biofuels**

"The only way we are going to seriously reduce the price of gas is if we actually start investing in alternative fuels and we raise fuel standards on cars," said Obama.

Obama's goal is to have two billion gallons of cellulosic ethanol in use by 2013. This is fuel made from non-food sources, such as switch grass and municipal waste. He plans to use tax incentives, government contracts and cash prizes to help this industry mature and specifically wants to encourage farmer-owned refineries. He would like renewable fuel standards to increase, such that 60 billion gallons of advanced biofuels are in the fuel supply by 2030.

A National Low Carbon Fuel Standard is a mechanism that Obama plans to use that requires fuel suppliers to decrease carbon emissions from fuels by 10% by 2020 and he specifically wants to encourage non-petroleum fuels to reach this target.

## **Renewable Energy**

"For the sake of our security, our economy, our jobs and our planet, the age of oil must end in our time," said Obama.

By 2025, Obama would like 25% of U.S. electricity to be generated from clean, renewable sources including wind, solar and geothermal with a Renewable Portfolio Standard. Obama calls for \$150 billion to be invested over 10 years in clean energy, infrastructure to support it, and possibly nuclear energy. Investment in a national digital electric grid would allow greater amounts of renewable energy to be utilized and make plug-in hybrids more environmentally sound.

## The other footprint: the water footprint

From the Environmental News Network May 26, 2008

By now, you've all heard of the Carbon Footprint — the measure of the impact human activities have on the environment in terms of the amount of greenhouse gases produced, measured in units of carbon dioxide. Today, KGG sheds light on the other foot; Your Water Footprint. The Water footprint of an individual is defined as the total water used for the production of the goods and services consumed by the individual. It can be estimated by multiplying all goods and services consumed by their respective virtual-water content.

The water footprint of a nation shows the total volume of water that is used to produce the goods and services consumed by the inhabitants of the nation. The water footprint consists of two parts: Use of domestic water resources and use of water outside the borders of the country. The water footprint includes water withdrawn from surface and groundwater and the use of soil water (in agricultural production).

### A Few Facts

- The production of 1 kilogram of beef requires 16,000 liters of water.
- To produce 1 cup of coffee we need 140 liters of water.
- The water footprint of China is about 700 cubic meter per year per capita. Only 7% of the Chinese water footprint falls outside China.
- The USA water footprint is 2500 cubic meter per year per capita.

### Coffee Case Study

Background — Coffee is, in dollar terms, the most important agricultural product traded in the world. Producing coffee requires a lot of water.

Objective — A case study performed by A.Y. Hoekstra and A.K. Chapagain was conducted to calculate the volumes of water required to drink coffee and tea in the Netherlands.

Results — “We found that for drinking one standard cup of coffee in the Netherlands we need about 140 litres of water, by far the largest part for growing the coffee plant. A standard cup of coffee is 125 ml, which means that we need more than 1100 drops of water for producing one drop of coffee. Total coffee consumption in the Netherlands requires a total of 2.6 billion cubic metres of water per year, which is equal to 36% of the annual Meuse flow. The Dutch people account for 2.4% of the world coffee consumption. All together, the world population requires about 110 billion cubic metres of water per year in order to be able to drink coffee. This is equivalent to 15 times the annual Meuse runoff, or 1.5 times the annual Rhine runoff.”

## Upcoming Events

If you'd like to see your events advertised in this space, and on our website, email your announcement to: [baesg.jobs@gmail.com](mailto:baesg.jobs@gmail.com)

### Local Events:

**Environmental Training Center** offers a variety of regulatory update and compliance seminars at Mission College. Check their website ([www.bayETC.org](http://www.bayETC.org)) for the latest schedule.

**UC Santa Cruz Extension** has the following training courses/seminars coming up in Cupertino (For more information see: <http://www.ucsc-extension.edu/>)

Oct 15 – Nov 19	Business Dynamics of Safety and Health Management
Sep 11 - Oct 02	Regulatory Framework for Toxic and Hazardous Materials
Sep 15 - Nov 10	Waste Stream Management

**Pacific Industrial and Business Association** will be sponsoring a number of regulatory update seminars at various Bay Area Locations. (For more information see: <http://www.piba.org/>)

**Sep 4**      **The Future of the Built Environment in Silicon Valley** (First annual Silicon Valley Conference and Exposition) For more information and to register for this event see: <http://www.ifmasv.org/events/rsvpNew/268/>

### National Events:

**Oct 15 – 17**    **ICC Green Building Safety Institute, Chicago;**  
This is a learning event for those ready to acquire the technical knowledge of how the I-Codes support green building and the skills necessary to work within the green building movement. Participants will also learn how to develop Green Building programs and ordinances for their communities.  
For more information see: <http://www.iccsafe.org/training/GBSI/>

The following positions were collected from a variety of internet job listings and/or postings received directly by the BAESG Jobs Coordinator. BAESG has not verified the informational content of all of these ads.

This newsletter only publishes partial descriptions in the interest of saving space. For more detailed information, phone or email the listed contact. BAESG members who subscribe to the Jobs Announcements Distribution List also receive full descriptions by email. To subscribe, send your request to [baesg.jobs@gmail.com](mailto:baesg.jobs@gmail.com).

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### **ENVIRONMENTAL Health and Safety Specialist**

\$83,088 - \$101,004 & Excellent Benefits

East Bay Municipal Utility District seeks an Environmental Compliance professional to develop, implement and evaluate projects and studies designed to ensure compliance with environmental regulations, standards and protocols; and to assist in developing proactive solutions to environmental issues and regulatory requirements.

BA/BS and two year's experience required.

For detailed application materials, please call (510) 287-0742 or visit [www.ebmud.com](http://www.ebmud.com).

Deadline to apply will be Friday, August 8, 2008.

patti paul hr analyst

recruitment divisionm.s. #603

east bay municipal utility district

510-287-0728 (fax -0986)[ppaul@ebmud.com](mailto:ppaul@ebmud.com)

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### **Applied Materials - Safety Engineer**

Responsibilities Include:

- Specifying, providing, and managing safety support on specified projects in accordance with Applied Materials policies and government regulations in order to control hazards to personnel and equipment and limit liability to the Company
- Coordinating the safety aspects of engineering within the company, with customers, and other organizations, which are related to products and their design.
- Develops and maintains a thorough knowledge base regarding safety in accordance with the area of specialization and expertise.

Hiring Manager: Chatchai Bhudsabourg

Office: (408) 235-4786

Pager: (800) 946-4646 PIN 1446419

e-Mail: [chatchai\\_bhudsabourg@amat.com](mailto:chatchai_bhudsabourg@amat.com)

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**HES Specialist for Bayer HealthCare in Berkeley.**

**POSITION DESCRIPTION**

Develop regulatory compliant environment, health and safety programs that facilitate and promote safe and healthy working environment.

- Ensure compliance with clean air Act, Clean Water Act, RCRA and CA title 22 regulations.
- Obtain and maintain permits for air and water pollution abatement equipment.
- Host compliance inspections for hazmat, waste water and storm water agencies
- Develop and deliver safety and environmental training programs, i.e. Hazardous Waste Handling, department of Transportation, chemical safety, gas handling etc.
- Under general direction, the individual works independently to develop regulatory compliant environment, health and safety programs that facilitate and promote safe and healthy working environments in the Facilities and -Engineering groups at Bayer HealthCare
- Independently or through teams (e.g. injury investigation teams, continuous improvement working groups, safety steering committees), recommend measures to reduce to eliminate risks of industrial accidents and hazards.
- Provide training, technical expertise and applied knowledge in programs such as lock out/tag out, confined space entry, contractor safety, electrical safety, slips and falls, machine guarding, industrial ergonomics, tool/equipment analysis on the design and use of facilities, processes, equipment, and work methods.

**POSITION REQUIREMENTS**

- BS degree (MS preferred) in a relevant technical discipline and have 5+ years of practical experience with the development and implementation of safety programs related to facilities maintenance. Certified Hazardous Materials Manager or Certified Safety Professional a plus.
- Experience in the facilities engineering environment and biotechnology/pharmaceutical industry is preferred.
- Operational knowledge and design of industrial equipment (e.g. HVAC systems, water treatment systems, boilers, solvent distribution systems) and familiarity with building design codes (e.g. UBC, UEC) is desired.
- Demonstrate leadership and interpersonal skills needed to facilitate team achievement as a team participant or lead.
- The position also requires demonstrated written and verbal skills. The ability to effectively address multiple client service requests, establish methods for creating and communicating environmental health and safety information to a diverse audience and proficiency in the use of computer programs such as ms Word, excel and Power point .
- The position may require occasional work hours during swing and graveyard shifts

**CONTACT**

Amber Welch  
 Staffing Consultant  
 Bayer HealthCare, Pharmaceuticals Division  
 (510) 705- 5168  
 amber.welch@bayer.com

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Recruiter is looking for some help finding an **Environmental Health and Safety Manager** with extensive industrial waste water experience for a company in the Seattle area.

The company is the largest independent manufacturer of its kind in North America - and among the leaders in the World. They have approximately 4,000 employees and over one million square feet of manufacturing space across 11 facilities. This particular plant has about 415 employees. The EHS manager reports directly to the General Manager and the EHS team reports to the manager.

The position commands an extremely competitive salary, and the company offers world class benefits. Relocation assistance will be provided for the right candidate.

**Responsibilities:**

Develop and maintain health, safety, and environmental programs that ensure compliance with the company's policies, along with federal, state and local laws and regulations, including:

- Working knowledge of health, safety and environmental laws and regulations, and remains current in these areas.
- Develops and maintains compliance with health and safety programs.
- Leads all emergency response activities at the site. This includes the development and maintenance of plans, and the organization of training, for chemical emergencies, medical emergencies, fire, and severe weather.
- Leads investigation of employee accidents/incidents and environmental incidents. Ensures determination of root cause and development and implementation of prevention measures.
- Manages the workers' compensation program. Manages a strong return-to-work program. Ensures accurate completion of OSHA 300 log.
- Manages occupationally related medical evaluation programs.
- Responsible for all environmental permits including air emissions, wastewater discharge, storm water, and hazardous waste.
- Coordinates the solid waste management programs including all hazardous and non-hazardous wastes and recyclables. Audits all areas of the facility to ensure compliance with these programs.

**Qualifications:**

- Minimum of a four year college degree in related field (e.g. occupational health and safety, risk management, chemical or environmental engineering, or physical sciences)
- At least four years of experience in health, safety, and environmental programs is required.
- Must have experience in negotiation with governmental agencies.
- Experience in printed circuit board industry or chemical industry is preferred.
- Primarily 1st shift, but weekend and off-shift work will be required.

Mary Fisher  
National Account Manager  
Propel Search Group  
520-399-2702  
mary@propelsearchgroup.com  
www.propelsearchgroup.com.



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**Environmental Health and Safety (EH&S) Manager**

Codexis is a leading developer of proprietary biocatalysts that the company believes have the potential to revolutionize chemistry-based manufacturing processes across a variety of industries. The company has used its technology platform to enable biocatalyst-based commercial-scale drug manufacturing processes and delivered biocatalysts and drug products to some of the world’s leading pharmaceutical companies.

Codexis has a funded collaboration in the biofuels market, and the company is pursuing funded collaborations in several other bioindustrial markets, including carbon management, water treatment and chemicals. The Environmental Health and Safety Manager will provide safety services ensuring compliance with applicable regulations, analyzing emerging trends and regulatory environments, and the review of safety statistics (internal and external). He/she will report to the Vice President of Operations.

**RESPONSIBILITIES INCLUDE:**

- Provide guidance on regulatory and technical matters to management and personnel within the R&D, Operations and Facilities/Maintenance organizations.
- Administer safety programs, monitor compliance with company and government regulations.
- Conduct compliance inspections.
- Maintain accurate records and statistics of safety compliance.
- Perform industrial hygiene tests as required.
- Assure that all employees, visitors and contractors are properly trained in job hazards and safe work practices.
- Conduct safety audits and represent Codexis to regulatory inspectors.

**REQUIRED SKILLS AND QUALIFICATIONS:**

- Bachelor’s degree preferably in industrial health and safety or other related field.
- CSP certification preferred.
- 5+ years experience in the field of EH&S directly supporting the safety and health initiatives of a multilocation international organization.
- Knowledge of Local, State and/or Federal environmental, health and safety regulatory compliance is required.
- Knowledge of workers compensation programs and claims management.
- Experience in chemical or biotech industry is desirable.
- Knowledge of health and industrial hygiene.
- Demonstrated ability to work with all levels in the organization.
- Excellent communications skills, both oral and written, as well as presentation and facilitation skills.

For more information and to apply for this position, visit <http://www.codexis.com/wt/page/careers>

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**Incident Investigator / EH&S Specialist II / Health & Safety Team**

**SALARY** Annual Salary Range: \$54,204 - \$101,412

**COMPANY** University of California at Berkeley, Office of Environment, Health & Safety

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Job Requisition # 8524

GENERAL DUTIES INCLUDE:

Understand and support the EH&S mission and vision. Promote and contribute to a successful team oriented work environment ensuring interdependence and cooperation, constructive and positive communications, and mutual support. Demonstrate, promote, and recognize campus, divisional, and departmental high standards for excellent customer service, effective use of resources, professional development, personal accountability, and continuous improvement.

Under direction by the Associate Director for Health & Safety, the Incident Investigator coordinates, supports and / or monitors the investigation, tracking, documentation, and correction of adverse incidents affecting UCB personnel. This position's goal is to help campus departments to eliminate workplace hazards whenever possible, and to minimize the adverse physical and financial effects of accidents. The position also supports the implementation of campus safety programs and addresses safety management opportunities with a focus on departments with high injury/loss rates.

Please note: Although full salary range is listed, most offers will not exceed midpoint of the range (\$77,808).

Highly Competitive Benefits Package

The Office of Environment, Health & Safety (EH&S) provides guidance and services to the campus community that promote health, safety, and environmental stewardship.

Please note: Although full salary range is listed, most offers will not exceed midpoint of the range (\$77,808).

Highly Competitive Benefits Package

The Office of Environment, Health & Safety (EH&S) provides guidance and services to the campus community that promote health, safety, and environmental stewardship.

For more information or to apply for this position, please see: <http://jobs.berkeley.edu/>

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**EH&S Specialist III**

University of California, San Francisco

Job Summary:

Incumbent will be responsible for implementation and oversight of all industrial hygiene and occupational safety related activities at UCSF; provides technical expertise and advice to the Campus and Medical Center; implement and oversee all safety related and occupational monitoring programs, regulatory compliance, OSHA liaison, and other safety consulting services to UC employees as required; serve in the capacity of Clinical Program Manager in the absence of the Clinical Program Manager; initiate, conduct, manage and oversee indoor air quality surveys, air sampling, air monitoring, noise monitoring , occupational monitoring, ventilation testing, asbestos surveys, mold and bioaerosol sampling and supervision of at least two staff members; must be capable of managing, operating, calibrating and maintaining a wide variety of Industrial Hygiene monitoring and sampling equipment and reserves judgment in delegating specific equipment maintenance issues to appropriate staff members; conduct and oversee those conducting sanitation/food safety inspections, ergonomic evaluations, and fire and life safety rounds at all Medical Center and campus locations and serve periodically on the rotation of UCSFs Emergency Response Team; includes major participation in JCAHO, City, State and other applicable regulatory inspections; implement and oversee the Respiratory Protection Program, fit testing and selection of personal protective equipment; and perform other duties as assigned.

To submit your resume online go to: <http://ucsfhr.ucsf.edu/careers> Apply specifically to requisition 26780BR.

# BAESG MEMBERSHIP APPLICATION

for both new and renewing members

Annual membership dues are \$25.00. (\$12.50 for full-time students and retired EH&S professionals).  
Make your check payable to BAESG and return with this application to:

Membership Director  
Bay Area Environmental Safety Group  
P. O. Box 60363  
Sunnyvale, CA 94088-0363

Personal Information and Company Address (to be listed in the Membership Directory)

Name: \_\_\_\_\_

Full-time Student? Yes \_\_\_ No \_\_\_

Certifications (such as CIH, CSP) \_\_\_\_\_

Job Title (or field of study): \_\_\_\_\_

Company (or College/University): \_\_\_\_\_

Address: \_\_\_\_\_

City, State, and ZIP CODE: \_\_\_\_\_

Daytime Phone (with area code): \_\_\_\_\_ FAX: \_\_\_\_\_

Email address: \_\_\_\_\_

Sponsor: \_\_\_\_\_

Monthly newsletters will be sent to the above email address.

Areas of Interest:

Please indicate any areas of special interest that you would like to see covered during the monthly meetings, or topics that you would be interested in presenting.

TOPIC: \_\_\_\_\_

PRESENTING? Yes \_\_\_ No \_\_\_

Please check here if you would like to be placed on the Jobs eMail Distribution List to receive Updates of job listings between the monthly publication of the newsletter.

Email address to which listings should be sent: \_\_\_\_\_