

**BEST PRACTICES FOR SUSTAINABILITY
IN THE AUDIO VISUAL STAGING INDUSTRY:**

Greening the Audio Visual Staging Company



1st Draft, 9/2007

Purpose and Scope of the Policy

This Policy of Best Practices for Sustainability is written as a basic guideline for the Audio Visual Staging Industry. It is by no means a comprehensive answer to the environmental impact of our industry's activity.

This Policy primarily focuses on indoor events such as meetings, seminars, conferences and the like. However, practices and suggestions can be modified and applied to events held out of doors and in non-traditional venues.

Why Green?

In light of recent research and education, we can no longer ignore that our current way of doing business has left us in a precipitous position. As you read through the Policy, hopefully dangers such as toxic waste produced by maintaining the status quo will become apparent.



Environmental stewardship is an individual's choice to prevent the loss of quality of life for ourselves and future generations. Even if a complete overhaul of business methods seems overwhelming, simply adapting a few of the suggestions can be of great benefit. It is our personal and professional responsibility to practice good citizenship and community leadership.

A business can demonstrate their leadership and commitment to change by implementing their own formal Policy of Sustainability. Hopefully this document will become a useful springboard for developing such a policy.

The Challenge of Audio Visual Staging

The primary function of A/V Staging is to provide and operate lighting, audio, video and other related equipment for live events. The inherent nature of the industry requires the consumption of energy, and - traditionally - a lot of it!

The environmental impact of our industry is largely overlooked because we are not a formally recognized industry by either the government or private sector. A/V Staging is rather a blend of the entertainment and high-tech industries.

Throughout this document, you will note  "Pulse Points"  that highlight actual greening activity by Pulse Staging & Events, Inc. The Pulse Points signify real-life changes by just one company and the measurable difference even small changes to our business practices can make. Hopefully they will also spark inspiration for other Staging companies in applying the Points to their individual situation.

Best Practices

1. **Equipment**

Equipment is probably the most important factor in greening an Audio Visual Staging company. Using modern technology generally ensures reduced energy consumption. A periodic (perhaps annual or bi-annual) review of equipment will allow for a comparison of existing inventory with current energy-saving devices available. Factors to consider when evaluating equipment include life span, energy star compliance and power consumption.

🌟 PULSE Point

Pulse Staging and Events, Inc. made the simple switch from Plasma to LCD technology when several studies showed a marked increase in life span and simultaneous decrease in energy usage. For example, manufacturer SharpUSA found their LCD monitors to have a 60,000 hour life span with plasma only offering 20,000 to 30,000 hours. When compounded with a near 50% reduction in power requirements, choosing LCD over Plasma was an obvious answer. 🌟

- a. *Lighting* – Lighting is a key function of Audio Visual Staging. There are multiple facets of green lighting, the most important aspect being a switch to LED lighting.
 - ✓ Energy Consumption and Life Span: A transition to Light Emitting Diode (LED) lighting from traditional incandescent produces a remarkable improvement in sustainability with minimal effort. An LED instrument offers a whopping lifespan of 60,000 hours! Industry-standard incandescent bulbs? A measly 1,500. In addition, LED uses only 10% of the energy required to operate a single 60W incandescent bulb. The upfront cost is slightly higher but there is no sacrifice in light quality and the life span is *40x that of an incandescent*; requiring less solid waste, less manufacturing waste and generous improvement in sustainability.
 - ✓ Cooling Requirements: In a traditional setting, most people are familiar with the heat of stage lighting. To cool even a small room containing this intense heat source requires substantial amounts of additional energy. In direct contrast, LED lighting has an extremely low thermal output. This translates to a reduction in external cooling needs, thereby incrementally decreasing energy usage.
 - ✓ Proper lighting: Careful planning and event design will ensure that the proper amount of lighting is used. This avoids the trap of using excessive energy.
- b. *Audio* – Audio is the next major function of Staging. Efficient and modern equipment is necessary for energy conservation.
 - ✓ Energy Consumption: Cutting-edge “Class-I” amplifier technology uses **46%** of the electricity required to power traditional amps. The win-win of the situation? Not only is less power used, but the sound quality increases simultaneously!
 - ✓ Cooling Requirements: Similar to LED lighting, Class-I Amplifiers have a significant reduction in air conditioning/cooling usage. The Amps generate **1/10th** of the heat of conventional audio equipment! The

technology also parlays the added benefit of an extended product lifespan as the Amp is not subjected to excessive heat.

- c. *Video* – Video is the final Audio Visual component to consider.
 - ✓ Energy Consumption: Projectors draw substantial amounts of electricity. The equipment should feature energy-saving efficiencies such as lamp power switching and a very important auto-standby mode.

✿ PULSE Point

A common industry procedure dictates that for the duration of a meeting, video projectors are not to be turned off for fear of jeopardizing the time and labor-intensive initial setup. A 5000 lumen video projector uses 770W of power. For a three day event, one projector alone would use 55 Kilowatt Hours of electricity. That's enough electricity to power a Compact Fluorescent Light bulb 24 hours a day for over 5 months! Pulse Staging made the conscious decision to purchase projectors with a "standby mode" using only 10W of power. Assuming eight hours of active operation per day, this reduces the projector's total energy consumption to approx 19kWh...an impressive 35% reduction. ✿

2. Suppliers

It is important to develop an awareness of a manufacturer's dedication to sustainability. Not only should their equipment be the most efficient in energy usage, but there are other factors to consider at the production level.

- a. *ISO compliancy* – A manufacturer with ISO 14001 compliancy demonstrates a tangible commitment to green practices by implementing an Environmental Management System, or EMS. This EMS is then used to establish an environmental policy and to manage the environmental aspects of an organization's activities, products, and services.
- b. *Hazardous Substances* – While a global policy on the use of hazardous substances by manufacturers does not exist, there are several directives in place.
 - ✓ Products purchased from European manufacturers must comply with the "Restriction of Hazardous Substances Directive" or RoHS. The directive restricts the use of Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls and Polybrominated diphenyl ether.
 - ✓ The China RoHS will not be a ban on harmful substances, but suppliers will be required to catalogue and disclose the usage of such substances.
 - ✓ Currently, the United States *does not* have a federal policy on restricted substances. Policies on heavy metals and hazardous substances vary across state lines.

As there is no universal regulation for restricted substances, the best practice for considering different equipment manufacturers is to examine their individual usage of hazardous substances. Most suppliers will readily provide their written policy upon request.

- c. *Packaging* – A manufacturer should not only devise a policy regarding the use of hazardous substances, but their methods and materials for packaging are crucial to sustainable practices. Minimizing the amount of packaging materials and using

recycled materials are two ways a supplier can demonstrate a commitment to sustainability.


- d. *Written Policies* – At the bare minimum, a manufacturer should acknowledge the significance of their environmental impact in the form of a written statement of environmental policy. If it is beyond their current scope of business to completely revise manufacturing operations, they can at least offset carbon usage, implement office recycling programs and pledge to tangibly improve their future practices.

3. **Waste Management**

- a. *Audio Visual Equipment* – When equipment reaches the end of its life cycle, its proper disposal is imperative. Electronic waste represents 2 percent of America's trash in landfills, but it equals 70 percent of overall toxic waste. While not federally enforced, many states have banned the disposal of electronics in a landfill.
 - ✓ If dumped into a landfill, A/V equipment such as projectors and monitors can release devastatingly harmful substances like lead and mercury. Recycling equipment not only reduces health and environmental risks, but also decreases solid waste production. No matter what the state legislation dictates, recycling e-waste is the responsible answer to disposing of Audio Visual equipment.
 - ✓ Another viable option for outdated equipment that has become obsolete to a Staging company is its reuse via donation to schools or other such programs that are in need of equipment for educational purposes. There are also many charities that might find use for the equipment.
- b. *Office Waste* – The reduction, reuse and recycling of office waste can be of great impact in improving sustainability.
 - ✓ Measures such as printing on two sides of a page and opting for electronic over print communication and documentation will reduce waste.
 - ✓ Reuse packaging materials sent from manufacturers for your own shipping needs; purchase reusable coffee mugs, tableware and plates; save one-sided misprints to create notepads and as scrap for printing drafts.
 - ✓ Recycled toner cartridges are a simple way to reduce office waste and decrease costs.
 - ✓ Any and all waste that can be recycled **MUST** be recycled. Solidify recycling habits by placing bins in convenient and obvious locations.
 - ✓ Purchase office supplies produced from recycled materials, preferably from postconsumer content.
- c. *Event Recycling* – Recycling on a show site is a challenge to A/V Stagers. The constant change of venue, working with sub-contractors and conforming to a venue's unique features all present obstacles for complying with the Policy.
 - ✓ Innumerable batteries are used in a single show. Reliable battery performance is critical when considering their use in such devices as wireless microphones. For this reason, all batteries are generally replaced on a daily basis, despite most of them still having a substantial life. Rechargeable batteries have proven unreliable as there is no method to ensure they are fully charged each night. It is also difficult to track where

they might be in their lifespan, which is relatively short compared to their cost. Waste from batteries is environmentally harmful and their disposal is regulated in many states.

PULSE Point


Discouraged with the hundreds of batteries wasted after an event, Pulse Staging implemented a simple reuse and recycling plan. At each event, the technical crew is provided with a colorfully decorated box. They are reminded to use the box at the start of the event and the box is placed in a prominent spot to facilitate its use. The crew is allowed to take the batteries home for their own personal use at the end of the event. Considering the number of toys, musical devices and similar equipment requiring costly batteries, this practice provides incentive to use the box and demonstrates goodwill towards crew members. Any leftover batteries are then recycled in compliance with California regulation. The final result is that all of the batteries are recycled or reused. 

- ✓ Another commonly overlooked opportunity for reuse of materials are flip charts. Presenters frequently use 2-3 pages of a chart and the remainder is disposed of (and often into the trash rather than recycling). These charts can easily be collected at the end of the event and stored for use at the next function. The charts may also be donated to charitable programs.
- ✓ Locate the venue's recycling receptacles, move them to a location convenient to the crew and use them.

4. Energy Usage

- a. *Generators* – Occasionally an event site will require the use of auxiliary power in the form of generators.
 - ✓ With recent improvements in technology, mobile solar-power sources are becoming more readily available. They not only provide a clean source of energy, but they offer whisper-quiet operation which can be an advantage at many event venues.
 - ✓ If solar-powered generators are not an option, traditional generators might utilize a blend of biodiesel fuel.
- b. *Offsets* – Most indoor events are not conducive to the use of alternative energy sources and do not require auxiliary power. In this case, an estimate of power usage should be performed. This allows for the purchase of either renewable energy from the electricity provider or Renewable Energy Credits (REC) from a certified source to offset the event and render it carbon neutral.

PULSE Point

Pulse Staging purchases credits from NativeEnergy, a nationally recognized, Vermont-based carbon-trading company that sells credits to businesses and individuals. The company works only with start-ups, rather than buying and selling credits on the market. The company's direct relationship with projects makes it easier to monitor how much carbon dioxide is displaced. Pulse Staging clients can rest assured that their offsets are legitimate and sufficient to cover the energy requirements of their events. 

5. **Shipping/Transportation**

- a. *Hire Locally* – For sub-rentals and subcontracted labor, all attempts should be made to identify local sources to minimize shipping and travel.
- b. *Green Freighters* – When it is necessary to ship equipment, utilize shipping/freight service providers with prominent policies and practices that enforce sustainability (low-emissions, alternative fuels). Major shipping services such as FedEx and UPS have such policies in place.
- c. *Fuel* – For an internal fleet, opt for biodiesel fuel in vehicles.
- d. *Offsets* – Purchase RECs to offset any necessary shipping and travel.

6. **Giving**

- a. Investment in non-profit organizations focused on sustainability and environmental preservation provides for government representation and education of the worldwide community. Examples include 1% for the Planet and Oceans Blue Foundation.

In Summary

As previously stated, this Policy of Sustainability is by no means an end-all answer to the challenges of an industry that inherently has an enormous environmental impact.

However, interpreting and adapting these guidelines to each situation ensures that we as individual organizations improve our chances of maintaining and preserving for future generations the quality of life we now enjoy.

We welcome any and all input to improve the validity and scope of these guidelines.