Environmental Health and Safety at Invitrogen

Improving the human condition

→ Focusing on health and safety
→ Supporting environmental sustainability
→ Maintaining regulatory compliance
→ Dedicated to product stewardship
As a company involved in improving the human condition, Invitrogen is dedicated to protecting the environment and promoting the health and safety of our employees, customers, and citizens in the communities in which we operate.

Invitrogen’s Quest calls for accelerating the search for improvements in the human condition through innovations in science and technology that expand biological understanding. Our EHS mission aligns with Invitrogen’s Quest by focusing on four building blocks: (1) occupational health and safety, (2) environmental sustainability, (3) regulatory compliance and (4) product stewardship.

Our EHS mission
Our mission is to achieve excellence through sustainable EHS practices. With passion, a sense of urgency, and integrity we focus on four building blocks.

- **Health & safety**: Provide a safe workplace for employees and contractors
- **Environmental sustainability**: Protect the environment where our business has an impact
- **EHS regulatory compliance**: Comply with all applicable EHS laws and regulations
- **Product stewardship**: Develop innovative products that are safer and environmentally sustainable

These building blocks shape our culture globally, better positioning Invitrogen to serve as a responsible steward in the global life science community.
Our EHS policy

To achieve our Mission, Invitrogen has a global EHS policy that applies to all employees and contractors. We are committed to the principles outlined below.

Compliance
- Monitor, prepare for, and respond to EHS regulations globally
- Develop policies and procedures founded on full compliance with all applicable EHS regulations
- Conduct internal audits to ensure compliance with regulatory and internal requirements
- Establish strong relationships with EHS regulatory agencies

Prevention
- Strive to prevent employee and other stakeholder injury or illness
- Promote a culture of active employee participation to eliminate, isolate, or minimize workplace hazards that could affect the welfare of our employees or the environment
- Undertake the prevention of any harmful environmental impact that could result from our operations or products
- Establish and practice effective emergency and contingency plans for every location where we operate

Product lifecycle
- Endeavor to eliminate or minimize the use of hazardous substances or excess materials in our products, packaging, and processes
- Contribute to the provision of products that can be handled and disposed of safely by all our customers globally

Global stewardship
- Promote environmentally sustainable operations and products
- Design, build, and operate our facilities to conserve natural resources and limit our impact on climate change. For us, it means water conservation, energy efficiency, waste minimization, and carbon footprint reduction
- Promptly respond and attend to any community complaints
- Promote business agreements along the supply chain with organizations that incorporate effective EHS programs

Communication
- Communicate EHS achievements and shortcomings to internal and external stakeholders
- Train to disseminate awareness of health and safety issues and their impact on all employees

Continuous improvement
- Use effective systems, metrics, and goals to drive continual improvement of our EHS performance
- Implement an EHS strategy to continuously enhance and expand the EHS footprint along the supply chain

Greg T. Lucier, President and CEO
Cristina Amorim, Senior Director, Global EHS
Our EHS goals

Aligned with our four building blocks in the EHS mission, we established a goal-setting process to continuously improve performance. The process establishes 4-year goal periods and includes monthly progress reports, followed by evaluation of resource allocation to ensure targets are met at the end of the goal period.

Our first 4-year goal period started in 2004 and ends in 2008. At the end of 2008, we will evaluate our progress and set out new performance goals for the next 4-year period.

Our 2004–2008 EHS goals:

**Health & safety**
- Reduce our injury/illness and DART* rates by 25%

**Environmental sustainability**
- Energy efficiency: Reduce energy consumption by 10%, indexed to net sales
- Climate change: Reduce CO₂ emissions by 10%, indexed to net sales
- Water conservation: Reduce water consumption by 10%, indexed to net sales
- Waste minimization: Reduce waste disposal by 10%, indexed to net sales

**EHS regulatory compliance**
- Zero Notices of Violation

**Product stewardship**
- Complete 100% of new product assessments for MSDS, label content, and shipping information

* DART (days away + restricted time cases)
Invitrogen is committed to promote the health and safety of our employees, our customers, and the citizens in our communities. We use U.S. Occupational Safety and Health Administration (OSHA) guidelines to report all work-related injuries and illnesses globally. We express this as a rate, based on 100 employees working 2,000 hours annually.

We measure health and safety performance against two metrics: (1) OSHA recordable injury and illness rates and the (2) days away and restricted time (DART) rate.

Our goal is to reduce the recordable injury/illness and DART rates by 25% for 2004–2008.

During the period 2004–2007, our injury and illness and DART rates decreased by 16% and 32% respectively. As of the end of 2007, we are maintaining the lowest, injury and illness rate since 2002, and we expect to meet our target set for 2008.

This improved performance is a result of active incident reporting and investigation, as well as root-cause analysis. As our safety culture matures, we have realized increased levels of employee accountability and ownership to safety, which will result in further improvements.

Unfortunately, in 2006, the injury & illness and DART rates were 25% and 20% higher, respectively, than the previous year. This increase was largely attributed to repetitive strain problems and manual handling issues. We continue to implement health and safety programs to reduce these types of injuries.

As we complete our 20th anniversary this year, we are proud to have zero work-related fatalities since Invitrogen was established.

Asia Pacific region achieved 1 million hours worked without a lost-time case in November 2004
Carlsbad achieved 2 million hours worked without a lost-time case in October 2005
Madison achieved 2 million hours worked without a lost-time case in October 2006
Eugene achieved 1 million hours worked without a lost-time case in September 2007
Sustainability is an ongoing process to adapt how we operate to reduce our environmental footprint. Climate change, resource conservation, and waste reduction are key elements of our environmental agenda. While our sustainability process is in its early stages, we are making significant progress towards our goals.

Energy efficiency
Energy use is the most critical aspect of our environmental impact. In 2004, we issued a Global Energy Conservation Policy to improve our global energy efficiency. We report our energy consumption in gigajoules, indexed by million of dollars in net sales. We also expect to reduce the energy costs at our manufacturing facilities, which has a direct impact on operating costs.

Our goal is to reduce our energy consumption by 20% (indexed to net sales) for 2004–2008.

With the implementation of a number of energy-savings initiatives, we have reduced our energy consumption by 35% per unit of sale during 2004–2007. We are well underway to surpass our 2008 goal.

Cogeneration in Norway transforms waste into energy—every year, 840 tons of flammable hazardous waste are burned, generating heat energy to keep offices warm. The practice reduces energy use and prevents waste from causing potential environmental degradation.
More than 80% of our CO₂ emissions result from our energy use. Therefore, our progress towards energy efficiency correlates directly with our reductions in CO₂ emissions. During 2004-2007, we decreased our CO₂ emissions per unit of sales by 20%. We are well positioned to meet our target set for 2008.
Environmental sustainability

Water conservation

All of our products use water, whether mixing or diluting active ingredients or cleaning and washing equipment used in the manufacturing process. We constantly evaluate ways to reduce water usage in our manufacturing processes and reuse water to the maximum extent possible.

Our goal is to reduce our water consumption by 10% (indexed to net sales) for 2004–2008.

Over half of our total water usage is in our Cell Culture Division, with manufacturing sites in Grand Island, New York; Inchinnan, United Kingdom; as well as Auckland, New Zealand; and Christchurch, New Zealand. By applying Lean Six-Sigma tools, we have reduced water usage at these sites, which contributed to a 12% decline in total water consumed during the 2004-2007 period, indexed by net sales. We continue to monitor manufacturing processes at these locations to identify further water conservation opportunities.

- In 2006, our Inchinnan, United Kingdom site implemented a project that, by fixing faulty equipment and implementing smart processess, saves 13,870 cubic meters of water per year.
- The Auckland, New Zealand site reduced its annual water usage from 46,800 cubic meters between 2002 and 2004 to 31,351 cubic meters in 2007.
Environmental sustainability

Waste minimization

We strive to minimize the hazardous and nonhazardous waste generated at our operating sites. Hazardous waste includes hazardous chemical, biohazard, and radioactive waste and any expired or rejected hazardous products.

*Our goal is to reduce waste disposal by 10% (indexed to net sales) for 2004-2008.*

Our hazardous waste generation per unit of sales increased by 27% from 2004 to 2005. This is due to the acquisition of more chemical-intensive business that added hazardous waste to our portfolio. Since 2005, we have been consistently decreasing the generation of hazardous waste per unit of sale and we expect to meet our 2008 target.

During the period of 2004-2007, we reduced the generation of nonhazardous waste per unit of sales by 17%. Our waste reduction and recycling initiatives have kept many tons of waste from going to landfills.

Going greener and cheaper

→ In 2006, our Eugene site substituted sodium azide with sodium hypochlorite in its latex dialysis process. Sodium hypochlorite is an approved substance that can be safely released into city wastewater. Eliminating more than 5,200 gallons of sodium azide waste saved the company almost $30,000 in waste disposal costs in one year.

→ In 2004, the Inchinnan site worked on an initiative that prevented 170 tons/year of bottled liquid waste from being disposed in landfills. The liquid is now removed from the product in a bottle crusher sent for off-site treatment.

→ The recycling program at Inchinnan has also diverted 40 tons/year of cardboard and office paper from landfills.

→ In Carlsbad in 2007, more than 26 tons of electrical equipment waste have been recycled, preventing it from getting to the landfills.
We are committed to comply with all applicable laws and regulations wherever we operate. Requirements for monitoring and complying with regulations as well as permit management are spelled out in the Compliance Phase I section of our Global EHS Achievement Program (see page 12). We audit our sites regularly to ensure that permit discharge limits and reporting requirements are met.

We measure our regulatory compliance by tracking Notices of Violation (NOVs), which are written notices from a regulatory agency identifying non-compliance.

**Our goal is to have ZERO Notices of Violation for 2004-2008.**

We had no NOVs in 2004 and 2006. However, despite our efforts, we received an NOV from OSHA at our site in Eugene in 2005. In 2007, we received 3 NOVs from the San Diego County Department of Environmental Health at our site in Carlsbad and 2 NOVs from the U.S. Federal Aviation Administration at our site in Eugene. We have diligently implemented corrective actions to prevent these non-compliance from reoccurring.
Product stewardship

Our product safety team plays a vital role in product stewardship through active involvement with new product introductions, product lifecycle management, and new acquisitions.

We support global operations and our customers by assessing our product formulations and generating Material Safety Data Sheets (MSDS), labeling content and directives for international and domestic transport of hazardous materials.

Our goal is to complete 100% of new product assessments for MSDS, label content, and shipping information for 2004–2008.

Since 2004, we have made a number of infrastructure improvements that enable us to timely complete assessments of new products in a timely manner. With the implementation of The Wercs®, an MSDS authoring platform, and Agile PLM, a product lifecycle management tool, we are equipped to meet our goal.

Through collaboration with R&D, manufacturing, marketing, and EHS departments, Invitrogen is working to drive innovation around the design and development of more ecologically sensitive product offerings. These products are designed to reduce or eliminate the use or generation of hazardous materials and excessive packaging. For instance, SYBR® Safe and Simply Blue™ Safe Stain were designed to offer more ecologically sensitive alternatives to other commonly used laboratory reagents.

We are in the process of defining how we will measure the progress of our ecologically sensitive product offering. More information on the growing and exciting area of environmental stewardship will be available in the future.
EHS management systems

At Invitrogen, the EHS organization uses a comprehensive, umbrella type approach to manage EHS functions along the supply chain, from suppliers, through manufacturing, R&D, and distribution sites, to our customers.

The umbrella approach consists of the Global EHS Achievement Program and the Global EHS Audit Program. Both programs are applied with the same level of rigor to all of our sites and stakeholders globally; whether a site or stakeholder is in Europe, the Asia-Pacific region, or the United States; they are held to the same standard.

The Global EHS Achievement Program consists of internal requirements divided into three evolving levels: compliance, prevention, and leadership.
The Global EHS Audit Program measures EHS performance at all our sites against our internal requirements as set out in the three levels of the Achievement Program, as well as additional local EHS regulatory requirements applicable to the site.

The scope of the audits is based on the achievement level of the site, location, and major EHS risks there. All manufacturing, R&D, and distribution locations are audited against the three levels of achievement: compliance, prevention, and leadership.

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<th>Location</th>
<th>Compliance-Level I</th>
<th>Prevention-Level II</th>
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EHS Organization

The invitrogen Global EHS organization is structured to deliver on our global EHS mission. The global organization consists of groups acting at a global level and regional teams acting at a site level. Our allocation of resources to functional and regional teams provides the most efficient support to our internal and external customers.

While the Global EHS Regulatory Compliance function is responsible for EHS auditors at other sites. This format ensures best practices are shared among sites, provides career development opportunities to our global EHS team, and preserves the independent nature of the audit function. Our current global EHS contact list is on the next page.

Global EHS training

We believe there is a direct correlation between EHS training and EHS performance. To that end, we have commitment from leaders across Invitrogen to raise employee awareness of EHS matters and to improve their skills.

We operate under a global EHS training plan applicable to all sites. All sites are expected to follow the same calendar of training topics. A global training schedule is efficient for two main reasons: sites can share the training materials for any given month and employees can attend a required training session at other locations via remote connections.

The EHS department delivers training using a number of methods: classrooms, safety carts, web based, videos, Microsoft® LiveMeeting, and posters.