



Environmental **Newsletter**

Prepared by WG Environment

ENL 24/12

Environmental Awards 2010

1- Summary

EIGA Working Group WG-5 has produced this newsletter to share with EIGA members the learning and best practices highlighted in the nominations received for the EIGA Environmental Award. In 2010 EIGA received fourteen 14 nominations for the award that covered a range of best practices.

2- Introduction

The EIGA Environmental Award was established in 2008 to recognise Environmental Excellence amongst EIGA members. Recognition for an EIGA award for member companies can be for sites, teams, or individuals. The program also enables EIGA to identify and share best practices as well as promote environmental awareness and improvements within companies and across the industry.

The EIGA environmental award aims to promote best environmental practice in EIGA member companies as well offer the opportunity to spread good practice, motivate and recognise employees involved in the Industrial Gas industry. The award is open to all EIGA member companies.

All applications for the Award submitted to EIGA are categorised according to a number of areas that offer benefits to the environment and to EIGA member company operations.

The categories are:

- Projects that focus on pollution prevention e.g. recycling, reuse, reclamation of waste materials.
- Initiatives focused on product stewardship e.g. designing products so that their environmental impact is minimised.
- Activities that conserve resources e.g. efficiency improvements for process to reduce energy and water use.
- Projects that work with local community aimed to work with and improve the local community.
- Developing and innovating new solutions to environmental issues that demonstrate the industry's environmental leadership.

Each application is assessed against a set of criteria that focus on:

- Initiatives that aim to go beyond regulatory compliance.
- Achieving long term effectiveness for the project.
- Ensuring that the project provides significant and measureable environmental benefit.
- Bringing environmental benefits to the local community where the project is initiated.
- Employee involvement and participation in the project.
- Providing environmental benefits to the gases industry.

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- Creating an innovative solution to an environmental issue.

Further details are in Doc. 903, EIGA Safety and Environmental Award Scheme.

3- Selection of best practice initiatives from EIGA members

During 2010 EIGA received applications from a range of environmental projects that merit recognition for improving the environment, involving employees and minimising environmental impacts. The following is a selection of these projects that were judged to have met the criteria and should be seen as best practice in the Industrial Gas industry.

Innovative remediation technology of groundwater and soil contaminated with Chromium VI

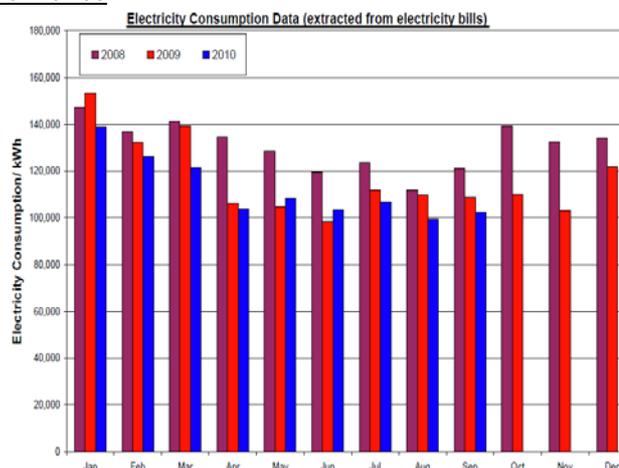
Remediating the contamination of groundwater and soil by hexavalent chromium (Cr VI) is an important problem in the industrial world. This arose as the result of historical industrial production practices that used for metal treatment chromium, which may have been released via leaking plant and equipment into the ground resulting in the contamination of soils and groundwater. There are many known technologies for remediating such pollution that are often characterised by high costs and high environmental impact.



One EIGA member company has developed a new patented technology for “in-situ” (on site) decontamination of chromium contaminated soil and groundwater. The process is based on the injection of a reducing gas mixture, by means of special perforations, into the ground, directly into groundwater and into unsaturated soil. In comparison with conventional remediation methods, this new in-situ technology has been recognised as BAT (Best Available Technology) because it better fits most of the EU legislative requirements than other available remediation methods.

Employee involvement to improve environmental performance

One member company’s cylinder operations site had found that it was struggling to maintain its environmental performance and externally verified management system. It decided to remedy this and start improvement by setting up a site employee involvement team that implemented a continuous environmental improvement plan. This work resulted in the site being externally recognised for its innovative environmental leadership, through sharing its experiences with local businesses, and the site achieved compliance and significant performance improvements through employee Involvement. The work on site also reduced electricity consumption and green house gas emissions.



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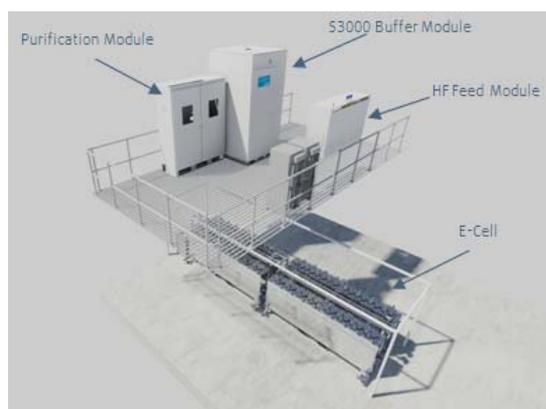
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Technology to reduce greenhouse gas impact used in the manufacture of Solar cells

In the production of silicon based Photo-voltaic film solar cells, Nitrogen Trifluoride (NF₃) is the most common chamber cleaning gas used in the manufacturing process. NF₃ is an acknowledged greenhouse gas with a global warming potential of 17,200. One member company has developed technology that provides a replacement gas (fluorine) for this manufacturing process. Such a replacement typically results in a prevention of NF₃ release to the atmosphere which can equate to a saving of almost 70.000 tonnes CO₂ equivalent to the atmosphere.



Reduction of atmospheric pollutant emissions, water consumption and waste-water volumes through the modernization of Compressed Gas Cylinder Test Shop

One member company set up a project to modernise a compressed gas cylinder certification station which resulted in significant operational and environmental improvements e.g. water consumption was reduced by approx. 2000 m³/year, a 72% improvement. The principal part of the project was to substitute the process of manual cylinder painting using phthalate paints with an automatic painting system using powder paints and water-based paints. The use of powder and water-based paints enables a considerable reduction of VOC emissions to the environment. The application of the modern techniques of cylinder surface preparation for painting and the powder painting technology also increases the durability of the paint coating. As a result the periodical repainting of cylinders between certification inspections will no longer be necessary, which reduced the environmental emissions by as much as 83%.



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4- Actions

EIGA member companies should continue to encourage their employees and site teams to initiate environmental improvement projects since they have the potential to benefit the business, the environment and also promote the good environmental stewardship of member companies in the communities where they operate.

A list of operational management best practices can be found in EIGA Doc.88.

Comments

EIGA WG-5 members welcome any feedback on this and other publications.

If you need any more information, or if you would like to make any comments please contact your WG-5 representative, the WG-5 Chairman or the EIGA office.

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