



In the effort to preserve and maintain the fragile ecology of our planet, these recently selected abstracts are represented to help readers of the *Journal of Materials Engineering and Performance* stay current on legislation and compliance with global environment issues and regulations. They are reprinted from Metals Abstracts and Materials Business File with permission from Materials Information, a service of Cambridge Scientific Abstracts, Bethesda, Maryland, USA

The Greening of South African Industry. Environmental pollution control in South Africa has tightened up recently, and companies such as Iscor, and gold mine Grootvlei have both fallen foul of the country's environmental lobby. Development of Iscor's mini-mill at Saldanha Bay was delayed by nearly a year because of possible pollution of nearby Langebaan lagoon. Grootvlei faces possible closure if it does not purify water from its mine workings being pumped into the Blesbokspruit wetlands. Big business is getting the message, however. Alusaf's Hillside aluminum smelter and Anglo American Corp.'s Namakwa Sand titanium smelter have voluntarily embodied high pollution control technology. The motive is to prevent overseas competitors complaining that South African prices are unfairly cheaper because of inferior pollution controls.

Cited: *Met. Bull. Mon.*, Vol 302, Feb 1996, p 75 [in English]. ISSN 0373-4064. PHOTOCOPY ORDER NUMBER: 199606-S4-0038.

Application of Integrated Pollution Control to Steelmaking Operations. Integrated pollution control (IPC), introduced into U.K. legislation in the Environmental Pollution Act (EPA) 1990, has been applied progressively to groups of industrial processes, and the metals industry is scheduled to come within its control during 1995. Since the first group of processes became subject to IPC in April 1991, there have been significant changes in its application, and further modifications are likely as a result of initiatives within the United Kingdom and the European Union. This paper analyses the progress of IPC, and assesses the implications of these developments on its application to ironmaking and steelmaking.

D. Pocklington. Cited: *Ironmaking Steelmaking*, Vol 22 (No. 2), 1995, p 105-110 [in English]. ISSN 0301-9233. PHOTOCOPY ORDER NUMBER: 199606-S4-0034.

Toronto Delays Vote on PVC Pipe Ban. Toronto City Council (Toronto, Ontario, Canada) on 2 April 1996 deferred vote on a proposed PVC pipe ban until 29 April because of a work backlog. Toronto's city services committee unanimously opposed the proposal at a 25 March meeting with the city's Board of Health, but City Council will make a final ruling. The city's health board has recommended a ban on PVC pipe in the city's water and sewage systems.

Cited: *Plast. News (Detroit)*, Vol 8 (No. 6), 8 April 1996, p 3 [in English]. ISSN 1042-802X. PHOTOCOPY ORDER NUMBER: 199606-P4-0028.

EPA Drafts New Air Emission Rules. New air emission standards for primary aluminum production have been drafted by the U.S. Environmental Protection Agency and are expected to be in place by late 1997. According to an EPA official, the new rules set standards for emission of fluoride and polycyclic organic matter from reduction potliners and anode bake furnaces at primary aluminum smelters. The rules are part of the EPA's Maximum Achievable Control Technology process, which is governed by the Clean Air Act and covers a wide range of industries.

N. Kertes. Cited: *Am. Met. Mark.*, Vol 104 (No. 72), 12 April 1996, p 2 [in English]. ISSN 0002-9998. PHOTOCOPY ORDER NUMBER: 199606-G4-0047.

[U.S.] Federal Lawsuit Alleges \$600M in Mine Damage. The Justice Department has filed a lawsuit against several mining companies for allegedly causing an estimated \$600 million of environmental damage to the Coeur d'Alene River Basin in northern Idaho. The lawsuit, filed in U.S. District Court in Boise Friday, 22 March 1996, targets Asarco Inc. and its subsidiaries, Government Gulch Mining Co. Inc. and Federal Mining & Smelting Inc.; Hecla Mining Co. Inc.; Sunshine Mining Co. Inc. and its subsidiary, Sunshine Precious Metals Inc.; and Coeur d'Alene Mines Corp. and its subsidiary, Callahan Mining Corp. The suit seeks hundreds of

millions of dollars in damages for 72 million tons of mine and mill tailings that the Justice Department said were discharged by the companies into the Coeur d'Alene River and its tributaries.

N. Kertes. Cited: *Am. Met. Mark.*, Vol 104 (No. 60), 26 March 1996, p 1 [in English]. ISSN 0002-9998. PHOTOCOPY ORDER NUMBER: 199606-G4-0041.

Construction Design and Management Regulations 1994—What They Mean for the Foundry. The Construction (Design and Management) Regulations 1994 (or CDM) came into force on 31 March 1994 in the United Kingdom. The principal aim of the Regulations was to address perceived problem areas in the mainstream construction industry: the effective management of health and safety and the proper design of structures to take into account risks encountered in their construction, maintenance, and demolition. Like so many pieces of new legislation, the Regulations were framed in far-reaching terms and not only the mainstream construction industry has been brought within their legal meaning, but also many other work activities, foundries being no exception. This article attempts to provide some simple clarification and to stimulate some thoughts on the matter as it affects your foundry operation.

Cited: *Foundryman*, Vol 89 (No. 3), March 1996, p 87, 89-90 [in English]. ISSN 0953-6035. PHOTOCOPY ORDER NUMBER: 199606-G4-0040.

Styrene Industry Beats OSHA to Punch. A top U.S. federal regulator has accepted a voluntary industry plan to limit workplace exposure to the monomer styrene to 50 ppm. In turn, in July 1997, the Occupational Safety and Health Administration will begin enforcement at that level for an 8 h, time-weighted average. Five styrene industry groups have about 16 months to make training and education available to those coming in contact with the monomer while using unsaturated polyester resins. "We went to OSHA, prior to rule making, with data on styrene and styrene emissions," said Stephen McNally, director of government affairs for the Composites Fabricators Association, based in Arlington, Virginia. "This plan will have a tremendous [positive] impact on industry."

R. Renstrom. Cited: *Plast. News (Detroit)*, Vol 8 (No. 2), 11 March 1996, p 13 [in English]. ISSN 1042-802X. PHOTOCOPY ORDER NUMBER: 199606-D4-0010.

Common Sense and the [U.S.] EPA. Joint efforts among steelmakers, regulators, and environmentalists are resulting in cooperative pollution abatement programs called the Common Sense Initiative and the 33/50 Program. The CSI shifts regulatory focus from concentrating on individual toxic chemicals and media to industry wide approaches to environmental problems. Iron and steel subcommittee members of the CSI are identified. The 33/50 Program was a voluntary EPA program that ended in 1995 with the goal of reducing emissions of 17 chemicals by 33% by the end of 1992 and by 50% by the end of 1995. Company performance within these goals are described.

J. Schriefer. Cited: U.S. Environmental Protection Agency. *New Steel*, Vol 12 (No. 2), Feb 1996, p 48-52 [in English]. ISSN 0897-4365. PHOTOCOPY ORDER NUMBER: 199605-S4-0031.

Environmental Groups Sue New Jersey Steel. New Jersey Steel Corp., Sayreville, New Jersey, faces a lawsuit filed Wednesday, 6 March 1996, in U.S. District Court that contends the mill is in violation of the Clean Air Act. The company initially was notified in a 21 Dec letter that the Natural Resources Defense Council of New York and the Public Interest Research Group of New Jersey intended to sue, alleging that air emissions from the company's electric arc furnace violated certain sections of the

federal law. The suit accuses New Jersey Steel of discharging excessive levels of air pollutants from its Sayreville mill.

C.C. Petry. Cited: *New Jersey Steel. Am. Met. Mark.*, Vol 104 (No. 48), 8 March 1996, p 2 [in English]. ISSN 0002-9998. PHOTOCOPY ORDER NUMBER: 199605-S4-0028.

Quick Action Saves Polyester Resin Molders Pounds Sterling 10,000. An apparent anomaly in new U.K. pollution regulations, which would have cost reinforced plastics companies at least pounds sterling 10,000 each, has been corrected following representations by the British Plastics Federation (London). Earlier amendments to the 1991 Statutory Instrument of the U.K. Inspectorate of Pollution Control had added copolymerization of styrene to the list of prescribed processes, thus including processors of polyester resins. A new amendment (Section 4.1 and 4.2 of SI 1991 472), however, transfers processing of unsaturated polyester resins from Part A of the regulations to Part B, greatly reducing the cost of compliance.

Cited: *High Perform. Plast.*, Vol 2, Feb 1996, p 7 [in English]. ISSN 0264-7753. PHOTOCOPY ORDER NUMBER: 199605-D4-0009.

Open-Process Molding and Clean Air—A Success Story. Environmental pressures are stimulating new technologies that improve process efficiency and working conditions while they clear the air. Rule 1162—Polyester Resin Operations (PRO)—from Southern California's South Coast Air Quality Management District (SCAQMD)—is the first effort in the United States to control pollutant emissions from this specific source and has started a nationwide trend. Rule 1162 relies on materials modification and other source-reduction technologies rather than add-on emission controls. Improved material, process, and equipment technology for open-process fabricators generated by Rule 1162 and other often burdensome environmental pressures are described.

D.K. Dawson. Cited: *Compos. Technol.*, Vol 1 (No. 2), July-Aug 1995, p 14-18 [in English]. PHOTOCOPY ORDER NUMBER: 199605-D4-0008.

Ohio Mulls Tax Credit for Steel Plant Site Cleanup. Some Ohio politicians hope pending state environmental legislation will attract investors to abandoned steel plant sites, some of which have been idle for more than a decade. Ohio House Bill 441, which was passed unanimously by the House in February 1996, would provide a tax credit of up to \$750,000 to companies that voluntarily clean up and redevelop idle industrial locations known as brownfield sites that are located in areas of high unemployment. The bill was designed to finish the work begun in 1994 under Ohio Senate Bill 221, which eased environmental standards and provided covenants by the Ohio Environmental Protection Agency that it would not sue, thereby freeing redevelopers and owners to rehabilitate the properties without threat of environmental litigation.

A.E. Roggio. Cited: *Am. Met. Mark.*, Vol 104 (No. 40), 27 Feb 1996, p 6 [in English]. ISSN 0002-9998. PHOTOCOPY ORDER NUMBER: 199604-S4-0027.

German Steel and the CO₂ Debate. The threat of a CO₂ tax by the European Union is argued by the German steel industry to be counterproductive in view of voluntary measures being taken. Total CO₂ emissions have fallen from 4 t/t crude steel in 1960 to 1.83 t/t in 1993. In particular, the tax would penalize electric arc furnace production which is 50% more energy efficient than integrated steelmaking.

A. Schafer. Cited: *Steel Times*, Vol 224 (No. 1), Jan 1996, p 26, 28 [in English]. ISSN 0039-095X. PHOTOCOPY ORDER NUMBER: 199604-S4-0026.

Dust Management Clouded by Legal Issues. In 1995, the U.S. Environmental Protection Agency ruled that stabilization and subsequent disposal in conventional landfills is permissible for all electric arc furnace (EAF) dust as long as the stabilized product meets EPA's toxicity characteristic leaching procedure standards. Of course, both steelmakers and EAF dust processors have diverging opinions on the impact of this EPA ruling. The steelmakers welcome the ruling because it allows them to pursue potentially less costly EAF dust management methods. Dust processors utilizing metal recovery processes are disturbed by the ruling because it has the potential of adversely affecting their business. A summary is given of electric arc furnace dust processes.

A.D. Zunkel and R.J. Schmitt. Cited: *Am. Met. Mark.*, Vol 104, (Suppl. Electric Furnace Steel), 14 Feb 1996, p 18A [in English]. ISSN 0002-9998. PHOTOCOPY ORDER NUMBER: 199604-S4-0024.

EF Dust Disposal Eyed: NRC Proposing Less-Expensive Solutions. The U.S. Nuclear Regulatory Commission has issued an opinion which, if adopted, will make it easier and less expensive for steelmakers to dispose of radioactive electric arc furnace dust. Steel mills using electric arc furnaces have long had to deal with the risk of an undetected radiation device accidentally finding its way into the recycled scrap stream and contaminating an entire plant, culminating in a shutdown and expensive decontamination cleanup. Compounding that burden for steelmakers has been the additional regulations imposed by the Nuclear Regulatory Commission limiting the disposal options for baghouse dust, specifically large volumes of material with lower concentrations of cesium-137. Now, it is recommended that electric arc furnace dust containing small quantities of cesium-137 be transferred for disposal as if it were not radioactive.

N.E. Kelly. Cited: *Am. Met. Mark.*, Vol 104 (No. 31), 13 Feb 1996, p 6 [in English]. ISSN 0002-9998. PHOTOCOPY ORDER NUMBER: 199604-S4-0022.

California Law Eliminates "Green Claims" Definitions. State of California, SB 426 took effect on 1 Jan 1996 and eliminated definitions from the State's existing Green Claims Law such as recyclable, biodegradable, and ozone friendly that were the subject of industry litigation. SB 426 establishes new standards and requires marketers to comply with the U.S. Federal Trade Commission's "Guides for the Use of Environmental Marketing Claims," which sets forth more flexible, general standards. The Society of the Plastics Industry feels that this move highlighted the impracticability of state-defined environmental marketing standards.

Cited: *Plast. Eng.*, Vol 52 (No. 1), Jan 1996, p 8 [in English]. ISSN 0091-9578. PHOTOCOPY ORDER NUMBER: 199604-P7-0095.

Huntsman Polypropylene Corporation Receives Facility Wide Permit. On 14 Dec 1995, Huntsman Polypropylene Corp.'s 32-year-old facility in Woodbury, New Jersey, became the third plant in New Jersey to receive a "facility wide" permit from the state's Department of Environmental Protection. The new permit, the first of its kind in the United States, is designed to streamline and make pollution prevention an integral part of the plant permitting process. Now being evaluated by New Jersey, the program focuses on the total amount of pollutants generated by a facility, using a holistic approach. For Huntsman, the single permit will replace 80 different permits for individual process units.

Cited: *Chem. Eng. (NY)*, Vol 103 (No. 1), Jan 1996, p 45, 46, 48 [in English]. ISSN 0009-2460. PHOTOCOPY ORDER NUMBER: 199604-P4-0023.

SOCMA Says Members Want Hazardous Waste Law Reform. The needs of smaller chemical companies are not being met by current laws on hazardous waste treatment, and the Synthetic Organic Chemical Manufacturers Association (SOCMA) has written to U.S. congressional committee chairmen and Vice President Al Gore urging at least limited reform of the Resource Conservation & Recovery Act (RCRA). SOCMA supports a RCRA reform bill now under consideration in the House, H.R. 2036, that would legislatively correct a problem caused by land disposal restrictions. SOCMA also recommends that RCRA be amended to encourage the Environmental Protection Agency to set up a separate program to address site cleanup.

Cited: *Chem. Eng. News*, Vol 74 (No. 1), 1 Jan 1996, p 15 [in English]. ISSN 0009-2347. PHOTOCOPY ORDER NUMBER: 199604-P4-0022.

Brass Fabricators Will Benefit from Lead Faucet Settlement. An environmental settlement being hailed by the Natural Resources Defense Council as "a victory for consumers" has got some brass fabricators cheering as well. That's because some of the companies that signed the agreement, which will significantly reduce the amount of lead leaching from faucets, have said they will switch from sandcasting to fabricated parts, which requires less lead. The settlement stems from a complaint filed by the Natural Resources Defense Council and the Environmental Law Foundation in the California Superior Court in San Francisco, California, in 1992 alleging that more than a dozen of the nation's principal manufacturers of drinking faucets were marketing products containing lead that leached into drinking water in violation of a 0.5 µmg/day limit.

N. Kertes. Cited: *Am. Met. Mark.*, Vol 104 (No. 26), 6 Feb 1996, p 6 [in English]. ISSN 0002-9998. PHOTOCOPY ORDER NUMBER: 199604-G4-0031.

New Rules Tighten Wastewater Limits for Metal Finishers. Two recent initiatives by the U.S. Environmental Protection Agency may soon have a major impact on the wastewater effluent limits that apply to metal

finishers and other industrial operations. The "Great Lakes Initiative" was published as a Final Rule by EPA on 23 March 1995. A second initiative, the "Metal Products and Machinery Guideline," was published as a Proposed Rule on 30 May 1995 and is currently in its 90-day public comment period. Key points of each initiative are discussed.

Cited: *Anoplate News*, Vol 1, Fall 1995, p 3 [in English]. PHOTOCOPY ORDER NUMBER: 199604-G4-0025.

Epoxy Manufacturers Face New Air Pollution Regulations. A Clean Air Act regulation in the United States promulgated on 8 March 1995 mandates new pollution control measures for companies that produce

epoxy from its constituents. Epoxy manufacturers that have the potential to emit 10 tons/year of any single hazardous air pollutant or 25 tons/year of combined HAPs must comply with maximum achievable control technology (MACT) standards, which are determined based on the technologies used by the best controlled sources in a category. For resin manufacturers these include emission limits and a work practice standard.

Cited: *High-Perform. Compos.*, Vol 3 (No. 3), May-June 1995, p 13-14 [in English]. ISSN 1081-9223. PHOTOCOPY ORDER NUMBER: 199604-D4-0005.

Photocopies of complete articles are available from the MI Document Delivery Service at ASM; please call 216/338-5151 ext. 450 for order and price information.

Furthermore...

Roy F. Weston Inc., an environmental consulting firm, has added two sections to its web site: *Pollution Prevention and Environmental Etcetera* join the previously posted Sustainable Development section. The former section includes discussions of strategies to help managers achieve environmental quality goals. The latter section contains an expanding file on various topics, including defensible laboratory data, trenchless technology, and safety. Links to other sites are also included. For information, contact: Roy F. Weston Inc., 1 Weston Way, West Chester, PA 19380-1499; tel: 610/701-3680; fax: 610/701-3124; web: <http://www.rfweston.com>.

The Association for Finishing Processes of the Society of Manufacturing Engineers offers the *Environmental Compliance Information Guidebook for the Finishing Industry*; the *Waterborne Coating Problem-Solving Guide*; and the *Plastic Painting-Solving Guide*. The first is a directory of information sources on environmental trends. The last two slide guides solve waterborne coating/plastic painting problems. To order, contact: SME, 1 SME Dr., P.O. Box 930, Dearborn, MI 48121-0930; tel: 1/800-733-4763; fax: 313/271-2861.

Beco *wastewater treatment process* from **Baler Equipment Co.** converts metal industry wastewater and heavy metals, inks, glues, and oils from hazardous to nonhazardous material. Applicable metals include copper, lead, zinc, cadmium, iron, mercury, nickel, and silver. For information, contact: Baler, P.O. Box 25150, Portland, OR 97225; tel: 1/800/426-1723.

The **Institute of Scrap Recycling** has expressed support for a proposal by the Environmental Protection Agency to amend its definition of solid waste to exclude "commodity-like" materials such as scrap metal. The recommendation recognized that scrap metal is not a solid waste but has value and is like an analogous raw material once reclaimed. The organization also suggested that the EPA not distinguish between processed and unprocessed scrap

metal in the exclusion. For more information, contact: ISRI, 1325 G St. N.W., Ste. 1000, Washington, DC 20005-3104; tel: 202/737-1770; fax: 202/626-0900.

According to the **American Society of Mechanical Engineers**, engineers around the world are rising to the challenge to *design products and processes that preserve natural resources and protect the environment* for future generations, including renewable energy, nonpolluting paint, recycling copier machines, and conversion of hazardous materials into glass. For further information, contact: ASME, 345 E. 47th St., New York, NY 10017; tel: 212/705-8158.

The Spring 1996 issue of *Enviro Update*, a two-page newsletter, briefly treats a number of topics: "Hazardous Waste Listing Proposed for Azo Pigment Manufacturing Wastestream," "Printing & Publishing MACT Standard," "Clean Air Act Title V operating Permit Program," "Hazardous Waste Identification Rule," "DOT Says Yes to Fiber Drums (Temporarily)," "USEPA Give a Reprieve for Form R Submissions," "OSHA considers lowering Permissible Exposure Limits," "PERC Not a VOC According to USEPA," and "To Audit or Not To Audit?" For a copy, contact: **Flink Ink Corp.**, 33105 Schoolcraft, Livonia, MI 48150.

Plasma gasification process, from **Integrated Environmental Technologies**, Richland, WA, a *waste conversion technology for treating solid wastes* could provide economic and environmental benefits. This CPG process uses electrically conductive gas, or plasma, to vitrify or heat waste to the point that it becomes molten. The resulting material—a solid glass or metal material—prevents any contaminants from leaking into the environment. Because all solid by-products of waste processing are converted to a glasslike product or a usable metal, the process does not have a secondary disposal problem often associated with ash from incineration. For further information, contact: Battelle, 505 King Ave., Columbus, OH 43201-2693; tel: 614/424-5544; fax: 614/424-3889.