USGS
science for a changing world

Mineral Industry Surveys

For information, contact:
Deborah A. Kramer, Magnesium Commodity Specialist
U.S. Geological Survey
983 National Center
Reston, VA 20192
Telephone: (703) 648-7719, Fax: (703) 648-7975
E-mail: dkramer@usgs.gov

Kelly K. Hermanson (Data)
Telephone: (703) 648-7956
Fax: (703) 648-7975
E-mail: khermanson@usgs.gov

Internet: http://minerals.usgs.gov/minerals

MAGNESIUM IN THE THIRD QUARTER 2007

Exports of magnesium from January through September 2007 were about 5% higher than those in the same period of 2006. Magnesium imports through September 2007 were about 10% less than those in the first three quarters of 2006. Israel (56%) and Russia (21%) were the principal sources of imported magnesium metal, and Canada (61%) was the principal source of imported alloys.

Quoted magnesium prices are shown in the table at the bottom of the page. U.S. quoted magnesium prices continued to rise because of the uncertainty in supply. Although prices increased slightly during the third quarter, most of the increase happened rapidly at the end of the quarter. By the beginning of October, the U.S. spot Western price range had increased to $1.80 to $2.00 per pound. In addition, contract prices for 2008 were reported to have increased further to $2.00 to $2.10 per pound (McDonell, 2007b). By the beginning of November, U.S. Magnesium LLC and Dead Sea Magnesium Ltd. reportedly stopped signing contracts for 2008 because they had no magnesium left to sell (McDonell, 2007a).

U.S. Magnesium announced that it would expand primary magnesium capacity at its Rowley, UT, plant to more than 50,000 metric tons per year (t/yr) from the current level of 43,000 t/yr. Increased output would begin in the fourth quarter and full production levels would be reached by mid-2008. The increased capacity would come from additional electrolytic cells and an upgrade of existing cells (McBeth, 2007b).

In a ruling by a Federal judge, U.S. Magnesium's waste streams from the Utah operation should not be regulated under the Resource Conservation and Recovery Act (RCRA). In 2001, the U.S. Environmental Protection Agency (EPA) contended that the wastes were subject to regulation under RCRA. U.S. Magnesium's position was that Congress exempted its processing waste from that law. The judge's October 15 ruling noted in several places that if the EPA wanted to stop U.S. Magnesium from dumping the controversial wastes in outside ditches, it should have put a stop to the practice in the regulations developed nearly 20 years ago. The ruling did not completely settle the case because the judge did not rule on a part of the EPA's case that deals with polychlorinated biphenyls, which also have been found in the company's waste stream (Fahys, 2007).

In its final results from the antidumping duty administrative review, the U.S. Department of Commerce, International Trade Administration (ITA) determined that for October 4, 2004, through March 31, 2006, the antidumping duty for VSMPO-AVISMA Corp. would be a de minimus duty of 0.41% ad valorem, which was essentially equivalent to a 0% duty. For Solikamsk Magnesium Works, the ITA set a dumping rate of 3.77% ad valorem (U.S. Department of Commerce, International Trade Administration, 2007). Solikamsk, however, did not report any shipments to the United States through July 2007 and did not expect shipments to begin until the second quarter of 2008. Solikamsk cited tight supplies under signed contracts in Russia and other countries as the reason for the lack of U.S. exports (Platts Metals Week, 2007b). In addition, a sinkhole at Berezniki threatened to engulf the rail tracks that are used to move carnallite produced by JSC Silvinit to VSMPO-AVISMA's magnesium-titanium complex, potentially affecting the company's raw material supply. JSC Russian Railways was attempting to construct a 6-kilometer track that bypasses the

	Unit	Beginning of quarter	End of quarter
Metals Week U.S. spot Western	Dollars per pound	$1.64-$1.69	$1.65-$1.75
Metals Week U.S. spot dealer import	do.	1.64-1.69	1.65-1.75
Metals Week European free market	Dollars per metric ton	2,650-2,750	2,800-3,000
Metal Bulletin European free market	do.	2,500-2,600	2,980-3,030
Metal Bulletin China free market	do.	2,600-2,700	2,800-2,850

sinkhole, but it may not be completed in time if the size of the sinkhole increases (Fertilizer Week, 2007). The sinkhole was caused by flooding at Silvinit's Berezniki mine in 2006, and had widened by 30 meters during October 2007.

At the end of October, construction reportedly began on a 70,000-t/yr magnesium production plant in Asbest, Russia. The new plant was expected to process tailings from Uralasbest, the world's leading manufacturer of chrysotile asbestos, estimated to account for about 60% of world supply. The project was set up as a joint venture between Uralasbest and trading company Minmet Financing Co. of Switzerland, former owner of Solikamsk. Completion date for the plant was expected by the end of 2009 or 2010 (Metal-Pages, 2007b). This proposed plant has been under consideration since 2000.

Two magnesium plants in Canada were scheduled to be demolished by yearend. Norsk Hydro ASA planned to dismantle the Becancour, Quebec, magnesium plant because no purchase offer was received for the assets. Xstrata plc also planned to dismantle the Magnola plant in Danville, Quebec, that it acquired in the company's merger with Falconbridge Ltd. The Magnola plant, originally owned by Noranda Inc., had recovered magnesium from asbestos tailings but had not operated since 2003 (McDonell, 2007c; Reuters, 2007).

The London Metal Exchange (LME) was conducting a feasibility study to add magnesium to the products traded on the exchange. The LME's aluminum committee supported the measure, which could include physical delivery of the metal or over-the-counter trading. The study was expected to be completed by yearend, but this would be only the first stage in any decision to add magnesium to the LME (Blamey, 2007).

At the beginning of October, magnesium diecaster Lunt Manufacturing Inc., with plants in Schamburg and Hampshire, IL, sent a note to its creditors that it is seeking assignment for the benefit of its creditors, which, under Illinois law, was the equivalent of seeking bankruptcy protection. Lunt Manufacturing reportedly was dealing with lower sales volumes and increased raw materials costs and was attempting to sell the company's assets. Lunt Manufacturing produced more than 200 different components, primarily for the automotive industry (McBeth, 2007a).

A fire at magnesium scrap recycler Magpro LLC (Camden, TN) on September 10, closed the operation for several days. Minor damage was reported to one building and no one was injured (Platts Metals Week, 2007a).

The EPA added Halaco Engineering Co.'s Oxnard, CA, facility to its Superfund list in September. Halaco primarily recycled aluminum and magnesium at the facility from 1965 through 2004. Within the past year, the EPA and one of the site owners have completed two actions to stabilize the site—the owners removed drums and hazardous chemicals, and the EPA stabilized the waste pile (estimated to be 400,000 cubic yards) at the site to prevent the windborne movement of waste materials and erosion of wastes into the surrounding wetlands. The EPA also removed wastes from an adjacent wetland area and took steps to improve site security (Marley, 2007).

After being designated as a Superfund site in 2006, with a clean up beginning in early 2007, EPA contractors have removed more than 1,650 metric tons (t) of magnesium scrap form Remacor Inc.'s defunct magnesium recycling plant in West Pittsburg, PA. Although the company's processing equipment was destroyed in a fire in August 2005, the company continued to accept magnesium scrap deliveries until June 2006. The EPA has revised its original estimate of 1,720 t of scrap present at the site to nearly 2,270 t (Irwin, 2007).

In China, Guangling Jinghua Magnesium Co. Ltd. announced that it would construct a new primary magnesium plant with a capacity of 20,000 t/yr in Datong, Shanxi Province. Construction of the new plant was expected to begin by yearend and be completed by yearend 2008. The company already operates a 12,500-t/yr plant at the site. According to the company, the new plant was expected to use new technology that would reduce raw material consumption and pollution (Everest Metals Information Consulting (Beijing) Co. Ltd., 2007).

Qinghai Qilian Magnesium announced that it began construction of a 15,000-t/yr magnesium metal plant in late August; however, a completion date was not announced. Qinghai Saide Titanium Co. Ltd. reportedly invested $12 million to fund the plant construction (Metal-Pages, 2007a).

In October, Latrobe Magnesium Ltd. announced that because of recent price increases in magnesium, it would begin a review of the economics of a 5,000- to 10,000-t/yr magnesium plant in the Latrobe Valley, Victoria, Australia, that would recover magnesium from coal fly ash. Latrobe Magnesium planned to assess thermal reduction as an alternative to electrolysis in the review, which was expected to take 3 months to complete. A preliminary study indicated that the capital cost of a thermal reduction plant would be less than 50% of the same size electrolytic plant, but operating costs would be higher. The plant, which was smaller than the plant originally planned, would be sized to meet magnesium consumption in Australia and its nearby trading partners (Latrobe Magnesium Ltd., 2007). A larger plant has been under consideration since 2001.

References Cited

Blamey, Andy, 2007, LME eyes possible magnesium trade, still at early stage: Platts Metals Week, v. 78, no. 39, September 24, p. 16-17.

Everest Metals Information Consulting (Beijing) Co. Ltd., 2007, Expansions under consideration for Guangling Jinghua: China Magnesium Industry & Market Bulletin, no. 16, October 26, p. 5-6.

Fahys, Judy, 2007, USMag wins favorable fed judge ruling, but too early to claim victory: Salt Lake City, UT, Salt Lake Tribune, October 26. (Accessed October 26, 2007, at http://www.sltrib.com/ci_7288544.)

Fertilizer Week, 2007, MOP markets could be headed for a respite; sinkhole affects others: Fertilizer Week, v. 21, no. 29, November 2, p. 1-2.

Irwin, Dan, 2007, EPA cleanup job much bigger than imagined: New Castle, PA, New Castle News, October 9. (Accessed October 10, 2007, at http://www.tribune-democrat.com/statenews/cnhinsall_story_282103645.html.)

Latrobe Magnesium Ltd., 2007, Re—Latrobe Magnesium update: Sydney, New South Wales, Australia, Latrobe Magnesium Ltd. news release, October 22, 1 p.

Marley, Michael, 2007, EPA adds Halaco Engineering smelting site to Superfund list: American Metal Market, v., 115, no. 38-3, September 26, p. 10.

McBeth, Karen, 2007a, Magnesium diecaster Lunt seeks company sale as going concern: Platts Metals Week, v. 78, no. 40, October 1, p. 6-7.

McBeth, Karen, 2007b, US Magnesium to expand Utah plant to over 50,000 mt: Platts Metals Week, v. 78, no. 40, October 1, p. 1, 6.

McDonell, Meghann, 2007a, Magnesium suppliers cease inking '08 deals: American Metal Market, v. 115, no. 45-1, November 12, p. 1, 6.

McDonell, Meghann, 2007b, Magnesium tag breaches $2/lb. on supply fears: American Metal Market, v. 115, no. 40-4, October 11, p. 1-2.

McDonell, Meghann, 2007c, Xstrata set to tear down Magnola plant in Dec.: American Metal Market, v. 115, no. 35-3, September 6, p. 9.

Metal-Pages, 2007a, Qinghai Qilian Magnesium commences construction of Mg smelter: Metal-Pages, September 12. (Accessed November 6, 2007, via http://www.metal-pages.com/.)

Metal-Pages, 2007b, Russia starts building new Mg plant: Metal-Pages, October 31. (Accessed November 6, 2007, via http://www.metal-pages.com/.)
Platts Metals Week, 2007a, MagPro back in operation: Platts Metals Week, v. 78, no. 40, October 1, p. 7.
Platts Metals Week, 2007b, US shipments won't resume yet—SMW: Platts Metals Week, v. 78, no. 36, September 3, p. 2.
Reuters, 2007, Norsk Hydro to dismantle Quebec magnesium plant: Reuters, September 28. (Accessed October 1, 2007, at http://uk.reuters.com/article/oilRpt/idUKN2835967720070928.)
U.S. Department of Commerce, International Trade Administration, 2007, Magnesium metal from the Russian Federation—Final results of antidumping duty administrative review: Federal Register, v. 72, no. 175, September 11, p. 51791-51792.

TABLE 1
U.S. IMPORTS FOR CONSUMPTION AND EXPORTS OF MAGNESIUM[1]

(Metric tons)

		2007				
	2006	January-June	July	August	September	January-September
Imports:						
Metal	31,900	12,100	2,560	2,130	1,580	18,400
Waste and scrap	17,200	9,160	1,650	1,930	2,300	15,000
Alloys (magnesium content)	25,200	11,400	1,350	2,040	1,860	16,600
Sheet, tubing, ribbons, wire, powder, and other (magnesium content)	927	609	99	74	127	909
Total	75,300	33,300	5,650	6,170	5,870	51,000
Exports:						
Metal	4,170	2,330	408	455	328	3,520
Waste and scrap	3,680	549	88	75	108	819
Alloys (gross weight)	2,290	2,970	687	717	839	5,220
Sheet, tubing, ribbons, wire, powder, and other (gross weight)	2,180	580	79	128	67	855
Total	12,300	6,430	1,260	1,380	1,340	10,400

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.