

Precious Commodity

How Ford's Big Batch Of Rare Metal Led To \$1 Billion Write-Off

Finance Chief Says Company
Didn't Take Precautions;
New Science Played Role

Gandhi's Palladium Research

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A1

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DEARBORN, Mich.—Last month, Ford Motor Co. shocked Wall Street with a \$1 billion write-off of the value of its stockpile of precious metals, primarily palladium. Why had the No. 2 car company made a massive bet on a commodity notorious for its price volatility?

All of the big car makers buy precious metals used in exhaust systems to make emissions cleaner. Ford accumulated an unusually large hoard in recent years, anticipating growing need and fearing unpredictable supplies from Russia.

But the car company left the job of acquiring palladium to the same purchasing-department employees who buy its steel and copper, according to Martin Inglis, Ford's chief financial officer. He says the purchasing staff didn't take the sort of precautions sophisticated buyers routinely use to hedge risk in dicey markets. What's more, Ford's own engineering innovations were shrinking its need for palladium, even as the purchasing department was loading up on it at near-record prices.

Credibility Questions

Now, Ford has way too much of the stuff at a time when palladium prices have fallen drastically and seem unlikely to return to their highs. The result was the big write-off, which elicited dismay from some investors and securities-industry analysts. "These surprises over time begin to affect the credibility of the company," says Rod Lache, an analyst at Deutsche Banc Alex. Brown, noting that Ford stunned Wall Street late last year by warning that its once highly profitable finance unit had stumbled because of rising losses on loans.

Last week, an investor filed suit against Ford and its top executives in federal court in Manhattan, alleging they misled investors about the risks from precious metals. Ford denies the allegation.

The controversy comes at a particularly bad time for Ford. Last year, it ran its first annual loss in nearly a decade, putting it under closer financial scrutiny than usual. And in light of the Enron Corp. scandal, any massive corporate write-off is getting extra attention these days. In Ford's case, there isn't any indication so far that the palladium misadventure involved accounting practices similar to those that got Enron in trouble.

Ford officials point out they repeatedly warned in regulatory filings that the company faced risks in commodities markets. Some analysts complain, however, that the notices were written in boilerplate and didn't signal the extent of

Ford's palladium bet. Announced at the same time as a broad restructuring of the company, the write-off's effect on Ford's depressed stock price is difficult to separate out. In New York Stock Exchange composite trading yesterday, Ford shares closed down 59 cents, or 4%, at \$14.04, just three cents above the stock's 52-week low.

Rival auto makers also use palladium to scrub pollutants from exhaust but say they don't have anything like Ford's precious-metal problem lurking on their balance sheets.

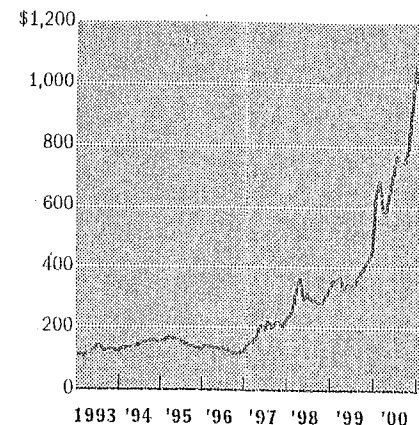
For years, Ford has prided itself on trying to stay ahead of the curve on emissions technology. On the third floor of its modern research building here in Dearborn, Haren Gandhi's corner office is adorned with certificates attesting to the patents he has been granted for advances in the field. A 35-year Ford veteran, Mr. Gandhi joined the auto maker with a corps of other Ph.D. chemical engineers trained in catalyst technology, as Detroit geared up in the late 1960s for the first wave of federal auto-emissions rules. Mr. Gandhi, now 61 years old, has since risen to the rank of technical fellow, Ford's highest post for scientists.

Across the hall from his office, a lab full of equipment quietly tests Ford's latest catalytic converters. These are the usually cylindrical units in exhaust systems—some about the size of a one-liter soda bottle—that cleanse emissions.

For most of the last three decades, progress in this field has relied on increasing
Please Turn to Page A6, Column 1

Volatile Element

Prices of palladium, in dollars per troy ounce



Source: Johnson Matthey

How Ford Lost a Bundle on a Precious-Metal Stockpile

Continued From First Page

ing use of the related precious metals platinum, palladium and rhodium. The metals are dissolved in liquid that is spread thinly over ceramic honeycombs within the catalytic converter and then dries. These rare, naturally occurring elements have a unique ability to stimulate chemical reactions in hot exhaust that convert pollutants into largely harmless compounds.

The metals occur in only a few remote locations. Most of the world's output comes from mines in South Africa and a giant arctic complex in Russia built by Stalin's prisoners in the 1930s and 1940s. Unpredictable supplies, especially from Russia, have periodically caused wild price swings, particularly in recent years.

Big Discovery

Through most of the 1980s, platinum was viewed as the most effective of the metal catalysts. Palladium, which was cheaper, wasn't widely used in the auto industry, and its price hovered below \$100 an ounce. In the late 1980s, however, Mr. Gandhi and his colleagues at Ford discovered that they could lower costs and still meet federal emissions standards by using more palladium in each converter to replace platinum or rhodium.

"Even inside [Ford], people didn't believe that palladium could be put to such good use," the chemist recalls. Vehicle engineers worried the less-expensive grayish metal might somehow be inferior to platinum, he says. But Mr. Gandhi persisted. He wanted to make a real advance in improving the technology and economics of pollution control. "I had an absolutely mad desire to make palladium work," he says.

By the early 1990s, most of Ford's converters relied heavily on palladium. Usually, less than an ounce of the metal is required per vehicle. Other auto makers, including General Motors Corp. and Chrysler Corp., also were discovering the value of palladium, particularly as new, tougher emissions rules came into effect.

From 1992 to 1996, global auto-industry demand for the metal nearly quintupled, to 2.4 million ounces, according to estimates by Johnson Matthey PLC, a British chemicals-and-metals company that is one of the biggest players in the precious-metals business.

Prices rose a bit along with demand in the early 1990s, but auto makers figured the market would continue to remain roughly in balance, according to industry veterans. Russia had massive stockpiles of palladium built up during the Soviet era, when demand had been slight. The cash-strapped government of then-President Boris Yeltsin seemed likely to remain a willing seller.

But in 1997, the Russians shocked the market by holding up palladium shipments. Outsiders could only speculate on what motivated the move: perhaps internal political or bureaucratic wrangling, or maybe a conscious effort to cause a panic—and higher prices. Whatever lay behind it, the disruption resulted by early 1998 in a price surge to the previously unheard-of level of \$350 an ounce.

Alarm bells went off within the big auto makers. Most engineers finalizing plans for how they would meet tighter emissions rules that would take effect in 2000 had been planning to add more palladium to catalytic converters.

Armageddon Speech

David Andres, the man responsible for buying precious metals at General Motors, began giving what he calls "the Armageddon speech" to GM engineers in late 1997. He recalls warning that if they didn't find ways to use less palladium—and fast—there might not be enough of the metal available.

A potential shortage could be critical. Cars can be sold without compact-disc players or power windows. By federal law, they can't be sold without a catalytic converter that works well for 100,000 miles.

GM teams responsible for engines and catalytic converters, which had typically worked separately, cooperated to come up with ways to reduce the need for palladium and still meet the new emissions standards, Mr. Andres says. The redesign process was slow, and GM's palladium usage began to fall just last year.

In the interim, Mr. Andres, a GM veteran who has dealt with the commodities markets since the early 1990s, began to use a range of complex financial and trading strategies to lock in supplies and at least partially insulate the No. 1 auto maker from the effect of soaring prices. These include the use of options, which are contracts allowing the holder to purchase a commodity at a set price in the future, even if the market price has risen higher. GM expects to cut its use of precious metals by 30% a year over the next few years, Mr. Andres says.

(Ford) which by some estimates was the heaviest palladium user in the industry, wasn't as well prepared for the price spike. Churning out millions of gas-guzzling sport-utility vehicles, the company was eager to burnish its reputation as

environmentally concerned. Using the slogan, "Cleaner, Safer, Sooner," Chairman William C. Ford Jr. regularly touted his company's advances in public appearances. But much of the company's progress on emissions came thanks to increased reliance on palladium, including numerous catalytic converters that used the metal exclusively.

Ford was aware of the danger of unpredictable Russian supplies, executives there say. But unlike GM, where the "Armageddon" warning came loud and early, Ford initially hunkered down, hoping the price spikes would pass without requiring a fundamental change in strategy.

The pressure only continued to grow. Palladium prices jumped again in 1999, amid uncertainty about Russian shipments. Anxiety deepened when President Yeltsin resigned in December 1999. By spring 2000, the major metals exchange in Tokyo temporarily froze skyrocketing palladium at \$700 an ounce.

By early 2000, Mr. Gandhi and his team were scrambling for ways to reduce palladium use. They found no quick answer. "We had to develop the chemistry," he says.

Worrisome Developments

Worried by these developments, Ford's top managers in 2000 approved a proposal from the purchasing staff to begin stockpiling palladium and lining up long-term supply contracts, even though prices were near record highs. This was an unusual move for the purchasing department. It bought a lot of steel, copper and other materials whose prices weren't very volatile. But generally, it maintained only modest stockpiles of rare commodities such as palladium and, as a result, didn't regularly use options and other esoteric financial tools used to hedge risk, according to Mr. Inglis, the Ford CFO.

Ford's treasury department regularly used such tools to buffer risks related to

interest rates and currency exchange. But the more financially savvy treasury-department employees as a rule didn't work closely with the purchasing staff.

The upshot, says Mr. Inglis, was that the company focused only on building up supplies. "What people were doing was protecting against a lack of material that would put us out of production," he says. "The purchasing department wasn't taking steps to protect Ford if need for the commodity dropped and prices began to fall," Mr. Inglis says.

'Much More Dialogue'

The purchasing staff also appears not to have consulted closely enough with Mr. Gandhi and the research staff to forecast palladium needs. In the future, there should be "much more dialogue on any out-of-the-ordinary positions that we take on any materials," Mr. Inglis says. Ford declined to make purchasing officials available for comment.

Mr. Inglis declines to say just how much palladium Ford bought. He will acknowledge only that it was much more than a few months' supply. The company used about 1.5 million ounces of the metal in North America in 2000, he says. That was about half of all the palladium used in the auto-catalyst market in North America that year, Johnson Matthey estimates. As Ford kept buying early last year, continued anxiety about Russian supplies pushed prices to a record of \$1,094 an ounce in January.

Mr. Gandhi and his team, meanwhile, were racing to come up with ways to reduce Ford's reliance on palladium. A venture begun in 1996 between Ford and research institutes in China yielded new insight into how chemicals known as rare-earth elements can make the precious metals in catalytic converters remain effective longer. Other advances included the invention of better techniques for spreading precious metals on the

parts of the converter where they were most needed.

By late last year, Mr. Gandhi says, he and his colleagues had amassed definitive, striking results: Improved converters would allow Ford to cut its use of precious metals in half across its entire North American lineup of cars and trucks, starting with the 2003 models that go into production this summer.

But what about all of the palladium Ford had been scooping up? Not only was the company now overstocked in an exotic commodity it had much less need for, but demand generally began to fall last year while supplies stabilized. In other words, the value of a stockpile of palladium was about to take a nosedive.

Demand was falling in part because other auto makers had also succeeded in capping or reducing their use of palladium. Demand from the electronics industry, which also consumes a lot of palladium for use in capacitors, had diminished with the overall weakening of the world economy.

On the supply side, high prices had spurred mine operators in South Africa to increase palladium production. And the unpredictable Russian supply began to stabilize.

Prices Fall

After reaching their peak above \$1,000 in January 2001, palladium prices fell steadily through the summer to their lowest levels since 1999—about \$350. Ford executives realized by last fall that their fears about availability had proved to be overblown. "You've got a free supply situation now," says Mr. Inglis. "In retrospect, did we have too much [palladium]? Yes."

Market analysts estimate Ford could hold more than two million ounces of palladium, either warehoused in physical form or in long-term supply contracts. The \$1 billion write-off came as Ford marked

141
down the value of its excess holdings to the market price at the end of the year, which was \$440.

Mr. Inglis declines to comment on what Ford plans to do with these holdings, although palladium traders say they are watching closely for any sign of the cash-strapped company unloading its stockpile. Such a move could drive down prices further.

Ford has instituted new procedures to ensure that treasury-department staffers with experience in hedging are involved in any major commodities purchases in the future, Mr. Inglis says.

The company is also trying to allay investor concerns that its balance sheet conceals other billion-dollar surprises. The palladium holding "is by far and away the largest thing we've got out there," and now it has been accounted

for, Mr. Inglis says.

He says that as a result of writing down the excess palladium holdings, the average cost of the metal Ford uses in each vehicle will, on paper, be lower. This economy—which Ford expects to amount to \$300 million to \$400 million this year—will appear in Ford's financial statements. But it doesn't represent an actual cost reduction, Mr. Inglis says. He explains that Ford wants to make this known because, "we're now doing double somersaults not to mislead anybody on anything."

Mr. Gandhi, for his part, is testing the latest converters and trying to use as little palladium as possible. "We are going to work like mad to keep the amount of precious metal from rising," he says.

—Peter A. McKay
contributed to this article.