MICRO WAVE NEWS

A Report on Non-Ionizing Radiation

Motorola Leaves The Building

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Call it the end of an era. Motorola, which has by any measure been the dominant force in the RF health arena for more than 15 years, is stepping back from the fray. The field will never be quite the same again.

On Friday, February 13, Motorola will close down its RF research lab in Plantation, FL. C.K. Chou, Mark Douglas, Joe Elder, Joe Morrissey and their support staff have all lost their jobs. A few days later, Ken Joyner, another key player on RF regulatory affairs based in Australia, will leave Motorola after 12 years with the company.

"I don't know who will fill the gap," Morrissey told *Microwave News.*

The layoffs in the RF group are part of a major restructuring at Motorola in response to plunging sales of its cell phones. In January, Motorola announced that it would cut an additional 4,000 jobs —3,000 from its handset unit— after axing 3,000 jobs late last year. Last week's financial headlines tell the story: "Dark Days at Motorola" (*Forbes* on Tuesday); "Motorola: Becoming a 'Peripheral Player'" (*Businessweek* on Wednesday).

Motorola's management must have decided that the company could no longer afford to lead on RF radiation safety, which it has done since 1993, when cell phones were first accused of causing brain tumors. After David Reynard made his claim in court and on the *Larry King Show,* the company got involved on all fronts: Motorola determined what health studies needed to be done and then sponsored them in the U.S. and Europe. In the process, it also specified how they should be done and by whom. Motorola's staff and allies served on editorial boards of journals, which judged what research was good enough to be published.

Motorola also ran standards committees which translate research results into allowable exposure limits. Mays Swicord, who left the FDA to become Motorola's head of biological research in 1995, even took over as the editor of the Bioelectromagnetics Society (BEMS) Newsletter, allowing him to decide what news and opinions

would be presented to the research community. Simply put, Motorola ran the RF show. (For examples on how the game was played, see our 2004 report, "Industry Rules RF.") Here's a snapshot from our coverage of the BEMS annual conference in Long Beach, CA, in 1999 when Motorola's influence was at its peak (see *MWN,* J/A99, p.5):

> Motorola was everywhere. Motorola scientists, engineers, consultants and administrators came to Long Beach from three continents. To keep order, the company sent a lawyer and a PR man. In all, there were about a dozen Motorola staffers at BEMS, not counting those actually doing Motorola-funded research.

To its credit, Motorola did fund a broad-based RF research effort in the 1990s, when CTIA, the cell phone trade group, and its main man George Carlo, reneged on a commitment to sponsor $25 million worth of health studies. But its initiative came at a price: Motorola micromanaged the research, which prompted charges that it was less interested in doing science than buying results that would show cell phones are safe. For instance, when Ross Adey, in a large animal study paid for by Motorola, found that cell phone radiation could *inhibit* brain tumors, Motorola forbade him to speculate about a protective effect. Motorola insisted that the radiation could not have any effects, good or bad, and would not allow one of its contractors to say otherwise (see *MWN,* J/A96, p.11).

In the late 1990s, as Europeans grew more and more concerned about possible health impacts, and with a major research program taking shape in Brussels, Motorola turned its attention overseas. First, it helped set up the Mobile Manufacturers Forum (MMF) and together they were instrumental once again in shaping which studies were funded, how they were done and by whom. In some cases, Motorola's control led to ambiguous and ultimately unusable results. A set of $10 million RF-animal studies organized by Motorola and the MMF —known as PERFORM A— was a washout because Motorola-designed exposure equipment used in all the experiments put the animals under so much stress that it confounded any chance of seeing any effect from the radiation (see "Wheel on Trial").

Motorola played an equally commanding role in the development of health standards and of measurement protocols for cell phone exposures. At the IEEE's International Committee on Electromagnetic Energy (ICES), Chou served as the chair of the ICES subcommittee that wrote the most recent revision of its RF exposure standard, and Mark Douglas ran one of the groups writing protocols to estimate the SARs from cell phones. Chou traveled widely to protect Motorola's and the rest of the industry's interests —for example, to Washington to lobby the FCC and as far as Beijing to dissuade the Chinese government from adopting tough cell phone standards. Motorola wanted uniform standards in every country. It became a principal supporter of the World Health Organization's (WHO) EMF Project, and its mission to "harmonize" EMF standards. (No one in Geneva seemed to care that such corporate contributions violated the WHO's own rules.) Motorola gave WHO's Michael Repacholi $50,000 a year and when Motorola

bundled corporate contributions through the MMF, WHO got three times that amount.

What happens now that Motorola is bowing out? The most predictable change is that the U.S. military, the Air Force in particular, will reassert its influence in the RF-health arena. The military has been able to stay in the shadows while Motorola took center stage, but, with Motorola gone, the Air Force will want to make sure that it can continue to freely use its radar, communications and weapon systems. It cannot afford to take the risk that a group like the BioInitiative Working Group which doesn't share Motorola's and the Air Force's thermalist perspective, might take control. Symbolically, in June, Michael Murphy, who works on microwave weapons at Brooks Air Force Base in Texas, will become the president of BEMS, replacing Niels Kuster of IT'IS in Zurich, which has long had close ties to the cell phone industry and Motorola in particular.

Less clear is who will step up and take control of the cell phone issue. CTIA would be the logical pick, but CEO Steve Largent has steered CTIA clear of the health controversy. The trade group simply ignores the issue and, if pressed, directs inquiries to the American Cancer Society, which also maintains that there are no health risks other than driving while on a handheld phone. That leaves the MMF, but its future may be somewhat precarious given that most of the manufacturers, not just Motorola, are in financial trouble. MMF has always had a stronger presence in Europe and Asia, and it might have trouble expanding in the U.S. during these hard economic times. As for consumer groups, not a single one has shown any interest in getting involved. *Consumer Reports*, for instance, devoted twice as much space to "BlackBerry thumb" than to tumor risks in its annual cell phone issue last month (though some may consider any story to be progress since the magazine has ignored the radiation issue for years).

Maybe Motorola's management got it right. If no one in the U.S. is paying attention to cell phone risks, what's left of its cash might be better spent elsewhere. But that's not really the point. RF-health research is a job for public health professionals —whether it's setting priorities or implementing them— not for corporations whose financial wellbeing depends on the outcome. The same applies for setting exposure standards.

Motorola may no longer be an active player, but many questions remain to be answered. Unfortunately no one wants to address them.

Motorola, Mark Douglas, Joe Elder, Joe Morrissey, Michael Repacholi, cell phones, BEMS, Consumers Union, American Cancer Society, Niels Kuster, Michael Murphy,

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