



Coming soon, to a hog line near you, the Startco sensor

By Doug Maxwell

Quick now. What do the following top curlers (past and present) have in common: Paul Savage, Lyle Muires, Colleen Jones, Randy Ferbey, David Nedohin?

Answer: they are just a few of the country's top shooters who say they've been jobbed by the eyeballs belonging to biased officials. And, they will tell you, at the drop of a tam, they got fingered by the official, mistakenly.

Perhaps the most egregious howls of condemnations came in Lausanne a couple of years ago, when Swiss officials called Ferbey not once, not twice, but three times in his semi-final game of the 2001 Ford Worlds. To say that Ferbey (and the entire Canadian contingent) were upset is putting it mildly. It established a record of sorts that is unlikely ever to be erased.

All of the miscreants above will tell you they are in favour of some kind of rule – after all, there has to be some location on the ice where the rock must be released. But all are adamant that the calling of the rule must be taken out of the hands of human beings, whose eyesight, psychological makeup and nationalistic feelings might be distorted.

Relax, friends, the hog line millennium might be just around the corner.

An objective, electronic, non-judgmental, accurate, scientific system is currently being tested at a neighbourhood club in Saskatoon, and if all the work proceeds as it appears to be doing, will be tested further on one sheet of ice at this year's Winnipeg World Championships in April. If officials of the Canadian Curling Association and the World Curling Federation are satisfied that the system works, that the theory and the practice are sound, then it could become standard at future national and international events.

Neil Houston is the CCA honcho most attuned to the development, and he allows as how better equipment, better ice making techniques, and the marketing of the sport have all had a favourable impact on curling. "But I believe this device will be one of the more important technological advances

that curling has undertaken, both for competitive curlers and spectators," he told the CCN.

"It's another step in moving the sport forward," he continued, "and if the current tests conclude as desired, then our plan is to utilize the sensor at CCA championships in the 2003-04 season."

No doubt the World Curling Federation, with its bulging bankroll, will also be watching.

Originally, graduate engineering students at the University of Saskatchewan, under professor Eric Salt, began to put together a hog line concept and theory. But somewhere along the way, difficulties arose and the project appeared to be stalled.

Enter Garry Paulson, president of Startco Engineering. Paulson is an engaging, articulate scientist who started his business while a graduate student at the U. of S. While pursuing a doctoral degree in electrical engineering, he developed a digital, solid-state starter that became an essential element in the transport of ore by conveyor belt in Saskatchewan's potash mines. And subsequently in other mines, where conveyor belts were sometimes over a mile in length and required a smooth, efficient start.

You might say, as some industry writers have already put it, Startco started with a starter. Today the firm has about 43 employees, most of them engineers, and is about as far removed as could be from the curling world. Except that many of the workers at Startco, like most Saskatoon residents, are curlers.

So it was no trick at all for Paulson, and a group of his engineers, to show the CCN the results of their efforts at creating a hog line sensor that could make the hog line official a close cousin of the dodo.

The neighbourhood Sutherland Curling Club, just down the street from Startco, is the site of the work-in-progress. Without getting too technical (much of the science behind the sensor was beyond this writer's ken) suffice it to say that the sensor will reveal instantly if the curling stone is being delivered within the rules, or if the hand is still on the handle at the hog line.

Three wafer-thin three-volt batteries, tucked under the handle of the stone, provide the power for the sensor. A length of magnetic strip, similar to the magnets found in fridge ornaments, is embedded in the ice. No wires, no electrical current, nothing to harm the ice. That sets up a magnetic field involving the strip in the ice and the sensor in the handle. For most of the time, the sensor lies dormant, and draws no power from the batteries. But when the stone is turned over to be cleaned prior to delivery, a tilt switch turns the system on. A small green light at the front of the stone indicates that sensors at the side and back of the handle cap are now armed and ready.

If the shooter's hand is still on the rock handle, and within the limited magnetic field when the stone reaches the hog line, a red light at the front of the handle gleams brightly and stays on throughout the stone's travel down the ice. So it becomes a simple matter to remove the stone, if the light is red, before it reaches the far hog line; or leave the stone untouched if the light is green.

There is no need for officials armed with walkie-talkies – or built-in biases – to be involved. More importantly, says Paulson, curlers need not change their delivery motion. The entire project is curler-friendly and based on a curler's delivery as is, not on what the scientific boffins feel the delivery should be. Nor will they be able to 'beat the system'.

When Startco employee – and curler – Travis Klassen stepped onto the ice, he was challenged to come as close as possible to the hog line, but still deliver according to the rules. It was impossible, even when standing within a few feet of the release point, to eyeball when he was over the line, when he was just short of the line, when his hand was still on the handle or when it was off. The old argument about a stone being 'clearly released' as the rules have it, no longer is a factor.

Tim K.L. Lee is the electrical engineer at Startco in charge of the science, while Joe Dudiak, another electrical engineer, is in charge of the "packaging" of the system. Eric Salt, of the U. of S., is a consultant on the project and it says here that the combined brain power of all these enthusiasts is enough to light up a small city, or satisfy even the most critical of doubting Thomases of the curling world.

It also seems certain that those curlers who regularly flirt with the hog line will accept, happily, that there are no hog line judges involved; and will accept, without a quibble, the verdict of the little red – or green – light at the front of the stone.