



**SHIP ENDURES RECORD-BREAKING WAVES**  
Storm shows extreme seas may be more common than thought.  
[www.nature.com/news](http://www.nature.com/news)

But some observers say the company should have been more cautious, because the drug aimed to bypass the immune system's natural control mechanisms (see "The drug test: what went wrong?"). "You are going beyond the regulatory network, so all hell can break loose," says Angus Dalgleish, an immunologist at St George's Medical School in London.

Reaction to the trials' outcome has been swift, and mixed. In an unexpected turn of events, Britain has seen more people enquiring into early trials, in which healthy volunteers take experimental drugs to determine their safety and dose range. "Paradoxically, there's been an upsurge in interest in these healthy volunteer studies," says Max Parmar, who heads cancer studies at the Clinical Trials Unit of the UK Medical Research Council. The men who were struck ill in the TeGenero trial had been paid £2,000 (US\$3,500) each to do the test.

In Germany, reaction has been rather different. The local public prosecutor in Würzburg is investigating whether any criminal wrongdoing was involved. And this week, the Paul Ehrlich Institute, which authorizes human trials of biological drugs, announced it will tighten regulation of the first tests of such drugs in people. "The central question is: why do you treat six people at the same time? Why don't you start with one?" says Johannes Löwer, president of the Langen-based institute.

Löwer says that his institute will start requiring sequential rather than simultaneous administration of 'high risk' monoclonal antibodies — those that, like TGN1412, activate central pathways of the immune system. He says that one-at-a-time administration — with days between injections — will also be required for experimental biologics if institute scientists are not convinced by animal-model studies, or no appropriate animal model exists.

Ethicists in the United States, meanwhile, have called for careful scrutiny of a newly loosened set of rules for the making and testing of drugs in early human trials (see page 406). And the \$10-billion business of contract research organizations, or CROs, has come under the microscope.

Caplan worries that such organizations are tacitly encouraged not to focus on protection for human subjects. "The CROs are often told: 'Just get us the data on the deadline. They don't get asked questions about how that's being done.'" The Association of Clinical Research Organizations boasts that CROs conduct clinical trials 30% more quickly than the pharmaceutical companies that hire them.

A spokesman for Parexel says: "We believe that best practices were followed and the appropriate policies and procedures were adhered to."

Meredith Wadman

## GRAPHIC DETAIL

**GAS CENTRIFUGE**

Magnetic Suspension Bearing  
Top Scoop  
Molecular Pump  
Outer Casing  
Rotor  
Bottom Scoop  
Stator  
Bottom Bearing  
Inverter

**Indian Rare Earths Ltd.**  
P.O. Box 10, Anandapur Road, New, Madurai 625 002, INDIA  
Phone: (0855) 480 4100-6  
FAX: (0855) 480 4100-7  
E-MAIL: [india@rareearths.com](mailto:india@rareearths.com)  
INDIAN RARE EARTHS LTD., Mumbai, India

Aluminium tubing has many uses, but these dimensions suggest that it could be for the outer casing of a centrifuge.

TP-719 Rs. 400/- 28.2.2006  
Seamless Aluminium extruded tubes of 195 mm O.D. and 25 mm wall thickness as per specification.

TP-719 Rs. 500/- 17.12.2003  
Precision machining of special steel Thin Rod-R(L) with spherical tip.

This advertisement looks like it's for a magnetically suspended bearing that allows a centrifuge to spin at very high speeds with almost no friction.

TP-672/TPT Rs. 2000/- 25.1.2006 1030 hrs. 1130 hrs.  
Manufacture and supply of Ø 150 mm x 1225 mm long Thin Wall Flow Formed Interstage Annealed Ultra Precision Tubes made out of MDN 350 grade free issue extruded preforms as per specification.

This advert may be for a supercritical centrifuge rotor assembly — one of the parts that is most difficult to build. An outside agent posing as a bidder might have been able to obtain far more detailed specifications from Indian Rare Earth.

## Are adverts revealing nuclear secrets?

### WASHINGTON DC

When US President George W. Bush was asked recently whether he thought India — with whom he had just announced a deal to export nuclear technology — was a responsible nuclear nation, he responded simply: "I do." But critics say a scan through the local papers is all it takes to show that New Delhi is blatantly circumventing US and European export controls, and publicizing nuclear secrets.

In a report released on 10 March, David Albright and Susan Basu of the Institute for Science and International Security in Washington DC reveal that a Mumbai-based company has frequently placed advertisements in Indian newspapers; the ads are for corporations to supply items that seem to be components of a uranium gas centrifuge.

They analysed almost 200 public advertisements placed since 1984 in *The Times of India* by Indian Rare Earths, a mineral-extraction company that they suspect is helping to further the government's uranium-enrichment programme.

Gas centrifuges are spinning canisters that can be used to produce uranium that is enriched in the fissile isotope uranium-238, for use in reactors or weapons. The technology is currently being pursued by nations such as Iran (see *Nature* 432, 432-437; 2004).

Not everyone is in agreement over how to respond to the ads. Arjun Makhijani, president of the non-profit Institute for Energy and Environmental Research based in Takoma Park, Maryland, points out that India never signed the treaty on the non-proliferation of nuclear weapons. So it is technically allowed to further its enrichment programme. "India is not breaking any rules," he says.

But Albright says the technically detailed descriptions being published in newspapers show India's lax control over its nuclear technology. "It's gotten ridiculous," he says. "India just can't turn its back on this, and neither can the United States."

Geoff Brumfiel