

## news in brief

**Lower Saxony stalls for time in wake of Harrisburg:** The six-day international hearing on the planned nuclear reprocessing facility at Gorleben in West Germany was very much influenced by the events of Harrisburg. Most of the proponents or "neutral participants" were obviously interested in gaining time. The organisers of the hearings—the state government of Lower Saxony—and the increasingly involved public (the largest anti-nuclear demonstration in Germany with over 100,000 participants took place during the week) were presented with two entrenched and irreconcilable camps. The pro-nuclear lobby insisted that the gigantic project could be realised, and proposed 1994 as a new start-up date for the reprocessing plant. The anti-nuclear lobby maintained that the project was more complicated, dangerous and expensive than simply storing nuclear waste underground. The Lower Saxony government is expected to take its time in assessing the meeting and may defer a decision until after elections for the European Parliament and the state government of neighbouring Schleswig-Holstein. Surprisingly the government granted permission for further trial drilling to a depth of 250m but only outside the area of the salt domes where final storage is planned. The main aim of the drilling is to find out about the surrounding hydrological structure.

*From Klaus Höpfner in Hanover*

**US tries to stop proliferation in Pakistan:** The State Department has announced that the US is cutting off development aid to Pakistan amounting to £20m this year and £23m next year in an effort to prevent Pakistan building a uranium enrichment plant. The action was required by a Congressional ruling to deny aid to countries rejecting nuclear inspection or safeguards. US officials became suspicious because Pakistan does not have reactors that can use enriched uranium. According to *The Guardian*, a spokesman from the Pakistani Foreign Ministry in Islamabad "angrily rejected" claims that Pakistan was planning to build an atomic bomb. "Somehow it gives rise to more concern if an Islamic country carries out research into some areas of nuclear technology than if other countries in the world do so" said the spokesman.

US intelligence sources claim that Pakistan has been surreptitiously buying equipment to make a gas centrifuge enrichment facility. The centrifuge was purchased in Holland and high frequency electric power converters were purchased from Emerson Electric in the UK. The UK government stopped the export after it was told about its potential military use.

**ESA and NASA agree on joint solar-polar mission:** The European Space Agency and the US National Aeronautics and Space Administration have signed a memorandum of understanding for a joint International Solar Polar Mission (ISPM) to be launched in 1983. ESA and NASA will each provide a spacecraft, and ESA will supply software and support personnel to manage the ESA flight operations and data processing at the mission control and computing facility which will be provided by NASA. The two-spacecraft mission is designed to observe the Sun from above and below its polar regions. The spacecraft will be launched simultaneously by the Space Shuttle and will travel in the ecliptic plane out to Jupiter where they will swing around under the influence of Jupiter's gravity to head back towards the Sun on orbits out of the ecliptic plane, one heading towards the Sun's north pole, the other towards the Sun's south pole. The spacecraft will circle the Sun on this polar orbit and then head back to Jupiter. The period from

launch to the second polar passage will be about five years. The mission will also investigate the interplanetary medium during the initial Earth to Jupiter run and the Jovian magnetosphere during the Jupiter fly by.

**Comprehensive schools maintain standards in science:** Pupils at inner London's non-selective (comprehensive) schools obtained almost the same number of O level and CSE grade 1 passes in biology, chemistry and physics as those from selected intake schools in 1977, and the comprehensive schools achieved these results despite having inferior science facilities and spending less time on the subject. These are the conclusions of a report issued by the Inner London Education Authority science inspectorate. The report expressed concern about the imbalance in facilities, and emphasised that the excellent examination results achieved by dedicated comprehensive school staff should "in no way be taken as an excuse for doing nothing to improve the resources in these schools".

The poorest science facilities were in non-selective mixed and girls schools. According to the report, the main reason for the differences was probably the greater range of subjects taught in comprehensive schools. They had proportionately less resources to spend on science subjects than selective schools since they had to teach subjects such as home economics, design and technology. Selective schools tend to offer only traditional subjects. However improvements are in progress.

Dr John Price, ILEA senior science inspector, said the authority's schools subcommittee had recommended setting up a central task force of 30 science teachers by 1980-81 who will help out in any school where there is a temporary shortage of science staff. The schools subcommittee has also pressed for the urgent review of the staffing and pay points system which causes comprehensive schools to have fewer experienced teachers. Finally, all schools will be given minimum laboratory facilities which will be improved in later years when more money is available.

**India prepares for monsoon measurements:** India is making major preparations for the forthcoming Monsoon Experiment (MONEX-79) which will enhance understanding of monsoon circulation around the three seas bordering India: the Arabian Sea, the equatorial Indian Ocean, and the Bay of Bengal. Four ships and one plane from India will be supplemented by five Soviet ships and three US planes with further information to be gathered by meteorological balloons and cyclone warning radar stations situated along the Indian coast. Marine weather reports from merchant ships and upper air reports from commercial aircraft will also be analysed.

Three of the Indian ships are expected to be equipped with Navaid sounding systems obtained through the World Meteorological Organisation and the fourth with an Indian-made Omega system to enable them, for the first time, to make systematic recordings of upper winds over the seas around India. Indigenous 3-D scanners will be attached to the 10cm radars at Calcutta and Madras to enhance observational capability, while wind and temperature observations of the stratosphere will be measured by rockets fired from Thumba, Sriharikota and Balasore.

MONEX-79 is a sub-programme of the First Global Garp Experiment (FGGE) of the GARP (Global Atmospheric Research Programme). It will coincide with the launching of FGGE on 1 May and will end in August when the monsoon abates over India. Rs 250 million will be spent on the experiment.

*From Dilip M. Salwi in New Delhi*