emissions' could be eliminated or masked by technical fixes. But these would be costly.

Radiotelescope operators have refused to accept offers from companies such as the mobile-phone operation Iridium to solve the problem by time-sharing frequencies or by building special transmitting (and therefore potentially interfering) beacons at their sites which could instruct handsets in the vicinity to change frequencies (see *Nature* 380, 569; 1996).

Companies have rejected suggestions from radioastronomers to change their frequencies, particularly those of downlinks which are the biggest source of potential interference, develop filters for their satellites to block spurious emissions, or cap the number of subscribers making calls at any one time to ensure minimum overspill.

The deadlock continues at the WRC-97 meeting, where radioastronomers' pleas have cut little ice. WRC-97 is finalizing allocations in the 30–60 GHz range for broadband services such as the planned multisatellite system of Telesed and Alcatel, called Sky

Bridge, as well as Sky station. This is a proposed system of stratospheric balloons which would hang over cities beaming the Internet to their inhabitants, and providing larger capacity mobile telephone links.

Radioastronomers have been using the conference to seek greater protection for their bandwidths at these higher frequencies. "We are worried that these high density bands will be unable to clean up the signals they transmit to avoid radioastronomy frequencies," says Baan.

Radioastronomers are divided about how best to fight the powerful commercial interests against which they are pitted. Some feel that the market atmosphere of the ITU and its World Radiocommunication Conferences is not the right battlefield. Lobbying in this arena is important but has had little effect, says Roy Booth, director of the Swedish Facility for Radioastronomy in Onsala.

In contrast, Booth recently organized a joint declaration from directors of radioastronomy institutes committing them to a global coordinated effort to control the

threat from satellite transmissions.

Harvey Butcher, director of the Netherlands Foundation for Research in Astronomy, believes action by governments is the only way to guarantee protection of radioastronomy. "Users with no economic interests are not getting a look-in [at ITU]," he says.

He is taking part in a Megascience Forum on Radioastronomy set up by the Organization for Economic Cooperation and Development last year. He believes that the contacts this brings with government science policy-makers could help to encourage them to provide money for research into technical fixes, such as development of filters, or to establish radio-quiet zones around observatories which satellite companies would be required to observe.

Baan says the ITU relies on financial contributions from industry and has conceded too much to industry in its decision making process. But he says that abandoning the battle within the ITU would be disastrous. "Things for radioastronomers will get worse before they get better."

Alison Abbott

Congress moves swiftly to protect academy's independence

[WASHINGTON] The US Congress was poised at the beginning of this week to exempt the National Academy of Sciences (NAS) from the Federal Advisory Committee Act (FACA), ending a year of uncertainty about how the academy prepares scientific and technical advice for the US government.

In the early hours of Monday, the House of Representatives passed a bill allowing the exemption, while requiring the academy to take several steps to open up its processes to the public. The Senate was expected quickly to pass a similar bill, which President Bill Clinton is ready to sign into law.

Congress has responded with unusual haste after a Supreme Court decision last week left the academy complex facing restrictions which Bruce Alberts, the president of the academy, said would prevent it from functioning independently of the government.

Committees organized by the academy would be more open to public scrutiny under the planned legislation. But the National Research Council (NRC), the executive arm of the academy, would still appoint and manage its own study committees, which academy officials have always said is their top priority.

As expected, the Supreme Court had refused to consider an appeal by the NAS against the decision of a lower court forcing NRC committees to operate under the rules of FACA (see *Nature* 386, 309; 1997). Those rules include allowing public attendance at most meetings, and giving federal agency employees responsibility for the setting up and management of advisory committees.

Horn: 'broad agreement' on need for exemption.

Academy officials argued that placing NRC committees under the direct control of federal officials whose programmes are under scrutiny would compromise their independence.

Having lost in the courts, the academy has taken its case to

Congress. Stephen Horn (Republican, California), who chairs a House of Representatives subcommittee in charge of government management issues, was largely responsible for drafting legislation exempting the NAS from the act.

At a hearing last week, Horn said there was "broad agreement" in both houses of Congress and in the Clinton administration to grant such an exemption.

But the academy has promised to take some steps to open its operations to the public. The names, biographies and brief conflict-of-interest disclosure statements of each member of an academy study panel would be posted on the Internet.

The public would then have a period, perhaps 20 days, in which to comment. It would be "totally up to the academy's discretion" what to do with those comments, says William Colglazier, the NRC's executive director.

The names and biographies of external reviewers who evaluate completed NRC reports before they are released would also

be posted. At present, the reviewers are anonymous, and Colglazier admits that releasing their names might make it more difficult to recruit volunteer reviewers. The academy would encourage public attendance at committee fact-finding meetings (which are already open) by posting notices on the Internet. Meetings involving internal deliberations of a committee or report writing would remain closed.

Alberts said at last week's hearing that these measures would "let as much sunshine in as possible without changing the independent nature of the advice that we give".

Christopher Paine of the Natural Resources Defense Council (NRDC) calls the academy's concessions to openness "a step in the right direction". The NRDC successfully sued to prevent the Department of Energy from using an academy study on its planned National Ignition Facility earlier this year on the grounds that it had not operated under the act's rules (see *Nature* 385, 755; 1997).

But Paine would like to see all NRC meetings open to outside observers and to have greater public accountability in the composition of the council's committees.

Paine's group will release a report this week detailing what he calls an "egregious failure" in the academy's system of internal controls in connection with the report on the ignition facility.

According to the NRDC, the energy department disbanded its own advisory panel and solicited the academy report instead because it thought it might be more favourable to the facility.

Tony Reichhardt