months, according to NASA studies.

Supporters maintain that nuclear power also would make practical some civilian applications of space, such as satellites for air and ocean radar traffic control and commercial materials processing. "As we move toward more industrialization in low Earth orbit, we're going to need more power than we've been able to achieve with solar panels," said Representative Robert S. Walker (R–PA), an advocate of space nuclear power and the SP-100.

The program's shift from a military emphasis may foster additional support on Capitol Hill, allowing legislators who have been leery of SDI to support the program. "If anything, I think it's a plus," said one Democratic staff member for the House science, space and technology committee.

So far, at least, the shift toward civilian applications has not affected the nuts and bolts of SP-100 research, Lanes maintains. "Until we have a very specific mission, with very specific mission requirements, we're trying to design a technology that is applicable to the requirements of both NASA and SDI," Lanes said.

Vincent Truscello, SP-100 project manager at the Jet Propulsion Laboratory in Pasadena, California, said he has asked NASA for a set of detailed requirements for a reactor, to be sure that SP-100 is on the right track for use on the surface of the moon or Mars.

One concern is that lunar dust might accumulate on the radiator which is to eliminate excess heat from the reactor, said Jack Mondt, Truscello's deputy.

The National Academy of Sciences committee, chaired by former presidential science adviser H. Guyford Stever, recommended that the requirements for SP-100 be sharpened to better support human exploration of space. SP-100 should be "committed to development," the group said.

But the panel also warned that "the use of nuclear technology in space faces formidable barriers of public acceptance, however, especially if employed in Earth orbit."

The Energy Department's Lanes, a former nuclear safety engineer, said he believes the antinuclear sentiment can be overcome.

He stressed that the reactor fuel would not be radioactive at launch. Not until the reactor was activated, in a long-lived orbit, would radioactive fission products begin to accumulate.

"We believe that the reactor can be made to operate safely, and we are hoping to convince the public that is the case," Lanes said. ■ VINCENT KIERNAN

Vincent Kiernan is a reporter with Space News.

AIDS and the Future

Will prostitutes serve as a "bridge" to bring HIV (human immunodeficiency virus) into the heterosexual population? Probably not. Will there be a greater proportion of female AIDS patients in the second decade of the epidemic than there were in the first? Undoubtedly so. And will HIV infection start creeping into a younger and younger population, forcing intervention strategies for adolescents? Unfortunately, that also appears to be the case.

The changing character of the AIDS epidemic is chronicled in a new report* by the National Research Council committee on AIDS research and the behavioral, social, and statistical sciences, released earlier this week at the Sixth International Conference on AIDS in San Francisco. With no effective vaccine in sight, public health officials have no magic bullet to halt the course of the epidemic. Instead, they have had to rely on the far blunter instruments of education campaigns, screening programs, and interventions aimed at altering the practices of prostitutes and intravenous drug abusers. There have been some success stories—providing a blood supply essentially free from HIV contamination stands out as the prime example—but these have been few and far between.

As the epidemic enters its second decade, new subpopulations are being affected by the disease. Sharing contaminated needles has long been known as a way to transmit the disease among individuals, but as the proportion of AIDS cases in this population grows, so too does the number of women infected with the AIDS virus. "The needs of women are going to be a big thing in the next decade," says Heather G. Miller, who directed the report's publication for the Research Council. "In the first decade it was largely seen as a male epidemic. Now we're beginning to realize that there are not only considerable numbers of women who are at risk, but the population of women at risk is a very diverse one." Although intravenous drug use is a common theme, Miller says a woman's exposure to the virus may not only be from personal experience with drugs, but also through sexual contact with drug users. That many women being exposed are of childbearing age just complicates the problem.

Combating AIDS is particularly difficult because it means talking frankly about two societal taboos: sex and drugs. Starting with former president Ronald Reagan's panacea "just say no," political leaders have been loath to institute programs that would ruffle feathers, choosing instead more palatable half-measures. But Miller says people must be provided information that means something to them: "For people who inject drugs, what's meaningful to them is the unpolished truth—what some people who don't inject drugs might find unpalatable or discomforting or abhorrent." The truth in this case can mean the need for sterilizing needles with bleach or obtaining fresh needles when possible. There's no support for the idea that sharing this information will encourage nonusers to dabble with drugs. "Information and services do not appear to entice the uninitiated into risk-associated actions," the report states.

At one time it seemed possible that infected prostitutes would accelerate the spread of HIV into the heterosexual community. This does not appear to be happening, according to the report. In fact, "it appears that prostitutes are more at risk of *acquiring* HIV than they are of transmitting it." The report urges the Centers for Disease Control to track the incidence of both HIV infection and sexually transmitted diseases in this group.

Hampering public health efforts is a lack of information about the communities most clearly at risk. It can be extremely difficult to get people to admit details of their drug use or sexual practices, but this information is crucial to designing interventions to slow the spread of the virus. The report encourages the Public Health Service to "provide increased support for methodological research on the measurement of behaviors that transmit HIV."

It won't be simple—or cheap—to carry out either the basic research or the applied programs needed to implement the report's recommendations. But a commitment to do so must be made "to forestall the bleak prospect of a third decade of this epidemic that is little different from the last."

■ JOSEPH PALCA

**AIDS: The Second Decade* (National Academy Press, Washington, D.C., 1990).