WASHINGTON - A deeply controversial plan put forth by MIT scientists to end the standoff over Iran's nuclear program is getting increased interest from senior members of both parties in Congress and nonproliferation specialists.

The plan, which was rejected three years ago by the Bush administration, argues for a dramatic shift in US policy: Rather than trying to halt Iran's efforts to enrich uranium, the United States should help build an internationally run enrichment facility inside Iran to replace Iran's current facilities.

Supporters argue that such a program would fulfill Iran's insistence on enriching uranium on its own soil, while preventing the dangerous material from being diverted to weapons.

Three years ago, when the proposal was first advanced, it was widely considered unthinkable. Administration officials argued that tougher sanctions and the threat of military strikes would force Iran to stop its program to enrich uranium, a process that uses thousands of spinning centrifuges to create fuel out of rare uranium isotopes that can be used for nuclear power or weapons.

But now, as Iran appears on the verge of mastering enrichment technology, the call to try to internationalize Iran's facilities is getting more attention on Capitol Hill and from nonproliferation specialists as a face-saving compromise.

Iranian officials proposed building an international enrichment plant inside Iran in a letter they submitted to the United Nations last month, but declined to say whether such a plant would be in addition to or a replacement for their own facilities.

In an interview last month, Iran's ambassador to the UN, Mohammad Khazaee, said the details should be negotiated.

Thomas Pickering, the US ambassador to the United Nations under President George H.W. Bush, endorsed the idea in a March article in the New York Review of Books that was co-authored by Jim Walsh, a nonproliferation specialist at MIT, and William Luers, president of the United Nations Association, which organizes meetings with Iranian officials. The three have spent more than a year in informal talks with officials from Iran's foreign ministry and Atomic Energy Organization.

John Thomson, a former British ambassador to the United Nations who is now at MIT, and Geoffrey Forden, an MIT physicist and former weapons inspector in Iraq, have spent more than two years on separate research into the technology needed to safeguard such an international facility, including equipment that would prevent Iranian scientists from taking control of it or learning how it works.

Senators Dianne Feinstein, a California Democrat, and Chuck Hagel, a Nebraska Republican, have said publicly that the plan should be explored.

Representative Edward J. Markey, a Malden Democrat, went further, calling the plan "a creative, thoughtful, and productive potential solution."

Presidential candidates John McCain, the presumptive GOP nominee, and Barack Obama, the presumptive Democratic nominee, have both endorsed using international consortiums to produce nuclear fuel as a way to
take production out of the hands of unpredictable states, but neither has said he would consider placing such a facility inside Iran. McCain's campaign said an Iran-based plant would not be "subject to transparent and accountable international safeguards." But advisers to Obama did not rule the option out.

"This is nobody's first choice, but it may be the compromise we end up with," said Joseph Cirincione, a nonproliferation specialist who serves informally as an adviser to Obama's campaign. Cirincione is president of the Ploughshares Fund, a nonproliferation organization based in San Francisco that provided funding for talks that Pickering and his associates held with Iranian officials.

International consortiums to make fuel for nuclear power plants have been around for decades. In 1973, France, Belgium, Spain, and Sweden formed a joint enrichment company called EURODIF, and a year later the shah of Iran lent $1 billion to the project in exchange for a 10 percent share in the venture. But after the 1979 Islamic revolution in Iran, the deal was canceled and the loan frozen. The United States, fearing that Iran's radical regime was secretly pursuing a nuclear weapon, pressured the rest of the world to cease all nuclear cooperation with Iran.

For the next 20 years, Iranian scientists worked in secret to construct their own enrichment facility using items purchased on the black market, violating the Nuclear Nonproliferation Treaty, which mandates that nuclear work be monitored by the UN.

In 2002, an Iranian exile group exposed the existence of the facility, prompting the UN Security Council to demand that Iran halt all enrichment efforts.

Russia has offered to supply Iran's reactor with enriched uranium under a deal that would ensure that no fuel is diverted to weapons. But so far, Iranian officials have refused, saying they can't rely on outsiders.

In early 2005, officials from the UN's International Atomic Energy Agency studied the idea of placing a facility inside Iran. Later that year, President Mahmoud Ahmadinejad of Iran gave a speech at the UN inviting other countries to join in Iran's enrichment facility. US officials dismissed it as insincere.

That summer at MIT, Forden began researching how to design a plant in a way that would prevent Iran from taking control of it. Later, Walsh and Pickering began their talks with Iranian officials. "I think that there are parts of the Iranian establishment, and more parts than not, that are open" to it, Walsh said.

But Forden and Walsh initially got a cold reaction from US officials and other nuclear experts. At the time, Iran had only 164 centrifuges and seemed far from being able to enrich enough uranium for a bomb. But now, as Iran ramps up to more than 3,500 centrifuges, despite international sanctions and pressure, the idea is getting a second look, they said.

"When we first talked about it, people in Congress were openly hostile," said Forden. Now, he said, it is easier to get meetings on Capitol Hill. "People are starting to take it much more seriously," he said.

Cirincione initially opposed the idea, but now says it is "worth exploring."

"The preferred option is no centrifuges in Iran, but that horse has left the barn," he said. "Their position has gotten stronger and ours has gotten weaker. The longer that deal isn't made, the higher the price goes."

Still, many remain deeply skeptical. Stephen Rademaker, who recently served as the State Department's assistant secretary for nonproliferation, said the plan rewards Iran's bad behavior and does not guarantee that Iran will not try to secretly reproduce the international equipment on its own. "We would be standing up a far more capable facility on Iranian soil than they would ever stand up on their own," he said.

But others say the MIT plan may eventually become the best policy choice, if the current strategy fails. Daryl Kimball, executive director of the Arms Control Association, said it is too early to give up on trying to persuade Iran to halt its enrichment program. "But in the long run, it may not be possible," he said. "In which case, this proposal may be the best available option."