NASA is discovering that perhaps the only thing harder than starting up a program to send humans to the moon is closing one down.

President Barack Obama has announced he wants the agency to end its lunar ambitions and begin developing "game-changing" technologies that could one day take humans to Mars. If Congress agrees, NASA must turn off the Constellation program that was supposed to return astronauts to the moon by 2020.

But terminating Constellation is no easy feat. To do it, NASA has to navigate a political and financial maze largely of its own making.

Obama's 2011 budget proposal provides $2.5 billion to pay contractors whatever NASA owes them so the agency can stop work on Constellation's Ares rockets, Orion capsule and Altair lunar lander. But administration officials acknowledge that this number is, at best, an educated guess.

"I think we took what was an estimate from what industry said, what our analysts said," NASA administrator Charlie Bolden told the Orlando Sentinel last week when asked how the administration came up with the $2.5 billion price tag. "It's a ballpark figure. Hopefully, it's something that's extreme."

Many inside and outside of the space agency, however, think the number is too low.
The agency has signed more than $10 billion worth of contracts to design, test and build the Ares I rocket and Orion capsule that were the heart of Constellation. But government auditors said last year that the costs of some of those contracts had swelled by $3 billion since 2007 because of design changes, technical problems and schedule slips. How much NASA will owe on all those contracts if the plug gets pulled is unclear.

Many of the deals are called "undefinitized contracts," meaning that the terms, conditions -- and price -- had not been set before NASA ordered the work to start. That means the agency will need to negotiate a buyout with the contractor -- and that can be a long and painful process, according to government officials familiar with the cancellation process.

"It can be messy, and it's going to take at least a year after the project is closed to get a final price tag assigned to many of these contracts," said one congressional investigator not authorized to talk publicly about his work.

NASA is trying to collect information about what it owes, but that's also become a tricky exercise.

Letters have gone out to Constellation contractors, asking how much it will cost to shut their work down. Monday, NASA wrote to ATK Launch Systems Inc., which is building the first stage of the Ares I, requesting estimates of termination costs "as of the end of this and each of the next three [financial] quarters."

The agency was careful to point out that the letter "is in no way to be construed as direction to cease [work]." Congress has forbidden NASA from canceling any part of Constellation without its permission, which so far it shows no signs of giving.
Indeed, about 30 members of Congress wrote Bolden recently to warn that his efforts to prepare for termination without permission from Congress -- including gathering information about closeout costs -- could be viewed as illegal.

Then, at a hearing Thursday, some of those same members berated Bolden for not having a cost figure.

"You really don't have a handle on what the cancellation cost will be," said U.S. Rep. Rob Bishop, R-Utah, in disbelief. "To me, it's somewhat of a backwards approach. It would be nice for a congressman or somebody making policy decisions if we knew what the costs would be before you actually make that decision."

The last time NASA canceled a program this big was in 1970, when it stopped building Saturn V rockets, and in 1973 when it shut down the entire Apollo program. According to government officials, only about a dozen multibillion-dollar programs have been terminated in the past 30 years.

But smaller programs get closed all the time, mostly by the Pentagon, In fact, the officials said, the Defense Department generally sets aside just-in-case money in its project budgets to pay to shut them down. NASA doesn't, because it's a much smaller agency.

At the same time, congressional investigators say, the military is far better at keeping track of its costs. NASA's tortured style of accounting and financial management has come under fire from Congress for more than 10 years.

"The problem is NASA can never tell you exactly what they spent, let alone what they owe," said Howard McCurdy, a space historian at American University.
In fact, a White House blue-ribbon panel that last year tried to figure out how much had been spent on Constellation -- the best estimate is $9 billion to date -- and how much more money it needed to actually build the Ares I rocket. But the panel finally threw up its hands.

"Because NASA tracks their cost by program, rather than by function, most of the overhead and infrastructure costs are buried in the various programs," said Jeff Greason, a rocket-company executive and panel member. "That makes it very challenging to figure out what things actually cost, or what the effect of a change might be."

For instance, some Constellation costs, such as the price of building new facilities for the program, appear to have been lumped in with other agency infrastructure and general administration expenses. Now, according to congressional investigators, these costs need to be separated out.

Making matters tougher for NASA accountants is that a cancellation of Constellation would come hard on the heels of the retirement of the space shuttle later this year. Some of the shuttle costs were supposed to be transferred to Constellation, hitting the agency with a double-whammy closeout mess.

"It makes the whole termination way more complicated," said a government investigator. "But ironically, the act of stopping Constellation provides clarity to what its true costs are.

"Unfortunately," he added, "the cost that won't get accounted for is the opportunity cost. By going down this road, we haven't done something else and that, by far, is the biggest loss of all."

(c) 2010, The Orlando Sentinel (Fla.).
Distributed by McClatchy-Tribune Information Services.