

# CRS Insights

U.S.-Republic of Korea Nuclear Cooperation Agreement

Mary Beth D. Nikitin, Specialist in Nonproliferation ([mnikitin@crs.loc.gov](mailto:mnikitin@crs.loc.gov), 7-7745)

Mark Holt, Specialist in Energy Policy ([mholt@crs.loc.gov](mailto:mholt@crs.loc.gov), 7-1704)

June 30, 2015 (IN10304)

---

On June 15, the United States and South Korea (ROK) signed a new civilian nuclear cooperation agreement to replace the existing agreement, which entered into force in 1974. The United States and South Korea have cooperated in the peaceful use of nuclear energy for over 50 years. This cooperation includes commercial power reactor projects as well as research and development work on safety, safeguards, advanced nuclear reactors, and fuel cycle technologies. In March 2014, the two countries extended the current nuclear cooperation agreement for two years to allow for more negotiating time ([P.L. 113-81](#)). The new agreement's duration is 20 years, with an automatic renewal of five years.

These agreements, also known as "123" agreements (see CRS Report RS22937, [Nuclear Cooperation with Other Countries: A Primer](#)) after Section 123 of the Atomic Energy Act, are a prerequisite for the licensing of any significant civilian nuclear trade with another country, such as exports of nuclear power plants and components, as well as the transfer of nuclear material. The new agreement with South Korea complies with the relevant nonproliferation provisions of the Atomic Energy Act (as amended) and therefore does not require an affirmative vote of approval by Congress. Congress received the agreement and supporting documents for review starting on June 16. The agreement could enter into force after a 30-day consultation period and a review period of 60 days of continuous session unless Congress enacts a joint resolution of disapproval. Congress also has the option of adopting either a joint resolution of approval or stand-alone legislation that could approve or disapprove the agreement with or without conditions. Any congressional efforts to block the agreement would be subject to presidential veto. An informal CRS estimate shows that the congressional review period may be completed between September 14 and December 11, depending on expected congressional adjournments and well before the expiration of the current agreement.

This agreement is key to the continuation of nuclear trade between the countries since it is the legal foundation for export licensing. Most reactors in South Korea were exported from the United States or are based on U.S. designs through technology transfer arrangements. South Korea [currently has four reactors under construction, and eight more planned](#), along with four reactors based on U.S.-designs that Korea is building in the United Arab Emirates (UAE). Companies in the United States supply numerous components for those projects. According to the [Nuclear Energy Institute](#), which represents the U.S. nuclear industry, "The deep links between our nuclear energy sectors contribute significantly to the U.S. economy, supporting tens of thousands of American jobs." South Korea's sale of Westinghouse-designed reactors to the UAE is to include \$2 billion in components and services provided by U.S. companies, financed by the Export-Import Bank of the United States. In approving the financing in 2012, the [Ex-Im Bank](#) stated, "According to estimates derived from U.S. Census Bureau statistics, the line of credit will support approximately 5,000 American jobs across 17 states."

The two countries had to extend the existing nuclear cooperation agreement for two additional years because they were not able to reach agreement about how to treat uranium enrichment and spent fuel reprocessing technologies in a renewed accord. The South Korean government had reportedly been pressing the United States to include a provision in the U.S.-ROK agreement that would allow for the [reprocessing](#) of its spent nuclear fuel and recognize its right to enrich uranium. The Atomic Energy Act (as amended) requires U.S. permission before South Korea can reprocess U.S.-origin spent fuel, including spent fuel from South Korea's U.S.-designed reactors. The United States has been reluctant to grant such permission due to concerns over the potential impact on denuclearization in North Korea and because U.S. nonproliferation policies discourage the spread of fuel-making technology to additional countries. Enrichment and reprocessing facilities can produce nuclear material for fuel or nuclear weapons. In the meantime, the United States and South Korea have undertaken a joint study on pyroprocessing research and development, a type of reprocessing technology. In the new agreement, South Korea would be

allowed to operate its [Advanced Spent Fuel Conditioning Process Facility](#), the first stage of pyroprocessing, in which spent fuel would be converted from oxide to metal form but no fissile plutonium could be separated. The Obama Administration has preferred to conclude the U.S.-ROK joint study on this technology before making any decision to approve such activities.

The two countries resolved earlier disagreements over these issues. The South Korean government under President Park Geun-hye has placed priority during the negotiations on a stable fuel supply, management of nuclear waste, and future nuclear exports. According to a State Department [Fact Sheet](#), the agreement requires "express reciprocal consent rights over any retransfers or subsequent reprocessing or enrichment of material subject to the agreement." However, the agreement does give South Korea advance permission to ship U.S.-obligated spent fuel overseas for reprocessing into mixed-oxide fuel. There are no current plans to do so, but South Korea may consider this option in developing a strategy for managing its growing spent fuel stocks. The agreement also provides for a new bilateral high-level commission where the two sides would review cooperation under the agreement and possibly resolve future fuel cycle issues. The agreement allows for enrichment up to 20% of fissile uranium-235 in South Korea, after consultation through the bilateral commission and further written agreement by the United States. This provision was not part of the previous agreement. South Korea does not have an enrichment capability, but was seeking language in the new agreement that would open the door to that possibility. Enrichment at low levels can be used for nuclear fuel. The agreement also includes U.S. fuel supply assurances.

Both countries have called the agreement a success. South Korean Foreign Minister Yun Byung-Se said that the agreement was "future-oriented" and would facilitate "modern and mutually beneficial cooperation." He called the agreement one of the central pillars of the alliance after the Mutual Defense Treaty and the Free Trade Agreement. U.S. Secretary of Energy Ernest Moniz [said](#) that the agreement would solidify the alliance and would "enable expanded cooperation between our respective nuclear industries, and reaffirm our two governments' shared commitment to nonproliferation." Others may question whether the agreement's flexibility on fuel cycle issues would delay rather than resolve this controversy.