

Milestones

مؤسسة الإمارات للطاقة النووية
Emirates Nuclear Energy Corporation

شركة برافيسه االوون شيمرج
Barakah One Company PJSC

شركة نواه للطاقة
Nawah Energy Company

10 Recent Milestones of the UAE Peaceful Nuclear Energy Program

April 2021: Barakah Unit 1 Declared Commercially Operational, Delivers Clean Electricity to UAE

The UAE entered a historic new era of clean electricity production as Unit 1 of the Barakah Nuclear Energy Plant in Abu Dhabi officially began commercial operations. The game changing moment means that Unit 1 of the Barakah Plant will now commercially deliver emissions free electricity 24 hours a day, seven days a week, for more than 60 years.

The start of commercial operations signifies a major advancement in the UAE's commitment to decarbonization and its efforts to combat global climate change. The UAE Peaceful Nuclear Energy Program today plays a significant role in the diversification of the Nation's energy portfolio and serves as a bridge to other clean energy technologies.

March 2021: FANR Issues Barakah Unit 2 Operating License, Nawah begins Fuel Load

Nawah Energy Company (Nawah), the operator of the Barakah Nuclear Energy Plant, received the Operating License for Barakah Unit 2 from the Federal Authority for Nuclear Regulation (FANR). The Operating License gave permission for Nawah's highly skilled and qualified team of UAE Nationals and international experts to commence loading the first nuclear fuel assemblies into the reactor of Unit 2, the first step towards gradually beginning operations and the generation of clean electricity.



January 2021: Barakah Unit 2 Confirmed Ready for Start-up Following WANO Independent Assessment

An international team of nuclear energy experts from the World Association of Nuclear Operators (WANO) has concluded that Unit 2 of the Barakah Nuclear Energy Plant in Abu Dhabi is ready to start-up, following an extensive operational readiness assessment.

The WANO team reviewed and examined numerous functional and cross-functional areas that are essential for the safe start-up and operation of Unit 2 during the Pre-start Up Review (PSUR) process.

December 2020: Unit 1 Achieves 100% Power

Barakah Unit 1 successfully achieved 100% of the rated reactor power capacity. This made the Barakah Plant the largest source of clean baseload electricity in the country, capable of providing constant and reliable power in a sustainable manner around the clock. This significant achievement accelerates the decarbonization of the UAE power sector, while also supporting the diversification of the Nation's energy portfolio as it transitions to cleaner electricity sources.

August 2020: Unit 1 Grid Connection

The Emirates Nuclear Energy Corporation (ENEC) and its operating and maintenance subsidiary, Nawah Energy Company (Nawah), in partnership with the Abu Dhabi Transmission and Dispatch Company (TRANSCO), has safely and successfully completed the integration and connection of Unit 1 of the Barakah Nuclear Energy Plant to the UAE's national electricity transmission grid. The connection of Unit 1, also referred to as grid synchronization, marks the first time that the electricity produced at the plant is delivered to the UAE's national grid. With the first megawatts of clean electricity from peaceful nuclear energy now being delivered to homes and business across the UAE, this milestone is a significant moment in the continued safe, secure, and quality-led delivery of the UAE Peaceful Nuclear Energy Program.

July 2020: Successful Startup of Barakah Unit 1

Nawah Energy Company (Nawah), the subsidiary of ENEC and KEPCO in charge of operating the Barakah Nuclear Energy Plant, officially started up the first Unit at Barakah. The successful reactor startup process, also known as 'first criticality' marks the first time that the reactor maintains a self-sustaining nuclear chain reaction and generates heat. With this milestone, the UAE becomes the first nation in the Arab World to produce clean electricity using peaceful nuclear energy technology.

July 2020: Unit 2 Construction Completed

The Emirates Nuclear Energy Corporation (ENEC) successfully completed the construction of Unit 2 of the Barakah Nuclear Energy Plant, the Arab World's first nuclear energy plant located in the Al Dhafra region of Abu Dhabi. The unit was officially handed to Nawah Energy Company (Nawah), ENEC's operating and maintenance subsidiary. With this achievement, focus now shifts to completing the operational readiness preparations, testing, regulatory inspections, and international assessments required for Nawah to obtain the Operating License for Unit 2 from the UAE's independent nuclear regulator, the Federal Authority for Nuclear Regulation (FANR).

March 2020: UAE becomes the first Arab Nation and the 31st globally to operate a peaceful nuclear energy plant

After receiving the Operating License from the Federal Authority for Nuclear Regulation (FANR), the UAE's independent nuclear regulator, Nawah Energy Company (Nawah), the operating and maintenance subsidiary of ENEC and KEPCO, commenced loading of the nuclear fuel assemblies into Unit 1. With this historic milestone, the UAE becomes the 31st nation globally, and the first in the Arab World, to operate a nuclear energy plant.

January 2020: World Association of Nuclear Operators confirms Barakah Unit 1 readiness for start up

An international team of nuclear industry experts from the Atlanta Center of the World Association of Nuclear Operators (WANO) has concluded that Unit 1 of the Barakah Nuclear Energy Plant in Abu Dhabi is ready to start up.

During the Pre-Start Up Review (PSUR) process, which took place in November 2019, WANO teams reviewed and examined numerous functional and cross-functional areas that are essential for the safe start-up and operation of the Unit, ranging from operator performance and operations and maintenance, through to work management and emergency preparedness. The final results of the PSUR were recently communicated by WANO Atlanta Center representatives, which confirmed that Unit 1 of the Barakah plant is ready to start up.

October, August, July 2019, and January 2020: 72 Senior Reactor Operators and Reactor Operators certified by FANR

The Federal Authority for Nuclear Regulation (FANR), the UAE's independent nuclear regulator, has officially certified a total of 72 Senior Reactor Operators (SROs) and Reactor Operators (ROs). The first group of 15 UAE National SROs and ROs of the Nawah Energy Company, the operations and maintenance subsidiary of ENEC and KEPCO, was certified in July. The second group of 38 multinational SROs and ROs was certified by FANR in August, including 22 UAE Nationals and two women. The third group of 5 SROs and ROs including one UAE National was certified in October 2019, while the fourth group of 14 with 4 UAE Nationals was certified in January 2020. The total number of qualified operators has now reached 73, 30 of whom are UAE Nationals.

