

NUPIC General Membership Meeting and Vendor Conference June 2014 image captions

1. Employing multi-disciplinary scientists, engineers and secretaries, Lawrence built a dedicated team of visionaries to accomplish his goals. Here they pose atop the mammoth magnet for the 60-inch cyclotron. August 1938.
2. Admiral Hyman Rickover descends into circular nuclear reactor shell at Shippingport Power Facility.
3. Harry Truman signs Atomic Energy Act of 1946 establishing U.S. Atomic Energy Commission. Behind President, left to right: Senators Tom Connally, Eugene Millikin, Edwin Johnson, Thomas Hart, Brien McMahon, Warren Austin, and Richard Russell.
4. President Eisenhower launched this program that supplied equipment and information to schools, hospitals, and research institutions within the U.S. and the world. The first reactors in Iran and Pakistan were built under this program.
5. A converter at the Gaseous Diffusion Plant, Paducah, Kentucky.
6. NRC staff visiting the proposed high-level waste repository site at Yucca Mountain, Nevada, June 2007.
7. Davis-Besse Nuclear Power Station (DBNPS) Pressure Vessel Head. Photo taken during the 2000 refueling outage at DBNPS.
8. Vogtle Unit 3 liquid processing tanks inside nuclear island, August 2013.
9. NRC inspector reviews map of geological features at Vogtle site.
10. A group of spectators gathers at the Annular Core Research Reactor for its 10,000th operation. The shot was videostreamed live to a nearby auditorium to accommodate the more than 150 onlookers. The ACRR has been in operation for more than 32 years at Sandia.
11. Geological salt beds possess high thermal conduction and salt is better than any other rock on Earth for storing High Level Waste (HLW).
12. ATR Core of the Advanced Test Reactor at Idaho National Laboratory uses plate type fuel in a clover leaf arrangement. The blue glow around the core is known as Cherenkov radiation. 8 April 2009.

13. Preparing to leave ERDA's Oak Ridge Gaseous Diffusion Plant is a load of 12 tons of uranium hexafluoride destined for ultimate use as fuel in a nuclear power plant. Circa 1969.
14. Gamma knife and CyberKnife™ are some of the most sophisticated technologies available to contemporary medicine.
15. Inside this geometric mound, with a skin of coarsely crushed rock, is a demolished uranium mill and its radioactive tailings. The mill was buried in 1992 by the Department of Energy, one of around 20 uranium mill tailings sites in the US that were remediated as part of the Uranium Mill Tailings Remedial Action Project (UMTRA).
16. First sample of Plutonium 239, in Dr. Seaborg's "Cigar Box", was used to determine its fission properties in March, 1941.
17. Yellow Cake Uranium
18. DOE constructed an underground Exploratory Studies Facility at Yucca Mountain in Nevada to determine whether the location was suitable as a deep geological nuclear waste repository.
19. Burlington Nuclear test Reactor at NC State. First NRC licensed test reactor circa 1955.
20. The Shippingport Atomic Power Station was the world's first full-scale atomic electric power plant devoted exclusively to peacetime production of electricity. It was located near the present-day Beaver Valley Nuclear Generating Station. Photograph taken on October 10, 1956.
21. Professor Douglass Henderson of the University of Wisconsin-Madison standing above the pool of the University's TRIGA research reactor.
22. Chemist Glenn Seaborg stands next to a periodic table. He is pointing at the synthetic element Seaborgium, which is named after him. Dr. Seaborg, a former Chairman of the Atomic Energy Commission, was awarded the Nobel Prize in Chemistry in 1951.
23. NS (Nuclear Ship) Savannah, the first commercial nuclear power cargo vessel, en route to the World's Fair in Seattle in 1962.
24. Cascade of gas centrifuges used to enrich uranium. This 1984 photograph is of the gas centrifuge plant in Piketon, Ohio.
25. President Carter's motorcade leaves Three Mile Island Nuclear Power Station after the accident on April 1, 1979.

26. Experimental Boiling Water Reactor CP7
27. President Dwight D. Eisenhower delivers his Atoms for Peace proposal to the United Nations General Assembly on December 8, 1953.
28. U.S. and Soviet Union Signing Ceremony for the Bilateral Agreement on reactor safety.
29. Alpha Track Calutron at the Y-12 Plant at Oak Ridge, Tennessee from the Manhattan Project, used for uranium enrichment by electromagnetic separation process.
30. The reactor vessel and vessel head arrived at SCE&G's V.C. Summer construction site June 30, 2013. The parts were sent from the Port of Charleston by rail and delivered using a Schnabel car—a specialized railroad freight car designed to carry heavy and oversized loads.
31. The Manhattan District Uranium Mill Site from 1943 to 1945 at Uravan, Colorado processing for uranium for the atomic bomb from mill tailings at various sites. Photo shows in the foreground the posts for a 10 foot high chain link fence, a guard shack, change rooms. In the center, the oil room, warehouse and precipitation room. The laboratory and business offices building, not yet finished. To the far left are the steam boilers and the dryer. Across the San Miguel river was the United States vanadium mill (Union Carbide) processing uranium and vanadium.
32. Crews worked day and night to make sure the casks made it to their long-term destination.
33. Through milling, uranium oxide (U₃O₈) is converted to uranium hexafluoride (UF₆). This separates U-235 from the U-238 nucleus. UF₆ is enriched and converted to Uranium Dioxide (UO₂) so that it can be used in nuclear fuel. In the United States, there is only one conversion plant capable of this type of enriching. Through heating, UF₆ powder is processed in pellet form. These pellets end up measuring one centimeter in diameter by 1.5 centimeters thick, after they undergo a grinding process that brings them to uniformity.
34. Senator John F. Kennedy with Dr. Alvin Weinberg, Director, Oak Ridge National Laboratory, on February 24, 1959.
35. President Eisenhower signing the Atomic Energy Act 1954
36. First Commission members meet with President Gerald Ford in the Oval Office. Clockwise sitting, from far left, Richard T. Kennedy, Marcus A. Rowden, William Anders (Chairman), Ford, Victor Gilinsky, and Edward A. Mason in January 1975.