Appendix H

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Date	Event	Source
Dec-42	Pacific NW and California surveyed for possible production sites	DOE/MA-0001
December 21, 1942	Dupont signed to construct/operate atomic plants under Manhattan Engineer District	DOE/AD-0015
January-43	Dupont begins reactor design at Wilmington	DOE/AD-0015
Feb-43	Temporary office established and land purchases initiated	DOE/MA-0001
Mar-43	Construction initiated at HEW to build facilities to produce plutonium for the first atomic bombs.	Draft DOE/RL-97-Internet-1047 Building Periods, pg 1 of 6 and WHC-MR-0293, Rev 2
Jun-43	Construction began on B-Reactor	DOE/EM/0319
Autumn 1943	Completion of 313 Building	WHC-MR-0521, Rev. 0
November 4, 1943	X-10 Reactor at Oak Ridge went critical (0500am Local time)	DOE/EM-0319
Dec-43	First uranium fuel fabrication operation at HEW - Hanford began machining natural uranium (0.711 wt% U235) rods	WHC-MR-0521, Rev. 0 and DOE/EM-0319, Linking Legacies, January 1997
December 19, 1943	Bismuth Phosphate process demonstrated at Oak Ridge	DOE/EM-0319
Late 1943	Calutrons at Oak Ridge became operational	DOE/EM-0319
Jan-44	300 Area connected to rail service	WHC-MR-0521, Rev. 0
Mar-44	313 Building - Core canning operations initiated	WHC-MR-0521, Rev. 0
Summer 1944	Hanford population reaches 50,000	DOE/MA-0001
Late summer 1944	FDR discusses potential for future use of nuclear energy for commercial power production	New Fuels Cladding Facility by Holly K. Chamberlain, Washington State Historical Society, Sept. 24, 1996
June 8, 1944	Dupont engineers in Wilmington, DE chose the bismuth phosphate process for the full scale plants	DOE/EM-0319

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Jul-44	314 Building - Started fuel element testing	WHC-MR-0521, Rev. 0
Aug-44	314 Building scrap recovery process started	WHC-MR-0521, Rev. 0
Sep 26-27, 1944	B-Reactor - First reactor on-line (beginning of plutonium production)	DOE/EM-0319
Oct-44	T-Plant completed	DOE/AD-0015
Nov-44	Uranium ingots began arriving at Hanford	DOE/EM-0319
Dec-44	U-Plant completed	DOE/AD-0015
December 17, 1944	D-Reactor on-line	DOE-EM-0319
December 26, 1944	T-Plant - Batch processing of irradiated uranium fuel material commenced	DOE-EM-0319
Jan-45	314 Building- Extrusion press begins operations	WHC-MR-0521, Rev. 0
Feb-45	F-Reactor on-line	DOE-EM-0319
February 5,1945	First Shipment of Plutonium to Los Alamos, NM	DOE/AD-015
1945	U-Plant constructed but used as a training facility until 1952	WHC-MR-0521, Rev. 0
Apr-45	B-Plant started processing irradiated uranium on April 13, 1945	WHC-MR-0521, Rev. 0
July 16, 1945	Trinity test in New Mexico	DOE/EM-0319
Aug-45	K-25 Plant at Oak Ridge fully operational	DOE/EM-0319
August 6, 1945	"Little Boy" Hiroshima	DOE/EM-0319
August 9, 1945	"FAT MAN" Nagasaki	DOE/EM-0319
September 1, 1946	GE assumes control as overall Site Contractor	Draft DOE/RL-97-Internet-1047, Primary ontractors/Subcontractors, pg 2 of 4 and WHC-MR-0293, Rev 2
1947	Atomic Energy Commission (AEC) takes charge of Hanford Site	DOE/EM-0319
January 1, 1947	New AEC takes control of US Atomic weapons complex	DOE/EM-0319

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Apr-47	Decision to explore enriching depleted uranium back to normal concentrations	Ltr. RE: Meeting with Dr. CW Greenwalt on use of K-25 in connection with Hanford Operations, BS626100, 04/21/1947
1949	Hanford began maufacturing of lithium targets for Tritium production	DOE/EM-0319
Jul-49	Hanford begins manufacture of Plutonium Pits	DOE/EM-0319
September 23, 1949	President Truman announces explosion of first Soviet atomic bomb	The American Experience, "Race for the Superbomb," PBS Online
Oct-49	H-Reactor comes on-line	DOE/EM-0319
Late 1949	REDOX Plant construction begins	WHC-MR-0521, Rev. 0
May-50	First shipment of HEU "J" slugs to Y-12	Material Balance Report 15-1415
Oct-50	DR-Reactor comes on-line	DOE/EM-0319
1951	Rocky Flats begins operations	DOE/EM-0319
1951	AEC establishes the Savannah River site near Aiken, SC	DOE/EM-0319
1951	Rolling mill installed in 314 Building	WHC-MR-0521, Rev. 0
November 10, 1951	Uranium Recovery Technical Manual provided an estimate that trace plutonium in recycled UO_3 would be 100 parts of plutonium per billion parts of uranium	HW19140
1952	Feed Materials Production Center at Fernald, OH begins refining uranium	DOE/EM-0319
1952	Construction of the Portsmouth Gaseous Diffusion Plant at Piketon, OH begins	WHC-MR-0293, Rev 2
1952	U Plant refitted for uranium recovery	WHC-MR-0293, Rev 2
1952	Rolling operation transferred to FMPC	WHC-MR-0521, Rev. 0
Jan-52	REDOX (S-Plant) commenced operations	WHC-MR-0521, Rev. 0
Jan-52	First recorded shipments of irradiated EU slugs to Idaho ICPP	HAN-53121, dated 12/2/53

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Date	Event	Source
Feb-52	UO_3 Plant begins operations	DOE/EM-0319
Mar-52	First recorded shipment of UO_3 product to K-25 GDP with fission products UO_3 trial production lots 007, 008, and 009)	March 11, 1952 Shipping document from R.B. Richards, Mgr. Separations Technology Unit to Dr. Frank Hurd, Carbide and Carbon Chemicals Corporation, K-25 Plant, Oak Ridge (Hanford 43666)
Mar-52	Second recorded shipment of 32 drums and 4 boxes of UO_3 product from Hanford to K-25 Plant at Oak Ridge	March 19, 1952 Shipping document from R.B. Richards, Mgr. Separations Technology Unit to Dr. Frank Hurd, Carbide and Carbon Chemicals Corporation, K-25 Plant, Oak Ridge (Hanford 43786)
Jul-52	TBP Plant (U-Plant) begins "mining" uranium from tank wastes	DOE/EM-0319
September 18, 1952	Oak Ridge communicated preliminary specifications to Hanford on UO_3 that listed "Plutonium: Not to exceed 10 ppb,"	Ref KLI-1681
Nov-52	C-Reactor comes on-line	DOE/EM-0319
Jan-53	Construction of the 1812 enrichment stages at the Paducah Plant begins	WHC-MR-0293, Rev 2
May-53	Standard established for off-site shipment of Hanford Uranium Trioxide (UO_3) established as "10 parts of plutonium per billion parts of uranium"	R.E. Smith, Summary of Oak Ridge Discussions Relative to Hanford Uranium Trioxide Specifications, 5/7/53, HW-27990
Dec-53	D.D. Eisenhower's "Atoms for Peace" encouraged use of atomic power for electrical production	New Fuels Cladding Facility by Holly K. Chamberlain, Washington State Historical Society, Sept. 24, 1996
May-54	313 Building major expansion	WHC-MR-0521, Rev. 0

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Date	Event	Source
Dec-54	Construction of the 1812 enrichment stages at the Paducah Plant is completed	DOE/EM-0319
Jan-55	KW-Reactor comes on-line	WHC-MR-0293, Rev 2
Apr-55	KE-Reactor comes on-line	
1956	Begin using T-Hoppers for offsite shipments in addition to drums	WHC-MR-0437, page 37
1956	Weldon Spring Plant near St. Louis begins refining uranium	DOE/EM-0319
Jan-56	PUREX (A-Plant) startup	DOE/EM-0319
Mar-56	T Plant was shut down in March 1956 following startup of the PUREX plant in January 1956.	DOE/EM-0319
1958	REDOX begins processing enriched irradiated uranium fuel assemblies ("E-Metal")	WHC-MR-0521, Rev. 0
1958	TBP Plant (U-Plant) shuts down	DOE/EM-0319
Mar-59	First shipments of Hanford low enriched (0.94% 235U) UO_3 to K-25 Facility approved by AEC	HAN-71497, dated 3/3/59
May-59	N-Reactor construction began	Draft DOE/RL-97-Internet-1047 Table 2.3-6
1960	Plutonium Recycle Test Reactor (PRTR) constructed in 300 Area	WHC-MR-0440
1960	333 Building (N-Reactor Fuels Cladding Facility) completed	WHC-MR-0440
1962	PUREX "Q Cell" equipped for continuous neptunium purification	WHC-MR-0521, Rev. 0
1963	Modifications begin to allow PUREX to process various fuel types including N-Reactor fuel	WHC-MR-0521, Rev. 0
1963	WPPS begins construction of Hanford Electrical Generating Plant to be supplied by N-Reactor	New Fuels Cladding Facility by Holly K. Chamberlain, Washington State Historical Society, Sept. 24, 1996
Nov-63	Fire destroyed REDOX anion exchange concentrator	WHC-MR-0521, Rev. 0

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Date	Event	Source
Dec-63	N-Reactor (multi-pass, duel-purpose) reactor comes on-line (without power generating capability)	New Fuels Cladding Facility by Holly K. Chamberlain, Washington State Historical Society, Sept. 24, 1996
Dec-64	DR-Reactor Shutdown	DOE/EM-0319
1965	GE Replaced by Multiple Contractors	Draft DOE/RL-97-Internet-1047
Apr-65	H-Reactor Shutdown	DOE/EM-0319
Jun-65	F-Reactor Shutdown	DOE/EM-0319
1966	N-Reactor (multi-pass, dual-purpose) reactor begins producing steam for WPPS Hanford Electrical Generating Plant	New Fuels Cladding Facility by Holly K. Chamberlain, Washington State Historical Society, Sept. 24, 1996
1966	Weldon Spring Plant near St. Louis closed down	DOE/EM-0319
1967	PUREX began N-Reactor fuel separation processing	WHC-MR-0521, Rev. 0
Jun-67	D-Reactor Shutdown	DOE/EM-0319
1967	PUREX began processing "125 Metal"	WHC-MR-0521, Rev. 0
1967	REDOX (S-Plant) shut down	DOE/EM-0319
1968	PUREX began processing "210 Metal"	WHC-MR-0521, Rev. 0
1968	B-Plant converted to a waste fractionation plant to extract & encapsulate 137CS & 90Sr from high level tank wastes.	DOE/EM-0319
Feb-68	B-Reactor shut down	DOE/EM-0319
Apr-69	C-Reactor Shutdown	DOE/EM-0319
Feb-70	KW-Reactor Shutdown	DOE/EM-0319
Jan-71	KE-Reactor Shutdown	DOE/EM-0319
1972	Fernald Refinery closes	DOE/EM-0319
1972	PUREX temporary shutdown	WHC-MR-0521, Rev. 0
Sep-72	UO_3 Plant shutdown	DOE/EM-0319

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1974	Atomic Energy Commission (AEC) turns management of Hanford over to Energy Research and Development Administration (ERDA)	DOE/EM-0319
1977	U. S. Department of Energy (DOE) assumes management of Hanford Site	DOE/EM-0319
1983	PUREX Plant reopened with operating limit to process N-Reactor fuel	WHC-MR-0521, Rev. 0
1987	Fuel & Target Fabrication at Hanford's 300 Area ceased permanently	DOE/EM-0319
Feb-87	N-Reactor shuts down	DOE/EM-0319
Early 1990	PUREX (A-Plant) shuts down	WHC-MR-0521, Rev. 0
Oct-90	PUREX placed in "Standby " status	WHC-MR-0521, Rev. 0
Dec-92	DOE issues final closure order for PUREX	WHC-MR-0521, Rev. 0
1993	PUREX starts 5-year deactivation plan	WHC-MR-0521, Rev. 0

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References

DOE 1991
DOE/AD-0015, *Hanford Process Review*, December 1991

DOE 1997
DOE/EM-0319, *Linking Legacies*, January 1997

Donihee 1950 (classified)
FTS-669, V. D. Donihee to D. F. Shaw, *Material Balance Report*, July 10, 1950

Gifford 1959
Letter, HAN-71497, A. T. Gifford to V. P. Donihee, *Enriched UO_3*, March 3, 1959

Gerber 1993
WHC-MR-0440, M. S. Gerber, *Multiple Missions: The 300 Area in Hanford Site History*, September 1993

Gerber 1993a
WHC-MR-0437, M. S. Gerber, *A Brief History of the PUREX and UO_3 Facilities*, November 1993

Gerber 1995
WHC-MR-0293, Rev 2, M. S. Gerber, *Legend and Legacy: Fifty Years of Defense Production at the Hanford Site*, June 1995

Gerber 1996
WHC-MR-0521, Rev 0, M. *S. Gerber, The Plutonium Production Story at the Hanford Site, Process and Facilities History*, June 1996

Gosling 1999
DOE/MA-0001, F. G. Gosling, *The Manhattan Project - Making of the Bomb*, January 1999

Greenwalt 1947
RHTG-46,879 - *Meeting with Dr. CW Greenwalt on Use of K-25 in Connection with Hanford Operations* , April 21, 1947

Harvey 1997
DOE/RL-97-INTERNET-1047, D. W. Harvey, *Construction History of the Hanford Site*, December 1997

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HW-19140 1951
HW-19140, *Uranium Recovery Technical Manual*, November 10, 1951

PBS Online 1999
Film, *The American Experience, Race for the Superbomb*, January 1999

Richards 1952
HW-23754 (HAN-43666), R. B. Richards to F. Hurd, *UO_3 Trial Production Lots 007, 008, and 009*, March 11, 1952

Richards 1952a
HW-23848 (HAN-43786), R. B. Richards to F. Hurd, *UO_3 Trial Production Lots 010, 011, 012, and 013*, March 19, 1952

Smith 1953
HW-27990 by R. E Smith, *Summary of Oak Ridge Discussions Relative to Hanford Uranium Trioxide Specifications*, May 7, 1953

Sturges 1953
Memo HAN-53121, D. G. Sturges, *Shipments of Irradiated Enriched Uranium from Hanford to ARCO*, December 21, 1953