

TABLE D.3.2–1.—Risk-Dominant Scenarios for Pantex Plant

SCENARIO	DESCRIPTION
1	HE explosion initiated during normal operation releases tritium and plutonium due to reservoir and pit failure.
2	HE explosion initiated during normal operation without accompanying radionuclide releases.
3	HE explosion initiated by seismic event or aircraft accident releases tritium and plutonium due to reservoir and pit failure.
4	HE explosion initiated by seismic event or aircraft accident without accompanying radionuclide releases.
5	Tritium release resulting from reservoir failure initiated during normal operation.
6	Pit breach with plutonium release initiated during normal operation.
7	Tritium release resulting from reservoir failures caused by a Building 12-42 South Vault fire initiated by a seismic event or aircraft accident.
8	Pit breach with plutonium release caused by seismic event or aircraft accident.
9	Tritium or plutonium release caused by seismic event or aircraft accident.
10	Chlorine release due to failure of system piping and valves, or cylinder caused by seismic event.
11	Chlorine release due to failure of system piping and valves, or cylinder initiated during normal operation.

TABLE D.3.2–2.—Candidate Accident Scenarios for Pantex Plant

CANDIDATE SCENARIO	DESCRIPTION ⁽¹⁾
C1	Pit breach with Plutonium release due to operational accidents in 12-64, 12-84, 12-99, and 12-104.
C2	Tritium release due to operational accidents in 12-64, 12-84, 12-99, and 12-104.
C3	Criticality accidents due to operational accidents in 12-64, 12-84, 12-99, and 12-104.
C4	HE explosions due to operational accidents in 12-64, 12-84, 12-99, and 12-104.
C5	HE fires due to operational accidents in 12-64, 12-84, 12-99, and 12-104.
C6	Aircraft initiated accidents involving 12-64, 12-84, 12-99, and 12-104.
C7	Earthquake initiated accidents involving 12-64, 12-84, 12-99, and 12-104.
C8	Tornado and high wind initiated accidents involving 12-64, 12-84, 12-99, and 12-104.
C9	Internal flood initiated accidents involving 12-64, 12-84, 12-99, and 12-104.
C10	Lightning initiated accidents involving 12-64, 12-84, 12-99, and 12-104.
C11	Pit breach with plutonium release due to operational accidents in 12-44, 12-85, 12-96, and 12-98.
C12	Tritium release due to operational accidents in 12-44, 12-85, 12-96, and 12-98.
C13	Criticality accidents due to operational accidents in 12-44, 12-85, 12-96, and 12-98.
C14	HE explosions due to operational accidents in 12-44, 12-85, 12-96, and 12-98.
C15	HE fires due to operational accidents in 12-44, 12-85, 12-96, and 12-98.
C16	Aircraft initiated accidents involving 12-44, 12-85, 12-96, and 12-98.
C17	Earthquake initiated accidents involving 12-44, 12-85, 12-96, and 12-98.

TABLE D.3.2–2.—Candidate Accident Scenarios for Pantex Plant-Continued

CANDIDATE SCENARIO	DESCRIPTION⁽¹⁾
C18	Tornado and high wind initiated accidents involving 12-44, 12-85, 12-96, and 12-98.
C19	Internal flood initiated accidents involving 12-44, 12-85, 12-96, and 12-98.
C20	Lightning initiated accidents involving 12-44, 12-85, 12-96, and 12-98.
C21	Pit breach with Pu release due to operational accidents in 12-26, 12-41, 12-50, 12-60, 12-94, 12-104A; and Bays 27 and 28.
C22	Tritium release due to operational accidents in 12-26, 12-41, 12-50, 12-60, 12-94, 12-104A; and Bays 27 and 28.
C23	Criticality accidents due to operational accidents in 12-26, 12-41, 12-50, 12-60, 12-94, 12-104A; and Bays 27 and 28.
C24	HE explosions due to operational accidents in 12-26, 12-41, 12-50, 12-60, 12-94, 12-104A; and Bays 27 and 28.
C25	HE fires due to operational accidents in 12-26, 12-41, 12-50, 12-60, 12-94, 12-104A; and Bays 27 and 28.
C26	Aircraft initiated accidents involving 12-26, 12-41, 12-50, 12-60, 12-94, 12-104A; and Bays 27 and 28.
C27	Earthquake initiated accidents involving 12-26, 12-41, 12-50, 12-60, 12-94, 12-104A; and Bays 27 and 28.
C28	Tornado and high wind initiated accidents involving 12-26, 12-41, 12-50, 12-60, 12-94, 12-104A; and Bays 27 and 28.
C29	Internal flood initiated accidents involving 12-26, 12-41, 12-50, 12-60, 12-94, 12-104A; and Bays 27 and 28.
C30	Lightning initiated accidents involving 12-26, 12-41, 12-50, 12-60, 12-94, 12-104A; and Bays 27 and 28.
C31	Pit breach with Pu release due to operational accidents in 12-26PV, 12-42SV, 12-42NV, 12-44-8, 12-58 Bays 4 and 5, and 12-116 (Zone 12 Staging).
C32	Tritium release due to operational accidents in 12-26PV, 12-42SV, 12-42NV, 12-44-8, 12-58 Bays 4 and 5, and 12-116 (Zone 12 Staging).
C33	Criticality accidents due to operational accidents in 12-26PV, 12-42SV, 12-42NV, 12-44-8, 12-58 Bays 4 and 5, and 12-116 (Zone 12 Staging).
C34	HE fires due to operational accidents in 12-26PV, 12-42SV, 12-42NV, 12-44-8, 12-58 Bays 4 and 5, and 12-116 (Zone 12 Staging).
C35	Aircraft initiated accidents involving 12-26PV, 12-42SV, 12-42NV, 12-44-8, 12-58 Bays 4 and 5, and 12-116 (Zone 12 Staging).
C36	Earthquake initiated accidents involving 12-26PV, 12-42SV, 12-42NV, 12-44-8, 12-58 Bays 4 and 5, and 12-116 (Zone 12 Staging).
C37	Tornado and high wind initiated accidents involving 12-26PV, 12-42SV, 12-42NV, 12-44-8, 12-58 Bays 4 and 5, and 12-116 (Zone 12 Staging).
C38	Internal flood initiated accidents involving 12-26PV, 12-42SV, 12-42NV, 12-44-8, 12-58 Bays 4 and 5, and 12-116 (Zone 12 Staging).
C39	Lightning initiated accidents involving 12-26PV, 12-42SV, 12-42NV, 12-44-8, 12-58 Bays 4 and 5, and 12-116 (Zone 12 Staging).

TABLE D.3.2-2.—Candidate Accident Scenarios for Pantex Plant-Continued

CANDIDATE SCENARIO	DESCRIPTION⁽¹⁾
C40 ⁽²⁾	Pit breach with plutonium release due to operational accidents in Steel Arch Construction (SAC) and Modified Richmond (MR) magazines (Zone 4 Staging).
C41	Tritium release due to operational accidents in SAC and MR magazines (Zone 4 Staging).
C42 ⁽²⁾	Criticality accidents due to operational accidents in SAC and MR magazines (Zone 4 Staging).
C43	HE explosions due to operational accidents in SAC and MR magazines (Zone 4 Staging).
C44	HE fires due to operational accidents in SAC and MR magazines (Zone 4 Staging).
C45 ⁽²⁾	Aircraft initiated accidents involving SAC and MR magazines (Zone 4 Staging).
C46 ⁽²⁾	Earthquake initiated accidents involving SAC and MR magazines (Zone 4 Staging).
C47 ⁽²⁾	Tornado and high wind initiated accidents involving SAC and MR magazines (Zone 4 Staging).
C48 ⁽²⁾	Internal flood initiated accidents involving SAC and MR magazines (Zone 4 Staging).
C49 ⁽²⁾	Lightning initiated accidents involving SAC and MR magazines (Zone 4 Staging).
C50	HE explosions due to operational accidents in 11-17, 11-22, 11-38, 11-51, 11-55, 11-56, 12-8, 12-19, 12-59, 12-62.
C51	HE fires due to operational accidents in 11-17, 11-22, 11-38, 11-51, 11-55, 11-56, 12-8, 12-19, 12-59, 12-62.
C52	Aircraft initiated accidents involving 11-17, 1-22, 11-38, 11-51, 11-55, 11-56, 12-8, 12-19, 12-59, 12-62.
C53	Earthquake initiated accidents involving 11-17, 11-22, 11-38, 11-51, 11-55, 11-56, 12-8, 12-19, 12-59, 12-62.
C54	Tornado and high wind initiated accidents involving 11-17, 11-22, 11-38, 11-51, 11-55, 11-56, 12-8, 12-19, 12-59, 12-62.
C55	Internal flood initiated accidents involving 11-17, 11-22, 11-38, 11-51, 11-55, 11-56, 12-8, 12-19, 12-59, 12-62.
C56	Lightning initiated accidents involving 11-17, 11-22, 11-38, 11-51, 11-55, 11-56, 12-8, 12-19, 12-59, 12-62.
C57	Chemical hazardous material release due to operational accidents in 11-17, 11-22, 11-38, 11-51, 11-55, 11-56, 12-8, 12-19, 12-59, 12-62.
C58	HE explosions due to operational accidents in 11-20, 11-36, 11-50, 12-17 A and B, 12-63, 12-121.
C59	HE fires due to operational accidents in 11-20, 11-36, 11-50, 12-17 A and B, 12-63, 12-121.
C60	Aircraft initiated accidents involving 11-20, 11-36, 11-50, 12-17 A and B, 12-63, 12-121.
C61	Earthquake initiated accidents involving 11-20, 11-36, 11-50, 12-17 A and B, 12-63, 12-121.
C62	Tornado and high wind initiated accidents involving 11-20, 11-36, 11-50, 12-17 A and B, 12-63, 12-121.
C63	Internal flood initiated accidents involving 11-20, 11-36, 11-50, 12-17 A and B, 12-63, 12-121.
C64	Lightning initiated accidents involving 11-20, 11-36, 11-50, 12-17 A and B, 12-63, 12-121.
C65	HE explosions due to operational accidents in 11-23, 11-25, 11-37, 11-42, 11-45, 11-46, 12-71, 12-92, 12-95.
C66	HE fires due to operational accidents in 11-23, 11-25, 11-37, 11-42, 11-45, 11-46, 12-71, 12-92, 12-95.

TABLE D.3.2–2.—Candidate Accident Scenarios for Pantex Plant-Continued

CANDIDATE SCENARIO	DESCRIPTION⁽¹⁾
C67	Aircraft initiated accidents involving 11-23, 11-25, 11-37, 11-42, 11-45, 11-46, 12-71, 12-92, 12-95.
C68	Earthquake initiated accidents involving 11-23, 11-25, 11-37, 11-42, 11-45, 11-46, 12-71, 12-92, 12-95.
C69	Tornado and high wind initiated accidents involving 11-23, 11-25, 11-37, 11-42, 11-45, 11-46, 12-71, 12-92, 12-95.
C70	Internal flood initiated accidents involving 11-23, 11-25, 11-37, 11-42, 11-45, 11-46, 12-71, 12-92, 12-95.
C71	Lightning initiated accidents involving 11-23, 11-25, 11-37, 11-42, 11-45, 11-46, 12-71, 12-92, 12-95.
C72	Criticality accidents due to operational accidents in 4-45 through 4-75, 12-58, 12-65, 12-83.
C73	HE explosions due to operational accidents in 4-45 through 4-75, 12-58, 12-65, 12-83.
C74	HE fires due to operational accidents in 4-45 through 4-75, 12-58, 12-65, 12-83.
C75	Aircraft initiated accidents involving 4-45 through 4-75, 12-58, 12-65, 12-83.
C76	Earthquake initiated accidents involving 4-45 through 4-75, 12-58, 12-65, 12-83.
C77	Tornado and high wind initiated accidents involving 4-45 through 4-75, 12-58, 12-65, 12-83.
C78	Internal flood initiated accidents involving 4-45 through 4-75, 12-58, 12-65, 12-83.
C79	Lightning initiated accidents involving 4-45 through 4-75, 12-58, 12-65, 12-83.
C80	Pit breach with Pu release due to operational accidents in 12-55.
C81	Cobalt-60 exposure due to operational accidents in 12-55.
C82	Criticality accidents due to operational accidents in 12-55.
C83	HE explosions due to operational accidents in 12-55.
C84	HE fires due to operational accidents in 12-55.
C85	Aircraft initiated accidents involving 12-55.
C86	Earthquake initiated accidents involving 12-55.
C87	Tornado and high wind initiated accidents involving 12-55.
C88	Internal flood initiated accidents involving 12-55.
C89	Lightning initiated accidents involving 12-55.
C90	HE explosions due to operational accidents in 11-5, 11-16, 11-18, Firing sites, 12-21A, 12-32, 12-33, 12-56.
C91	HE fires due to operational accidents in 11-5, 11-16, 11-18, Firing sites, 12-21A, 12-32, 12-33, 12-56.
C92	Aircraft initiated accidents involving 11-5, 11-16, 11-18, Firing sites, 12-21A, 12-32, 12-33, 12-56.
C93	Earthquake initiated accidents involving 11-5, 11-16, 11-18, Firing sites, 12-21A, 12-32, 12-33, 12-56.
C94	Tornado and high wind initiated accidents involving 11-5, 11-16, 11-18, Firing sites, 12-21A, 12-32, 12-33, 12-56.
C95	Internal flood initiated accidents involving 11-5, 11-16, 11-18, Firing sites, 12-21A, 12-32, 12-33, 12-56.
C96	Lightning initiated accidents involving 11-5, 11-16, 11-18, Firing sites, 12-21A, 12-32, 12-33, 12-56.

TABLE D.3.2-2.—Candidate Accident Scenarios for Pantex Plant-Continued

CANDIDATE SCENARIO	DESCRIPTION⁽¹⁾
C97	Criticality accidents due to operational accidents in 12-31.
C98	HE explosions due to operational accidents in 12-31.
C99	HE fires due to operational accidents in 12-31.
C100	Aircraft initiated accidents involving 12-31.
C101	Earthquake initiated accidents involving 12-31.
C102	Tornado and high wind initiated accidents involving 12-31.
C103	Internal flood initiated accidents involving 12-31.
C104	Lightning initiated accidents involving 12-31.
C105	Criticality accidents due to operational accidents in 12-21.
C106	HE explosions due to operational accidents in 12-21.
C107	HE fires due to operational accidents in 12-21.
C108	Aircraft initiated accidents involving 12-21.
C109	Earthquake initiated accidents involving 12-21.
C110	Tornado and high wind initiated accidents involving 12-21.
C111	Internal flood initiated accidents involving 12-21.
C112	Lightning initiated accidents involving 12-21.
C113	Chemical hazardous material release due to operational accidents in 12-21.
C114	HE explosions due to operational accidents in BG-3, BG-4, 12-73 (Disposal).
C115	Aircraft initiated accidents involving BG-3, BG-4, 12-73 (Disposal).
C116	Earthquake initiated accidents involving BG-3, BG-4, 12-73 (Disposal).
C117	Tornado and high wind initiated accidents involving BG-3, BG-4, 12-73 (Disposal).
C118	Internal flood initiated accidents involving BG-3, BG-4, 12-73 (Disposal).
C119	Lightning initiated accidents involving BG-3, BG-4, 12-73 (Disposal).
C120	Criticality accidents due to operational accidents in 12-86.
C121	HE explosions due to operational accidents in 12-86.
C122	HE fires due to operational accidents in 12-86.
C123	Aircraft initiated accidents involving 12-86.
C124	Earthquake initiated accidents involving 12-86.
C125	Tornado and high wind initiated accidents involving 12-86.
C126	Internal flood initiated accidents involving 12-86.
C127	Lightning initiated accidents involving 12-86.
C128	Tritium, Plutonium, Uranium releases due to vehicle accidents.
C129	Tritium, Plutonium, Uranium releases due to aircraft initiating accidents involving vehicles.
C130	Tritium, Plutonium, Uranium releases due to severe weather initiating accidents involving vehicles.
C131	HE fires/explosions due to vehicle accidents from differing initiators.
C132	Plutonium dispersion within bay due to weld rod burning through pit during repackaging.

BG - Burning Ground.

¹Numbers in this column refer to specific buildings.²These scenarios are particularly applicable to the storage pits at the alternative sites.