

FAULT TREE ANALYSIS REPORT

Generated: 2026-01-29 17:47:40

Model Overview

Metric	Value
Total Nodes	39
Total Edges	39
Root Events	14
Conditional Events	16
Gates	9

Target Event Result

Target Event	Iran builds a non missile deliverable nuclear weapon
Probability	0.012900
Percentage	1.2900%

Summary Statistics

Category	Count	Average	Min	Max
Root Events	14	0.6964	0.0500	1.0000
Conditional Events	16	0.2409	0.0044	0.9000

Root Events (Independent Base Events)

Probability	Event Name
1.0000	HEU is recovered from rubble
1.0000	HEU has been moved to a safe location before the war (excluding Esfahan tunnel)
0.7500	Iran can build more centrifuges for small plant (defined as up to 5000 SWU/ 1000 centrifuges) or as few as 500 centrifuges
0.6000	Iran has stockpiles of centrifuges intact for small plant, such as inside Esfahan tunnel complex or at an undeclared
0.1000	Iran can build more centrifuges for big plant
0.0500	Iran has stockpiles of centrifuge intact for big plant
1.0000	Natural Uranium is available
0.6000	Enrichment related equipments are available
0.5000	Aluminum shell with channels
0.5000	High purity PETN
0.9500	Main charge
0.8000	Build a neutron initiator or have one
0.9000	Other components such as EBW, Capacitors, Switches, flyer plate etc.
1.0000	Assemble the Surrogate Core

Conditional Events (Dependent on Parent Events/Gates)

Probability	Event Name
0.5000	HEU UF6 is usable and not spiked, and sufficient to account for processing losses and accidents
0.9000	Centrifuges are available for a small plant
0.5000	HEU is moved to a secret location
0.1450	Centrifuges are available for a big plant
0.1000	Converting natural uranium oxide to natural UF6
0.0044	The actual enrichment of natural uranium to WGU in a large enrichment plant within several months
0.3600	The actual enrichment of HEU to WGU in a small enrichment plant in less than six months
0.3265	WGU UF6 to UF4
0.2612	WGUF4 to WG uranium metal
0.1306	Melting and pouring into a mold
0.1045	Molding, Finishing and machining the metal core
0.0836	Coating the metal core
0.2500	Shockwave detonator (MPI)
0.0129	Nuclear Weapons Assembly
0.1625	Iran can conduct a successful cold test
0.0129	Iran builds a non missile deliverable nuclear weapon *** TARGET ***