

# Iranian Pathway<sup>1</sup> to a Nuclear Weapon Under the Amad Plan–What we learned from the Nuclear Archives

## Fissile material<sup>2</sup>

### Uranium mining and milling

“Bandar Project” @ Gchine

[Full report](#) | [Summary](#)

LEU<sup>3</sup> imported, or produced at Natanz or other Iranian sites

Conversion to UF<sub>6</sub>, @ “New Tehran Site” (planned) | [Full report](#)

### Uranium enrichment plant

@ Al Ghadir, aka Fordow

[Full report](#) | [Summary](#)

Conversion from weapon grade uranium hexafluoride to weapon grade uranium tetrafluoride

### Production of weapon grade uranium metal and components of nuclear core

Project 3/14: “Shahid Boroujerdi” @ Parchin

[Full report](#) | [Summary](#)

and Shahid Mahallati Metals Workshop @ Shahid Hemmat Industrial Group

*In the early 2000s, Iran’s was building a substantial nuclear weapons production complex under the “Amad Plan” to manufacture five nuclear weapons and prepare an underground nuclear test site, all to be finished by early 2004 (on five weapons, read the [full report](#) or the [summary](#).) Under international pressure, Iran secretly downsized and reoriented this nuclear weapons program into more camouflaged parts, some or all of which may continue today in reduced form (on reorientation, read the [full report](#) or [summary](#).)*

## Non-fissile material weapons components

(see @Project 110, [click here](#))

### High explosives manufacturing<sup>4</sup>

Nuclear weapon design (“Simulation Project”)

Mechanical, electrical, and electronics parts fabrication<sup>5</sup>

Shock wave generator @ Sanjarian [Full report](#)

### Major high explosives testing

Testing @ Parchin

[Full report](#)

Other testing @ Marivan, Sanjarian, Golab Dareh | [Full report](#)

Hydrodynamic testing with pin dome [Click here.](#)

### Neutron source

Sub-projects 3/20<sup>6</sup> and 3/21

[Full report](#)

### Other components

Flyer plate ([click here](#) for more), main charge, outer casing, etc.

### Underground nuclear test site

“Midan Project”

[Full report](#) | [Summary](#)

### Warhead assembly plant

Click [here](#) for the weapon design

### Re-entry vehicle

@ Shahid Hemmat Industrial Group

Click [here](#) for schematics

### Shahab-3 missile Integration



## Notes and Comments

<sup>1</sup>This chart generally flows from the top to the bottom, ending with a nuclear warhead on a Shahab-3 missile. Some activities occur simultaneously and are therefore presented on the same level.

<sup>2</sup>This pathway does not include all of the design, testing, and development facilities involved in the steps of converting and enriching uranium, or making nuclear weapon components from natural and enriched uranium, in particular those facilities for making uranium tetrafluoride or converting enriched uranium hexafluoride to uranium tetrafluoride.

<sup>3</sup> Low-enriched uranium

<sup>4</sup> It is not clear if this was part of the weapons program or part of a conventional military industry, where high explosive components were built under contract according to designs provided by the nuclear weapons program.

<sup>5</sup> It is currently unknown where these parts were made.

<sup>6</sup> The location of the site which manufactured uranium deuteride (project 3/20) is not currently known.