Detailed Justification

	(dollars in thousands)		
	FY 2003	FY 2004	FY 2005
W88 Pit Manufacturing	**109,871**	**125,035**	**132,005**

Following the manufacture of six certifiable W88 pits in FY 2004, at least six certifiable W88 pits will be manufactured in FY 2005. These pits will be used in tests needed to support the goal of FY 2007 W88 pit certification. Restoring the capability to manufacture and certify pits for the nuclear stockpile remains a central challenge of the stockpile stewardship program. Test items other than pits to be used in certification tests will also be manufactured. Additionally, the increased funding for the project supports a multi-year effort by the National Nuclear Security Administration (NNSA) to reorganize activities and process lines at the TA-55 plutonium facility as well as purchase and install new and/or backup equipment necessary to support achievement of a sustained W88 manufacturing capacity. The increased funding also provides for essential improvements to the quality infrastructure to ensure consistency and quality of product at a sustained manufacturing capacity.

W88 Pit Certification	**105,055**	**108,592**	**101,470**

To confirm nuclear performance of the W88 pit without underground nuclear testing, a required set of engineering tests and physics experiments, in addition to a comprehensive analytical effort to develop a computational baseline that will provide confidence in future simulation capability, is required. The major focus of FY 2005 activities is preparation for and conduct of two complex subcritical experiments. The subcritical experimental plan was re-baselined in FY 2003 to support the acceleration of W88 pit certification from FY 2009 to FY 2007. FY 2005 efforts will focus on completing authorization basis activities at the Nevada Test Site, fielding and executing confirmatory experiments, and conducting the live experiments. Current milestones for significant pit certification activities are:

Unicorn Final Dry Run – First Quarter, FY 2005

Kerinei – Preparatory experiment for Krakatau –Second Quarter, FY 2005

Krakatau Final Dry Run – Fourth Quarter, FY 2005

Pit Manufacturing Capability	**1,159**	**10,000**	**20,992**

Pit manufacturing technologies for the W87 and B61-7 pits must be established. These technologies together with the W88 pit manufacturing technology will enable the manufacture of other pit types within the stockpile. Additionally, this technology will support the MPF project design goals that include producing significantly less waste and radiation dose to operators, and operating at a lower cost and more efficiently than a comparable plant with the manufacturing systems used at the Rocky Flats Plant or the plutonium facility at TA-55. Pit Manufacturing Capability is linked via an integrated plan with W88 pit manufacturing and the MPF project to ensure development of technologies, both near and long-term, required to support the nuclear weapons stockpile in manufacture of all pit types.

Modern Pit Facility (MPF)	**4,242**	**10,810**	**29,800**