

NSA/CSS Requirements for Hard Disk Drive Destruction Devices

1 (U) Introduction

(U) Hard disk drive destruction devices must pass an evaluation by meeting requirements set by the NSA/CSS for the destruction of classified hard disk drives. NSA/CSS will primarily evaluate the device's operational ability to deform the platters of the hard disk drive so that it's extremely difficult for classified information to be extracted. Secondly the operational, administrative, power, safety, environmental and mechanical areas will be evaluated to minimize potential risk.

(U) Once the evaluation is successful the NSA/CSS will include the device in the next release of the "NSA/CSS Evaluated Products List for Hard Disk Drive Destruction Devices". The Evaluated Products List (EPL) is meant to serve as guidance, inclusion in this document is not an endorsement by the NSA/CSS or the U.S. Government. All listed products sanitize TS/SCI and below.

2 (U) Purpose and Use

(U) This document should be used by a vendor of hard disk drive destruction devices as a guide for the NSA/CSS evaluation. In order to be included in the NSA/CSS EPL, a vendor must satisfy all appropriate requirements in this document. The hard drive destruction device will be evaluated against a random assortment of hard drives it claims to destroy.

3 (U) Descriptions

- (U) **EPL:** Evaluated Product List.
- (U) **Evaluator:** The destruction engineer performing the evaluation.
- (U) **Operator:** The person using the hard disk drive destruction device to perform the destruction of hard disk drive.
- (U) **Hard Disk Drive:** A hard disk drive (sometimes abbreviated as a hard drive, HD, or HDD) is a non-volatile data hard disk drive. It is usually installed internally in a computer, attached directly to the disk controller of the computer's motherboard. It contains one or more platters, housed inside of an air-sealed casing. Data is written to the platters using a magnetic head, which moves rapidly over them as they spin.
- Types of disk drives are:
 - (U) 3.5" for desktop computers
 - (U) 2.5" for laptops
- (U) **Hard Disk Drive Destruction Device:** A Hard Drive Destruction Device has the ability to deform the platter(s) of a hard disk drive so that classified data cannot be extracted without an exceptional effort.

4 (U) Operation Requirements

4.1 (U) Destruction

(U) A hard disk drive destruction device has the ability to deform the platter(s) of a hard disk drive in 30 seconds or less, by bending, punching, or waffling.

4.2 (U) Operational Time

(U) The hard disk drive destruction device must be able to operate continuously for one hour while destroying at least 100 miscellaneous hard disk drives. The disk drive destruction device may jam up to three times per 100 units destroyed however a jam must be cleared within 5 minutes. For this specification, miscellaneous refers to hard drives made by a variety of manufacturers.

4.3 (U) Hard Drive Types

(U) A hard disk drive destruction device must be able to destroy these hard disk drive:

- o (U) 3.5" for desktop computers
- o (U) 2.5" for laptops

(U) In order for a hard disk drive destruction device to be approved to destroy a hard disk drives it must be evaluated.

5 (U) Administrative Requirements

5.1 (U) Labels

(U) The hard disk drive destruction device must have a label that can be easily viewed and includes:

- (U) Company Name,
- (U) Model,
- (U) Serial Number.

5.2 (U) Feature Claims

(U) The hard disk drive destruction device vendor must specify the hard disk drives it will destroy and the requirements it will satisfy. If a hard disk drive is not claimed it will be not be evaluated and the disk drive destruction device will not be approved to destroy that classified hard disk drive. If a requirement is not supported the disk drive destruction device may not be allowed to go through evaluation.

5.3 (U) User/Operator Guide

(U) The hard disk drive destruction device must have an English version of the user/operator manual. The manual must include the following:

- Accurate description of the hard disk drive destruction device,
- List of hard disk drives it will destroy,
- Accurate summary of each feature and function,
- List of specifications (i.e., power consumption, motor size etc.),
- Maintenance procedures:
 - Changing Filters,
 - Remove a jam,
 - Lubrication,
 - Safety procedures.

6 (U) Power Requirements

6.1 (U) Electronic Operation

(U) The hard disk drive destruction device will be approved for a power source that is evaluated in testing. Every power source for a hard disk drive destruction device must be individually tested to claim approval.

6.2 (U) Manual Operation Force

(U) A manually powered hard disk drive destruction device must take less than 60 lbs. force by a human operator to cause destruction to a hard disk drive.

6.3 (U) On/Off Switch

(U) The hard disk drive destruction device must have On/Off Switch within easy access of the operator.

6.4 (U) Power Indication

(U) The hard disk drive destruction device must have a power indication display that can be clearly seen by the operator.

6.5 (U) Ready Indication

(U) If the hard disk drive destruction device requires a warm up period before operation it must have a ready indication display.

7 (U) Safety and Environmental

7.1 (U) Emergency Off

(U) A electrical powered hard disk drive destruction device must have an emergency stop mechanism within easy reach of an operator. The emergency procedure must be documented.

7.2 (U) Operator Protection

(U) The hard disk drive destruction device must protect the operator. The operator must not come into contact with any moving parts or projectiles during operation of the hard disk drive destruction device . The hard disk drive destruction device must be in a totally enclosed chamber that will not

allow the destruction mechanism to work until a door is closed, totally enclosing the hard disk drive destruction device.

7.3 (U) Deformed Hard Drive Handling

(U) The hard disk drive destruction device must have the ability to easily removed the deformed hard disk drive.

7.4 (U) Debris Collection

(U) Any debris that is created during the deformation process must be collected in a bin.

7.5 (U) Debris Handling

(U) The hard disk drive destruction device must have the ability for the operator to easily removed and emptied the debris.

7.6 (U) Noise

(U) Sound levels for the hard disk drive destruction device must be less than 85 dBA while operating. This level meets both the National Institute for Occupational Operational and Health (NIOSH) and the Occupational Operation and Health Administration (OSHA) standards of less than 85 DBA and less the 90 dBA respectively.

8 (U) Mechanical

8.1 (U) Fit and Finish

(U) The hard disk drive destruction device should have a tight fit with no gaps between panels, loose panels, faulty doors, loose windows or sharp edges that could cause safety or operational issues.

(U) The hard disk drive destruction device should be a production unit that is complete and all claimed features should be operational.

8.2 (U) Vibration

(U) The effects of vibration can be severe. Unchecked vibration can accelerate rates of wear (i.e. reduce bearing life) and damage equipment. Vibrating machinery can create noise, cause safety problems and lead to degradation in plant working conditions.

(U) The hard disk drive destruction device must not exhibit a vibration measurement of over ? Hz. The measurements will be taken at four random locations around the hard disk drive destruction device using a digital vibration meter.

8.3 (U) Heat Generation

(U) A heat signature will be taken for electrically power machines using a heat signature camera on each side of the device. The signature should show no high temperature activity (red areas) on the hard disk drive destruction device that could be dangerous to the environment or injure an operator.

8.4 (U) Calibration or Maintenance

(U) Any machine will require calibration and maintenance during its lifetime. If the hard disk drive destruction device requires calibration or maintenance by the operator it must be safe and reasonable easy to accomplished. The following are some specifics:

- (U) Unit Jamming must be cleared within 5 minutes.
- (U) Hard disk drive destruction device must be able to reset within 10 minute after a thermo shutdown.