

SECTION 12 – INSTALL BASE IN SPEC (IBIS)

NOTE:

Section 12 is specifically for Pre-11.X systems. Software versions 11.X and later systems refer to section 11 of the PM manual.

TABLE OF CONTENTS

<u>SECTION</u>	<u>TITLE</u>	<u>PAGE</u>
12-1	GENERAL REQUIREMENTS	12-2
12-2	LVSHIM CHECK AND CALIBRATION	12-3
12-3	IBIS SPT PROCEDURE AND CRITERIA. (PRE 11.X SOFTWARE)	12-3

12-1 GENERAL REQUIREMENTS

Personnel Requirements:

Required Persons	Preliminary Reqs	Procedure	Finalization
1	Timing Not Applicable	10 mins	Timing Not Applicable

Tools and Test Equipment:

Item:	Quantity:	Part Number:
LVShim Phantom Assembly	1	-
Nesting Plate Assembly	1	-
DQA Phantom	1	-
Head Coil	1	-
Body Sphere and Loader	1	-
Service Key	1	-
Necessary if Super-Con Shim is required:		
Shim Supply	1	46-260777G3
Shim Lead Cable Kit	1	2135558

Required Conditions:

System software: pre 11.0 release. (For systems at or above 11.X release proceed to section 11 PM assist.)

Completion of a successful Shim is a prerequisite to performing the SPT procedure. Either Gradshim or LVShim are valid. Only the most recent shim file is analyzed for IBIS

For more information about LVShim see direction 2333500 (Signa Excite Service Methods) / Adjust and Cal/System level Procedures/LVshim.

Objective:

Install In Spec was developed to ensure that the scanner performance after installation and initial calibration meets GE Healthcare quality standards before turning the MR scanner over to the customer. Installed Base In Spec (IBIS) was developed to ensure the quality of ongoing scanner maintenance during the lifetime of the scanner

IBIS measures health of the installed base after installation. SPT and Shim are two of the standard PM procedures and the basis for determining if the system is in spec. PM timeliness is also important to IBIS passing. IBIS PMs are due every other month.

Flow of IBIS:

A typical PM session using IBIS feature will include the field engineer (FE) running SPT and the LVShim in Gradient Shim Mode, resolve any issues found, and then complete other tasks scheduled for the PM.

IBIS SHIM Criteria:

Either Gradshim or LVShim are valid. Only the most recent shim file is analyzed for IBIS so select a valid combination of DSV and Bandwidth and keep homogeneity in spec.

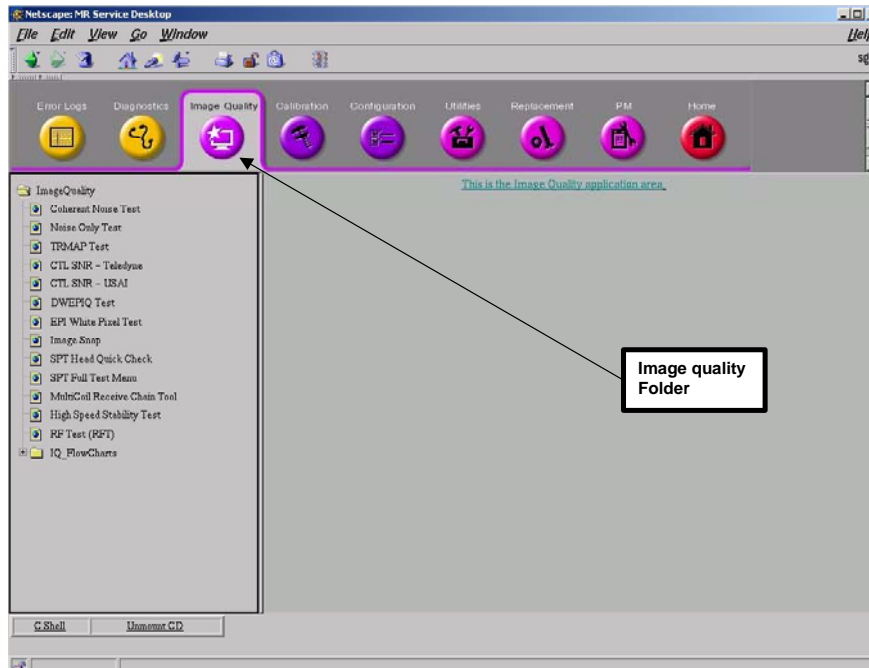
Shim Type	BRM or TRM Whole		Overall	CRM or TRM Zoom		Overall
	DSV	Bandwidth	Homogeneity	DSV	Bandwidth	Homogeneity
LVShim	45 cm	500Hz	< 80 Hz	40cm	500Hz	< 64 Hz
Grad Shim	22 cm	200Hz	< 6 Hz	22cm	200Hz	< 6 Hz

12-2 LVSHIM Check and Calibration

1. Verify that LVShim is within specification. The shim procedure, SYSSCA8A.doc, can be found at <http://3.87.118.28/optec3/common/8xdocs/system/syssca8a.pdf>.
2. If Shim is within specification no further action is required in this section. However, if all of the shim data is not within specification, adjustments must be made before proceeding to the SPT tests in the next section.

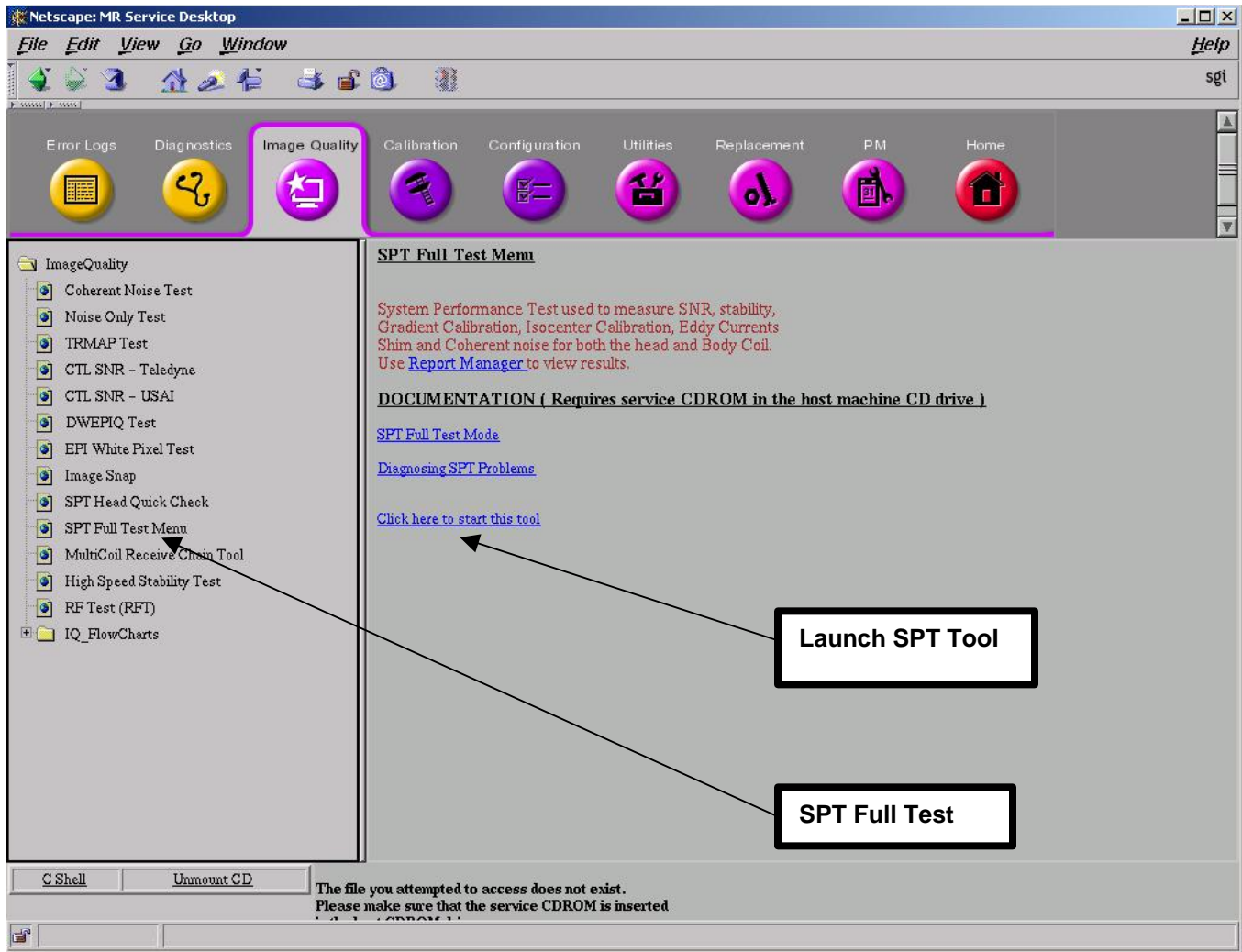
12-3 IBIS SPT Procedure and Criteria. (Pre 11.X Software)

1. From the Common Service Desktop select the “Image Quality” tab. See Illustration 12-1.



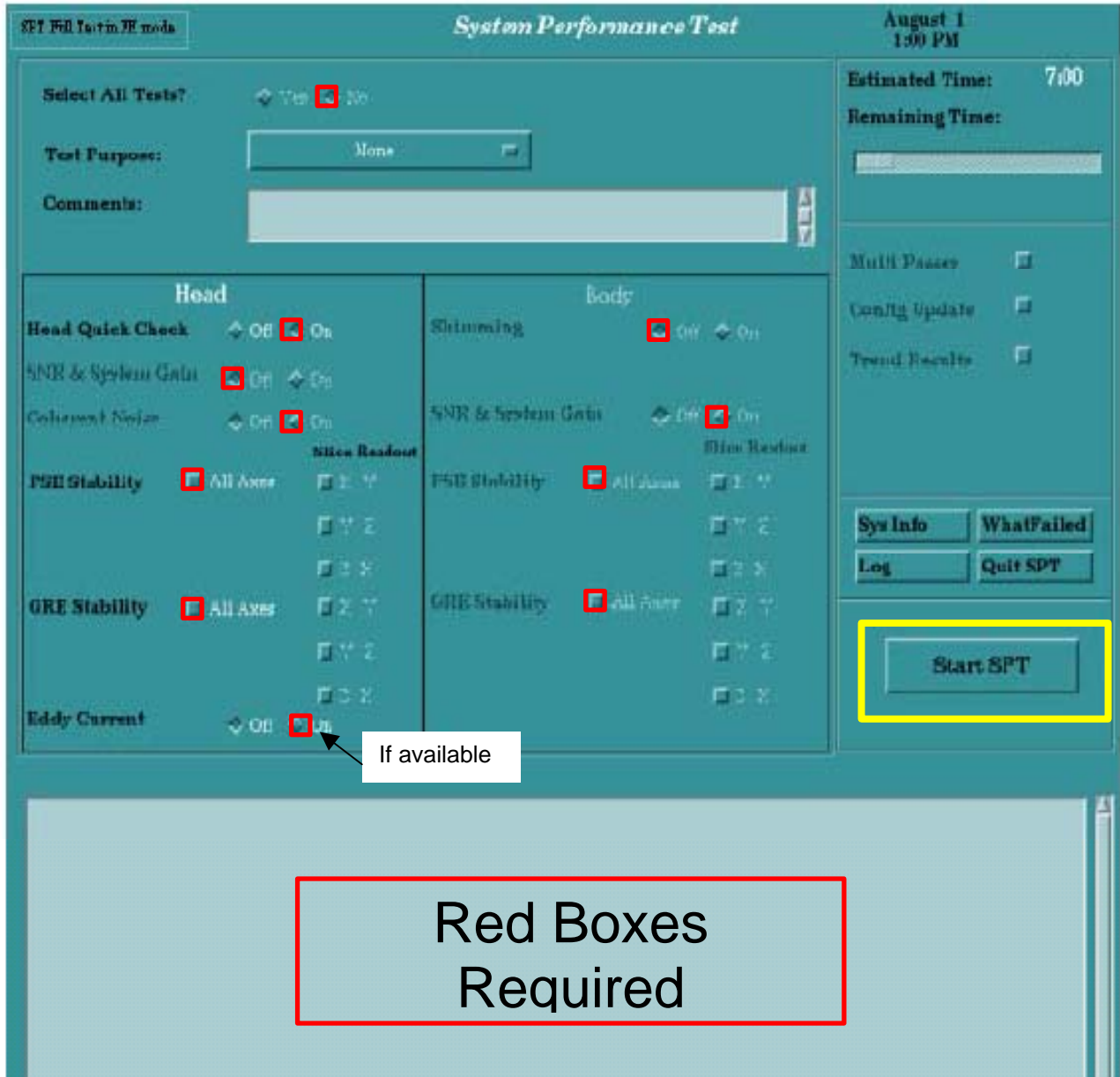
CSD SCREEN
 ILLUSTRATION 12-1

2. Click on the “SPT Full Test Menu” found in the “Image Quality” folder on the left Column of the Screen. See Illustration 12-2.
3. Click on “Click here to start this tool” center of screen to launch the SPT tool. See Illustration 12-2



LAUNCHING SPT FULL TEST
 ILLUSTRATION 12-2

4. The following tests shall be selected and run as part of the SPT. This is done by clicking the box/diamond next to the word “ON” to the right of the corresponding test. See Illustration 12-3.
 - Head Quickcheck
 - Coherent Noise
 - Head FSE and GRE stability
 - Eddy Currents (only if available in SPT menu)
 - Body SNR
 - Body FSE and GRE stability
 - For TRM, select either Whole or Zoom and alternate each PM



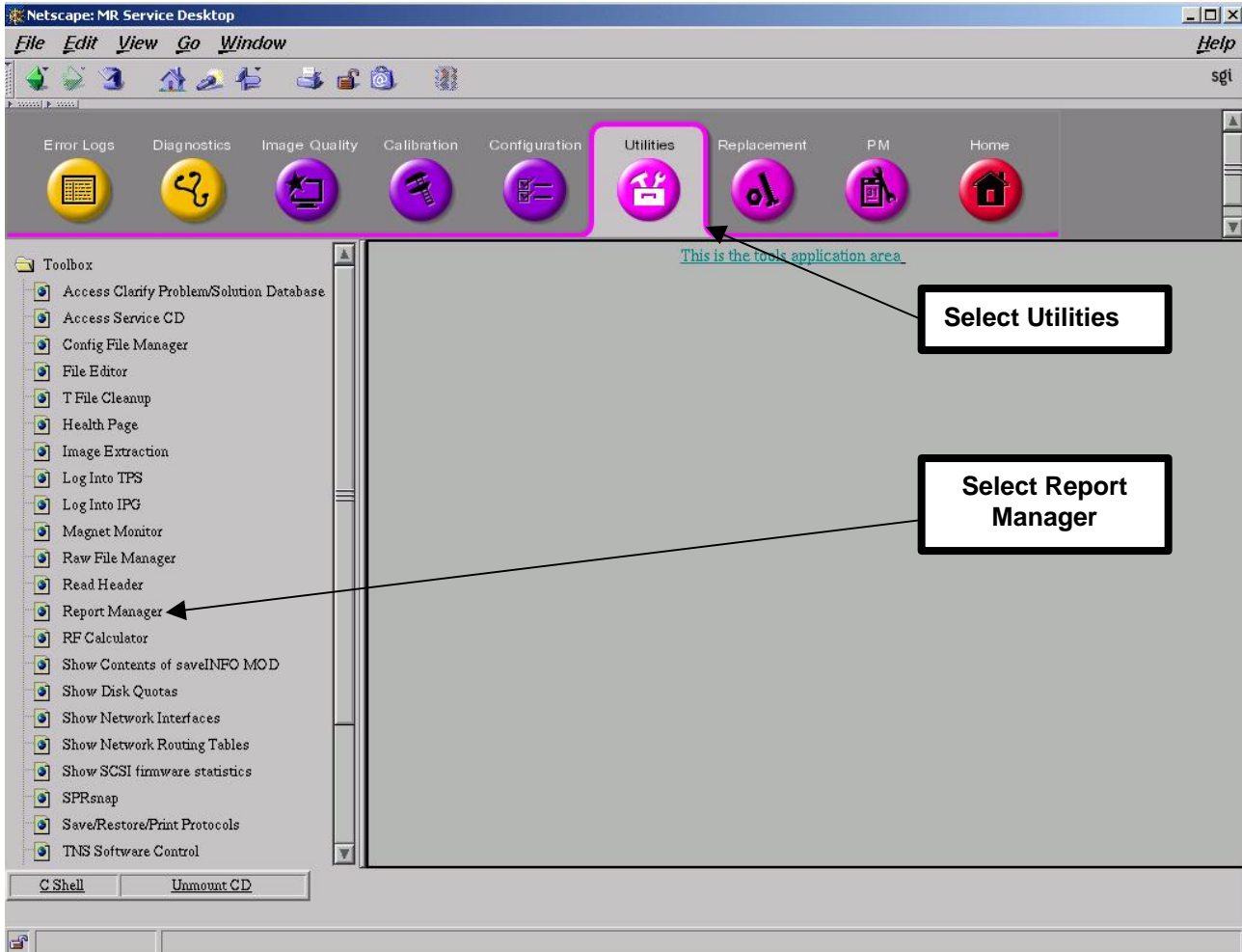
SYSTEM PERFORMANCE TEST (SPT) SETUP SCREEN
ILLUSTRATION 12-3

Note

Do not select Shimming in SPT since results can conflict with prior LVShim

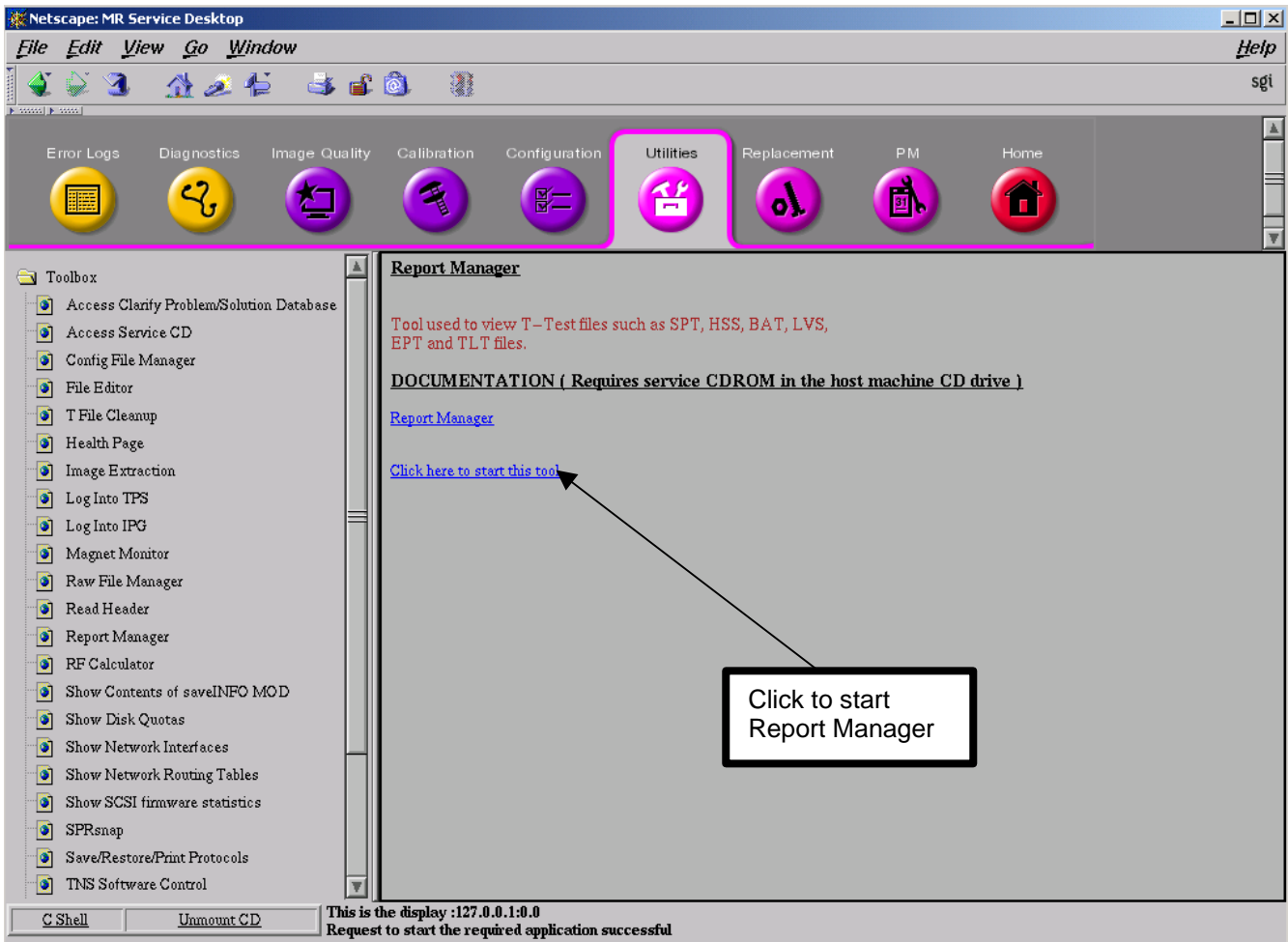
5. To initiate the SPT testing, click on “Start SPT”, located at the lower right hand side of the screen. See Illustration 12-3.

- 6. The SPT Test results may be viewed in the Report Manager. The result file is accessed with the following steps: Figure SPT8 is an example.
 - a. On the Common Service Desktop (CSD), click the “Utilities” icon. See Illustration 12-4.
 - b. Click on “Report Manager” in the left column. See Illustration 12-4.



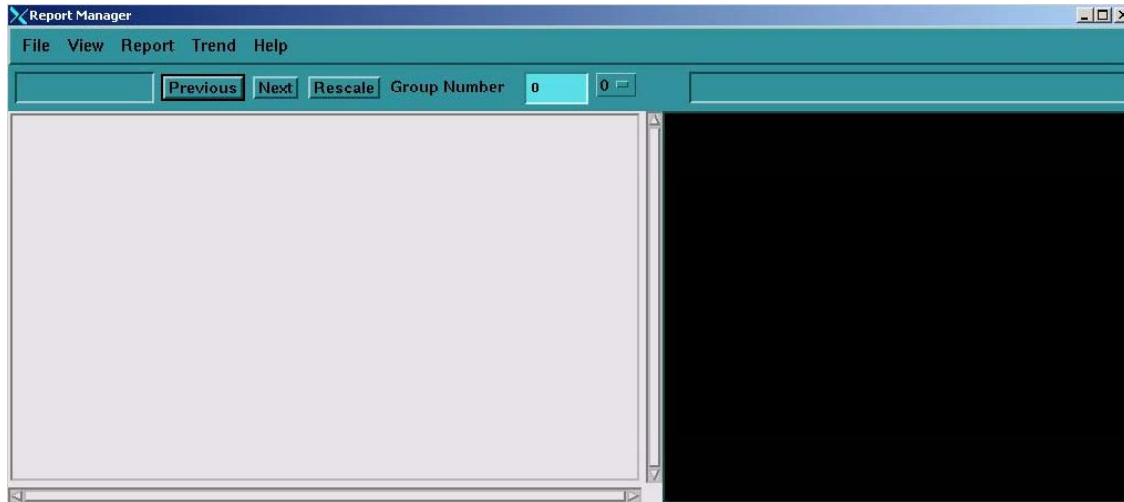
ACCESSING REPORT MANAGER ON CSD
ILLUSTRATION 12-4

- c. Launch the Report Manager tool by clicking “Click here to start this tool” located in the Report Manager Window. See Illustration 12-5.



LAUNCHING REPORT MANAGER
ILLUSTRATION 12-5

- d. The Report Manager and the Password Window is now open. See Illustration 12-6 and 12-7.
- e. Enter the password and click OK. The Password window, Illustration 12-7, will close.

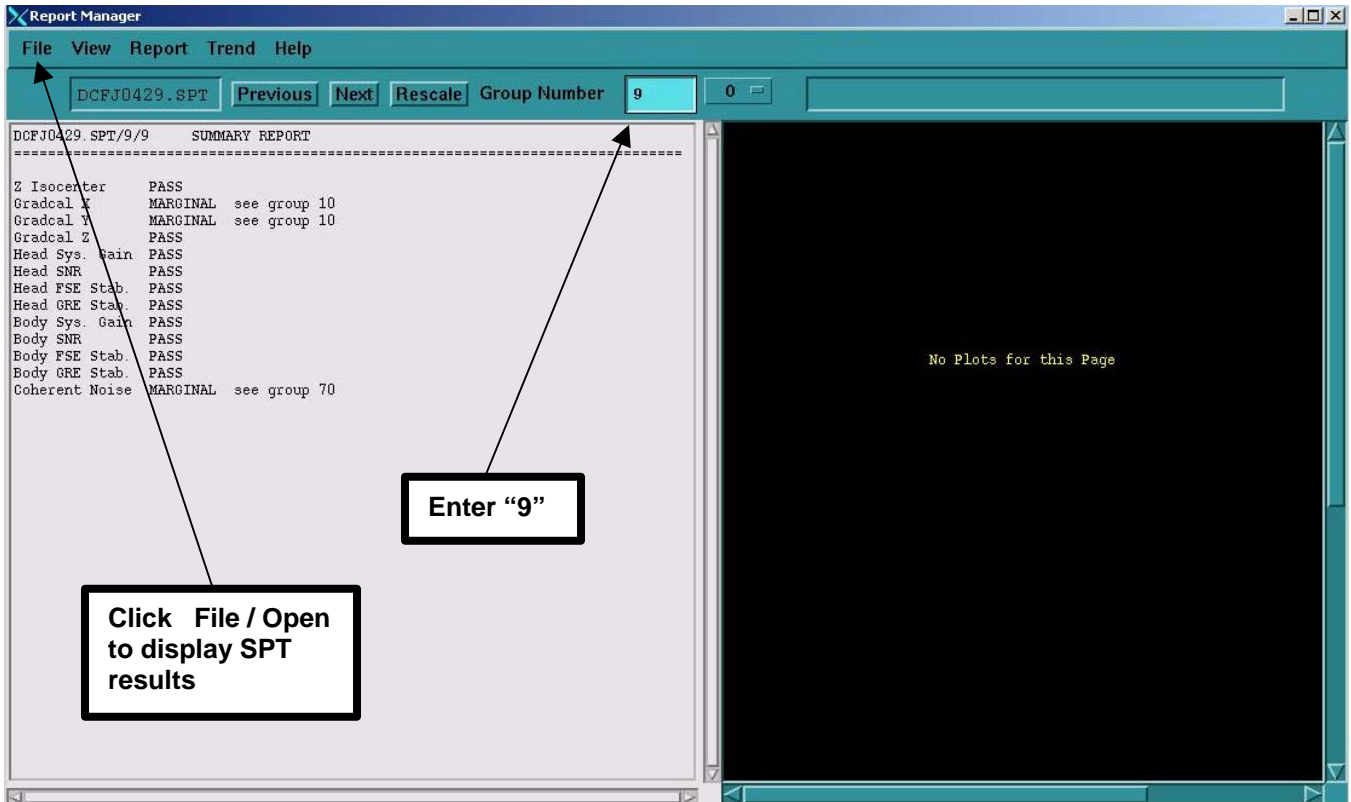


REPORT MANAGER
ILLUSTRATION 12-6



PASSWORD WINDOW
ILLUSTRATION 12-7

- 7. Enter "9" in the group list box click on the "File" pull down then click "open" to display SPT Result. See Illustration 12-8.



SPT RESULTS IN REPORT MANAGER
ILLUSTRATION 12-8

8. Severe failures are not acceptable. Severe failures must be corrected and the SPT testing rerun. See Figure SPT9 for IBIS SPT Criteria

IBIS SPT Criteria		
<u>Example system health report</u>	<u>IBIS Requirements</u>	
Z Isocenter	PASS	- No Severe Failures
Gradcal X	PASS	- No Severe Failures
Gradcal Y	PASS	- No Severe Failures
Gradcal Z	PASS	- No Severe Failures
Head Sys. Gain	PASS -----	- IBIS ignores results
Head SNR	PASS	- No Severe Failures
Head FSE Stab.	PASS	- No Severe Failures
Head GRE Stab.	PASS*	- No Severe Failures
Body Sys. Gain	PASS -----	- IBIS ignores results
Body SNR	PASS	- No Severe Failures
Body FSE Stab.	PASS	- No Severe Failures
Body GRE Stab.	PASS*	- No Severe Failures
Coherent Noise	PASS	- No Severe Failures
†Eddy Current X	SEVERE see group 40	- IBIS ignores results
†Eddy Current Y	SEVERE see group 41	- IBIS ignores results
†Eddy Current Z	MARGINAL see group 42	- IBIS ignores results

Notes:

* IBIS ignores SR20 results for GRE stability due to uncompensated ramps in plots

† Eddy Currents not available in all software releases

IBIS SPT CRITERIA
 ILLUSTRATION 12-9