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**NATIONAL TRANSPORTATION SAFETY BOARD**

**WASHINGTON, D.C.**

FAA Presentation – National Simulator Program

(5 Pages)

# National Simulator Program (NSP) Branch

**Harlan Gray Sparrow III, Manager AFS-205**

## Overview

This branch is the principal element of the division with respect to managing, directing, planning, organizing, coordinating, developing, and evaluating national standards, policies, and procedures relating to Flight Simulation Training Devices (FSTDs), an international term encompassing Full Flight Simulators (FFS) and Flight Training Devices (FTD). The NSP is the primary source for evaluation and qualification of all FAA approved FSTDs.

The National simulator program is based in Atlanta Georgia.



# National Simulator Program (NSP) Branch

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Responsible for:

- Setting standards and criteria for qualification of both fixed and rotary wing aircraft flight simulation training devices (FSTDs). The NSP is working with several international authorities (the International Working Group (IWG)) and industry operators to establish and maintain a consistent set of standards and criteria nationally and internationally.
- Accomplishing Initial and recurrent qualification evaluations of all FAA approved full flight simulators (700 +) and levels six (6) and seven (7) flight training devices (50+) world wide.
- Qualification of levels four (4) and five (5) flight training devices (estimated 500 +). These devices are designed to meet the requirements of a FAA approved training program. The local Flight Standards District Offices (FSDOs) have been assisting the NSP by evaluating the FTDs used for training programs. The NSP provides assistance to the FSDOs, if requested or required to qualify the FTDs. The NSP role is to supply the qualification certificates for, and maintain records of, the FTDs qualified by the FSDOs.
- Participating in and serving as operations members on Flight Standardization Boards (FSBs) and Flight Operations Evaluation Boards (FOEBs) for the purpose of gaining the knowledge and experience to enable qualification of simulators and FTDs for that aircraft type.



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## FY09 Projects

- Flight Standardization Boards (FSBs), Flight Operations Evaluation Boards (FOEBs) for numerous new aircraft: **Boeing 787, Gulfstream 250, Embraer 500, CRJ 1000, etc.**
- Extended inspection intervals for simulators
- Development of a new Simulator Inventory Evaluation and Scheduling System (**SIESS**)

**•General Requirements for  
•Flight Training Devices by Levels**

<b>Flight Training Devices (AC 120-45A)</b>									
<b>Level</b>	<b>Cockpit</b>	<b>Aerodynamic Model</b>	<b>Control Loading</b>	<b>Sounds System</b>	<b>Motion System</b>	<b>Visual System</b>	<b>NSP Document Approval</b>		
<b>1</b> (Note 1)			Yes						
<b>2</b>	Generic	Generic	Yes		Optional (Note 2)	Optional (Note 2)	Reference Data		
<b>3</b>	Generic	Generic	Yes	Yes	Optional (Note 2)	Optional (Note 2)	Reference Data		
<b>4</b>	Specific for Make/Model	Not Required (Note 6)	Not Required (Note 6)		Optional (Note 2)	Optional (Note 2)			
<b>5</b>	Specific for Make/Model	Generic	Yes		Optional (Note 2)	Optional (Note 2)	Reference Data		
<b>6</b>	Specific for Make/Model	Specific for Make/Model	Yes	Yes	Optional (Note 2)	Optional (Note 2)	Qualification Test Guide		
<b>7</b>	Specific for Make/Model	Specific for Make/Model		Yes	Optional (Note 2)	Optional (Note 2)	Qualification Test Guide		



### Qualification Levels of Full Flight Simulators (FFS)

	<b>Control Loading</b>	<b>Visual Displays</b>	<b>Motion Freedom</b>	<b>Visual View</b>	<b>Sound</b>	<b>Data Package</b>	<b>Fidelity</b>	<b>Radar Required</b>
Level A	Static Control Loading	Night Scene	3 DOF (Degrees of Freedom)	45x30 Field of View	Some Cockpit Noise			
Level B	Static Control Loading	Night Scene	3 DOF (Degrees of Freedom)	45x30 Field of View	Some Cockpit Noise	Ground Handling Package		
Level C	Static and Dynamic Control Loading	Night Dusk Day Scenes	6 DOF (Degrees of Freedom)	180 x 40 Field of View	Significant Cockpit Noise	Ground Handling Package	Feel and See Some Runway Contaminates	
Level D	Static and Dynamic Control Loading	Night Dusk Day Scenes	6 DOF (Degrees of Freedom)	180 x 40 Field of View	Realistic Cockpit Noise	Ground Handling Package	Feel and See Some Runway Contaminates	Operating Radar

