

# OPG Simulators Summary

	<b>Darlington (units 1,2,3,4)</b>	<b>Pickering A (units 1,4)</b>	<b>Pickering B (units 5,6,7,8)</b>
<b>Nuclear Plant Design</b>	881MWe net PHWR* CANDU**	515MWe net PHWR CANDU	516MWe PHWR CANDU
<b>First Reactor in service</b>	1990	1971	1983
<b>Reference Reactor</b>	2	1	5
<b>Plant Control/ Monitoring Computers</b>	Multiple PDP-11s	Dual IBM1800 PDP display system	Dual Varian 72
<b>Plant Computers Implementation at Simulator</b>	SIMH virtual machine  Shutdown computers translated	Modeled/translated  Monitoring computer stimulated	Virtual machine (in-house) Monitoring computer stimulated
<b>Major Refurbs</b>	Mid-life Retube planned starting in 2017	Retubed around 1992 Upgrades in late 1990s End of life 2024	None planned: end of life planned 2024
<b>Simulators</b>	2 separate full-scope simulators at different sites  Both include "Unit 0"  Separate Fuel Handling kiosk  Multiple large-scale classroom setups	Full-scope simulator  Integrated Fuel Handling panels  Separate Fuel Handling soft panels  Multi-screen classrooms	Full-scope simulator  Plans for Integrated Fuel Handling panels  Separate Fuel Handling soft panels  Multi-screen classrooms
<b>Original Simulator In- service</b>	1988	1983	1975
<b>Simulator Operating System</b>	Linux (training delivery, desktop) Windows (desktop)	Linux (training delivery, desktop) Windows (desktop)	Linux (training delivery, desktop) Windows (desktop)
<b>Simulator Technology</b>	RightSTEP (in-house)  Grasp code generation	RightSTEP with additional Grasp code- generator technology (in-house)	RightSTEP (in-house)
<b>Licensed Staff Quals</b>	~92	~55	~72
<b>Reliability: 2015</b>	DA1: 99.97% DA2: 99.95%	99.79%	99.95%
<b>Recorded Hours Used in 2015:</b>	DA1: 2632 DA2: 3496	2138	3068

\* Pressurized Heavy Water (Nuclear) Reactor

\*\* Canadian Deuterium Uranium: the standard Canadian reactor design developed in the 1950s