

# Westron Reference List

Date	Object	Unit	Country	Platform	System
<b>2011</b>					
	Almaraz NPP	2	Spain	Vulcan	Equipment (panels) of Signal Conditioning for CIS
	Almaraz NPP	1	Spain	Vulcan	Equipment (panels) of Signal Conditioning for CIS
	Dukovany NPP	3,4	Czechia	Vulcan	Equipment for Radiation Monitoring System SV
	South Ukraine NPP	1	Ukraine	Vulcan	Regulators of the Reactor Division (SAR RO)
	Dukovany NPP	1,2	Czechia	Vulcan	Equipment for Radiation Monitoring System SV
	Zaporozhye NPP	5	Ukraine	Vulcan	Equipment for Leak Monitoring System (N16) and detection of emergency steam generator
	Almaraz NPP	1	Spain	Ovation	Computer Information System
	Koeberg NPP	2	South Africa	Ovation	Computer Information System
	Shin Kori NPP	3,4	Korea	AC160	Software verification (Greenlining)
<b>2010</b>					
	Rovno NPP	1	Ukraine	Vulcan	Unit Equipment Residual Fatigue Lifetime Diagnostics System (SDOR)
	Rovno NPP	2	Ukraine	Vulcan	Radiation Monitoring System. (Parameters Important to Safety)
	South Ukraine NPP	2	Ukraine	Vulcan	Emergency Regulators of the Safety System (SAR USB-1)
	Rovno NPP	1	Ukraine	Vulcan	Radiation Monitoring System (CIISRK)
	Dukovany NPP	1-4	Czechia	Vulcan	Equipment for Radiation Monitoring System (Phase 1)
	Rovno NPP	2	Ukraine	Vulcan	Unit Equipment Residual Fatigue Lifetime Diagnostics System (SDOR)
	Armenia NPP	2	Armenia	Vulcan	Automatic Control Systems for Emergency Diesel Generators
	Rovno NPP	1	Ukraine	Vulcan	Automatic Control Systems for Emergency Diesel Generators (SS-1, 2, 3)
	Koeberg NPP	1	South Africa	Ovation	Computer Information System
<b>2009</b>					
	Zaporozhye NPP		Ukraine	Vulcan	Scala - system of control, analysis, and localization of an accident (Stage 1)
	Armenia NPP	2	Armenia	Vulcan	Automatic Control Systems for Emergency Diesel Generators
	South Baghdad FPP	3	Iraq	Vulcan	Start-up of the Unit with Vulcan I&C system

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	Vandellos NPP	2	Spain	Ovation	Software TagOut system for for Essential Service Water System
<b>2008</b>					
	Zaporozhye NPP	1-4,6	Ukraine	WDPF	SPDS modernization
	South Ukraine NPP	2,3	Ukraine	WDPF	SPDS modernization
	WEC		USA	Vulcan	Vulcan-M Demo System
	Zaporozhye NPP	4	Ukraine	Vulcan	Radiation Monitoring System. (Parameters Important to Safety)
	Zaporozhye NPP	4	Ukraine	Vulcan	Radiation Monitoring System (CIISRK)
	South Ukraine NPP	2	Ukraine	Vulcan	Emergency Regulators of the Safety System (SAR USB-3)
	South Baghdad FPP	4	Iraq	Vulcan	Start-up of the Unit with Vulcan I&C system
	Rovno NPP	4	Ukraine	Vulcan	Unit Equipment Residual Fatigue Lifetime Diagnostics System (SDOR)
	NPPs		USA	Ovation	Emergency Response Systems Product Line Development
<b>2007</b>					
	South Ukraine NPP		Ukraine	WDPF	Modernization of SPDS Software for the Full-Scale Simulator
	Zaporozhye NPP	5	Ukraine	WDPF	SPDS modernization
	South Ukraine NPP	1	Ukraine	WDPF	SPDS modernization
	Rovno NPP		Ukraine	WDPF	Modernization of SPDS Software for the Full-Scale Simulator
	South Ukraine NPP	2	Ukraine	Vulcan	Time Synchronization System of the Unit
	Zaporozhye NPP	3	Ukraine	Vulcan	Radiation Monitoring System (CIISRK)
	Khmelnitsky NPP	2	Ukraine	Vulcan	Unit Equipment Residual Fatigue Lifetime Diagnostics System (SDOR)
	Rovno NPP	1	Ukraine	Vulcan	Hardware for pipe leaks diagnostic system (SKT)
	Armenia NPP	2	Armenia	Vulcan	Diesel Generator Load Sequencer
	South Ukraine NPP	2	Ukraine	Vulcan	Emergency Regulators of the Safety System (SAR USB-2)
	Rovno NPP	4	Ukraine	Vulcan	Radiation Monitoring System (CIISRK)
	South Ukraine NPP	2	Ukraine	Vulcan	Radiation Monitoring System. Emission monitoring.
	South Ukraine NPP	1	Ukraine	Vulcan	Radiation Monitoring System. Emission monitoring.

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	Rovno NPP	1	Ukraine	Vulcan	Radiation Monitoring System. (Parameters Important to Safety)
	South Ukraine NPP	1	Ukraine	Vulcan	Emergency Regulators of the Safety System (SAR USB-1)
	AP-1000		USA	Ovation	Development of functional application software modules for category B and C systems
	Hope Creek NPP	1	USA	Ovation	SPDS modernization
	Vogtle NPP	1,2	USA	Ovation	Development of technical solutions on replacement of Plant Computers for Units 1 and 2
	AP-1000		USA		Development of base PAMS project
<b>2006</b>					
	South Ukraine NPP	3	Ukraine	Vulcan	Turbo generator Monitoring System (Replacement of A701-3 System)
	Armenia NPP	2	Armenia	Vulcan	Steam Generators Level Control System
	South Ukraine NPP	1	Ukraine	Vulcan	Time Synchronization System of the Unit
	South Ukraine NPP	1	Ukraine	Vulcan	Emergency Regulators of the Safety System (SAR USB-2)
	South Ukraine NPP	1	Ukraine	Vulcan	Expert System of the Chemical Monitoring System of the Unit
	Rovno NPP		Ukraine	Vulcan	Panels for the Main Radiation Monitoring Control Room of RNPP
	South Ukraine NPP	3	Ukraine	Vulcan	Expert System of the Chemical Monitoring System of the Unit
	South Baghdad FPP	3	Iraq	Vulcan	I&C for Unit 3 of FPP "South Baghdad" (Delivery)
	South Ukraine NPP	2	Ukraine	Vulcan	Expert System of the Chemical Monitoring System of the Unit
	Zaporozhye NPP	3	Ukraine	Vulcan	Radiation Monitoring System. (Parameters Important to Safety)
	Rovno NPP	3	Ukraine	Vulcan	Radiation Monitoring System (CIISRK)
	Zaporozhye NPP	2	Ukraine	Vulcan	Radiation Monitoring System (CIISRK)
	Zaporozhye NPP	1	Ukraine	Vulcan	Radiation Monitoring System (CIISRK)
	South Baghdad FPP	4	Iraq	Vulcan	I&C for Unit 4 of FPP "South Baghdad" (Delivery)
	South Ukraine NPP	3	Ukraine	Ovation/ Vulcan	Computer Information System. Upper Level Replacement and Lower Level Replacement (partially)
	Ringhals NPP		Sweden	Ovation/ AC160	Verification and validation of I&C software
	AP-1000		USA	Ovation	Functional design of information systems for AP-1000 Reactor

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	Kozloduy NPP	5,6	Bulgaria	Ovation	Software development of ASUT and YKTS systems
<b>2005</b>					
	South Ukraine NPP	2	Ukraine	WDPF/ Вулкан	Computer Information System
	Zaporozhye NPP		Ukraine	Vulcan	Modernization of BRR/BVR units of Reactor Protection System
	Temelin NPP	1,2	Czechia	Vulcan	Power Supplies C70W G01 for Eagle Safety Systems
	South Ukraine NPP	1	Ukraine	Vulcan	Emergency Regulators of the Safety System (SAR USB-3)
	Rovno NPP	1,2	Ukraine	Vulcan	Radiation Monitoring System for Exposure Dose of MCR and ECR of Units 1,2
	Zaporozhye NPP	1	Ukraine	Vulcan	Radiation Monitoring System. (Parameters Important to Safety)
	South Ukraine NPP	2	Ukraine	Vulcan	Turbo generator Monitoring System (Replacement of A701-3 System)
	Zaporozhye NPP	2	Ukraine	Vulcan	Radiation Monitoring System. (Parameters Important to Safety)
	South Ukraine NPP	3	Ukraine	Ovation/ Vulcan	Computer Information System. Upper Level Replacement
	South Ukraine NPP	3	Ukraine	Beacon/ Vulcan	Reactor Core Monitoring System (RCMS)
<b>2004</b>					
	Leningrad NPP	4	Russia	WDPF	Safety Parameters Display System
	Temelin NPP	1,2	Czechia	Vulcan	Power Supplies C70-W G02, C70-W G03 for Eagle Safety Systems
	Rovno NPP	4	Ukraine	Vulcan	Radiation Monitoring System. (Parameters Important to Safety)
	Nassyria FPP		Iraq	Vulcan	I&C Vulcan-M for Cooling Circulated Water System (CCWS)
	Rovno NPP	3	Ukraine	Vulcan	Radiation Monitoring System. (Parameters Important to Safety)
	Kozloduy NPP	5,6	Bulgaria	Ovation	Development and verification of the Turbine Control System software
	Hope Creek NPP		USA	Ovation	Plant computer and SPDS Functional design and software development
	Surry NPP	2	USA	Ovation	Plant Computer Software Design
	Leibstadt NPP		Switzerland	IT	SPDS Functional design and software development
<b>2003</b>					
	South Ukraine NPP	1	Ukraine	WDPF	Replacement of CIS workstations in the Main Control Room
	Zaporozhye NPP	4	Ukraine	WDPF	Rod Position Indication Subsystem

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	Zaporozhye NPP	1	Ukraine	WDPF	Rod Position Indication Subsystem
	Leningrad NPP	3	Russia	WDPF	Safety Parameters Display System
	Zaporozhye NPP	1,2	Ukraine	WDPF	Modernization of SPDS – CIS Data Links at Units 1&2
	Zaporozhye NPP		Ukraine	WDPF	Installation of SPDS at full scale simulator of Unit 1
	Zaporozhye NPP		Ukraine	Vulcan	Radiation Monitoring System. Subsystem for the Main Radiation Monitoring Room #1
	VolgoDon NPP	1	Russia	Vulcan	Interface System of the Plant Computer
	South Ukraine NPP	3	Ukraine	Vulcan	Feed Water Control System
	Kozloduy NPP	5,6	Bulgaria	Ovation	Plant Computer Software development
	Surry NPP	1	USA	Ovation	Verification of standard program modules for Reactor Core Protection and Control System (CPCS)
	Temelin NPP	1,2	Czechia	Eagle	Safety Systems Hardware Repair
	Ringhals NPP	2	Sweden	AC160	Verification of standard program modules for Reactor Core Protection and Control System (CPCS)
<b>2002</b>					
	Rovno NPP	3	Ukraine	WDPF	Main Pumps Vibration Monitoring Display System
	Zaporozhye NPP	6	Ukraine	WDPF	Rod Position Indication Subsystem
	South Ukraine NPP	1	Ukraine	WDPF	Feed Water Control System
	Rovno NPP	3	Ukraine	WDPF	Time Synchronization System of the Unit
	Rovno NPP		Ukraine	Vulcan	Radiation Monitoring Parameters Display System
	Kozloduy NPP	5,6	Bulgaria	Vulcan	Hardware for Data Links
	Zaporozhye NPP		Ukraine	Ovation	Multi Unit SPDS System
	Ringhals NPP	2	Sweden	Ovation	Reliability analysis of I&C systems
<b>2001</b>					
	Zaporozhye NPP	1	Ukraine	WDPF	Safety Parameters Display System
	Khmelnitsky NPP		Ukraine	WDPF	Installation of SPDS at full scale simulator
	Zaporozhye NPP		Ukraine	WDPF	Installation of SPDS at full scale simulator
	Rovno NPP		Ukraine	WDPF	Installation of SPDS at full scale simulator

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	Zaporozhye NPP	6	Ukraine	WDPF	Safety Parameters Display System
	Zaporozhye NPP	4	Ukraine	WDPF	Safety Parameters Display System
	South Ukraine NPP	1	Ukraine	WDPF	Feed Water Control System
	Kharkov FPP-5		Ukraine	Vulcan	Hardware for Data Links
	Ringhals NPP	2	Sweden	Ovation/ AC160	Software installation and SAT support
	Ulchin NPP	5,6	Korea	AC160	Reliability analysis of safety systems for units 5,6
<b>2000</b>					
	South Ukraine NPP	2	Ukraine	WDPF	Time Synchronization System of the Unit
	South Ukraine NPP	3	Ukraine	WDPF	Time Synchronization System of the Unit
	Zaporozhye NPP	2	Ukraine	WDPF	Safety Parameters Display System
	Zaporozhye NPP	3	Ukraine	WDPF	Safety Parameters Display System
	Rovno NPP	3	Ukraine	WDPF	Safety Parameters Display System
	South Ukraine NPP	3	Ukraine	WDPF	Safety Parameters Display System
	South Ukraine NPP	2	Ukraine	WDPF	Safety Parameters Display System
	Leningrad NPP	3,4	Russia	Ovation	FAT of CIS Upper Level (KSB). Installation Supervision of KSB
<b>1999</b>					
	Ignalina NPP	1,2	Lithuania	WDPF/ Eagle	Site Acceptance Test of Additional Reactor Protection System
	Temelin NPP	1,2	Czechia	WDPF	Computer Information System Software verification
	Zaporozhye NPP		Ukraine	WDPF	Time Synchronization System of the Station
	South Ukraine NPP	1	Ukraine	WDPF	Integrated CIS/SPDS System
	South Ukraine NPP	1	Ukraine	WDPF	Safety Parameters Display System
	Chernobyl NPP	3	Ukraine	WDPF	Safety Parameters Display System
	Zaporozhye NPP	5	Ukraine	WDPF	Safety Parameters Display System
	Khmelnitsky NPP	1	Ukraine	WDPF	Safety Parameters Display System
	KANSAI NPP		Japan	WDPF	KANSAI Simulator Y2K Assessment and Improvement.

Date	Object	Unit	Country	Platform	System
<b>1998</b>					
	SSRC		Ukraine	WDPF	Development Unit for SPDS
	South Ukraine NPP	1	Ukraine	WDPF	Computer Information System (Replacement of "Uran" CIS)
	South Ukraine NPP	1	Ukraine	WDPF	Turbo generator Monitoring System (Replacement of A701-3 System)
	South Ukraine NPP	1	Ukraine	WDPF	Time Synchronization System of the Unit
	Temelin NPP	1,2	Czechia	WDPF	DPU Software development
<b>1997</b>					
	Zaporozhye NPP	2	Ukraine	WDPF	Upper Level of In-Core Monitoring System (ICMS)
	South Ukraine NPP	1	Ukraine	WDPF	Plant Computer (Stage 2)
<b>1996</b>					
	South Ukraine NPP	1	Ukraine	WDPF	Plant Computer (Stage 1)
<b>1994</b>					
	Ukrainian NPPs		Ukraine	WDPF	Modernization of I&C upper level for NPPs with VVER-1000 reactors. Technical project.

Comments:

1. Vulcan/Vulcan-M is a hardware and software platform, which was developed and is manufactured by Westron. The platform is targeted for IC systems, including systems for NPPs of the safety classes 3 and 2 (class 1E)
2. AC160 is a platform, used by Westinghouse for safety systems of NPPs (class 1E), The platform replaced Eagle
3. Ovation is a platform, used by Westinghouse for control and monitoring systems. The platform replaced WDPF
4. WDPF is a platform used by Westinghouse for control and monitoring systems
5. Eagle - the first Westinghouse's platform for digital safety systems (class 1E)

Abbreviations:

NPP - Nuclear Power Plant  
ANPP - Armenian NPP  
VDNPP - Volgodon NPP  
ZNPP - Zaporozhye NPP  
LNPP - Leningrad NPP  
RNPP - Rovno NPP  
KhNPP - Khmelnytsky NPP  
ChNPP - Chernobyl NPP  
SUNPP - South-Ukraine NPP

FPP - Fossil Power Plant  
SSRC - State Scientific Research Center  
AP-1000 - Westinghouse's reactor (PWR)