

**Exhibit 7 - Software List**  
NPS Gaseous Pollutant Monitoring Program

The following tables list the functions performed by the data system and the application software being used. In general, NPS owns the software or rights to the software listed.

Table E7-1. Functions and Features of Information Management for the Gaseous Pollutant Monitoring Program  
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Data Sources	Data Management	Acquisition	Validation	Quality Assurance	Reporting	Data Consumers	IT Management
<p>Gaseous Pollutant and Meteorological Data of varying temporal resolution from multiple sites</p> <p>Site operations</p> <ul style="list-style-type: none"> <li>• Station Logs</li> <li>• Instrument status logs</li> <li>• Semi-annual calibrations</li> <li>• Audits</li> </ul> <p>Site Meta Data</p> <ul style="list-style-type: none"> <li>• Site/Instrument Configuration</li> <li>• Operational History</li> <li>• Acquisition Configuration</li> </ul> <p>Standards Certification Documentation</p> <p>EPA AQS</p> <p>Standard Operating Procedures</p> <p>Equipment Inventories</p> <p>Project Information</p> <p>Special Projects</p> <ul style="list-style-type: none"> <li>• Independent researchers</li> <li>• Other agencies</li> </ul>	<p>Robust Relational Database Management System (RDBMS) ensuring:</p> <ul style="list-style-type: none"> <li>• Data Storage</li> <li>• Data Integrity</li> <li>• Data Relationships</li> <li>• Dynamic Structure</li> <li>• Security</li> <li>• Online Accessibility of current and historical data</li> </ul>	<p>Flexible Schedule:</p> <ul style="list-style-type: none"> <li>• Seasonal</li> <li>• Daily</li> <li>• Hourly</li> <li>• Minutes after the hour</li> </ul> <p>Flexible Configuration</p> <ul style="list-style-type: none"> <li>• Logger channel changes</li> <li>• Communication path changes</li> <li>• Parameter changes</li> <li>• Portable stations</li> </ul> <p>Various Loggers</p> <ul style="list-style-type: none"> <li>- ESC</li> <li>- CSI</li> <li>- Inst. Internal</li> </ul> <p>Various communication paths:</p> <ul style="list-style-type: none"> <li>• Dial-up</li> <li>• TCP/IP</li> <li>• Satellite</li> <li>• CDMA</li> </ul> <p>Various file formats</p>	<p>Site and parameter specific automatic anomaly screening</p> <p>Editing screens to facilitate fast and accurate validation code entry</p> <p>Search and summary queries</p> <p>On screen review of</p> <ul style="list-style-type: none"> <li>• Stackplots</li> <li>• Data tables</li> <li>• Dataview stripcharts</li> </ul>	<p>Plot Reviews</p> <ul style="list-style-type: none"> <li>• Daily</li> <li>• Monthly</li> <li>• Annual</li> </ul> <p>Semi-annual Calibration Reviews</p> <p>Station Logs</p> <p>Dataview strip charts</p> <p>On-Site Documentation</p> <p>SOP/TI Management</p> <p>QAPP</p> <p>QMP</p> <p>.</p>	<p>Data Reports</p> <ul style="list-style-type: none"> <li>• Monthly</li> <li>• Annual</li> <li>• Special Projects</li> </ul> <p>Project Reports</p> <ul style="list-style-type: none"> <li>• Weekly</li> <li>• Quarterly</li> <li>• Semi-annual</li> <li>• Newsletter</li> </ul> <p>Project Web Site</p> <p>Data Products</p> <ul style="list-style-type: none"> <li>• Real Time</li> <li>• Packaged</li> <li>• On Demand</li> <li>• Electronic Media</li> </ul> <p>Site and validation status logs</p> <p>Standard Operating Procedures and Technical Instructions</p> <p>Equipment Inventory</p> <p>Site Meta Data</p> <p>Site History</p> <p>Report media</p> <ul style="list-style-type: none"> <li>• Hard copy</li> <li>• Digital</li> <li>• Web sites</li> </ul>	<p>Site Operators</p> <p>NPS ARD Researchers/ Personnel and Management</p> <p>Park Staff</p> <p>NPS Web Air Resources web site</p> <p>Public</p> <p>Scientific Community</p> <p>COTR</p> <p>EPA AQS</p> <p>AIRNOW</p> <p>State Agencies</p> <p>Exhibits</p>	<p>Data Archive</p> <p>Disaster Recovery</p> <p>Database Management</p> <p>Network Administration</p> <p>Security</p> <p>Systems Management</p> <p>Hardware procurement and maintenance</p> <ul style="list-style-type: none"> <li>• Workstations</li> <li>• Peripherals</li> <li>• Servers</li> </ul> <p>Network Communications</p> <ul style="list-style-type: none"> <li>• LAN</li> <li>• WAN</li> </ul> <p>Commercial Software Licensing</p>

Table E7-2. Software Application Inventory for the Gaseous Pollutant Monitoring Program  
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Application	Primary Functions	Availability	Dependencies	Users/Consumers
<b>Utilities and Components</b>				
WS_FTP Pro	Facilitates transfer of data files via ftp interactively and programmatically	Licensed by contractor	Windows 2000 or XP	Developers, Data Analysts, Orbcomm, AIRNOW,
HyperAccess	Facillitates data collection from IP connected data loggers.	Licensed by contractor	Windows 2000 or XP	Developers, Data Analysts, Field Technicians, Datacoll
pcAnywhere	Provides remote operation of on-site computers and transfer of information to the IMC interactively and programmatically	Licensed by contractor	Windows 2000 or XP	Developers, Data Analysts, Site operators
PC208w	Campbell Scientific data logger programming and communications	Licensed by contractor, production version no longer available	Windows 2000 or XP	Datacoll
LoggerNet	Campbell Scientific data logger programming and communications	Licensed by contractor	Windows 2000 or XP	Field Technicians
EDAS-Ambient	ESC data logger programming and communications	Licensed by contractor	Windows 2000 or XP	Field Technicians
<b>Web Services</b>				
Microsoft Internet Information Services	Provides the HTTP server and secure proxy database access for the Data Request and GPMP web sites.	Licensed by contractor	Windows Server 2003	Database Administrator
<b>Database Management</b>				
Oracle Database Server Standard Edition 11g Release 1	Database Management Software for the IMC Database	Licensed by contractor	Server computer and enterprise level OS	Database Administrator
Microsoft Access	Database Management software for the Monitoring History, Dataview, and AIRNOW databases	Licensed by contractor	Windows 2000 or XP	Developers, Data Analysts, Database Administator
<b>Development Tools</b>				
Powerbuilder 11.5	Primary development tool for the ARSMon, Monitoring History Database, and Asset Reporting applications	Licensed by contractor	Windows XP or Windows 7	Developers
Microsoft Visual Basic (VB)	Primary development tool for the Datacoll, Dataview, Reformat, Stkplot, ARS Graphics, Orbcomm, AIRNOW, and SO2 Alert programs.	Licensed by contractor, production version no longer available	Windows 2000 or XP	Developers
PL/SQL Developer	Primary development tool for custom PL/SQL packages and adhoc queries	Licensed by contractor	IMC Database	Developers, IMC Manager
Pegasus Imaging Tool	Generates the plume graphic for the SO2 Alert application.	Licensed by contractor		Developers
Microsoft Speech SDK	Generates an audible alarm to the NPS dispatcher at HAVO for the SO2 alert application.	Licensed by contractor	VB	Developers
ODBC, MDAC, MS Jet Engine, SQLNet	Database connection components for various applications.	Licensed by contractor	Windows 2000 or XP	Developers, Database Administrator
Microsoft Visual Studio 2008	Primary development tool for the Data Request and GPMP Web sites	Licensed by contractor	Windows XP or 7	Developers
<b>Custom Applications</b>				
(all developed to run on PC computers and the Windows 2000/XP Operating System)				
Information Management Center (IMC) Database	Stores the historical and current gaseous pollutant and meteorological data and all associated meta data collected from the monitoring network.	Oracle Export files at contract close	Oracle Database Server 11g R1	ARSMon, ARS Graphics, Stkplot, Data Request Web Site (raw data)

ARSMon	Primary interface for the IMC Database: Data Acquisition, Quality Assurance, Validation, Monthly and Annual Reporting	NPS has limited, non-exclusive rights to source code *	IMC Database, Datacoll, Reformat, Powerbuilder	Data Analysts, Technical Assistants, AQS
PL/SQL Packages	Oracle stored procedures for generating Dynamic Pages on the Data Request Web Site and for IMC data processing	Source code stored within the database	Oracle Database Server 9i or 10g	ARSMon, Data request Web site
Stkplot	Generates stacked plots of multiple parameters	NPS has limited, non-exclusive rights to source code *	IMC Database, VB	Data Analysts, Field Technicians, Public via Data Request Web Site
ARS Graphics	Generate custom graphics products; pollutant and wind roses, bar charts, diurnal plots,	NPS has limited, non-exclusive rights to source code *	IMC Database, VB, ODBC	Data Analysts, Public via Data Request Web Site
Datacoll	Data Acquisition from Campbell and ESC,	NPS has limited, non-exclusive rights to source code *	VB, PC208w, Hyper-terminal, Crosstalk	ARSMon
Orbcomm	Acquires data from the satcom ftp site and reformats to the standard Campbell logger format	NPS has limited, non-exclusive rights to source code *	VB, WS_FTP Pro	Datacoll
Dataview	On-Site quality assurance and documentation	NPS has limited, non-exclusive rights to source code *	VB, Microsoft Access, pcAnywhere	Site Operators, Data Analysts, Field Technicians
Reformat	Reformats raw files into common format	NPS has limited, non-exclusive rights to source code *	VB	ARSMon
AIRNOW provider	Acquires and provides hourly ozone and met data to the AIRNow and NPS web sites	NPS has limited, non-exclusive rights to source code *	VB, IMC Database, WS_FTP Pro, MS Access	
Monitoring History Database	Provides site meta data operational history for the NPS Air Quality and other programs	NPS has limited, non-exclusive rights to source code *	MS Access, ODBC	ARS Staff, NPS ARD, NPS Air Resources Web Site
Data Request Web Site	Provides validated data and products to the public and raw data and products to NPS ARD and approved users	NPS has limited, non-exclusive rights to source code *	IMC Database, Web browser.	Public, NPS ARD
GPMP Project Web Site	Provides Project Information to NPS ARD and approved users	NPS has limited, non-exclusive rights to source code *	Microsoft IIS and .NET framework	Data Analysts, Technical Assistants, NPS ARD, Site Operators
HAVO SO2 Alert	Monitors SO2 and WS at Hawaii Volcanoes NP and generates plume graphics and audible alerts to park staff and to a visitor center interpretive display	NPS has limited, non-exclusive rights to source code *	VB, Pegasus Imaging Tool, MS Speech SDK, MDAC, ftp client	Park staff, Visitor Center Interpretive Display
Calibration Worksheets	Electronic forms set for recording semi-annual calibrations	Template files upon contract award	MS Excel	Field Technicians
Asset Reports	Custom reports for listing the NPS owned equipment inventory and location	Not available (data records available in ASCII format)	Purchasing Plus	Technical Assistant, COTR
SOP/TI Database	SOP/TI versions and recipients tracking	Listing available	MS Access	Quality Control Manager

\* These applications may contain vendor supplied components licensed to the contractor that are not transferable.