Glossary

The following information provides a description of terms commonly used in the PCS Axis software.

Table B-2. Glossary

Name	Description
AC	Alternating Current (AC). Type of current that reverses direction. Current flows in a positive direction for 1/120 second, then in a negative direction for 1/120 second, and so on. A/C current completes 60 cycles per second.
AC CIS	Alternating Current Close Interval Survey. An above ground, indirect inspection method conducted using an AC voltmeter to measure the influence of AC voltages at regular intervals along the pipeline. The survey identifies areas of inadequate cathodic protection and possible shock hazards to personnel due to excessive AC potentials typically induced by an AC power system near the pipeline, such as overhead power transmission lines. Typical voltage measurements are in a range of 0-15V with 15V indicating a shock hazard.
ACCA	AC Current Attenuation (ACCA). An above ground, indirect inspection method used to determine the condition of the pipeline coating. This survey method detects coating holidays and other anomalies by measuring changes in the magnetic field in the soil above and around the pipeline. Changes in the magnetic field are caused by coating defects.
ACVG	Alternating Current Voltage Gradient (ACVG). An above ground, indirect inspection method that measures AC voltage gradients (changes in leakage current) in the soil above and around the pipeline in an effort to locate and estimate the size of coating holidays and identify corrosion activity.
Addition Item	An addition item is a user-created item, such as a layout theme addition for a data entry grid.

Table B-2. Glossary (continued)

Name	Description
Amp	Ampere (Amp). Basic unit of electric current.
Anode	The point in an electrochemical cell where the energy level is higher than its cathodic counter part, causing current to leave and take metal with it. This is the point where corrosion occurs.
Application Scheme	An application scheme is a group of named property settings that change the overall appearance of the PCS Axis interface. Currently PCS Axis only provides a default application scheme which cannot be customized.
Baud	Unit of speed in data transmission equal to one bit per second.
Bond	A wire that connects a cathodically protected pipeline to a foreign pipeline to allow current to travel from one pipeline to the another in a controlled manner, without causing corrosion. Without the bond, current can travel from one pipeline to another (in an interference situation) creating anodic areas and causing pipeline corrosion.
Bullhorn Token	Bullhorn Token is the unique Key generated by the BAT website when setting up an Extract to be used in a Bullhorn Bridge definition. See *Adding a Bullhorn Bridge Definition* (page 543) for more information.
Cathodic Protection	Cathodic Protection (CP). Process of making an entire metallic structure the cathode and a separate expendable material the anodes in a carefully designed electrochemical cell.
CIS or CIPS	Close Interval Survey (CIS) or Close Interval Potential Survey (CIPS). An above ground, indirect inspection method that measures pipe-to-soil (P/S) potential readings taken at closely spaced intervals along the pipeline. This type of survey is used to evaluate the effectiveness of a cathodic protection system; it locates areas between test points that are below (less negative than) a certain voltage level (usually –.85V) considered necessary for effective cathodic protection.

Table B-2. Glossary (continued)

Name	Description
Continuous Survey	Above ground survey method used to identify pipeline coating damage (such as coating anomalies and holidays) and determine effectiveness of a CP system. Also referred to as an indirect survey. Survey methods include CIS (on, on/off, and static); AC CIS; DCVG; ACCA (electromagnetic); ACVG; Soil Resistivity; and Pearson.
Criterion	Standard for assessment of the effectiveness of a CP system.
Current	Quantity of flow of electricity, similar to gallons per minute in a water pipe. Current (I) is measured in amperes (Amps).
DC	Direct Current (DC). Type of current that flows steadily in one direction.
DCVG	Direct Current Voltage Gradient (DCVG). An above ground indirect inspection method that measures DC voltage gradients in the soil above and around the pipeline to locate and estimate the size of coating holidays and identify corrosion activity.
Depolarized Close Interval Potential Survey	A close interval survey (CIS) performed after influencing cathodic protection (CP) current sources have been turned off for a sufficient duration of time for depolarization to have occurred. This is often called a native-state CIS if it is performed prior to the initial application of CP.
Derived Field	A derived field is a field with a value that is derived from values in dependent fields. See *Working with Derived Fields* (page 226) for more information.
Digital Meter	A digital device that measures electrical voltage and current. Device displays measurements on a screen.
Facility Key	A user defined field (UDF) set up in PCS Axis that is associated with an external system ID when setting up a Bridge definition to be used with an external system. See *Using a Facility Key in Bridge* (page 492) for more information.

Table B-2. Glossary (continued)

Name	Description
GGA	GPS NEMA message format that provides information about output time, position, and fix data for a GPS receiver.
GPS	Global Positioning System (GPS). A navigational system involving satellites and computers (such as the Allegro Field PC and Bullhorn devices) that determines the latitude and longitude of a receiver on earth by computing the time difference for signals from different satellites to reach the receiver.
Holiday	A discontinuity in a protective coating that exposes the unprotected surface to the environment.
Interrupted Survey	See On/Off Survey.
IRF	IR free (IRF) reading.
MAOP	Maximum Allowable Operating Pressure (MAOP). Based on the design of the pipe, this is the highest operating pressure a pipe can theoretically operate under.
Merge Replication	A process where updated records on the subscriber are copied to the publisher and vice versa during synchronization.
MOP	Maximum Operating Pressure (MOP). Highest pressure a pipe has actually operated under.
Ohm	A unit of electrical resistance equal to that of a conductor in which a current of one ampere is produced by a potential of one volt across its terminals.
On/Off Survey	Also referred to as *Interrupted Survey*. A close interval survey conducted with regular, timed interruptions between the current source and the cathodic protection system. On readings are compared later with the Off readings to gauge the effectiveness of the cathodic protection system.

Table B-2. Glossary (continued)

Name	Description
P/S	Pipe-to-Soil (P/S). Voltage potential generated between a buried pipe and its surrounding soil, the result of electrolytic action and a cause of electrolytic corrosion of the pipe.
PCS Axis Installed Item	An item installed during the PCS Axis software installation, such as themes and routes. Installed items are identified with [PCS] in brackets and a globe icon, such as the grid layout theme labeled *[PCS] Test Point Inspections*.
Pearson Survey	An above ground survey technique used to locate coating holidays in buried pipelines. The survey compares potential gradients along the pipeline as measured between two movable electrical ground contacts. The potential gradients result from an applied AC signal leaking to earth at coating holidays. This survey is also called a DCVG survey.
Picklist	A list of acceptable choices for a field in a data entry grid that a user selects from when entering data (formerly called "validation table").
Pipeline	A collection of segments that generally carry the same product and are interconnected (either end to end or as a lateral). Segments generally start and end at isolation points (for example, stations or valves), whereas a pipeline generally starts and ends at change of custody points.
Publication (Publisher)	Primary database on a network server used in merge replication and synchronization with subscription databases.
Publication Retention Period	Expiration period for subscriptions. A subscription becomes expired (obsolete) when the subscriber does not synchronize the subscription with the *publication* database within the publication retention period. An expired subscription must be re-initialized. See *Reinitializing a Subscription* (page 786).

Table B-2. Glossary (continued)

Name	Description
Range Checking	An acceptable range of values allowed for data entry in an inspection field. When a value is entered that falls outside the acceptable range of values, PCS Axis displays a warning message and allows the user to correct the invalid entry.
Remote Earth	A location on the earth far enough from the affected structure that the soil potential gradients associated with currents entering the earth from the affected structure are insignificant.
Replication	See *Merge Replication*.
Resistance	Resistance (R) limits current flow in a given circuit; similar to friction in water pipe.
ROW	Right-of-Way (ROW). Section of land designated for use by a pipeline. The NPMS (National Pipeline Mapping System) refers to ROWs as pipeline corridors.
Segment	User-defined length of pipe over which risk calculations are performed. Sections are specified as a uniform length of pipe (such as 1000 feet, 1 mile, or 1 kilometer) or for certain event changes such as pipe design, class change, or environmentally sensitive areas.
Shunt	A resistor inserted (usually permanently) in a circuit to assist measurement of current. Resistance is very small and does not affect intended operation of the circuit.
SMTP	Simple Mail Transfer Protocol. A data transmission format used to send email.
Soil Resistivity	Above ground indirect inspection method.
SSL	Secure socket layer (SSL). SSL is a communication protocol used by an email server to transmit information over the Internet in an encrypted form for security purposes. To determine if your email client software supports SSL, contact your company's IT System Administrator.

Table B-2. Glossary (continued)

Name	Description
SSMS	SQL Server Management Studio. A Microsoft software application for working with components of SQL Server and publication and subscription databases when using PCS Axis Synchronization.
Stationary Data Logger (SDL)	Survey equipment used to detect telluric current on a pipeline under survey. Two or more SDLs install at a fixed location on the pipeline under survey for a period of time. During this time period, SDLs measure and record ON/OFF values for an interrupted survey with GPS synchronization.
Stationary Survey	Type of cathodic protection (CP) survey that uses two or more GPS synchronized stationary data loggers (SDLs). The SDLs measure and record ON/OFF values for an interrupted survey with GPS synchronization. Stationary survey data is used in telluric current correction of periodic and close interval test point surveys.
Subscription (Subscriber)	Database instance on a remote computer used in merge replication when synchronizing data between the publisher and subscriber databases.
Subscription Expiration Period	See *Publication Retention Period*.
Survey Direction	The direction a close interval survey (CIS) is conducted along a pipeline, usually expressed as upstream (upstation) or downstream (downstation). CIS may be performed in either the upstation or downstation direction. The data shall clearly indicate which direction the survey was conducted.
Survey Interval	Distance between measurements along the pipeline in a close interval survey (CIS).
Synchronization	The process of replicating data between the publisher and subscriber databases. Only data that has changed since the last synchronization is replicated.

Table B-2. Glossary (continued)

Name	Description
Telluric Current	Telluric current is low voltage electrical current that occurs naturally in the Earth's crust. It is a result of fluctuations in the Earth's magnetic field due to ionospheric disturbances typically caused by sun spot activity. Movement of the Earth's magnetic field can induce telluric current to flow on pipelines. Telluric effects are more evident in the northern and southern latitudes on pipelines that run in a north and south direction. Telluric current activity varies with the time of day, latitude, and solar activity; it can cause significant fluctuation in the structure-to-electrolyte potential.
User Defined Field	A user defined field (UDF) is a user-created field. UDFs are created when PCS Axis does not provide a field for data entry.
Vac	Volts Alternating Current (Vac).
Vdc	Volts Direct Current (Vdc).
Volt	Unit of measure for voltage (V). Electrical force or pressure. Voltage causes current to flow similar to pressure in a water pipe.
Volt Meter	Analog or digital device that measures electrical voltage or electrical force. Volt meter measurements help identify the potential (like water pressure) at one point relative to another point.
VTG	GPS NEMA message format that provides information about heading and speed (course over ground).
ZDA	GPS NEMA message format that provides UTC and local date/time data. Provides current universal coordinated time and day, month, and year. ZDA is used when performing GPS-synchronized on/off readings.