WINDIMURRA VANADIUM PTY LTD

WINDIMURRA VANADIUM PROJECT

PROJECT NUMBERING SPECIFICATION

DOCUMENT NO.: 6033-S-00-G-003

2	16/08/07	Equipment Types Added	DT	IP	LDW
1	26/07/07	Sections 2.2, 8.0, 9.0 Revised	LDW	IP	LDW
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NO	DATE	REVISION DESCRIPTION	BY	CHK	APP

PERTH
T: (61 8) 9481 3200
F: (61 8) 9481 2249
370 Murray Street
Perth WA 6000
PO Box 7537
Cloisters Square WA 6850

BUNBURY
T: (61 8) 9792 5633
F: (61 8) 9792 5644
19 Stirling Street
Bunbury WA 6230
PO Box 1045
Bunbury WA 6231

ROCKINGHAM
T: (61 8) 9550 1900
F: (61 8) 9550 1901
Unit 6/3 Benjamin Way
Rockingham WA 6168

W: www.proteuseng.com.au
E: proteus@proteuseng.com.au
Proteus Consultants Pty Ltd
ABN 75 731 449 224

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1.0 GENERAL

This specification sets out the Project Numbering System to be used by Proteus Engineers (Proteus) on the Windimurra Vanadium Project, being developed by Windimurra Vanadium Pty Ltd (WVPL).

In general terms, the Project Numbering System is designed to satisfy the requirements of the complete project and to facilitate seamless integration of documents, drawings and components.

In addition, the Project Numbering System is designed to readily identify the Originator, Proteus.

Proteus shall ALSO discretely apply its own numbering system, to facilitate its own document control system, to documents and drawings.

Components (equipment, piping, valve, electrical, instrument) numbering shall be in accordance with the Project Numbering System.

2.0 PROJECT NUMBERING STRATEGY

2.1 Project Number

The Project Numbering System utilised by Proteus shall have a project number which starts with a four digit identifier 6033 to identify the project.

This approach shall enable distinction to be drawn with existing Signet Engineering documentation which is prefixed with four digit identifier 3516.

Existing Signet Engineering documentation shall be classified as reference material.

2.2 Area Numbering

The Windimurra Vanadium Project facility area codes are XX digit area identifiers as set out below.

Plant Area Number	Description
00	General
10	Crushing and Screening
12	Primary Grinding
15	Beneficiation and Magnetite Recovery Circuit
19	Magnetite Flash Dryer
20	Roasting
25	Leaching
28	Evaporation
30	Desilication
35	AMV Precipitation and Filtration
36	AMV Flash Dryer

Plant Area Number	Description
40	V_2O_5 Production Facility – De-Ammoniator
41	V_2O_3 Production Facility
45	FeV Production Facility
50	Plant Services
55	Borefields
60	Plant Services - Power Generation and Electrical Services
65	Buildings
70	Plant Site Preparation
75	Plant Access Roads, Parking and Laydown

2.3 Component Sequential Numbering System

All Project components (equipment items, valves, pipelines etc) generated by Proteus shall have a unique sequential number, defined as follows:

5XX or **5XXX or 5XXA**

5: 1 digit number which identifies the Originator, Proteus.

XX or XXX: is the 2 or 3 digit sequential number selected by Proteus, in accordance with the relevant numbering specification defined in the following sections.

A: is an Alpha character; used to define duty/standby pumps or multiple pumps (for example).

2.4 Document Sequential Numbering System

All Project documents generated by Proteus shall have a unique project number and be numbered sequentially as per Section 8.0.

2.5 Project Number Revision System

Prior to reaching “Approved for Construction” or “Approved for Use” status all documents, drawings and schematics revision numbers shall be Alpha characters.

At “Approved for Construction” or “Approved for Use” status, the revision number shall be zero (0).

Subsequent revisions shall be 1, 2, 3, etc.

3.0 EQUIPMENT NUMBERING

Equipment numbering shall have the following structure:

Area	Alpha Identification Code	Sequential Number	Optional Alpha
XX	**YY or YYY**	**5ZZ**	**A**

Where:

XX: Two digit area identifier as per Section 2.2.

YY or YYY: Two or three alpha Equipment Type identifier as per list in Appendix A.

5: One digit number which identifies the Originator, Proteus.

ZZ: Two digit sequential number, unique to the Area and Equipment, tied to AREA, defined by Originator.

A: Optional Alpha character used to define duty/standby arrangement or multiple uses of equipment.

The combination of **XXYYY5ZZ** shall provide unique identification of an equipment item.

For example, the equipment number for the new AMV Wash Water Tank Agitator is 35AGT504, the originator being Proteus Engineers.

Packaged and vendor equipment performing a concise process function and supplied as a unit shall be allocated a package equipment number. Component items within the package shall be given individual equipment numbers as necessary, including distinguishing between multiple motors. Numbers shall be allocated by liaison with the vendor, and will be shown on the vendor P&IDs and associated documentation.

4.0 PIPING NUMBERING

Pipeline numbers shall have the following structure:

XX5YY-ZZZ-BBB/1-dn-lH

Where:

XX: Two digit area identifier as per Section 2.0.

5: One digit number which identifies the Originator, Proteus.

YY Line number as defined by Originator.

ZZZ: Fluid Code Identification shall be as set out in relevant Project Piping Material Specifications.

BBB/1: Pipeline Material Specification as set out in relevant Project Piping Material Specifications.

dn : Nominal pipe size in mm (two or three digits).

IH : **(OPTIONAL)**. Additional two alpha designation that specifies the type of insulation on the line. If there is no insulation, it is left blank. Typical insulation specifications are:

IH – Hot Insulation

IC – Cold Insulation

PP – Personal Protection

ET – Electrical Trace

ST – Steam Trace

The combination **XX5YY-ZZZ-BBB/1-dn** shall define a unique process line, which by definition, is a line between two significant pieces of equipment or from a branch. A line may be made up of a number of pipes.

XX is the number of the plant area in which the line originates. The area designation shall stay the same for all pipes in the process line, no matter where the pipe may actually be located. The area designation for a line originating from a branch shall be the area in which the branch is located.

Refer to Project Piping Material Specifications for further specific information.

5.0 VALVE NUMBERING

Valve numbering shall indicate valve size and type only.

Valve numbering shall have the following structure:

dnVabcc

Where:

dn : Nominal diameter, which shall be the nominal valve size in mm (two or three digits).

V : "V" to signify valve.

a : "a" to differentiate between Australian Standards and American Standards, i.e, Australian = 1, American = 2.

b : "b" is used to distinguish between valve types, for example, 1 = butterfly valve, 2 = gate valve.

cc : "cc" indicates the sequential type of valve type required. Each end type starts at 01, with a maximum value of 19. Table E end types, however, start at 21, with a maximum value of 39.

An example of a valve number is:

80V1101 This indicates an 80mm, Australian Standard, Table D, butterfly valve.

80V1121 An 80mm, Australian Standard, Table E, butterfly valve.

80V2101 An 80mm, American Standard (ANSI), butterfly valve.

For control in-line valves, the valve body number (as above) will be denoted in brackets. In addition the valve will be allocated an instrument number. An example of a control valve number is:

(350V2100)

Refer to Project Valve Specifications for further specific information.

6.0 ELECTRICAL NUMBERING SYSTEM

6.1 Electrical Equipment Numbering

Electrical equipment numbering shall have the following structure:

Area	Alpha Identification Code	Sequential Number
XX	YY or YYY	5ZZ

Where:

XX: Two digit area identifier as per Section 2.2

YY or YYY: Two or three alpha Electrical Equipment Type identifier as per Appendix A of this document.

5: One digit number which identifies the Originator, Proteus.

ZZ: Two digit number unique to Area and Equipment. The sequential number shall have a range of 01 to 99, commencing at 01. If appropriate, a suffix letter may also be incorporated, e.g. A, B or C, etc but this shall only occur with the project lead electrical engineer's approval.

The combination of **XX-YYY-5ZZ** shall provide unique identification of an equipment item. The electrical equipment number 25-DBP-501 defines the first numbered Distribution Board in Area 25, the originator being Proteus Engineers.

6.2 Cable Numbering

Cable numbers shall generally be based on the equipment number of the destination of the cable.

Cable numbers will be comprised of three sub sections as follows:

Equipment Number	Cable Category	Sequential Number
xxYYY5zz	CT	nn

Where:

xxYYY5zz : Destination equipment number as defined in Section 6.1.

CT : One/two alpha category code selected from Table 1.

nn : A number unique to the destination equipment number and cable category. The sequential number shall commence at 01.

The combination of **xxYYY5zz-CTn** shall provide unique identification of an electric cable.

Table 1 - Cable Category Code

C	Control
D	Distribution
DA	Data System
DC	Direct current power
E	Earth
F	Fire system
I	Instrumentation
IP	Instrument power
N	Neutral
P	Power
S	Security system
T	Communications

An example of a cable number is:

25CPL501-P1

6.3 Wire Numbering

Wire numbers internal to motor starters and control panels shall be as indicated on the schematic diagrams. Wire numbers external to motor starters, control panels, etc., i.e. cable core wire numbers, shall be the schematic wire number prefixed with the destination equipment number. Generally the prefix should be identical to the equipment number component of the cable number.

External Wire numbers will be comprised of two subsections as follows:

Equipment Number	**Sequential Number**
XXYYY5ZZ	**nn**

Where:

XXYYY5ZZ	Destination equipment number as defined in Sections 3.0 and 6.1
nn	Derived from Schematic

An example of an external wire number is:

25CPL01-11

7.0 INSTRUMENTATION NUMBERING SYSTEM

7.1 Instrument Numbering

Instrument numbering shall have the following structure:

Alpha Identification Code	Area Number	Sequential Number	Optional Alpha
YYYY	**xx**	**5zzz**	**A**

Where:

YYYY : Two to four alpha Equipment Type identifier as per Appendix A of this document.

xx : Two digit area identifier as per Section 2.2.

5: Single digit number which identifies the Originator, Proteus.

zzz: Three digit sequential number, unique to the area and equipment. For each sequential P&ID for a given area, every instrument number shall increase by increments of “100”. For example, instrument numbers on the first P&ID for a given area will have the designation from “000” to “099”. The second P&ID for that same area shall contain instrument numbers in the range “100” to “199” and so forth.

A: Optional succeeding alpha to identify multiple instruments used in the same area for a similar purpose. For example:

An example of an instrument number is:

LSL-25-5001	**Level Switch Low**
XI-10-5006A	**Loader Position Indicator – Do Not Dump**
XI-10-5006B	**Loader Position Indicator - Wait**

7.2 Instrument Cable Numbering

Instrument cable numbers shall generally be based on the instrument number of the destination of the cable.

Cable numbers will be comprised of three sub sections as follows:

Instrument Number	Cable Category	Sequential Number
YYYYxx5zzz	**CT**	**n**

Where:

YYYYxx5zzz: Destination instrument number as defined in Section 7.1.

CT : One/two alpha system category selected from Table 1, Section 6.2.

n : A number unique to the destination instrument number and cable category. The sequential number shall commence at 1.

The combination of **YYYYxx5zzz-CTn** shall provide unique identification of an instrument cable.

Example: **LSL255001-I1**

7.3 Control Loop Numbering

P&ID control loop numbering is derived from the measuring instrument number as defined in 7.2 above.

For each sequential P&ID for a given area, every loop number shall increase by increments of “100”. For example, control loops on the first P&ID for a given area will have the designation from “000” to “099”. The second P&ID for that same area shall contain loop numbers in the range “100” to “199” and so forth.

On each P&ID drawing, all items of the same loop shall have the same sequential number.

For example: **FT255001** or **FT255101,** etc

For each connection into a line, the instrument/valve number shall be unique. However, if the instrument/valve is part of a control loop, it shall adopt the number of that particular loop.

7.4 Instrument Wire Numbering

The identification for individual conductors of a cable serving an instrument loop shall consist of the associated instrument device number followed by sequential numbers 1, 2 etc.

For example, conductors of cable number PT255123-I1 shall be numbered PT255123-1, PT255123-2, etc. The wire numbers will be allocated on the instrument loop diagram.

8.0 DOCUMENT AND DRAWING NUMBERING

8.1 General

All documents prepared for the project shall comply with the Project Numbering System and have the Project Document Number clearly displayed on the cover page.

Only the Project Document Number shall be referenced in all matters relating to project execution.

In general terms, documents shall be categorised as follows:

- Project Management Documents
- Engineering Documents
- Drawings and Schematics
- Procurement Documents
- Construction Documents
- Commissioning Documents.

For the purpose of document generation and internal document control, Proteus shall apply its own document numbering system to all documents as per Appendix B: Proteus Standard Document Codes.

8.2 Project Management Documents

This classification of documents includes the following documents:

- Letters
- Faxes
- Memos
- Minutes of Meeting
- Reports (Non-Engineering)
- Technical Queries
- Variations

The Proteus document numbering system shall be used for these document types.

8.3 Engineering Documents

8.3.1 Project Document Number Format

The following Project Number format shall be used on all documents, and shall be included on the document cover sheet as “Document No.”.

6033-X-NN-D-nnn where

6033	is the Proteus defined Project Number (4 digits only)
X	represents the document type (refer 8.3.2 below)
NN	represents the area code, Section 2.0 refers.
D	is the single letter to represent discipline (refer 8.3.3 below)
nnn	is the three digit sequential number, defined by Proteus Docs.

8.3.2 Document Types

Document Types are as follows

Doc Type	Doc. Name	Documents Included
C	Calculations	Mass Balances; All discipline calculations;
D	Data Sheets	All disciplines
E	Estimate	Capital cost estimate
G	General Documents	Basis of Design; Design Criteria;
L	Lists	Equipment; Valve; Instrument; PLC I/O; Load; Electrical Equipment; Cable; MCC Detail; Piping Line; etc.
M	Manuals	
R	Reports	Documents detailing results of work completed
S	Specifications	Technical Specifications (all disciplines); Plans;
W	Scope of Work Documents	All disciplines
X	Schedule X	Associated with Scope Specifications;

Should the project require additional document types that are not listed in the general list above, additional types should be authorised by the Project Manager.

8.3.3 Discipline Codes

The discipline codes to be used are the same codes used for the production of drawings, but where a non discipline specific document is being produced, “X” (project management) should be used for the discipline code.

Discipline Code	Discipline
C	Earthworks and Roads
E	Electrical
F	Flowsheets and/or Process
G	General
I	Instrumentation (Schematics)
J	P&ID’s
M	Mechanical
P	Piping
R	Reinforced Concrete
S	Structural Steel
X	Project Management

8.3.4 Proteus Standard Document Number Format

The Proteus Standard Document Code system, using Proteus Docs, as defined in Appendix B, shall be used.

8.3.5 Allocation of Engineering Document Numbers and Filing

Proteus’s document generation system (Proteus Docs) shall allocate the Proteus document number for each document. The user shall generate the project document number as per 8.3.1 whilst maintaining the three digit sequential number from the allocated Proteus document number. Documents shall be filed within Proteus Docs using the Proteus document number as the file name. All issued documents (file copies) shall use the Project document number as the file name.

8.3.6 Project Standard Documents

These will be treated as reference documents using WVPL nominated standards.

8.4 Drawings and Schematics

8.4.1 Project Drawing Number Format

The following Project number format shall be used in the title block for all drawings and schematics:

6033-NN-D-1nnn where	6033	is the Proteus project number (4 digits only)
	NN	represents the Area Code, Section 2.0 refers.
	D	represents the Discipline Code, Section 8.3.3 refers.

	nnnn	is the four digit sequential number, defined by the Originator. The range is 1001 to 1999 and shall start at 1001 for each individual area.

8.4.2 Proteus Drawing Number Format

The Proteus Standard Document Code system, using Proteus Docs, as defined in Appendix B, shall be used.

8.4.3 Allocation of Drawing Numbers and Filing

The Originator's document generation system shall generate and file documents strictly in accordance with the Project Numbering System.

8.4.4 Project Standard Drawing Number Format

These will be treated as reference documents using WVPL nominated standards.

8.4.5 Isometric Drawing Number Format

The following number format shall be used in the title block of all isometric drawings:

NNxxx-zzz-dn-Y where	NN	represents the Area Code, Section 2.0 refers.
	xxx	is the three digit sequential number, defined by the Originator.
	zzz	is the two or three digit Fluid Code Identification, Section 4.0 refers.
	dn	represents the nominal pipe size in mm.
	Y	is the single digit drawing sheet number.

8.5 Procurement Documents

The following number format shall be used for all procurement documents:

6033-B-NNNN-D-nnn where	6033	is the Proteus defined project number
	B	is Procurement identification
	NNNN	is the contract or purchase order package number
	D	is the document type (refer table below)
	nnn	is the sequential number.

The document types are as follows:

Doc Type	Doc Name
A	Procurement Plan

B	Procurement Requisition
C	Contract Documents
D	Tender Opening Record
E	Tender Evaluation
F	Recommendation for Award
G	Notice of Award
H	Unsuccessful Tenderers Letter
J	Trend Notice
K	Trend Register
L	Variation/Scope Change Notice
M	Variation/Scope Change Register
N	Contingency Adjustment Register
O	Management Reserve Register
P	Payment Certificate
Q	Certificate of Practical Completion
R	Certificate of Final Completion
S	Purchase Order (Proteus)
T	Tender Documents
U	Procurement Requisition
V	Procurement Status Report
W	Cost Control Report
X	Monthly Report
Y	Goods Inwards Receipt (Site)
Z	Goods Issued Receipt (Site)

For example: 6033-B-C016-P-003 is Payment Certificate 03 for Contract C016.

8.6 Construction Documents

TBA

8.7 Commissioning Documents

TBA

9.0 SIGNET ENGINEERING PTY LTD DOCUMENTATION

Signet Engineering documents, drawings/schematics and components shall be utilised as Reference Documents. They will be entered into the Proteus Document Control system (QDMS) as foreign documents. They will be numbered by the Signet number, preceded by "FD-".

Signet documents shall NOT be modified and included in Project documentation as a design deliverable.

Where required, Signet data shall be copied into new Project documentation format, following the Project Numbering System specified herein. This resulting document shall be classified as a Proteus prepared deliverable.

10.0 VENDOR DOCUMENTS

TBA

APPENDIX A: EQUIPMENT TYPE IDENTIFIER

Eq Type	Eq Type Name	Discipline Code	Rev No. / Date
AAH	Analyser Alarm High	I	0 / 22.01.07
AAL	Analyser Alarm Low	I	0 / 22.01.07
ACD	Air Conditioner	E	1 /
ACT	Activator	M	0 / 22.01.07
AE	Analyser Element	I	0 / 22.01.07
AER	Antennae	E	1 /
AGT	Agitator	M	0 / 22.01.07
AI	Analyser Indicator	I	0 / 22.01.07
AIC	Analyser Indicator Controller	I	0 / 22.01.07
AL	Airlock	M	0 / 22.01.07
AN	Anode	M	0 / 22.01.07
AT	Analyser Transmitter	I	0 / 22.01.07
BA	Battery	E	0 / 22.01.07
BB	Busbar	E	0 / 22.01.07
BC	Battery Charger	E	0 / 22.01.07
BD	Bus Duct	E	0 / 22.01.07
BE	Bucket Elevator	M	0 / 22.01.07
BG	Bagging and Package Equipment	M	0 / 22.01.07
BGA	Break Glass Alarm	E	1 /
BIN	Bin or Silo	M	0 / 22.01.07
BL	Blower	M	2 / 16.08.07
BLG	Electrical Building	E	1 /
BO	Boiler	M	0 / 22.01.07
BUR	Burner	M	0 / 22.01.07
BV	Bin Vent	M	2 / 16.08.07
BWS	Belt Wash Station	M	0 / 22.01.07
BX	Boxes Mixing	M	0 / 22.01.07
CA	Cathode Blank	M	0 / 22.01.07
CAM	Camera	E	1 /
CB	Circuit Breaker	E	0 / 22.01.07
CC	Combustion Chamber	M	0 / 22.01.07
CD	Condenser	M	0 / 22.01.07
CF	Centrifuge	M	0 / 22.01.07
CG	Coupling Capacitor	E	0 / 22.01.07
CHL	Chlorinator	M	0 / 22.01.07
CHU	Chute	M	0 / 22.01.07
CL	Classifier, Rake and Screw	M	0 / 22.01.07
CM	Controller, Medium Voltage	E	0 / 22.01.07
CMP	Compressor	M	0 / 22.01.07
CN	Crane	M	0 / 22.01.07
CO	Container/Tote Box	M	0 / 22.01.07
COM	Communication Component	E	1 /
CPL	Control Panel	E	1 /
CQ	Casting Equipment	M	0 / 22.01.07
CRH	Crusher - Hammer	M	0 / 22.01.07
CRI	Crusher – Impact	M	1 /
CRJ	Crusher – Jaw	M	0 / 22.01.07
CRR	Crusher – Roll	M	0 / 22.01.07
CTR	Cooling Tower	M	0 / 22.01.07
CVR	Conveyor	M	0 / 22.01.07
CWH	Flaking Wheel	M	0 / 22.01.07

Eq Type	Eq Type Name	Discipline Code	Rev No. / Date
CYC	Cyclone	M	0 / 22.01.07
DA	Damper	M	0 / 22.01.07
DAH	Density Alarm High	I	0 / 22.01.07
DAL	Density Alarm Low	I	0 / 22.01.07
DAM	Dam or Dump	M	0 / 22.01.07
DB	Distribution Box	M	0 / 22.01.07
DBL	Lighting and Small Power Distribution Board	E	0 / 22.01.07
DBP	Distribution Board	E	0 / 22.01.07
DBR	Distributor	M	0 / 22.01.07
DC	Dust and Fume Damper	M	0 / 22.01.07
DE	Density Element	I	1 /
DEX	Dust Extraction System	M	0 / 22.01.07
DF	Draft Flight Conveyor	M	0 / 22.01.07
DFV	Double Flap Valve	M	2 / 16.08.07
DIC	Density Indicating Controller	I	0 / 22.01.07
DIT	Density Indicating Transmitter	I	0 / 22.01.07
DL	Diesel Engine	M	0 / 22.01.07
DM	Density Meter	I	0 / 22.01.07
DPAH	Differential Pressure Alarm High	I	0 / 22.01.07
DPE	Differential Pressure Element	I	0 / 22.01.07
DPI	Differential Pressure Indicator	I	0 / 22.01.07
DPT	Differential Pressure Transmitter	I	0 / 22.01.07
DQ	DC Electrical Equipment	E	0 / 22.01.07
DRT	Drum Tipper	M	0 / 22.01.07
DRY	Drier	M	0 / 22.01.07
DS	Disconnect Switch	E	0 / 22.01.07
DSK	Control Desk	E	1 /
DSN	Dust Suppression System	M	0 / 22.01.07
DTL	Dump Lights	E	0 / 22.01.07
DU	Duct	E	0 / 22.01.07
DV	Drive Components and Gearbox	M	0 / 22.01.07
DX	Radiation Source	I	0 / 22.01.07
EB	Earth Bar	E	0 / 22.01.07
EC	Electrolyte Cell	E	0 / 22.01.07
EE	Earth Electrode	E	0 / 22.01.07
EH	Electrode Handling Equipment	M	0 / 22.01.07
EIS	Engineering Work Station	E	1 /
EJ	Expansion Joint	P	0 / 22.01.07
El	Elevator, Freight and Passenger	M	0 / 22.01.07
EOL	Motor Protection Relay	E	0 / 22.01.07
EP	Electrostatic Precipitator	M	0 / 22.01.07
ES	Photoelectric Switch	E	1 /
EW	Electrowinning	M	0 / 22.01.07
EY	Eye Wash Station	M	0 / 22.01.07
FA	Flame Arrestor	M	0 / 22.01.07
FAH	Flow Alarm High	I	0 / 22.01.07
FAL	Flow Alarm Low	I	0 / 22.01.07
FALL	Flow Alarm Low Low	I	0 / 22.01.07
FAN	Fan	M	0 / 22.01.07
FAS	Fire Alarm System	E	0 / 22.01.07
FB	Fluidised Bed	M	0 / 22.01.07

Eq Type	Eq Type Name	Discipline Code	Rev No. / Date
FBL	Fire Bell	I	1 /
FCP	Flocculant Mixing Plant	M	0 / 22.01.07
FDA	Feeder – Apron	M	0 / 22.01.07
FDR	Feeder – Table	M	0 / 22.01.07
FDS	Feeder – Screw	M	0 / 22.01.07
FDV	Feeder – Vibrating	M	0 / 22.01.07
FE	Flow Element	I	0 / 22.01.07
FFC	Flow Radio Controller	I	0 / 22.01.07
FFY	Flow Radio Calculator	I	0 / 22.01.07
FH	Fume Hood	M	0 / 22.01.07
FI	Flow Indicator	I	0 / 22.01.07
FIB	Fire Indication Board	E	1 /
FIC	Flow Indicating Controller	I	0 / 22.01.07
FIQ	Flow Indicator Totaliser	E	0 / 22.01.07
FIS	Server	E	1 /
FIT	Flow Indicating Transmitter	I	0 / 22.01.07
FM	Flow Meter	I	0 / 22.01.07
FO	Flotation Cell	M	0 / 22.01.07
FOB	FOBOT	E	1 /
FP	Fire Protection Equipment	M	0 / 22.01.07
FQ	Flow Totaliser	I	0 / 22.01.07
FRN	Furnace	M	0 / 22.01.07
FSL	Flow Switch Low	I	0 / 22.01.07
FSLL	Flow Switch Low Low	I	0 / 22.01.07
FT	Flow Transmitter	I	0 / 22.01.07
FTB	Filter – Belt	M	0 / 22.01.07
FTP	Filter – Press	M	0 / 22.01.07
FTS	Strainer / Guard Filter	M	0 / 22.01.07
FU	Furnaces	M	0 / 22.01.07
FV	Flow Valve	I	0 / 22.01.07
GA	Gates and Diverter	M	0 / 22.01.07
GB	Gas/Air Blower	M	0 / 22.01.07
GE	Granulation and Agglomeration	M	0 / 22.01.07
GEN	Genset	M	0 / 22.01.07
GH	HPGR	M	0 / 22.01.07
GR	Grounding Resistor	E	0 / 22.01.07
HEX	Heat Exchanger	M	0 / 22.01.07
HF	Harmonic Filter	E	0 / 22.01.07
HIC	Hand Indicating Controller	I	0 / 22.01.07
HO	Hopper	M	0 / 22.01.07
HPP	Hydraulic Power Pack	M	0 / 22.01.07
HS	Hand Switch	I	0 / 22.01.07
HST	Hoist	M	0 / 22.01.07
HT	Heater	M	0 / 22.01.07
HZ	Hazardous Waste Equipment	M	0 / 22.01.07
IDF	Intermediate Distribution Frame	E	1 /
II	Current Indicator	I	0 / 22.01.07
IN	Insulation	M	0 / 22.01.07
IS	Isolator	E	0 / 22.01.07
IT	Current Transmitter	I	0 / 22.01.07
JAH	Power Alarm High	I	0 / 22.01.07

Eq Type	Eq Type Name	Discipline Code	Rev No. / Date
JBX	Junction Box	E	1 /
JG	Jig	M	0 / 22.01.07
JI	Power Indicator	I	0 / 22.01.07
JT	Power Transmitter	I	0 / 22.01.07
KBL	Kibble	M	0 / 22.01.07
KLN	Kiln	M	0 / 22.01.07
LAH	Level Alarm High	I	0 / 22.01.07
LAHH	Level Alarm High High	I	0 / 22.01.07
LAL	Level Alarm Low	I	0 / 22.01.07
LALL	Level Alarm Low Low	I	0 / 22.01.07
LB	Laboratory Equipment	M	0 / 22.01.07
LC	Lighting Contractor	E	0 / 22.01.07
LD	Lifting Device	M	2 / 16.08.07
LDR	Launder	M	0 / 22.01.07
LE	Level Element	I	1 /
LFT	Lift – Pallet	M	0 / 22.01.07
LG	Lighting	E	0 / 22.01.07
LI	Level Indicator	I	0 / 22.01.07
LIC	Level Indicating Controller	I	0 / 22.01.07
LIT	Level Indicating Transmitter	I	0 / 22.01.07
LR	Lightning Arrester	E	0 / 22.01.07
LSH	Level Switch High	I	0 / 22.01.07
LSHH	Level Switch High High	I	0 / 22.01.07
LSL	Level Switch Low	I	0 / 22.01.07
LSLL	Level Switch Low Low	I	0 / 22.01.07
LT	Level Transmitter	I	0 / 22.01.07
LU	Lubrication and Fuelling Equipment	M	0 / 22.01.07
LV	Level Valve	I	0 / 22.01.07
LX	Level Radiation Source	I	0 / 22.01.07
MCC	Motor Control Centre	E	0 / 22.01.07
MD	Metal Detector	M	0 / 22.01.07
MDF	Main Distribution Frame	E	0 / 22.01.07
ME	Mobile Equipment	M	0 / 22.01.07
MG	Magnetising Coil	E	0 / 22.01.07
MGS	Magnetic Separator	M	0 / 22.01.07
MGT	Magnet	M	0 / 22.01.07
MLB	Mill – Ball	M	0 / 22.01.07
MLR	Mill – Rod	M	0 / 22.01.07
MLS	Mill – Sag	M	0 / 22.01.07
MLV	Mill – Vertical	M	0 / 22.01.07
MN	Maintenance Equipment	M	0 / 22.01.07
MNT	Monitor – TV	E	0 / 22.01.07
MOF	Telephone MOF	I	0 / 22.01.07
MOX	Multiplexer	E	0 / 22.01.07
MTU	Telemetry Unit	E	0 / 22.01.07
MXR	Mixer	M	0 / 22.01.07
NE	Torque Element	I	0 / 22.01.07
NI	Torque Indicator	I	0 / 22.01.07
NSH	Torque Switch High	I	0 / 22.01.07
NSHH	Torque Switch High High	I	0 / 22.01.07
NSL	Torque Switch Low	I	0 / 22.01.07

Eq Type	Eq Type Name	Discipline Code	Rev No. / Date
NSLL	Torque Switch Low Low	I	0 / 22.01.07
NR	Neutral Resistor	E	0 / 22.01.07
NT	Torque Transmitter	I	0 / 22.01.07
			0 / 22.01.07
OA	On Stream Analyser	I	0 / 22.01.07
OHL	Overhead Line	E	1 /
OIS	Operator Interface Station	E	0 / 22.01.07
PA	Public Address System	E	0 / 22.01.07
PABX	Telephone PABX	E	1 /
PAH	Pressure Alarm High	I	0 / 22.01.07
PAL	Pressure Alarm Low	I	0 / 22.01.07
PALL	Pressure Alarm Low Low	I	0 / 22.01.07
PC	Programmable Controller	I	0 / 22.01.07
PCC	Process Control Cubicle	E	0 / 22.01.07
PCS	Plant Control System	E	1 /
PCV	Pressure Control Valve	I	0 / 22.01.07
PD	Ponds	M	0 / 22.01.07
PDAH	Pressure Differential Alarm High	I	0 / 22.01.07
PG	Power Plug	E	0 / 22.01.07
PI	Pressure Indicator	I	0 / 22.01.07
PIC	Pressure Indicating Controller	I	0 / 22.01.07
PIT	Pressure Indicating Transmitter	I	0 / 22.01.07
PL	Pipeline	M	0 / 22.01.07
PLC	Programmable Logic Controller	E	1 /
PNL	Panel	E	0 / 22.01.07
PNT	Pontoon	M	0 / 22.01.07
PPC	Pump – Centrifugal	M	0 / 22.01.07
PPD	Pump – Positive Displacement	M	0 / 22.01.07
PPS	Pump – Sump	M	0 / 22.01.07
PPV	Pump – Vacuum	M	0 / 22.01.07
PS	Particle Size Analyser	I	0 / 22.01.07
PSL	Pressure Switch Low	I	0 / 22.01.07
PT	Pressure Transmitter	I	1 /
RAD	Radio	E	1 /
RB	Rockbreaker	M	0 / 22.01.07
RC	Reclaimer	M	0 / 22.01.07
RCP	Receiver	M	0 / 22.01.07
RD	Road	M	0 / 22.01.07
REC	Rectifier Panel	E	0 / 22.01.07
ROV	Rotary Valve	M	0 / 22.01.07
RP	Relay Panel	E	0 / 22.01.07
RR	Rolling Stock and Railroad Equipment	M	0 / 22.01.07
RRS	Rotor Resistance Starter	E	0 / 22.01.07
RW	Reinforced earth Wall	M	0 / 22.01.07
			0 / 22.01.07
SAL	Speed Alarm Low	I	0 / 22.01.07
SAM	Sampler	M	0 / 22.01.07
SBR	Scrubber	M	0 / 22.01.07
SC	Speed Controller	I	0 / 22.01.07
SCN	Scanner	E	0 / 22.01.07
SD	Steam Drive	M	0 / 22.01.07
SE	Speed Element	I	1 /
SHS	Safety Shower	M	0 / 22.01.07

Eq Type	Eq Type Name	Discipline Code	Rev No. / Date
SI	Speed Indicator	I	0 / 22.01.07
SIL	Silencer	M	0 / 22.01.07
SIR	Siren	E	0 / 22.01.07
SJ	Steam Jet Ejector	M	0 / 22.01.07
SK	Stacker	M	0 / 22.01.07
SM	Skimmer	M	0 / 22.01.07
SMK	Smoke Detector Panel	E	1 /
SMP	Sump	M	0 / 22.01.07
SN	Screen	M	0 / 22.01.07
SNZ	Suction Nozzle	M	2 / 16.08.07
SP	Spiral	M	0 / 22.01.07
SR	Switch Rack	E	0 / 22.01.07
SS	Speed Switch	I	0 / 22.01.07
SSL	Speed Switch Low	I	0 / 22.01.07
ST	Speed Transmitter	I	0 / 22.01.07
STK	Stack	M	0 / 22.01.07
SWB	Switchboard	E	1 /
SWS	Conveyor Fld Devcs (PWS, USS OCS, BRS, BOS)	I	0 / 22.01.07
SV	Solenoid Valve	I	0 / 22.01.07
TAH	Temperature Alarm High	I	0 / 22.01.07
TAHH	Temperature Alarm High High	I	0 / 22.01.07
TAL	Temperature Alarm Low	I	0 / 22.01.07
TALL	Temperature Alarm Low Low	I	0 / 22.01.07
TC	Transformer, Current	E	0 / 22.01.07
TCV	Temperature Control Valve	I	0 / 22.01.07
TE	Temperature Element	I	0 / 22.01.07
TFP	Transformer, Potential	E	2 / 16.08.07
TFR	Transformer	E	0 / 22.01.07
THK	Thickener	M	0 / 22.01.07
TI	Temperature Indicator	I	0 / 22.01.07
TIC	Temperature Indicator Controller	I	0 / 22.01.07
TL	Telephone	E	0 / 22.01.07
TLM	Telemetry Unit	E	1 /
TNK	Tank	M	0 / 22.01.07
TP	Tapping Pot	M	2 / 16.08.07
TS	Transfer Switch	E	0 / 22.01.07
TT	Temperature Transmitter	I	0 / 22.01.07
TTV	Automatic Changeover Valve	M	0 / 22.01.07
TU	Tunnel	M	0 / 22.01.07
UM	Demultiplexor	E	0 / 22.01.07
UPS	Uninterruptible Power Supply	E	0 / 22.01.07
US	Unit Substation	E	0 / 22.01.07
VE	Ventilator	M	0 / 22.01.07
VLP	Pressure Vessel	M	0 / 22.01.07
VR	Voltage Regulator	E	0 / 22.01.07
VSD	Variable Speed Drive	E	1 /
VSL	Vessel	M	0 / 22.01.07
WAH	Weight Alarm High	I	0 / 22.01.07
WAHH	Weight Alarm High High	I	0 / 22.01.07
WAL	Weight Alarm Low	I	0 / 22.01.07
WALL	Weight Alarm Low Low	I	0 / 22.01.07

Eq Type	Eq Type Name	Discipline Code	Rev No. / Date
WE	Weight Element	I	0 / 22.01.07
WI	Weight Indicator	I	1 /
WIB	Weightometer	M	0 / 22.01.07
WIC	Weight Indicator Controller	I	0 / 22.01.07
WIF	Weigh Flask / Hopper	M	0 / 22.01.07
WIS	Weight Scale	M	0 / 22.01.07
WIT	Weight Indicator Transmitter	I	0 / 22.01.07
WLO	Welding Outlet	E	0 / 22.01.07
WQ	Weight Totaliser	I	0 / 22.01.07
WQI	Weight Totaliser Indicator	I	0 / 22.01.07
WSH	Weight Switch High	I	0 / 22.01.07
WSL	Weight Switch Low	I	0 / 22.01.07
XM	Packaged Plant & Systems	M	0 / 22.01.07
ZA	Position Alarm	I	1 /
ZAH	Position Alarm High	I	0 / 22.01.07
ZAL	Position Alarm Low	I	0 / 22.01.07
ZC	Position Controller	I	1 /
ZE	Miscellaneous Electrical Items	E	0 / 22.01.07
ZI	Miscellaneous Instrument Items	I	0 / 22.01.07
ZIO	Valve Position Open Indicator	I	0 / 22.01.07
ZM	Miscellaneous Mechanical Items	M	0 / 22.01.07
ZP	Miscellaneous Piping and Valves	P	0 / 22.01.07
ZS	Position Switch	I	1 /
ZSC	Valve Position Close	I	0 / 22.01.07
ZSH	Position Switch High	I	0 / 22.01.07
ZSL	Position Switch Low	I	0 / 22.01.07
ZSO	Valve Position Open	I	0 / 22.01.07
ZT	Position Transmitter	I	0 / 22.01.07

APPENDIX B: PROTEUS STANDARD DOCUMENT CODES

PROTEUS STANDARD DOCUMENT NUMBERING SYSTEM

	ENGINEERING		PROJECT
CODE	TYPE	DISCIPLINE	TYPE
A	Data Sheet	Architectural	Credit Note
B	Basis Of Design	Concrete	Project Plan
C	Calculation	Civil	Contract
D	Drawing		Cost Report (Dollars)
E	Estimate	Electrical	Email
F		Foreign doc	Fax
G		General	
H		HR / IR / ER	
I	Image		Invoice
J		Instrumentation	
K		Communication	CPA
L	List		Letter
M	Manuals	Mechanical	Minutes
N	3D Model		Note (Filenote / Telecon)
O		Safety (OHS) / Environment	
P	Schedule	Process	Purchase Order
Q	Questionnaire (Vendor)	Quality	Query
R	Report		Requisitions
S	Specification	Structural	Transmittal (Send)
T	Tender		Tender / Proposal
U		Procurement	Tender Recommendation
V	Evaluation (Tender)	Vendor	Variation
W	Scope	Construction	
X	Sketch	Piping	
Y		Commissioning	Miscellaneous
Z	Wildcard	Project Management	Progress Reports

NOTES

1. Project correspondence requires only a single alpha code to identify document type. Engineering documents require two alphas to identify document type and discipline.

2. Document format **xxxxx – aa – nnn**

   Where **xxxxx** : Proteus job number
   aa : Type Discipline
   nnn : Sequential document number

   Examples: 06033–SM–001 Specification Mechanical

   06033–M–001 Minutes of meeting

3. This system references Proteus document “PR035-LQ-001 Rev 8”