Metering Point Address Data

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Standardised Address Format

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1 INTRODUCTION

This document sets out a recommendation for the standard address structure for electricity metering point addresses (service point addresses as held within the Metering Point Administration Services databases managed by the 14 PES distribution businesses). This standard could also apply to information held for other purposes, such as mailing and contact addresses, but was defined with particular consideration of the importance of metering point addresses.

The standard was developed by GB Information Management, commissioned by Ofgem, at the request of the Address Data Working Group.

The need for a standard address structure has been identified to address two main objectives:

- 1. To enable electricity suppliers to match customer-provided address details accurately and consistently to addresses held by the distribution businesses.
- 2. To facilitate a general improvement in the accuracy of addresses held by the distribution businesses and permit ongoing maintenance processes to be accommodated effectively.

Key benefits derived from this include

- 1. Maximising the opportunity for suppliers to automate customer-provided address matching with published MPAS data.
- 2. Reducing the overhead on distribution businesses needing to respond to address-related queries.
- 3. Obtaining a reduction in erroneous transfers caused by inaccurate or incomplete address data.
- 4. Reducing the instances of customers being excluded from changing supplier due to poor address details being available.

This document reviews existing addressing standards, namely BS7666 Part 3 (PAF) and BS7666 Part 2 (NLPG) and discusses the appropriateness of each to the common identification and maintenance of supply addresses within the UK. Chapter 4 assesses the current address structures in use and a recommendation on the way forward is set out in chapter 5. Chapter 6 sets out an Address Format Standard and provides examples of how addresses should be formatted to comply with this standard.

2 BS7666 PART 3 (PAF)

This standard covers the definition of addresses as held within PAF (the Royal Mail's Postcode Address File). PAF is a unique reference to mailing points within the UK, being used to identify the location of mailboxes. The address itself is very much a delivery instruction to enable mail to be transported between, and delivered through, a number of sortation offices. However, the Royal Mail's own statistics show that PAF is used more extensively for non-mailing purposes.

Clearly, the location of a mailbox can differ from the location of a meter supply point within a premise or site. Whilst in many cases (90% plus?) they will be one and the same, there will be a number of instances, such as multi-occupancy premises and multi-building sites, where the full location details of a supply point will not be present on PAF. The reality is that PAF is the only currently available, usable reference data set.

The elements of a PAF	address are shown	in the table below.

PAF Element	Description and Comments
Department	Refers to a sub-division of an organisation.
Organisation	Populated if the business or organisation is known.
Sub-Building Name / Number	Refers to the sub-building of the premise. This field is alpha- numeric and can contain a name or a number.
Building Name	Separate fields are defined on PAF for building name and
Building Number	number, one being alpha-numeric, the other numeric. Both building name and number fields can be present for a single address.
PO Box	Allocated box number used to potentially identify "like types" of mail, e.g. bill payments. Tends to obscure physical address.
Dependent Thoroughfare	Occasionally used.
Thoroughfare (Street)	Frequently, but not always present in an address.
Double Dependent Locality	Occasionally used.
Dependent Locality	Frequently used.
Locality (Post Town)	Always present.
County	Postal county, as distinct from electoral county. The Royal Mail does not maintain this field and plans to remove it altogether from December 2000.
Postcode	Always present, consisting of a 2,3, or 4 character outcode and 3 character incode.
DPS	Together with the Postcode provides a unique reference to an address, at a point in time. Used with Postcode to produce barcode for automated sorting of mail.

In addition to the standard address elements the Royal Mail provide a number of related data items as follows:

- Easting and Northing This is a postcode level grid reference obtained from an associated file (Postzon).
- Address Key Concatenation of three fields, these being the Address Identifier, Organisation Identifier, and Large User Indicator. Taken together they form a unique key to an address that, generally speaking, is static. In a very small number of cases the Royal Mail can change the Address Key, particularly when the use of a building changes. In almost all incidences of this the Key change can be identified.
- Local Authority Code This code identifies the Electoral County, Local Authority or Unitary Authority, and is obtained from the Postzon file.

In order to attempt to gain a fuller understanding of the data held within PAF, the following appendices are provided:

- Appendix A. Breakdown of population of address elements across Postcode areas.
- Appendix B. Examples of areas which have been recently re-coded by the Royal Mail.
- Appendix C. Examples of Scottish Tenement Addresses
- Appendix D. Examples of how the Royal Mail uses address elements, and the variances and inconsistencies that exist.

3 BS7666 PART 2 (NLPG)

The National Land and Property Gazetteer (NLPG) will provide the first comprehensive address base of commercial and residential buildings in Great Britain since Norman times.

The standard does not differentiate between commercial or residential properties; between occupied, developed or vacant land; between urban or rural; or between addressable properties and non-addressable entities such as communication masts.

The NLPG will consist of a number of tables. There will be two main property record types, the Basic Land and Property Unit (BLPU), and the Land and Property Identifier (LPI). Each record type will contain a Unique Property Reference Number, effective start and end dates, an entry date, and various status checks. For each BLPU there will be one or more corresponding LPI's.

The addressable elements specific to the Basic Land and Property Unit Record Type are as follows.

Addressable Element	Description and Comments
X Co-ordinate	The Eastings co-ordinate of the BLPU.
Y Co-ordinate	The Northings co-ordinate of the BPLU.
Relative Positional Accuracy	A code that indicates the representation of the X and Y Co- ordinates. Current values are Visual Centre of BLPU, General Internal Point, SW Corner of 100m grid square, Start Point of Referenced Street.

The addressable elements held within the Land and Property Identifier Record Type are as follows.

Addressable Element	Description and Comments
Secondary Addressable Object Name	Optional.
Primary Addressable Object Name	Mandatory.
Street Name	Mandatory. Held as a Unique Street Reference Number that has been matched to the National Street Gazetteer
Level	Optional. Memorandum of the vertical position of the address, e.g. Roof Garden
Post Town	Optional
Postcode	Optional

In addition to these elements a number of other data fields will be present, as defined in the standard. Additional data fields such as building type (eg church, statue, public convenience, inn, etc) may also become available.

A version of the NLPG should be available early in 2001, covering around 30% of the population. Early indications suggest that the NLPG will contain between 15% and 20% more building addresses than PAF, largely due to the presence of more commercial premises and sub-premise level data.

4 CURRENT STRUCTURE OF METERING POINT ADDRESS DATA

The overall structure of the address data managed by each of the 14 electricity distribution businesses and MPAS service providers (published from data held within their respective MPAS databases), comprises 9 address lines each of 40 characters (bytes) in length plus a postcode line. However there is a significant variation in the structure of the address data held by each company.

Table 1 below provides real example addresses from each of the published CD ROMs, and clearly indicates the high degree of inconsistency in address formats across the 14 companies.

The lack of consistency places additional burdens on the systems and operations of suppliers and agents. The lack of a standard address structure also makes it difficult for distribution businesses to improve and maintain their address accuracy. Standard automated address enhancement software is not built around variable 9-line address structures.

GB Information Management has undertaken a review of the current addresses within each distribution business. This was carried out using the Royal Mail's address data auditing software, which measures compliance of addresses with BS7666 Part 3 (PAF). The results are presented in Table 2 below.

The auditing software checks that the essential elements of an address are present and in the correct hierarchical sequence. These address elements are used to identify a unique match against the latest version of PAF.

Data sets that have a comparatively low conformance overall typically appear to have high failure rates at either locality or building level. Failure at locality level (including post town, dependent locality and double dependent locality) could be caused by issues such as key elements missing or misspelt, or superfluous elements between thoroughfare and post town. Those most affected by failures at building level (including sub-building details) are in areas where there are known problems and deficiencies, even with PAF (e.g. London, Glasgow etc.). Generally, failures at postcode and thoroughfare levels are comparatively small.

The level of conformance of addresses are shown to vary widely across the industry, from under 40% to over 80% of a published dataset.

Metering Point Address Data

Table 1 Example PES Address Structure

Line 1	Line 2	Line 3	Line 4	Line 5	Line 6	Line 7	Line 8	Line 9	Postcode
	16			WINDRUSH AVENUE			BEDFORD	BEDFORDSHIRE	MK41 7BS
		21		WOODVILLE ROAD			BOSTON	LINCOLNSHIRE	PE21 8AP
FLAT A		29		WARWICK SQUARE			LONDON		SW1V 2AD
	THE HAYLOFT REAR	ABERGELE RD			COLWYN BAY	CLWYD			LL29 7RU
	PERSHORE WORCS								WR10 1QF
	HOUSE FLAT B	MAIN STREET		HALTWHISTLE	NORTHUMBERLA ND			MR SLOAN FLATS ABOVE MAGS NEWSAGENT	
		2	WASNIDGE WALK		MANCHESTER	LANCASHIRE			M15 6EG
	LR	59	MENZIES ROAD		ABERDEEN				AB11 9AS
39		CRANDLEYHILL ROAD			PRESTWICK				KA9 2BE
		17	CHERWELL ROAD	HEATHFIELD		SUSSEX			TN21 8JT
FL12	WILLOW COURT			CORNEY REACH WAY		CHISWICK	LONDON		W4 2TW
		50		BRYNGLAS		PENYRHEOL	CAERPHILLY	MID GLAMORGAN	CF83 2PH
	FFF	3		BEAUFORT HOUSE		MARINERS COURT	PLYMOUTH	DEVON	PL4 0BS
		11		Gorse Close			Scunthorpe	South Humberside	DN16 3BG

Metering Point Address Data

Region	Conform Correctly to BS7666	%	Address Failed at Postcode	%	Address Failed at Locality	%	Address Failed at Thoro.	%	Address Failed at Building	%	Foreign Address	%	Total
TXU (EASTERN)	2,857,219	83.7%	200,984	5.9%	19,613	0.6%	27,388	0.8%	306,605	9.0%	-	0.0%	3,411,809
LONDON ELEC	1,383,068	59.5%	136,884	5.9%	38,053	1.6%	66,471	2.9%	701,682	30.2%	-	0.0%	2,326,158
MANWEB	714,880	49.3%	61,045	4.2%	408,912	28.2%	91,304	6.3%	174,848	12.1%	-	0.0%	1,450,989
NORTHERN ELEC	1,096,923	70.9%	17,136	1.1%	201,917	13.1%	51,755	3.3%	179,065	11.6%	-	0.0%	1,546,796
NORWEB	1,904,963	82.5%	51,475	2.2%	75,022	3.2%	48,318	2.1%	229,273	9.9%	-	0.0%	2,309,051
SCOTTISH POWER	1,284,457	61.1%	128,620	6.1%	105,089	5.0%	62,341	3.0%	521,297	24.8%	-	0.0%	2,101,804
SEEBOARD	820,792	38.2%	22,184	1.0%	992,977	46.2%	68,273	3.2%	246,780	11.5%	-	0.0%	2,151,006
SOUTHERN	2,222,913	78.4%	89,977	3.2%	25,936	0.9%	30,379	1.1%	465,730	16.4%	1	0.0%	2,834,936
SWALEC	756,791	71.5%	33,398	3.2%	74,323	7.0%	81,073	7.7%	112,456	10.6%	-	0.0%	1,058,041
SWEB	667,452	44.9%	70,033	4.7%	552,425	37.2%	65,825	4.4%	130,457	8.8%	-	0.0%	1,486,192
YORKSHIRE	1,779,012	82.4%	146,546	6.8%	20,254	0.9%	23,841	1.1%	189,429	8.8%	-	0.0%	2,159,082
EAST MIDLANDS	1,873,964	75.6%	62,816	2.5%	226,949	9.2%	102,547	4.1%	213,260	8.6%	2	0.0%	2,479,538
HYDRO ELECTRIC	556,660	66.2%	56,953	6.8%	44,796	5.3%	17,438	2.1%	164,855	19.6%	-	0.0%	840,702
MIDLANDS	1,397,280	58.0%	190,733	7.9%	425,699	17.7%	174,347	7.2%	220,952	9.2%	-	0.0%	2,409,011
TOTALS	19,316,374	67.6%	1,268,784	4.4%	3,211,965	11.2%	911,300	3.2%	3,856,689	13.5%	3	0.0%	28,565,115

Table 2 – Address Conformance to BS7666 Part 3 (PAF) by Distribution Business (June 2000 extract)

Notes to Table 2

- 1. The measurement of address conformance to BS7666 Part 3 (PAF) was carried out using Address Checker Plus and the Y00M05 version of PAF, issued by the Royal Mail at the end of May 2000. The metering point addresses used were obtained from the CDs published during July 2000.
- 2. Addresses conforming correctly to BS7666. All of the address elements required to uniquely define the address are present and in the correct sequence, and match the corresponding entry in PAF.
- 3. Addresses failing at postcode. The postcode is missing or cannot be found on PAF.
- 4. Addresses failing at locality. The postcode present matches PAF, but either the locality (Post Town), dependent locality, or double dependent locality is missing or cannot be found on PAF for the corresponding postcode. Address Checker Plus will accept any address that contains additional information between the thoroughfare and the locality element(s) valid and present on PAF.
 - Example 1: 1 Alfreton Close, Wimbledon, LONDON, SW19 5NS, would be accepted even though Wimbledon is not present on PAF.
 - Example 2: 73 Stoke Lane, Stoke Bishop, BRISTOL, BS9 3SN, would not be accepted as Stoke Bishop is a valid locality on PAF, but not the correct locality for BS9 3SN. Equally, 73 Stoke Lane, BRISTOL, BS9 3SN, would fail at locality. The correct address is 73 Stoke Lane, Westbury-on-Trym, BRISTOL, BS9 3SN.
- 5. Addresses failing at thoroughfare. Postcode and locality details match PAF, but the thoroughfare is missing or cannot be found on PAF for the corresponding postcode and locality details. Common abbreviations such as ST., RD., AVE., etc. are accepted.
- 6. Addresses failing at building. Postcode, locality and thoroughfare details match PAF, but the building name or number, or sub-building name or number is missing or cannot be found on PAF for the corresponding postcode, locality and thoroughfare details. Additional information is allowed prior to the required sub-building or building details. Thus if Flat 1 is present in the address but there are no sub-building details on PAF, the address will be accepted. It should be pointed out that Address Checker Plus also looks for PO Box and Organisation at this point, which will cause the statistics in Table 2 to be on the high side.

5 RECOMMENDATIONS FOR STANDARDISED ADDRESS FORMAT

With PAF being recognised as the de facto standard, at least in the short to medium term, the relevant PAF data elements need to be mapped onto the 9-line address plus postcode structure that is accommodated by the Data Transfer Catalogue (DTC).

The PAF elements that would appear not to be applicable in this instance are

- Department
- Organisation
- PO Box

This leaves the following fields within PAF to be considered.

PAF Element	Description and Comments
Sub-Building Name / Number	One field is defined on PAF for sub-building name and number, and it is recommended that this field is maintained in the structure.
Building Name / Number	Separate fields are defined on PAF for building name or number, one being alpha-numeric, the other numeric. It is recommended that these fields are combined to a single "Building" field.
Dependent Thoroughfare	Occasionally used.
Thoroughfare (Street)	Frequently, but not always present in an address.
Double Dependent Locality	Occasionally used.
Dependent Locality	Frequently used.
Locality (Post Town)	Always present.
County	Postal county, as distinct from electoral county. The Royal Mail does not maintain this field and plans to remove it altogether from December 2000.
Postcode	Always present, consisting of a 2, 3, or 4 character outcode and 3 character incode.

These 8 fields and postcode could be held within the existing 9-line plus postcode DTC address structure.

There is a move within the Royal Mail to reduce the number of address lines to a maximum of 5, plus a postcode. The vast majority of addresses conform to this. However, if the MPAS address holds supplementary data to that held on PAF, this data should be retained at this stage.

Addresses can fall into three categories:

PAF Addresses:

These are those that exactly match an entry on PAF, and for which the MPAS holds no supplementary details. An Address Key can be generated for these addresses. PAF Addresses + non-PAF elements: These addresses match an entry on PAF and an Address Key can be attached to the record. However, the MPAS holds extra information about the address such as sub-premise details (flats etc.) or extra locality information not present on PAF (such as London boroughs).
Non-PAF Addresses: These are records that cannot be 100% matched against a PAF record. The level of cleanliness may vary for these addresses. For example, if the premise cannot be uniquely identified on PAF, yet the thoroughfare and locality detail is accurate, it may be possible to generate a full postcode for the address, yet not produce an Address Key. At the other end of the scale, are addresses such as "The telephone box,

Junction of A55/A483, Chester"

In conclusion, the following address structure is recommended.

Line Number	Description
1	Free text
2	Sub-building Name / Number
3	Building Name / Number
4	Dependent Thoroughfare
5	Thoroughfare
6	Double Dependent Locality
7	Dependent Locality
8	Locality (Post Town)
9	County

In addition to these address lines, the Postcode would be separately recorded, as now, in the relevant data item.

A number of guidelines or rules will need to be defined to determine how addresses should in practice be held. Some recommendations on these are as follows.

- 1. For PAF addresses, the MPAS address should be populated exactly as held on PAF with the equivalent elements matching.
- 2. Where non-PAF elements occur within a PAF address, these elements should be populated into appropriate fields within the natural hierarchy of the address. Thus, sub-premise details present on the MPAS database, but not PAF, should appear in the Sub-Building Name / Number line. Additional locality data not appearing on PAF, should appear between the Thoroughfare and Post Town lines.
- 3. Building name / number. Where an address contains both a building name and building number, these values should be concatenated into the single field with building name first, a comma separator, and then the building number. For example, for "Flat 11, George House, 21 High Street" the value in the Building Name / Number field should be "George House, 21".

- 4. Organisation names. Although the report suggests that defining a separate field for an organisation is not applicable there may be instances where the presence of an organisation name can assist the cleaning or matching processes. This needs to be balanced against the view that organisation (ie customer) should not be published. The organisation name on PAF is freely obtainable and is not necessarily going to indicate the customer / business trading name. For instance, the "Prince of Wales" pub in BS9 will appear in PAF as an organisation, but is not the trading name of the business. In these cases we would suggest that the organisation could be held within the free text line. If the "Prince of Wales" appears on PAF as the building name, then it should be held within the recommended address structure in the building name field.
- 5. Where an address is clearly not on PAF, such as "The telephone box, junction of A55/A485, Chester", the address should be populated from Line 1 down with Chester being allocated to the Post Town line where possible.
- 6. The Postcode should be populated with partial details even if the full postcode cannot be derived.

It is also recommended that, in addition to the postcode, a number of other, additional fields should be considered for inclusion in database and data flows associated with metering point addresses. Details of these are as follows.

Field	Source
Address Key	PAF
Local Authority Code	PAF / Postzon (Royal Mail)
UPRN	NLPG
Level	NLPG
Easting	NLPG
Northing	NLPG

The population of these would be optional, but where present, would significantly aid the address identification process.

6 ADDRESS FORMAT STANDARD

Metering point addresses should be structured within the following ten data items, according to the rules set out below.

Line	Current Data Item	Description	PAF field
1	Metering Point Address Line 1	Free text	No
2	Metering Point Address Line 2	Sub-building Name / Number	Yes
3	Metering Point Address Line 3	Building Name / Number	Yes
4	Metering Point Address Line 4	Dependent Thoroughfare	Yes
5	Metering Point Address Line 5	Thoroughfare	Yes
6	Metering Point Address Line 6	Double Dependent Locality	Yes
7	Metering Point Address Line 7	Dependent Locality	Yes
8	Metering Point Address Line 8	Locality (Post Town)	Yes
9	Metering Point Address Line 9	County	No
10	Metering Point Postcode	Postcode	Yes

The MPAS address will be one of the following three categories:

PAF Addresses:	The MPAS address exactly match an entry on PAF, and for which the MPAS holds no supplementary details. An Address Key can be generated for these addresses.
	The MPAS address should be populated exactly as held on PAF with the equivalent elements matching.
PAF Addresses + non-PAF elements:	The MPA address matches an individual entry on PAF and an Address Key can be attached to the record. However, the MPAS holds extra information about the address such as sub- premise details (flat numbers etc.) or extra locality information not present on PAF (such as London boroughs).
	The non-PAF elements should be populated into appropriate fields within the natural hierarchy of the address. Thus, sub- premise details present on the MPAS database, but not PAF, should appear in the Sub-Building Name / Number line. Additional locality data (e.g. London Boroughs) not appearing on PAF, should appear between the Thoroughfare and Locality lines.
Non-PAF Addresses:	The MPAS address cannot be matched to an individual PAF record. If the premise cannot be uniquely identified on PAF, yet the thoroughfare and locality detail is accurate, it may be possible to generate a full postcode for the address, but not produce an Address Key. Addresses such as "The telephone box, Junction of A55/A483, Chester" are also covered by this category.
	Non-PAF addresses should be populated from Line 1 down, with PAF elements such as Locality being allocated to the relevant line wherever possible.

The following rules provide additional guidance on how different types of address elements should be formatted.

- 7. Building name / number. Where an address contains both a building name and building number, these values should be concatenated into the single field with building name first, a comma separator, and then the building number. For example, for "Flat 11, George House, 21 High Street" the value in the Building Name / Number field should be "George House, 21".
- 8. Organisation names. There may be instances where the presence of an organisation name will assist the cleaning or matching processes. If the organisation name appears on PAF (e.g. the "Prince of Wales" public house as the building name), then it should be held within the recommended address structure in the corresponding field. In all other cases the organisation should be held within the free text line.
- 9. The Postcode should be populated with partial details even if the full postcode cannot be derived.

The table on the following pages provides examples of how various addresses should be formatted to comply with these rules.

Sample formatted addresses:

Example Address	Line	Formatted Address
	1	
PAF address	2	
	3	35
35, Galloway Road	4	
Liverpool	5	Galloway Road
L22 4QX	6	
	7	
	8	Liverpool
	9	
	10	L22 4QX
	1	
PAF address + non-PAF elements	2	Flat 11
	3	George House, 21
Flat 11	4	
George House	5	High Street
21, High Street	6	riigh Street
Rowley Regis	7	
West Midlands	8	Rowley Regis
B65 5GT	9	West Midlands
D03 30 1	10	B65 5GT
	10	2003 00 1
	1	The telephone box
Non-PAF address	2	Junction of A55/A483
	3	
The telephone box	4	
Junction of A55/A483	5	
Chester	6	
	7	
	8	Chester
	9	
	10	
	1	
PAF address	2	
The Driver of Michae Dil	3	The Prince of Wales P H
The Prince of Wales PH	4	Windoorlong
Windsor Lane	5	Windsor Lane
Little Kingshill	6	
Great Missendon	7	Little Kingshill
Buckinghamshire	8	Great Missendon
HP16 0DZ	9	Buckinghamshire
	10	HP16 0DZ

The Prince of Wales
28
28
Bethel Street
Brighouse
West Yorkshire

APPENDICES

- A PAF Elements Breakdown
- B Recent PAF Re-codings
- C Examples of Scottish Tenement Addresses
- D Examples of PAF Addresses
- E Improvement of Address Accuracy and Ongoing Maintenance

Appendix A PAF Elements Breakdown

The table below shows the total number of PAF addresses within each postal area ("Blue-Book"), broken down by PAF element. For example, within the AB (Aberdeen) Blue-Book area, 612 addresses contain a double dependent locality field, and 44,032 contain a building name element. It should be noted that the figures for dependent thoroughfare are included in the thoroughfare field (i.e. all addresses which have a dependent thoroughfare will also have a (main) thoroughfare. Similarly, the dependent locality figures include the double dependent locality ones and the town figures include the dependent localities.

Post- code Area	Dept	Org	PO Box	Sub- building name	Building name	Building number	Dep Thfare	Thfare	Double Dep Locality	Dep Locality	Town	County	Small User Org	Large User Org	Domestic Building	Multi Occu- pancy Building
AB	316	13038	466	17539	44032	166890	2742	183706	612	78926	212926	101922	12064	974	199888	3692
AL	80	5960	721	7330	13220	85763	3316	98690	0	20562	99765	99765	4828	1162	93775	17
В	722	39015	3306	72562	96662	696000	13518	779231	8356	184170	783877	336367	33480	5704	744693	1828
BA	156	12343	744	9798	38929	137946	1677	168588	815	61963	181655	118565	11354	1373	168928	1449
BB	223	12608	559	4491	19052	194995	1527	216994	42	64329	218392	159634	11377	1247	205768	160
BD	149	13719	773	11546	24870	201094	2532	225896	122	79788	229809	229809	12269	1518	216022	159
BH	183	13258	1108	39451	59312	205303	3183	243069	390	39660	247483	165971	11486	1945	234052	262
BL	78	8907	484	3165	10568	153223	1734	164327	698	63399	165165	44439	7983	967	156215	126
BN	207	19361	1948	41316	80951	275064	11765	347696	212	83517	353301	266164	16782	3027	333492	4660
BR	34	6256	744	15751	23987	111331	1664	129302	0	2231	130046	87477	5399	1050	123597	87
BS	524	22721	1821	30386	61480	317279	5780	379541	1455	164503	384219	58308	20393	3189	360637	5064
BT	474	39988	1397	15456	63519	649476	9161	704438	9303	233818	714064	464950	36936	3258	673870	604
CA	138	11239	254	3842	35758	104553	1672	119316	2622	56156	146452	100050	10619	623	135210	273
СВ	185	9853	856	4809	23803	135441	3108	158350	18	80447	160869	63201	8246	1618	151005	296
CF	485	19666	1259	14602	44814	367382	4008	408912	2580	172913	417992	279437	17702	2620	397670	217
СН	247	15269	929	11407	38360	254469	8518	292789	451	107758	295744	201280	13955	1626	280163	1142
СМ	202	14808	1430	10591	47941	218500	7965	264586	68	94226	269238	198615	12511	2306	254421	52

Post- code Area	Dept	Org	PO Box	Sub- building name	Building name	Building number	Dep Thfare	Thfare	Double Dep Locality	Dep Locality	Town	County	Small User Org	Large User Org	Domestic Building	Multi Occu- pancy Building
со	149	10776	710	10199	37827	140056	4535	177639	120	88988	179446	91637	9557	1223	168666	28
CR	104	8502	1017	14103	26726	135475	3552	156509	0	9650	157532	95781	7316	1460	148756	165
СТ	105	13037	781	15844	43167	163679	6128	204852	318	50911	207726	207726	11647	1566	194513	2866
CV	312	17404	1631	16306	45271	292418	6071	335580	64	80107	341983	170314	14804	2659	324520	1139
CW	89	8517	488	3081	17629	109213	1157	127940	30	46366	130153	87546	7583	1071	121499	62
DA	62	8414	548	11567	25756	150702	3328	174317	345	26776	174949	140269	7545	1010	166394	79
DD	230	6897	271	5259	23448	96000	1318	112168	1267	27850	120135	52048	6317	580	113238	3716
DE	223	18135	995	9411	36861	266544	5827	302172	1378	180087	308196	174327	16419	1791	289986	143
DG	71	5761	90	2323	21157	47585	589	55508	49	27673	71119	45596	5429	332	65358	487
DH	118	6189	237	1336	9370	122159	1318	130739	255	68653	133993	82066	5596	606	127791	71
DL	119	10155	358	2398	21711	134769	1150	146969	338	57914	160577	160577	9287	896	150394	250
DN	158	18262	749	7289	37201	280459	3282	318824	508	149117	324568	324568	16708	1556	306304	195
DT	84	6792	271	7311	29233	65478	1103	83619	56	39076	96219	96219	6174	661	89384	64
DY	82	9339	644	6961	23044	151496	1706	174772	162	23436	177131	177131	8223	1170	167738	38
E	328	19227	1940	91063	101337	262489	11776	341128	0	0	343069	0	16997	2850	323222	8021
EC	173	12271	849	13675	18466	12118	2038	26765	0	0	27616	0	9745	2606	15265	182
EH	463	21075	1187	6838	142129	247960	4338	378993	220	52997	389709	168359	18876	2208	368625	1811
EN	81	6247	835	12869	22137	118973	5020	137798	0	28523	138729	138729	4874	1380	132475	73
EX	242	18792	755	15427	74028	154311	3945	197443	763	89977	237777	172519	17176	1757	218844	880
FK	125	6409	248	2483	16626	100030	1197	113658	135	46205	118567	56834	5777	634	112156	647
FY	111	9805	304	7097	12814	117920	1816	130959	0	5939	131304	66715	9151	657	121496	1826

Post- code Area	Dept	Org	PO Box	Sub- building name	Building name	Building number	Dep Thfare	Thfare	Double Dep Locality	Dep Locality	Town	County	Small User Org	Large User Org	Domestic Building	Multi Occu- pancy Building
G	682	27466	1476	137317	41342	473555	2713	505189	6526	221382	511060	39332	24232	3249	483579	11419
GL	185	16724	1108	15818	71912	183452	6881	239427	908	133406	260504	191074	15202	2076	243226	402
GU	151	18432	2387	11395	74873	220671	9204	289933	57	96360	297798	297798	15100	3587	279111	126
GY	11	3103	777	2442	22024	3541	3537	26440	41	26943	27570	0	2390	806	24374	120
HA	95	9393	1339	8823	28613	147160	4005	172219	0	2655	173564	173564	7385	2069	164110	602
HD	88	6792	392	2765	10826	101036	1226	111695	1092	48816	113353	12267	6160	675	106518	71
HG	40	4968	313	5133	12170	47391	1021	56887	0	13844	61172	61172	4503	527	56142	218
HP	127	11397	1425	4234	36430	157010	4770	192246	18	61630	197460	197460	9242	2260	185958	77
HR	155	6037	343	3799	28218	44328	941	53408	1171	34170	75599	29832	5610	589	69400	74
HS	16	888	26	162	3802	9921	0	5358	1112	10405	13812	6498	847	41	12924	494
HU	154	9795	492	4940	16098	180434	10804	197580	193	53522	199038	52370	8738	1113	189187	544
нх	56	4483	238	2788	10153	59419	1339	67732	173	14485	71288	71288	4045	461	66782	22
IG	55	5994	676	9460	16896	104841	3612	118874	0	344	119550	119550	5015	1003	113532	254
IM	88	3894	472	4070	11966	26537	1431	37406	496	12264	39433	39433	3273	633	35527	41
IP	154	16267	955	8310	59411	186631	4148	240773	120	122509	250446	162466	14557	1741	234148	244
IV	185	6920	225	4659	28183	67312	792	75200	4262	34543	97630	59527	6395	526	90709	540
JE	33	4262	957	6853	24838	14209	10446	37786	0	37782	38830	0	3330	1060	34440	10
KA	166	8687	284	4424	23199	144508	509	162047	12	42907	169805	139029	7895	792	161118	2094
кт	125	12965	1905	17988	46511	172243	6189	215943	0	30188	217851	217851	10208	2872	204771	1349
KW	46	1971	42	1279	11820	12791	34	16287	94	10076	25573	21531	1866	105	23602	217
KY	204	8116	272	1354	17342	142436	2270	155097	216	67385	162068	157569	7409	707	153952	1176

Post- code Area	Dept	Org	PO Box	Sub- building name	Building name	Building number	Dep Thfare	Thfare	Double Dep Locality	Dep Locality	Town	County	Small User Org	Large User Org	Domestic Building	Multi Occu- pancy Building
L	393	19802	1083	12591	40448	340483	3664	380070	0	80316	381209	63449	17523	2335	361351	2486
LA	146	11293	372	5267	34151	114903	2249	138211	251	53525	153507	123364	10447	856	142204	186
LD	33	2157	71	1217	12222	9658	496	14255	54	11029	23161	23161	2038	162	20961	77
LE	325	22152	1631	13785	38911	348449	2720	387516	956	161318	389753	166943	19623	2762	367368	141
LL	252	15198	504	12528	79058	161365	5998	205386	1545	120421	247201	247201	14179	1330	231692	1332
LN	72	8252	317	3116	24562	94021	1632	117502	408	61845	122191	39112	7503	749	113939	34
LS	290	19161	1414	9538	28771	301708	3257	331149	4257	105992	334478	54890	16928	2533	315017	1819
LU	44	5814	601	6051	13831	114745	3701	128597	81	24140	129900	49876	4905	918	124077	141
М	441	26366	2355	44654	59707	446346	7114	499744	13896	236045	502267	25993	22465	4037	475765	1442
ME	155	12103	913	8467	35298	203545	7443	239622	0	85773	241918	241918	10575	1684	229659	374
MK	116	11264	1236	6302	22539	171430	2608	193605	730	146356	196676	11712	9179	2100	185397	203
ML	141	7691	211	4600	17197	144821	547	156920	334	33259	163796	149023	7045	647	156104	512
N	194	17731	2442	73659	89115	224693	9486	304142	0	0	306585	0	15227	3365	287993	18274
NE	419	25451	1210	15741	50441	476107	6877	515926	78	99357	532559	362040	23049	2642	506868	982
NG	407	23061	1667	11403	45553	444104	3224	490893	2971	284957	495826	167003	20293	2793	472740	868
NN	236	15927	1249	6302	28349	235442	1567	260465	188	92125	265040	149537	14052	1923	249065	47
NP	322	10248	486	6202	32994	174746	3041	198985	5846	128264	212062	212062	9498	1039	201525	493
NR	368	19704	926	11300	58617	255041	5828	314463	163	147622	320166	160465	17969	1744	300453	700
NW	244	15082	2236	74087	85105	134165	5494	207396	0	0	209632	0	12755	3144	193733	9992
OL	157	11238	534	6706	17441	182831	2310	202383	7	61454	203064	115424	10091	1172	191801	134
ΟХ	215	15386	1606	8622	47652	192791	1571	233439	231	103029	244605	174553	12630	3039	228936	205

Post- code Area	Dept	Org	PO Box	Sub- building name	Building name	Building number	Dep Thfare	Thfare	Double Dep Locality	Dep Locality	Town	County	Small User Org	Large User Org	Domestic Building	Multi Occu- pancy Building
PA	175	7200	273	4847	48261	98642	1756	137337	578	28885	149320	137068	6419	781	142120	4927
PE	239	20905	1509	9562	60665	296967	6655	355648	5383	197168	363964	265451	17894	3056	343014	610
PH	112	6221	184	4187	27804	43927	1069	58618	506	29671	74160	40185	5711	510	67939	1252
PL	195	13788	575	8084	54096	170315	1520	199521	2501	69973	229874	117522	12609	1261	216004	1110
PO	258	20169	1356	39579	76516	286444	5670	357127	48	49865	360871	306102	17673	2551	340647	108
PR	284	12806	792	11264	29764	190413	3576	221078	56	141265	223029	81124	11400	1427	210202	389
RG	235	19216	2402	11836	60639	247353	7593	300616	755	149713	312188	182955	15633	3641	292914	68
RH	157	15244	1852	13453	56935	157131	8718	214613	366	64214	218413	199709	12539	2794	203080	318
RM	104	8810	658	11335	22469	181848	3521	205006	46	16310	205730	141833	7540	1291	196899	25
S	418	29305	1693	10501	46388	538552	4466	585965	2508	268242	589780	317235	26508	2865	560407	782
SA	286	16840	651	10371	72290	246714	4349	283009	6474	209220	325645	206627	15609	1627	308409	531
SE	388	19397	2406	120877	137011	284497	12205	402572	0	0	404978	0	16544	3493	384941	3631
SG	68	8510	797	4101	21252	141028	5023	160334	18	47344	164302	149320	7130	1393	155779	60
SK	176	17290	1141	15790	35486	235887	2704	268196	581	112368	273951	273951	15328	2176	256447	464
SL	48	8464	1212	5643	31506	114343	3748	146310	19	33311	147617	86517	6823	1846	138948	22
SM	34	3627	436	12203	16430	77453	1820	89439	0	699	89875	89875	3095	675	86105	266
SN	243	11031	907	3607	27711	150410	2595	170586	301	74631	182059	87879	9366	1667	171026	134
SO	235	15821	1600	24885	61561	213067	5590	269531	265	126237	275778	99734	13316	2524	259938	161
SP	53	6170	449	4745	26046	67686	2074	87341	648	48866	95795	46741	5394	782	89619	78
SR	77	4630	180	3167	6708	106390	316	112666	0	9200	114294	29700	4238	417	109639	361
SS	161	9800	873	13753	32847	192936	4440	223347	3	32041	224411	183089	8250	1556	214605	178

Post- code Area	Dept	Org	PO Box	Sub- building name	Building name	Building number	Dep Thfare	Thfare	Double Dep Locality	Dep Locality	Town	County	Small User Org	Large User Org	Domestic Building	Multi Occu- pancy Building
ST	281	18322	899	11395	38322	243179	1832	279375	298	88144	284935	65956	16400	1977	266558	26
SW	349	26443	3236	119017	127874	250480	10609	357452	0	0	360720	0	22454	4747	333519	9431
SY	120	11379	505	4741	55591	84668	4620	106659	6035	71445	145828	93403	10534	1134	134160	206
ТА	96	10029	379	6828	40878	93411	1569	122110	134	55896	138914	138914	9379	831	128704	35
TD	53	4393	94	2049	19738	33556	1019	43558	25	14245	55116	42473	4118	278	50720	518
TF	54	5237	318	1711	12058	72496	1673	80893	189	55108	86459	86459	4729	654	81076	31
TN	165	20993	1712	18377	91898	190498	7407	277456	164	119471	289091	289091	18684	2654	267753	1764
TQ	97	8436	455	14362	38608	92004	3351	120282	1550	41682	132552	102612	7566	970	124016	298
TR	128	10018	376	5848	42840	82634	2324	112692	1354	66906	130810	129615	9215	887	120708	503
TS	168	12353	586	6086	17706	245134	1093	262147	195	82602	266346	266346	11358	1041	253947	294
тw	89	11917	1406	18765	37123	160535	4733	193013	0	11810	194849	138655	9694	2336	182819	609
UB	76	6529	843	3612	17425	114990	3478	131627	0	8389	132476	132476	5206	1381	125889	24
W	263	31720	3825	83365	87603	160355	7448	232735	0	0	236571	0	26788	6099	203684	9868
WA	263	14620	1122	6574	22119	238326	3592	263131	225	131401	264469	165459	12800	2022	249647	103
WC	119	8246	603	12869	13069	11920	266	22778	0	0	23381	0	6695	1639	15047	103
WD	60	5963	900	7706	17473	85181	4648	102407	22	19135	103488	46000	4189	1801	97498	45
WF	91	10276	524	3614	15526	197963	1915	215730	72	75144	216707	216707	9391	984	206332	154
WN	81	6437	271	2684	9470	123615	1450	133462	44	63204	134556	134556	5877	583	128096	128
WR	81	8112	604	5973	30945	90576	1075	116730	666	40993	124375	63876	7312	1134	115929	129
WS	122	10382	619	9502	20034	163213	2830	184343	67	26080	185374	95228	9265	1161	174948	87
WV	107	8980	623	8738	21264	147922	3601	168809	364	36088	171453	50786	7789	1231	162433	95

Post- code Area	Dept	Org	PO Box	Sub- building name	Building name	Building number	Dep Thfare	Thfare	Double Dep Locality	Dep Locality	Town	County	Small User Org	Large User Org	Domestic Building	Multi Occu- pancy Building
YO	170	18780	758	6639	46906	188835	5230	226736	540	112738	242524	124512	17277	1555	223692	1385
ZE	37	884	20	675	5285	4813	0	6153	1350	7122	10552	3609	849	35	9668	325
Totals	22634	1569343	115499	1881953	4753925	21833670	476934	25821117	116589	8637880	26738075	15501602	1380549	206213	25151313	145003
% of Total	0.08	5.87	0.43	7.04	17.78	81.66	1.78	96.57	0.44	32.31	100	57.98	5.18	0.77	94.07	0.54

Appendix B Recent PAF Re-Codings

This appendix presents some samples of the PAF re-coding data taken from Postcode Update 31. The data for updates 28, 29, 30 and 31 is available as .PDF files on the Royal Mail website. The U.R.L. is given below:

http://www.royalmail.com/default_frames.asp?strSection=atwork&arrImagehref=atwork%2Famc%2Fa mc%5Fhome%2Easp%3FstrSection%3Damc%5Fhome%26amp%3BstrHead%3Damc%5Fhome%26amp%3BstrSubHead%3Damc%26amp%3BstrPageFile%3Dwelcome%2Easp%26amp%3BstrTemplat e%3Damc%5Fhome

One can navigate to this location from the Royal Mail Home Page:

http://www.royalmail.com

At the Home Page, select "Address management" from the drop-down box in the top right of the screen, click on "Go", then choose "Postcode update" from the right-most list.

BICESTER

The Postcode sector OX6 - 0 is completely re-coded to OX25 - 1, OX25 - 2, OX26 - 4, OX26 - 5, OX26 - 6, OX27 - 9 and OX27 - 0. Exceptionally one code is re-coded to OX25 - 6. As a result OX6 - 0 will no longer be a valid sector.

Old Postcode	New Postcode
OX6 0AA - 0AB	OX26 5AA- 5AB
OX6 0AD - 0AG	OX27 0AD- 0AG
OX6 0AH	OX25 1AH
OX6 0AJ - 0AQ	OX27 0AJ - 0AQ
OX6 0AS - 0AX	OX27 0AS- 0AX
OX6 0AY - 0BE	OX27 9AY- 9BE
OX6 0BG - 0BH	OX27 9BG- 9BH
OX6 0BJ - 0BN	OX27 0BJ - 0BN
OX6 0BQ	OX27 0BQ †
OX6 0BS	OX27 0BS
OX6 0BW	OX27 0BW
OX6 0BX	OX27 9BX
OX6 0BZ	OX26 6GR *
OX6 0DA - 0DL	OX26 5DA- 5DL
OX6 0DP - 0DR	OX26 5DP- 5DR
OX6 0DS	OX26 5DS †
OX6 0DT - 0DW	OX26 5DT- 5DW
OX6 0DX	OX26 5DX †

OX6 0DY- 0EE	OX26 5DY- 5EE
OX6 0EH	OX26 5EH
OX6 0EJ	OX26 6GL *
OX6 0EL	OX26 5EL
OX6 0EN	OX27 0EN
OX6 0EP	OX25 6EP

Old Postcode Delivery Point Details Street and / or Locality New Postcode

<u>OX6 0BQ</u>

1-6 Cheshire Cottages School Hill, Charndon, BICESTER **OX27 0BT**

All remaining delivery points OX27 0BQ

<u>OX6 0DS</u>

Kasbah, The Green *AND* Six Gables, The Green *AND* Wits End, The Green Station Road, Launton, BICESTER **OX26 5EF**

1-14 Sharpes Cottages OX26 5BU

All remaining delivery points OX26 5DS

<u>OX6 0DX</u>

1-4 Grange Mews Station Road, Launton, BICESTER **OX26 5EG**

1-4 Grange Yard OX26 5EQ

All remaining delivery points OX26 5DX

† Delivery Points within this Postcode have changed. These changes are not shown in the Magnetic Media version of Postcode Update

* The last two letters of the Postcode have also changed

CHINNOR

The Postcode sector OX9 - 4 is completely re-coded to OX39 - 4. As a result OX9 - 4 will no longer be a valid sector.

Old Postcode	New Postcode
OX9 4AA - 4AD	OX39 4AA- 4AD
OX9 4AE	OX39 4AE †
OX9 4AF - 4BS	OX39 4AF- 4BS
OX9 4BT	OX39 4BT †
OX9 4BU - 4DZ	OX39 4BU- 4DZ
OX9 4EA	OX39 4EA †
OX9 4EB - 4EY	OX39 4EB- 4EY
OX9 4EZ	OX39 4EZ †
OX9 4GW - 4PP	OX39 4GW- 4PP
OX9 4PQ	OX39 4PQ †
OX9 4PR - 4PT	OX39 4PR- 4PT
OX9 4PU	OX39 4PU †
OX9 4PW - 4YY	OX39 4PW- 4YY

Old Postcode Delivery Point Details Street and / or Locality New Postcode

<u>OX9 4AE</u>

Upper Farm AND 1-2 Upper Farm Bungalow Henton, CHINNOR **OX39 4AQ**

All remaining delivery points OX39 4AE

<u>OX9 4BT</u>

1-2 Cromwell Cottage Crowell Hill, CHINNOR **OX39 4DA**

All remaining delivery points OX39 4BT

<u>OX9 4EA</u>

Willow Pond Paddocks Lower Icknield Way, CHINNOR **OX39 4ED**

All remaining delivery points OX39 4EA

<u>OX9 4EZ</u>

110 *AND* 118 *AND* 120 Station Road, CHINNOR **OX39 4QG**

122 *AND* 124 **OX39 4QQ**

All remaining delivery points **OX39 4EZ**

<u>OX9 4PQ</u>

10 Church Road, CHINNOR **OX39 4QL**

All remaining delivery points OX39 4PQ

<u>OX9 4PU</u>

School Bungalow Station Road, CHINNOR **OX39 4PY**

All remaining delivery points OX39 4PU

† Delivery Points within this Postcode have changed. These changes are not shown in the Magnetic Media version of Postcode Update

* The last two letters of the Postcode have also changed

Appendix C Examples of Scottish Tenement Addresses

The format of sub-building information can vary greatly and the examples below highlight the importance of maintaining accurate sub-building details.

In Glasgow, there are large areas of tenement blocks, the building elements of which can take several formats. 0/1,24 or 2F3,17 (describing tenement 0/1 in building 24 and tenement 2F3 in building 17).

Accuracy in the building (as well as sub-building) detail, is also important as highlighted in the example of Ancaster Drive, Glasgow, where there is a building number 24 and also a 24a. Both of these contain tenements named 0/1. Number 24a also contains tenements 0/2, 1/1 and 1/2.

The table below shows a breakdown of some example addresses in Scotland, which highlight some of the issues concerning the placement of PAF elements. It is clear that generalised rules cannot be applied to all addresses and that the preservation of sub-building information is of utmost importance (depicted in the Shandwick Place example).

Sub- Building	Building Name	Building Number	Thoroughfare	Town	Postcode	DPS
	1F1	15	ST. MARYS STREET	EDINBURGH	EH1 1TA	1E
	4F3	15	ST. MARYS STREET	EDINBURGH	EH1 1TA	1Z
3F1		54	SHANDWICK PLACE	EDINBURGH	EH2 4RT	2H
		54	SHANDWICK PLACE	EDINBURGH	EH2 4RT	2F
	17/1		EYRE PLACE	EDINBURGH	EH3 5EW	1A
	31A		EYRE PLACE	EDINBURGH	EH3 5EX	1D
2/1		74	BRUNSWICK STREET	GLASGOW	G1 1TD	1N
2/2		74	BRUNSWICK STREET	GLASGOW	G1 1TD	1P

Appendix D Examples of PAF ADDRESSES

The examples below show variances in how addresses are held in PAF.

Department	
Organisation	
PO Box	
Sub-Building Name / Number	
Building Name	
Building Number	60
Dependent Thoroughfare	
Thoroughfare	Waterloo Road
Double Dependent Locality	
Dependent Locality	Waterloo
Locality (Post Town)	LIVERPOOL
County	
Postcode	L22 1RF

Department	
Organisation	
РО Вох	
Sub-Building Name / Number	
Building Name	
Building Number	35
Dependent Thoroughfare	
Thoroughfare	Galloway Road
Double Dependent Locality	
Dependent Locality	
Locality (Post Town)	LIVERPOOL
County	
Postcode	L22 4QX

Department	
Organisation	
РО Вох	
Sub-Building Name / Number	
Building Name	Dunroamin
Building Number	
Dependent Thoroughfare	
Thoroughfare	
Double Dependent Locality	
Dependent Locality	St. Fergus
Locality (Post Town)	PETERHEAD
County	Aberdeenshire
Postcode	AB42 4NA

Department	
Organisation	
РО Вох	
Sub-Building Name / Number	
Building Name	Dunroamin
Building Number	
Dependent Thoroughfare	
Thoroughfare	The Avenue
Double Dependent Locality	
Dependent Locality	Maud
Locality (Post Town)	PETERHEAD
County	Aberdeenshire
Postcode	AB42 2NA

Metering Point Address Data

Department	
Organisation	
PO Box	
Sub-Building Name / Number	Dunroamin
Building Name	East Moss
Building Number	
Dependent Thoroughfare	
Thoroughfare	
Double Dependent Locality	
Dependent Locality	
Locality (Post Town)	FRASERBURGH
County	Aberdeenshire
Postcode	AB43 7DD

Department	
Organisation	
РО Вох	
Sub-Building Name / Number	
Building Name	Dunroamin
Building Number	
Dependent Thoroughfare	
Thoroughfare	Tuckers Lane
Double Dependent Locality	
Dependent Locality	
Locality (Post Town)	CASTLE CARY
County	Somerset
Postcode	BA7 7LF

Department	
Organisation	
РО Вох	
Sub-Building Name / Number	
Building Name	Dunroamin
Building Number	5
Dependent Thoroughfare	
Thoroughfare	Windsor Road
Double Dependent Locality	
Dependent Locality	
Locality (Post Town)	ROWLEY REGIS
County	West Midlands
Postcode	B65 9HP

Department	
Organisation	
РО Вох	
Sub-Building Name / Number	Dunroamin
Building Name	The Grove
Building Number	
Dependent Thoroughfare	
Thoroughfare	
Double Dependent Locality	
Dependent Locality	Irongray
Locality (Post Town)	DUMFRIES
County	
Postcode	DG2 9TN

Metering Point Address Data

Department	
Organisation	
PO Box	
Sub-Building Name / Number	Flat 1
Building Name	Dunroamin
Building Number	
Dependent Thoroughfare	
Thoroughfare	
Double Dependent Locality	
Dependent Locality	Ranby
Locality (Post Town)	RETFORD
County	Nottinghamshire
Postcode	DN22 8HT

Department	
Organisation	
РО Вох	
Sub-Building Name / Number	Dunroamin
Building Name	Polkelly
Building Number	
Dependent Thoroughfare	
Thoroughfare	
Double Dependent Locality	
Dependent Locality	
Locality (Post Town)	WEST CALDER
County	West Lothian
Postcode	EH55 8LN

Department	
Organisation	
РО Вох	
Sub-Building Name / Number	
Building Name	Dunroamin
Building Number	
Dependent Thoroughfare	
Thoroughfare	
Double Dependent Locality	Carrick Castle
Dependent Locality	Lochgoilhead
Locality (Post Town)	CAIRNDOW
County	Argyll
Postcode	PA24 8AF

Department	
Organisation	P Hammond & Son
РО Вох	
Sub-Building Name / Number	
Building Name	Dunroamin
Building Number	
Dependent Thoroughfare	
Thoroughfare	Valebridge Road
Double Dependent Locality	
Dependent Locality	
Locality (Post Town)	BURGESS HILL
County	West Sussex
Postcode	RH15 0RT

Appendix E Improvement of Address Accuracy and Ongoing Maintenance

In order to conform to the best working practices approved by the Royal Mail, it is recommended that all MPAS databases are cleaned and reformatted to a specified standard based upon BS7666 Part 3.

Standardised and correctly formatted address databases will realise two major benefits for each business and also across the industry.

- A consistent customer address format creates a foundation for increased efficiency in information sharing
- The maintenance of clean and standardised address data becomes a simple and cost effective exercise

Address data is not static. Over time, postcodes change, building names alter, organisations move in and out of premises, new buildings are constantly under development and old buildings demolished.

Thus, once cleaned, the maintenance of an address database is a continual process. Tools can be employed to enhance and automate this maintenance process and one of the simplest techniques to adopt is the storage of further address-related data held against every PAF-matched customer address, in particular the Delivery Point Suffix (DPS) and Address Key data.

The following sub-sections consider aspects of the address or related data in the ongoing maintenance process.

Delivery Point Suffix

On average, a full postcode contains about 15 premises. However, there is significant variation in this average and the actual value ranges from more than one postcode for a premise (where a number of organisations share the same building for example), to over a hundred premises for a single postcode (where for example, a number of buildings each contain dozens of flats). It is for this reason that the building identifier and a postcode alone cannot uniquely define a full address.

In addition, a small number of postcodes represent several streets. For example, the postcode DT10 1NA contains three streets all of which contain a building number 1. Again, the building number and postcode together cannot uniquely identify the premise.

The Royal Mail has therefore developed a Delivery Point Suffix (DPS), a two character code (one alpha and one numeric) which enables each delivery point (rather than premise) to be uniquely identified.

A DPS value exists for all 26 million premises in the UK and is available as part of the PAF file. In the example above, each premise number 1 would be represented by a different DPS within the postcode DT10 1NA, (1W, 2W and 2R).

The key uses of the DPS include:

- De-duplication of addresses in databases
- As a means of holding full PAF address in only a few characters. The address may be easily generated from the DPS and postcode

Whilst the DPS and postcode uniquely represent an individual letterbox in the UK, the combination is not however, consistent over time. Postcodes change and when they do, DPS values for buildings may change too.

Address Key

To overcome the problems associated with DPS, the Royal Mail has introduced a second method by which premises may be uniquely identified. As an addition to the basic PAF data, the Royal Mail supply two further files, one contains a premise identifier and the other an organisation identifier.

The premise identifier file contains a unique identifier for all Royal Mail *small* users which includes all residential premises and small organisations.

The organisation identifier file contains a unique identifier for all organisations. This includes all *large* users and also all the organisations in the premise identifier file.

GB processes this data by combining the two identifier files, de-duplicating the small user organisations and generating a unique identifier called the GB Address Key, for every premise in the UK.

The benefit of Address Keys is that they do not change over time. If a postcode changes then the Address Key information will remain constant for every premise within the postcode. Additionally, if a premise is demolished then the Address Key and Organisation Keys will not be reused.

Address Key thus provides a unique key into PAF. It possible to store only the Address Key information in a customer database and then to generate the full address by reference to PAF, as and when it is required. However, it is often beneficial to store the full address details in addition to the Address Key, since an supplier's address database will include many non-PAF premises (for non-metered properties) and also non-PAF address elements (such as flats and units as discussed above, or London boroughs for example).

The real advantages of Address Key though, are realised in the process of address maintenance.

Building Information

There are three points that should be noted with respect to premise data (including organisation details).

1. Firstly, the address data received by GB has generally had all name and organisation details removed. For private residential premises, this usually presents no problem since occupant's names are not normally held on PAF¹. However, if the name is removed and there is no other building information for the premise, then it becomes impossible to PAF-clean the address.

An example, the thoroughfare Beveridge Row in Dunbar, East Lothian (postcode EH42 1TP) is listed on PAF as having sixteen premises. One of these premises is simply listed on PAF as "(Smith)" (including the braces). (Smith) is held within the PAF structure as the building element. If this address is held on a PES's supply point database and the line (Smith) is removed before PAF cleaning, then the resulting address, Beveridge Row, Dunbar, East Lothian becomes unmatchable to a premise.

2. Secondly, for commercial premises, organisation detail, (which is held on PAF), can when removed, render an address undeliverable. This is particularly common for farms and pub addresses. For example, the address "The George and Dragon, Liverpool Road, Chester" is received from the PES as simply "Liverpool Road, Chester". As this is a long street, covering several postcode sectors and containing hundreds of premises, it is therefore not possible to PAF-match such addresses. Although this will blur the statistics somewhat, the proportion of properties, which fail to PAF-match for this reason, is relatively low.

In some circumstances, organisation detail is not removed from the address and this can clearly help in the PAF-matching process. Ironically, those suppliers which hold addresses in a more structured format are generally more successful in identifying the organisation field within the

¹ There are about 14,000 PAF addresses which do actually hold name data, and this is usually placed in the sub-building field of the PAF address structure. For these addresses, this is often the only way of uniquely identifying a delivery point

address. It follows therefore, that more of these "cleaner" addresses have organisation detail successfully removed and are thus generally harder to PAF-match.

3. The third point concerns the issues surrounding the lack of sub-premise information in many PAF addresses. It is not uncommon for blocks of flats, tenements, units and other sub-premises each of which have their own electricity meter, yet for which the Royal Mail group together into a single delivery point. For example, "Princes House" may on PAF be listed as a single premise, with no sub-building detail. However, in reality, it may contain say 40 flats each having a separate meter and each therefore being listed as a separate address on the PES database.

When the database is cleaned against PAF, every one of the 40 flats will correctly match against Princes House. Depending upon the matching engine used, the 'flat' information may regarded as superfluous detail and could possibly be lost. Thus, it is conceivable that automated PAF matching could result (in this example) in Princes House having all 40 MPANs associated with the single building.

Whilst is still technically correct that all 40 MPANs are attached to the building, the loss of subpremise detail in such a 'cleaning' exercise can lead to an address that although PAF matched, is actually less precise than before it was processed. Additionally, the relationship between the flat and its meter is lost.

In such cases, it is imperative that any sub-premise detail not held on PAF is maintained and remerged with the 'PAF-cleaned' part of the address. However, depending upon structure of the original address, the process of extracting the non-PAF premise detail and re-merging it with the cleaned address can be a non-trivial task.

GB recognises the issues surrounding this problem and have therefore developed software procedures within its PAF cleaning process, in order to prevent the loss of the sub-premise/MPAN attachment.

Address Maintenance

Because of the dynamic nature of DPS as discussed above, its use within an address maintenance rôle is limited. Maintenance techniques however, based upon Address Key data can in most cases provide a relatively simple route to improved data accuracy and reduced database management requirements.

Without the Address Key, an address database will need to be refreshed for each new release of PAF to ensure that every address holds the correct postcodes and other address details. However, if the Address Key is held for each address record in the database, then addresses that have changed between versions two of PAF can be identified by reference to its Address Key.

On release of a new monthly or quarterly issue of the PAF data, a PAF supplier (such as GB) can supply a list of Address Keys for the addresses that have changed, together with a status code to indicate whether the record is an addition to PAF, a deletion or simply amended address details². Rather than re-cleaning the whole address database against PAF, a PES can simply identify records in the database that match those in the Address Key changes list and simply refresh the relevant address details.

Only those addresses in the PES database which do not have associated Address Keys need be rematched against PAF in order to determine whether any of the previously non-PAF addresses now match against a new issue of the PAF data. However, care should, as always be taken when matching what was once a non-PAF address to PAF, in that critical, non-PAF sub-premise detail should never be lost.

² Note that because the Address Key (as supplied by GB) is a concatenation of the address and organisation identifiers on the original Royal Mail PAF files, then should the organisation details for a particular building change, then the organisation identifier and also the Address Key may change. Thus for a particular premise, the address changes file may indicate a deletion and an addition to the PAF (i.e. a deleted and new Address Key) when in fact it is simply a single PAF element (the organisation in this case) that has changed.