# Ofgem MAMCoP Scheme Management Board Meeting 9<sup>th</sup> Meeting

# 12:30 pm, Wednesday 17 January 2007, at Ofgem, London

Present	Representing	On behalf of
Stephen Rowe	OFGEM (Chair)	
Steve Brown	OFGEM	
Stephanie Wong	OFGEM	
John Dale	AIGT	
Mike Buss	BSi	
Peter Fawbert	CORGI	
Phil Daniel	CORGI	
Keith Needham	CORGI	
Trevor Smallpeice	CORGI	
Mick Curtis	Gas Forum	
Nicola Wade	HSE	
Terry Mundy	Lloyd's Register	
Steve Grandy	Siemen Energy Services (MAM)	
Dina Mihsein	National Grid	
Annette Bunn	National Grid	
Philip Kershaw	National Grid	
Steve Brand	United Utilies	
Dave Perriam	Wale and West Utilities	
Colin Townsend	Wale and West Utilities	
Mark Pitchford	SPAA Expert Group	
David Haper	NGT	Barry Cook
Ian Smith	IGEM	Dave Sharp
Steve Mulinganie	ECO European	Stephen Fraser

### 1. Apologies for absence

Dave Ainsworth, Bob Murray, Robert Smyth, Barry Cook, Dave Sharp, Stephen Fraser

### 2. Minutes of last meeting and matters arising (not covered on agenda)

Stephen Rowe (SR) opened the meeting and welcomed attendees. No comments about the minutes of the previous meeting and was approved.

### 3. Review of Actions

SR reviewed actions from the previous meeting. (See Action Log).

# Action (1) - Request to iGT

 AIGT website does not yet exist. When it is launched it will contain links to each IGT. The contacts for IGTs would be circulated within all MAMs.(see Appendix A or Appendix G from the eighth MAMCoP's minute)

**Action - closed** 

# Action (2) - Generic Approval

 Phil Kershaw (PK) agreed to submit the report on Transco's time scales for generic approval for the meter housing installation by 31<sup>st</sup> January 2007. He also proposed that if the customers construct or design their own kiosks. Their designs would not only need to comply with GM (8) but also require approval. The approval period is six weeks.

### **ACTION (1): Phil Kershaw**

### Action (3) - REGT 2

 ACS metering assessment documents have been circulated. Phil Daniel (PD) welcomed any comment regards with PT3 / PT4.

**Action Closed** 

### Action (4) – Meter Serial Number Formats

• David Haper (DH) on behalf of Barry Cook (BC) gave feed back at the meeting. He highlighted that the meter format would not be implemented by National Grid.

**Action Closed** 

### Action (5) - Review of CoP1/c

- PD suggested that it would be beneficial to put the commercial part into CoP1/c.
- PK agreed to submit the CoP1/c comments by end of February.

### **ACTION (2): Phil Kershaw**

## Action (6) – Emergency Service Provider (ESP) Contact

- Nicola Wade (NW) provided ESP contact list to circulate among MAMs.
- NW said that ESP's are happy for MAMs to circulate within their own network. The contact list can be obtained upon request to OFGEM. NW proposed that the contact list will be update for every twelve months and any contact detail changes observed by the MAM's would be appreciated so that an accurate record be maintained.

**Action Closed** 

## Action (7) - RIDDOR Assessment

• See HSE report

**Action Closed** 

### Action (8) - MAMCoP Proposed Amendments - Action closed

### Action (9) – Review MAMCoP and CoP

 SR agreed to review MAMCoP with cross reference to CoP1/a and CoP 1/b.

Action (3) - Steve Rowe

# Action (10) - Circulation of CoP1/c

• The CoP1/c will circulate in due course once any comments from PK are incorporated.

Action (4) - Stephanie Wong

### Action (11) - Unregulated meter installation

- SR gave feed back to the group. He said that there is fairly small number of the exemption cases. These are considered to be safety cases. He also proposed that in the future reference in GM8 should strike out and would be following up by HSE instead.
- NW from HSE replied that these cases will be handled by her upstream colleagues. They will look into them case by case.

**Action Closed** 

### 4. Reports

### a. Lloyd's Register

Terry Mundy (TM) provided a general update. He said that there are currently sixteen MAMs registered. The most recent applications are from Scotia Network. The audit programme is scheduled and audits are in progress.

### b. HSE

### RIDDORs Report

Nicola Wade (NW) provided feedback on RIDDORs. She highlighted her concern again on the number of RIDDORs have been received by HSE operational policy section.

NW said that she reviewed the number of RIDDORs reports coming into HSE between the periods of October to December. She studied the reports individually and was surprised to note that only ten to fourteen percent of the RIDDORs are received nationally related to metering. There are about three hundreds to four hundreds RIDDORs 6(2)'s received monthly. This is a significant number given the range of gas work undertaken resulting in 6(2) reports.

NW emphasized the points she made in the previous meetings. (see 8<sup>th</sup> MAMCoP meeting minutes). She proposed that MAM's should encourage their colleagues to provide as much information as possible, especially those third parties where detail was limited.

Terry Mundy (TM) agreed to incorporate RIDDOR as part of the audit and surveillance visits and feedback to MAMCoP.

Keith Needham (KN) proposed to include RIDDORs data as a part of the OAMI audits.

NW proposed that the exchange of information needs improving between parties and the above actions will help this. (HSE/CORGI/Lloyds)

NW said that in term of the quality of RIDDORs, she would like to hear feedback from MAMs. The RIDDOR messages to MAMs are the same as six months ago.

### 2006 Review of Domestic Gas Safety:

NW stated that all the information can be found on the domestic section of HSE website. The website link is:

http://www.hse.gov.uk/gas/domestic/safetyreview.htm

The commission accepted HSE to retain oversight of the domestic gas safety regime. There will be a franchise competition for the Approved Body under GSIUR.

### c. CORGI

Phil Daniels (PD) circulated a table of the ACS Metering assessments in the meeting. He also provided an update on ACS Metering assessments run from December 2006. Please find the attachment in appendix B.

PD also circulated a document on Logic certification main equipotential bonding flow chart. Please find the attachment in appendix C. He would like to have feed back from the MAMs on the draft program.

PD highlighted that MAMs can contact Paul at 07815813825 to arrange separate meeting to discuss more in details.

Action (5): All

### d. BSI

Mike Buss (MB) provided an update on BSI standards.

### e. IGEM

Ian Smith (IS) on behalf of Dave Sharp (DS) provided an update on IGEM documents.

### 5. SPA Update

Stephen Rowe (SR) provided update on the SPAA RGMA Expert Group meeting. Ofgem will be publishing the result of the consultation in due course.

### 6. Amendment to MAMCoP

Steve Rowe (SR) provided an update on the mechanism of the appeals process.

### Action (6): Steve Rowe and John Barret from IGT

### 7. MPU update

David Harper (DH) gave a presentation on MPU. Please find Appendix D for the presentation slides.

One question raised regard with the time line for MPU. DH responded that the normal route (GM5) would take too long. DH has agreed to develop the specification for final publication as an IGEM document. DH has also agreed to explore with PD how this scheme could be accredited, for final inclusion and reference within the MAMCoP.

### 8. IMAG Update on in service testing

Steve Rowe (SR) provided an update on behalf of John Stevens. He gave a presentation on service testing. Please find Appendix E for the presentation slides. The presentation discussed the current requirements for in-service testing and what the industry is currently developing in terms of post MID meters. SR also suggested that information on MID meters, as and when discovered could be fed back into NWML as a part of the UK surveillance programme. A data information record would need to be established through NWML.

Action Ref	<u>Issue</u>	<u>Date when</u> <u>issue</u> <u>originally</u> raised	<u>Action</u>	<u>Owner</u>
1	Generic Approval	19/01/2006	<ul> <li>a. Provide report on Transco's time scales for generic approval by 31<sup>st</sup> January 2007.</li> <li>b. Circulate report</li> </ul>	(a) NGG (PK) (b) Ofgem(SW)
2	Review of CoP1/c	12/07/2006	<ul><li>(a) Submit comments by end of February 2007</li><li>(b) Circulate CoP1/c</li></ul>	(a) NGG (PK) (b) Ofgem(SW)
3	Review MAMCoP and CoP	18/10/2006	Review MAMCoP with cross reference to CoP1/a and CoP 1/b	OFGEM(SR)
4	CoP1/c	18/10/2006	Circulate CoP1/c in due course.	OFGEM(SW)
5	Equipotential bonding flow chart	17/01/2007	Contact Paul at 07815813825 to arrange separate meeting to discuss more in details.	ALL
6	Update on Appeal Process	17/01/2007	Update the development of the appeal mechanism	IGT (JB) OFGEM (SR)

# 9. AOB

**Phil Kershaw** announced that he would be moving role and leaving MAMCoP board. He introduced Dina Mihsein and Annette Bunn. Either of them would be taking over him as National Grid representative in the future.

10.Next meeting 25<sup>th</sup> April 2007 at 10:30am OFGEM: Room 9

# Appendix A - AIGT MAMCoP Contact list provided by John Dale

# AIGT MAMCoP Contact List April 2006

Kevin Bennett Phil Casper

SSE Pipelines Ltd British Gas Pipelines Ltd

Westacott Way 3 The Square
Littlewick Green Stockley Park
Maidenhead Uxbridge
Berkshire UB11 1GB

SL6 3QB

T 01628 584105 F 0118 953 4695 T 0208 734 9473 F 020 8734 8750

kevin.bennett@scottish-southern.co.uk phil.casper@centrica.com

Michael Carr Matt Simpson

ES Pipelines Limited The Gas Transportation Company Ltd

Hazeldean Unit 23

Station Road Woolpit Business Park

Leatherhead Woolpit

Surrey Bury St Edmunds

KT22 7AA IP30 9UP

T: 01372 227 560 F: 01372 377 996 T 01359 243350 F 01359 244046

matthew.simpson@gastrans.co.uk

John Duke Bob Murray

Global Utility Connections Ltd Independent Pipelines Ltd 95 Carron Place Ocean Park House

East Kilbride East Tyndall Street

G75 0YL Cardiff CF24 5GT

T 01355 245510 F 01355 578738 T 02920 314132 F

john.duke@guconnections.com Bob.Murray@envoyonline.co.uk

# Appendix B - ACS Metering assessments provided by Phil Daniel

# ACS METERING ASSESSMENTS 1st December 2006

Main figures of interest are in the 'Grey Columns'

Assessment Code	Initial Passed	% Initial Passed	Holding Valid Certificate	Passed Re Assess	% Passed Re Assess	Initial Failed	Failed Re Assess	ACS Total Cumulative	ACS from NVQ	Certificates Held ACS & NVQ Cumulative Initial & Re Assess
CMA1 *1.	482	98.37	424	3	100.00	8	0	493	-	424
CMA2LS	729	97.20	623	29	100.00	21	3	779	-	623
CMET1 *2.	953	99.79	947	5	100.00	2	0	960	-	947
CMET2 *3.	782	99.49	776	3	100.00	4	0	789	-	776
CMIT1	204	99.51	99	20	100.00	1	0	225	-	99
MET1 ★ <sup>4</sup> ·	16722	99.70	15164	1525	100.00	51	0	18298	2562.00	17726
MET2	536	97.63	454	7	100.00	13	0	556	-	454
MET3LS	737	97.62	631	29	100.00	18	0	784	-	631
MET4	702	100.00	691	7	100.00	0	0	709	3482.00	4173
REGT1	340	100.00	340.00	0.00	0.00	0.00	0.00	340.00	-	340.00
REGT2	To be developed	on completion	of IGEM/GM8	Parts 3 & 4	-	-	-	-	-	0.00
TOTAL	22187	98.89	20149	1628	100.00%	118	0	23593	6044	25853

<sup>\*1.</sup> Operatives may hold CESP1. as an alternative core

<sup>\*&</sup>lt;sup>2</sup>. \*<sup>3</sup>. Operatives holding these competence assessments may be holding the commercial core COCN1.

<sup>\* \*</sup> Operatives holding this competence assessment through the ACS route will be holding the domestic core CCN1.

# Appendix C - Report on Main Euipotential Bonding provided by Phil Daniel

### Logic Certification Master Criteria Document for Domestic MEB Course

Introduction: A need has been identified which is not currently served to provide a course and assessment aimed at providing the knowledge and skills for those who carry out repositioning, alteration or extension to the Main Equipotential Bonding circuit when moving domestic gas meters. This is to be measured with using both written and practical task assessment.

Pre-requisites to training & assessment: The operative should possess as a minimum CMA1 (METER INSTALLER CORE GAS SAFETY ASSESSMENT NG.), MET2 (DOMESTIC METERS up to & including U 6 size) and REGT1 (DOMESTIC GAS MEDIUM PRESSURE REGULATORS & CONTROLS). A knowledge of basic electrical principles would be an advantage but not essential.

Noted exclusion from training & assessment: The competence assessment and training is of a limited scope nature; where doubt or confusion arises on site, advice should be sought from a suitably qualified electrician and the company concerned before proceeding. The course is not intended to cover work on commercial, industrial or 3 phase systems.

### Normative document to be used

- 1. BS7671
- IEE On site guide
- HSR 25
- 4. GS38
- BS6400
- BS6891
- Gas Safety (Installation and Use) Regulations

### Knowledge Areas to be covered

- Regulations and principles
- 2. Inspection and identification
- 3. Practical competence to complete repositioning and alteration
- Practical competence to complete extending of MEB
- 5. Testing and recording of results required under BS7671

### Pre-requisite abilities

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- Application of standard electrical formulae
- Ability to define standard terms in BS7671
- Use of a calculator or other means to carry out calculations
- 4. Able to use required test equipment

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	Underpinning Knowledge Requirement 1: Regulations and Principles	Asses	sment I	Method	Reference	Question
Ref	Description	M/C	WAW	PRAC	Document	Reference
1	State the statutory document to be considered when working on electrical installations	Υ				
2	State the British Standard to be complied with when carrying out electrical installation work	Y				
3	State the British Standard to be complied with when carrying out gas meter installation, renewal or repositioning	Y				
4	Confirm the Health and Safety guidance note to be considered when using electrical testing equipment	Y				
5	State the relevant legislation to be considered when assessing MEB	Y				

U	nderpinning Knowledge Requirement 2: Inspection and Identification of Existing MEB	Asses	Assessment Method		Reference	Question
Ref	Description	M/C		PRAC	Document	Reference
1	State the correct size of MEB required for a typical domestic installation	Υ		Y		
2	State the correct insulation colour combination for a MEB conductor	Y				
3	State the correct location for the MEB to be located on a domestic installation	Y		Y		
4	State the correct wording to be found on a BS951 earth clamp	Y				

	Underpinning Knowledge Requirement 3: Repositioning and Alteration	Asses	sment Method	Reference	Question
Ref	Description	M/C	PRAC	Document	Reference
1	State the methods of installation to be considered when installing MEB	Y	Y		
2	State the acceptable method for extending MEB	Y	Y		
3	State the reason for cleaning the pipe prior to fitting the earth clamp	Y	Y		
4	State the need for regular instrument checks and calibration i.a.w. HSE GN GS38	Y	Y		
5	State the correct instrument to be used to test the continuity of the MEB	Y			
6	Explain how to carry out pre-use checks on all relevant instruments		Y		

	Underpinning Knowledge Requirement 4: Extending MEB		sment l	Method	Reference	Question
Ref	Description	M/C		PRAC	Document	Reference
1	State the different locations for the MEB to be connected at the point of electrical supply	Υ				

2	State the other services and structures which should be connected to a MEB	Υ		
3	State the correct tool to be used to extend MEB	Y	Υ	
4	State the satisfactory methods of installation of a MEB conductor	Υ		
5	State the reason for cleaning the pipe prior to fitting the earth clamp	Υ	Υ	

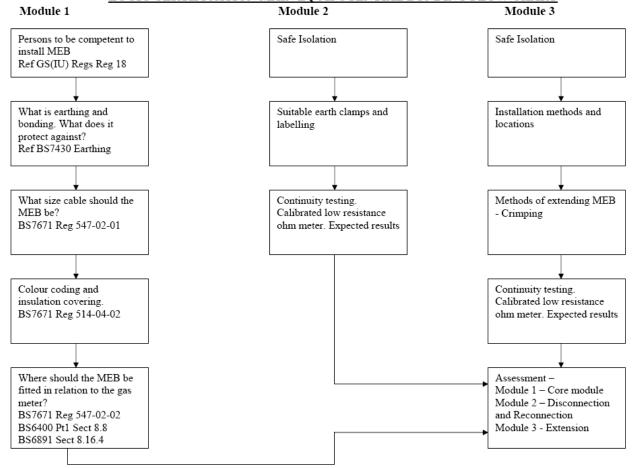
	Practical 1: Practical Competence		sment N	/lethod	Reference	Question
Ref	Description	M/C		PRAC	Document	Reference
1	Select the correct size and colour combination for a MEB conductor			Υ		
2	Select the correct earth bonding clamp complete with label as per BS951 and BS7671			Υ		
3	Select the correct size and type of crimp suitable for extending a MEB			Υ		
4	Select and use a suitable crimping tool to join two MEB conductors together			Υ		

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5	Correctly clean pipe and fit suitable earth clamp		Y	
5	Select a suitable instrument to carryout the continuity testing of the MEB conductor		Υ	
6	Check and prove instruments prior to use and record where necessary		Υ	
7	Carry out the continuity testing of an extended/new MEB conductor and record result accordingly.		Υ	
8	Interpretation of result to identify correct/incorrect readings	Υ	Y	

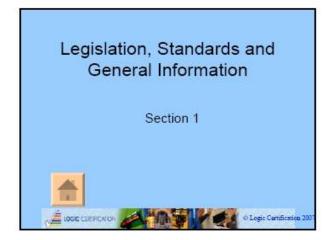
### LOGIC CERTIFICATION MAIN EQUIPOTENTIAL BONDING FLOW CHART



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# Regulations

The requirement for Main Equipotential Bonding (MEB) is identified in

- BS767116 Edition of the Wiring Regulations (Reg 547-02-02)
- BS6400 Part 1 Installation of Domestic Gas Meters (Section 8.8)
- BS6891 Part 1 Installation of Domestic Gas Pipework (Section 8.16)
- Gas safety (Installation and Use) Regulations (Regulation 18)



### Regulations - cont

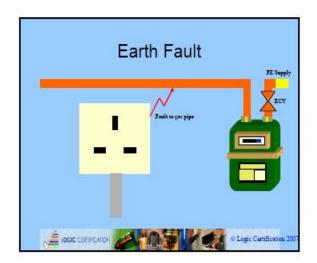
Regulation 18 of the Gas Safety (Installation and use) Regulations mentions the need for the MEB to be installed by a competent person. This training course has been designed to enable the candidate to be competent to install or extend MEB's and to test the continuity of the conductor on completion.

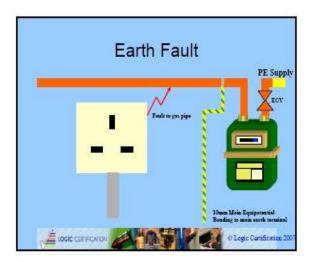


# What is Bonding?

Main Equipotential Bonding forms part of the earthing system. The bonding conductors are connected to the main earth terminal or earthing bar thus ensuring the services are at the same potential i.e voltage. This greatly reduces the risk of electric shock under electrical faults conditions.







# Sizing MEB The MEB is to be not less than half the CSA of the main earthing conductor. For a typical 100A domestic installation the main earthing conductor must be 16mm² and the MEB 10mm².

# Installing MEB

- Only copper conductors should be used
- Connections to the gas pipe must be within 600mm of the service meter before any branches or tees if internal or,
- As close as possible to the point of entry to the building, in a visible location, after the ECV if fitted
- Connections to services which are incoming in plastic the connection must be made to metal pipes only after any insulating sections.
- Connections to be made using suitable clamps (BS 951)



### Installing MEB - cont

- Conductor to take the shortest route where it is not liable to be damaged
- It is preferable to install a separate bonding conductor for each service gas and water. However 1 conductor maybe use providing it is not cut at the first connection.
- The pipe is to be cleaned of paint and or corrosion before the bonding clamp is fitted to ensure a good electrical connection.
- The clamp must not be fitted to elbows,tees or straight sockets.



## Location of MEB

The common belief is the connection of the MEB must be within 600mm of the meter before any branch or tee. This is correct if the gas meter is internal, however if the meter is external then the regulations state the bonding must be as close as possible to the entry to the building after the ECV if fitted

The connection must be made after any insulating sections and made to metal pipework only.

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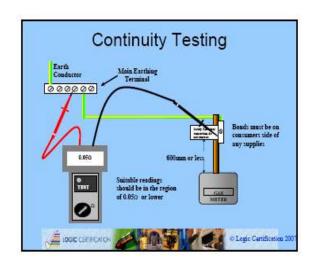


# Extending MEB The MEB maybe extended providing the existing is of the correct size. Joint to be made with a suitably sized crimp. Crimp to be fitted with a suitable crimping tool. Joint then to be wrapped in green/yellow insulating tape. The completed joint can be hidden if necessary.

# Safe Systems of work To ensure no voltage exists between the end of the MEB conductor and the gas pipework it will be necessary to attach a temporary bond between the gas pipe and a Main Equipotentially Bonded service or the main earth terminal. This could be achieved by clamping onto the water main providing the MEB is correct to the water main.

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The clamp on the water main should be placed on a metallic section and as close	
as possible to the MEB connection.	8
as possible to the MEB connection.	
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The other end of the temporary bond should be clamped on the gas pipe as	
close as possible to the existing MEB.	**
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Safe Systems of work – cont.	·
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A second temporary bond would be	
necessary either side of the proposed	
position for the gas pipe to be dismantled.	**
This would need to be fitted before the	<u> </u>
gas pipe was dismantled.	
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What is Continuity?	
What is Continuity :	<u> </u>
Continuity confirms the conductor is	
continuous and is of a low resistance.	¥
Electrical resistance (R) is measured in	
ohms for which the symbol is $\Omega$ .	
c.mo to this die symbolis 12.	
The continuity of the MEB conductor	(F)
would be confirmed if it's resistance was	2
low, i.e. around 0.05Ω.	
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# Continuity Testing - cont

In most cases the main earth terminal and the main equipotential connection to the gas pipe will be separate. As a result the leads on the continuity meter will not reach. It will be necessary to use an additional length of cable to connect between the meter lead and the main earth terminal. The resistance of the lead will need to be measured and subtracted from the final reading. Some meters can be zeroed before measurements are taken.





# <u>Main Euipotential Bonding – Assessment of Suitability and Extension.</u>

### Notes on Safe Isolation for Discussion:

Following discussions with both the IEE and NICEIC technical departments it is clear the issue of safe isolation is a difficult one. Even the isolation of the consumer un it and therefore the electrical installation may not be satisfactory to ensure there is no potential difference between the main equipotential earth bond and the extraneous conductive part i.e. the gas pipework.

Although the instances of a voltage being present of a magnitude to be considered shock voltage will be rare, it is a possibility and must be considered.

# Examples of potential faults:

Incorrect polarity on incoming TN-C-S supply - Resulting in the main equipotential bonding conductor being at mains voltage, removing the bond from the gas pipe could result in a potential difference between the end of the bonding cable and the pipe of 230v.

<u>Installation fault</u> – A fault maybe present between the electrical installation and the gas pipework resulting in current flowing along the pipework to earth via the MEB. The level of current may not be sufficient to trip the protective device however, it maybe sufficient to create a potential shock hazard again between the end of the MEB and the pipework when the MEB is disconnected.

Installation fault – If a fault occurs to earth on the electrical installation the earthing and bonding system becomes lives. Providing all the earthing and bonding is in present and correctly fitted this will not create a shock hazard. However if the MEB has been removed a potential difference will be created between the end of the MEB and the pipe.

The IEE and NICEIC come back to the same point and that is removing the MEB will make the installation less safe and therefore should be isolated. The points raised above show isolation on its own will not create a safe environment and further tests will be required. They also quote Regulation 16 of the Electricity at Work Regulations 1989 Persons to be competent to prevent danger and injury. Due to the varied nature of the faults and situations operatives encounter the issue of competence is complex. Each installation would need to be

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considered separately with a risk assessment completed for each installation, taking into account its age, condition, earthing arrangements, supply arrangements and the presence of any electrical Installation Certificates and/or Periodic Inspection Reports.

In my opinion the only safe method to guarantee a safe working environment is to provide a temporary MEB before the existing MEB is removed. The temporary bond would need to be connected to either the main earth terminal or another service fitted with a MEB i.e. water main. Operatives would need to be provided with the temporary bond, the length of which will limit the number of jobs that can be completed.

Please confirm this is satisfactory and I will include a suitable process in the training package.

Regards

Tony Simmons.

# **Appendix D - Presentation provided by David Harper**

# **Meter Pulse Utilisation**

Ofgem MAMCOP 17th January 2007

national**grid** 

# **Background**

- November meeting hosted by National Grid Metering to find a replacement for current MPU Contracts.
- Wide Industry representation
- Share thoughts for the development of a generic "fit for purpose" MPU installation standard
- Gather thoughts for solutions to issues raised.

national**grid** 

# Output from MPU workshop held on 28 Nov 2007

- Consensus that the current NG MPU contract / process is administratively cumbersome and not appropriate for a multi-MAM marketplace.
- Identified requirements for the industry as a whole
  - A recognised and fit for purpose qualification for MPU installers.
  - A register of approved installers (individuals)
  - Inclusion of this qualification in MAMCOP as the requirement on MAMs
- Guidance for installers covering responsibilities, rights to the pulse, maintaining the pulse chain, communication between users, records and access to third party equipment.

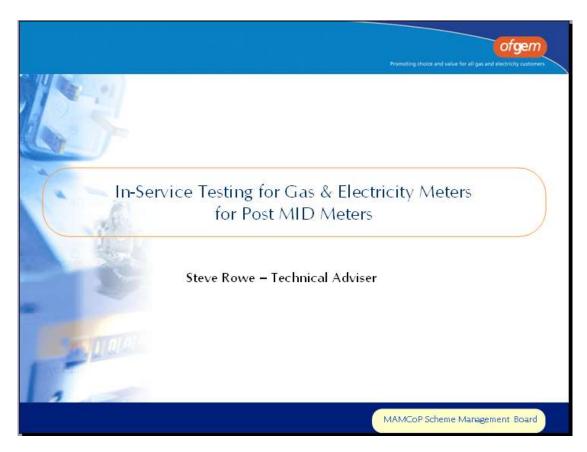
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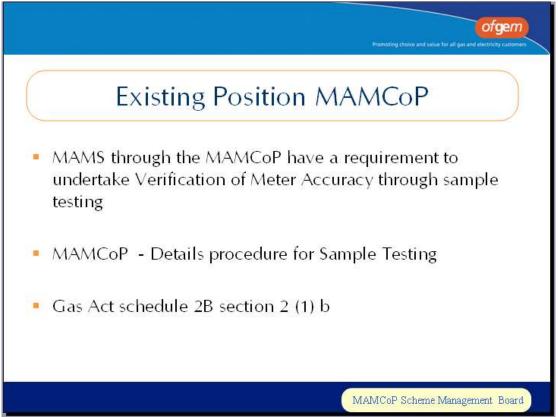
# Proposed solutions

- Determine technical content for qualification of installers to allow training providers to develop appropriate courses and certification bodies to develop accredited assessments. (CORGI)
- Produce a new document "Guidance for Gas Meter Pulse Users", Ofgem COP1/d or IGE/GM/X (<u>supplementry</u> to GM/7) covering:
  - the different arrangements for "plug and play" situations, and those involving intrusive work.
  - the hierarchy of precedence in the pulse train, and responsibility for the costs of additional connections.
- Amend MAMCOP to require a MAM to allow only qualified installers to carry out MPU work and keep records of connections.

national**grid** 

# Appendix E - Presentation provided by Stephen Rowe







Promoting choice and value for all gas and electricity custome

# **New Metering Legislation**

New legislation was introduced last year to implement the European Measuring Instrument Directive into UK Legislation:

- No. 2647 The Measuring Instruments (Gas Meters) Regulations 2006
- No. 1679 The Measuring Instruments (Active Electrical energy Meters) Regulations 2006

Apply to meters at the time they are first placed into service. Electricity meters no longer have a certification life.

MAMCoP Scheme Management Board



Promoting choice and value for all gas and electricity customers

# Ongoing compliance of meters with legislation

The Industry Metering Advisory Group (IMAG) has established two expert groups to determine how meters can be sampled to ensure compliance is maintained:

- IST1 to make proposals about meter accuracy
- IST2 to investigate other aspects of meter compliance e.g. proper visual display, integrity of case etc.

MAMCoP Scheme Management Board



# **Latest Proposals**

Sampling of electricity and gas meters:

- For gas meters after 3 years then every 5 years
- For electricity Meters after 8 years then every 5 years
- Non compliant meters to be removed from service within 2 years.

Sampling based on BS6002-1:1993 Sampling Procedures for Inspection by Variables

NB Proposals still in draft!

MAMCoP Scheme Management Board

