National Measurement Office

Market Surveillance: MID and NAWI Directive
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Annual Report on the Market Surveillance activities relating to Non-automatic Weighing Instruments and Measuring Instruments.

For the for the Year 2010 – 2011, these activities covered Class II Non-Automatic Weighing Instruments, Cold Water Meters and a follow up of the (confidential) European weighing industry, CECIP, report on non-EU manufactured Non-Automatic Weighing Instruments which had been purchased via the Internet.

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1. Executive Summary

Article 18 of EU Regulation 765/2008 states:

"5. Member States shall establish, implement and periodically update their market surveillance programmes. Member States shall draw up either a general market surveillance programme or sector specific programmes, covering the sectors in which they conduct market surveillance, communicate those programmes to the other Member States and the Commission and make them available to the public, by way of electronic communication and, where appropriate, by other means. The first such communication shall be effected by 1 January 2010. Subsequent updates of the programmes shall be made public in the same manner. Member States may cooperate with all relevant stakeholders to those ends."

This is applicable to the two metrology directives under NMO's authority i.e. 2009/23/EC relating to non-automatic weighing instruments (NAWI) and 2004/22/EC, relating to measuring instruments (MID). In support of this, NMO consequently decided to focus the attention of the 2010/2011 project on three specific areas. These are (1) Class ll non-automatic weighing instruments, (2) cold water meters and (3) a follow up of the confidential European weighing industry, CECIP, Report on non-EU manufactured non-automatic weighing instruments which had been purchased via the Internet.

This year's project continued with the centrally controlled project methodology adopted in the 2009/2010 project, in order to achieve increased consistency of approach and financial control. This framework also gives benefit to overall reporting and data control.

The first project was on Class ll NAWI, which are used for weighing precious stones and metals. This trade sector has been brought into focus following increased activity in the market place for gold buying and selling. Three Local Authorities took part in this project, sponsored by NMO. Eighteen Class ll NAWI were tested at a range of premises. All of the eighteen instruments tested were found to weigh accurately, and to be correctly marked. In the case of four of these instruments, Certificates of Conformity were available and found to be acceptable. One additional instrument was found to be both un-stickered (unstamped) and not suitable for stickering, and the trader was advised that it should be taken out of use.

The second project was on cold water meters. It determined that all of the water meters considered in the project appeared to comply with the essential requirements of the MID and MI-001.

The third project was a follow up to the European weighing industry, CECIP, report on non-EU manufactured NAWI which had been purchased via the Internet. This confidential report had been drawn to the attention of NMO in 2010, and was indicating a high proportion of instruments that had been purchased via the internet failed to comply with the NAWI Directive. Our results using an accredited testing laboratory revealed non-compliance, but not at such a dramatic a level as the CECIP report had indicated.

The outcome of the 2010 / 2011 Market Surveillance projects will be to continue to build upon the principal of central control of such projects, with delivery of subject specific investigation being undertaken by contracted Trading Standards Authorities and other authorised persons. Understanding of the operation of the market place will continue to be developed and special

emphasis will be placed upon changes in trade practice and the practical introduction of instruments which incorporate new technologies

NMO will continue to focus project areas on potentially problematic areas that have been identified using information received from the trading standards and business communities, and will utilise a risk based approach by reference to the WELMEC WG5 risk assessment model. The central control of the projects will ensure high levels of consistency in reporting and data submission.

2. Introduction & Background

Both metrology Directives (NAWI and MID) and EU Regulation 2005/765/EC create an obligation for Member States to carry out market surveillance. Market surveillance considers compliance of instruments with the essential requirements of the Directives that apply to them when they are first placed on the market, or put into service. In the UK, market surveillance is conducted by the National Measurement Office (NMO) and is supported by project work some of which is commissioned out to competent Local Weights and Measures Authorities or other authorised persons.

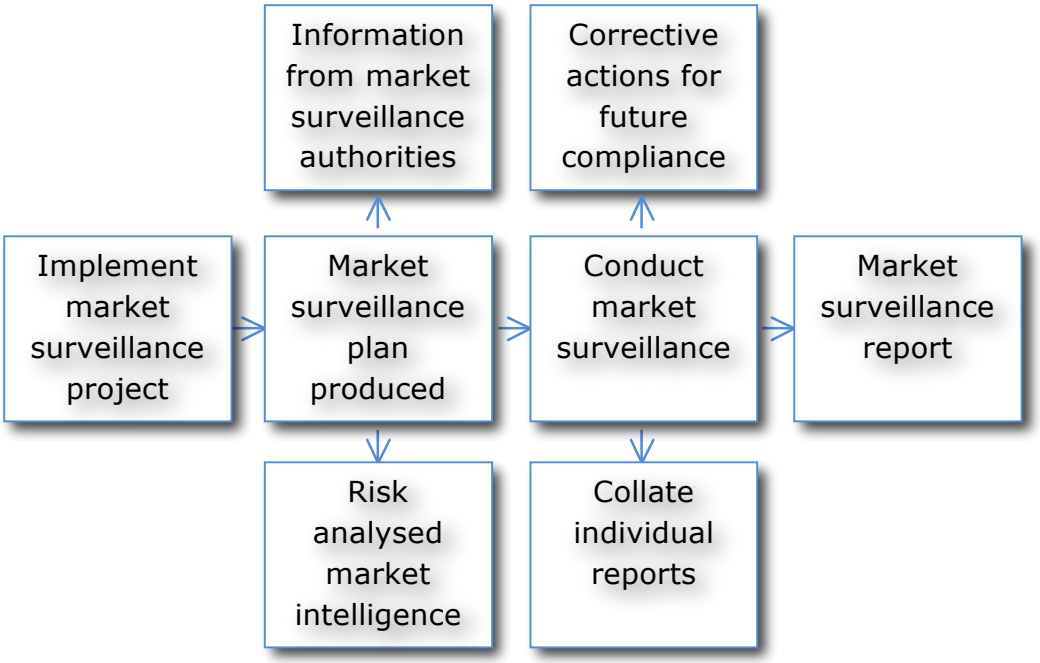
Market surveillance is an essential tool in the underpinning of the concept of New Approach Directives and is detailed in EU Regulation 2005/765/EC 'Regulation Accreditation and Market Surveillance (RAMS)'. The principles are also outlined in the "Guide to the implementation of Directives based on the New Approach and the Global Approach". This guide is referred to colloquially as the "Blue Guide" as a result of the colour of the cover. Market surveillance is expected to be carried out between the point in time at which the instrument is placed on the market and put into use.

A market surveillance report on a particular instrument should contain the following information:

1. CE marking and its affixing
2. The availability of the CE declaration of conformity
3. The information accompanying the product
4. Whether the conformity assessment procedures were correct
5. Details of how the essential requirements of the NAWI and MID are met.

3. Methodology

Market surveillance is a critical element of New Approach Directives, which not only gives confidence in the level of product conformity, but also helps to ensure that correct procedures are followed. MID places emphasis on market surveillance which requires increased cooperation among Member States. The activities undertaken should confirm that the conformity assessment procedures are working and, if this is found not to be the case, to identify problems quickly to ensure consumers are protected. The NMO process for implementing the market surveillance project consists of planning, investigation and a corrective action stage.



The following areas had been identified for the 2010/2011 market surveillance project, and NMO identified local authorities or authorised persons who were suitably competent and had the equipment and resources in their area to carry out market surveillance on:

- Class II Non-automatic Weighing Instruments
- Cold Water Meters
- The CECIP report on internet purchased NAWI

4. Class II NAWI

The economic downturn and high price of gold has resulted in a notable increase in the market place of businesses offering to buy gold. Concern had been expressed, based upon tangible evidence, about both trade practice and the suitability of weighing instruments used. A number of local authorities had reported the use of unsatisfactory weighing instruments. Focussed inspections had been conducted and publicity had been produced by Trading Standards Departments in order to advise traders of the instruments that were required for such use. For practical purposes, these would be Class ll instruments.

The project parameters were to focus on Class ll NAWI, used for weighing precious stones/pearls and metals, and to gather market intelligence. Three local authorities took part in the intelligence gathering exercise.

Eighteen Class ll NAWI were found and tested at a range of premises including jewellers' shops, jewellers' stands at indoor markets/shopping centres, cash raising shops and gold buying premises.

All of the eighteen instruments tested were found to weigh accurately, and to be correctly marked. In the case of four of these instruments, Certificates of Conformity were also available and found to be acceptable. One additional instrument was found to be both unstickered (unstamped) and not suitable for stickering, and the trader was advised that it should be taken out of use.

5. Cold Water Meters

The Market Surveillance focussed on domestic water meters as covered by Annex MI-001 of the Directive 2004/22/EC, and clearly defined objectives were set. There has been a rapid advance in the technology employed in the functioning of water meters as the utility companies move toward automatic meter reading (AMR). This process should be seen in the context of SMART Grids and SMART meters that will allow the development of more efficient use of electricity, gas and water across the complete supply network.

The AMR systems will allow the meters to be read either remotely or via a hard connection and remove the need for meter readers to enter domestic premises. This additional functionality has lead in turn to the increase in the use of firmware and software that will allow these functions to operate. Any software that is clearly significant to the metrological characteristics will be covered by the appropriate clauses of Directive 2004/22/EC. Many manufacturers use the WELMEC Guide 7.2 to ensure that the requirements of the Directive are met.

The objective of this market surveillance was to:

1) To consider meters that have been placed on the market or put into service in the UK and ascertain if they meet the requirements of the essential requirements and Annex MI-001 of the Directive 2004/22/EC

2) To consider at what point in the lifecycle of the meter it had been placed on the market or put into service and to ascertain whether it was compliant with the requirements of the Directive at all points of the process before being “in-service”.

Method

All of the main manufacturers of water meters placing instruments on the market or putting them into service in the UK were approached and the following information was requested:

1) The test results for a specific meter that had been placed on the market in the UK. This was done by using the serial number from a meter that had been supplied to a utility company and ascertaining the results for this meter.

2) The technical requirements for this specific meter were obtained and an analysis of the scope and interpretation of the type approval document was made.

The project was undertaken bearing in mind the scope and application of the WELMEC Guides 5.2 and 7.2. The project was intended to be a “desk exercise“ without any actual testing taking place.

Comments and Conclusions

Objective 1

To consider meters that have been placed on the market or put into service in the UK and ascertain if they meet the requirements of Annex MI-001 of the Directive 2004/22/EC.

Four main manufacturers were approached and three of them responded to the survey. The results indicated that all of the meters considered complied with the accuracy requirements of annex MI-001

Objective 2

To consider at what point in the lifecycle of the meter it had been placed on the market or put into service and to ascertain whether it was compliant with the requirements of the Directive at all points of the process before being "in-service".

All of the water meters considered in the project appeared to comply with the essential requirements of the MID and MI-001.

6. Follow up of the CECIP report.

Market intelligence that was gained from the confidential CECIP report was used to target market surveillance of NAWIs purchased over the internet. Two scales were purchased over the internet and were subjected to type approval testing in accordance with EN45501.

Results of the testing

	Instrument	
Test	**Scale 1**	**Scale 2**
Static temperatures	PASS	PASS
Temperature effect on no load	PASS	PASS
Short time power reductions	PASS	PASS
Electrical Bursts	FAIL (I/O)	PASS
Electrostatic Discharges	PASS	PASS
RFI (3 V/m)	PASS	PASS

Both instruments passed the standard verification tests and the markings on the instruments were found to be compliant. Our results using an accredited testing laboratory revealed a non-compliance in that one instrument failed the type approval bursts test.

7. Conclusion and Recommendations

1) A back audit should be carried out on the Class II NAWIs found during the market intelligence exercise to establish if the correct conformity assessment procedures were followed when they were placed on the market.

2) Intelligence should continue to be gathered on the performance and compliance of internet-purchased NAWIs which are manufactured both inside and outside of the European Union. More of the scales named in the CECIP report should be purchased and tested to check compliance with the directive. Non compliance should be raised with the relevant manufacturers and their respective notified bodies.

3) Market surveillance projects should continue to be focussed so that specific outcomes may be obtained and valid intelligence determined so that future work can be effectively directed. NMO's membership of the UK Market Surveillance Co-ordination Group and the forthcoming WELMEC Guide to Risk Assessment for Market Surveillance of Measuring Instruments may be a valuable tool in assisting this process.