

**Organisation of awareness-raising events
concerning the implementation of Directive
1999/31 EC on the landfill of waste**

REFERENCE: ENV.G.4/SER/2006/0049

MINUTES MALTA

30 May 2007

BIPRO

Beratungsgesellschaft für integrierte Problemlösungen

1 Description and results of specific events

1.1 Malta: Minutes and outcome

Date	Malta
07.05.2007	Venue: St. Julian's / Dragonara Hotel with support of the Malta Environment and Planning Agency (MEPA) Participants: 20 (14 from authorities, 1 from NGO, 4 from enterprises) Agenda: 7 presentations (including EC and BiPRO) Excursion: Landfill for hazardous and non hazardous waste, closed Maghtab landfill and civic amenity site

The information exchange and awareness raising event in St. Julian's has been organised with support of the Malta Environment and Planning Authority (MEPA). The 20 **participants** comprised especially representatives from the MEPA including Environment Inspectorates. Representatives from the Malta Resources Authority (MRA) and the Food & Veterinary Regulation Division participated as well. Besides, a representative from an NGO and representatives from waste management companies have been present (participation list see chapter 1.2).

The workshop in St. Julian's was planned as a one day event. In total, 7 **presentations** were held (including BiPRO and EC). An excursion to the Maghtab landfill was realized in the afternoon.

Presentations held, addressed legal provisions and requirements both on European and national level as well as the current situation of waste management in Malta, the situation of three specific closed landfills and the connection between landfills and groundwater vulnerability.

The excursion to the Maghtab landfill for non-hazardous waste provided valuable insight into the technical standards of firstly an old and closed landfill and secondly a newly built landfill. It also gave an insight into the future planning of a hazardous waste landfill for Malta and the organisation of civic amenity sites (agenda see chapter 1.3).

As a result of discussions and presentations the following topics could be identified as priority issues and conclusions concerning the landfilling of waste in Malta:

Legal framework in Malta

The European legal requirements of Directive 2006/12/EC and 1999/31/EC have been well transposed into national legislation, especially in the *Act XX of 2001 on Environment Protection* replacing the similar Act from 1991. Additionally there are supplementary regulations (Legal Notices, L.N.), especially *L.N. 128 of 1997 – Deposit of Wastes and Rubble (Fees) Regulations* from 1997 and its amendments, *L.N. 337 of 2001 on Waste Management (Permit and Control) Regulations* from 2002, *L.N. 165 on the IPPC Regulations* from 2002 and amendments, *L.N. 168 of 2002 on Waste Management (Landfill) Regulations* from 2002 and amendments and *L.N. 106 on Waste Management (Activity*

Registration) Regulations of 2007, yet not in force. The three landfill classes have been adopted with no further specification from the Landfill Directive.¹

Facts and figures of Malta

Because of the tourist industry, the per capita generation of MSW is with 480 kg/inhabitant yearly very high, compared with the other EU Member States.

In the past waste disposal sites in Malta were developed without any environmental controls, a leachate and gas collection and the presence of fires was a common occurrence. These sites received all kinds of waste for a number of years. The lack of engineering and controls lead to serious concerns over the potential human health and environmental impacts of these sites and there is a need to raise the environmental standards associated with the management of waste in Malta .

Prior to Malta's accession to the EU in 2004, various old or just closed landfills exist. The Wied Fulija and Luqa landfill were already closed in 1996 and in 1970.

The Maghtab landfill stopped accepting inert waste in 2003 and was closed down in April 2004 since it was not in accordance with the EU standards. At the same time the Qortin landfill in Gozo stopped operation. The inert waste is now used for the restoration of disused quarries. The Maghtab, Qortin and Wied Fulija sites were rehabilitated through an EU co-financed project. The main target is the physical stabilisation of the landfills. Leachate and gas are not considered to be large problems because of the arid climate and the high amount of inert waste stored in the landfills.

2 non-hazardous waste landfills have been permitted recently, both IPPC landfills. The Ta' Zwejra landfill in November 2005 and the Ghallis landfill in April 2007, located just adjacent to the old Maghtab landfill. The given permits are in line with the European legislation and include the information required. Both landfills are using geo-synthetic liner as bottom liner. The Ta' Zwejra landfill site has received about 700,000 t of waste and has now reached its maximum capacity after only 3 years. The site will now be capped and a gas collection system will be installed. The landfill gas will be extracted with the objective of generating power. The Ghallis landfill consists of an engineered landfill facility for non-inert, non-hazardous wastes and for hazardous wastes. Furthermore it will include a storage and treatment facility for hazardous wastes. All waste from Gozo is shipped to Malta.²

All landfills for non-hazardous waste are constructed outside of the groundwater zone (at least 300 m away). Leachate and groundwater vulnerability is not stated as big problem.³

Regarding inert landfills, licenses have been issued by the former *Environment Protection Department for Deposit of Inert Waste and Recycling* before 2001. More than 10 such licences were issued. The *Waste Management Permits* are now issued under L.N. 337 of 2001 and include a financial guarantee, a working plan of intended operations and

¹ Presentation of Mark O'Neill, Malta Environment and Planning Authority (MEPA)

² Presentation of Mark O'Neill, Malta Environment and Planning Authority (MEPA) and Henrietta Putzulu Caruana, WasteServ Malta Limited

³ Presentation of Claudine Cardona (Malta Resources Authority (MRA))

information about the quantities and types of waste and an emergency contingency plan. Problems with inert landfills reported, are:

- Separation at source of inert waste still has to be improved,
- Rate of infilling of disused quarries is quite high and therefore a more long term solution is to be found.
- Currently all permitted quarries being infilled in Gozo have been restored. Therefore alternatives must be sought.

Quarries are used for the deposition of clean excavation inert waste. It is estimated that approx. 2 Mt are generated and disposed of annually. Between May 2003 and December 2006, over 5 Mt of inert waste have been deposited in public inert waste sites managed by WasteServ. Other sites are operated by the private sector.

Currently no hazardous landfills are permitted. One application for a hazardous landfill under construction (aside Magthab) is pending and follows the usual IPPC procedures. One small incinerator is planned, currently pending for permission and treating selected hazardous waste streams. Furthermore installations for treatment of hazardous waste prior to landfilling are planned.

Separate collection exists only in schools and public buildings. Furthermore 170 bring-in sites (4 containers) are installed, separating glass, paper, metals and plastics. 200 more such bring-in sites should be set in place in the near future. Bulky waste can be brought to civic amenity sites.⁴

Future planning in Malta

The *Waste Management Strategy Plan* (2001) foresees the further development of the waste management sector, including avoidance strategies and separate collection systems.

The MEPA sees the following points as crucial for the future:

- Public information is essential and education is to change mentality;
- Forward planning for waste management sites;
- Consideration of alternative options to landfilling;
- Stronger Workforce on enforcement (due to fly tipping) and permitting;
- Having chances to share past experiences gained by other Member States.⁵

⁴ Presentation of Mark O'Neill, Malta Environment and Planning Authority (MEPA) and Henrietta Putzulu Caruana, WasteServ Malta Limited

⁵ Presentation of Mark O'Neill (Malta Environment and Planning Authority (MEPA))

Description of landfill visited in Malta

The Maghtab landfill had started operation in the 1970's being a valley at this time. It continued operation until April 2004. The project started as an agricultural activity. However filling continued and a hill was gradually formed, mainly containing inert waste from construction and demolition and municipal waste.

In April 2007 the Ghallis landfill, built adjacent to the old premises of Maghtab has received an IPPC permit including the allowance to operate a landfill for non-inert, non-hazardous waste and one for hazardous waste as well as a storage and a treatment facility for hazardous waste.

The closed area of Maghtab includes several works carried out for rehabilitation. 13 boreholes for monitoring purposes are installed at and around the landfills. The drilling and installation of 43 wells and the construction of 6 collection manifolds are completed. The equipment to treat extracted gas is installed and trials are currently on going with the objective of fine tuning subsequent phases of the project. A regular monitoring of surface gases and groundwater is also conducted. As the main receiving waste category is C&D waste (80%) and because of the arid climate a very small amount of leachate is expected.

The Ghallis landfill for non-hazardous waste has an estimated void space of 1.7 million m³ to be filled at a rate of 250,000 t/year. The facility is being developed in phases and phase 1 of 3 is completed. It is expected that the capacity is reached within a minimum period of 7 years.

The conditions set in the IPPC permit include operational conditions, for the acceptance, placement and compaction of waste and monitoring conditions for nuisance e.g. rodents, odour, noise, record keeping and reporting.

The Ghallis landfill for hazardous waste has an estimated void space of 100,000 m³ to be filled at a rate of 5,000 t/year. It is expected to last for a minimum period of 20 years. The application for the IPPC permit for this part of the landfill has been submitted but has not been approved yet and construction works are ongoing.⁶

The technical standard of the site seems to correspond to EU requirements. The following points are being suggested for further consideration:

- Treatment prior landfilling is not always carried out. Only very specific waste streams, e.g. wood is separated and shredded.
- Gate fees are comparable low. Only 1 €/t is charged for non-hazardous waste and 4€/t for inert waste.

⁶ Presentation of Henrietta Putzulu Caruana, WasteServ Malta Limited

Major problems and deficits identified by the workshop participants in Malta

- (1) A very high percentage of waste is still landfilled, probably about 80 to 90%. Landfilling is the primary option when it comes to inert waste and non-hazardous waste. Landfilling appears to be the most accepted kind of disposal operation by public.
- (2) The biowaste fraction is not separated at all. Separate collection has been started over bring-in containers.
- (3) Mixed MSW is not usually treated prior to landfill. Usually it is only compacted. In some landfills specific waste streams are taken out to be treated (mattresses, wood).
- (4) Malta has not yet delivered a strategy on biodegradable waste to the European Commission.
- (5) The polluter pays principle is not fully implemented and direct waste fees are not implemented on households, meaning that waste collection service is free of charge for the inhabitants. Gate fees for non-hazardous waste are far too low (around 1 €/t) and also for inert waste (4€/t).
- (6) The Acceptance Criteria Decision is used as a guideline for technical and monitoring requirements but is not transposed into national law listing national specifics, like which sample method should be used throughout the country.
- (7) The amount of separated waste (e.g. tyres) is too low to make reusing / recycling economically feasible. Even if certain waste streams are separated, they have to be exported.
- (8) Malta is highly dependent to export of waste when it comes to separate collected waste streams (metal, paper, glass, tyres, batteries, waste tyres etc.) as the economies of scale do not permit economic recycling of such fractions.
- (9) Malta does not feel that the Landfill Directive adequately addresses the peculiarities of this small island State, as e.g. leachate seems not to be a problematic issue, due to the arid climate. As rainfalls are short and heavy, it is unlikely that water will drain, but likely that there will be a surface runoff, which has to be collected and treated. Dust in opposite is a problem and no requirements are set in the directive.
- (10) It was discussed whether geosynthetic liner (GSL) or clay is the better option for capping an old landfill, as clay may crack due to temperature differences, while GSL will be harmed due to inside fires of the old landfill and due to setting and slippage. Experiments with other natural materials are under way.
- (11) Space is a limiting factor for further siting of landfills. The reluctance of the public against such new sites is quite high (“not in my backyard”).
- (12) A relatively high amount of C&D waste is produced, as construction is a flourishing

industry in Malta. C&D waste is landfilled to a high amount.

Examples of good practice identified as potential tools to improve the implementation and enforcement in Malta

- (1) It is forbidden since 2003 to landfill any kind of tyres. Part of the tyres is exported and a part is shredded and reused for sport grounds etc.
- (2) Fly tipping is controlled by several authorities (e.g. police, armed forces, inspectorates and municipalities) and often detected by citizens. The fines for fly tipping are comparably high and small fly tips are removed immediately.
- (3) The Waste Acceptance Criteria Decision is applied in practice to a certain extent. The waste is weighted when incoming, it is inspected visually with cameras and it is inspected visually again on the side.

Priority activities for implementation of Landfill Directive requirements in Malta

- (1) Environmental concerns must remain high on the political agenda as a priority topic in general and waste management in specific. Actions toward waste prevention have to be taken.
- (2) More measures have to be taken to avoid waste and to separate collection as well as the investment in treatment facilities dealing with the separated waste streams. Financial incentives have to be set for the inhabitants to increase the rate of separate collection and to decrease the amount of waste landfilled.
- (3) Alternatives for landfilling have to be created taking in mind techniques for the reduction of specific fractions (MBA, composting) and other methods (incineration).
- (4) Incentives have to be set to avoid the production of a very high amount of C&D waste.
- (5) An increased demand for secondary raw material has to be supported.
- (6) The closure and recultivation activities for the remaining landfills not fulfilling the European requirements have to be speeded up.

Suggestions addressing the European Commission for supporting the implementation

The “one size fits all” approach in the Landfill Directive does not seem to be a good solution, as the requirements are not addressing adequately the specific situations, e.g. of countries like Malta with a more arid climate (e.g. more dust pollution, low quantity of leachate).

1.2 Participation List Malta / La Valetta // 07.05.2007

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European Commission					
1	Helmut Maurer	EU Commission, DG Environment	European Commission - Avenue de Beaulieu 5, 1049 Brussels	+32 2 296 4599	helmut.maurer@ec.europa.eu
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14	Claudine Cardona	Malta Resources Authority (MRA)	MRA, 2nd floor, Millennia, Complex, Alto, Moro Road, Marsa , Malta	+356 2295 5153	claudine.cardona@mra.org.mt
15	Duncan Chetcuti Ganado	Food & Veterinary Regulation Division	The Abattoir, Albert Town, Marsa CMR 02, Malta	+356 2590 5305	duncan.chetcuti.ganado@gov.mt

Association / NGO					
16	Marco Cremona	Friends of the Earth	P.O. Box 13, Valletta , Malta	+356 7926 1562	info@sustechconsulting.com
Enterprises					
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18	Daniel Bowes	WasteServ Malta Limited + Magthab Landfill	Phoenix Building, Old Railway Track, Santa Venera HMR 16, Malta	+356 2385 8000	dbowes@wasteservmalta.com
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20	Boris Farrugia	Polidano Group, Eco Ways	Hal-Harua Rd, LVQA	+356 21 244 241	befarr@maltanet.net

1.3 Agenda Malta / La Valetta // 07.05.2007*Monday, 7th May*

9:00	Registration, Come together
Panel: Kevin Mercieca (MEPA), Vincent Gauci (MEPA), Nicole Seyring (BiPRO GmbH)	
9:30	<i>Opening of Workshop by MEPA Representative</i>
9:40	Nicole Seyring / Elisabeth Müller (BiPRO GmbH, Munich) <i>Welcoming of Participants and Introduction of the EU Project</i>
RELEVANT LEGISLATION AND STATUS QUO	
9:50	Nicole Seyring (BiPRO GmbH) <i>Overview on Relevant European Legislation – The Landfill Directive</i>
10:20	Helmut Maurer (EU Commission, DG Environment, Brussels) <i>Status and Problems with the Implementation of European Legislation for Landfills – A European Perspective</i>
10:50	COFFEE BREAK
11:10	Mark O'Neill (Malta Environment and Planning Authority (MEPA)) <i>National Legislation and Permitting of Landfills</i>
II. SPECIFIC ASPECTS OF IMPLEMENTATION	
11:40	Henrietta Putzulu Caruana (WasteServ Malta Limited) <i>The Development and Operation of Engineered Landfills in Malta</i>
12:00	Questions and Discussions
12:30	LUNCH BREAK
Panel: Kevin Mercieca (MEPA); Vincent Gauci (MEPA), Nicole Seyring (BiPRO GmbH)	
13:30	Elisabeth Müller (BiPRO GmbH) <i>Legal Requirements for Acceptance and Control During Operation of Landfills</i>
13:50	Claudine Cardona (Malta Resources Authority) <i>Landfills and Groundwater Vulnerability</i>
14:10	Nicole Seyring (BiPRO GmbH) <i>Experiences with the Implementation of the Landfill Directive from the Previous Project Events</i>
14:30	Questions, Final Discussions
15:30	COFFEE BREAK
III. EXCURSION	
15:45	Excursion to Ghallis Landfill, Maghtab
18:00	END OF THE WORKSHOP