

Modawi Meets Requirements

New Ordinance Requires Electronic Documents with Signature in Waste Management

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The amendment to the Ordinance on Waste Recovery and Disposal Records (NachwV) of the Circulation Management and Waste Law (KrW/AbfG), passed in August 2006 and taking force on February 1, 2007, provides for a largely paperless electronic verification procedure using qualified electronic signatures (NachwV, section 4). This electronic verification is obligatory for the documentation of the disposal of waste particularly in need of monitoring (in the future "hazardous waste"). As of February 2010, disposal providers, waste producers, and transporters must manage all documentation electronically, along with qualified electronic signatures. These signed electronic documents, just as the paper documents used until now, must be retained for 10 years or longer.

Enormously Broad Effect

At least 100,000 companies are affected by this amendment, since they produce, transport, or dispose of hazardous waste. All employees of these companies who work with hazardous waste must be equipped with qualified electronic signatures by means of signature cards. All government agencies and their employees tasked with the approval or monitoring of hazardous waste disposal must also have signature cards.

In contrast with health care or digital trip recorders, there will be no special signature cards for waste management. Any card which fulfills the

requirements of the Signature Law can be used. Provided, of course, that the application supports the card, both when generating a signature and when verifying one.

High Complexity

A particular challenge in this electronic process lies primarily in the fact that companies must communicate with one another. The electronic documents are forwarded to the authorities in the final step. A so-called Consignment Note which accompanies the transport of a hazardous waste must be signed in sequence by the waste producer, the transporter or transporters, and the disposal provi-

der. The IT systems of the companies must therefore be capable of generating a new electronic document, attaching a signature, sending the document to the next participant, or accepting, verifying, completing, and signing a document which has already been generated and signed, without destroying the existing signatures. And all that must be possible in real time and with high availability, because if an expensive special transport truck can't be handled at the disposal facility because the electronic document signed by the driver before leaving the waste producer is not yet there, the financial damages can be significant.

Modawi in Brief: Modawi is a modular system for digital waste management.

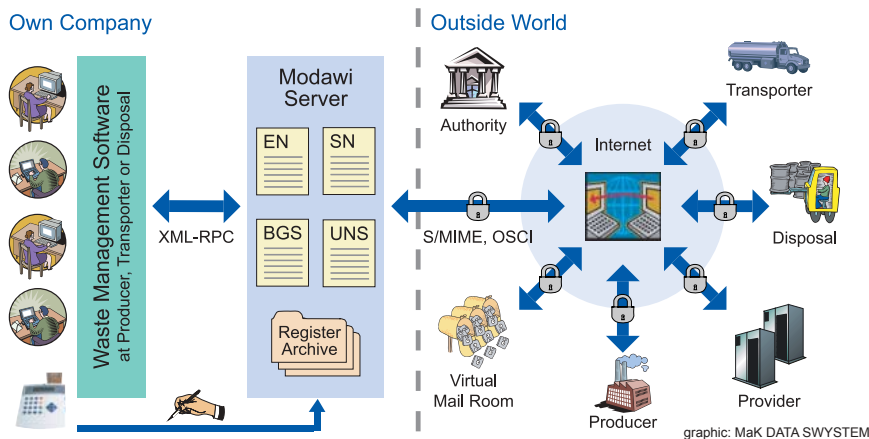
Modawi is used for electronic data exchange between the participants in waste management by supporting all processes to manage and archive electronic documents with qualified signatures compliant with the Ordinance on Waste Recovery and Disposal Records, as well as other documents. In companies, Modawi is integrated into exist-

ing waste management software, or used via its own user interface. Connection to a costly provider is not necessary. Disposal services can also use Modawi as the basis for their own customer portals.

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Modawi provides functions for processes in the electronic record procedure for the disposal of hazardous waste.

In Germany there are some 2.5 million Consignment Notes. Each of these Consignment Notes must be electronically generated in the future. Before a Consignment Note is directed to the authorities, it is signed at least three times. Thus waste management will account for at least 30,000 signatures a day, most of which will be individual signatures.

Technical Requirements of Electronic Verification

Appendix 3 of the amendment governs the basic technical requirements for the electronic form (see the box on the right). Once the ordinance takes force, the definition of the interface format will be published on the homepage of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety. All software solutions used for electronic verification must fulfill these requirements. Only then can all participants in waste management communicate smoothly with one another.

Modawi provides the functions for the process of electronic verification. These can be used directly by the waste management systems or via its own user interface. They completely meet all requirements for the electronic form specified in the Ordinance on Waste Recovery and Disposal Records and offer the possibility of customer-specific demands and extensions, such as eBilling.

Archival of Documents

At the end of a waste transport, the Consignment Note signed by the disposal provider must be sent to all participants for entry in their registries, and forwarded to the authorities. All authorities have a common electronic inbox in the virtual post office, from which point distribution is performed to the responsible department. The individual producers, transporters, and disposers thus do not need to find out the individual address of the person in charge of a particular case.

The register is technically an archival system in which the signed documents can be stored in order. This has always been done with the papers in the so-called record book. The signed documents must be capable of regular oversigning, in order to keep the signatures legally valid and proof against falsification for the long term.

Similar Procedure for all Electronic Documents

This procedure is similar for all electronic messages and documents defined in the Ordinance on Waste Recovery and Disposal Records. These are the Record of Proper Waste Management (Entsorgungsnachweis EN), the Collective Record of Proper Waste Management (Sammelentsorgungsnachweis SN),

Technical requirements in Appendix 3 of the amendment

- Use of Extensible Markup Language (XML), definition with XML schema
- Signatures as defined in the W3C XML Signature Standard (IETF W3C Standard XML-Dsig)
- Use of a layered technology (layers) in order to ensure auditability of the order of signatures (§19, section 1)
- Extensibility, file attachments, bilateral structures

Consignment Notes (Begleitschein BGS), and Handover Certificates (Übernahmeschein UNS). Other messages defined in Appendix 3 of the amendment describe the query and generation of electronic register excerpts and requests for numbers, along with the structure of error messages and notices.

The ordinance is based on international standards and allows some flexibility, regarding both the formal procedures in the electronic process as well as the technical specifications. This allows the participants to adapt electronic processes as well as possible to their needs. At the same time, strict requirements are placed on the software used. Due to its modularity and the use of familiar standards, Modawi can fulfill those requirements.

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