

GERMAN
DWA Rules and Standards

Advisory Leaflet DWA-M 803E
Cost Structures in Wastewater Engineering

November 2006

Kostenstrukturen in der Abwassertechnik



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Publisher/Marketing:
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The German Association for Water, Wastewater and Waste (DWA) is strongly committed to the development of secure and sustainable water and waste management. As a politically and economically independent organisation it is professionally active in the field of water management, wastewater, waste and soil protection.

In Europe DWA is the association with the largest number of members within this field. Therefore it takes on a unique position in connection with professional competence regarding standardisation, professional training and information. The approximately 14,000 members represent specialists and executives from municipalities, universities, engineering offices, authorities and companies.

Imprint

Published and sold by:

DWA German Association for
Water, Wastewater and Waste
Theodor-Heuss-Allee 17
53773 Hennef, Germany
Tel.: +49 2242 872-333
Fax: +49 2242 872-100
E-Mail: info@dwa.de
Internet: www.dwa.de

Translation:

BARBARA BOKELOH, Rheinbreitbach

Printing (English version):

DWA

ISBN:

978-3-941089-74-7

The translation was sponsored by the
German Federal Environmental Foundation (DBU).

Printed on 100 % recycled paper

© DWA Deutsche Vereinigung für Wasserwirtschaft, Abwasser und Abfall e. V., Hennef 2011
German Association for Water, Wastewater and Waste

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Foreword

The demand for a reliable cost information and standardization as a basis for comparative cost statements to give proof of the cost advantage of the collection, transport and treatment of wastewater is growing under public pressure.

This Advisory Leaflet provides the preconditions for the collection of investment costs and operating costs as well as any relevant technical information about the lifetime of the project in a standardized and constant form.

At the same time, linking engineering with commercial aspects, which means creating a mental connection between constructions and property items, should improve constructive cooperation of engineers and businessmen, and awaken understanding for each other even where the intellectual approaches differ as for example the average useful life common to a specific plant is seen on the one side, and building or material qualities on the other.

In a first step (Advisory Leaflet version of 3/2002), a constant cost structure was developed which initially focussed on recording the investment costs alone. The structure comprises the population of all elements equivalent to a master structure. Such listing offers the guarantee that no elements of a project will be missed when preparing a preliminary structure. Hence, the first task after having taken the decision to start the project is to reduce the populations to the concrete project in close coordination between the participating parties

Claiming completeness of the lists of a comprehensive structural organisation of plants and projects attached to the Advisory Leaflet necessitate extensive descriptions of the appropriate particularities. This has contributed to criticism and discussions in the past and again when revising this Advisory Leaflet. For this reason, it shall be expressly pointed out that the structural depths of the cost structure on hand must not be interpreted as an indirect recommendation for the required detailed description of particularities of the levies of costs. **Different structural depths may be required or sufficient in dependence on the individual problem or tasks.** The achievable benefit here is to be weighed against the growing expenditure on a case-to-case basis. The choice of how extensively particularities are described and reflected by the different hierarchic levels, is subject to the user. Therefore, the master structure can be taken as a basis for actions by the operators of plants of any dimension.

In this present version (11/2006), based on the implemented containment of locations where information (costs, performances, etc.) may arise from individual projects, this information has been established in a next step, e. g. type of costs, technical documentation and performance indicators, that should be linked to the structural elements of the plant. The value and the unit can then be filed on the place that is identifiable through the location and information characteristic. Thus not only costs (investment, operation and annual costs) can be entered, it is also possible to calculate specific costs, performance indicators, etc., and finally the principles are established for the structure of a generally usable data-base on costs.

Because of further developments and new knowledge gained in processing and mechanical engineering, the additional necessity has arisen to effect some adjustments in level 2 (plant sections). Changes and supplements should be avoided where possible, but they will nevertheless still be required in future in the exceptional case because of technical advancements. In order to be flexible in this respect, systematic arrangement and structural organization aim at the inclusion of elements and at the seamless transfer of allocation changes via the appropriate lists into an up-dated version. At the same time, the allocation of cost elements to cost structure elements will be made easier for the user by specifying the apportionment between each other by referring to explanations.

This Advisory Leaflet replaces the Advisory Leaflet ATV-DWA-M 803 „Kostenstrukturen in der Abwassertechnik“ (Cost Structures in Wastewater Engineering) in the version of March, 2002.

The recording and determination of costs on the basis of the introduced uniform system opens significant simplifications for a clear allocation to fixed assets and up to property assessments. To employ this procedure for old properties initially requires an increased workload, but should not deter the user from a consequent application of this Advisory Leaflet DWA-M 803.

It is intended to establish the DWA-Working Group WI-1.1 as an “information turn-table” for all activities in the realm of cost structures including a most actual up-dating in order to safeguard an orderly standardization and improvement of cost structures. Only because of this concentration will it be possible to permanently bundle and mutually and bindingly regulate unavoidable new and possibly controversial opinions and discussions on the background of a comprehensive know-how.

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User Notes

This Advisory Leaflet has been produced by a group of technical, scientific and economic experts, working in an honorary capacity and applying the rules and procedures of the DWA and the Standard ATV-DVWK-A 400. Based on judicial precedent, there exists an actual presumption that this document is textually and technically correct.

Any party is free to make use of this Advisory Leaflet. However, the application of its contents may also be made an obligation under the terms of legal or administrative regulations, or of a contract, or for some other legal reason.

This Advisory Leaflet is an important, but not the sole, source of information for solutions to technical problems. Applying information given here does not relieve the user of responsibility for his own actions or for correctly applying this information in specific cases. This holds true in particular when it comes to respecting the margins laid down in this Advisory Leaflet.

Introduction

Wastewater disposal is subject to steadily growing economical pressure. Reliable cost information and standardized cost documentation are therefore the basis for comparative cost statements.

Hence, it is important for all wastewater plants to give new motives in view of a more transparent fund management. On this basis it will be possible to develop the internal accounting system from book-keeping to standard cost accounting and to a meaningful cost and results

accounting step-by-step with additional tools. In order to achieve this it is necessary to replace the previous parallel existing viewpoints of engineers and businessmen by close coordination (see Figure 1).

The joint task of engineer and businessman is to elaborate economic solutions for the construction and operation of plants. In this respect, an analysis of the activities involved and the results demanded is required and that the appropriate tasks will be distributed purposefully among the specialists to be involved.

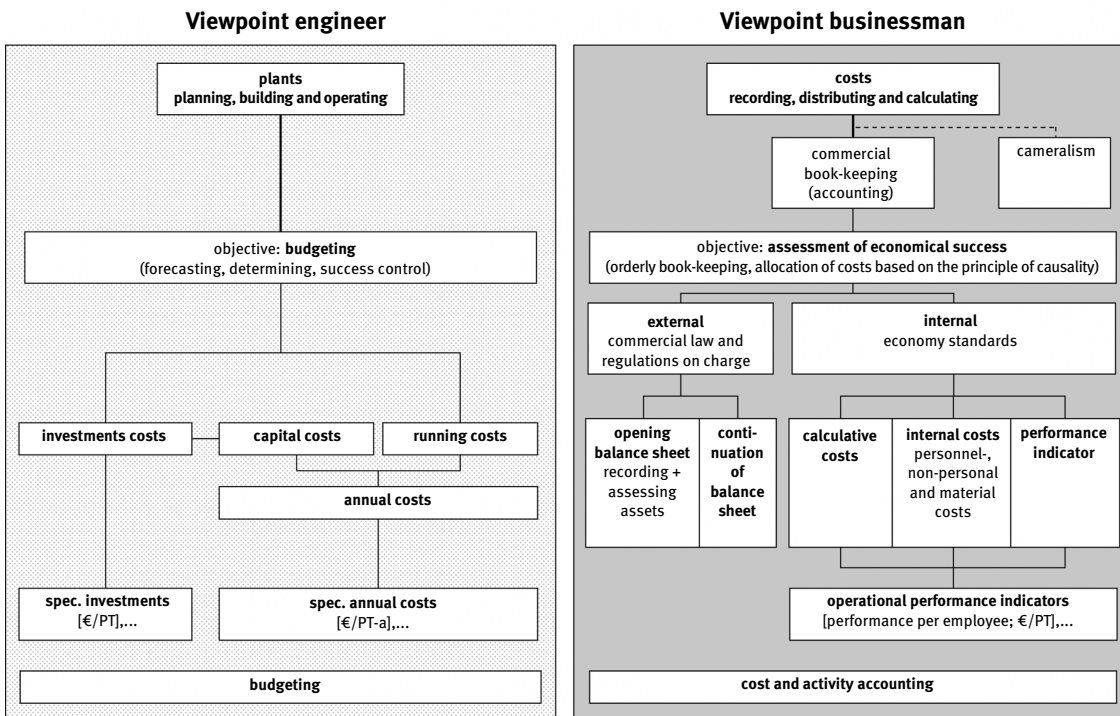


Figure 1: Analogy of processes in recording and using cost information from the viewpoint of engineers and businessmen