

AS 4817—2003

Project
performance
measurement
using Earned Value



Standards Australia

This Australian Standard was prepared by Committee OB-014, Earned Value Management. It was approved on behalf of the Council of Standards Australia on 20 December 2002 and published on 18 February 2003.

The following are represented on Committee OB-014:

Australian Bankers Association
Australian Health Industry Inc
Australian Performance Management Association
Department of Defence (Australia)
Project Management Institute

Keeping Standards up-to-date

Standards are living documents which reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

Detailed information about Standards can be found by visiting the Standards Australia web site at www.standards.com.au and looking up the relevant Standard in the on-line catalogue.

Alternatively, the printed Catalogue provides information current at 1 January each year, and the monthly magazine, *The Australian Standard*, has a full listing of revisions and amendments published each month.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Contact us via email at mail@standards.com.au, or write to the Chief Executive, Standards Australia International Ltd, GPO Box 5420, Sydney, NSW 2001.

Australian Standard™

**Project performance measurement
using Earned Value**

First published as AS 4817—2003.

COPYRIGHT

© Standards Australia International

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher.

Published by Standards Australia International Ltd
GPO Box 5420, Sydney, NSW 2001, Australia

ISBN 0 7337 5037 0

PREFACE

This Standard was prepared by the Standards Australia Committee OB-014, Earned Value Performance Measurement.

The terminology used in this Standard has been chosen to be acceptable across a wide range of disciplines. Terms used in the Standard that are in common use have been adopted from the *PMBOK Guide 2000 Edition*. If the PMBOK did not provide an adequate definition of a term then the definition from ANSI EIA-748, *Industry Guidelines for Earned Value* was used. In some cases slight alterations have been made to the definitions to better reflect the Australian context. If neither the PMBOK nor ANSI EIA-748 provided a satisfactory definition for a given term then the Committee created an applicable definition.

If terms have a common-use abbreviation then this abbreviation has been used, subsequent to its first use, throughout the remainder of the Standard.

The terms 'normative' and 'informative' have been used to distinguish between prescriptive and non-prescriptive parts in the Standard respectively. The 'normative' parts are the sub-sections in Section 3 titled 'Requirements' and Annex A containing the Glossary. Parts of the Standard that are 'informative' include those marked 'informative' and titled 'Guidance'. Where a term from the Glossary is used in an 'informative' part of the Standard it is not intended that the term impart 'normativity' to that part.

Terms that are defined in Annex A are set in SMALL CAPITALS throughout this Standard.

The objectives of this Standard are:

- To define the essential elements of the EVPM method.
- To provide enough information about how to implement the method to allow the user to gain the benefits of the method.
- To be used as a measurement tool to determine whether the EVPM method has been implemented.
- To provide a basis for EVPM implementation for all industries and sizes of Projects.
- To clearly communicate the benefits of the EVPM method.
- To be fundamentally compatible with any existing Australian or International Standards.
- To be relevant to Project Managers (PMs) and executive management in organisations that manage by Projects.

CONTENTS

	<i>Page</i>
FOREWORD	4
 Section 1 INTRODUCTION	
1.1 Scope	5
1.2 Application	5
1.3 Definitions	5
1.4 What is Earned Value?	5
1.5 Benefits of Earned Value Performance Measurement	8
 Section 2 EARNED VALUE PERFORMANCE MEASUREMENT	
2.1 Basic Actions	9
2.2 Basic Concepts	9
2.3 What About a More Complex Project?	11
 Section 3 THE EARNED VALUE PERFORMANCE MEASUREMENT PROCESS	
3.1 STEP 1: Decompose the Project Scope	16
3.2 STEP 2: Assign Responsibility	17
3.3 STEP 3: Schedule the Work	18
3.4 STEP 4: Develop Time-Phased Budget	19
3.5 STEP 5: Assign Objective Measures of Performance	20
3.6 STEP 6: Set the Performance Measurement Baseline	21
3.7 STEP 7: Authorise and Perform the Work	22
3.8 STEP 8: Accumulate and Report Performance Data	23
3.9 STEP 9: Analyse Project Performance Data	24
3.10 STEP 10: Take Management Action	25
3.11 STEP 11: Maintain the Baseline	26
 ANNEXES	
A GLOSSARY	27
B MEASURING AND ANALYSING PERFORMANCE	33
C COMMON CHARTS AND THEIR INTERPRETATION	39

FOREWORD

EARNED VALUE PERFORMANCE MEASUREMENT (EVPM) is a method for measuring and reporting PROJECT performance, and forecasting future performance based on past performance. The EVPM method measures performance of the time and cost aspects of a PROJECT and enables effective PROJECT MANAGEMENT.

The EVPM method provides:

- means for measuring PROJECT performance and status;
- means for measuring progress against a BASELINE (plan);
- forecasts of future performance based on past performance; and
- metrics for comparison of PROJECT performance across an organisation and between organisations.

EVPM assists managers to:

- report cost and schedule performance using standardised techniques;
- analyse variances between the plan and actual progress;
- CONTROL changes to the BASELINE; and
- forecast completion costs and FINISH DATES.

Section 1 INTRODUCTION

1.1 Scope

This Standard establishes requirements and gives guidance for the measurement and reporting of cost and schedule performance of PROJECTS and PROGRAMS using the EVPM method.

1.2 Application

This Standard MAY be applied to the measurement and reporting of the cost and schedule performance of PROJECTS and PROGRAMS. It MAY be applied to any situation where a specified DELIVERABLE (product, service, output, result) is to be produced by a specified date and with finite resources.

The method MAY be used for the performance measurement of single PROJECTS, for parts of PROJECTS (including contracted and sub-contracted parts), for PROGRAMS consisting of multiple PROJECTS, and for organisations that manage by PROJECTS.

In the multi-PROJECT environment, EVPM provides metrics for summary level reporting throughout the organisation. The metrics MAY be rolled up by output, by PROGRAM, by organisational unit, organisational objective, key performance indicator, or other organisation specific summarisation required for effective management reporting.

1.3 Definitions

For the purpose of this Standard, the definitions given in Annex A apply.

1.4 What is Earned Value?

One of the problems faced by managers, is to understand how much work has actually been performed and how much it has cost. Of greater concern to managers is the difficulty of estimating the final cost and completion date of the planned work, especially if the work is not running according to schedule.

This problem and the solutions provided by the EVPM method are illustrated in Figures 1.1 to 1.4 and the accompanying text. Figure 1.1 shows a graphical representation of a time-phased schedule. The BUDGET line represents the cumulative BUDGET for the work spread over time.