

M a S C

Managing Sustainable Construction

Profiting from Sustainability

Contributors

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SPONSORSHIP

This Guide and the companion Accelerated Learning pack have been produced under a contract placed by the Department of Trade and Industry. Any views expressed in them are not necessarily those of the department.

THE MaSC TEAM

BRE

Tools, products and guidance that can be used to move towards more sustainable construction (in particular the Centre for Sustainable Construction): www.bre.co.uk
e-mail: masc@bre.co.uk
tel. 01923 664000.

Cambridge Architectural Research

A range of work in the area of sustainability and energy efficiency:
www.carltd.com e-mail: info@carltd.com
tel: 01223 460475.

Eclipse Research Consultants

Facilitation in sustainable development, continuous improvement, and change management: e-mail: icooper@dircon.co.uk
tel: 01223 500847.

CONSULTANCY

The MaSC team plan to run a series of regional workshops to help companies around the country get started on managing sustainable construction. We are also able to offer this approach as a management consultancy to individual organisations needing help to introduce sustainability into their organisation. The company is provided with a full write-up of the workshop and receives a follow-up visit six months later to review progress. For further details contact: crowhurstd@bre.co.uk
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Profiting from Sustainability



Photo courtesy of Bovis Lend Lease/Photography by Award Visual Solutions

The Earth Centre, Doncaster, constructed by Bovis Lend Lease, one of the project collaborators

Business and sustainability

“MaSC has shown that, despite the mystique that surrounds it, sustainability is achievable. We leapt a considerable number of months, if not years through engaging in the process.”

Richard McCarthy, Chief Executive, Peabody Trust

“Sustainability is a mainstream business issue today. It offers business an unparalleled set of opportunities to re-design systems in order to eliminate waste and increase efficiency. But sustainability is not only about science and technology. At its heart it demands both a personal and corporate values shift.”

Schumacher College Prospectus 2002

What is sustainable construction?

Sustainable construction is one of the most important issues now challenging our industry. The challenge is to make all construction processes, products and services more sustainable through a rolling programme of initiatives and activities, reviewed and reported on an annual basis.

Sometimes termed the 'triple bottom line', being sustainable involves a commitment to:

- Economic sustainability – increasing profitability by making more efficient use of resources, including labour, materials, water and energy.
- Environmental sustainability – preventing harmful and potentially irreversible effects on the environment by careful use of natural resources, minimising waste, protecting and where possible enhancing the environment.
- Social sustainability – responding to the needs of people at whatever stage of involvement in the construction process (from commissioning to demolition), providing high customer satisfaction and working closely with clients, suppliers, employees and local communities.

A sustainable approach is a balanced approach that takes account of the need to continue in business, but which does not seek profitability at the expense of the environment or society's needs.

A sustainable construction industry makes good business sense. It will provide better value, pollute less, help sustain resources and respond more effectively to stakeholders. It will improve quality of life now without compromising it for the future.

Construction is essential for our health, productivity, quality of life and economy.

- It accounts for 8% of GDP and employs 7% of the working population.
- We spend 90% of our lives in buildings.

But construction has a huge impact on the environment...

- In the UK half of all CO₂ emissions result from construction and energy used in buildings.
- Every year UK construction generates over a tonne of waste per citizen.
- Construction is responsible for 20% of all commercial and industrial noise complaints.

Why bother?

Cutting out waste

Cost benefits can be achieved through:

- greater material and energy efficiency;
- increased recycling;
- using local suppliers and maximising fleet efficiency.

Reducing risk

Legal penalties and reputation damage can be avoided through:

- more effective environmental management;
- greater respect for employees;
- improved relationships with stakeholders.

Investing in the future

To be better positioned for the business environment of the future, you need to be prepared for:

- future client demand;
- future legislation;
- future societal expectations.

Business benefits of sustainability

How well positioned are you to take advantage of growing business opportunities in sustainable construction?

Is your business benefiting from established relationships with stakeholders and attracting and retaining the best employees?

Is your business responding to the increased frequency of environmental crises, climate change and projected natural resource shortages?

Addressing economic, environmental and social issues can provide opportunities and bottom-line benefits to business; a failure to tackle these aspects of sustainability will pose significant risks. Investors, clients and legislation are pushing the sustainability agenda forward. However, benefits will only be achieved by recognising the strategic importance of sustainability to future business. The benefits are clear:

Cutting out waste

Cutting out waste in time, material and resources can be simple to implement and rewarding, resulting in:

- cost savings;
- reduced landfill disposal costs;
- reduced transport costs.

Reducing risk

Improving management of risk across your business can:

- avoid adverse publicity;
- avoid legal penalties and reduce injuries compensation;
- avoid fines and reduce liabilities under the Climate Change Levy.

Investing in the future

As sustainability grows in importance, a business embracing these issues will be better positioned for the future, and can:

- deliver a competitive advantage;
- minimise the financial impact of future legislation;
- improve relationships;
- improve ratings with investors.

10 key steps

Here is a set of 'key steps' for managing the introduction of 'continuous improvement'.

- 1 Gauge where your business is now, using the self-assessment matrix opposite.
- 2 Nominate a champion (board level is usually the most appropriate) to make a business case, if necessary, for sustainable construction.
- 3 Set up a small (but representative) team to develop your Sustainability Strategy, addressing economic, environmental and social sustainability, see Annex 2. Playing the MaSC Game is an effective way to kick-start your team, see Annex 1.
- 4 Appoint line manager(s) responsible for implementing your strategy.
- 5 Through line managers, gauge where you are now in each of the sub-sections of your business using the self assessment matrix, being careful to identify and investigate any discrepancies in current progress.
- 6 Arrange awareness-raising events for your in-house staff. Playing the MaSC Game could be an effective introduction for engaging senior and middle management staff.
- 7 Set up small teams to map and reconfigure specific areas of your operations and working practices to deliver more sustainable products and services.
- 8 Provide induction and in-service training on sustainable construction for all your staff.
- 9 Arrange awareness-raising events for members of your supply chain and your clients.
- 10 Set up procedures to monitor, review and report progress against objectives and targets at the end of twelve months. Replay the MaSC Game to gauge progress and help formulate a strategy for the next twelve months.

Introducing greater sustainability into your business can be treated in the same way as other initiatives for improving its performance.

These steps have been derived from a dozen case studies undertaken in both large and small organisations for the Construction Best Practice Programme, across a wide range of initiatives: customer care, training, supply chain management, partnering and strategic alliances, and business process re-engineering.

They have been tailored to suit the specific requirements of sustainable construction, using the self-assessment matrix.

These steps can be used to develop an initial Action Plan for implementing sustainable practice in your business.

Where are you now?

Self Assessment Matrix

Improvement in the management of sustainability in your business is bound to involve some change. Many people in your organisation and your supply chain can have an impact on sustainability. To produce lasting improvements, you will often have to influence them to change their attitudes and to modify their behaviour. To help you decide how best to introduce changes you need to diagnose where you are now.

	STRATEGY	RESPONSIBILITY	PLANNING	COMMUNICATION	IMPLEMENTATION	AUDITING
5	Published policy with targets, reviews and active commitment	Fully integrated into general management	Outcomes regularly reviewed against annual plan	Comprehensive internal and external communication and training	Procedures and benchmarking promoted and updated	Company-wide audit scheme linked to review of action plan
4	Internal statement with some targets	Clear delegation and accountability	Formal planning throughout the business	Comprehensive internal communication and training	Formal procedures with routine benchmarking	All aspects of business audited with some follow-up
3	Written formal statement without targets	Delegated responsibility but authority unclear	Formal planning in some parts of the business	Piecemeal internal communication and training	Formal procedures without benchmarking	Most aspects of business audited with some follow-up
2	Informal guidelines	Some informal support	Ad-hoc planning in some parts of the business	Ad-hoc awareness raising	Informal ad-hoc procedures	Ad-hoc audits with little follow-up
1	No written policy	No one responsible	No integration into business planning	No awareness or internal dialogue	Compliance with regulated issues only	No management audits of performance

The matrix provides a diagnostic tool for assessing how sustainability management operates in your own business and helps you focus on the areas where you want to make progress.

What next?

Continuous improvement

The examples included in the Accelerated Learning pack, the companion to this guide, show how six very different organisations have started to introduce sustainable construction using MaSC.

You can do this too. Although you will need to find your own way of responding to sustainability, you can treat it like any other aspect of continuous improvement. The key is to try to understand why you want to introduce more sustainable practices into your company. Understanding the key drivers for change will help focus your efforts and help you make a business case.

You need to start from where you are now and the Self Assessment Matrix provides a simple and effective tool to help you understand and, more importantly, agree your current position.

You will need to find someone to champion the process and you will also need to form a team to carry it forward. This champion will need authority and influence. They will also need the active support of the board and the help of a team to introduce sustainable construction into everyone's day-to-day working practices.

Accelerated learning

The next step is to introduce the team to the accelerated learning approach of the MaSC game to devise a clear plan of action. This is described in detail in the Accelerated Learning pack. A summary version of the game is provided at the end of this document in Annex 1.

Be as ambitious and as positive as you dare. But anchor the process with achievable targets and sensible relevant criteria you can measure and report.

Ingredients for success

- a strong driver
- a champion with board backing
- a team to implement

Recommended approach

- treat as continuous improvement
- understand why you're doing it
- start from where you are now
- play to your strengths
- find the people you need
- clarify responsibilities
- be ambitious and positive
- choose targets you can measure and report



What else?

There are many other actions you can take to help you manage sustainable practices in your business.

Environmental performance indicators

The Sustainability Working Group of the Movement for Innovation has proposed an initial suite of six EPI's for measuring environmental sustainability credentials project by project. See www.m4i.org.uk

Company indicators

A broader set of indicators, covering social and economic as well as environmental sustainability for use at company level have been published by the Construction Industry Research and Information Association. See www.ciria.org.uk

SIGMA Project

The BSI, DTI and Forum for the Future are jointly developing an integrated approach to the management of sustainability issues within organisations through the SIGMA Project. SIGMA is an integrated system of guidelines for management. SIGMA seeks to build the capacity of organisations to meet their financial and other institutional objectives by more effectively addressing social, environmental and economic dilemmas, threats and opportunities. See www.projectsigma.org.uk

Reporting guidelines

Sustainability Reporting Guidelines have been developed and tested in UK firms by the Global Reporting Initiative. Published in June 2000, these voluntary guidelines can be used by organisations in reporting the economic, environmental and social dimensions of their activities.

See www.globalreporting.org.uk

Annex 1

MaSC Game

The MaSC Game is played as an in-house workshop by the people responsible for introducing sustainable construction.

Objective

The objective is to rehearse ideas for introducing change and to decide on a set of actions that will produce an improvement in sustainable practice.

Scene setting

The participants are given a set of papers for five sessions. Each session lasts 45 minutes and focuses on a single issue. The five sessions form an integrated whole which attempts to respond to a clear driver for change, for example from a major client or parent company.

Features

The participants should play the roles they occupy in real life. The main differences are that the game compresses six to twelve months of business into a five-hour period. The game is enticing. Organisations like Peabody Trust who have played the game say it helped them clarify the main issues and make moving to sustainability a practical achievable goal.

Modus operandi

As the starting point for the game, the participants reach consensus on their current position on the Self Assessment Matrix and set a target position for twelve months time. In each session of the game, participants should focus on an agenda item which explores issues involved in moving up the matrix. The game provides a framework for discussion which guides the participants from an understanding of the current position through proposed actions, a definition of responsibilities to a target position on each item. The strengths and weaknesses, opportunities and threats of the proposed change are reviewed at each stage.

Game roles

A member of the group is designated to act as facilitator and reporter. This person should intervene as little as possible to maintain the pace and keep the group to time. Their main role is to record the discussion and decision-making on a flip chart using the framework opposite.

End point of the workshop

In a final debriefing session, the participants are asked to summarise the implications of the game for their organisation.

Follow-up

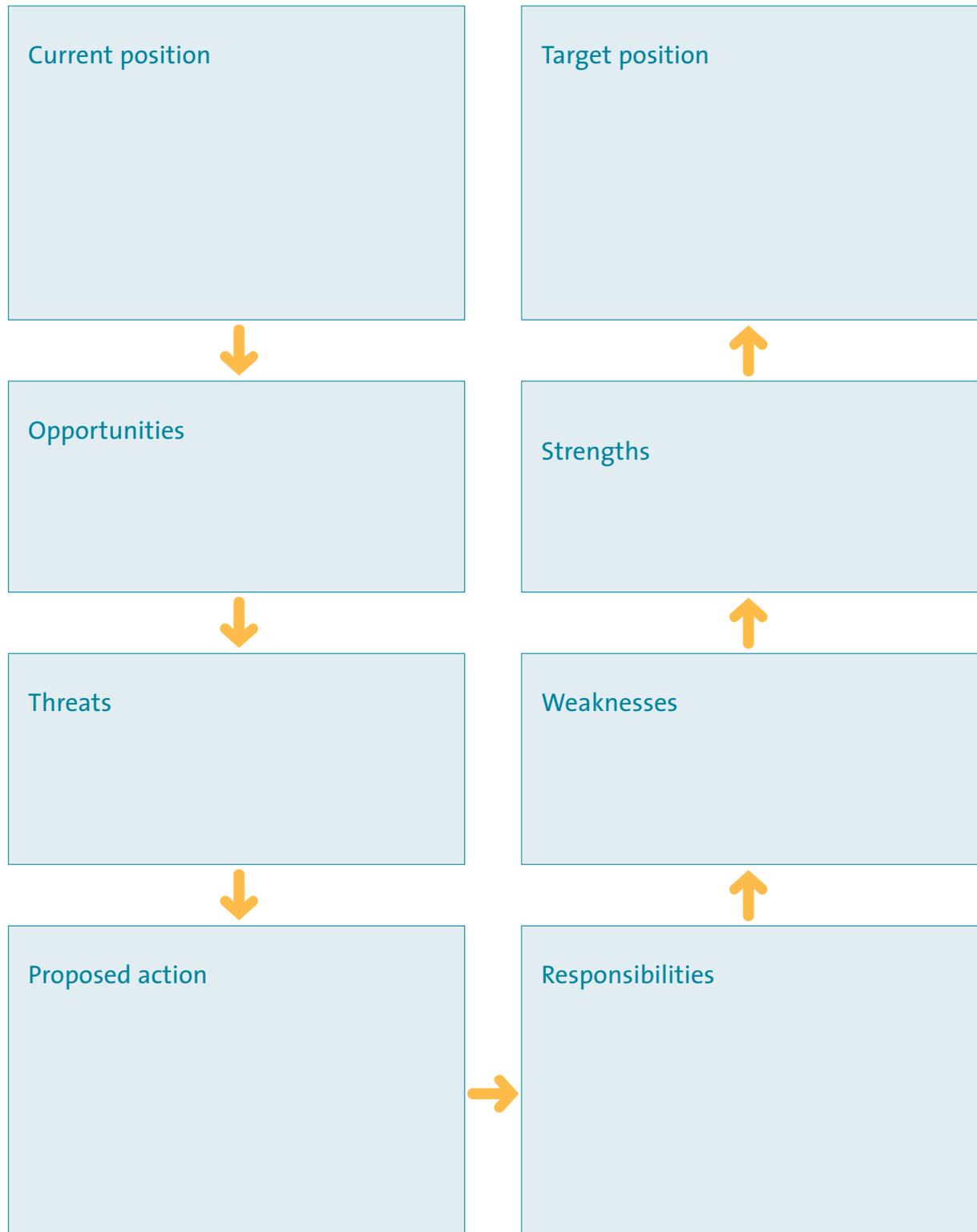
A summary report should be made of the workshop and progress should be reviewed by repeating the exercise twelve months later.

Typical Workshop Programme

	min.
Introduction	15
Session 1: Review current position	45
Session 2: Integrate into organisation	45
Session 3: Devise action plan	45
Lunch break	
Session 4: Develop reporting structure	45
Session 5: Devise benchmarking and auditing procedures	45
Session 6: Debriefing	30
Depart	

One Page Plan

Use this framework for recording what you discuss during the game sessions. The same framework can then be used as a one page action plan to summarise your decisions for the whole twelve months. Worked examples of the game and the complete framework are provided in the Accelerated Learning pack (see order form on inside back cover of this booklet).



Annex 2

Specimen strategy

CSAM Construction Ltd

Chairman's statement

"We recognise that sustainability is one of the most important issues now challenging our industry. We believe that we as a contractor have a vital role to play in its delivery. We are committed to meeting the challenge of making all our processes, products and services more sustainable through a rolling programme of initiatives and activities, reviewed and reported on an annual basis."

Gordon Lightfoot, Chief Executive, CSAM Construction

Objectives

CSAM Construction is committed to addressing the triple bottom line of sustainability; economic, environmental and social sustainability. This is reflected in our objectives which are reviewed and revised annually:

- 1 To increase profitability by making more efficient use of resources, including labour, materials, water and energy.
- 2 To reduce environmental impact of our operations through effective waste management.
- 3 To raise awareness and understanding of how to implement sustainability in our own workforce, members of our supply chain, and our clients.

Targets

During the coming year we have set ourselves the following targets:

- 1 To increase our profit margin by 0.25% through more efficient use of resources.
- 2 To reduce waste going to landfill by 3% through more effective waste management procedures.
- 3 To provide induction and in-service training to 25% of our staff on how to implement sustainability.
- 4 To hold one major workshop on our approach to sustainability for members of our supply chain and our clients.

Strategy documents

Published

Chairman's statement

1

Objectives and targets

2

In-house

Action plan

3

Reporting procedure

4

Specimen strategy

Action Plan

To achieve our objectives and meet our targets, during the next twelve months, we will:

- 1 Hold a 'Why Change?' workshop for board members and senior management, to gauge where CSAM Construction is now, at the corporate level, using the MaSC self-assessment matrix.
- 2 Nominate a Champion for sustainability at board level.
- 3 Set up a small team to oversee the development and implementation of our strategy and objectives.
- 4 Appoint line managers responsible for implementing our strategy across the company.
- 5 Gauge where each of our company divisions is now, on the Self Assessment Matrix, identifying and investigating the discrepancies found.
- 6 Arrange an away-day to raise awareness of sustainability for all our staff.
- 7 Set up division-based teams to map and re-configure our operations and working practices to deliver more sustainable processes, products and services.
- 8 Arrange induction and in-service training sessions on sustainability for 25% of our staff.
- 9 Arrange a major workshop to raise awareness of sustainability for members of our supply chain and our clients.
- 10 Monitor, review and report progress against our objectives and targets at the end of twelve months.

Reporting procedure

We will report annual progress against our objectives and targets to our shareholders through our Annual Report, to our staff through our in-house newsletter and cascade feedback meetings, and to our clients and supply chain members through our company brochure.





Where to get help

Information sources

The developers of MaSC are BRE, CAR and Eclipse. If you would like further advice on using MaSC, contact details are given on the inside front cover. Other information sources include:

Association for Environment Conscious Building (AECB): of particular interest is *The Real Green Building Book*, which includes the UK's only listing of eco-building professionals sorted by trade and region: www.aecb.net tel: 01559 370908.

BRE On-line Bookshop: an on-line service giving access to thousands of publications, videos and other media, covering a range of sustainable construction issues: www.brebookshop.com.

Building Services Research and Information Association (BSRIA): general information and research on sustainable building services: www.bsria.co.uk.

Construction Best Practice Programme (CBPP): documents, case studies, fact sheets, business development tools, guides and diagnostic tools, including construction Key Performance Indicators to benchmark your performance: www.cbpp.org.uk tel: 0845 605 5556.

Construction Confederation: in particular see information on the Considerate Constructors Scheme, and various publications: www.constructionconfederation.co.uk tel. 01920 872837.

Construction Industry Research and Information Association (CIRIA): products, publications, events and guidance on sustainable construction: www.ciria.org.uk.

Department of Trade and Industry: information on the Government's strategy for more sustainable development and wide range of information on sustainable construction: www.dti.gov.uk/construction e-mail: sustainable.construction@dtlr.gov.uk.

Energy Efficiency Best Practice Programme (EEBPP): UK Government programme providing independent advice on energy efficiency: www.energy-efficiency.gov.uk tel. 0800 585794, or BRECSU (Building Research Energy Efficiency Conservation Support Unit): e-mail: brecsuenq@bre.co.uk tel: 01923 664258.

International Organisation for Standardisation and British Standards Institution: includes information on ISO14001. British Standards Institution: www.bsi-global.com e mail: standards.international@bsi-global.com tel: 020 8996 9000.

The Global Reporting Initiative, Sustainability Reporting Guidelines: www.globalreporting.org tel: 020 7396 7000.

The Movement for Innovation (M4I): launched to facilitate cultural change in the construction industry as a response to Construction Task Force report *Rethinking Construction*. Details of demonstration projects encompassing sustainability can be found at: www.m4i.org.uk tel. 020 7636 2256.

Sustainable Development Commission: main role is to advocate sustainable development across all sectors in the UK, review progress towards it, and build consensus on the actions needed if further progress is to be achieved: www.sd-commission.gov.uk

Wellbuilt!: Web-site includes an action plan for local authorities, details of events and information. WellBuilt! aims to be a self-sustaining network of local authority officers, disseminating best practice in sustainable construction: www.wellbuilt.org.uk



Order form

MaSC accelerated learning

If you're responsible for improving the sustainability of your organisation's products, services or working practices, then the MaSC Accelerated Learning pack is for you.

It helps you build and extend your in-house capacity to manage sustainable construction by guiding you through a series of structured actions:

- Assessing your organisation's current sustainable construction credentials
- Identifying actions and drivers for change
- Organising and running 'accelerated learning' workshops
- Establishing mechanisms for continuous improvement

MaSC accelerated learning has been tested in six organisations on both the demand and supply sides of the industry. The pack contains worked examples from these six case studies.

"MaSC has been very useful to the practice and has helped us to identify key issues. This has enabled us to formulate environmental policy and practice and integrate this into our quality management scheme. We also intend to continue to use MaSC to stimulate further progress within the office."
 Peter Sanders, Levitt Bernstein Associates

The MaSC Accelerated Learning pack provides a comprehensive set of management tools for bringing about improvements in your organisation.

Please send me ____ MaSC Accelerated Learning packs @ £75 each post free
 Overseas: add 20% postage and packing to your order

Please send me ____ additional copies of this guide @ £5 each
 (or download free at www.projects.bre.co.uk/MaSC)

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First published 2002 by
CRC Ltd
151 Rosebery Avenue
London EC1R 4GB

ISBN 1 86081 551 0



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