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INTERNATIONAL STANDARD

Binary power generation systems – Part 3-1: Safety requirements – System with less than 500 kW in capacity

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CONTENTS

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FOREWORD

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IEC 63277-3-1 has been prepared by IEC project committee 126: Binary power generation systems. It is an International Standard.

The text of this International Standard is based on the following documents:

Draft	Report on voting
126/68/FDIS	126/74/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

A list of all parts in the IEC 63277 series, published under the general title *Binary power generation systems*, can be found on the IEC website.

Future documents in this series will carry the new general title as cited above. Titles of existing documents in this series will be updated at the time of the next edition.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

INTRODUCTION

While the world's binary power generation systems are growing, the IEC 63277 series specifies the performance test methods of binary power generation systems and acknowledges the fair and standardized competition of binary power generation systems.

It is very important to ensure that the binary power generation systems will be operated safely during the operation. Safety requirements are an important theme that should be internationally standardized as well as the performance test methods.

By adding an objective evaluation of safety based on international standards, it is expected that the selection criteria will become more appropriate and that it will have the effect of promoting it worldwide.

This document addresses the safety considerations unique to binary power generation systems and is intended to be one in a series of international standards addressing this new technology.

BINARY POWER GENERATION SYSTEMS –

Part 3-1: Safety requirement – System with less than 500 kW in capacity

1 Scope

This part of IEC 63277 describes the safety requirements of binary power generation systems based on organic Rankine cycle (ORC) with less than 500 kW in output capacity.

This document covers significant hazards, hazardous situations, and events, with the exception of those associated with environmental compatibility (installation conditions), relevant to binary power generation systems (ORC), when they are used as intended and under the conditions foreseen by the manufacturer.

A typical binary power generation system is shown in Figure 1.