

# Development of International Standards and Certification schemes for Marine Energy Technologies

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Recommendations for procedures adaptation: TS 62600-30 -  
 Electrical power quality requirements for wave, tidal and other water current energy converters

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 TIDAL RESOURCE ASSESSMENT

TS62600-30  
 ELECTRICAL POWER QUALITY

TS62600-200  
 POWER PERFORMANCE ASSESSMENT

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 UNDERWATER ACOUSTICS

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### Revision history

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## 1. Introduction

**Description:** Report with recommendations for procedures adaptation to TS 62600-30 - Electrical power quality requirements for wave, tidal and other water current energy converters

## 2. References

/1/ IEC TS 62600-30, Part 30: Electrical power quality requirements for wave, tidal and other water current energy converters

## 3. Main observations and recommendations

1. The -30 Technical Specification (TS) is intended to test quality of power from single marine energy converters although it states that it may be useful for assessment of power quality of Farms (or arrays). It would be better to limit this document to single converters although it may be used later on as a normative standard for the assessment of power quality of arrays.
2. The -30 document is only applicable to normal operation of MECs of any size, it excludes voltage fluctuations occurring during switching operations. In the case of arrays it is important that the switching on or off of any one device does not adversely impact the power quality of the array or farm. This is a strong reason why the -30 document should apply only to single MECs.
3. IEC 62600-200 Ed 1 Power Performance of Tidal Energy Converters is missing from the list of Normative References and should be included.
4. The document refers to measurement of power quality at the point of common coupling (PCC) but contains reference to some measurements at the terminals of the converter (e.g. 7.3.1). These locations for measurement are contradictory and the latter is generally impracticable in most situations.
5. The -30 document considers measurement at three different “resource levels” which introduces a whole stream of unnecessary references to wave and tidal resource measurement which may be incompatible with the resource level definitions and measurement methods in the -100, -101, -200 and -201 TSs . It is recommended that power quality measurement should be at 3 different % levels of the Nominal Power Output value of the MEC device. These may then be related to water resource levels only by reference to the performance measurement and Resource Assessment TSs thereby avoiding confusion and error. This would for example, eliminate Table 3 and all references to it.
6. Table 5 reports that 1% standard of current & voltage transformers are needed - the EMEC practice - shown to be required especially at low end of the generating range - has been to use 0.5% cts and vts.
7. Implementation of 5. (above) would reduce the complexity of the report format.