

## IEEE 1159 and IEC 61000 Standards: A brief comparison



For IEEE T&D meeting, 23 April 2008, Chicago

Similarity: Both IEEE 1159 and  
the IEC 61000 series of standards  
cover power quality.



Source: Bob Dettore

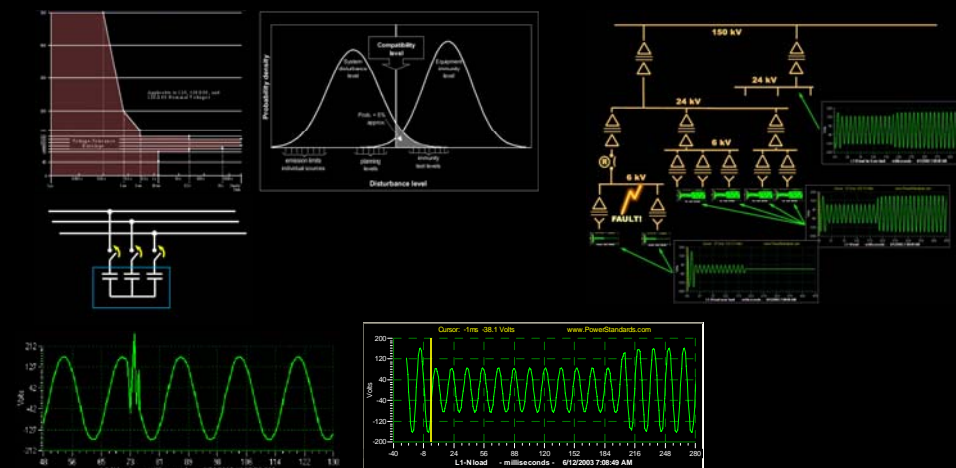


Source: Mhd Fuad Faisal

Similarity: Both IEEE 1159 and IEC 61000 series of standards are used by engineers with sensitive loads.



Similarity: Both IEEE 1159 and IEC 61000 series of standards agree on the basic concepts and terminology.



(mostly...)

# What, exactly, are the IEC 61000 series of standards?

IEC 61000-2 standards



IEC 61000-3 standards



IEC 61000-4 standards



What it is

What the limits are –  
Emissions and susceptibility

How to measure

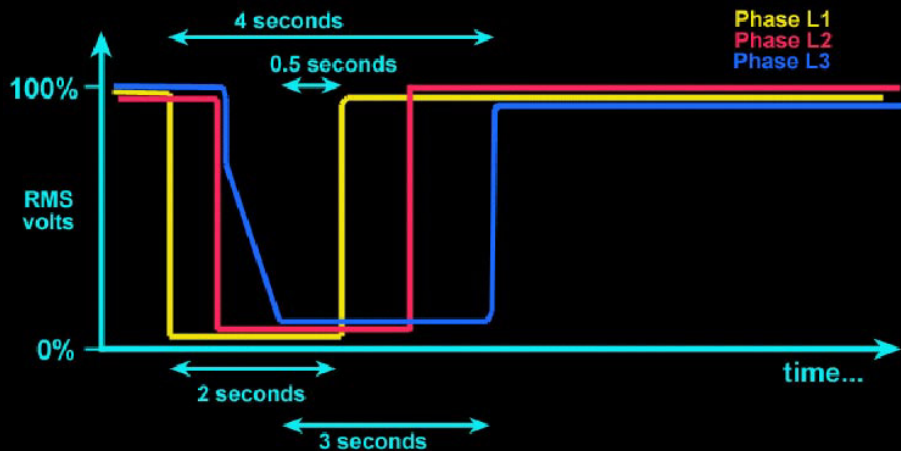
## Differences between IEEE 1159 and IEC standards

#1

IEEE 1159 – informative, tutorial, instructive

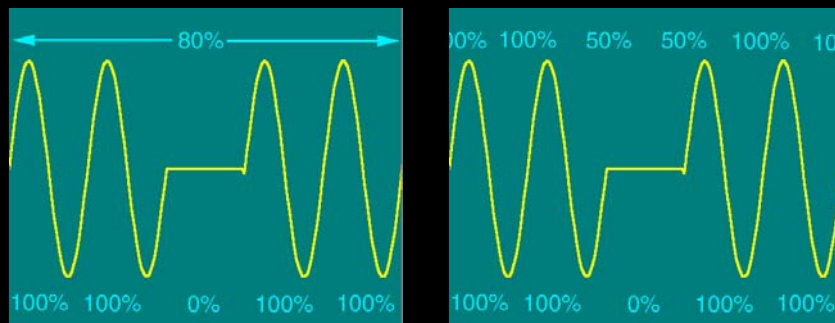
IEC 61000 series – “Thou shalt...”

## Differences between IEEE 1159 and IEC standards #1



Example from 61000-4-30 "Power quality measurement methods"

## Differences between IEEE 1159 and IEC standards #1



Example from 61000-4-30 "Power quality measurement methods"

Differences between IEEE 1159 and IEC standards  
#2

IEEE 1159 – Developed by volunteers.

IEC 61000 series – Developed by  
assigned national “experts”

Differences between IEEE 1159 and IEC standards  
#3

IEEE 1159 – Approved by consensus.

IEC 61000 series – Approved by nation voting.

## Differences between IEEE 1159 and IEC standards #4

IEEE 1159 – Not enforced – just informative.

IEC 61000 series – Adopted and enforced  
as national standards –  
force of law. Very careful  
drafting!

## Summary – IEEE 1159 and IEC 61000 series

### Similarities

- Cover power quality
- Agree on compatibility
- Agree on basic concepts
- Agree on terminology



### Differences

- Tutorial vs “thou shalt”
- Volunteer vs appointed experts
- Consensus vs national voting
- Informative vs enforced





Thanks

E-mail – [Alex@PowerStandards.com](mailto:Alex@PowerStandards.com)

Web site –  
[www.PowerStandards.com](http://www.PowerStandards.com)

Newsletter –  
[Alex@PowerStandards.com](mailto:Alex@PowerStandards.com) or sign up on web  
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