Creating Fixed Curves

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Purpose

This note explains how to create user-defined fixed curves.

Procedure

I) Introduction

The new **FIXED** curve feature is intended for RFT, NFT and other analysis where the curves do not change. The curves are loaded from text files. The default curves are loaded first from the file:

> **<install_dir>\system\fixed_curves\default.txt**

For example, if the software is in **C:\corestar**, the it is loaded from:

> **C:\corestar\system\fixed_curves\default.txt**

The contents of this file are reproduced at the end of this note.

After loading the default, the system will load any user-defined curves from:

> **<install_dir>\user\fixed_curves*.txt**

The simplest way to create a user-defined fixed curve is to copy the default file to the above directory and edit it as described below. The files are loaded when the software boots. If you make changes, you must restart the software.

> **NOTE: If a user-defined fixed curve has the same name and coil mode as a system curve, it will override it.**

II) Syntax

The curve file is a plain text file that can be edited with a simple editor such as notepad.

Comments can be inserted using two forward slashes (i.e. **//**). Any text after **//** will be ignored.

A curve set is defined using:

```
CURVE_SET = <user defined name>
     <curve_definition>
END_SET
```

where the **<user defined name>** is any name desired in quotes. For example, the first curve below is named "**RFT**".

The **<curve definition>** is a set of commands defined below.

The coil mode is defined using:

```
COIL_MODE = <coil mode>
```

where **<coil_mode>** is either **ABS, DIF** or **ANY**. The curve dialog will only list curve sets of the same mode as the current channel. If set to **ANY**, it will apply for any channel.

The combination of curve set name and coil mode must be unique. For example, if you have two curve sets named **"RFT"** with coil mode **ABS**, the second one will override the first. The curve name is not case sensitive. For example, **"RFT"** and **"Rft"** are equivalent.

The curve type is defined using:

```
CURVE_TYPE = <curve_type>
```

where **<curve_type>** is **PHASE** or **VOLT**.

Then define one or more subcurves. These will appears in the **Show Curves** dropdown for this **Curve Set** in the **Fixed** tab of the **CURVE** dialog. For example:

```
CURVE="PRIME"
     "Hole"      100.0 90.0
     "FBH-50"     50.0 123.0
     "4x FBH-20"  20.0 155.0
END_CURVE
```

The first line starts the subcurve and gives the name. The name must be enclosed in quotes.

Each point of the curve has a name, which must be in quotes, followed by the percent and either phase angle or voltage for **PHASE** and **VOLT** curves respectively. The order does not matter but they will be sorted in ascending order based on the phase or voltage.

Any errors that occur when parsing the file will be displayed in NotePad. The line number of the error will be shown in square brackets followed by the error.

The valid ranges for values are:

1. Percent is 0.0 to 100.0%.
2. Volts is 0.0 to 1000.0
3. Phase is -90.0 to 360.0
4. The names must be at least one character long and enclosed in double quotes.

5. **III) Default Fixed Curve File**

```
// Default Fixed Curves

//===============================
// RFT Diff

CURVE_SET  = "RFT"  // Any user defined name for the set
COIL_MODE  = DIF    // Options are ABS or DIF
CURVE_TYPE = PHASE  // Options are PHASE or VOLT

CURVE="PRIME"
     "Hole"      100.0 90.0   // Name of the point in quotes followed
by percent and phase for PHASE curve
     "FBH-50"     50.0 123.0
     "4x FBH-20"  20.0 155.0
END_CURVE

CURVE="HIGH"
     "Hole"      100.0  70.0
     "FBH-50"     50.0 123.0
     "4x FBH-20"  20.0 155.0
END_CURVE

CURVE="LOW"
     "Hole"      100.0 115.0
     "FBH-50"     50.0 140.0
     "4x FBH-20"  20.0 155.0
END_CURVE

CURVE="FRET"
     "Hole"      100.0 100.0
     "FBH-50"     50.0 135.0
     "4x FBH-20"  20.0 175.0
END_CURVE

END_SET

//===============================
// RFT ABS

CURVE_SET  = "RFT"
COIL_MODE  = ABS
CURVE_TYPE = PHASE

CURVE="A-180"
     "FBH-75"    75.0 65.0
     "4x FBH-20" 20.0 140.0
END_CURVE

CURVE="A-360"
```

```
    "FBH-40"    40.0  87.0
    "4x FBH-20" 20.0 130.0
END_CURVE


END_SET

//===============================
// NFT Dif

CURVE_SET  = "NFT"
COIL_MODE  = DIF
CURVE_TYPE = VOLT

CURVE="1-PIT"
    "30% PIT" 30.0  5.0 // Name of the point in quotes followed by
percent and voltage.
    "60% PIT" 60.0 10.0
END_CURVE

CURVE="2-PIT"
    "30% PIT" 30.0 10.0
    "60% PIT" 60.0 20.0
END_CURVE

CURVE="3-PIT"
    "30% PIT" 30.0 15.0
    "60% PIT" 60.0 30.0
END_CURVE

CURVE="4-PIT"
    "30% PIT" 30.0 20.0
    "60% PIT" 60.0 40.0
END_CURVE

END_SET

//===============================
// NFT ABS

CURVE_SET  = "NFT"
COIL_MODE  = ABS
CURVE_TYPE = VOLT

CURVE="ABS"
    "30% EROSION" 30.0  5.0
    "60% EROSION" 60.0 10.0
END_CURVE

END_SET
```