

MANUAL

INL/EXT-15-34123

Revision 1

Printed January 21, 2020

HERON User Manual

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Prepared by
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Idaho Falls, Idaho 83415

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HERON User Manual

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Cristian Rabiti

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Paul W. Talbot

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Paul W. Talbot

Andrea Alfonsi

1 Cases Introduction

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

1.1 Case

– no description yet –

The **<Case>** node recognizes the following parameters:

- **name**: *string, required*, – no description yet –

The **<Case>** node recognizes the following subnodes:

- **<mode>**: *ModeOptions*, – no description yet –
- **<metric>**: *EconMetrics*, – no description yet –
- **<differential>**: *bool*, – no description yet –
- **<num_arma_samples>**: *integer*, – no description yet –
- **<timestep_interval>**: *integer*, – no description yet –
- **<history_length>**: *integer*, – no description yet –
- **<economics>**: – no description yet –

The **<economics>** node recognizes the following subnodes:

- **<ProjectTime>**: *float*, – no description yet –
- **<DiscountRate>**: *float*, – no description yet –
- **<tax>**: *float*, – no description yet –
- **<inflation>**: *float*, – no description yet –
- **<verbosity>**: *integer*, – no description yet –
- **<dispatch_increment>**: *float*, – no description yet – The **<dispatch_increment>** node recognizes the following parameters:
 - **resource**: *string, required*, – no description yet –

2 Components Introduction

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

2.1 Component

– no description yet –

The **<Component>** node recognizes the following parameters:

- **name**: *string, required*, – no description yet –

The **<Component>** node recognizes the following subnodes:

- **<produces>**: – no description yet – The **<produces>** node recognizes the following parameters:
 - **resource**: *string_list, required*, – no description yet –
 - **dispatch**: *dispatch_opts, optional*, – no description yet –

The **<produces>** node recognizes the following subnodes:

- **<capacity>**: – no description yet – The **<capacity>** node recognizes the following parameters:
 - * **resource**: *string, optional*, – no description yet –

The **<capacity>** node recognizes the following subnodes:

- * **<fixed_value>**: *float*, – no description yet –
- * **<sweep_values>**: *float_list*, – no description yet –
- * **<opt_bounds>**: *float_list*, – no description yet –
- * **<ARMA>**: *string*, – no description yet – The **<ARMA>** node recognizes the following parameters:
 - **variable**: *string, optional*, – no description yet –
- * **<Function>**: *string*, – no description yet – The **<Function>** node recognizes the following parameters:
 - **method**: *string, optional*, – no description yet –
- * **<variable>**: *string*, – no description yet –

- * **<growth>**:*float*, – no description yet – The **<growth>** node recognizes the following parameters:
 - **mode**: *growthType, optional*, – no description yet –
 - **<minimum>**: – no description yet – The **<minimum>** node recognizes the following parameters:
 - * **resource**: *string, optional*, – no description yet –
 The **<minimum>** node recognizes the following subnodes:
 - * **<fixed_value>**:*float*, – no description yet –
 - * **<sweep_values>**:*float_list*, – no description yet –
 - * **<opt_bounds>**:*float_list*, – no description yet –
 - * **<ARMA>**:*string*, – no description yet – The **<ARMA>** node recognizes the following parameters:
 - **variable**: *string, optional*, – no description yet –
 - * **<Function>**:*string*, – no description yet – The **<Function>** node recognizes the following parameters:
 - **method**: *string, optional*, – no description yet –
 - * **<variable>**:*string*, – no description yet –
 - * **<growth>**:*float*, – no description yet – The **<growth>** node recognizes the following parameters:
 - **mode**: *growthType, optional*, – no description yet –
 - **<consumes>**:*string_list*, – no description yet –
 - **<transfer>**: – no description yet –
- The **<transfer>** node recognizes the following subnodes:
- * **<fixed_value>**:*float*, – no description yet –
 - * **<sweep_values>**:*float_list*, – no description yet –
 - * **<opt_bounds>**:*float_list*, – no description yet –
 - * **<ARMA>**:*string*, – no description yet – The **<ARMA>** node recognizes the following parameters:
 - **variable**: *string, optional*, – no description yet –
 - * **<Function>**:*string*, – no description yet – The **<Function>** node recognizes the following parameters:
 - **method**: *string, optional*, – no description yet –
 - * **<variable>**:*string*, – no description yet –
 - * **<growth>**:*float*, – no description yet – The **<growth>** node recognizes the following parameters:
 - **mode**: *growthType, optional*, – no description yet –

- **<stores>**: – no description yet – The **<stores>** node recognizes the following parameters:

- **resource**: *string_list, required*, – no description yet –
- **dispatch**: *dispatch_opts, optional*, – no description yet –

The **<stores>** node recognizes the following subnodes:

- **<capacity>**: – no description yet – The **<capacity>** node recognizes the following parameters:

- * **resource**: *string, optional*, – no description yet –

The **<capacity>** node recognizes the following subnodes:

- * **<fixed_value>**: *float*, – no description yet –
- * **<sweep_values>**: *float_list*, – no description yet –
- * **<opt_bounds>**: *float_list*, – no description yet –
- * **<ARMA>**: *string*, – no description yet – The **<ARMA>** node recognizes the following parameters:
 - **variable**: *string, optional*, – no description yet –
- * **<Function>**: *string*, – no description yet – The **<Function>** node recognizes the following parameters:
 - **method**: *string, optional*, – no description yet –
- * **<variable>**: *string*, – no description yet –
- * **<growth>**: *float*, – no description yet – The **<growth>** node recognizes the following parameters:
 - **mode**: *growthType, optional*, – no description yet –
- **<minimum>**: – no description yet – The **<minimum>** node recognizes the following parameters:

- * **resource**: *string, optional*, – no description yet –

The **<minimum>** node recognizes the following subnodes:

- * **<fixed_value>**: *float*, – no description yet –
- * **<sweep_values>**: *float_list*, – no description yet –
- * **<opt_bounds>**: *float_list*, – no description yet –
- * **<ARMA>**: *string*, – no description yet – The **<ARMA>** node recognizes the following parameters:
 - **variable**: *string, optional*, – no description yet –
- * **<Function>**: *string*, – no description yet – The **<Function>** node recognizes the following parameters:
 - **method**: *string, optional*, – no description yet –
- * **<variable>**: *string*, – no description yet –

- * **<growth>**:*float*, – no description yet – The **<growth>** node recognizes the following parameters:
 - **mode**: *growthType, optional*, – no description yet –
- **<rate>**: – no description yet –

The **<rate>** node recognizes the following subnodes:

 - * **<fixed_value>**:*float*, – no description yet –
 - * **<sweep_values>**:*float_list*, – no description yet –
 - * **<opt_bounds>**:*float_list*, – no description yet –
 - * **<ARMA>**:*string*, – no description yet – The **<ARMA>** node recognizes the following parameters:
 - **variable**: *string, optional*, – no description yet –
 - * **<Function>**:*string*, – no description yet – The **<Function>** node recognizes the following parameters:
 - **method**: *string, optional*, – no description yet –
 - * **<variable>**:*string*, – no description yet –
 - * **<growth>**:*float*, – no description yet – The **<growth>** node recognizes the following parameters:
 - **mode**: *growthType, optional*, – no description yet –
- **<initial_stored>**: – no description yet –

The **<initial_stored>** node recognizes the following subnodes:

 - * **<fixed_value>**:*float*, – no description yet –
 - * **<sweep_values>**:*float_list*, – no description yet –
 - * **<opt_bounds>**:*float_list*, – no description yet –
 - * **<ARMA>**:*string*, – no description yet – The **<ARMA>** node recognizes the following parameters:
 - **variable**: *string, optional*, – no description yet –
 - * **<Function>**:*string*, – no description yet – The **<Function>** node recognizes the following parameters:
 - **method**: *string, optional*, – no description yet –
 - * **<variable>**:*string*, – no description yet –
 - * **<growth>**:*float*, – no description yet – The **<growth>** node recognizes the following parameters:
 - **mode**: *growthType, optional*, – no description yet –
- **<demands>**: – no description yet – The **<demands>** node recognizes the following parameters:
 - **resource**: *string_list, required*, – no description yet –

- **dispatch**: *dispatch_opts, optional*, – no description yet –

The **<demands>** node recognizes the following subnodes:

- **<capacity>**: – no description yet – The **<capacity>** node recognizes the following parameters:

- * **resource**: *string, optional*, – no description yet –

The **<capacity>** node recognizes the following subnodes:

- * **<fixed_value>**: *float*, – no description yet –
- * **<sweep_values>**: *float_list*, – no description yet –
- * **<opt_bounds>**: *float_list*, – no description yet –
- * **<ARMA>**: *string*, – no description yet – The **<ARMA>** node recognizes the following parameters:
 - **variable**: *string, optional*, – no description yet –
- * **<Function>**: *string*, – no description yet – The **<Function>** node recognizes the following parameters:
 - **method**: *string, optional*, – no description yet –
- * **<variable>**: *string*, – no description yet –
- * **<growth>**: *float*, – no description yet – The **<growth>** node recognizes the following parameters:
 - **mode**: *growthType, optional*, – no description yet –

- **<minimum>**: – no description yet – The **<minimum>** node recognizes the following parameters:

- * **resource**: *string, optional*, – no description yet –

The **<minimum>** node recognizes the following subnodes:

- * **<fixed_value>**: *float*, – no description yet –
- * **<sweep_values>**: *float_list*, – no description yet –
- * **<opt_bounds>**: *float_list*, – no description yet –
- * **<ARMA>**: *string*, – no description yet – The **<ARMA>** node recognizes the following parameters:
 - **variable**: *string, optional*, – no description yet –
- * **<Function>**: *string*, – no description yet – The **<Function>** node recognizes the following parameters:
 - **method**: *string, optional*, – no description yet –
- * **<variable>**: *string*, – no description yet –
- * **<growth>**: *float*, – no description yet – The **<growth>** node recognizes the following parameters:
 - **mode**: *growthType, optional*, – no description yet –

- **<penalty>**: – no description yet –

The **<penalty>** node recognizes the following subnodes:

- * **<fixed_value>**:*float*, – no description yet –
- * **<sweep_values>**:*float_list*, – no description yet –
- * **<opt_bounds>**:*float_list*, – no description yet –
- * **<ARMA>**:*string*, – no description yet – The **<ARMA>** node recognizes the following parameters:
 - **variable**: *string, optional*, – no description yet –
- * **<Function>**:*string*, – no description yet – The **<Function>** node recognizes the following parameters:
 - **method**: *string, optional*, – no description yet –
- * **<variable>**:*string*, – no description yet –
- * **<growth>**:*float*, – no description yet – The **<growth>** node recognizes the following parameters:
 - **mode**: *growthType, optional*, – no description yet –

- **<economics>**: – no description yet –

The **<economics>** node recognizes the following subnodes:

- **<lifetime>**:*integer*, – no description yet –
- **<CashFlow>**: – no description yet – The **<CashFlow>** node recognizes the following parameters:
 - * **name**: *string, required*, – no description yet –
 - * **type**: *string, required*, – no description yet –
 - * **taxable**: *bool, required*, – no description yet –
 - * **inflation**: *string, required*, – no description yet –
 - * **mult_target**: *bool, required*, – no description yet –
 - * **period**: *period_opts, optional*, – no description yet –

The **<CashFlow>** node recognizes the following subnodes:

- * **<driver>**: – no description yet –
- The **<driver>** node recognizes the following subnodes:
- **<fixed_value>**:*float*, – no description yet –
 - **<sweep_values>**:*float_list*, – no description yet –
 - **<opt_bounds>**:*float_list*, – no description yet –
 - **<ARMA>**:*string*, – no description yet – The **<ARMA>** node recognizes the following parameters:
 - **variable**: *string, optional*, – no description yet –

- **<Function>**:*string*, – no description yet – The **<Function>** node recognizes the following parameters:
- **method**: *string, optional*, – no description yet –
- **<variable>**:*string*, – no description yet –
- **<growth>**:*float*, – no description yet – The **<growth>** node recognizes the following parameters:
- **mode**: *growthType, optional*, – no description yet –
- * **<reference_price>**: – no description yet –
The **<reference_price>** node recognizes the following subnodes:
 - **<fixed_value>**:*float*, – no description yet –
 - **<sweep_values>**:*float_list*, – no description yet –
 - **<opt_bounds>**:*float_list*, – no description yet –
 - **<ARMA>**:*string*, – no description yet – The **<ARMA>** node recognizes the following parameters:
 - **variable**: *string, optional*, – no description yet –
 - **<Function>**:*string*, – no description yet – The **<Function>** node recognizes the following parameters:
 - **method**: *string, optional*, – no description yet –
 - **<variable>**:*string*, – no description yet –
 - **<growth>**:*float*, – no description yet – The **<growth>** node recognizes the following parameters:
 - **mode**: *growthType, optional*, – no description yet –
- * **<reference_driver>**: – no description yet –
The **<reference_driver>** node recognizes the following subnodes:
 - **<fixed_value>**:*float*, – no description yet –
 - **<sweep_values>**:*float_list*, – no description yet –
 - **<opt_bounds>**:*float_list*, – no description yet –
 - **<ARMA>**:*string*, – no description yet – The **<ARMA>** node recognizes the following parameters:
 - **variable**: *string, optional*, – no description yet –
 - **<Function>**:*string*, – no description yet – The **<Function>** node recognizes the following parameters:

- **method**: *string, optional*, – no description yet –
- **<variable>**:*string*, – no description yet –
- **<growth>**:*float*, – no description yet – The **<growth>** node recognizes the following parameters:
 - **mode**: *growthType, optional*, – no description yet –
- * **<scaling_factor_x>**: – no description yet –
 The **<scaling_factor_x>** node recognizes the following subnodes:
 - **<fixed_value>**:*float*, – no description yet –
 - **<sweep_values>**:*float_list*, – no description yet –
 - **<opt_bounds>**:*float_list*, – no description yet –
 - **<ARMA>**:*string*, – no description yet – The **<ARMA>** node recognizes the following parameters:
 - **variable**: *string, optional*, – no description yet –
 - **<Function>**:*string*, – no description yet – The **<Function>** node recognizes the following parameters:
 - **method**: *string, optional*, – no description yet –
 - **<variable>**:*string*, – no description yet –
 - **<growth>**:*float*, – no description yet – The **<growth>** node recognizes the following parameters:
 - **mode**: *growthType, optional*, – no description yet –
 - * **<depreciate>**:*integer*, – no description yet –

