

EMFAC-HK Version 4.x - Input File Formats

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Objectives

- * Describe/illustrate EMFAC-HK v 4.x input file format and keywords
- * Provide general description of the input file format to facilitate creating/modifying input files outside of the graphical user interface (GUI).
- * Provide steps to run EMFAC-HK Version 4.x without using the GUI (i.e., non-interactively or “batch” mode)
- * Demonstration

Components

- * **EMFAC-HK V4.x Input file Format**
 - * Overview
 - * Structure of input Files
 - * Keywords / Indices
 - * Running from the command-line
 - * Batch mode use of EMFAC-HK
 - * Running/Processing Older Input File (INP file) Formats

EMFAC-HK V4.x Overview

- * Single Scenario Model
- * INP file in SI (i.e. HK) Units

Parameter	V3.1.1-V4.x INP (Metric)
Accrual rates	Km
VKT	Km
Temperature	deg C
Relative Humidity	Percent
Other Parameters (i.e, fractions, trips, etc)	Unitless

- * EMFAC-HK V4.x can read INP files of EMFAC-HK V3.4

EMFAC-HK Version 4.x

Example Input File

```
HK_2030_Burden.inp x
C:\Users\hp\Documents\My Projects\HongKong\2018\06_Documentation\04 Training_Examples\ERG_V409_Dec2018\Exercises\Ex1\HK_2030_Burden.inp
1 EmfacHK409-Header
2   Version 4 0 9 0
3   Scenario-Count 1
4   HK-IM Y 0 0 2020 0 0 2020 0 0 2020 0 0 2020 0 0 2020 0 0 2020 0 0 2020 0 0 2020 0 0 2020 0 0 2020 0 0 2020
5   HKUNITS Y
6 End-Header
7 Begin-Scenario 1
8   Title Hong Kong SAR Annual CYr 2030 Default Title
9   Program-Mode Burden
10  Area-Method One-County
11  Area-Type SAR
12  Area-Number 38 [Hong Kong SAR]
13  HC-Mode VOC
14  PM-Mode PM10
15  CYr 2030
16  BYr -1
17  MYr All
18  Vehicles PC TAXI LGV3 LGV4 LGV6 HGV7 HGV8 PLB PV4 PV5 NFB6 NFB7 NFB8
19  Season Annual
20  Burden-Reports CSV_Standard BCD Detail_ModelYear Detail_TechGroup
21  Burden-Daily
22  Burden-Speeds 5
23 End-Scenario
24
```

Extra regime reductions with values editable in GUI. Defaults are all zeros. Note that existing I&M remoting sensing program is already built-in the code since V3.4.

New Alt. Baseline Year: -1 = "Inactive"
Baseline Calendar Year is shown if activated.
For example, "BYr 2020" if Alt. Baseline Year 2020 was activated.

EMFAC-HK Version 4.x Input Format

Program Data Edit Syntax

	A
1	! scenario data
2	!BEGIN-SCENARIO-PROGDATA (# Data Items)
3	! BEGIN-DATA-ITEM (Repeat for each data item)
4	! DATATYPE 19 PopTotal
5	! APPLIES-TO CYR 2020
6	! APPLIES-TO BYR 2014
7	! APPLIES-TO SEASON Summer
8	! APPLIES-TO AREA-METHOD One-County
9	! APPLIES-TO AREA-TYPE SAR
10	! APPLIES-TO AREA-NUMBER 38
11	! APPLIES-TO VEHICLE PC
12	! APPLIES-TO MYR All
13	! APPLIES-TO AGES All
14	! APPLIES-TO EXH-TECH-GROUP 23
15	! APPLIES-TO EVAP-TECH-GROUP 15
16	! APPLIES-TO FUEL Gas
17	! REAL-VALUE nn.nn
18	! INTEGER-VALUE nn
19	! BEGIN-REAL-ARRAY nn
20	! values.nn
21	! END-REAL-ARRAY
22	! END DATA-ITEM
23	!END-SCENARIO-PROGDATA

Keywords in INP Files

Keyword	Description
Temperature	Temperature
RelativeHumidity	Relative Humidity
RVP	Gasoline RVP
SpeedFractions	Speed Distribution by Hr
ExhaustTechFrac	Exhaust Technology Group Fractions
EvapTechFrac	Evap Technology Group Fractions
VKTTotal	VKT Total
VKTVehicle	VKT by Vehicle Class
VKTVehicleFuel	VKT by Vehicle Class, Fuel
VKTVehicleFuelHour	VKT by Vehicle Class, Fuel, Hr
TripsTotal	Trips Total
TripsVehicle	Trips by Vehicle Class
TripsVehicleFuel	Trips by Vehicle Class, Fuel
TripsVehicleFuelHour	Trips by Vehicle Class, Fuel, Hr

Keyword	Description
PopTotal	Population Total
PopVehicle	Pop by Vehicle Class
PopVehicleFuel	Pop by Vehicle Class, Fuel
PopVehicleFuelAge	Pop by Vehicle Class, Fuel, Hr
Applies-To Cyr	Pop for Calendar Year
Applies-To Byr	Pop for Alternate Base Year
AccrualTotal	Accrual Total
AccrualVehicle	Accr by Vehicle Class
AccrualVehicleFuel	Accr by Vehicle Class, Fuel
AccrualVehicleFuelAge	Accr by Vehicle Class, Fuel, Hr
HK-IM	Regime Size Change

Note: New Datatype codes added to EMFAC-HK Since V3.1.1 for VKT, Alt Baseline, HK-IM

Running EMFAC-HK Non-Interactively (i.e., Bypassing the GUI)

- * Purpose: user's who have already created input files and want to run without going through the GUI (i.e., execute the program from the command window or a batch file).
- * Find out where EMFAC-HK is installed on your system
 - * "C:\Program Files\EMFACHK41" (Windows 32-bit)
 - * "C:\Program Files (x86)\EMFACHK41" (Windows 64-bit)
- * Use a text editor (i.e., notepad, etc.) and create a batch file to house the non-interactive batch file commands
 - * Notepad emfac.bat
- * Use the "set" command to create a shortcut to the EMFAC-HK located on your computer.
- * Example:
 - * set EmfacHK41="C:\Program Files\EMFACHK41\EmfacHKV41.exe" (Windows 32-bit)
 - * set EmfacHK41="C:\Program Files (x86)\EMFACHK41\EmfacHKV41.exe" (Windows 64-bit)

Running EMFAC-HK Non-Interactively (i.e., Bypassing the GUI)

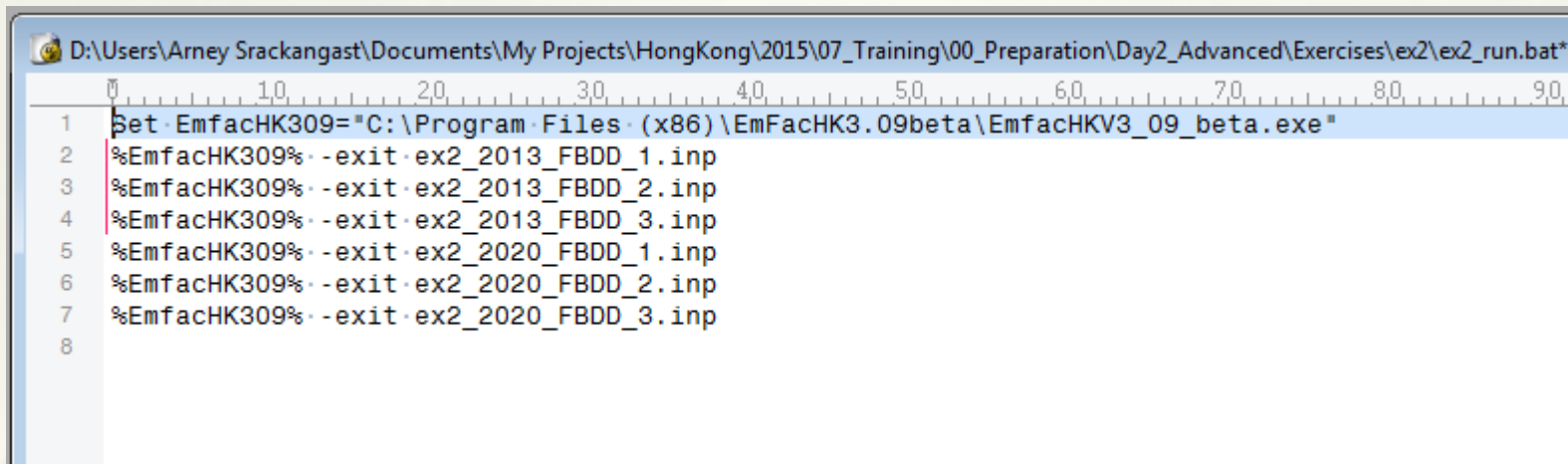
- * Executing input files one at a time:

- * `%EMFACHK41% -exit HK_2030_Burden.inp`

- * Executing multiple files at a time:

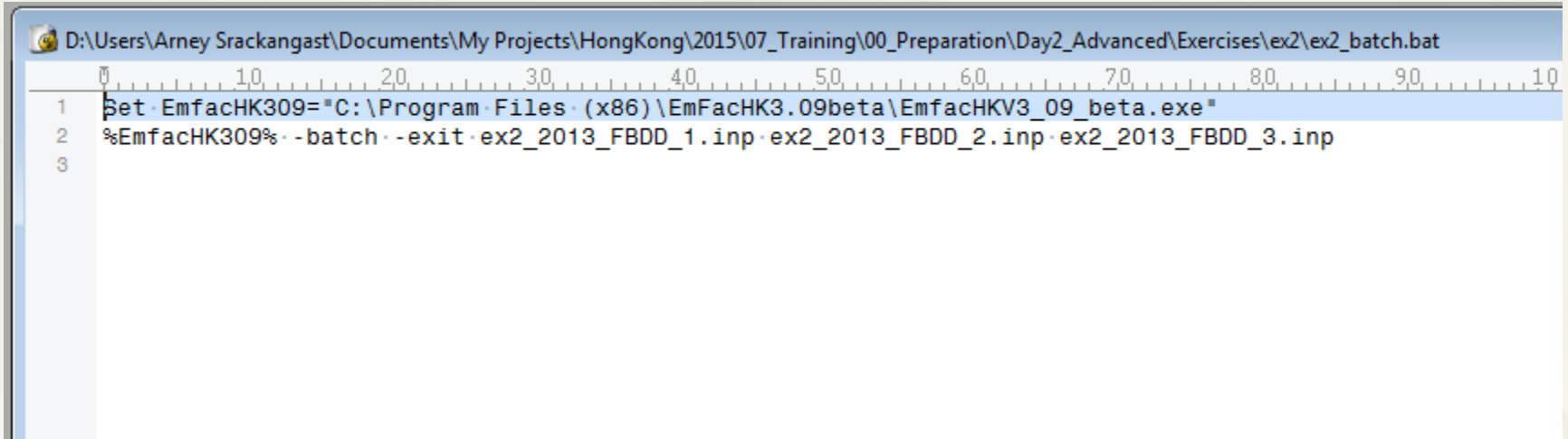
- * `%EMFACHK41% -batch HK_2030_Burden.inp
HK_2015_Burden_by_Hour.inp HK_2015_change_pop_VKT.inp
HK_2015_Conformity_Trip.inp`

Running EMFAC-HK Non-Interactively (One-at-a-Time Example)



```
D:\Users\Arney Srackangast\Documents\My Projects\HongKong\2015\07_Training\00_Preparation\Day2_Advanced\Exercises\ex2\ex2_run.bat*
1 set EmfachHK309="C:\Program Files (x86)\EmFachHK3.09beta\EmfachKV3_09_beta.exe"
2 %EmfachHK309% -exit ex2_2013_FBDD_1.inp
3 %EmfachHK309% -exit ex2_2013_FBDD_2.inp
4 %EmfachHK309% -exit ex2_2013_FBDD_3.inp
5 %EmfachHK309% -exit ex2_2020_FBDD_1.inp
6 %EmfachHK309% -exit ex2_2020_FBDD_2.inp
7 %EmfachHK309% -exit ex2_2020_FBDD_3.inp
8
```

Running EMFAC-HK Non-Interactively (Batch Example)

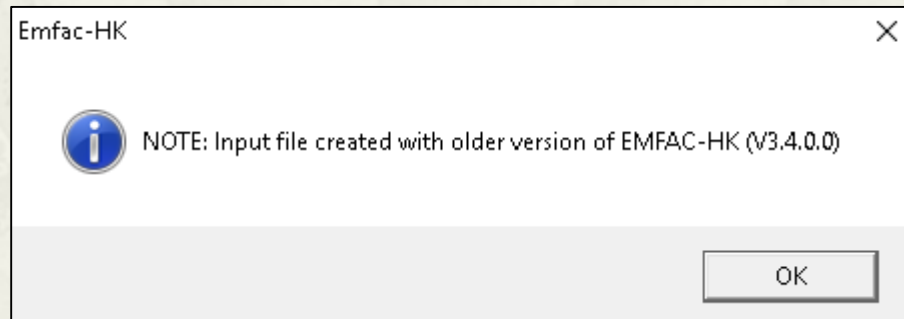


```
D:\Users\Arney Srackangast\Documents\My Projects\HongKong\2015\07_Training\00_Preparation\Day2_Advanced\Exercises\ex2\ex2_batch.bat
1 set EmfachHK309="C:\Program Files (x86)\EmfachK3.09beta\EmfachKV3_09_beta.exe"
2 %EmfachHK309% -batch -exit ex2_2013_FBDD_1.inp ex2_2013_FBDD_2.inp ex2_2013_FBDD_3.inp
3
```


Reading Prior INP Files

- * Version 3.4 INP file or newer
- * Caution
 - * Use at risk
 - * Single scenario only

Reading Prior INP Files





Thank you!