

EMFAC-HK Version 3.1

Input File Formats

Objectives

- Describe/illustrate EMFAC-HK v 3.1 input file format and keywords
- Provide general description of the input file format to facilitate creating/modifying input files outside of the GUI.
- Provide steps to run EMFAC-HK Version 3.1 without using the GUI (i.e., non-interactively or “batch” mode)
- Demonstration

Components

- **EMFAC-HK V3.1 Input file Format**
 - New features
 - Structure of input Files
 - Keywords / Indices
 - Running from the command-line
 - Batch mode use of EMFAC-HK
 - Running/Processing Older INP File Formats

EMFAC-HK V3.1 New Features

- Single Scenario Model
- INP in HK/SI Units

Parameter	V2.5 INP (English)	V3.1 INP (Metric)
Accrual rates	Mile	Km
VKT	Mile	Km
Temperature	deg F	deg C
Relative Humidity	Percent	(no change)
Other Parameters (i.e, fractions, trips, etc)	Unitless	(no change)

- EMFAC-HK can read older INP files ¹
- Vehicle Classes re-ordered (five placeholders moved to Index 17-21)

¹ Version 2.1 or newer.

Caution: new tech group and other data changes have been applied, and definitions of some existing tech groups have been modified. Also cannot read multiple scenario runs.

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Example Input File

```
HK_2030_Burden.inp x
1 EmfachHK3B-Header
2 ....Version 3.0.9.0.....
3 ....Scenario-Count 1
4 ....HK-IM-Y 20 20 2014 85 85 2014 40 40 2014 20 20 2014 0 0 2014
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
19 ....Season Annual
20 ....Burden-Reports CSV_Standard BCD
21 ....Burden-Daily
22 ....Burden-Speeds 5
23 End-Scenario
24
```

New "Header"

Include/exclude HK in-use emission reduction programs (reduction values not editable in GUI)

New Alt. Baseline Year: -1 = "Inactive"
Baseline Calendar Year is shown if activated.
For example, "Byr 2014" if Alt. Baseline Year 2014 was activated.

Annotated Sample Input File (Basic Scenario)

```
D:\Users\Arney Srackangast\Documents\My Projects\HongKong\2015\07_Training\00_Preparation\HK_2030_Burden_ANNOTATED.inp.txt
1 EmfacHK3B-Header .....! EMFAC-HK Header (Beta Header)
2 .....Version 3 0 9 0 .....! Version Which Created Input File
3 .....Scenario-Count 1 .....! Number of Scenarios (EMFAC-HK V3.1: Always 1)
4 .....HK-IM Y 20 20 2014 85 85 2014 40 40 2014 20 20 2014 0 0 2014 .....! HK-IM (Y or N); Regime Size Data
5 .....HKUNITS Y .....! INP Data in HK/SI Units (Y or N)
6 End-Header .....! End of Header
7 Begin-Scenario 1 .....! Begin Scenario #1
8 .....Title Hong Kong SAR Annual CYr 2030 Default Title .....! Title Scenario #1
9 .....Program-Mode Burden .....! Program Mode (EMFAC or Burden)
10 .....Area-Method One-County .....! Area-Method Always One-County
11 .....Area-Type SAR .....! Area-Type Always SAR
12 .....Area-Number 38 [Hong Kong SAR] .....! Area-Number Always 38
13 .....HC-Mode VOC .....! HC-Mode Always VOC
14 .....PM-Mode PM10 .....! PM-Mode PM30, PM10, or PM2.5
15 .....CYr 2030 .....! Scenario Calendar Year (EMFAC-HK V3.1: ONLY SINGLE)
16 .....BYr -1 .....! Scenario Baseline Year (-1 if Inactive)
17 .....MYr All .....! Scenario Model Years: All typically
18 .....Vehicles PC TAXI LGV3 LGV4 LGV6 HGV7 HGV8 PLB PV4 PV5 NFB6 NFB7 NFB8 FBSD FBDD MC .....! Vehicle Classes to Run
19 .....Season Annual .....! Season
20 .....Burden-Reports CSV_Standard BCD .....! Burden-Reports: CSV_Standard, BCD, Weight, Detail_M
21 .....Burden-Daily .....! Frequency of Output: Burden-Daily or Burden-Hourly
22 .....Burden-Speeds 5 .....! Burden Speed Bins: 5 or 10 (KPH)
23 End-Scenario .....! End of Scenario #1
24
```


EMFAC-HK Version 3.1 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

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Program Data – Data Item

```

24 Begin-Scenario-ProgData 1
25   Begin-Data-Item
26     ....DataType 22 PopVehicleFuelAge
27     ....Applies-To CYr 2013
28     ....Applies-To Area-Method One-County
29     ....Applies-To Area-Type SAR
30     ....Applies-To Area-Number 38 [Hong Kong SAR]
31   Begin-Real-Array
32     Dims 45 21 3 1
33     Data
34     ....43147. 41924. 40211. 38366. 26670. 33171. 31442. 25934. 24914. 24698. 19397. 23828. 24276. 21011. 15268. 13542. 12773. 4111. 2804. 2611. 1464. 880. 605. 369. 277. 176. 118. 1
35     ....0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
36     ....0 2. 0 0 0 0 0 1. 0 0 0 5. 4. 2. 1. 0 1. 3. 15. 5. 8. 3. 6. 2. 5. 3. 3. 1. 1. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
37     ....73. 169. 181. 81. 272. 94. 331. 130. 124. 67. 63. 49. 68. 97. 26. 12. 3. 1. 2. 1. 2. 1. 2. 1. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
38     ....0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
39     ....0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
40     ....0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
41     ....0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
42     ....4. 103. 1. 5. 89. 52. 52. 6. 102. 121. 52. 22. 15. 24. 0 0 0 1. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
43     ....0 0 1. 0 0 7. 0 2. 0 0 0 2. 1. 0 1. 4. 2. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
44     ....0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
45     ....0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
46     ....0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
47     ....0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
48     ....0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
49     ....4342. 3369. 3154. 2564. 2318. 3232. 3382. 3138. 2975. 2880. 2343. 1810. 1420. 1087. 1129. 917. 833. 553. 376. 209. 141. 93. 58. 51. 54. 24. 12. 7. 3. 4. 2. 11. 17. 5. 8. 2. 2
50     ....0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
51     ....0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
52     ....0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
53     ....0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
54     ....0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
55     ....342. 56. 104. 148. 81. 0 0 0 1. 3. 4. 1. 0 0 0 113. 236. 150. 183. 152. 157. 93. 131. 102. 77. 45. 25. 23. 6. 10. 3. 2. 7. 2. 3. 2. 2. 2. 0 0 1. 0 0 0 2.
56     ....0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
57     ....66. 72. 59. 24. 23. 7. 2. 2. 1. 0 1. 0 2. 1. 0 2. 0 4. 22. 97. 111. 75. 53. 96. 53. 39. 27. 11. 1. 0 0 0 0 1. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
58     ....4727. 3482. 3167. 2714. 1681. 3795. 3174. 3086. 2858. 2089. 1429. 1617. 1644. 1874. 1726. 2094. 2307. 1232. 1032. 998. 904. 601. 194. 95. 23. 14. 3. 2. 1. 0 0 0 0 0 0 0 0 0 0
59     ....1009. 863. 1048. 960. 629. 1200. 1058. 1120. 1133. 1197. 1030. 1285. 1377. 1539. 1014. 951. 1408. 1259. 996. 1064. 997. 774. 252. 132. 91. 67. 16. 15. 0 1. 0 0 1. 0 0 0 0 0 0
60     ....859. 778. 814. 714. 350. 714. 551. 539. 565. 526. 340. 517. 387. 436. 359. 285. 447. 291. 331. 422. 500. 487. 251. 81. 59. 59. 21. 7. 3. 3. 0 0 0 0 0 0 0 0 0 0 0 0 0 0
61     ....2689. 2052. 2163. 2090. 680. 1799. 1477. 1538. 1560. 1837. 1298. 1415. 1118. 1544. 867. 720. 1113. 896. 747. 863. 803. 895. 491. 318. 260. 151. 111. 26. 30. 3. 0 1. 0 0 0 0 0
62     ....18. 11. 7. 39. 13. 86. 58. 16. 88. 185. 124. 22. 151. 133. 158. 124. 116. 50. 38. 11. 3. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
63     ....3. 5. 6. 13. 1. 23. 2. 10. 4. 11. 20. 30. 22. 23. 31. 38. 31. 22. 31. 27. 14. 10. 6. 2. 0 1. 0 1. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
64     ....391. 188. 191. 56. 58. 172. 75. 31. 29. 20. 21. 39. 92. 115. 86. 58. 76. 59. 73. 82. 53. 37. 26. 7. 17. 4. 2. 0 1. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

```

Data Item: Population by Vehicle Class, Fuel, Age

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Program Data – Array Size

```
0          10          20          30          40          50          60          70          80          90          100          110          120          130          140          150          160          170          180
24 Begin-Scenario-ProgData 1
25 --- Begin-Data-Item
26 ..... DataType 22 PopVehicleFuelAge
27 ..... Applies-To CYr 2013
28 ..... Applies-To Area-Method One-County
29 ..... Applies-To Area-Type SAR
30 ..... Applies-To Area-Number 38 [Hong Kong SAR]
31 ..... Begin-Real-Array
32 ..... Dims 45 21 3 1
33 ..... Data
34 ..... 43147. 41924. 40211. 38366. 26670. 33171. 31442. 25934. 24914. 24598. 19397. 23828. 24276. 21011. 15268. 13542. 12773. 4111. 2804. 2611. 1464. 880. 605. 369. 277. 176. 118. 1
35 ..... 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
36 ..... 0 2. 0 0 0 0 0 1. 0 0 0 5. 4. 2. 1. 0 1. 3. 15. 5. 8. 3. 6. 2. 5. 3. 3. 1. 1. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
37 ..... 73. 169. 181. 81. 272. 94. 331. 130. 124. 67. 63. 49. 68. 97. 26. 12. 3. 1. 2. 1. 2. 1. 2. 1. 1. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
38 ..... 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
39 ..... 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
40 ..... 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
41 ..... 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
42 ..... 4. 103. 1. 5. 89. 52. 52. 6. 102. 121. 52. 22. 15. 24. 0 0 0 1. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
43 ..... 0 0 1. 0 0 7. 0 2. 0 0 0 2. 1. 0 1. 4. 2. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
44 ..... 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
45 ..... 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
46 ..... 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
47 ..... 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
48 ..... 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
49 ..... 4342. 3369. 3154. 2564. 2318. 3232. 3382. 3138. 2975. 2880. 2343. 1810. 1420. 1087. 1129. 917. 833. 553. 376. 209. 141. 93. 58. 51. 54. 24. 12. 7. 3. 4. 2. 11. 17. 5. 8. 2. 2
50 ..... 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
51 ..... 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
52 ..... 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
53 ..... 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
54 ..... 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
55 ..... 342. 56. 104. 148. 81. 0 0 0 1. 3. 4. 1. 0 0 0 113. 236. 150. 183. 152. 157. 93. 131. 102. 77. 45. 25. 23. 6. 10. 3. 2. 7. 2. 3. 2. 2. 2. 0 0 1. 0 0 0 2.
56 ..... 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
57 ..... 66. 72. 59. 24. 23. 7. 2. 2. 1. 0 1. 0 2. 1. 0 2. 0 4. 22. 97. 111. 75. 53. 96. 53. 39. 27. 11. 1. 0 0 0 0 1. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
58 ..... 4727. 3482. 3167. 2714. 1681. 3795. 3174. 3086. 2858. 2089. 1429. 1617. 1644. 1874. 1726. 2094. 2307. 1232. 1032. 998. 904. 601. 194. 95. 23. 14. 3. 2. 1. 0 0 0 0 0 0 0 0 0 0 0 0 0 0
59 ..... 1009. 863. 1048. 960. 629. 1200. 1058. 1120. 1133. 1197. 1030. 1285. 1377. 1539. 1014. 951. 1408. 1259. 996. 1064. 997. 774. 252. 132. 91. 67. 16. 15. 0 1. 0 0 1. 0 0 0 0 0 0 0 0 0
60 ..... 859. 778. 814. 714. 350. 714. 551. 539. 565. 526. 340. 517. 387. 436. 359. 285. 447. 291. 331. 422. 500. 487. 251. 81. 59. 59. 21. 7. 3. 3. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
61 ..... 2689. 2052. 2163. 2090. 680. 1799. 1477. 1538. 1560. 1837. 1298. 1415. 1118. 1544. 867. 720. 1113. 896. 747. 863. 803. 895. 491. 318. 260. 151. 111. 26. 30. 3. 0 1. 0 0 0 0 0 0 0
62 ..... 18. 11. 7. 39. 13. 86. 58. 16. 88. 185. 124. 22. 151. 133. 158. 124. 116. 50. 38. 11. 3. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
63 ..... 3. 5. 6. 13. 1. 23. 2. 10. 4. 11. 20. 30. 22. 23. 31. 38. 31. 22. 31. 27. 14. 10. 6. 2. 0 1. 0 1. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
64 ..... 391. 188. 191. 56. 58. 172. 75. 31. 29. 20. 21. 39. 92. 115. 86. 58. 76. 59. 73. 82. 53. 37. 26. 7. 17. 4. 2. 0 1. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
```

Array Data Block: 45 x 21 x 3
45 ages, 21 veh classes, 3 fuels

31 Begin-Real-Array
32 Dims 45 21 3 1

EMFAC-HK Data Types

Data Type	Keyword	Description
1	Temperature	Temperature
3	RelativeHumidity	Relative Humidity
5	RVP	Gasoline RVP
7	SpeedFractions	Speed Distribution by Hr
9	ExhaustTechFrac	Exhaust Technology Group Fractions
10	EvapTechFrac	Evap Technology Group Fractions
11	VMTTotal	VMT Total
12	VMTVehicle	VMT by Vehicle Class
13	VMTVehicleFuel	VMT by Vehicle Class, Fuel
14	VMTVehicleFuelHour	VMT by Vehicle Class, Fuel, Hr
15	TripsTotal	Trips Total
16	TripsVehicle	Trips by Vehicle Class
17	TripsVehicleFuel	Trips by Vehicle Class, Fuel
18	TripsVehicleFuelHour	Trips by Vehicle Class, Fuel, Hr

Data Type	Keyword	Description
19	PopTotal	Population Total
20	PopVehicle	Pop by Vehicle Class
21	PopVehicleFuel	Pop by Vehicle Class, Fuel
22	PopVehicleFuelAge	Pop by Vehicle Class, Fuel, Hr
23	AccrualTotal	Accrual Total
24	AccrualVehicle	Accr by Vehicle Class
25	AccrualVehicleFuel	Accr by Vehicle Class, Fuel
26	AccrualVehicleFuelAge	Accr by Vehicle Class, Fuel, Hr
27	InterimIMConstants	Interim IM Constants
28	IdleTotal	Idle Time Total
29	IdleVehicle	Idle Time by Vehicle Class
30	IdleVehicleFuel	Idle Time by Vehicle Class, Fuel
31	IdleVehicleFuelHour	Idle Time by Vehicle Class, Fuel, Hr
32	RawPop	Raw (Baseline) Pop
33	RawAccrual	Raw Accrual
34	RawTrips	Raw Trips
35	RawGrowth	Raw Pop Growth

Note: New Datatype codes added to EMFAC-HK v 3.1 for VKT, Alt Baseline, HK

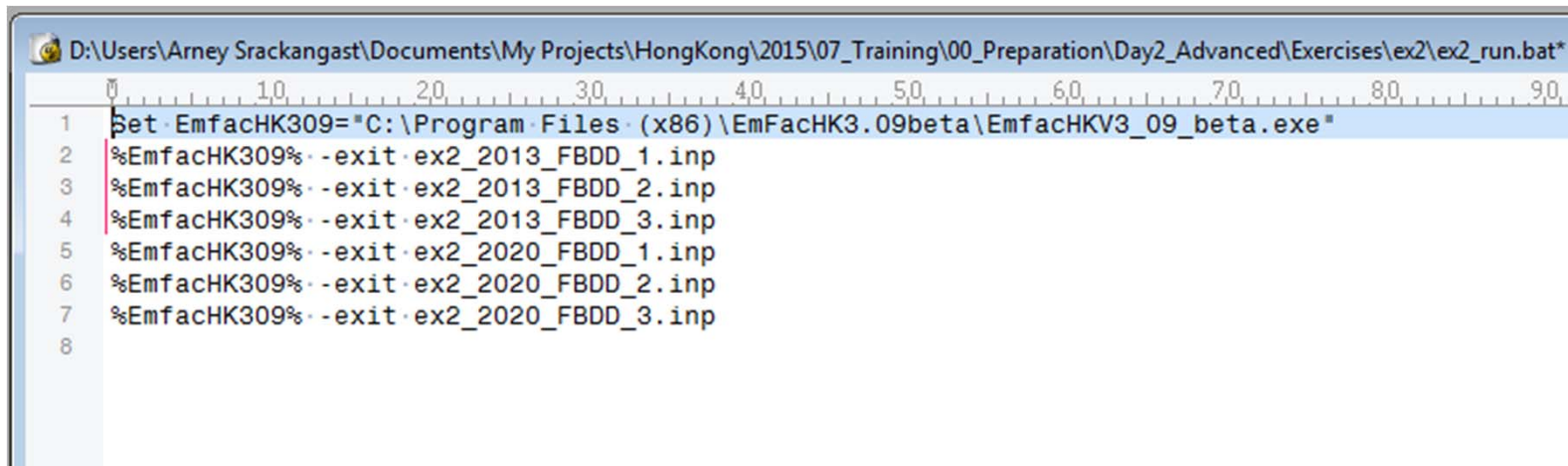
Running EMFAC-HK Non-Interactively (i.e., Bypassing the GUI)

- 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\EMFACHK31" (Windows 32-bit)
 - "C:\Program Files (x86)\EMFACHK31" (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 EmfacHK31="C:\Program Files\EMFACHK31\EmfacHKV3_1.exe" (Windows 32-bit)
 - set EmfacHK31="C:\Program Files (x86)\EMFACHK31\EmfacHKV3_1.exe" (Windows 64-bit)

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

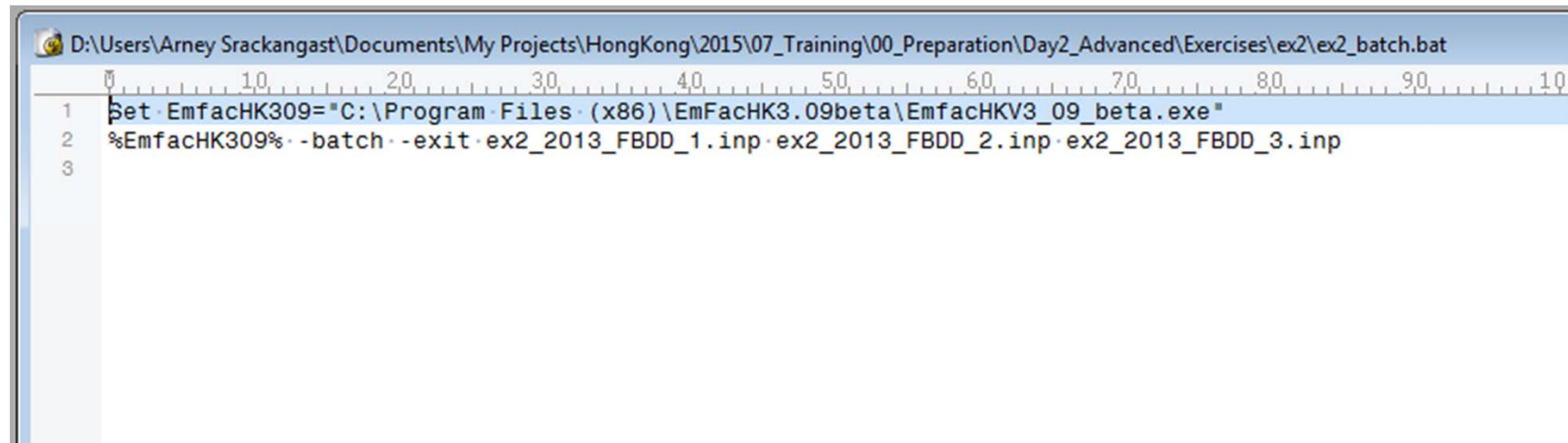
- Executing input files one at a time:
 - `%EMFACHK31% -exit HK_2030_Burden.inp`
- Executing multiple files at a time:
 - `%EMFACHK31% -batch HK_2030_Burden.inp
HK_2015_Burden_by_Hour.inp HK_2015_change_pop_VKT.inp
HK_2015_Conformity_Trip.inp`

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)\EmFachK3.09beta\EmfachHKV3_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)\EmfachHK3.09beta\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 2.1 INP file or newer
- Caution
 - Use at risk
 - Prior INP will have older technology group breakdown
 - Single scenario only

Reading Prior INP Files

