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G e n e r a l A l g e b r a i c M o d e l i n g S y s t e m

C o m p i l a t i o n

The code solves the problem for a single TMDL (not the whole range) to get

the

detail data on each problem solution when trading is available.

The health care cost is considered as a part of the objective function and

TMDL

is taken as a decision variable.

8

COMPILATION TIME = 0.000 SECONDS 3 MB 24.1.3 r41464 WEX-WEI

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G e n e r a l A l g e b r a i c M o d e l i n g S y s t e m

Model Statistics SOLVE Tech\_problem Using MIP From line 178

MODEL STATISTICS

BLOCKS OF EQUATIONS 8 SINGLE EQUATIONS 148

BLOCKS OF VARIABLES 6 SINGLE VARIABLES 148

NON ZERO ELEMENTS 440 DISCRETE VARIABLES 87

GENERATION TIME = 0.015 SECONDS 4 MB 24.1.3 r41464 WEX-WEI

EXECUTION TIME = 0.015 SECONDS 4 MB 24.1.3 r41464 WEX-WEI

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G e n e r a l A l g e b r a i c M o d e l i n g S y s t e m

Solution Report SOLVE Tech\_problem Using MIP From line 178

S O L V E S U M M A R Y

MODEL Tech\_problem OBJECTIVE Tobj

TYPE MIP DIRECTION MINIMIZE

SOLVER CPLEX FROM LINE 178

\*\*\*\* SOLVER STATUS 1 Normal Completion

\*\*\*\* MODEL STATUS 1 Optimal

\*\*\*\* OBJECTIVE VALUE 272548404.9230

RESOURCE USAGE, LIMIT 0.125 1000.000

ITERATION COUNT, LIMIT 0 2000000000

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--- GAMS/Cplex licensed for continuous and discrete problems.

Cplex 12.5.1.0

MIP status(101): integer optimal solution

Cplex Time: 0.11sec (det. 27.98 ticks)

Fixing integer variables, and solving final LP...

Fixed MIP status(1): optimal

Cplex Time: 0.00sec (det. 0.11 ticks)

Proven optimal solution.

MIP Solution: 272548404.923046 (0 iterations, 0 nodes)

Final Solve: 272548404.923046 (0 iterations)

Best possible: 272548404.923046

Absolute gap: 0.000000

Relative gap: 0.000000

\*\*\*\* REPORT SUMMARY : 0 NONOPT

0 INFEASIBLE

0 UNBOUNDED

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G e n e r a l A l g e b r a i c M o d e l i n g S y s t e m

Model Statistics SOLVE problem Using MIP From line 185

MODEL STATISTICS

BLOCKS OF EQUATIONS 10 SINGLE EQUATIONS 206

BLOCKS OF VARIABLES 7 SINGLE VARIABLES 989

NON ZERO ELEMENTS 3,833 DISCRETE VARIABLES 87

GENERATION TIME = 0.031 SECONDS 3 MB 24.1.3 r41464 WEX-WEI

EXECUTION TIME = 0.031 SECONDS 3 MB 24.1.3 r41464 WEX-WEI

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G e n e r a l A l g e b r a i c M o d e l i n g S y s t e m

Solution Report SOLVE problem Using MIP From line 185

S O L V E S U M M A R Y

MODEL problem OBJECTIVE obj

TYPE MIP DIRECTION MINIMIZE

SOLVER CPLEX FROM LINE 185

\*\*\*\* SOLVER STATUS 1 Normal Completion

\*\*\*\* MODEL STATUS 8 Integer Solution

\*\*\*\* OBJECTIVE VALUE 266838754.6159

RESOURCE USAGE, LIMIT 0.172 1000.000

ITERATION COUNT, LIMIT 339 2000000000

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Cplex 12.5.1.0

MIP status(102): integer optimal, tolerance

Cplex Time: 0.06sec (det. 27.89 ticks)

Fixing integer variables, and solving final LP...

Fixed MIP status(1): optimal

Cplex Time: 0.09sec (det. 2.12 ticks)

Solution satisfies tolerances.

MIP Solution: 266838754.615939 (199 iterations, 10 nodes)

Final Solve: 266838754.615939 (140 iterations)

Best possible: 266779115.938241

Absolute gap: 59638.677698

Relative gap: 0.000224

\*\*\*\* REPORT SUMMARY : 0 NONOPT

0 INFEASIBLE

0 UNBOUNDED

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G e n e r a l A l g e b r a i c M o d e l i n g S y s t e m

E x e c u t i o n

---- 205 VARIABLE b.L binary variable specifying the process selection

1

1 1.000

3 1.000

8 1.000

14 1.000

15 1.000

16 1.000

17 1.000

18 1.000

19 1.000

21 1.000

22 1.000

23 1.000

26 1.000

28 1.000

---- 205 VARIABLE red\_final.L

1

1 0.123

2 0.002

3 0.010

4 0.001

5 0.003

6 0.003

7 0.002

8 0.079

9 0.008

10 5.234066E-4

11 4.681529E-4

12 6.891677E-4

13 0.002

14 0.011

15 0.040

16 0.024

17 0.174

18 0.057

19 0.004

20 7.095210E-4

21 0.277

22 0.016

23 0.066

24 0.003

25 0.001

26 8.487739E-4

27 4.139517E-6

28 0.003

29 5.064171E-5

---- 205 PARAMETER Results To store the results

1 2 3 4 5

1 0.912 1.456832E+8 1.211555E+8 2.668388E+8 0.052

EXECUTION TIME = 0.000 SECONDS 3 MB 24.1.3 r41464 WEX-WEI

USER: Jeff Polasek G130903:1641AS-WIN

Texas A&M University, Artie McFerrin Department of ChemicaDC10525

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\*\*\*\* FILE SUMMARY

Input C:\Users\debalinasengupta\Desktop\Trading\_HealthCare\_Objective.gms

Output C:\Users\debalinasengupta\Documents\gamsdir\projdir\Trading\_HealthCar

e\_Objective.lst