**Supplier 6 Analysis**

**Change Supplier 6 lead time to 0.5**

Lambda=20;

Lr=1;

Lw=[0.5,2,3,3,4,6];

Ow=[4800,1500,1000,2000,800,4000];

Pw=[82.5,84,85,83,83.5,82.8];

%Pw=[84.0,84.5,83.2,83.5,82.8,82.5];

Or=500;

BigM=[210,180,160,150,190,180];

qw=[0.945,0.970,0.975,0.945,0.955,0.950]; %Perfect Rate

qr=0.950; %Target Perfect Rate

Node Left Iinf Objective Best Relaxatn Best Incumbent

------ ------ ------ -------------- -------------- --------------

1 0 12 -2.775507e+003 -2.775507e+003 1.747291e+005

10 9 INFEASIBLE pr -2.773594e+003 -1.941424e+003

20 15 9 -2.641387e+003 -2.642086e+003 -1.941424e+003

30 25 8 -2.640691e+003 -2.640842e+003 -2.425576e+003

40 35 7 -2.492468e+003 -2.635448e+003 -2.425576e+003

50 41 7 -2.610585e+003 -2.611476e+003 -2.425576e+003

60 45 INFEASIBLE pr -2.609490e+003 -2.425576e+003

70 49 -1.960058e+003 pr -2.599634e+003 -2.425576e+003

80 53 5 -2.582170e+003 -2.598085e+003 -2.425576e+003

90 59 5 -2.590379e+003 -2.594824e+003 -2.425576e+003

100 65 INFEASIBLE pr -2.592148e+003 -2.425576e+003

110 67 INFEASIBLE pr -2.590379e+003 -2.425576e+003

120 69 6 -2.588720e+003 -2.588815e+003 -2.425576e+003

130 77 5 -2.576509e+003 -2.583116e+003 -2.425576e+003

140 79 5 -2.580482e+003 -2.580938e+003 -2.438658e+003

\* 140 79 r -2.444735e+003

150 85 INFEASIBLE pr -2.578637e+003 -2.444735e+003

160 81 5 -2.574131e+003 -2.574812e+003 -2.444735e+003

170 81 6 -2.571404e+003 -2.572806e+003 -2.444735e+003

180 83 7 -2.499064e+003 -2.566186e+003 -2.444735e+003

190 83 6 -2.533759e+003 -2.563007e+003 -2.444735e+003

200 75 INFEASIBLE pr -2.499064e+003 -2.444735e+003

210 65 INFEASIBLE pr -2.474263e+003 -2.444735e+003

220 63 6 -2.454251e+003 -2.454388e+003 -2.444735e+003

230 61 INFEASIBLE pr -2.453390e+003 -2.444735e+003

240 51 -2.351889e+003 pr -2.451081e+003 -2.444735e+003

250 51 5 -2.447342e+003 -2.450579e+003 -2.444735e+003

260 51 -2.444740e+003 pr -2.447616e+003 -2.444917e+003

270 43 -2.437867e+003 pr -2.445980e+003 -2.445297e+003

280 43 -2.438875e+003 pr -2.445896e+003 -2.445297e+003

290 37 -2.444389e+003 pr -2.445500e+003 -2.445297e+003

EXIT: Optimal solution found.

Final Statistics for MIP

------------------------

Final objective value = -2.44529725789392e+003

Final integrality gap (abs / rel) =-2.61e-008 / -1.07e-011 (-0.00)

# of nodes processed = 299

# of subproblems processed = 299

Total program time (secs) = 1361.850 ( 1362.778 CPU time)

Time spent in evaluations (secs) = 1361.140

===========================================================================

>> x

x =

11 0 1 0 10 0 1 0 1 0 1 0 0 143 -3

**Price = 1**

Node Left Iinf Objective Best Relaxatn Best Incumbent

------ ------ ------ -------------- -------------- --------------

1 0 13 -2.726253e+003 -2.726253e+003 1.752289e+005

10 9 8 -2.641144e+003 -2.641783e+003 -2.428150e+003

20 19 6 -2.612369e+003 -2.640783e+003 -2.428150e+003

30 29 INFEASIBLE pr -2.611708e+003 -2.428150e+003

40 33 6 -2.602736e+003 -2.609490e+003 -2.428150e+003

50 35 INFEASIBLE pr -2.602991e+003 -2.428150e+003

60 39 5 -2.583652e+003 -2.599623e+003 -2.428150e+003

70 43 7 -2.451227e+003 -2.588720e+003 -2.428150e+003

80 53 4 -2.483224e+003 -2.582837e+003 -2.428150e+003

90 57 INFEASIBLE pr -2.577570e+003 -2.428150e+003

100 63 6 -2.498753e+003 -2.566159e+003 -2.439345e+003

110 73 6 -2.554792e+003 -2.565060e+003 -2.439345e+003

120 73 INFEASIBLE pr -2.560660e+003 -2.442579e+003

130 73 4.131461e+006 pr -2.553923e+003 -2.442579e+003

140 67 INFEASIBLE pr -2.529273e+003 -2.442579e+003

150 61 -2.307364e+003 pr -2.504424e+003 -2.442579e+003

160 55 -2.314316e+003 pr -2.492968e+003 -2.442579e+003

170 53 -2.272131e+003 pr -2.471891e+003 -2.442579e+003

180 49 -2.342819e+003 pr -2.469588e+003 -2.442579e+003

190 41 INFEASIBLE pr -2.453334e+003 -2.442579e+003

200 31 -2.415491e+003 pr -2.450000e+003 -2.442579e+003

210 27 -2.437867e+003 pr -2.445980e+003 -2.443925e+003

220 29 3 -2.445181e+003 -2.445313e+003 -2.443925e+003

230 27 -2.443998e+003 pr -2.445054e+003 -2.444276e+003

240 21 INFEASIBLE pr -2.444422e+003 -2.444276e+003

EXIT: Optimal solution found.

Final Statistics for MIP

------------------------

Final objective value = -2.44427567394597e+003

Final integrality gap (abs / rel) =-1.15e-006 / -4.70e-010 (-0.00)

# of nodes processed = 249

# of subproblems processed = 249

Total program time (secs) = 1222.040 ( 1226.839 CPU time)

Time spent in evaluations (secs) = 1221.364

===========================================================================

>> x

x =

0 4 0 6 8 0 0 1 0 1 1 0 4 144 -2