19. (2 points)

An actuary is pricing a large dollar deductible workers compensation policy based on the information below:

Deductible	$200,000
Aggregate limit on deductible	$900,000
Standard premium	$925,000
State hazard group relativity	0.90
Expected unlimited loss ratio	0.68
Excess loss factor (% of standard premium)	0.18

Expected Loss Group	Expected Loss Range
31	620,000 – 710,000
30	710,001 – 820,000
29	820,001 – 930,000
28	930,001 – 1,030,000
27	1,030,001 – 1,200,000

The following table provides insurance charges for select entry ratios and expected loss groups:

	Expected Loss Group				
Entry Ratio	31	30	29	28	27
1.0	0.290	0.276	0.266	0.256	0.245
1.5	0.180	0.169	0.158	0.148	0.137
2.0	0.091	0.080	0.070	0.060	0.049
2.5	0.041	0.033	0.024	0.014	0.003

Calculate the loss cost for this policy using the ICRLL procedure.

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Question 19

Sample 1

E = 0.68 * 925,000 = 629,000
XS Loss = 0.18 * 925,000 = 166,500
E(L) = (0.68 – 0.18) * 925,000 = 462,500

LER = 1 – (0.18 / 0.68) = 1 – 0.7353 = .2647

Adjusted E = E * Hazard * (1+ 0.8 * LER)/(1 – LER) = 932,933

ELG = 28

R = 900,000 / 462,500 = Agg. Ded. / E(L) = 1.9459 (round to 2)

Insurance Charge = 0.06 * E(L) = 27,750

Loss Cost = XS Loss + Charge = 166,500 + 27,750 = 194,250

Sample 2

Expected Unlimited Loss = 925,000 * 0.68 = 629,000
LER = 0.18 / 0.68 = 0.265
Loss Group Adjustment Factor = 1 + (.8 * .265) / (1 - .265) = 1.65

Adjusted Loss = 629,000 * 1.65 * .90 = 934,065

Loss Group = 28

Expected Limited Loss = .50 * 925,000 = 462,5000
XS Loss = 166,500
Entry Ratio = 900,000 / 462,500 = 1.95

Insurance Charge = [(1.95 – 1.5) / (2.0 – 1.5) * (.06 - .148)] + .148 = .0688

Total Loss Cost = .0688 * 462,500 + 166,500 = 198,320