Reading: ISO.Rating ISO_HistExp_CSLC (Problem 1)
Model: Source Text
Problem Type: Calculate the Company Subject Loss Cost using the Historical Exposures at Present Company Rates approach

Given The following policy is being rated using the ISO CGL rating plan.

12/1/2015	Effective Date
Claims-Made (CM)	Policy Type
75%	Expected Loss Ratio (ELR)

Current Company Rates per Exposure

Policy Type	Sub-line	Rate
3rd-yr CM	Prem/Ops	6.3
3rd-yr CM	Products	9.8
2nd-yr CM	Prem/Ops	4.9
2nd-yr CM	Products	5.9
1st-yr CM	Prem/Ops	2
1st-yr CM	Products	3.8
Ocurrence	Prem/Ops	9.3
Ocurrence	Products	8.5

Information about previous policy years

Effective Date	Policy Type	Policy Limits (occ/agg)	Gross Annual Sales
12/1/2014	3rd-year Claims-Made	250k/500k	$75,000
12/1/2013	2nd-year Claims-Made	150k/500k	$63,000
12/1/2012	1st-year Claims-Made	100k/250k	$42,000
12/1/2011	Occurrence	100k/200k	$29,000

Current Increased Limits Factors

Occurrence Limit	Aggregate Limit 200k	250k	500k
100k	1.000	1.240	1.570
150k	1.150	1.270	1.780
250k	1.330	1.450	1.920

Find Calculate the Company Subject Loss Cost using the Historical Exposures at Present Company Rates approach using the information provided below.

Table 13B

Sub-line	Occurrence	4th-yr CM	3rd-yr CM	2nd-yr CM	1st-yr CM
Prem/Ops	1.00	1.14	1.20	1.32	1.62
Products	1.00	1.51	1.59	2.03	2.39

Table 13C

Sub-line	Occurrence	4th-yr CM	3rd-yr CM	2nd-yr CM	1st-yr CM
Prem/Ops	1.00	0.84	0.78	0.67	0.47
Products	1.00	0.49	0.43	0.35	0.22

Table 14

Year of Experience Period	Sub-line	Rule 5B	Rule 5C
Latest Year	Prem/Ops	0.907	0.926
	Products	0.882	0.901
2nd Latest Year	Prem/Ops	0.864	0.892
	Products	0.828	0.854
3rd Latest Year	Prem/Ops	0.823	0.858
	Products	0.777	0.810

Solution ISO_HistExp_CSLC (Solution 1)

First it's important to figure out the type of policy we're going to price. Since it's not stated in the question we need to apply our knowledge about the experience period. The experience period covers up to the latest three full policy years of experience and must end at least six months prior to the effective date. This means we can't use the policy effective 12/1/2014 because it's not complete, so we use the policies effective in 2011 – 2013.

Further, it's implicit that unless told otherwise, once you switch to a Claims-Made policy you remain on a Claims-Made policy.
We're told the policy effective 12/1/2014 is a 3rd-year Claims-Made policy so the policy being rated is a **4th-year Claims-Made**.

Next, we need the Basic Limits Expected Loss for each sub-line. However, notice the rapid growth in annual sales. This suggests there has been a dramatic shift in exposures. This means we shouldn't use the standard approach and instead should use gross annual sales as the special exposure base. Since we're not given the prospective exposures but are given the full set of current rates this means we'll use the historical exposures at present company rates approach.

The Basic Limits Expected Loss used in the historical exposures at present company rates approach is the historical exposures multiplied by the basic rate per exposure then multiplied by an increased limit factor and the Expected Loss Ratio. From there we can form the following table:

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Policy Year	Sub-line	Policy Type	Historical Exposures	Basic Rate	ILF	ELR	BLEL	PAF 13B	PAF 13C	Detrend	Annual Basic Limits Company Loss Cost
2013	Prem/Ops	2nd-yr CM	$63,000	4.9	1.570	75%	363,494	1.000	1.000	0.926	336,596
2013	Products	2nd-yr CM	$63,000	5.9	1.570	75%	437,677	1.000	1.000	0.901	394,347
2012	Prem/Ops	1st-yr CM	$42,000	2	1.240	75%	78,120	1.000	1.000	0.892	69,683
2012	Products	1st-yr CM	$42,000	3.8	1.240	75%	148,428	1.000	1.000	0.854	126,758
2011	Prem/Ops	Occurrence	$29,000	9.3	1.000	75%	202,275	1.000	1.000	0.858	173,552
2011	Products	Occurrence	$29,000	8.5	1.000	75%	184,875	1.000	1.000	0.810	149,749
										CSLC =>	1,250,684

Notes:

(5) This is the current basic limit rates for the company by policy type and sub-line.
(6) This is the ILF for the **basic per-occurrence limit** and the ***actual historical aggregate limit*** . Remember the basic limit is generally $100k.
(8) = (4) * (5) * (6) * (7)
(9) & (10) Since using today's rates there is no need to convert the type of policy.
(11) Since there is a dramatic shift in exposures we use Table 14 Rule 5C.
(12) = (8) * (9) * (10) * (11)