

# **Objective**

To identify and derive data required to be included in Designated Statistical Reporting (DSR) Level Premium.

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# **Agenda**

- Purpose of DSR Level Premium
- General Information
- Active Deviation History
- Deriving DSR Level Premium
  - Extending Exposures
  - Calculating the Average Deviation
- DSR Level Premium Validation







## What Is DSR Level Premium?

#### The DSR Level Premium is:

- What states?
- The standard earned premium that would result if business were written at NCCI-approved loss costs or rates instead of your company rates
- Common benchmark level at which carriers report premium on the Financial Calls

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# **History of DSR Level Premium**

- Prior to the 1980s, all states approved rates
- Eventual migration from rates to loss costs
- Carriers develop their own expenses and deviations
- How to manage and report premium?

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# **History of DSR Level Premium**

- NCCI files advisory loss costs, which exclude most expenses
- Carriers then report DSR Level Premium, which is what would be earned if only loss costs were charged
- Premium is "apples to apples"
- DSR used to determine adequacy of current loss cost level



# **Comparison of Premium Types**

- Three types of earned premium are reported on the Policy and Calendar-Accident Year Calls
  - DSR Level Premium—Column 1
  - Company Standard Premium—Column 2
  - Net Premium—Column 3
- Both Company Standard and Net Premium reflect the use of company rates, whereas DSR Level Premium reflects the NCCI-approved loss costs or rates



## **Premium Levels**

DSR-Column 1

Standard Earned Premium at NCCI-Designated Statistical Reporting (DSR) Level

- Used by NCCI for ratemaking
- Premium that would develop if business were written at NCCI-filed and approved level

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## **Premium Levels**

Company Standard—Column 2

Standard Earned Premium at Company Level

- Premium calculated at the company's full rates
- Includes the impact of a loss cost multiplier (LCM) or other approved deviation

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## Example of DSR vs. Standard Premium— Loss Cost State

To calculate DSR Level Premium, exposure is multiplied by the approved **NCCI loss cost**.

Class Code	Payroll	NCCI Loss Cost	NCCI DSR Level Premium
1234	4,000,000	3.00	(4,000,000 /100) x 3.00 = 120,000

To calculate Company Standard Premium,\* exposure is multiplied by the **company rate**.

Class Code	Payroll	Company Rate	Company Standard Premium
1234	4,000,000	4.00	(4,000,000 /100) x 4.00 = 160,000

What is LCM in this example?

\*Example simplified to ignore stat codes





## **Premium Levels**

Net-Column 3

Accumulated Net Premium:

Should reconcile to premium reported to the NAIC (Statutory Page 14)



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# **Company Standard/Net Premium**

The difference between the two columns is due primarily to policy-specific adjustments such as:

- Premium Discounts
- Schedule Rating Adjustments
- Retrospective Rating Adjustments
- Deductible Credits







# **Company Standard/Net Premium**

- Net Premium reflects the application of these adjustments
- Company Standard Premium is calculated prior to the application of these adjustments

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#### Resources

- Financial Call Reporting Guidebook
  - Only include adjustments/components as required in the Financial Calls (Parts 5 and 6)
  - Identify dates of NCCI-approved DSR Level loss costs or rates (Part 7, Section E)
- Basic Manual—2001 Edition
  - Review to identify the different state premium algorithms
- Self-Audit Form



# **Premium Components Summary**

# Part 5—Financial Call Reporting Guidebook Excerpt

Premium Components Summary Chart

			When DSR Rate		When DSR Loss C	
	Component	Net	Company Standard	DSR	Company Standard	DSR
1.	Rates/Loss Costs:					
	NCCI-Published Rates or Loss Costs	X	Х	Х	Х	Х
	Deviation From NCCI Rates	Х	X			
	Deviations From NCCI Loss Costs	X			X	
_						
12.	Balance to Minimum Premium Adjustment*	X	X	X	X	
13.	Company Loss Constant	X	X		X	
14.	Consent to Rate	X	Х		X	
15.	Deductible Coverage—Premium Credits	Х				
16.	Expense Constants:					
	NCCI-Published**	X	X	X		
	Company-Selected	Х	X		X	

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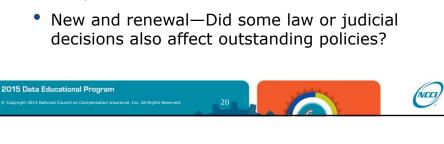
## Sample Premium Algorithm—Alabama PREMIUM ELEMENTS EXPLANATORY NOTES MANUAL PREMIUM Supplementary Disease (foundry, abrasive, sandblasting) (PAYROLL / 100) \* RATE] [(SUBJECT PAYROLL / 100) \* DISEASE RATE] [(SUBJECT PAYROLL / 100) \* (RATE \* USL&H FACTOR)] + USL&H Exposure for non-F classification codes TOTAL MANUAL PREMIUM |% applied to the portion of Total Manual Premium where waiver is applicable, subject to minimum charge! |% applied to Total Manual Premium] |Balance to E/L increased limits minimum + Waiver of Subrogation factor<sup>™</sup> + Employers Liability (E/L) increased limits factor x Drug-Free Workplace Premium Credit factor (1 — DFW Credit %) TOTAL SUBJECT PREMIUM | IOTAL SUBJECT PREMIUM | X Experience Modification (Exp Mod) | TOTAL MODIFIED PREMIUM | X Merit Rating factor (1 — MR credit %) or (1 + MR debit %) | Schedule Rating factor (1 — SR credit %) or (1 + SR | Adebit %) | Supplemental Discourse (1 - SR | Adebit %) | Supplemental Discourse (1 - SR | Adebit %) | Supplemental Discourse (1 - SR | Adebit %) | Supplemental Discourse (1 - SR | Adebit %) | Supplemental Discourse (1 - SR | Adebit %) | Supplemental Discourse (1 - SR | Adebit %) | Supplemental Discourse (1 - SR | Adebit %) | Supplemental Discourse (1 - SR | Adebit %) | Supplemental Discourse (1 - SR | Adebit %) | Supplemental Discourse (1 - SR | Adebit %) | Supplemental Discourse (1 - SR | Adebit %) | Supplemental Discourse (1 - SR | Adebit %) | Supplemental Discourse (1 - SR | Adebit %) | Supplemental Discourse (1 - SR | Adebit %) | Supplemental Discourse (1 - SR | Adebit %) | Supplemental Discourse (1 - SR | Adebit %) | Supplemental Discourse (1 - SR | Adebit %) | Supplemental Discourse (1 - SR | Adebit %) | Supplemental Discourse (1 - SR | Adebit %) | Supplemental Discourse (1 - SR | Adebit %) | Supplemental Discourse (1 - SR | Adebit %) | Supplemental Discourse (1 - SR | Adebit %) | Supplemental Discourse (1 - SR | Adebit %) | Supplemental Discourse (1 - SR | Adebit %) | Supplemental Discourse (1 - SR | Adebit %) | Supplemental Discourse (1 - SR | Adebit %) | Supplemental Discourse (1 - SR | Adebit %) | Supplemental Discourse (1 - SR | Adebit %) | Supplemental Discourse (1 - SR | Adebit %) | Supplemental Discourse (1 - SR | Adebit %) | Supplemental Discourse (1 - SR | Adebit %) | Supplemental Discourse (1 - SR | Adebit %) | Supplemental Discourse (1 - SR | Adebit %) | Supplemental Discourse (1 - SR | Adebit %) | Supplemental Discourse (1 - SR | Adebit %) | Supplemental Discourse (1 - SR | Adebit %) | Supplemental Discourse (1 - SR | Adebit %) | Supplemental Discourse (1 - SR | Adebit %) | Supplemental Discourse (1 - SR | Adebit %) | Supplemental Discourse (1 - SR | Adebit %) | Supplemental Discourse (1 - S + Supplemental Disease Exposure (Asbestos, [NOC])[f] Excerpt from the Basic + Atomic Energy Radiation Exposure[NOC][f] Manual 2001 Edition 2015 Data Educational Program (NCCI)



# **Questions to Consider**

Responses to these questions will affect how you derive the DSR Level Premium.

- What DSR Levels were in effect throughout the year?
- What loss cost multipliers were in effect throughout the year by the carrier?
- What NCCI loss costs did you use throughout the year?



#### **State DSR Levels**

## Approved Loss Costs

- Voluntary experience in loss cost states (majority of states)
- Assigned risk experience for Missouri and Nebraska

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## **State DSR Levels**

## **Approved Rates**

- Assigned risk experience in all states except Missouri and Nebraska
- Rate states (Arizona, Florida, Iowa, and Idaho)
- States with approved loss costs and rates (Illinois and Indiana) use rates as DSR Level

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## **State DSR Levels**

#### **Texas**

- Texas Department of Insurance Rate Relativities
- NCCI Loss Costs





## **State DSR Levels**

Designated Statistical Reporting Levels—Effective Dates (District of Columbia–Indiana) - Excerpt

#### Resources:

- Financial Call Reporting Guidebook (Part 7)
- DSR Level Data (Financial Data Collection tool)

Policy Year	District of Columbia	Georgia	Hawaii	Illinois	Indiana
<u>2014</u>	11/1/14 lc	3/1/14 lc	<u>1/1/14 lc</u>	<u>1/1/14</u> <u>rates[1]</u>	<u>1/1/14</u> <u>rates[2]</u>
2013	11/1/13 lc	7/1/13 lc 3/1/13 lc	1/1/13 lc	1/1/13 rates	1/1/13 rates
2012	11/1/12 lc	3/1/12 lc	1/1/12 lc	1/1/12 rates	1/1/12 rates
2011	11/1/11 lc	3/1/11 lc	1/1/11 lc	1/1/11 rates 9/1/11 rates[3]	1/1/11 rates
2010	11/1/10 lc	7/1/09 lc	1/1/10 lc	1/1/10 rates	1/1/10 rates
rates =	advisory rates;	lc = los <u>s</u> cost	5		

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#### **State DSR Levels**

- Illinois and Indiana Deviation Conversion
- Converts to Rate DSR Level if loss costs were used
  - IL Deviation = IL LCM x Permissible Loss Ratio
  - IN Deviation = IN LCM x Target Cost Ratio
- Ratios found in NCCI Filing Circulars: Technical Supplements, Exhibit II
- Also in Part 7 of Financial Call Reporting Guidebook

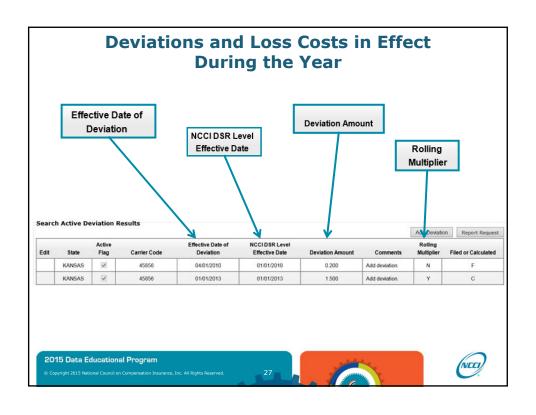


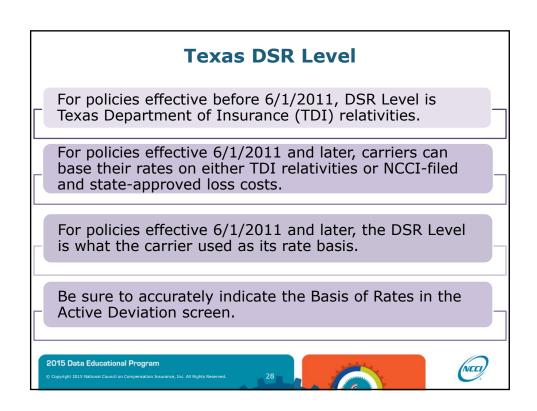
## **Exercise**

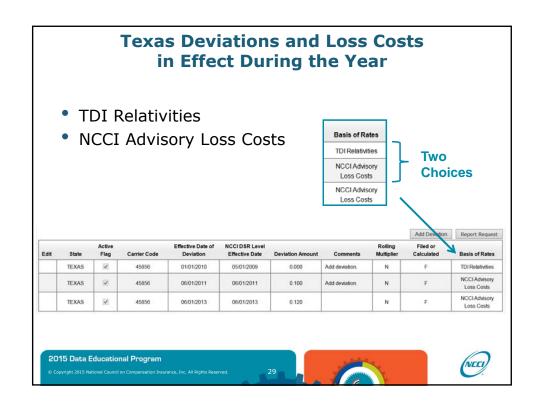
#### **Illinois and Indiana Deviation Conversions**

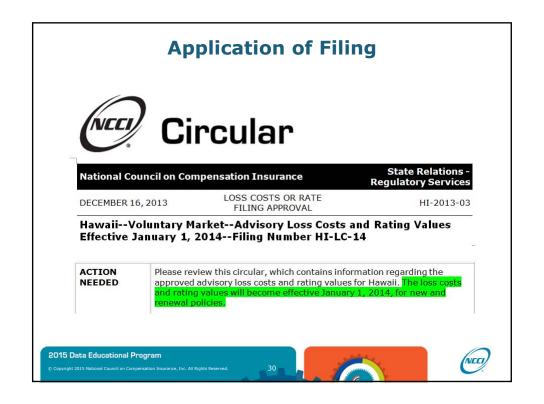
- What is the IL PLR for 2014?
- What is the IN TCR for 2014?
- If IL LCM is 1.65, what is deviation from rates?
- If IN LCM is 1.10, what is deviation from rates?











# **Application of Filing**



National Council on Compensation Insurance

State Relations -Regulatory Services

OCTOBER 3, 2013

LOSS COSTS OR RATE FILING APPROVAL

OK-2013-03

Oklahoma--Approved Advisory Loss Costs and Rating Values Effective January 1, 2014--File Number NCCI-129178561

ACTION NEEDED Please review this circular, which contains information regarding the approved advisory loss costs and rating values for Oklahoma. These will become effective January 1, 2014, for new, renewal, and outstanding noticing.

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# **Application of Filing**

#### Oklahoma

Adjustment to Outstanding Policies In-Force on February 1, 2014<sup>1</sup>

Impact of Oklahoma Senate Bill 1062 (Effective February 1, 2014) = -1

For Policies	Unexpired Policy Portion	Adjus	tme	ent to
Effective in	as of February 1, 2014	Loss Co	st P	remium <sup>2</sup>
February, 2013	up to 1 month	0.0%	-	-1.1%
March, 2013	up to 2 months	-1.1%		-2.2%
April, 2013	up to 3 months	-2.2%		-3.2%
May, 2013	up to 4 months	-3.2%		-4.3%
June, 2013	up to 5 months	-4.3%	-	-5.4%
July, 2013	up to 6 months	-5.4%		-6.5%
August, 2013	up to 7 months	-6.5%		-7.5%
September, 2013	up to 8 months	-7.5%		-8.6%
October, 2013	up to 9 months	-8.6%	-	-9.7%
November, 2013	up to 10 months	-9.7%		-10.8%
December, 2013	up to 11 months	-10.8%		-11.8%
January, 2014 <sup>3</sup>	up to 12 months	0.0%	-	0.0%

- <sup>1</sup> Claims falling under State Act coverage are estimated to represent a relatively small proportion of the Oklahoma voluntary loss costs for Federal and some Martime/FELA classifications. As a result, the adjustment to outstanding policies in-force does not apply to "F" Classes and the following Martime/FELA codes. 8703, 7047, 7050, 7099, 7152, 7337, 7398, 8738, and 8815.
- <sup>2</sup> Adjustment will vary based on the day of the month in which the policy became effective.
- <sup>3</sup> The impact of Senate Bill 1062 on policies written in January 2014 is already reflected in the loss cost level change effective January 1, 2014 for new and renewal policies.

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## **Exercise**

#### **Determine DSR Levels for TN for PYs 2011–2013**

Designated Statistical Reporting Levels—Effective Dates (Oregon–Tennessee)

Policy			South		
Year	Oregon	Rhode Island	Carolina	South Dakota	Tennessee
<u>2014</u>	<u>1/1/14 lc</u>	8/1/14 lc	9/1/14 lc	7/1/14 lc	7/1/14 lc <sup>[*]</sup> 3/1/14 lc
2013	1/1/13 lc	8/1/13 lc	9/1/13 lc	7/1/13 lc	3/1/13 lc
2012	1/1/12 lc	7/1/12 lc	9/1/12 lc	7/1/12 lc	8/9/12 lc 3/1/12 lc
2011	1/1/11 lc	6/1/11 lc	7/1/11 lc	7/1/11 lc	11/1/11 lc 3/1/11 lc
2010	1/1/10 lc	6/1/10 lc	7/1/10 lc	7/1/10 lc	3/1/10 lc

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## **Exercise Answers**

#### **Determine DSR Levels for TN for PYs 2011–2013**

PY 2011

Policy Effective Dates DSR Level Effective Dates

• 1/1/2011-2/28/2011 3/1/2010 Loss Costs

• 3/1/2011-10/31/2011 3/1/2011 Loss Costs

• 11/1/2011-12/31/2011 11/1/2011 Loss Costs

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## **Exercise Answers**

## **Determine DSR Levels for TN for PYs 2011-2013**

PY 2012

Policy Effective Dates DSR Level Effective Dates



## **Exercise Answers**

## **Determine DSR Levels for TN for PYs 2011–2013**

PY 2013

Policy Effective Dates DSR Level Effective Dates





## **Texas DSR Levels**

## **Determine DSR Levels for TX for PYs 2011-2013**

Designated Statistical Reporting Levels—Effective Dates (Texas-West Virginia)

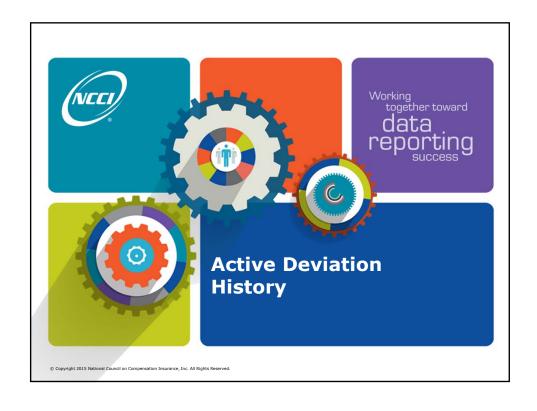
	-		•	
Policy Year	Texas	Utah	Vermont	Virginia
<u>2014</u>	6/1/14 lc	12/1/14 lc	4/1/14 lc	4/1/14 lc
	6/1/13 TDI rel <sup>[1]</sup>			
2013	6/1/13 lc <sup>[1]</sup>	12/1/13 lc	4/1/13 lc	4/1/13 lc
	6/1/13 TDI rel <sup>[1]</sup>			
2012	6/1/12 lc <sup>[1]</sup>	12/1/12 lc	4/1/12 lc	4/1/12 lc
	6/1/11 TDI rel <sup>[1]</sup>			
2011	6/1/11 lc/TDI rel <sup>[1]</sup>	12/1/11 lc	4/1/11 lc	4/1/11 lc
2010	5/1/09 TDI rel <sup>[1]</sup>	12/1/10 lc	4/1/10 lc	4/1/10 lc
	fa1			

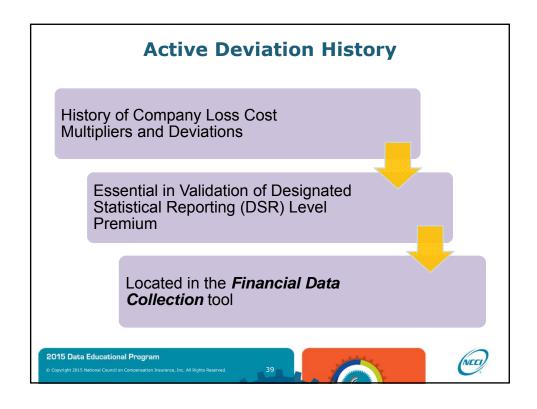
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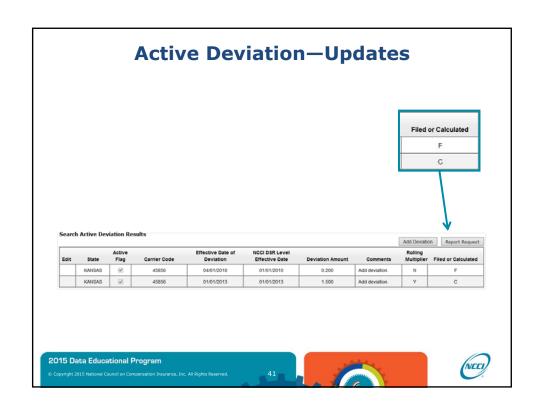


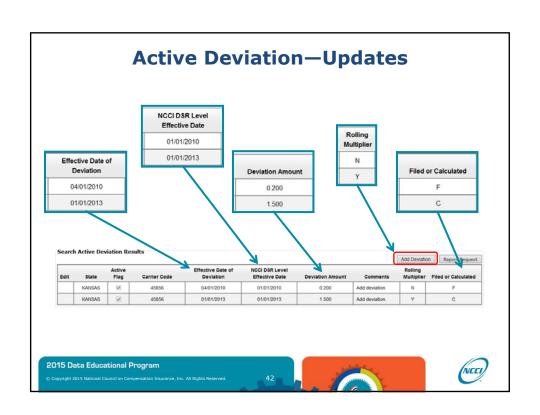


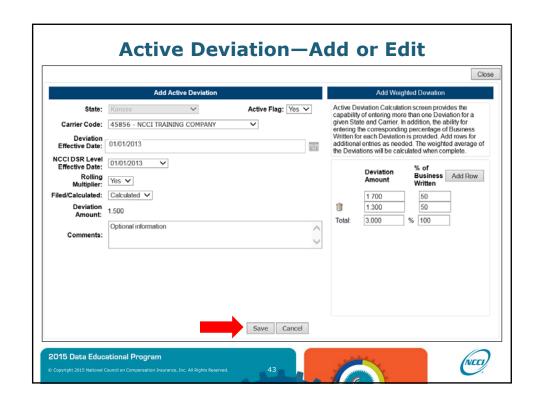
# **Active Deviation—Updates**

- Carriers should enter any updates for the current reporting year
- Changes to prior years require the assistance of an NCCI financial data validator

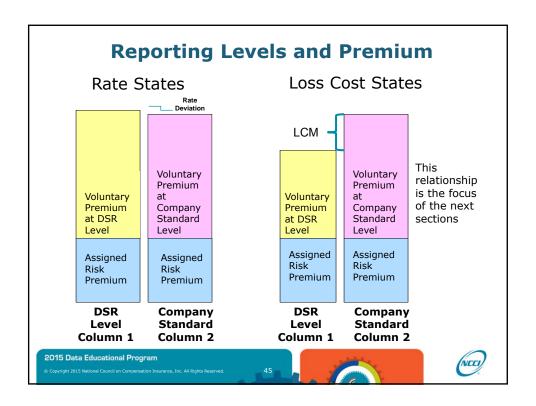












# **Calculating DSR Level Premium**

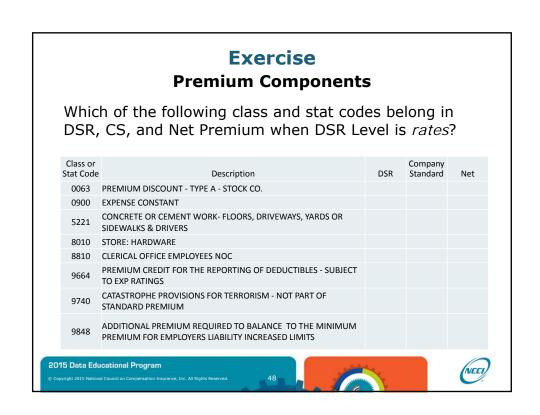
Two general approaches:

- Derive DSR Level Premium directly
  - Essentially, this involves rerating the policies on the Calls using NCCI-approved loss costs or rates (i.e., extending exposures)
- Derive DSR Level Premium using Company Standard Premium as a starting point
  - This approach involves calculating an average deviation
  - That average deviation is then applied to Company Standard Premium





#### **Exercise Premium Components** Which of the following class and stat codes belong in DSR, CS, and Net Premium when DSR Level is loss costs? Class or Company Stat Code Description Standard Net 0063 PREMIUM DISCOUNT - TYPE A - STOCK CO. 0900 CONCRETE OR CEMENT WORK- FLOORS, DRIVEWAYS, YARDS OR 5221 SIDEWALKS & DRIVERS 8010 STORE: HARDWARE 8810 CLERICAL OFFICE EMPLOYEES NOC PREMIUM CREDIT FOR THE REPORTING OF DEDUCTIBLES - SUBJECT 9664 TO EXP RATINGS CATASTROPHE PROVISIONS FOR TERRORISM - NOT PART OF 9740 STANDARD PREMIUM ADDITIONAL PREMIUM REQUIRED TO BALANCE TO THE MINIMUM PREMIUM FOR EMPLOYERS LIABILITY INCREASED LIMITS 2015 Data Educational Program (NECI)





# When to Extend Exposures?

# Extending Exposures is acceptable when:

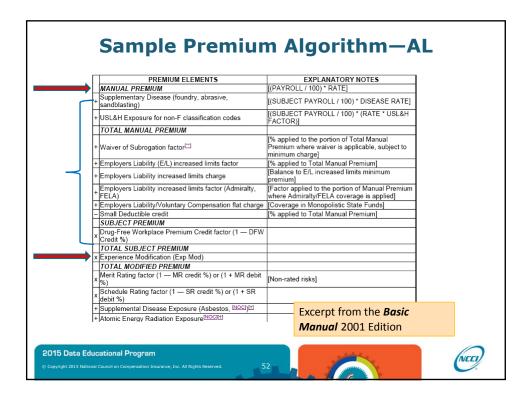
- The average deviation calculation is challenging
  - Delayed adoption of NCCI filings
  - Multiple loss cost multipliers in effect
- Class code and statistical code level detail is available to accurately report the Financial Call data

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# **Methods of Extending Exposures**

- Policy Level
  - Each policy is rerated using the DSR Level loss costs or rates
- Class Code Level
  - Data should be grouped (across policies) to capture all *carrier* rate changes and NCCI loss cost changes
  - Need to calculate an average experience modification factor





## **Premium Calculations**

Policies may contain both included and excluded class codes.

## Example:

- Excluded Class Codes
  - FELA and Maritime







## **Premium Calculations**

Statistical code premium amounts should reflect only amounts associated with the included experience.

# Examples:

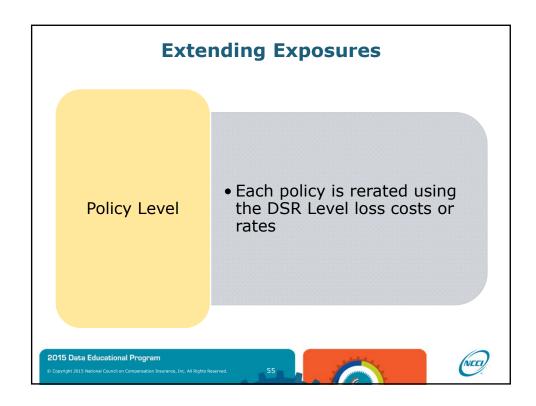
- Expense Constants
  - Exclude or include 100% depending on applicable DSR Level
- Multiplicative Factors
  - Employers Liability Increased Limits











# **Extending Exposures Example 1**

Suppose there are two class codes and no other adjustments that apply to the policy except for the experience modification.

Class Code	Payroll*	Company Rate	Experience Mod	Company Standard Premium
2065	1,000,000	3.75	1.20	(1,000,000 / 100) x 3.75 x 1.20 = 45,000
8810	40,000,000	0.25	1.20	(40,000,000 / 100) x 0.25 x 1.20 = 120,000

\* Payroll to the nearest dollar represents the earned portion of the policy as of the Financial Call valuation date.



(NECI)

# **Extending Exposures**

## **Example 1**

To calculate DSR Level Premium, the company rate for each class code is replaced with the approved NCCI loss cost or rate.

Class Code	Payroll*	NCCI Loss Cost	Experience Mod	NCCI DSR Level Premium
2065	1,000,000	3.00	1.20	(1,000,000 / 100) x 3.00 x 1.20 = 36,000
8810	40,000,000	0.20	1.20	(40,000,000 / 100) x 0.20 x 1.20 = 96,000

\* Payroll to the nearest dollar represents the earned portion of the policy as of the Financial Call valuation date.



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# **Extending Exposures**

# Example 2

Policy Number	WC123456
Exposure State	Alabama
Policy Effective Date	3/1/2011
Policy Expiration Date	2/29/2012
Experience Modification Factor	1.20
Employers Liability Increased Limits	2.5%
Drug-Free Workplace Credit	-5.0%
Expense Constant	\$200

Class Code	Payroll	Company Rate	NCCI Loss Cost
2065	1,000,000	3.75 (3.00 x 1.25)	3.00
8810	40,000,000	0.25 (0.20 x 1.25)	0.20

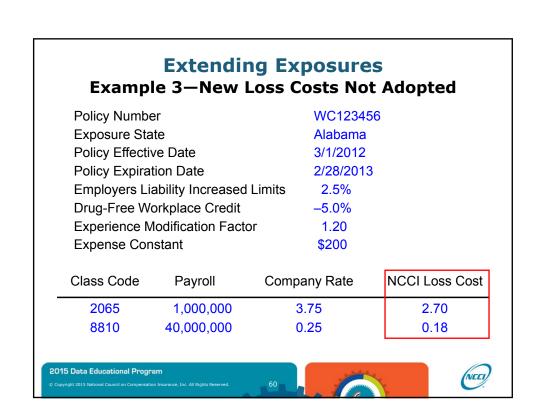
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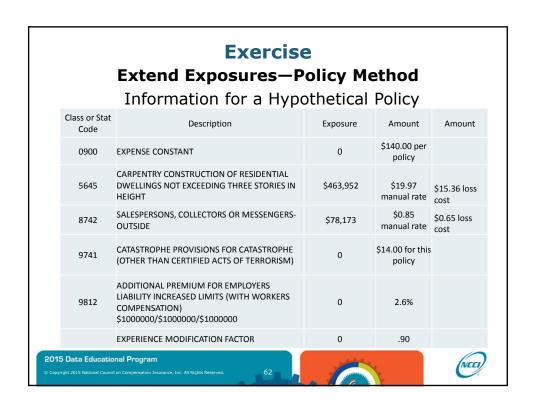




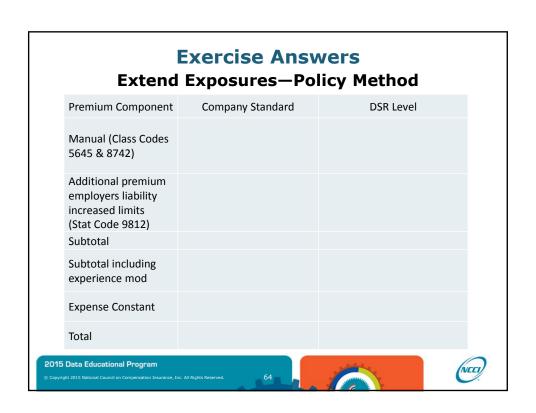
Example 2 (cont'd)					
Premium	Company Standard		DSR Level		
Manual	137,500 [(1,000,000 / 100) x 3.75] + [(40,000,000 / 100) x 0.25]	D	110,000 [(1,000,000 / 100) x 3.00] + [(40,000,000 / 100) x 0.20]		
Increased Limits	3,438 (137,500 x 0.025)	V	2,750 (110,000 x 0.025)		
Drug-Free Credit	-7,047 (137,500 + 3,438) x -0.05	A -	-5,638 (110,000 + 2,750) x -0.05		
Subtotal	133,891 (137,500 + 3,438 – 7,047)	1	107,112 (110,000 + 2,750 – 5,638)		
Subtotal with Exp. Mod	160,669 (133,891 x 1.20)	N	128,534 (107,062 x 1.20)		
Expense Constant	200		0		
Total	<b>\$160,869</b> (160,669 + 200)		\$128,534		

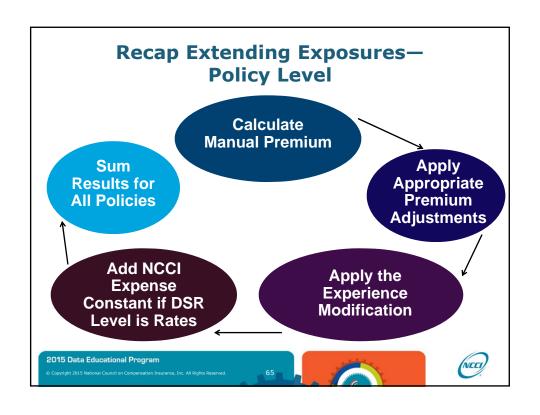


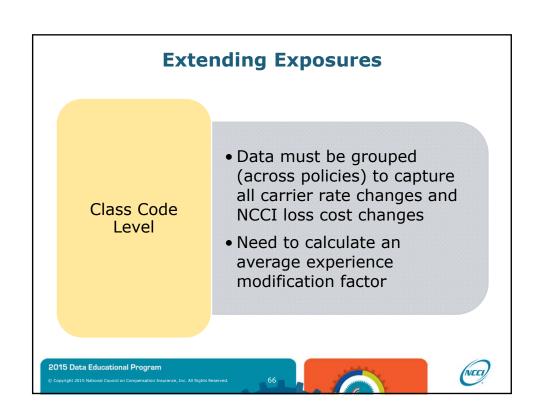
Example 3—(cont'd)						
Premium	Company Standard		DSR Level			
Manual	137,500 [(1,000,000 / 100) x 3.75] + [(40,000,000 / 100) x 0.25]	D	99,000 [(1,000,000 / 100) x 2.70] + [(40,000,000 / 100) x 0.18]			
Increased Limits	3,438 (137,500 x 0.025)	۷	2,475 (99,000 x 0.025)			
Drug-Free Credit	-7,047 (137,500 + 3,438) x -0.05		<b>-5,074</b> (99,000 + 2,475) x -0.05			
Subtotal	133,891 (137,500 + 3,438 – 7,047)	0	96,401 (99,000 + 2,475 – 5,074)			
Subtotal with Exp. Mod	160,669 (133,891 x 1.20)	N	115,681 (96,401 x 1.20)			
Expense Constant	200		0			
Total	\$160,869 (160,669 + 200)	\$115,681				



Exten	Exercise d Exposures—Po	
Premium Component	Company Standard	DSR Level
Manual (Class Codes 5645 & 8742)		
Additional premium employers liability increased limits (Stat Code 9812)		
Subtotal		
Subtotal including experience mod		
Expense Constant		
Total		







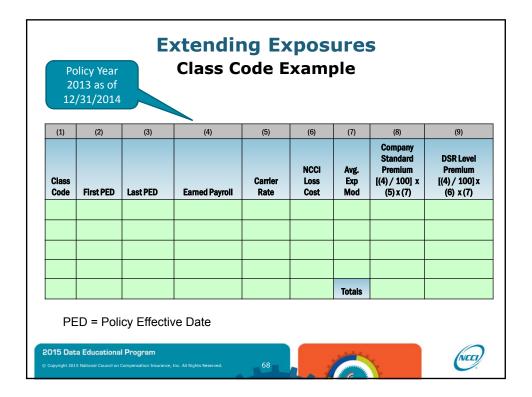
# **Example**

## **Extend Exposures Class Code Method**

#### Handouts

- Data for the policy year
- Blank worksheets





Class Code Example									
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
Class Code	First PED	Last PED	Earned Payroll	Carrier Rate	NCCI Loss Cost	Avg. Exp Mod	Company Standard Premium [(4) / 100] x (5) x (7)	DSR Level Premium [(4) / 100] x 6) x (7)	
1642	1/1/13			8.55	6.58	1.1			
2065	1/1/13			3.12	2.40	1.1			
7856	1/1/13			5.50	4.18	1.1			
1642	6/1/13			8.55	7.02	1.1			
2065	6/1/13			3.12	2.45	1.1			
7856	6/1/13			5.50	5.00	1.1			
1642	9/1/13			8.75	7.02	1.1			
2065	9/1/13			3.30	2.45	1.1			
7856	9/1/13			6.00	5.00	1.1			
						Totals			

Extending Exposures Class Code Example									
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
Class Code	First PED	Last PED	Earned Payroll	Carrier Rate	NCCI Loss Cost	Avg. Exp Mod	Company Standard Premium [(4) / 100] x (5) x (7)	DSR Level Premium [(4) / 100] x (6) x (7)	
1642	1/1/13	5/31/13	5,000,000	8.55	6.58	1.1	470,250	361,900	
2065	1/1/13	5/31/13	3,000,000	3.12	2.40	1.1	102,960	79,200	
7856	1/1/13	5/31/13	0	5.50	4.18	1.1			
1642	6/1/13	8/31/13	8,000,000	8.55	7.02	1.1	752,400	617,760	
2065	6/1/13	8/31/13	0	3.12	2.45	1.1			
7856	6/1/13	8/31/13	0	5.50	5.00	1.1			
1642	9/1/13	12/31/13	0	8.75	7.02	1.1			
2065	9/1/13	12/31/13	0	3.30	2.45	1.1			
7856	9/1/13	12/31/13	10,000,000	6.00	5.00	1.1	660,000	550,000	
						Totals	1,985,610	1,608,860	

# **Extending Exposures**

# **Class Code Example**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Class Code	First PED	Last PED	Earned Payroll	Carrier Rate	NCCI Loss Cost	Avg. Exp Mod	Company Standard Premium [(4) / 100] x (5) x (7)	DSR Level Premium [(4) / 100] x (6) x (7)
1642	1/1/13	5/31/13	5,000,000	8.55	6.58	1.1	470,250	361,900
2065	1/1/13	5/31/13	3,000,000	3.12	2.40	1.1	102,960	79,200
1642	6/1/13	8/31/13	8,000,000	8.55	7.02	1.1	752,400	617,760
7856	9/1/13	12/31/13	10,000,000	6.00	5.00	1.1	660,000	550,000
						Totals	1,985,610	1,608,860

Average Deviation = 1,985,610 / 1,608,860 = 1.234

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# **Exercise**

# **Extend Exposures—Class Code Method**

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Stat Code	Description	Amount Reported in Statistical Code	Average Experience Mod	Company Standard Premium (3) x (4)	Average Deviation	DSR Level Premium (5) / (6)
0900	Expense Constant	6,000	_	6,000	_	_
				· ·		
9812	Increased Limits	75,000	1.1	82,500	1.234	66,856
			Totals	88,500		66,856

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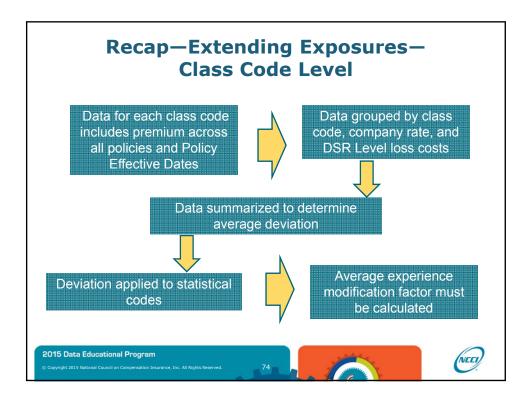


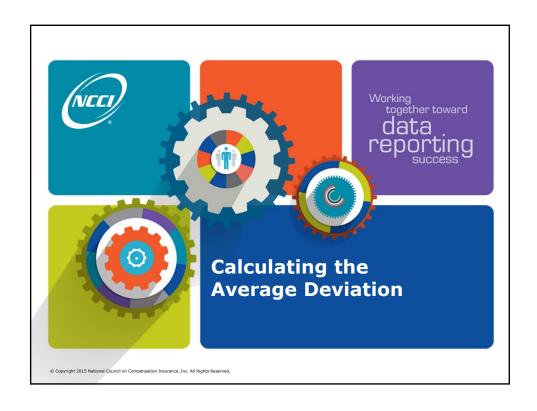


# **Exercise Extend Exposures—Class Code Method**

	Company Standard Premium	DSR Level Premium
Class Codes	1,985,610	1,608,860
Statistical Codes	88,500	66,856
Totals	2,074,110	1,675,716

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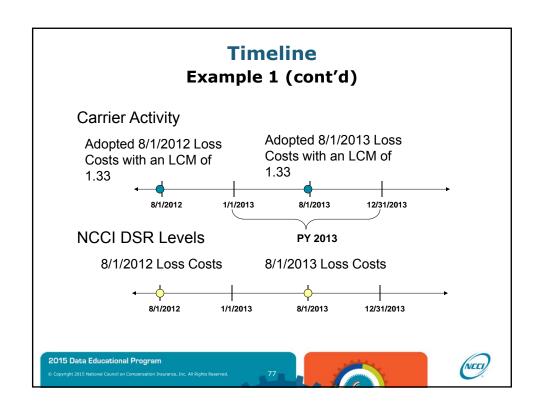
## **Average Deviation Calculation Example 1**

### The parameters:

- NCCI loss costs became effective on:
  - 8/1/2012
  - 8/1/2013
- Carrier adopted each new approved loss cost on the day it became effective
  - Loss cost multiplier of 1.33 for the 8/1/2012 loss costs
  - Loss cost multiplier of 1.33 for the 8/1/2013 loss costs
- Average deviation for PY 2013 = 1.33







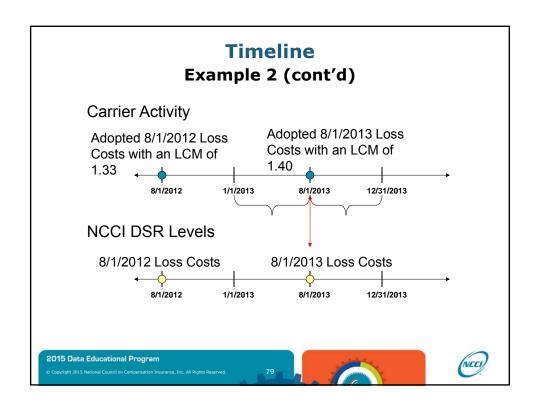
## **Average Deviation Calculation Example 2—Change in LCM**

### The parameters:

- NCCI loss costs became effective on:
  - 8/1/2012
  - 8/1/2013
- Carrier adopted each new approved loss cost on the day it became effective
  - Loss cost multiplier of 1.33 for the 8/1/2012 loss costs
  - Loss cost multiplier of 1.40 for the 8/1/2013 loss costs



(NCCI)



## Average Deviation Calculation Example 2 (cont'd)

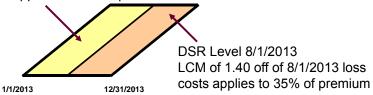
- Now that there are two different loss cost multipliers in effect for the year, a weighted average must be calculated for Policy Year 2013
- It is necessary to determine the percentage of earned premium on policies with effective dates in each time period
- Suppose that the percentages for each time period are:
  - January through July: 65%
  - August through December: 35%



# Average Deviation Calculation Example 2 (cont'd)

The average deviation calculation for Policy Year 2013 is  $1.33 \times (0.65) + 1.40 \times (0.35) = 1.355$ 

DSR Level 8/1/2012 LCM of 1.33 off of 8/1/2011 loss costs applies to 65% of premium



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## **Average Deviation Calculation Example 3—Delayed Adoption**

The parameters:

- NCCI loss costs became effective on:
  - 8/1/2012
  - 8/1/2013
- But carrier adopted the loss costs as follows:
  - 8/1/2012 loss costs on the day they became effective, with a loss cost multiplier of 1.33
  - 8/1/2013 loss costs on 10/1/2013, with a loss cost multiplier of 1.40

This means there are now **three** different time periods to consider.

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### Average Deviation Calculation

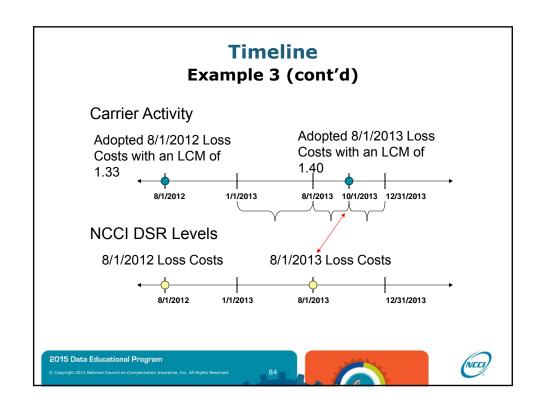
### Example 3 (cont'd)

Time Periods Affecting the Calculation:

- January through July—Carrier is using the 8/1/2012 loss costs, which are the same as the DSR Level
- \*
- August through September—Carrier is using the 8/1/2012 loss costs, which are **not** the same as the DSR Level; the DSR Level is 8/1/2013
  - October through December—Carrier is using the 8/1/2013 loss costs, which are the same as the DSR Level

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## **Average Deviation Calculation Example 3 (cont'd)**

For August through September, we must determine what deviation factor—applied to the loss costs effective 8/1/2013—would yield the same effect as using the 1.33 loss cost multiplier applied to loss costs effective 8/1/2012.

- If the 8/1/2013 loss costs increased by 6% on average, then the loss cost multiplier in effect would need to be adjusted by the factor 1 + 0.06 = 1.06
- Therefore, the deviation factor is 1.33 / 1.06 = 1.255





## **Average Deviation Calculation Example 3 (cont'd)**

- This deviation factor is sometimes referred to as a passive deviation or implied loss cost multiplier
- This is the result of a carrier not taking action the same day as NCCI's approval





### **Average Deviation Calculation**

### Example 3 (cont'd)

Company Standard Premium*		
Using Loss Costs Effective 8/1/2012	Loss Cost Multiplier	NCCI DSR Level 8/1/2012
\$4,000,000	1.33	\$3,000,000

8/1/2013 change is +6%

Company Standard Premium*		
Using Loss Costs Effective 8/1/2012	Implied Loss Cost Multiplier	NCCI DSR Level 8/1/2013
\$4,000,000	???	\$3,180,000

\* Excludes factors such as expense constant and balance to minimum premium amounts

What is the correct factor?

\$4,000,000 / \$3,180,000 = 1.255, which yields the same amount as 1.33 / 1.06 = 1.255

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## **Average Deviation Calculation Example 3 (cont'd)**

To calculate an implied loss cost multiplier, divide the carrier loss cost multiplier by the value that represents the change in loss costs for your book of business.

For some carriers, the appropriate value **may** be the same as the overall change filed by NCCI (e.g., 1.06).

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### **Example**

### **Average Deviation Method**

- Company Standard Earned Premium January–April is \$2,300,000
- Company Standard Earned Premium May-December is \$5,000,000
- NCCI makes filing effective May 1
- Our loss cost level change factor is same as statewide factor of 0.960
- Last active loss cost multiplier effective before May 1 was 1.60
- No expense constant or balance to minimum
- What is DSR Level Premium?







### **Example**

### **Average Deviation Method**

- January–April
  - \$2,300,000 / 1.60 = \$1,437,500
- May-December
  - Passive deviation = 1.60 / .960 = 1.667
  - \$5,000,000 / 1.667 = \$2,999,400
- Total for Policy Year
  - \$1,437,500 + 2,999,400 = \$4,436,900









### **Average Deviation Calculation**

### **Example 4**

- January through July
  - 8/1/2012 loss costs with LCM of 1.33
  - Determined that this applies to 65% of premium
- August through September
  - Did not adopt the 8/1/2013 loss costs that reflected a statewide increase of 6%
  - Determined that the effect of these new loss costs on the carrier's book of business was only a 2% increase
  - Therefore, the implied LCM is 1.33 / 1.02 = 1.30
  - Determined that this applies to 10% of premium
- October through December
  - 8/1/2013 loss costs on 10/1/2013 with LCM of 1.40
  - Determined that this applies to 25% of premium





# Average Deviation Calculation Example 4 (cont'd) everage deviation for Policy Year 2013 is

The average deviation for Policy Year 2013 is  $1.33 \times (0.65) + 1.30 \times (0.10) + 1.40 \times (0.25) = 1.345$ 

12/31/2013

DSR Level 8/1/2012 LCM of 1.33 off of 8/1/2012 loss costs applies to 65% of premium

DSR Level 8/1/2013 LCM of 1.40 off of 8/1/2013 loss costs applies to 25% of premium

DSR Level 8/1/2013

1/1/2013

LCM of 1.33 off of 7/1/2012 loss costs Implied loss cost multiplier of 1.30 (1.33 / 1.02)

in effect applies to 10% of premium

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### **Applying the Average Deviation**

### Two Steps:

- 1. Subtract the amounts of expense constant and balance to minimum premium adjustments from reported Company Standard Premium
- 2. Then divide the average deviation from the Company Standard Premium to get the DSR Level Premium

**Note:** This is for when DSR Level is loss costs.





(NECI)

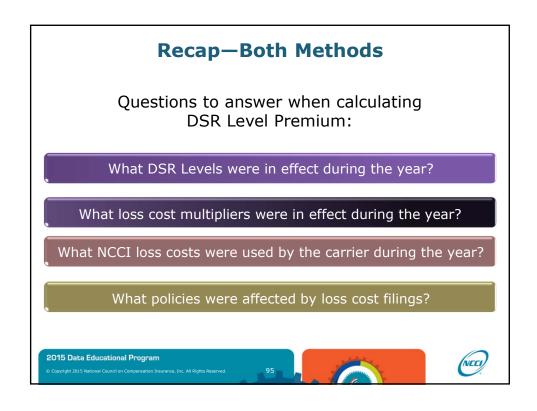
### Recap

- Q. What does delayed adoption mean?
- A. Company did not adopt the most current NCCI loss costs the day they took effect (passive deviation results)

### **Action: LCM/NCCI Loss Cost or Rate Change\***

\*The state average loss cost change may not best reflect your company's book of business. If this is true, you will want to use the value that best reflects the change in loss costs for your book of business.







### **DSR Level Premium Edits**

- Edits Effective With Valuation 12/31/2011
  - 767 and 768 (replace 765 and 766, respectively)
  - 397–400 (replace 366–369, respectively)
  - 471 (updated Edit Description)
- Replaced Edits Appear on Older Valuations

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(NCCI)

(NECI)

# DSR Level Premium Check Ratio of Company to NCCI Premium Not as Expected—Edit Number 767 Departure from NCCI premium level not equal to expected. Company Voluntary Premium: 515,000 NCCI Voluntary Premium: 495,309 Ratio: 1.040 \$515,000 (Company Standard) / \$495,309 (DSR Level) = 1.040 (Ratio)

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### **DSR Level Premium Check**

## Ratio of Company to NCCI Premium Not as Expected—Edit Number 767

### Verify:

- Active Deviation History
- Reported Call Data
- NCCI DSR Level Adopted
- Monthly Weights Distribution
- Premium Distribution Among Companies (Group Carrier)





### **DSR Level Premium Check**

### Ratio Outside of State's Expected Range— Edit Number 399

Departure from NCCI premium level is higher than expected.

NCCI Statewide Premium: 10,000,000 Company Statewide Premium: 100,260,000

NCCI Voluntary Premium: 10,000,000 Company Voluntary Premium: 100,260,000

Voluntary Ratio: 10.026

In a state where the Voluntary Business Designated Statistical Reporting (DSR) Level is NCCI advisory loss costs, we would not expect such a large upward deviation. Please correct the data or provide an explanation.

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### **DSR Level Premium Check**

### Ratio Outside of State's Expected Range— Edit Number 399

Compares Voluntary Ratio with statewide expected range

- DSR Reporting Level (loss costs or rates) and
- State

100,260,000 / 10,000,000 = 10.026

10.026 is WAY outside of the expected range for this state.

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### **DSR Level Premium Check**

### Unexpected Development in Ratios— Edit Number 471

Company Standard to NCCI DSR Premium Ratio development is outside of the expected range.

Current Company Standard Premium: 21,795,412 Current NCCI DSR Premium: 15,638,038

Previous Company Standard Premium: 31,795,412 Previous NCCI DSR Premium: 25,638,038

Current Ratio: 1.394 (21,795,412 / 15,638,038) Previous Ratio: 1.240 (31,795,412 / 25,638,038)

Development Factor: 1.124

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### **DSR Level Premium Check**

### Unexpected Development in Ratios— Edit Number 471

Change from premium ratio of 1.240 to 1.394 is unusual.

Ratios on older observations should have little development.

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### **Premium Distribution**

- Premium weights (if applicable)—could impact calculations
- Premium weights are calculated using earned DSR Level Premium or a reasonable proxy
  - Monthly premium distribution
  - Carrier distribution within a group

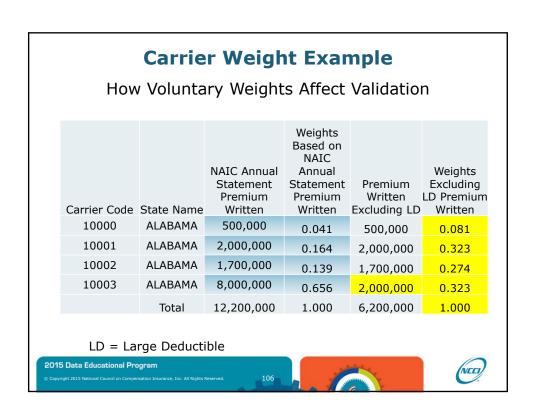
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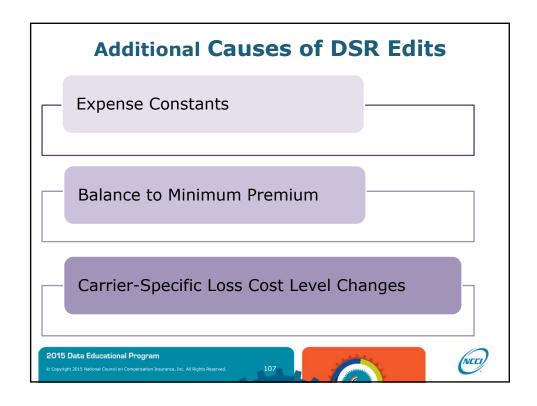






How Voluntary Weights Affect Validation							
	STATEWIDE MONTHLY WEIGHT	LOSS COST		CARRIER'S ACTUAL MONTHLY	DSR		
MONTH	FACTOR	MULTIPLIER	DSR FACTOR	WEIGHTS	FACTOR		
1	0.320	1.166	0.37312	0.1000	0.1166		
2	0.047	1.166	0.054802	0.0000	0		
3	0.060	1.166	0.06996	0.0000	0		
4	0.090	1.166	0.10494	0.0000	0		
5	0.061	1.166	0.071126	0.2000	0.2332		
6	0.061	1.166	0.071126	0.0000	0		
7	0.093	1.375	0.127875	0.0000	0		
8	0.049	1.375	0.067375	0.7000	0.9625		
9	0.049	1.375	0.067375	0.0000	0		
10	0.068	1.375	0.0935	0.0000	0		
11	0.043	1.375	0.059125	0.0000	0		
12	0.059	1.375	0.081125	0.0000	0		
Average Deviation			1.241		1.312		





### Expense Constant Effect— DSR Level Is Loss Costs

- LCM for Policy Year is 1.400
- Observed Ratio \$2,000,000 / \$1,071,429 = 1.867

How does this result happen?

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### Expense Constant Effect— DSR Level Is Loss Costs

- Company Standard including Expense Constant is \$2,000,000
- Expense Constant amount is \$500,000
- DSR Level Premium calculation
  - \$2,000,000 500,000 = \$1,500,000
  - \$1,500,000 / 1.400 = \$1,071,429
- Observed Ratio \$2,000,000 / \$1,071,429 = 1.867

Why might Expense Constant \$\$ be so significant?





### Expense Constant Effect— DSR Level Is Rates

- Deviate –7% from NCCI Rates
- Company Standard Premium is \$2,000,000
- DSR Level Premium is \$1,977,957
- Observed Ratio \$2,000,000 / \$1,977,957 = 1.011

How does this result happen?

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### Expense Constant Effect— DSR Level Is Rates

- Company Expense Constant is \$300
- NCCI Expense Constant is \$150
- 1,000 Policies With Expense Constant

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### Expense Constant Effect— DSR Level Is Rates

- DSR Level Premium Calculation
  - $$2,000,000 (1,000 \times $300) = $1,700,000$
  - \$1,700,000 / 0.930\* = \$1,827,957
  - $$1,827,957 + (1,000 \times $150) = $1,977,957$
- Observed Ratio \$2,000,000 / \$1,977,957 = 1.011

\*(1.000 - 0.070 = 0.930 Rate Deviation)

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# Carrier-Specific Loss Cost Level Change Effect

- Last active LCM is 1.240
- Statewide change is +5.2%
- Class codes that you wrote in changed +8.1%

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### **Hawaii Policy Year 2013**

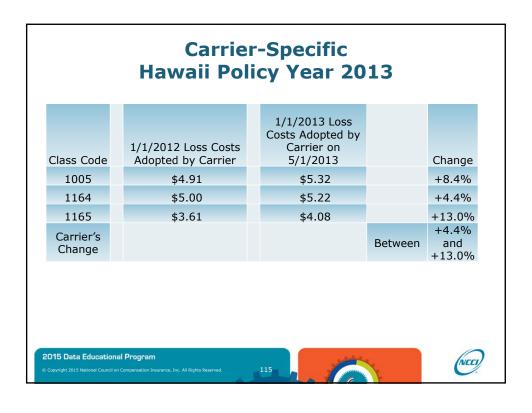
Class Code	Policy Year 2013 Earned Exposure	1/1/2012 Loss Costs	Policy Year 2013 DSR Premium Using 1/1/2012 Loss Costs	1/1/2013 Loss Costs	Policy Year 2013 DSR Premium Using 1/1/2013 Loss Costs	Statewide Average Change
Approx. 500	Approx. 100 Carriers					+5.2%

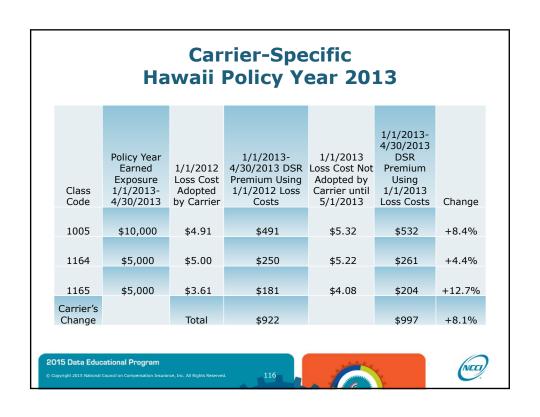
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# Carrier-Specific Hawaii Policy Year 2013

Class Code	Policy Year Earned Exposure 1/1/2013- 4/30/2013	1/1/2012 Loss Cost Adopted by Carrier	1/1/2013- 4/30/2013 DSR Premium Using 1/1/2012 Loss Costs	1/1/2013 Loss Cost Not Adopted by Carrier until 5/1/2013	1/1/2013- 4/30/2013 DSR Premium Using 1/1/2013 Loss Costs	Change
1005	\$10,000	\$4.91	\$491	\$5.32	\$532	+8.4%
1164	\$5,000	\$5.00	\$250	\$5.22	\$261	+4.4%
1165	\$5,000	\$3.61	\$181	\$4.08	\$204	+12.7%
Carrier's Change		Total	\$922		\$997	+8.1%
Statewide Change	From Filing					+5.2%

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## **Carrier-Specific Loss Cost Level Change Effect**

- Statewide Change Factor
  - $\bullet$  1.000 + 0.052 = 1.052
- Passive LCM Using Statewide Change
  - 1.240 / 1.052 = 1.179
- Your Change Factor
  - $\bullet$  1.000 + 0.081 = 1.081
- Your Passive LCM
  - 1.240 / 1.081 = 1.147

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- NCCI Financial Data—Assigned Validator
- Data Educational Program Materials
- Webinars on Demand
- Financial Data Collection tool
- Financial Call Reporting Guidebook
- Reporting Season Web Article
- Circulars/FYI Plus

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# **Supplemental Information**

### **Presenter Biographies**

**Jim Mallon** has worked at NCCI for 35 years in the Actuarial and Regulatory Services Divisions, and currently in the Data Quality and Compliance Department. He is responsible for developing, implementing, and monitoring the various quality assurance programs for the collection and validation of customer data. Jim has a bachelor of science degree in mathematics from New York University—Polytechnic Institute. He is retiring in April.

**Harry Snyder** has worked at NCCI for 13 years in the Data Quality and Compliance Services Department. His primary responsibilities include validating aggregate financial data, mentoring financial data validators, and providing customer support.

Harry holds a bachelor's degree in economics from the University of Wisconsin and a master of business administration degree in management from Golden Gate University in California.