

Early Warning System

Commercial Liability Stat Plan

Anomaly Rule Business Descriptions

Version 1.0

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Document Revision History

Version #	Date	ChangeDescription
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Chapter 1 – Introduction

General

Anomaly Rules are specific business conditions which have been identified as normal conditions expected in the data reported under the Commercial Liability Statistical Plan.

The anomaly rules are executed on a regular scheduled basis to test the reasonability of the reported data; issues identified by the anomaly rules trigger notification to a Data analyst. If the Data Analyst determined that the anomaly triggered constitutes a data reporting issue, they identify it as such and collaborate with the applicable insurer towards resolving the issue.

Types of Rules

Anomaly Rules are identified as either **Benchmark rules** which are testing certain expected business conditions in the reported data or **Reference rules** which are testing currently reported data against previously reported data.

The Anomaly rules are also identified as **Company rules**, which examine the rules against company specific data and **Industry rules** which run the rules against company data aggregated to an industry level.

Some rules are defined explicitly for **Premium**, some for **Claims** and other for both **Premiums and Claims**; the rules which are using both premiums and claims are those which examined certain measures which are a combination of premiums and claims information (e.g. Claims Frequency). Certain rules for Claim transactions are run against paid claims only, some against combined Paid and Outstanding claims and a few against Outstanding claims only.



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Rule Identification

The Anomaly rule identification is used to identify the situation described above; additionally, the rule identification can also be used to identify the primary field examined in the rule.

The following table describes the Anomaly Rules identification scheme:

Pos.	Description		Values
1	Rule Type	Benchmark	B
		Reference	R
2	Rule Level	Company	C
		Industry	I
		All Companies	X ¹
3	Record Kind	Premium	P
		Premium and Claims	B
		Paid Claim	C
		Outstanding Claims	O
		Paid and Outstanding Claims	I
4	Statistical Plan	Commercial Liability	4
5	Record Segment	Submission Control	1
		Policy	2
		Classification	3
		Coverage	4
		Claims Detail	5
		Special Rule Level X	9
6 - 7	Data Element Number	Use 99, where multiple fields are used	nn ²
		Used in connection with Rule Level X	00
8 - 10	Sequential Number		nnn

¹ Special Type of Anomaly Rules, used for testing domination criteria and assigned to Actuarial Analysts

² Refer to Appendix – record layout

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Chapter 2 - Benchmark Rules

The Benchmark Anomaly rules examines the reported data for certain expected business conditions; benchmark rules are frequently used where certain consistencies exist with between fields on an aggregated basis (Edit Rules may check field consistencies in an individual transaction basis). It is also used when new fields are being collected, or business conditions change, where a reliable historic reference set of data is not available.

In these types of rules, the Data analyst may use Company exceptions to manage situations where standard business conditions may be different for certain insurers. As experience is gathered with these anomaly rules it is expected that company exceptions will be modified using the Rule Maintenance module available for this purpose.

The following Table identifies Company Anomaly Rules:

Rules are sequenced by Record Segment and Data Element thereby providing easy reference and locating of anomaly rules associated with a specific field.



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Anomaly Rule ID	Description
BCC4304001	The number of claims reported without Exposure should be less than 100% compared to all claims
BCP4304001	The number of policies reported without Exposure should be less than 100% compared to all policies
BCC4304002	The number of claims reported without Exposure ("Flat rated") should be less than 100% compared to all claims
BCP4304002	The number of policies reported without Exposure ("Flat rated") should be less than 100% compared to all policies
BCC4402001	The Number of Claims reported for Extended Reporting Period ("ERP") policies should be minimal compared to all claims
BCP4402001	The Number of Policies reported for Extended Reporting Period ("ERP") policies should be minimal compared to all policies
BCP4402002	The Number of Policies reported for Claims made policies are expected to be significant compared to all policies for Coverage / Policy Form 6x and 7x.
BCP4403001	The number of policies reported with Policy Limits less than \$100,000 should be minimal compared to all policies
BCP4404001	The number of policies reported with Percent Participation other than 100% for Commercial General Liability should be minimal compared to all policies
BCP4404002	The number of policies reported with Percent Participation other than 100% for Automobile Policies should be minimal compared to all policies
BCP4404003	The number of policies reported with Percent Participation other than 100% for Wrap-Up Policies should be minimal compared to all policies
BCP4404004	The number of policies reported with Percent Participation other than 100% for Professional Liability Policies should be minimal compared to all policies
BCP4404005	The number of policies reported with Percent Participation other than 100% for Pollution Liability Policies should be significant compared to all policies
BCP4404006	The number of policies reported with Percent Participation other than 100% for Employers' Liability Policies should be minimal compared to all policies
BCP4404007	The number of policies reported with Premium Amount X Percent Participation greater than \$100,000 should be minimal compared to all policies
BCP4407001	The number of policies reported with Deductible Amount higher than \$100,000 should be minimal compared to all policies

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Anomaly Rule ID	Description
BCP4407002	The number of policies reported with Deductible Amount higher than Policy Limit should be minimal compared to all policies
BCP4499001	The number of policies reported with Policy Limits less than Premium Amount X Percent Participation should be minimal.
BCP4499002	The number of policies reported with Policy Limit less than Deductible should be minimal.
BCC4509001	The number of claims reported with Claims Location = Ontario must be significant compared to all claims.
BCC4511001	The Number of Claims reported without expense should be minimal
BCC4512001	The Number of Claims reported with amount exceeding a certain threshold should be minimal compared to all policies
BCO4512002	The Number of Outstanding Claims reported with small loss amount should be minimal compared to all policies
BXP4900001	The total amount of Premium for each company should be less than 70% when compared to all companies for each Industry Classification code.
BXP4900002	The total amount of Premium for each company should be less than 70% when compared to all companies for each Industry Classification code.



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Chapter 3 – Reference Rules

The Reference Anomaly rules examines the reported data for against a similar set of data reported in a previous period; these rules are generally used in stable business conditions, where the reported data is expected to be similar to the data reported in a previous period.

Although the Data analyst may use Company exceptions to manage situations where standard business conditions may be different for certain insurers, this is expected to be used less for Reference rules. In scheduling the rules, the Data analyst has a capability to group certain companies to manage situations such as portfolio transfers of business.

The following Table identifies Company Anomaly Rules:

Rules are sequenced by Record Segment and Data Element thereby providing easy reference and locating of anomaly rules associated with a specific field.

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The following table identifies Company Anomaly Rules:

Rules are sequenced by Record Segment and Data Element thereby providing easy reference and locating of anomaly rules associated with a specific field.

Anomaly Rule ID	Description
RCB4204001	The Claims frequency for Commercial General Liability must be equal to historical reported information for each Policy Year
RCB4302001	The Claims Frequency must be equal to historical reported information for each Major Category of Industry Classification
RCC4302001	The Claims Severity must be equal to historical reported information for each Major Category of Industry Classification
RCP4302001	The Number of Policies must be equal to historical reported information for each Major Category of Industry Classification.
RCB4401001	The Claims Frequency must be equal to historical reported information for each Coverage / Policy Form
RCP4401001	The Number of Policies must be equal to historical reported information for each Coverage / Policy Form
RCB4407001	The Claims frequency for each Coverage by Deductible amount must be equal to historical reported information



Appendix – Record segment/ data element name

Both the Record Segment and Data Element Number are used in the composition of the Anomaly Rule Identification.

Record Segment	Data Element	
	Number	Name
1 - Submission Control	01	Record Format Version Number
	02	Company Identification
	03	Entry Date
	04	Statistical Plan
	05	Transaction Type Code
2 - Policy	01	Policy Control ID
	02	Policy Identification Digit
	03	Policy Identification
	04	Policy Effective Date
	05	Retroactive Date
	06	Transaction Effective Date
	07	Policy Expiry Date
3 - Classification	01	Premium Location code
	02	Industry Classification code
	03	Line code
	04	Exposure Type

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Record Segment	Data Element	
	Number	Name
	05	Exposure Base unit
	06	Exposure Amount
4 - Coverage	01	Coverage / Policy Form code
	02	Policy type
	03	Policy limit
	04	Percent participation
	05	Premium amount
	06	Deductible type
	07	Deductible amount
5 – Claim Detail	01	Claims Control ID
	02	Claim Identification Digit
	03	Claim Identification
	04	Accident Date
	05	Notice of Occurrence date
	06	Basis of Claim
	07	Notice of Claim date
	08	Event Category
	09	Claim Location code
	10	Claim count



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Record Segment	Data Element	
	Number	Name
	11	Kind of Loss
	12	Loss Amount
	13	Expense Type
	14	Expense Amount



Appendix - Field definitions used in Anomaly rules

Field definitions are frequently used in Anomaly Rules to identify subsets of data for the particular condition; unless specifically identified in the Anomaly Rules, all fields have their regular meaning set out in the Commercial Liability Statistical Plan with the following additions/ modifications:

Field	Meaning
Aggregate Loss Amount	(Loss Amount + Expense Amount) for each combination of <ul style="list-style-type: none"> • Company Number, • Policy Identification, • Claims Identification, • Claim Location Code • Policy Effective Date and • Accident Date Regardless of Entry Date
Claims Frequency	Number of Claims / Number of Policies
Claims Severity	(Loss Amount + Expense Amount) / Number of Claims
Deductible Group	Grouping of Deductible Amounts as per definitions for Cube.
Major Category	Refer to Commercial Lines Statistical Plan – Appendix A for a definition of Major Category
Number of Claims	Sum of Claim Count
Number of Policies	1 (Transaction Type = 1), -1 (Transaction Type = J) for each combination of: <ul style="list-style-type: none"> • Company Number, • Policy Identification, • Policy Effective Date and Policy Expiry Date • Industry Classification Code • Coverage / Policy Form code
Premium	Sum of Premium amount