LLOYD'S

# PERFORMANCE MANAGEMENT

# DATA RETURN

# UNDERWRITERS'

# GUIDE

# 2016

# V2.0

# CONTENTS

# 0 AMENDMENTS TO PREVIOUS VERSIONS

| Version | Section | Title | Comments |
|---|---|---|---|
| **2016 V1.0** | *General Changes* | *Change of basis for PMDR* | Major change to PMDR to move the basis for premium, risk adjusted rate change and benchmark price from stamp gross premium to gross written premium. Acquisition costs changes are now incorporated into the document. |

# 1 INTRODUCTION

## 1.1 What is PMDR?

The Performance Management Data Return (PMDR) is a monthly data feed from syndicates' underwriting systems, providing risk level data on:

- Risk adjusted rate change (RARC)
- Benchmark price
- Written premium

PMDR is submitted via the Core Market Returns website two weeks after each month end and its immediacy allows Lloyd's to monitor syndicates' performance against plan and the market as business is written.

## 1.2 PMDR objective

The primary objective of PMDR is to support the improved protection of the Central Fund for the benefit of policyholders. This results from the enhanced ability of Lloyd's:

- to check syndicates are writing in accordance with their approved plan (for example, the type and volume of business written and the prices charged)
- to assess syndicates' performance against market conditions and the performance of peers
- to challenge managing agents that are not underwriting prudently, and
- to take action when managing agents are not meeting their plans or other obligations

The syndicate business forecasts (SBF) give a view of expected future performance while the Quarterly Monitoring Return (QMB) tracks the actual performance achieved on business that has been written. PMDR fills a gap between these returns and shows the current conditions in the market.

| Past | PMDR | Future |
|---|---|---|
| ← | | → |
| Quarterly Monitoring Return | | Syndicate Business Plan |

## 1.3 PMDR overview

The PMDR consists of four forms which must be completed monthly by each syndicate writing (re)insurance business during the current return year.

- Form 263 collects written premium data for the return year aggregated across classes of business.

- Forms 286, 287 and 288 collect data on each individual (re)insurance contract which has been written or has expired during the current return year. The monetary amounts reported on these forms are to be based on premiums underwritten.

  - Form 286 collects premium volume and benchmark price data for (re)insurance contracts which are new to the syndicate.

  - Form 287 collects premium volume, benchmark price and price movement data for all renewed (re)insurance contracts.

  - Form 288 collects premium volume data for (re)insurance contracts which were due for renewal but ultimately expired.

A file is created for each PMDR form. The four files are combined to create the PMDR.

# 2 FORMAT

## 2.1 PMDR key principles

- o The data is reported at a granular per contract/risk level.
- o The PMDR is a cumulative return.
- o All premium-related values reported in PMDR are monetary amounts.
- o Changes in deductible and changes in breadth of cover (perils) are recorded separately from other exposure changes.
- o Changes due to deductible and due to breadth of cover are based on the expiring exposure.
- o Benchmark price is based on the loss ratio from the approved business plan.

## 2.2 PMDR dimensions

The table below shows the key fields that describe the characteristics of a risk in PMDR. The combination of these fields must be unique.

| Field Name | Field Number | Definition |
|---|---|---|
| Single Risk Flag | 10 | The flag that indicates whether or not the data relates to a single risk. If the data relates to a single risk, = 'Y'. If the data relates to aggregated risks, = 'N'. |
| Expiring UMR | 20 | The unique market reference of the expiring risk. |
| Expiring Syndicate Risk ID | 30 | The syndicate risk ID (policy ID) of the expiring risk/s. |
| Current UMR | 40 | The unique market reference of the current risk. |
| Current Syndicate Risk ID | 50 | The syndicate risk ID (policy ID) of the current risk/s. |
| Syndicate Class of Business Code | 60 | The code for the syndicate class of business of the risk/s, which must be a class of business approved in the syndicate's business forecast (SBF). |
| Risk Code | 70 | The Lloyd's risk code that categorises the nature of the risk/s. |
| Inception Date | 80 | The inception date of the risk/s. The inception date is defined as the first date on which cover is provided for part or all of the day. For aggregated risks, this is the earliest inception date from the set of risks. |
| Expiry Date | 90 | The expiry date of the risk/s. The expiry date is defined as the first date on which cover is not provided for part or all of the day. For aggregated risks, this is the latest expiry date from the set of risks. |
| Risk Exposure Location Code | 100 | The ISO 3166-1 alpha-2 code or the Lloyd's-defined code for the physical location of the risk/s. |
| Domicile of the Insured | 105 | The ISO 3166-1 alpha-2 code for the 'Country of Origin': e.g. Policyholder's office location; Master policyholder's office location; Policyholder's head office where contract is global l/ multinational. If unknown then N/A can be entered. |
| Lloyd's Slip Leader Flag | 110 | The flag that indicates whether or not the syndicate's role on the current risk/s is a Lloyd's slip leader. If the syndicate's role is a Lloyd's slip leader, = 'Y'. If the syndicate's role is not a Lloyd's slip leader, = 'N'. |
| Distribution Channel Code | 120 | The code for the distribution channel through which the current risk/s were placed. NB: 'ASC' is no longer a valid code |
| Coverholder PIN | 125 | Unique code of 6 numeric and 3 alphas which identifies the Coverholder who underwrites Binding Authority risk/s. For non Coverholder business, please enter N/A. |
| Method of Placement Code | 130 | The code for the method of placement of the risk/s e.g. BNDR or LNSL. |
| Service Company Indicator | 135 | The code (ASC or NSC) which identifies if risks have been place through a Service Company or not. |
| Original Currency Code | 140 | The ISO 4217 three-letter code for the original currency in which the monetary values for the risk/s are expressed. |

## 2.3 PMDR measures

The table below shows the key premium-related fields that need to be reported for a risk.

| Field Name | Field Number | Definition |
|---|---|---|
| Expiring Syndicate Gross Written Premium | 150 | The amount of the Syndicate's share of the 100% gross written premium charged for the expiring risk/s. |
| Current Syndicate Gross Written Premium | 160 | The amount of the Syndicate's share of the 100% gross written premium charged for the current risk/s. |
| Current Syndicate Acquisition Costs | 160a | The amount of the Syndicate's proportion of the 100% acquisition costs charged for the current risk/s, i.e. acquisition costs in field 160. |
| Expiring 100% Gross Written Premium | 170 | The amount of the 100% Gross Written Premium written charged for the expiring risk/s. |
| Expiring 100% Acquisition Costs | 170a | The amount of the 100% gross written premium charged for the expiring risk/s, i.e. acquisition costs in field 170. |
| Change in Expiring 100% Gross Written Premium Due to Change in Deductible / Attachment Point | 180 | The amount of the change in the 100% gross written premium charged for the expiring risk/s that is due to change in the expiring risk/s' attachment point / deductible. |
| Change in Expiring 100% Gross Written Premium Due to Change in Breadth of Cover | 190 | The amount of the change in the 100% gross written premium charged for the expiring risk/s that is due to change in the expiring risk/s' breadth of cover. |
| Change in Expiring 100% Gross Written Premium Due to Other Factors | 200 | The amount of the change in the 100% gross written premium charged for the expiring risk/s that is due to other risk factors. |
| Change in Expiring 100% Gross Written Premium Due to Pure Rate Change | 210 | The amount of the change in the 100% gross written premium charged for the expiring risk/s that is due to pure rate change. |
| Current 100% Gross Written Premium | 220 | The amount of the 100% gross written premium charged for the current risk/s. |
| Current 100% Acquisition Costs | 220a | The amount of 100% acquisition costs charged for the renewed risk/s, i.e. acquisition costs in field 220. |
| Current 100% Benchmark Price | 230 | The current year's 100% gross written premium that the Managing Agent would need to charge to deliver the gross loss ratio from the syndicate's business plan (SBF) approved by Lloyd's (as per UW standards). |
| Expiring Renewed 100% Acquisition Costs | 240 | The amount of 100% acquisition costs charged for the expiring contract adjusted for the renewed exposure on last year's pricing basis. This is amount of 100% acquisition costs within (fields 170 + 180 + 190 + 200). |

# 3 RISK ADJUSTED RATE CHANGE

## 3.1 What is risk adjusted rate change (RARC)?

RARC is a measure of the underlying change in price allowing for the change in exposure. It is a relative measurement, which can only be calculated on renewal business.

Below is a simple example of RARC use in car insurance.



**Last year**
Fire and theft cover only

Premium = £500



**This Year**
Comprehensive cover

Premium = £1000

To calculate the RARC we have to allow for the effect of the change in perils from last year to this year. In this example the car will have comprehensive cover this year compared to being insured for third party, fire and theft only last year at a cost of £500. Assuming the claims experience remains the same, the exposure will have increased and so to maintain the same loss ratio, the premium charged would need to increase. To calculate the RARC we need to establish what the premium would have been last year if the car had been insured with comprehensive cover. If the premium last year for comprehensive cover would have been £700 we can use the following RARC calculation:

$$\text{Risk-adjusted rate change} = \frac{\text{Price charged this year} - \text{Price charged for this year's coverage last year}}{\text{Price charged for this year's coverage last year}}$$

$$\text{RARC} = \frac{£1000 - £700}{£700}$$

RARC = **42.9%**.

Below is another example of an RARC calculation. The premiums and rates used in this example have been chosen to make the mathematics in the example clearer and do not represent realistic rates that would be charged for such risks. The example is for illustrative purposes only.



**Last year** we charged a rate of 2% of the insured value of £10m.

Premium = £200k
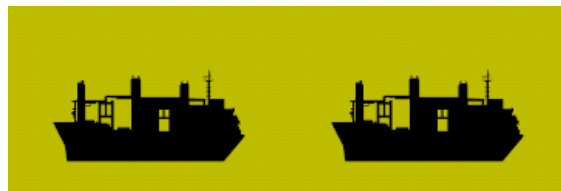


**This year** we insure two ships with a combined insured value of £22m and we add piracy as a new peril. Last year we would have charged a rate of 10% for this year's T&C.

However, this year we actually charge a rate of 11%.

Premium = £2.42m

- Expiring terms: One ship, sum insured £10m, rate 2%

- Change of terms: One ship added with sum insured £12m; piracy cover added @ rate 8%

- Current terms: Two ships, sum insured £22m, rate 11%

- **Risk adjusted rate change = +10%**.

This example tells us that last year's rate was 2% of the indemnity; adjusted for this year's terms we should achieve 10%, but we get 11%.

Expiring premium is £10m * 2% = £200k. There is no change due to change in deductible. Piracy is added as a new peril to the breadth of cover at 8% of the sum insured. Field 190 has to be filled in on expiring terms (one ship at £10m) and for this reason the change due to change in breadth of cover is £10m * 8% = £800k. We add another ship (change due to other factors) for which we would have achieved £12m * 10% = £1.2m. Hence for this year's premium, on last year's pricing basis, we would have expected:

£200k + £0 + £800k + £1.2m = £2.2m = £22m * 10%.

But we achieved:

£2.42m = £22m * 11% which results in a change due to pure rate change of:

£220k = £2.42m - £2.2m = £22m * (11% - 10%).

Therefore the risk adjusted rate change is (11% -10%) / 10% = 10%.

Please refer to the PMDR Renewal Scenario Examples document regarding detailed explanations on where to record changes on renewal policy terms, conditions and coverage.


## 3.2 Gross RARC and Net RARC

Section 3.1 described the calculation of Risk Adjusted Rate Change in terms of changes in premium. This calculation can be based on premium before or after deduction of acquisition costs. A Gross RARC based on changes in gross premium looks at the price change from the perspective of the insured while a Net RARC based on changes in premium net of acquisition costs looks at rate change from the underwriter's perspective based on the premium received after deduction of brokerage.

The original format PMDR data used for reporting years 2009 to 2015 collected premium data net of acquisition costs and only allowed a Net RARC to be calculated. From 2016 onwards, the format of PMDR changed to report on a gross premium basis and included separate fields for acquisition costs. The new PMDR format allows both a Gross RARC and a Net RARC to be calculated.

## 3.3 Gross RARC Calculation

The diagram below breaks down the calculation of Gross RARC into its component parts based on the post 2015 gross format PMDR

| Expiring 100% GWP | Change in Expiring 100% GWP Due to Change in Deductible / Attachment Point | Change in Expiring 100% GWP Due to Change in Breadth of Cover | Change in Expiring 100% GWP Due to Other Factors | Change in Expiring 100% GWP Due to Pure Rate Change | Current 100% Gross Written Premium |
|---|---|---|---|---|---|
| 170 | 180 | 190 | 200 | 210 | 220 |

**Gross Premium** charged **last** year

**Gross Premium** charged for **last** year's exposure adjusted for change in deductible, limit and perils based on **last** year's pricing

**Gross Premium** charged for **this** year's exposure adjusted for change in deductible, limit and peril with other changes (including exposure) based on **last** year's pricing

**Gross Premium** charged **this** year, i.e. premium charged for **this** year's exposure adjusted for change in deductible, limit and peril, other changes and underlying pure rate change based on **this** year's pricing.

The sum of fields 170,180,190 and 200 is the Gross Premium that would have been charged last year based on the terms, conditions and exposure of the current contract, while the sum of fields 170, 180, 190, 200 and 210 ( = 220) is the premium actually charged this year.
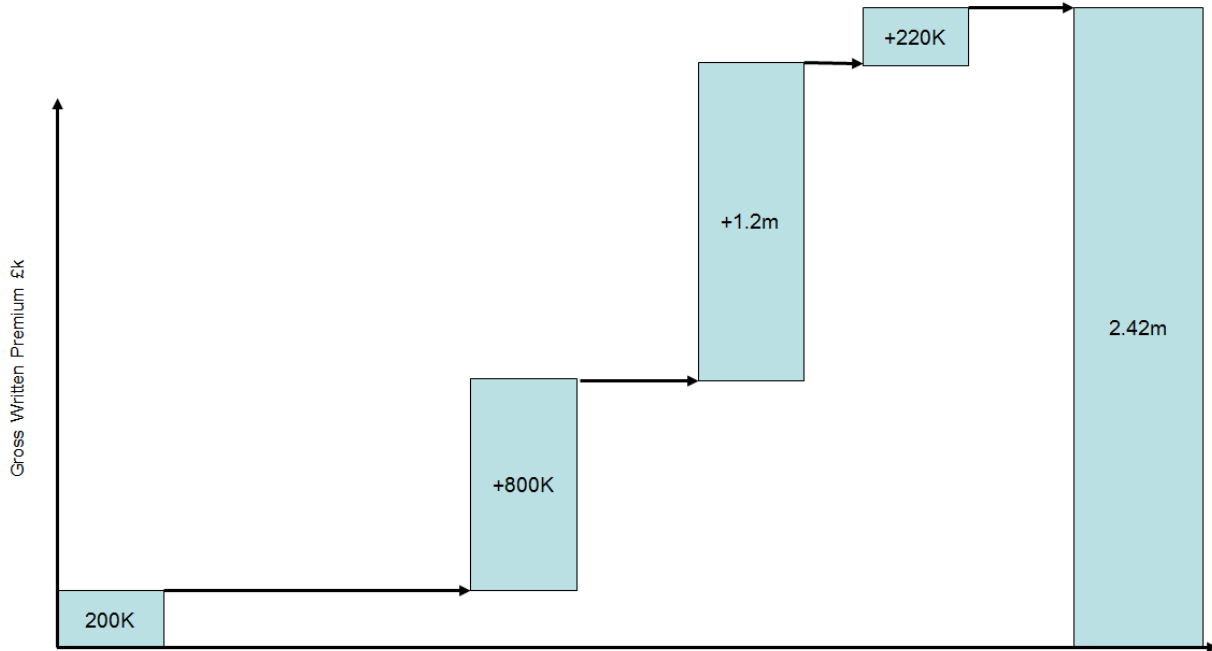
$$\text{Gross RARC} = \frac{\text{Gross Premium charged this year} - \text{Gross Premium charged for this year's coverage last year}}{\text{Gross Premium charged for this year's coverage last year}}$$

i.e.

$$\text{Gross RARC} = \frac{\text{Field 220} - \text{Fields (170+180+190+200)}}{\text{Fields (170+180+190+200)}}$$

$$\text{Gross RARC} = \frac{\text{Field 210}}{\text{Fields (220-210)}}$$

The diagram below illustrates how the earlier piracy shipping example would be represented in PMDR based on gross premium changes. The Pure Rate Change amount on a gross premium basis is £220,000 and the **Gross RARC = 220k / (2.42m – 220k) = 10%.**



| Expiring 100% GWP | Change in Expiring 100% GWP Due to Change in Deductible / Attachment Point | Change in Expiring 100% GWP Due to Change in Breadth of Cover | Change in Expiring 100% GWP Due to Other Factors | Change in Expiring 100% GWP Due to Pure Rate Change | Current 100% GWP |
|---|---|---|---|---|---|
| 170 | 180 | 190 | 200 | 210 | 220 |
| 200,000 | 0 | +800,000 | +1,200,000 | +220,00 | 2,420,000 |

## 3.4 Net RARC Calculation

The diagram below breaks down the calculation of Net RARC (i.e. based on premium after deduction of acquisition costs) into its component parts based on the post 2015 gross format PMDR

| Expiring 100% GWP | Change in Expiring 100% GWP Due to Change in Deductible / Attachment Point | Change in Expiring 100% GWP Due to Change in Breadth of Cover | Change in Expiring 100% GWP Due to Other Factors | Expiring Renewed 100% Acquisition Costs | Current 100% Gross Written Premium | Current 100% Acquisition Costs |
|---|---|---|---|---|---|---|
| 170 | 180 | 190 | 200 | 240 | 220 | 220a |

*Gross Premium* charged **last** year (i.e. [170])

*Gross Premium* charged for **last** year's exposure adjusted for change in deductible, limit and perils based on **last** year's pricing (i.e. [170]+[180]+[190])

*Gross Premium* charged **this** year (i.e. [220])

*Net Premium* charged **this** year (i.e. [220]+[220a])

*Gross Premium* charged for **this** year's exposure adjusted for change in deductible, limit and peril with other changes (including exposure) based on **last** year's pricing (i.e. [170]+[180]+[190] +[200])

*Net Premium* charged for **this** year's exposure adjusted for change in deductible, limit and peril with other changes (including exposure) based on **last** year's pricing (i.e. [170]+[180]+[190] +[200]+[240])

The sum of fields 170,180,190,200 and 240 is the Net Premium that would have been charged last year based on the terms, conditions and exposure of the current contract, while the sum of fields 220 and 220a is the Net Premium actually charged this year.

Net RARC = $\dfrac{\text{Net Premium charged this year} - \text{Net Premium charged for this year's coverage last year}}{\text{Net Premium charged for this year's coverage last year}}$

Net RARC = $\dfrac{\text{Fields (220+220a)} - \text{Fields (170+180+190+200+240)}}{\text{Fields (170+180+190+200+240)}}$

But          Field 220 = Fields (170+180+190+200+210)

Net RARC = $\dfrac{\text{Fields (220+220a)} - \text{Fields (220-210+240)}}{\text{Fields (220-210+240)}}$

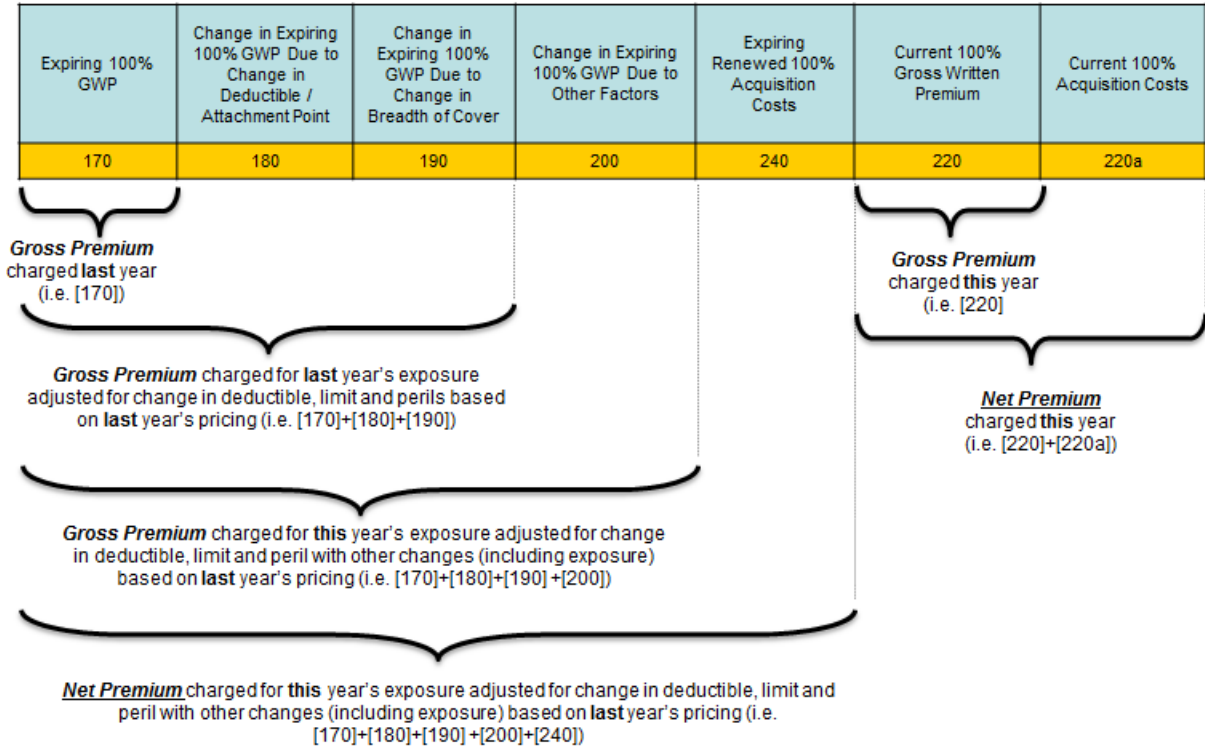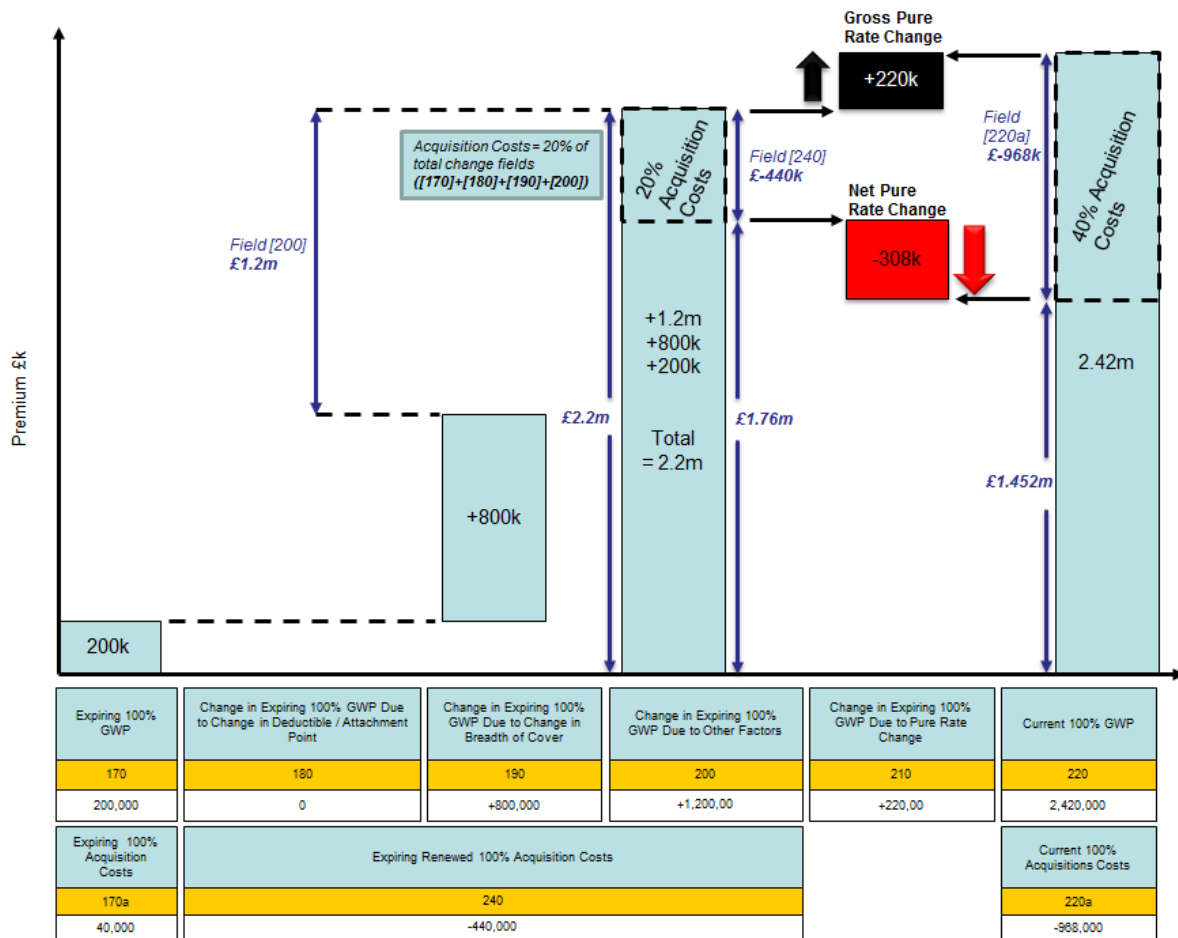Net RARC = $\dfrac{\text{Fields (220a+210-240)}}{\text{Fields (220-210+240)}}$

The diagram below illustrates how the earlier piracy shipping example would be represented in PMDR

Premium £k

Gross Pure Rate Change
+220k

Acquisition Costs = 20% of total change fields ([170]+[180]+[190]+[200])

Field [200] £1.2m

20% Acquisition Costs

Field [240] £-440k

Field [220a] £-968k

40% Acquisition Costs

Net Pure Rate Change
-308k

+1.2m
+800k
+200k

Total = 2.2m

£2.2m

£1.76m

2.42m

+800k

£1.452m

200k

| Expiring 100% GWP | Change in Expiring 100% GWP Due to Change in Deductible / Attachment Point | Change in Expiring 100% GWP Due to Change in Breadth of Cover | Change in Expiring 100% GWP Due to Other Factors | Change in Expiring 100% GWP Due to Pure Rate Change | Current 100% GWP |
|---|---|---|---|---|---|
| 170 | 180 | 190 | 200 | 210 | 220 |
| 200,000 | 0 | +800,000 | +1,200,00 | +220,00 | 2,420,000 |

| Expiring 100% Acquisition Costs | Expiring Renewed 100% Acquisition Costs | | Current 100% Acquisitions Costs |
|---|---|---|---|
| 170a | 240 | | 220a |
| 40,000 | -440,000 | | -968,000 |

If we consider the earlier piracy example again, we will need some additional information to calculate the Net RARC as we need to understand the effect of any acquisition cost changes. If the acquisition costs were 20% of gross premium on the original policy but increased to 40% of gross premium on renewal, then we can have the situation where the Gross RARC is positive and the Net RARC is negative (see following diagram).

**Gross Pure Rate Change** = +220k

**Net Pure Rate Change** = (200k+0+800+1.2m+2.2m) – (2.42m + -968k) = 308k

Gross RARC = [210] / ([220] - [210])

Gross RARC = 200k / (2.42m – 200k)

Gross RARC = +**10%**

Net RARC = (**[220a] + [210] – [240]**) / (**[220] – [210] + [240]**)

Net RARC = (**(-968k + 220k – (-440k)**) / (**(2.42m – 220k + (-440k)**)

Net RARC = **-17.5%**

The positive Gross RARC indicates that customer is paying more premium for the cover on a like for like basis while the negative Net RARC indicates that the underwriter is receiving less premium for the risk on a like for like risk basis. The broker on the other hand is receiving more income as a percentage of the gross premium.

The use of Gross RARC and Net RARC allows changes in price from the perspective of insureds, syndicates and brokers to be analysed separately as required.

# 4 BENCHMARK PRICE

## 4.1 What is benchmark price?

Benchmark price is a mechanism to record the loss ratio at which a syndicate believes they are writing business. This is required on new and renewed risks.

Benchmark price records the premium that would need to be charged to deliver the loss ratio on the business plan. By comparing benchmark price to achieved price and knowing the loss ratio from the business plan, the ultimate loss ratio (ULR) at which the business is being written can be calculated.

The original format PMDR data used for reporting years 2009 to 2015 collected benchmark price as the premium after deduction of acquisition costs that would need to be charged to achieve the net of acquisition costs loss ratio from the SBF. From 2016 onwards, the benchmark price is the gross premium that would need to be charged to meet the gross loss ratio from the SBF.

For example:

• SBF planned **Gross** ULR (Gross Claims/(Gross Premium) = 60%

• Gross Premium of £950,000 charged for risk but £1,000,000 would need be needed to achieve SBF loss ratio

• Achieved price % = Actual price charged (PMDR) / Planned price (SBF) = 95%

• Updated achieved ULR = 60% / 95% = 63%

The combination of planned loss ratio (SBF), actual loss ratio (QMB), risk adjusted rate change (RARC) and premium volume changes can be used to project future outcomes.

The diagram below shows the connection between benchmark price, RARC and cycle management.
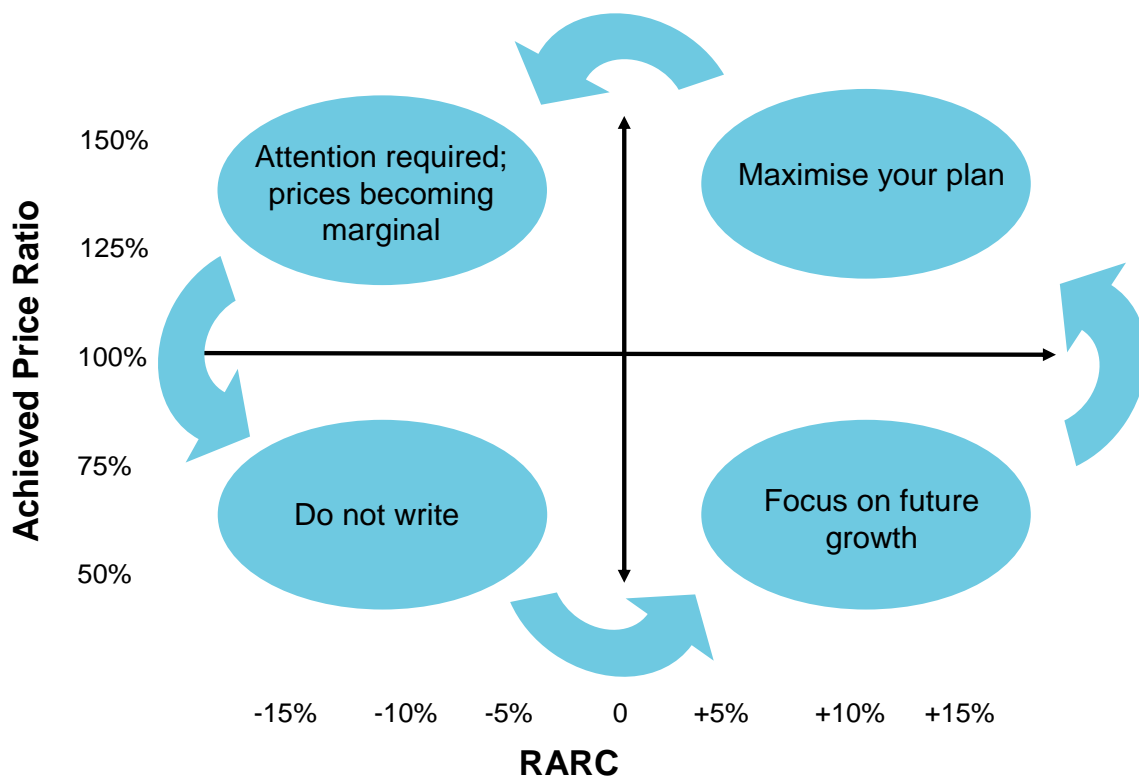
The diagram shows the different possible scenarios when dealing with Gross RARC and Gross Benchmark Price and how they affect each other. For example, when there is a positive Gross RARC and the Gross Achieved Price Ratio is greater than 100% the market writes as much business as it can, as opposed to the Gross RARC being negative and Gross Achieved Price ratio being less that 100% where premium volumes would be expected to be reduced. Note that if acquisition costs were also changing then the picture would be more complex and a more detailed analysis would be required.

# 5 FURTHER READING

Available on the Lloyd's PMDR page ([www.lloyds.com/pmdr](www.lloyds.com/pmdr)) are:

- the PMDR Renewal Scenario Examples document, which includes extensive worked examples on how to calculate and record RARC in a range of different class of business specific scenarios

- the presentation PMDR Price Change Monitoring in the Lloyd's Market, which describes what PMDR is for and how it is used

- the PMDR Instructions.

PMDR has been identified by rating agencies as an important tool by which Lloyd's can demonstrate its ability to manage the market (see [www.lloyds.com/ratings](www.lloyds.com/ratings)):

- "During 2009, a project was successfully delivered that will improve the granularity of the underwriting data the FPD is able to access for monitoring purpose. S&P believes this project will further enhance FPD's ability to oversee the market's underwriting performance at a critical juncture. Proactive cycle management is expected to remain a key focus both for Lloyd's and our rating on the Market over the medium term." (S&P, September 2009)

- "The implementation of the PMDR has allowed more granular and timely analysis and monitoring of the underwriting risk assumed by the Central Fund throughout the year " (S&P, December 2010)

- "Fitch views positively the initiatives that the PMD has introduced aimed at improving the ability of Lloyd's to assess a number of quantitative factors against agreed business plans, as well as the benchmarking tools that Lloyd's shares with managing agents to help them assess their performance against their individual syndicate business plans." (Fitch Ratings, July 2010).

- The law firm Freshfields Bruckhaus Deringer has provided a letter for the market dated 4 August 2008 addressing the competition law considerations of PMDR. This was followed by a Competition Compliance Manual prepared for the Performance Management Directorate. This Manual was shared with the market in September 2008. This Guidance should be read together with those two documents, copies of which can be provided on request.