Arius®

Canadian Provision for Adverse Deviations

Milliman

IT TAKES VISION

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1. The Canadian Institute of Actuaries Standards of Practice

Appointed Actuaries for property & casualty (P&C) insurers in Canada are required to value insurance contract liabilities, which include both claim liabilities and premium liabilities, following the Canadian Institute of Actuaries (CIA) Standards of Practice (SOP). The CIA issued an update to their SOP in May 2006 requiring actuaries to account for a *provision for adverse deviations* (PfAD) regarding certain assumptions' uncertainty.

This document describes the tables and collections within the Arius Deterministic module applicable for those actuaries responsible for discounting reserves and calculating PfADs.

For further guidance on producing undiscounted and discounted Cash Flow Reports within Arius, refer to the document *Cash Flow Reports* found in Arius under HELP | USER DOCUMENTATION.

To follow along with the steps included in this document, open Arius_Sample_Canadian.apj found in …\Documents\Milliman\Arius\DemoFiles.

For more details on the SOP, please refer to Section 2200 Insurance Contract Valuation: P&C Insurance, which can be found at https://www.cia-ica.ca/docs/default-source/standards/sc010118e.pdf.

2. Calculating Actuarial Present Value within Arius

The determination of the actuarial present value (APV) of the policy liabilities involves the following fundamental elements:

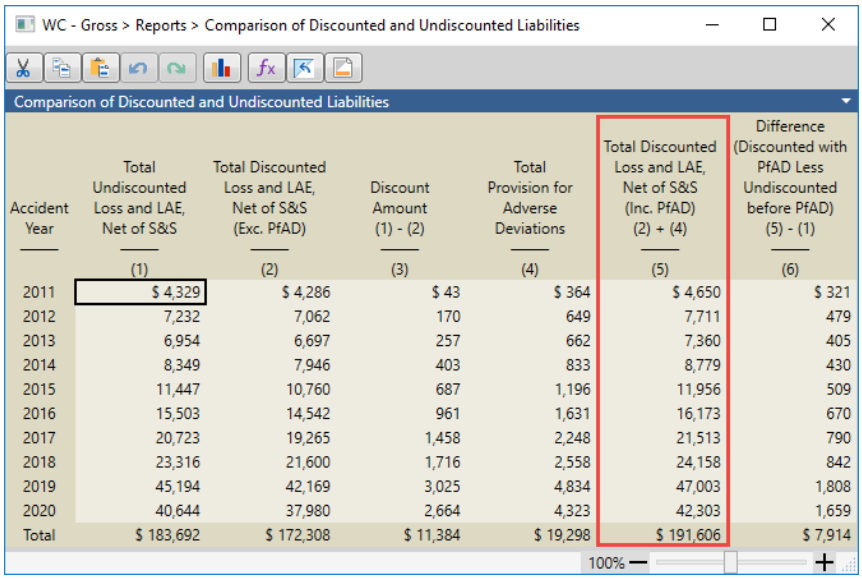
- estimating cash flows arising from the claim liabilities and premium liabilities;
- selecting discount rates and calculating the present value of the liabilities; and
- applying margins for adverse deviations.

All the calculations necessary for calculating an APV for claim liabilities are included within Arius. This document works through the development of the APV in the order of the bullets above. Specifically, we will:

- define the payment patterns to pay out the indicated liabilities;
- select the discount rate(s) necessary to calculate the present value of those cash flows; and finally,
- estimate the provisions for adverse deviations from the above assumptions and selected margins.

To understand how these calculations come together in Arius:

1. In the Navigation Pane on the Home screen, locate the Canadian (PfAD) folder in the DETERMINISTIC | SPECIAL REGULATORY folder. (If you do not see this folder in your project, open the Collection Library and drag the folder **Canadian (PfAD)** found under the DETERMINISTIC | SPECIAL REGULATORY folder to the Navigation Pane.)
2. Select the collection **Canadian PfAD Reports** and open report **#98 Comparison of Discounted and Undiscounted Liabilities**.



WC - Gross > Reports > Comparison of Discounted and Undiscounted Liabilities

Comparison of Discounted and Undiscounted Liabilities

Accident Year	Total Undiscounted Loss and LAE, Net of S&S (1)	Total Discounted Loss and LAE, Net of S&S (Exc. PfAD) (2)	Discount Amount (1) - (2) (3)	Total Provision for Adverse Deviations (4)	Total Discounted Loss and LAE, Net of S&S (Inc. PfAD) (2) + (4) (5)	Difference (Discounted with PfAD Less Undiscounted before PfAD) (5) - (1) (6)
2011	$ 4,329	$ 4,286	$ 43	$ 364	$ 4,650	$ 321
2012	7,232	7,062	170	649	7,711	479
2013	6,954	6,697	257	662	7,360	405
2014	8,349	7,946	403	833	8,779	430
2015	11,447	10,760	687	1,196	11,956	509
2016	15,503	14,542	961	1,631	16,173	670
2017	20,723	19,265	1,458	2,248	21,513	790
2018	23,316	21,600	1,716	2,558	24,158	842
2019	45,194	42,169	3,025	4,834	47,003	1,808
2020	40,644	37,980	2,664	4,323	42,303	1,659
Total	$ 183,692	$ 172,308	$ 11,384	$ 19,298	$ 191,606	$ 7,914

100%

3. The APV is calculated in column (5) = Total Discounted Loss and LAE, Net of S&S (Inc PfAD). This report automatically populates once the underlying elements are populated.

   Note: Arius separately projects claim liabilities associated with the loss (indemnity), external (allocated) claims adjustment expense, internal (unallocated) claims adjustment expense, and salvage and subrogation.

4. The APV should be calculated on a gross, net, and ceded basis.

   Note: Performing calculations across reinsurance layers involves creating segments within your APJ file for Gross, Net, and Ceded. See the section *Calculations across layers* later in this document.

SPECIFY THE PAYMENT PATTERNS

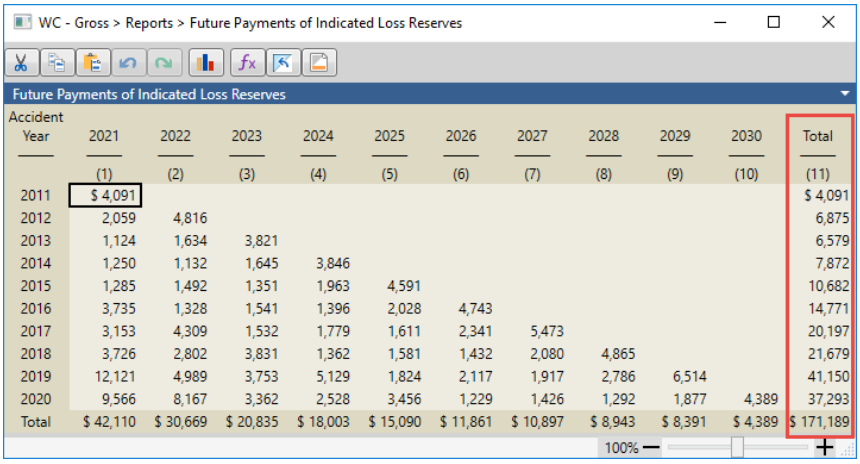
The first step in deriving the APV is to estimate cash flows associated with the claim liabilities. For this, we apply a selected payment pattern to the total undiscounted indicated reserve shown in column (1) (Total Undiscounted Loss and LAE, Net of S&S) in the report above.

For a given line of business, selected payment patterns are generally consistent with the assumptions used to estimate the undiscounted liabilities. For example, suppose an analysis is performed for Loss, ALAE, and Salvage & Subrogation separately. In that case, payment patterns should be selected separately using either the ratios of paid to selected ultimate or the selected paid development factors.

For further guidance on the cash flow considerations, please refer to the CIA's Education Note *Discounting and Cash Flow Considerations for P&C Insurers*, which can be found here: http://www.cia-ica.ca/docs/default-source/2016/216058e.pdf.

To select and apply a payment pattern:

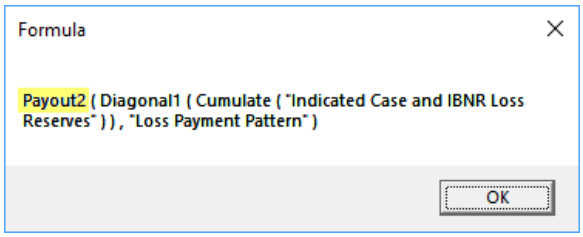
1. Select the collection **Undiscounted Loss and LAE Net of S&S Reserves** and open report **#31 Future Payments of Indicated Loss Reserves**.



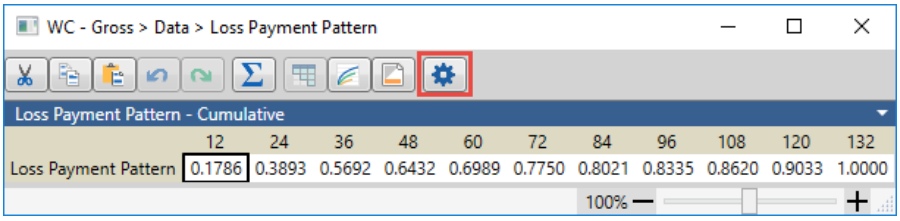
Accident Year	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
2011	$ 4,091										$ 4,091
2012	2,059	4,816									6,875
2013	1,124	1,634	3,821								6,579
2014	1,250	1,132	1,645	3,846							7,872
2015	1,285	1,492	1,351	1,963	4,591						10,682
2016	3,735	1,328	1,541	1,396	2,028	4,743					14,771
2017	3,153	4,309	1,532	1,779	1,611	2,341	5,473				20,197
2018	3,726	2,802	3,831	1,362	1,581	1,432	2,080	4,865			21,679
2019	12,121	4,989	3,753	5,129	1,824	2,117	1,917	2,786	6,514		41,150
2020	9,566	8,167	3,362	2,528	3,456	1,229	1,426	1,292	1,877	4,389	37,293
Total	$ 42,110	$ 30,669	$ 20,835	$ 18,003	$ 15,090	$ 11,861	$ 10,897	$ 8,943	$ 8,391	$ 4,389	$ 171,189

Note: When unpopulated, this report appears as one blank column.

2. Click the **Show Formula** button. This report relies on the Payout2 function, where the first parameter relates to the indicated reserves, and the second parameter relates to the payment pattern.



3. Click the **Source Data** button. Assuming you have already performed your Loss analysis, the indicated reserves array should be populated, but you may need to make selections within your payment pattern. Select **#801 Loss Payment Pattern** and click **Go To**.



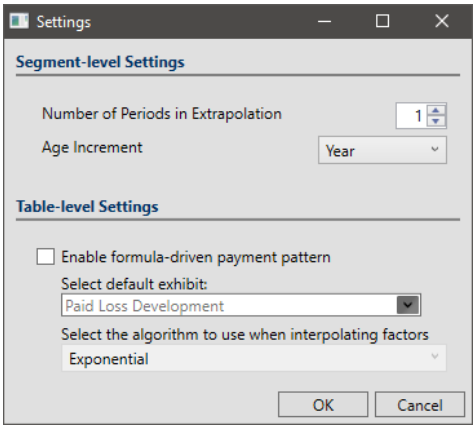
	12	24	36	48	60	72	84	96	108	120	132
Loss Payment Pattern	0.1786	0.3893	0.5692	0.6432	0.6989	0.7750	0.8021	0.8335	0.8620	0.9033	1.0000

Arius includes four payment pattern arrays (DATA | ASSUMPTIONS **#801 Loss Payment Pattern**, **#476 ALAE Payment Pattern, #477 Salvage and Subrogation Payment Pattern and #125 ULAE Payment Pattern**). These arrays are special resizable row arrays and contain several features that differentiate them from standard row arrays.

4. Click the **Settings** button. These settings allow you to extrapolate the payment pattern and modify the resulting cash flow reports' age increment. You can also make the array formula-driven and default the formula to a particular exhibit and extrapolation algorithm.

Note:

If you need to create additional payment pattern arrays via user defined tables, be sure to start from a copy of one of Arius' payment pattern arrays so that the row array contains this resizable property.



Note:

Any changes to the Number of Periods in Extrapolation or Age Increment will get applied across all resizable arrays (e.g., payment patterns, effective interest rates) within the segment.

- **Number of Periods in Extrapolation** – this option allows you to extend the cash flow report so that claims can be paid out over more periods than your project's number of development periods.
- **Age Increment** – this selection allows you to produce cash flows at a more granular period than your project files (quarterly cash flows from an annual development triangle, for example). Arius defaults to the Length of Development Periods from the file's Data Structure. If necessary, you can select smaller age increments from the drop-down box.
- **Enable formula-driven payment pattern** – when checked, Arius uses the ratio-to-ultimate from the selected exhibit as the payment pattern. If necessary, Arius extrapolates the pattern using the selected interpolation algorithm.
- **Select default exhibit** - for the Loss Payment Pattern, exhibit **#40 Paid Loss Development** or exhibit **#65 Cumulative Paid Loss to Ultimate Loss** are common. Exhibit #40 represents the Paid Loss Development method's selected pattern, while Exhibit #65 represents the implied pattern that accounts for the selected ultimate loss.
- **Interpolation algorithm** – Arius extrapolates the chosen exhibit's tail factor using Arius's interpolation algorithms and the selected curve fit. The algorithm selected here is also used to derive cash flows at an age increment smaller than the project's development period length.

When you select the **OK** button, Arius prompts you with the message, **Do you want to save these changes across all your segments?**.

- Select **YES** if you want all of the settings within this dialog to be applied across all segments.
- Select **NO** if you want these settings to remain unique for this particular segment.

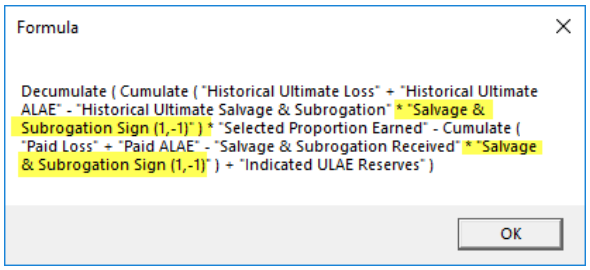
  Note: Changes to segment-level settings carry over to all resizable arrays within the segment, regardless of your selection in this prompt.

5. Repeat the above steps using report **#74 Future Payments of Indicated ALAE Reserves**, **#81 Future Payments of Indicated Salvage & Subrogation Reserves,** and **#100 Future Payments of Indicated ULAE Reserves**.

   Note: If you are *not* performing a separate S&S analysis, the data array **#479 Indicated Case and IBNR Loss and LAE Net of S&S Reserves** is blank, thus causing column (1) of the APV report **#98 Comparison of Discounted and Undiscounted Liabilities** also to be blank. To rectify this, simply enter zeroes in DATA | RESULTS **#27 Ultimate Salvage & Subrogation** and DATA | INPUT **#20 Salvage & Subrogation Received**. You can use the DEFAULTS | DATA DEFAULTS feature from the Home ribbon to

perform this action across your project's segments. Similar actions are needed if you are not modeling ALAE separately from loss.

6. Finally, when analyzing Salvage & Subrogation (S&S), by default, Arius calculates the total indicated reserves by *subtracting* the S&S (e.g., Loss + ALAE – S&S). This formula assumes S&S amounts are *positive* values. If S&S amounts are forecast as negative values, go to DATA|ASSUMPTIONS **#90 Salvage & Subrogation Sign (1,-1)** scalar array and enter -1 to override the default of 1.



SELECT A DISCOUNT RATE

The next step in deriving the APV is to select a discount rate so Arius can calculate the present value of the claim liabilities.

As stated in the SOP, subsection 2240 – Present Values:

> *The expected investment return rate for calculation of the present value of cash flow is that to be earned on the assets, taking into account reinsurance recoverables that support the insurance contract liabilities.*

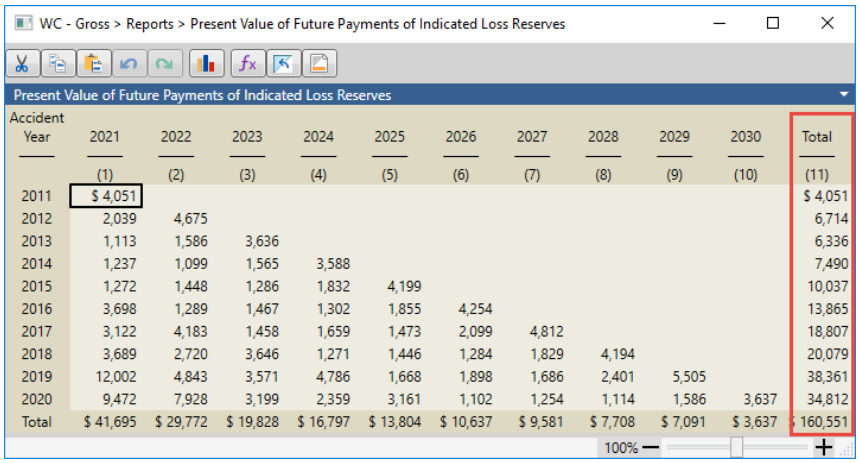
The discount rates may vary from one segment to the next, from one period to the next, or from one underlying accident or underwriting period to the next, although it is common to use a single rate for all years and product lines.

If you determine that it is appropriate to use the same discount rate for both ceded and net liabilities, it is appropriate to also use that discount rate for gross liabilities. Otherwise, the implied gross discount rate could be computed from the PV (ceded PV + net PV) and the cash flows (ceded cash flows + net cash flows) of the gross liabilities.

For further guidance on the selection of a discount rate, please refer to the CIA's Education Note *Discounting and Cash Flow Considerations for P&C Insurers*, which can be found here: http://www.cia-ica.ca/docs/default-source/2016/216058e.pdf.

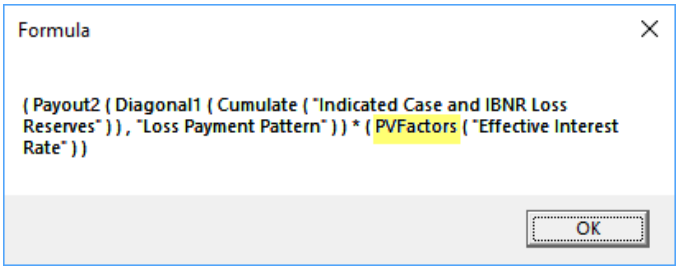
To select and apply a discount rate:

1. Select the collection **Discounted Loss and LAE Net of S&S Reserves** and open report **#32 Present Value of Future Payments of Indicated Loss Reserves**.

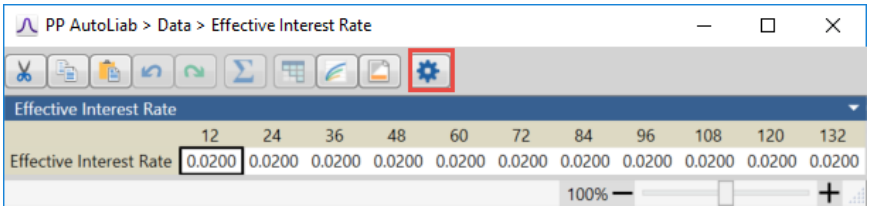


Accident Year	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
2011	$ 4,051										$ 4,051
2012	2,039	4,675									6,714
2013	1,113	1,586	3,636								6,336
2014	1,237	1,099	1,565	3,588							7,490
2015	1,272	1,448	1,286	1,832	4,199						10,037
2016	3,698	1,289	1,467	1,302	1,855	4,254					13,865
2017	3,122	4,183	1,458	1,659	1,473	2,099	4,812				18,807
2018	3,689	2,720	3,646	1,271	1,446	1,284	1,829	4,194			20,079
2019	12,002	4,843	3,571	4,786	1,668	1,898	1,686	2,401	5,505		38,361
2020	9,472	7,928	3,199	2,359	3,161	1,102	1,254	1,114	1,586	3,637	34,812
Total	$ 41,695	$ 29,772	$ 19,828	$ 16,797	$ 13,804	$ 10,637	$ 9,581	$ 7,708	$ 7,091	$ 3,637	$ 160,551

Click the **Show Formula** button. This report relies on the **PVFactors** function, which calculates the present value using the discount rates entered into table **#802 Effective Interest Rate** under DATA | ASSUMPTIONS.



2. Click the **Source Data** button. The Source Data window lists all objects used in the calculation of this report. Assuming you have already performed your cash flow analysis from the previous section, everything but the **Effective Interest Rate** table should be populated. Select **#802 Effective Interest Rate** and click **Go To**. Enter your rate values.



	12	24	36	48	60	72	84	96	108	120	132
Effective Interest Rate	0.0200	0.0200	0.0200	0.0200	0.0200	0.0200	0.0200	0.0200	0.0200	0.0200	0.0200

Note: Arius requires annual interest rates and automatically adjusts the interest for the selected interval. For example, if you enter an annual interest rate of 5.0%, Arius automatically adjusts it to (1.05)^.25 – 1 = 1.22% when discounting quarterly cash flows.

3. Notice that the Effective Interest Rate arrays also include the **Settings** button, similar to the payment pattern arrays. If you extend/resize your payment pattern or modify your cash flow reports' age increment, your effective interest rate array is also modified and vice versa.

   While this array is not formula-driven, if you are using a single discount rate, a common approach for populating this array is to utilize the DEFAULTS | DATA DEFAULTS feature. For further guidance,

refer to the document *Default Settings to Automate Analysis* found in Arius under HELP | USER DOCUMENTATION.

PROVISION FOR ADVERSE DEVIATIONS

The final step in deriving the APV is to include selections for *margin for adverse deviations* in order to calculate a *provision for adverse deviations* (PfAD).

As stated in the SOP, subsection 1110 – Definitions:

- ***Margin for Adverse Deviations:*** *the difference between the assumption for a calculation and the corresponding best estimate assumption.*
- ***Provision for Adverse Deviations:*** *the difference between the actual result of a calculation and the corresponding result using best estimate assumptions.*

For example, as taken from the educational note, if the actuary expects the interest rate to be 10% and assumes 9%, then the margin for adverse deviations is 1%. The PfAD is the dollar amount of increase that results from a margin for adverse deviations. For example, if that 1% margin for adverse deviations in the interest rate assumption increases liabilities from $100m to $110m, then the PfAD is $10m.

For P&C insurance, the SOP set three categories of margin for adverse deviations:

- **Investment return rates** – the margin for investment return rate is a deduction from the expected investment return rate per year (25 - 200 basis points).
- **Claims development** – the margin for claims development is a percentage of the claim liabilities excluding provision for adverse deviations (2.5% - 20%).
- **Recovery from reinsurance ceded** – the margin for recovery from reinsurance ceded is a percentage of the amount deducted on reinsurance ceded in calculating the premium liabilities or the claim liabilities, excluding provision for adverse deviations (0 - 15%).

The SOP also notes that the selected margins should vary between claim and premium liabilities, between business lines, and between exposure periods.

For further guidance in selecting margins for adverse deviations for P&C insurers, please refer to the CIA's Educational Note *Margins for Adverse Deviations for Property and Casualty Insurance*, which can be found here: https://www.cia-ica.ca/docs/default-source/2009/209138e.pdf.

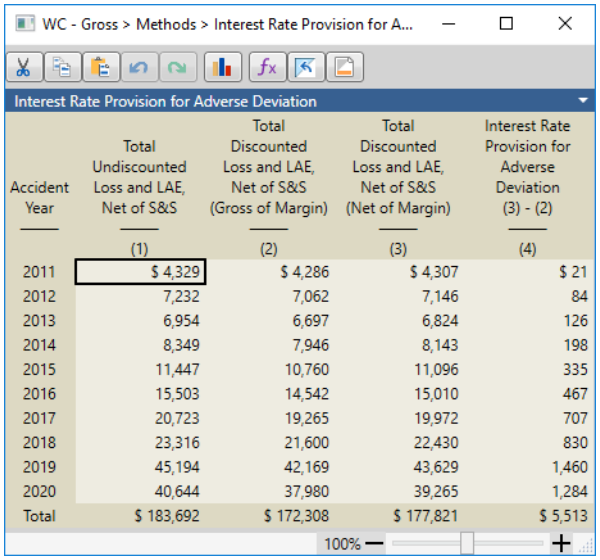
Interest Rate PfAD

According to the SOP, paragraph 2250.06, *The margin for adverse deviations for investment return rate would be a deduction from the expected investment return rate per year*. Therefore, the PfAD is determined as the difference between PV calculations, before the application of other margins, using two different discount rates:

- the selected discount rate, and
- the selected discount rate minus the investment return rate margin.

The margin for investment return rate may vary by year and by line of business, and may vary between gross, ceded, and net liabilities. The margin consists of three elements: asset/liability mismatch risk margin, timing risk margin, and credit risk margin.

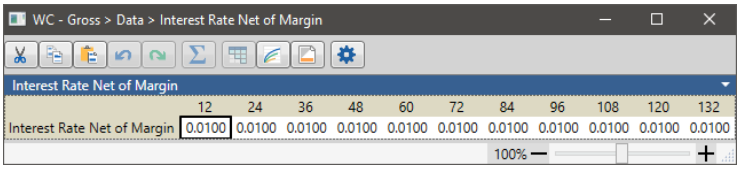
1. Select the collection **Interest Rate PfAD** and open method **#162 Interest Rate Provision for Adverse Deviation**.



Accident Year	Total Undiscounted Loss and LAE, Net of S&S	Total Discounted Loss and LAE, Net of S&S (Gross of Margin)	Total Discounted Loss and LAE, Net of S&S (Net of Margin)	Interest Rate Provision for Adverse Deviation (3) - (2)
	(1)	(2)	(3)	(4)
2011	$ 4,329	$ 4,286	$ 4,307	$ 21
2012	7,232	7,062	7,146	84
2013	6,954	6,697	6,824	126
2014	8,349	7,946	8,143	198
2015	11,447	10,760	11,096	335
2016	15,503	14,542	15,010	467
2017	20,723	19,265	19,972	707
2018	23,316	21,600	22,430	830
2019	45,194	42,169	43,629	1,460
2020	40,644	37,980	39,265	1,284
Total	$ 183,692	$ 172,308	$ 177,821	$ 5,513

This method calculates the Interest Rate PfAD in column (4) as the difference between the PV of cash flows discounted using the DATA | ASSUMPTIONS tables **#802 Effective Interest Rate** and **#478 Interest Rate Net of Margin**.

2. Select column (4) and then click the **Source Data** button. Assuming you have already performed your present value cash flow analysis from the previous section, everything but the **Interest Rate Net of Margin** should be populated. Select **#478 Interest Rate Net of Margin**, click **Go To,** and enter your rate values.



	12	24	36	48	60	72	84	96	108	120	132
Interest Rate Net of Margin	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100

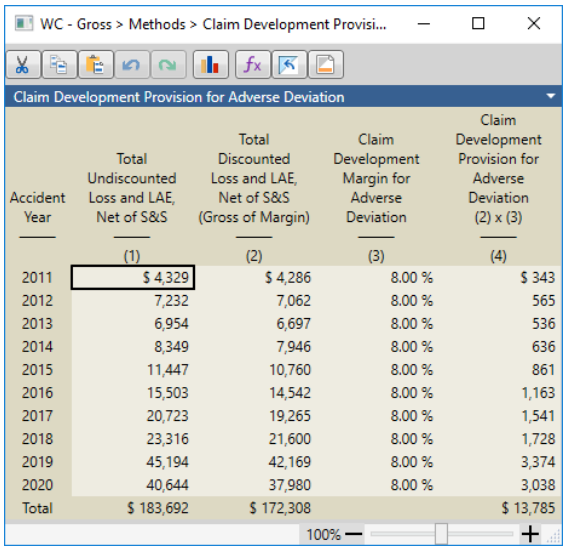
Note: Arius requires annual interest rates and automatically adjusts for the selected interval. For example, if you enter an annual interest rate of 5.0%, Arius automatically adjusts it to (1.05)^.25 – 1 = 1.22% when discounting quarterly cash flows.

Claims Development PfAD

According to the SOP, paragraph 2250.046, *The margin for adverse deviations for claims development would be a percentage of the claim liabilities excluding provisions for adverse deviations.* Therefore the PfAD is determined by applying a margin to the PV. The claims development margin may vary by year and by line of business, and may vary between gross, ceded, and net liabilities.

To select and apply a claims development margin:

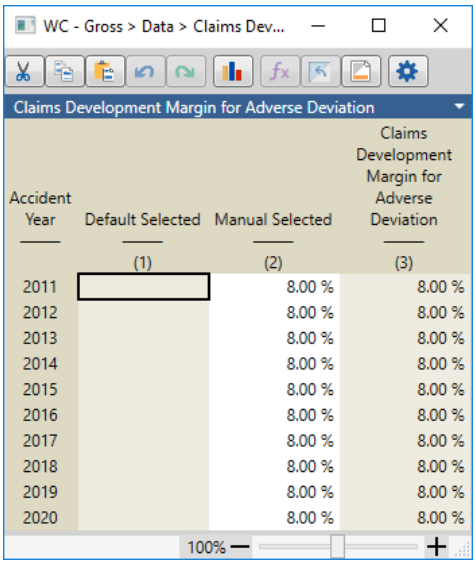
1. Select the collection **Claim Development PfAD** and open method **#161 Claim Development Provision for Adverse Deviation.**



Accident Year	Total Undiscounted Loss and LAE, Net of S&S (1)	Total Discounted Loss and LAE, Net of S&S (Gross of Margin) (2)	Claim Development Margin for Adverse Deviation (3)	Claim Development Provision for Adverse Deviation (2) x (3) (4)
2011	$ 4,329	$ 4,286	8.00 %	$ 343
2012	7,232	7,062	8.00 %	565
2013	6,954	6,697	8.00 %	536
2014	8,349	7,946	8.00 %	636
2015	11,447	10,760	8.00 %	861
2016	15,503	14,542	8.00 %	1,163
2017	20,723	19,265	8.00 %	1,541
2018	23,316	21,600	8.00 %	1,728
2019	45,194	42,169	8.00 %	3,374
2020	40,644	37,980	8.00 %	3,038
Total	$ 183,692	$ 172,308		$ 13,785

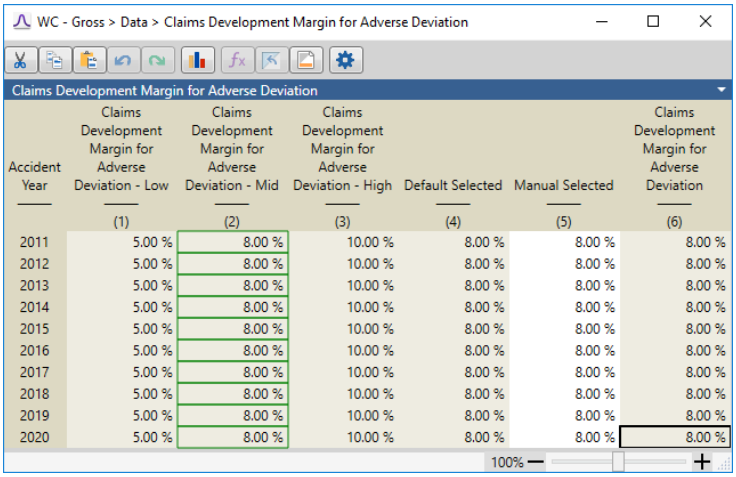
This method calculates the Claims Development PfAD in Column (4) as the product of the present value cash flows times the Claim Development Margin for Adverse Deviation.

2. Select column (4) and click the **Source Data** button. Assuming you have already performed your present value cash flow analysis from the previous section, everything but the **Claims Development Margin for Adverse Deviation** should be populated. Select **#118 Claims Development Margin for Adverse Deviation**, click **Go To**, and enter values into the Manual Selected column.



Accident Year	Default Selected (1)	Manual Selected (2)	Claims Development Margin for Adverse Deviation (3)
2011		8.00 %	8.00 %
2012		8.00 %	8.00 %
2013		8.00 %	8.00 %
2014		8.00 %	8.00 %
2015		8.00 %	8.00 %
2016		8.00 %	8.00 %
2017		8.00 %	8.00 %
2018		8.00 %	8.00 %
2019		8.00 %	8.00 %
2020		8.00 %	8.00 %

Note: This array is a Formula-Driven Assumption, so, alternatively, you can click the **Setting** button to use other user defined methods for calculating this risk margin or use this array to perform sensitivity testing across various assumptions as shown in the example below.

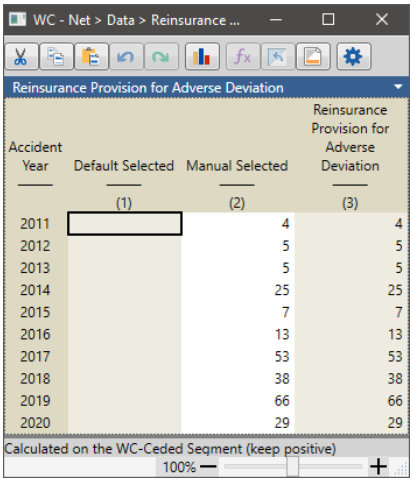


Reinsurance PfAD

According to the SOP, paragraph 2250.05, *The margin for adverse deviations for recovery from reinsurance ceded would be a percentage of the amount deducted on reinsurance ceded in calculating premium liabilities or claim liabilities, as the case may be, excluding provisions for adverse deviations.* Therefore, the PfAD is determined by applying a margin to the ceded PV. The PfAD is deducted from the ceded PV and added to the net PV. The margin for recovery from reinsurance ceded may vary by year and by line of business.

To select and apply a margin for reinsurance PfAD:

1. Select the collection **Reinsurance PfAD** and open input **#119 Reinsurance Provision for Adverse Deviation**.

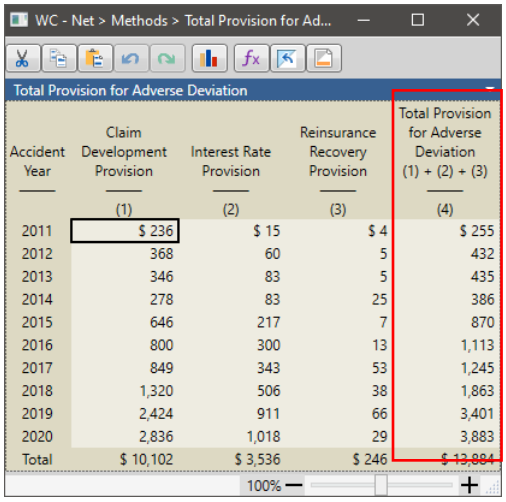


The **#119 Reinsurance Provision for Adverse Deviation** is an input array. Per the SOP, it is zero for the gross layer, positive for the net layer, and negative for the ceded layer (with net and ceded being the same value except for the sign).

Total Provision for Adverse Deviations

The total provision for adverse deviations can be calculated as the sum of the three components: Interest Rate PfAD, Claims Development PfAD, and Reinsurance Recovery PfAD.

To see the resulting calculation, select the collection **Canadian PfAD Reports** and open report **#163 Total Provision for Adverse Deviation**.



Accident Year	Claim Development Provision (1)	Interest Rate Provision (2)	Reinsurance Recovery Provision (3)	Total Provision for Adverse Deviation (1) + (2) + (3) (4)
2011	$ 236	$ 15	$ 4	$ 255
2012	368	60	5	432
2013	346	83	5	435
2014	278	83	25	386
2015	646	217	7	870
2016	800	300	13	1,113
2017	849	343	53	1,245
2018	1,320	506	38	1,863
2019	2,424	911	66	3,401
2020	2,836	1,018	29	3,883
Total	$ 10,102	$ 3,536	$ 246	$ 13,884

CALCULATIONS ACROSS LAYERS

Because the calculations for the PfAD and APV need to be performed on a gross, net, and ceded basis, we advise creating separate segments for two of the layers (e.g., Gross and Net). You can then take advantage of the Segment Calculation feature within Arius to calculate the third (e.g., Ceded = Gross – Net).

Within a calculated segment, input arrays can:

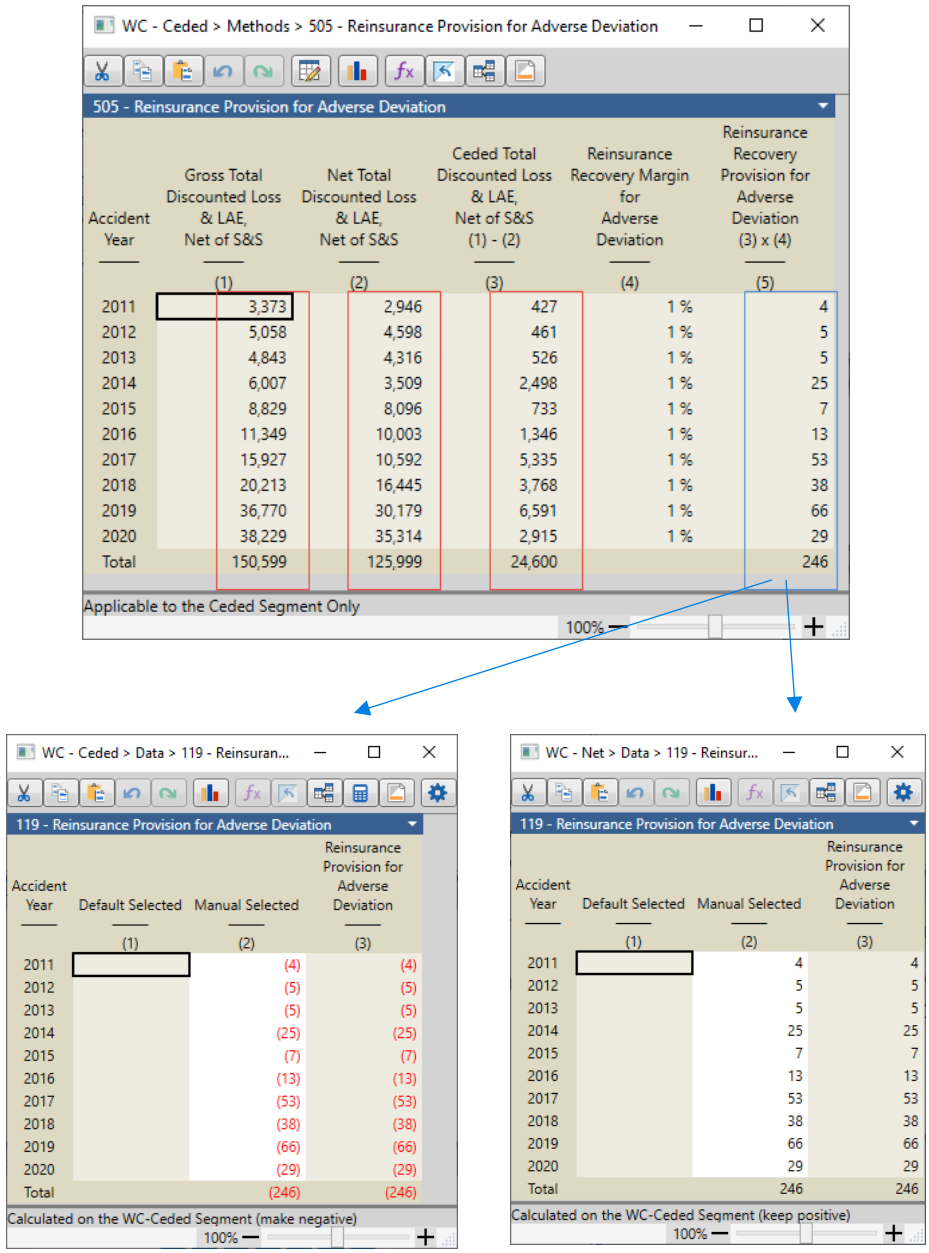
- be derived based on a formula to add or subtract data from other segments (e.g., a Ceded segment could have formula Gross segment – Net segment for objects such as Paid Loss, Paid ALAE, Ultimate Loss, Ultimate ALAE);
- be equal to the data from one specific segment (e.g., Selected Proportion Earned, Effective Interest Rate, and Interest Rate Net of Margin tables can be set equal to values entered for the Gross segment); or
- remain an input field, not relying on any other segments (e.g., Claims Development Margin for Adverse Deviation and Reinsurance PfAD tables can be left as input so they can be allowed to vary between gross, net, and ceded).

For further guidance on using Calculated Segments, refer to the Arius Tips document *Working with Calculated Segments* found in Arius under HELP | USER DOCUMENTATION.

Reinsurance PfAD

Once the various layers have been set up as segments within the Arius file, you can then create a user defined table to calculate the Reinsurance PfAD in the ceded layer as shown below. This Reinsurance PfAD amount is then deducted from the ceded PV and added to the net PV.

In this example, the three elements boxed in red have been created as user defined input arrays.



WC - Ceded > Methods > 505 - Reinsurance Provision for Adverse Deviation

505 - Reinsurance Provision for Adverse Deviation

Accident Year	Gross Total Discounted Loss & LAE, Net of S&S	Net Total Discounted Loss & LAE, Net of S&S	Ceded Total Discounted Loss & LAE, Net of S&S (1) - (2)	Reinsurance Recovery Margin for Adverse Deviation	Reinsurance Recovery Provision for Adverse Deviation (3) x (4)
	(1)	(2)	(3)	(4)	(5)
2011	3,373	2,946	427	1 %	4
2012	5,058	4,598	461	1 %	5
2013	4,843	4,316	526	1 %	5
2014	6,007	3,509	2,498	1 %	25
2015	8,829	8,096	733	1 %	7
2016	11,349	10,003	1,346	1 %	13
2017	15,927	10,592	5,335	1 %	53
2018	20,213	16,445	3,768	1 %	38
2019	36,770	30,179	6,591	1 %	66
2020	38,229	35,314	2,915	1 %	29
Total	150,599	125,999	24,600		246

Applicable to the Ceded Segment Only

WC - Ceded > Data > 119 - Reinsuran...

119 - Reinsurance Provision for Adverse Deviation

Accident Year	Default Selected	Manual Selected	Reinsurance Provision for Adverse Deviation
	(1)	(2)	(3)
2011		(4)	(4)
2012		(5)	(5)
2013		(5)	(5)
2014		(25)	(25)
2015		(7)	(7)
2016		(13)	(13)
2017		(53)	(53)
2018		(38)	(38)
2019		(66)	(66)
2020		(29)	(29)
Total		(246)	(246)

Calculated on the WC-Ceded Segment (make negative)

WC - Net > Data > 119 - Reinsur...

119 - Reinsurance Provision for Adverse Deviation

Accident Year	Default Selected	Manual Selected	Reinsurance Provision for Adverse Deviation
	(1)	(2)	(3)
2011		4	4
2012		5	5
2013		5	5
2014		25	25
2015		7	7
2016		13	13
2017		53	53
2018		38	38
2019		66	66
2020		29	29
Total		246	246

Calculated on the WC-Ceded Segment (keep positive)

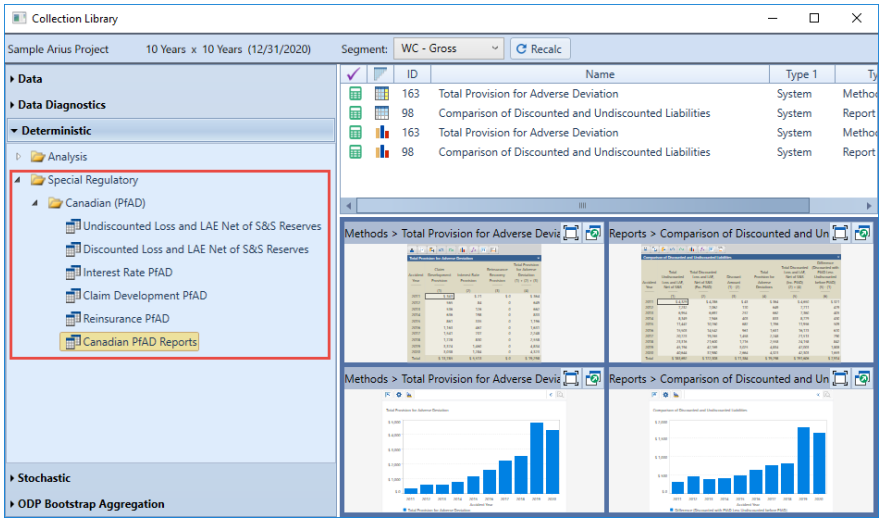
3. Where to find Canadian (PfAD) Objects and Collections

COLLECTIONS

From the **Home** ribbon, go to COLLECTION LIBRARY | OPEN COLLECTION LIBRARY. Navigate to the collections shown below then drag and drop these collections into your navigation pane, if not already present.

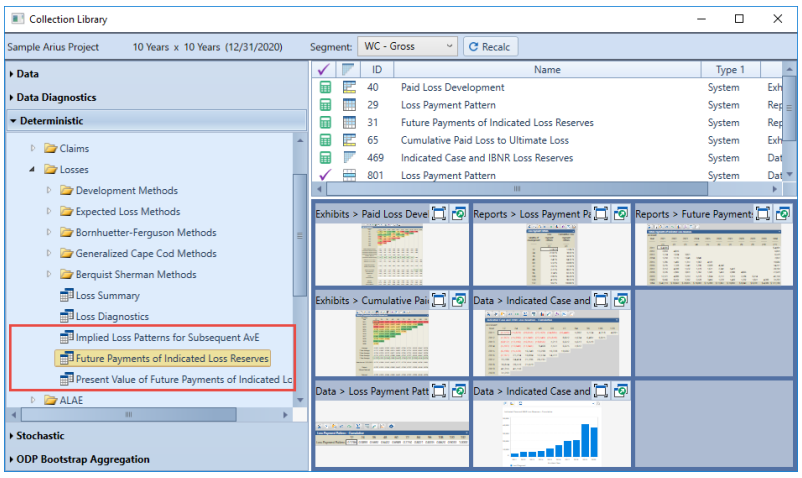
Canadian (PfAD) Collections found in the Collection Library

The Special Regulatory folder itself can be dragged into your navigation pane to bring over all collections in the folder.



Cash Flow Collections found in the Collection Library

The cash flow collections can be found under the corresponding Losses, ALAE, and S&S folders under the Analysis folder in the Deterministic node.

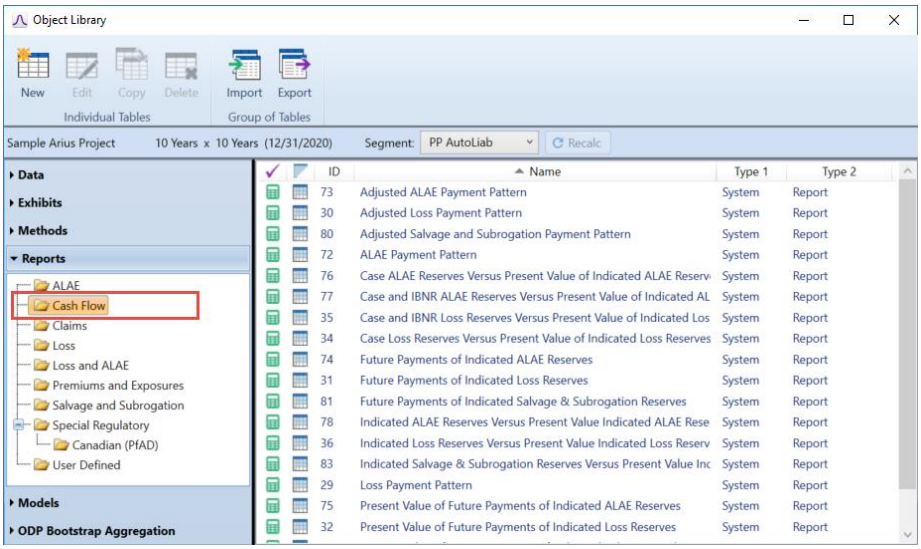


Similar collections are found under the ALAE and Salvage & Subrogation folders.

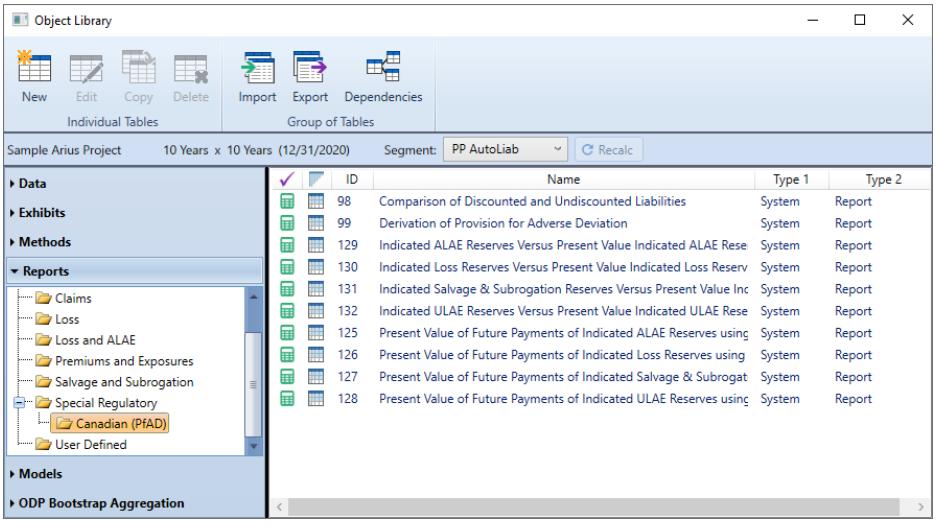
OBJECTS

Individual objects are found in the Object Library. Most are included in the Collections shown above. Refer to the document *Working with Collections in Arius* found under HELP | USER DOCUMENTATION for instructions on how to add these objects to collections in your navigation pane.

Cash Flow objects in the Reports node of the Object Library



Canadian (PfAD) objects in the Reports node of the Object Library



Canadian (PfAD) objects in the Methods node of the Object Library