### Task IM-14.13: Exercise on Discounting Liabilities

SPAKENBURG Ltd. takes a bank loan on 3.04.20X2. The bank loan of 250,000.00 EUR is an annuity with an annual rate of interest of 2.5 %/a and an annuity of 20,000.00 EUR/a. The annuity is paid every yearend, this includes the yearend of 20X2 too! SPAKENBURG Ltd. agrees on a complete pay-off of the bank loan after exactly 5 years, on 3.04.20X7. Take 10 %/a for the annual discounting rate. It is the average rate that applies on the capital market.

Required: Record the bank loan's postings in an Interest Bearing Liability account and in a short-term A/P account for 20X2 and 20X3. Disclose SPAKENBURG Ltd.'s bank loan on the balance sheet as at 31.12.20X3.

## Solution:

We prepare SPAKENBURG Ltd.'s interest and pay-off schedule:

	0.025 rate of interest						
Spakenburg Ltd.'s INTEREST and PAY-OFF PLAN							
Year	Opening amount	Interest	Pay-off	Annuity	Rest		
	[EUR]	[EUR]	[EUR]	[EUR]	[EUR]		
20X2	250,000.00	4,687.50	15,312.50	20,000.00	234,687.50		
20X3	234,687.50	5,867.19	14,132.81	20,000.00	220,554.69		
20X4	220,554.69	5,513.87	14,486.13	20,000.00	206,068.55		
20X5	206,068.55	5,151.71	14,848.29	20,000.00	191,220.27		
20X6	191,220.27	4,780.51	15,219.49	20,000.00	176,000.78		
20X7	176,000.78	1,100.00	176,000.78	177,100.78	(0.00)		

#### Exhibit 1: SPAKENBURG Ltd.'s interest and pay-off schedule

0.1

# 0.025 rate of interest Spakenburg Ltd.'s INTEREST and PAY-OFF PLAN

Year	Opening amount	Interest	Pay-off	Annuity		Disc. fact.	IBL recogn.
	[EUR]	[EUR]	[EUR]	[EUR]			
20X2	250,000.00	4,687.50	15,312.50	20,000.00	paid		
20X3	234,687.50	5,867.19	14,132.81	20,000.00	A/P		
20X4	220,554.69	5,513.87	14,486.13	20,000.00	2	0.8264	11,972.01
20X5	206,068.55	5,151.71	14,848.29	20,000.00	3	0.7513	11,155.74
20X6	191,220.27	4,780.51	15,219.49	20,000.00	4	0.6830	10,395.12
20X7	176,000.78	1,100.00	176,000.78	177,100.78	5	0.6209	109,282.64
			206,068.56				142,805.50

Exhibit 2: Working 20X2

		0.025	rate of interest			0.1	
9	Spakenburg Ltd	.'s INTERES	Гand PAY-OF	F PLAN			
Year	Opening amount	Interest	Pay-off	Annuity		Disc. fact.	IBL recogn.
	[EUR]	[EUR]	[EUR]	[EUR]			
20X2	250,000.00	4,687.50	15,312.50	20,000.00	paid		
20X3	234,687.50	5,867.19	14,132.81	20,000.00	paid		
20X4	220,554.69	5,513.87	14,486.13	20,000.00	A/P		
20X5	206,068.55	5,151.71	14,848.29	20,000.00	2	0.8264	12,271.31
20X6	191,220.27	4,780.51	15,219.49	20,000.00	3	0.7513	11,434.63
20X7	176,000.78	1,100.00	176,000.78	177,100.78	4	0.6830	120,210.90
			206,068.56			_	143,916.84

Exhibit 2: Workings 20X3

The bookkeeping entries are as below:

(1) Taking the bank loan

DR	Cash/Bank	250,000.00	EUR
CR	IBL	250,000.00	EUR

(2) Payment of interest and pay-off for 20X2. Interest equals to  $250,000 \times 2.5\% \times 75\% = 4,687.50$  EUR. The total payment is 20,000.00 EUR.

DR	Interest	4,687.50	EUR
DR	Interest Bearing Liabilities	15,312.50	EUR
CR	Cash/Bank	20,000.00	EUR

(3) Transfer of short-term liabilities to the extent of  $20,000 - ((250,000 - 15,312.50) \times 2.5\%) = 14,132.81$  EUR.

DR	Interest	Bearing Liabilities	14,132.81 EUF	٤
CR	Accounts	Payables	14,132.81 EUF	ł

(4) The valuation of the bank loan gives a difference of 220,554.69 - 142,805.50 = 77,749.19 EUR to be transferred to the Retained Earnings account.

DR	Interest	Bearing Liabilities	77,749.19	EUR
CR	Retained	Earnings	77,749.19	EUR

Take a look at the accounts as at 31.12.20X2 (not required by task completely):



Exhibit 1: Accounts as at 31.12.20X2

In the next year the following bookkeeping entries are recorded:

(A) Payment of interest and pay-off:

DR Interest	5,867.19 EUR
DR Accounts Payables	14,132.81 EUR
CR Cash/Bank	20,000.00 EUR

(B) Transfer of short-term liabilities to the A/P account. The amount is:  $20,000 - ((250,000 - 15,312.50 - 14,132.81) \times 2.5\%) = 14,486.13 EUR.$ 

DR	Interest Bearing Liabilities	14,486.13 EUR
CR	Cash/Bank	14,486.13 EUR

(C) The value of the bank loan is  $14,848.29 \times 1.1^{-2} + 15,219.49 \times 1.1^{-3} + 176,000.78 \times 1.1^{-4} =$ **143,916.84 EUR**. This amount is considered as the balancing figure of the IBL account. Accordingly the difference on valuation equals to: 14,486.13 + 143,916.84 - 142,805.50 =**15,597.47 EUR**. The difference is transferred to the debit side of the R/E account.

DR	Retained	Earnings	15,597.47	EUR
CR	Interest	Bearing Liabilities	15,597.47	EUR

Observe the accounts below:



Exhibit 2: Accounts as at 31.12.20X3

Observe the balance sheet as below:

STATEMENT of FINANCIAL POSITION						
Α	as at 31	L.12.20X3		C, L		
Non-current assets	[EUR]	Equity	[EUR]			
Ρ, Ρ, Ε		Share capital				
Intangibles		Reserves				
Financial assets		Retained earnings	51,597.03			
Current assets		Liabilities				
Inventory		Interest bear liab	143,916.84			
Accounts receivables		Accounts payables	14,486.13			
Prepaid expenses		Provisions				
Cash/Bank	210,000.00	Tax liabilities		_		
Total assets	210,000.00	Total equity and liab.	210,000.00	-		

# Spakenburg Ltd.'s STATEMENT of FINANCIAL POSITION

Exhibit 3: Balance sheet