INSTITUTE AND FACULTY OF ACTUARIES

April 2019

Subject CP3 – Communications Practice

Scenario Material

INSTRUCTIONS FOR CANDIDATES

You are provided with this advanced information to enable you to digest it in your own time, and not under exam conditions. Please note that this is an exam to test your ability to communicate technical information to a non-technical audience. It is not a test of your knowledge of any technical actuarial knowledge or skills. As such, any technical actuarial information or techniques that you need to answer the question will be provided. You do not need to spend time revising other subjects or looking for further information on the topics covered in the paper. You must assume that any numerical information provided in this scenario material is correct unless otherwise stated.

Background

Dunforth Logistics is a multinational shipping company that specialises in transporting large quantities of mined materials using container ships. Around half of the company's income comes from transporting crude oil, with the remainder coming primarily from the shipment of sand and the ores of minerals such as lithium and cobalt.

The company sponsors a large defined benefit pension scheme ('the Scheme') that is now closed to future accrual of benefits. A valuation of the Scheme as at 31 October 2018 has just been completed by the actuarial advisors to the Trustees of the Scheme. The following pages contain some extracts from the valuation report, which was presented to the Trustees at the last meeting just over a month ago. The report covered the following areas:

- valuation data
- assets
- key assumptions
- valuation results
- scheme benefits.

Valuation data

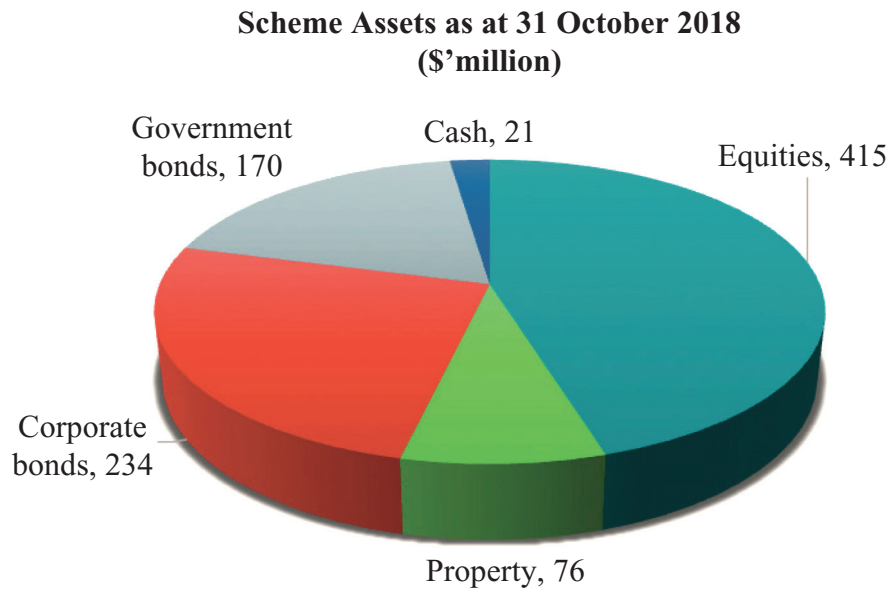The valuation has relied on the following data sources:

1   A data extract of current pensioners and deferred pensioners as at 31 October 2018, as provided by the Scheme's administrators. There are no active members now that the scheme is closed.

2   The Scheme's accounts as at 31 October 2018.

3   The results of the previous actuarial valuation as at 31 October 2015.

The data has been checked for consistency and reasonableness, and we are satisfied that it is adequate for the purposes of the actuarial valuation. The data checking did not constitute a full data audit.

Assets

The Scheme's asset allocation is shown below. The total assets in the Scheme as at 31 October 2018 were $916 million.

Scheme Assets as at 31 October 2018
($'million)

Government bonds, 170

Cash, 21

Equities, 415

Corporate bonds, 234

Property, 76

The average annual return on the assets over the last three years has been 5.7%. The Scheme's asset managers continue to move assets out of equities and into both corporate and government bonds over time, in line with the statement of investment principles agreed with the Trustees. It is expected that the Scheme will have no equity holdings in approximately ten years.

Key assumptions

The key assumptions for the valuation as at 31 October 2018 that have been agreed with the Trustees are shown below.

	Assumption	*Comment*
Discount rate	3.8% p.a.	Government bond yields for durations that match the liabilities of the Scheme are around 3.1%. The discount rate has been set to reflect the investment strategy of the Trustees and the strength of the sponsoring employer.
Pension increases in deferment	2.4% p.a.	Equal to the assumption for future inflation, which is derived from the difference between the yields on fixed and inflation-linked bonds of appropriate duration.
Pension increases in retirement	2.2% p.a.	Derived from the future inflation assumption, but adjusted to allow for the cap on pension increases of 3% p.a.
Mortality base table	89% of Actuarial Table 2016 medium	Latest standard actuarial table, adjusted to reflect the observed mortality experience in the Scheme.
Mortality trend assumption	Actuarial investigation 2016 trend model, 1.5% underpin	Latest standard actuarial mortality trend model, with a minimum improvement of 1.5% p.a. for prudence.
Proportion married	Actual data where available, or assumption of 67% where we have no data	The administrators have data on the marital status of 60% of the pensioners. This data was taken from a survey of pensioners run in 2015. Based on this data, the proportion married has been calculated, and applied to any member where data is not available.

Valuation results

The following table shows the results of the valuation on the Scheme's funding basis (as outlined in the 'Key Assumptions' section). For reference, the corresponding results from the previous valuation have been provided.

$'million	31 October 2018	31 October 2015
Deferred pensioners	549	503
Pensioners in payment	603	516
Total liability	**1,152**	**1,019**
Assets	**916**	**831**
Surplus/(Deficit)	**(236)**	**(188)**
Funding level	80%	82%

The principal reasons for the change in funding level over the three years between the two valuations are:

1   A decrease in government bond yields has reduced the discount rate. This has increased the liabilities, and hence the deficit, by around $92m.

2   The asset returns have been higher than assumed at the last valuation (5.7% rather than the assumed rate in 2015 of 4.2%). This has decreased the deficit by around $41m.

3   The sponsoring employer has contributed $30m as a result of the funding negotiations following the previous valuation.

4   The deficit has increased with interest over the three-year period by around $25m.

Under the legislation which applies to the Scheme, the company must pay in contributions which are projected to eliminate the deficit in not more than ten years. The company must make contributions of $29 million per year to eliminate the deficit of $236 million in the ten years following 31 October 2018.

Appendix 1: Scheme benefits

Retirement age	65
Pension amount	1/60 multiplied by years of service with company multiplied by final pensionable salary
Final pensionable salary	Salary on leaving company less $3,000
Spouse's pension	66% of full pension paid to surviving spouse on the death of the member
Early retirement	Early retirement is possible at the discretion of the Trustees, and pension will be reduced to allow for early payment
Late retirement	Pension increased by 8% per year of late retirement
Pension increases	Pensions increase in payment in line with inflation capped at 3% p.a.
Deferred revaluation	Deferred pensions increase before retirement at the rate of inflation

END OF SCENARIO MATERIAL