SALE OF CROWN-FUNDED IRRIGATION SCHEMES

Report to Parliament

November 1992
REPORT TO PARLIAMENT

Report No 2

Introduction

The sale of the community irrigation schemes previously funded and owned by the Crown is proceeding under the provisions of the Irrigation Schemes Act 1990. The Act is administered by the Minister of Agriculture.

The Act authorises the Ministers of Agriculture and Finance, acting jointly on behalf of the Crown, to sell or otherwise dispose of any irrigation scheme owned by the Crown. The Act sets out procedures for the transfer of assets and disposal of the schemes.

Requirements of the Act

Section 3(2) requires the Minister of Agriculture, as soon as practicable after a sale has been agreed, to publish in the Gazette and lay before the House of Representatives a statement containing such details relating to that agreement as sets out procedures for the transfer of assets and disposal of the schemes.

Source of Financial Information

This statement covers the sale of 14 irrigation schemes to 13 Irrigation Companies. It is the second of several statements that will report the sale of the irrigation assets. The last report will summarise the costs of the sales to the Crown and the revenue received.

Source of Financial Information

The source of the financial information is given on below. This information must be read with the statement on each scheme.

JOHN FALLOON, Minister of Agriculture.


ARROW RIVER

1. Description

The scheme was purpose built for irrigation over 4 years from 1926 to 1930. It draws up to 1.75 cumec from the Arrow River at a concrete weir intake in the Arrow Gorge. Rivetted 0.8m diameter steel pipes carry the water 5.4 km down the gorge to the Arrow flats. The irrigation area is rolling country, much dissected by glaciation, and is served by a race system now reduced to 61 km including 6 km of steel pipe syphons.

Originally 1200 hectares and 60 properties were irrigated but this area reduced during the 1970's to about 900 hectares due to disinterest in irrigation and major failures of some of the distribution races. While many of the smaller structures are functional, the future of the scheme will depend on the maintenance of the old gorge pipeline and the risk of slip damage.

The assets sold include 2 houses.

2. Previous Gazette References

8 March 1926, NZ Gazette No 15, page 655

3. Purchaser

Arrow Irrigation Company Ltd

4. Effective Date

5. Date of Purchase

6. Date of Financial Settlement

Amount of Settlement ($)

7. Purchase price paid for the assets

8. Water rates revenue refunded

9. Other payments by the Crown

10. Net Settlement by Crown

11. Debtors transferred to Purchaser ($)

Assets & Liabilities of the Crown before Settlement ($)

12. Historic Capital Cost

13. Accumulated Liabilities

14. Liabilities Retained by the Crown

None

BANNOCKBURN

1. Description

Water for this small scheme is drawn from tributaries of the Nevis River and carried in a high level race over the Carrick Range to irrigate pockets of land south of Bannockburn. The race was constructed during the 1880s for gold mining and now irrigates an area of 330 hectares.

The Carrick Race is 27 km long and passes through 2 tunnels. The race fell into disrepair. In 1922 a group of farmers formed the Bannockburn Water Board and borrowed finance from the Vincent County Council to restore the race. The Water Board maintained the race from annual charges for water.

Successive attempts to involve the Government were declined until the Crown took over the scheme and the mining rights from the Council in 1957. The Government then paid for repairs and recovered the cost from annual rates.

2. Previous Gazette References

None

3. Purchaser

Carrick Irrigation Co Ltd

4. Effective Date

5. Date of Purchase

6. Date of Financial Settlement

Amount of Settlement ($)

7. Purchase price paid for the assets

8. Water rates revenue refunded

9. Other payments by the Crown

10. Net Settlement by Crown

11. Debtors transferred to Purchaser ($)

Assets & Liabilities of the Crown before Settlement ($)

12. Historic Capital Cost

13. Accumulated Liabilities

14. Liabilities Retained by the Crown

None

LEVELS PLAIN

1. Description

Levels Plain Scheme was built in the 1930s to provide employment near Timaru. Construction of the Scheme was completed in 1937 to serve 4850 hectares. On-farm development was very slow and by 1954 only 6% of the area was border dyked. Apathy and wide seasonal variations in use were the main problems. Initially water was sold on demand and it was not until 1949 that water contracts were introduced.

A proposal to renew the scheme was supported by the landowners and approved by Government in 1986. The
50% suspensory loan. The on-farm work was eligible for a construction continued progressively through to the end of the season. As the season progresses, infiltration raises the level of the ground water so that it can be used for irrigation when the River level is low.

From 1986 onwards, the original river intake and races were repaired and renewed. The operation of the schemes was upgraded by automation and an increase in race capacities. The renewal included integration of the surface and underground sources of water supply through the use of pumping from ground water later in the irrigation season. This plan intended that users of underground water would be liable to contribute to the cost of maintenance of the surface supply scheme on which the underground resource depended. However, landowners who do not belong to the Scheme were given permits to pump water from the underground resource without a requirement to contribute to the Scheme costs or to operate under the same constraints as the irrigators under the Scheme supply.

The final stage of construction of the Scheme was transferred to the Irrigation Company to complete in 1989. A total of 85 km of race now serves over 70 irrigators. A revised command area of approximately 3,000 ha is now being supplied.

The assets sold include a Depot and a house at Temuka.

**2. Previous Gazette References**

1 May 1986, NZ Gazette No 66, page 1888

**3. Purchaser**

Levels Plain Irrigation Co Ltd

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**6. Date of Financial Settlement**

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**7. Purchase price paid for the assets**

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**8. Water rates revenue refunded**

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**9. Other payments by the Crown**

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**10. Net Settlement by Crown**

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**11. Debtor transferred to Purchaser ($)**

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**Loburn Irrigation Co Ltd**

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<td>14. Liabilities Retained by the Crown</td>
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**LOWER WAITAKI**

**1. Description**

The Lower Waitaki Irrigation Scheme commands an area of 14800 hectares involving over 160 properties and 200 km of races. The Scheme incorporates the Steward Settlement Stock Water supply race constructed in 1912. Water is taken from the south bank of the Waitaki River at Black Point into a ponding area and into the race distribution system.

Work commenced in 1970 and was completed in 1982. First supply was available in 1974 and progressively extended until the distribution works were completed.

The main races also intercept flood water from the hills and discharge this to both the coast and the Waitaki River. The Government paid the full cost of the Scheme and intended to recover interest on quarter capital under the Public Works Act 1960.

The area is fully developed for water use, this being achieved without any Government funds for on-farm development. Most of the area is border dyked with some spray irrigation on the more fertile soils. Water is supplied throughout the year to the Oamaru Borough and the Pukeurir Freezing Works as well as to two Rural Water Schemes. The old Oamaru Borough race system from the Waitaki River was abandoned with the completion of the irrigation scheme.

The Papakalao depot was transferred to the Company.

**2. Previous Gazette References**

16 April 1970, NZ Gazette No 23, page 670

**3. Purchaser**

Lower Waitaki Irrigation Co Ltd.
The scheme serves 547 hectares on 14 properties using water from an intake on the south bank of the Waitaki River. The scheme was constructed over a 2 year period though a full supply of water was not available until 1981 due to problems with the intake. Lack of security with the intake prevented formal supply agreements from being commissioned.

On-farm development of border-dykes was funded under the 1975 policy for 50% suspensory loan. The on-farm work was eligible for a suspensory loan for a period of 10 years from the date water was first supplied to the property and finally ended with the 1986/87 financial year.

The assets include an area of land purchased to enable the Intake to be extended.

2. Previous Gazette References
29 May 1975, NZ Gazette No 45, page 1200
11 September 1975, NZ Gazette No 74, page 2014
3. Purchaser
Maerewhenua District Water Resource Co Ltd

4. Effective Date
31.10.89
5. Date of Purchase
3.7.90
6. Date of Financial Settlement
31.7.92

Amount of Settlement ($)
7. Purchase price paid for the assets
1
8. Water rates revenue refunded
28,184
9. Other payments by the Crown
0
10. Net Settlement by Crown
28,183
11. Debtors transferred to Purchaser ($)
0

Assets & Liabilities of the Crown before Settlement ($)
12. Historic Capital Cost
32,078,527
13. Accumulated Liabilities
179,946
14. Liabilities Retained by the Crown
None

MANIOTOTO
1. Description
Government approval for the Maniototo Irrigation Scheme in 1976 culminated nearly 70 years of planning and promotion from the farming community. Water is stored in the Great Moss Swamp by the Loganburn Dam. This source provides a continuous supply for irrigation when flows in the Taieri River are low.

Work on the irrigation scheme commenced in 1976 but was suspended when the Otago Electric Power Board proposed a combined Hydro Power and Irrigation Scheme under the 1978 Government policy for funding small hydro development. The Crown and the Otago Electric Power Board entered into an agreement for construction of headworks that are common to the irrigation and power schemes. The headworks were commissioned in 1986. There were major problems with the headworks due to unstable country.

A weir on the Taieri River diverts river flows into the common headworks through a 1.3 km tunnel into the power house. Water for irrigation is available at the downstream end of the penstocks.

The irrigation works restarted in 1980 but stopped again in 1983 due to rising costs. Only 3850 hectares of the west side of the Taieri River which is approximately a third of the original irrigation area, was completed.

On-farm development of border-dykes was funded under the 1975 policy for 50% suspensory loan. The on-farm work was eligible for a suspensory loan for a period of 10 years from the date water was first supplied to the property and finally ended in 1996.

After the irrigation scheme was sold by the Crown in 1990, two private irrigation companies built low cost, low impact irrigation schemes to serve an area of 2700 hectares on the east side and 1500 on the west side of the Taieri River. These areas were to have been served by the original scheme. Water to the new companies is provided by the Maniototo Irrigation Company that purchased the assets from the Crown.

3. Purchaser
Maniototo Irrigation Co Ltd

4. Effective Date
1.9.89
5. Date of Purchase
3.7.90
6. Date of Financial Settlement
29.10.91

Amount of Settlement ($)
7. Purchase price paid for the assets
1
8. Water rates revenue refunded
0
9. Other payments by the Crown
0
10. Net Settlement by Crown
0
11. Debtors transferred to Purchaser ($)
236

Assets & Liabilities of the Crown before Settlement ($)
12. Historic Capital Cost
32,078,527
13. Accumulated Liabilities
179,946
14. Liabilities Retained by the Crown
None

MANUHERIKIA
1. Description
This irrigation scheme is the earliest purpose-built community irrigation scheme though it incorporates some old mining races and mining rights near Alexandra. Construction was carried out from 1917 to 1922.

The oldest part of the scheme draws 0.8 cumec from the Chatto Creek and was constructed for mining in 1864. It was subsequently taken over by the Alexandra Borough and purchased by the Crown in 1922.

The main water source is 2.4 cumec taken from an intake in the Manuherikia River gorge. The headworks for the scheme, which are vulnerable to damage due to their age and location, comprise two tunnels 0.5km and 1.6 km in length, a silt trap, concrete channels, the Chinky Gully flume and Chatto Creek
OMAKAU

1. Description

Omakau scheme is sited in the upper Manuherikia Valley. It uses water from the following sources:

- up to 1.6 cumec released from storage in the Falls Dam in the upper Manuherikia Valley
- up to 1.2 cumec from the Dunstan, Matakanui, and Lauder Creeks
- water from other tributaries when available.

The Falls Dam was constructed during the Depression years 1932 to 1935. The dam is rockfill, 33.5m high, 155m along the crest, and is faced with a concrete membrane. Water is released down a glory hole spillway and discharged at the base of the dam into the river gorge.

There is an extensive distribution system comprising 75km of open race and syphons to convey water from the Manuherikia source, and 85km from tributary sources. The Scheme supplies more than 80 properties irrigating 1030 hectares.

The assets sold comprise two irrigation schemes constructed by the Crown.

2. Previous Gazette References

11 January 1962, NZ Gazette No 1, page 4

3. Purchaser

Pisa Irrigation Co Ltd

Piisa Irrigation Co Ltd

4. Effective Date 17.8.89
5. Date of Purchase 26.10.90
6. Date of Financial Settlement 16.6.92

Amount of Settlement ($)

7. Purchase price paid for the assets 0
8. Water rates revenue refunded 152
9. Other payments by the Crown 25,500
10. Net Settlement by Crown 21,995
11. Debtors transferred to Purchaser ($) 0

Assets & Liabilities of the Crown before Settlement ($)

12. Historic Capital Cost 199,287
13. Accumulated Liabilities 593,252
14. Liabilities Retained by the Crown None

UPPER WAITAKI

1. Description

The assets sold comprise two irrigation schemes constructed by the Crown.

The Upper Waitaki Irrigation Scheme draws 1 cumec from the Waitaki Power Scheme reservoir above Kurow and distributes the water by gravity to 45 properties irrigating 1400 hectares. The irrigation scheme was approved in 1961 and was the first constructed under the Public Works Act 1960 which
The main water race in the lower scheme is 30 km long and syphons are utilised in crossing the numerous creeks and steep gullies within the distribution systems.

2. Previous Gazette References

Gravity Supply
24 August 1961, NZ Gazette No 53 Page 1302
4 May 1978, NZ Gazette No 37, page 1306

Pumped Supply
27 February 1969, NZ Gazette No 12 page 363
1 May 1980, NZ Gazette No 49, page 1268

3. Purchaser
Upper Waitaki Irrigation Co Ltd

4. Effective Date
5. Date of Purchase
6. Date of Financial Settlement

7. Purchase price paid for the assets
8. Water rates revenue refunded
9. Other payments by the Crown
10. Net Settlement by Crown
11. Debtors transferred to Purchaser ($)

Amount of Settlement ($)

 Assets & Liabilities of the Crown before Settlement ($)

WAIUA

1. Description
The Scheme draws water from the Waiaua River near Opotiki to supply an area of 110 hectares involving 16 properties. Water is pumped into storage and then piped to the properties through 6 km of main line. The Scheme was only partly developed for horticulture due to the fall in financial returns from the horticultural industry.

A $22,000 cash grant was given to the irrigators to provide an establishment fund.

Supply commenced in September 1984. The Scheme was designed for a flow rate of 62.5 litres/second for an on orchard supply of 0.5 litres/second/hectare.

2. Previous Gazette References
2 February 1984, No 10, page 262.
8 August 1985, No 145, page 3334.

3. Purchaser
Waiaua Irrigation Co Ltd

4. Effective Date
5. Date of Purchase
6. Date of Financial Settlement

Amount of Settlement ($)
7. Purchase price paid for the assets
8. Water rates revenue refunded
9. Other payments by the Crown
10. Net Settlement by Crown
11. Debtors transferred to Purchaser ($)

8. Water rates revenue refunded
9. Other payments by the Crown
10. Net Settlement by Crown
11. Debtors transferred to Purchaser ($)

WAIAUA

1. Description
The Scheme draws water from the Waiaua River near Opotiki to supply an area of 110 hectares involving 16 properties. Water is pumped into storage and then piped to the properties through 6 km of main line. The Scheme was only partly developed for horticulture due to the fall in financial returns from the horticultural industry.

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2. Previous Gazette References
2 February 1984, No 10, page 262.
8 August 1985, No 145, page 3334.

3. Purchaser
Waiaua Irrigation Co Ltd

4. Effective Date
5. Date of Purchase
6. Date of Financial Settlement

Amount of Settlement ($)
7. Purchase price paid for the assets
8. Water rates revenue refunded
9. Other payments by the Crown
10. Net Settlement by Crown
11. Debtors transferred to Purchaser ($)

8. Water rates revenue refunded
9. Other payments by the Crown
10. Net Settlement by Crown
11. Debtors transferred to Purchaser ($)

WOLDS

1. Description
The Wolds Irrigation Scheme consists of two 350 mm pipe syphons from the south side of the Tekapo-Pukaki power canal 10 km from the Tekapo A Power Station. Each syphon has a controlled outlet and can deliver 0.35 cusec. The assets sold include easements for the syphons and water rights.

The Scheme was designed to irrigate 400 hectares on two properties. The on-farm development received a 50% suspensory loan for a period of 10 years which ended in 1991.

2. Previous Gazette References
No Gazette references

3. Purchaser
Ministry of Defence

4. Effective Date
5. Date of Purchase
6. Date of Financial Settlement

Amount of Settlement ($)
7. Purchase price paid for the assets
8. Water rates revenue refunded
9. Other payments by the Crown
10. Net Settlement by Crown
11. Debtors transferred to Purchaser ($)

8. Water rates revenue refunded
9. Other payments by the Crown
10. Net Settlement by Crown
11. Debtors transferred to Purchaser ($)

SOURCE OF FINANCIAL INFORMATION

The financial information in this report has been prepared by the Ministry of Agriculture and Fisheries from the best historical information available to the Ministry when it took over responsibility for Community Irrigation Schemes owned by the Crown on 1 April 1988. The approach taken by MAF was determined and assessed by Touche Ross, Accountants, and found to be valid. The Audit Office reviewed the accounts prepared by MAF for presentation and reasonableness of the accounting treatment.

Accounting by the Crown
The Crown’s irrigation assets and liabilities were not recorded in the Crown Accounts during the management of the assets by the Ministry of Works and Development prior to 1 April 1988. After the assets were transferred to MAF on 1 April 1988, expenditure from that date was recorded in the accounts of MAF Technology until 30 June 1990. From 1 July 1990, all
expenditure on the operation and maintenance of the schemes, and the costs and revenue from their sales have been recorded in the Crown accounts.

The full balance sheets for the Crown Accounts were established on 1 July 1991. The values of the assets and liabilities were based on the estimated amounts due to be received by and paid by the Crown after 1 July 1991 under the terms of the Sale and Purchase Agreements.

**Settlement Payments to or by the Purchasers**

The financial settlements with the Purchasers were carried out by MAF. The final outcomes of the settlements were reviewed by Deloitte Ross Tohmatsu. The sources of the information were not audited, nor were they reviewed in terms of the New Zealand Society of Accountants Statement of Review Engagement Standards. The financial information has, however, been accepted by the Irrigation Companies concerned as full and final settlement of their Agreements for purchase of the assets.

Prior to making payment, the settlements were referred to Treasury to confirm that they reflected the intentions of the Sale and Purchase Agreements.

**GST Liability**

These financial statements do not include GST although the settlement payments by the Crown covered the Purchasers liability for GST. The Purchasers paid GST on work carried out by the Crown after the effective date, but were not required to pay GST on the price paid for the assets.

**List of Crown-funded Irrigation Schemes Sold**

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<td>Waiau Plains, Waiareka</td>
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**VALUING THE IRRIGATION SCHEMES**

A valuation model was developed jointly by the Ministry of Agriculture and Fisheries and the Treasury. This model formed the basis for the Crown's negotiation with irrigators. In effect, values determined by using this model became upper bounds on the sale process.

The model first calculated the price that the irrigators could pay for water, based on the production differential between dry land and irrigated land. The expected operating and maintenance costs were then added into the model and pre-tax and post-tax cash flows were calculated. The post-tax cash flow was discounted at a 7.5% real, post-tax rate of return (approximately equivalent to 11% pre-tax) to produce an economic value for the scheme. The discount rate was based on expected rates of return for other rural investments.

The above value was then adjusted downwards in recognition that as a normal commercial product, water can be used as an input for a wide range of products on farm. Therefore, it cannot be sold to individuals at different prices reflecting different land uses. As the predominant land use was for pastoral irrigation for sheep farming, the valuation was recalculated assuming that the gross margins for sheep applied to the total area currently irrigated. In essence, the value calculated was the marginal value for sheep farming.

The values calculated by the model were dependent on a number of key assumptions. The most important of these was that all past costs incurred by both the Crown and irrigators were sunk, that a uniform water charge is applied across all the users of each scheme, and that the charge must be affordable to a substantial majority of those users.

It was also recognised that a scheme's value derives from past investment by both the Crown and the Irrigators. The Crown in the form of capital costs and accumulated liabilities; the Irrigators in the form of on-farm development costs and, in some cases, a share of the off-farm costs. It was also recognised that the two sets of investments are equivalent to shares in a partnership, with one partner having the opportunity to buy out the other.

A number of other factors could not be included in the valuation model but nonetheless played a role in determining sale prices. Through the negotiation process, these factors, for example the level of risk and historical debt, generally acted to reduce the estimated value of the schemes.

The sale process was also constrained by the absence of competitive bidders because the Government directed that schemes would be offered first to irrigators. While this undoubtedly had the effect of reducing sale prices, it also minimised monopoly and regulatory questions that would have arisen if schemes had been sold to a party other than the irrigators. The offers that were finally accepted from irrigators were below the Treasury's estimate of the irrigators' share of the commercial value of the scheme derived by the above...
valuation process. It is believed that for many of the schemes there would have been few, if any, alternative buyers.

GLOSSARY

1. Description
This section describes the main features of the assets sold by the Crown that relate to the sale and purchase agreement. Two or more adjacent irrigation schemes constructed by the Crown as separate legal entities may have been combined for the purposes of sale.

2. Previous Gazette references
These are the Order or Orders in Council defining the Irrigation District(s) for the scheme(s) constructed by the Crown. These Orders were automatically revoked under the provisions of the Irrigation Schemes Act 1990 when the ownership of the assets transferred to the Purchaser.

3. Purchaser
The legal entity that purchased the assets. They are all irrigators.

4. Effective Date
The date from which the Purchaser accepted financial responsibility for the scheme.

5. Date of Purchase
The date on which the sale and purchase agreement for each sale became unconditional.

6. Date of Financial Settlement
The date on which the Purchaser legally became the owner of the assets. This date was agreed between the parties after the net settlement was finalised.

7. Purchase Price Paid for the Assets
The negotiated price for the assets.

8. Water Rates Revenue Refunded
Revenue collected by the Ministry of Agriculture and Fisheries for water supplied during the irrigation season or seasons prior to the effective date and paid to the Purchaser. If the Crown continued to operate the scheme after the effective date, the operating costs were deducted from the revenue due to be refunded to the Purchaser. This revenue was not included in the assets valued for sale. The revenue was returned because of the cash flow effects of changing from a system of charging in arrears to current invoicing. In the past, irrigators were invoiced annually after the end of the irrigation season. This meant that in a year the irrigators took over responsibility for the scheme, water rates paid to the Crown for operating the scheme during the previous irrigation season occurred at the same time as the irrigators commenced payments for current operations under their own company structure.

9. Other Payments by the Crown
These are grants to complete the initial construction of new schemes or to cover the liabilities of completed schemes. These costs arise from compensation for cancellation of water supply agreements, completion of dam investigations, provision of new works to improve water supply, refurbishment of water races.

10. Net Settlement
The amount of settlement had regard to the purchase price, water rates revenue refunded less any work done by the Crown for the Purchaser after the effective date, payments by the Crown and penalty interest. Financial settlement was concluded with a payment by either the Purchaser or the Crown. Late payments attracted penalty interest where there was an agreement to do so.

11. Debtors Transferred to the Purchaser
Revenue not collected by the Crown for water supplied during irrigation seasons prior to the effective date. The debtors ledger was transferred to the purchaser with the right to collect the debts.

12. Historic Capital Costs
These are the costs incurred by the Crown on the construction of the irrigation scheme and are reported in the dollars of the day. These costs include refurbishment of the old Central Otago schemes. The historic costs also include on-farm development for schemes approved between 1975 and 1983 plus any amounts unpaid by participating farmers for their 50% share of the cost.

Historic costs, in the main, represent the cost of the off-farm works prior to the commencement of the water supply as given in the description for each scheme.

13. Accumulated Liabilities
These comprise both operating losses and non-operating losses over the life of the scheme up to the effective date. The sums shown are in dollars of the day. Operating losses are those day to day costs incurred in the operating and maintenance of the scheme. They include unpaid water rates levied on the users for payment of those activities. Non-operating losses are those costs arising from the accumulation of capital charges. These apply only to schemes constructed after 1975 where the users were required to pay a portion of the capital spent on the construction of the scheme as a loan. The non-operating losses also include interest on a portion of the capital spent by the Crown and applies to all schemes but in different portions. Penalties on water rates are also included under this heading.

14. Liabilities Retained by the Crown
The Crown retained liabilities where the cost is uncertain and likely to be significant. These largely relate to unsettled compensation claims arising from scheme construction and possible liabilities pertaining to the irrigation dams.

REFERENCES

1. Corporate Structure for Private Ownership of Community Irrigation Schemes in New Zealand, Touche Ross, September 1988

2. New Zealand Community Irrigation Schemes Historical Accounts up to the Completion of the 1987/88 Irrigation Season; 2 volumes, Ministry of Agriculture, December 1989


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