Office of Utilities Regulation

National Irrigation Commission

Review of Irrigation Rates for Sevens River

Determination Notice

OFFICE OF UTILITIES REGULATION

December 3, 2007

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DOCUMENT TITLE: National Irrigation Commission Review of Irrigation Rates for Sevens River, Determination Notice

1. PURPOSE OF DOCUMENT

Sets out the Office's Decision on National Irrigation Commission's application for irrigation rates for Sevens River.

RECORD OF REVISIONS

Revision Number	Description	Date
-	-	-

APPROVAL

This document is approved by the Office of Utilities Regulation and becomes effective on December 15, **2007**.

On behalf of the Office:

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J Paul Morgan
Director General

December 3, 2007
Date

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Chapter 1: Executive Summary

1.1 The NIC has undertaken several programmes, as part of the National Irrigation and Development Plan (NIDP) project, geared towards rehabilitating existing irrigation infrastructure and building new irrigation networks. Sevens River in St. James was identified as one of the areas in which there was need for the expansion of existing irrigation network. This expansion would yield 488,868 cubic metres of irrigation water for 32 hectares of farm land. This project would benefit 32 customers. The provision of this irrigation service is considered beneficial as it would allow for all year access to irrigation water instead of the present reliance on seasonal rainfall between April to November.

1.2 The NIC will operate the systems in the initial stages of the project during which it will spearhead the training to the members of the Water Users Association (WUA), so that they can assume responsibility of the system in the long term.

1.3 A significant portion of the project costs will be funded by the Government of Jamaica, but given that this project is independent of the NIC's existing operations, it is the government's policy that the rates charged for the service must be cost reflective.

1.4 The NIC submitted a rate application to the Office on 3rd April 2007 requesting a decision on the recovery rate to be charged for the services. The NIC estimates that the project's total annual operating cost associated with this project is $2.442M. This amount was apportioned among direct and fixed cost of $1.662M and $780,000 respectively. The fixed cost was used to develop the service charge and the variable cost used to calculate the volumetric rate.

1.5 NIC proposed a service charge of $2,031.25 per hectare and a volumetric rate of $3.40 per cubic metre.

1.6 A public consultation was held on 6th July 2007 with the farmers of the Sevens River community. Their main concerns were reliability of service and long term feasibility of the project.

1.7 After reviewing the NIC's application, the Office has determined that the service charge is $1,875 per hectare. This service charge is a fixed monthly charge and must be paid irrespective of the amount of water consumed.

1.8 The Office has also determined that the demand charge is $3.39 per cubic metre.

1.9 The rates are effective December 15th 2007 and will be for a period of at least fifteen (15) months. NIC is required to submit audited financial statements for at

least the first financial year as a precondition to the Office's next review of the rates.

Chapter 2: Overview

2.1 Background

Sevens River is located in St James and was identified as one of the project areas that required expansion of the existing irrigation network under the National Irrigation Development Plan (NIDP) feasibility study done in 1999. The irrigation system will be gravity fed.

2.2 Presently, the agricultural crops are sustained by rainwater between April to November but the rainfall from December to March is insufficient to sustain agricultural activity. The proposed expansion in the irrigation systems will provide sufficient water to be utilized on the crops throughout the year. The proposed service area has eight (8) different soil types ranging from a clay loam to heavy clays. The dominant crops in area are citrus, coffee, dasheen and plantain.

2.3 The main objective of this project is to provide irrigation water for 32 hectares in Seven Rivers. A Water Users Association (WUA) will be established to manage some aspects of the system.

2.4 The network layout is designed to facilitate the delivery of water by gravity to lands at the 130 m contour. The pipeline will run from a new Intake Structure along the old alignment (to Hazelymph) to the south of the railway line to just beyond the take-off for Hazelymph. It then turns north and crosses the rail tracks (again) and continues for an additional 2000 m before crossing the rail tracks and entering the farming area. At this point the water is distributed in 150 mm diameter pipes to the farms.

Chapter 3: NIC's Proposal

3.1 Introduction

The NIC submitted an application to the OUR on April 3rd 2007 requesting a determination of the recovery rate for agricultural customers

3.2 As with the Beacon/Little Park and Hounslow projects, the NIC will operate the Seven's River project in the initial phase but will eventually transfer ownership to WUA after the members have received adequate training. At that time, the NIC will provide advisory and technical support

3.3 Projected customer base and water production

The Sevens River project is the smallest of the three programmes that will be implemented under the NIDP. NIC expects to produce 488,868 cubic metres (m^3) of water annually and sell its services to 25 customers. The total acreage that will receive service under this project is 32 hectares (ha).

3.4 Proposed Rates

The NIC proposed a demand charge of $\$3.40/m^3$ which is derived from dividing the total variable cost of $1.662M by the volume of water to be sold.

A monthly service charge of $2,031.25 is also proposed and is calculated by dividing the total fixed cost of $780,000 by total irrigated area.

The NIC also proposed an indexing mechanism similar to the NWC's price adjustment mechanism (PAM) applied to the rates on an annual basis.

Unlike other NIC programmes, the government will not subsidize the operational cost of the project. As such, it is essential that the operating costs are fully recovered.

3.5 Total operating expense

NIC states that the capital expenditure associated with this project for the development of the irrigation system is $27.132M, and the yearly operating cost is $2.442M. Table 1 outlines the summary of NIC's proposed capital and operational expenditure to support this project.

Table 1: NIC's Proposal

Category	**-**	**Amount ($)**	**Amount ($)**
Volume of water to be produced (cubic metres)	488,868	-	-
Total area (hectares)	32		
Type of expenses:-	-		
Salaries		1,302,000	
Repairs and maintenance - pipeline		120,000	
Other direct costs (roads and verges)		240,000	
Total variable cost			***1,662,000***
Administrative and billing		360,000	
Office expenses		120,000	
Office utilities		60,000	
Rental Premises		120,000	
Operation supervision		120,000	
Total fixed cost			***780,000***
Total operating cost			**2,442,000**
Total capital cost			27,132,000
Proposed rate per cubic metre (demand charge)			**$3.40**
Proposed service charge per hectare			**$2,031.25**

3.5.1 Electricity expense

The NIC states that the irrigation system is gravity fed as such there is no provision for electricity expense.

3.5.2 Employee costs

Because of the small project area and the close knit community in which it will be operated, the NIC assumes that the beneficiaries of the service will exercise collective responsibility in ensuring that the irrigation systems is not compromised. Consequently, the staffing is expected to be minimal. NIC proposal included provision for a system operator and 10% of the regional manager and works supervisor services.

NIC allocates $1.302M to cover the cost of these personnel. This amount contributes 78% to the proposed total direct cost of $1.662M.

3.5.3 Repairs and Maintenance

The NIC made provision of $120,000 for contractual work to repair pipelines. The NIC assumed that at least one 20 feet length of pipe will be damaged each month and would require replacement.

3.6 Fixed cost

The NIC also proposed fixed cost $780,000 to cover administrative and billing expense as well as rental of premises. This amount is expected to be recovered through the service charge.

3.7 Contribution to Capital Cost

The NIC has stated that the government will fund a significant portion of the capital costs and in accordance with the Government's Water Sector Policy; the users of new systems are required to contribute to the capital cost of the project. However, the government will determine the farmers' contribution, which will be determined by the types of crops produced. Consequently, there is no provision for capital contribution in the proposed rates.

3.8 The project was commissioned on 11th July 2007.

3.9 As a part of its tariff review process, the Office conducts public consultation on all rate applications. Subsequent to the receipt of the NIC's application, the Office issued a public notice inviting interested persons to submit comments on the application. It also arranged to have a public consultation with the farmers of Sevens River in St. James on July 6th 2007.

Chapter 4: Public Consultation

4.1 Introduction

The OUR held a public consultation meeting on 6th July 2007 at the RADA Agriculture Research Centre, Montpelier, St. James. Fifteen (15) farmers and executive members of the Seven Rivers Farmers' User Group were in attendance.

4.2 The OUR explained the purpose of the consultative meeting and invited the NIC to make its presentation regarding the proposed rates and service standards. During its presentation, the NIC indicated that the water system will become fully operational by October 2007 and presented information regarding:

- Monthly volume of water to be produced
- Total direct operating costs
- Total fixed operating costs
- Total capital costs.

4.3 Quality of Service Standards (proposed)

The following are NIC's proposed quality of service standards:

- Bills are to be made available within 15 days of the end of the billing period.
- Reconnection of service [stemming from disconnection for non-payment] within 72 hours of settlement of outstanding debt.
- NIC will acknowledge complaints within 48 hours.
- Farmers should expect to be connected within four (4) weeks of a request for service being made.
- With regard to meter reading, bills will be prepared on the basis of joint readings taken by the NIC representative and countersigned by the farmer.

4.3.1 There was no objection from the farmers to the proposed standards.

4.4 Operation of the irrigation project

The operation of the system will be supervised by the NIC through its operations centre with the direct involvement of the farmers' user group. NIC also provided the farmers with its contact information including the toll free access number (1-888-CALL-NIC, that is, 1-888-225-5642).

4.5 Farmers were encouraged to respect fellow farmers and treat with the water system accordingly. They were also reminded that the spirit of cooperation was

necessary for the success of the scheme regarding its protection, efficiency and effectiveness during the dry season (drought).

4.7 Comments on Schedule of Rates

- ***Service Charge - $2,031.25 per hectare (2.3 acres)***

4.7.1 Several farmers commented that the service charge was too high. However, NIC stated that the service charge was directly related to the fixed cost associated with the operation of the water system. This amount was spread equally over the number of farmers served but since the number of farmers was low compared to the other projects, the per unit cost will be relatively higher.

4.7.2 There was a discussion amongst the group on how the expense items that comprise the budgeted fixed cost can be reasonable reduced. The farmers' group indicated that the budgeted rental cost of $10,000 per month was excessive as it currently pays $3,000 per month. A proposal of $5,000 was made. The NIC advised that the proposed service charge will be reduced accordingly to reflect this proposal.

4.7.3 The NIC suggested that there is scope to further reduce the monthly service charge if the farmers group can convince the other farms in close proximity to the system to participate in the project.

- ***Unit Costs per 1,000 litres***

4.7.4 The farmers indicated that the cost per litres proposed by the NIC is reasonable but they enquired whether the rates will be fixed forever.

Response: The OUR stated that the unavailability of actual data to accurately project the cost that will be incurred by the system makes this unlikely. The rates that will be determined will remain in effect until NIC submits audited information on the project's operation. After the next rate review, the rates will be set for a period of 3 years and will only move by external variables such as inflation during this period. The OUR also advised the farmers' user group that after they have taken over the project's operation, it can also apply for rate adjustment if they think the rates are too low.

4.7.5 The farmers also enquired of the effect on the rates if the projected number of farmers used in NIC's calculation did not materialize immediately.

Response: The NIC responded that the rates will not be affected. It however advised that it is important that all persons are connected to the system, because some expense will still be incurred regardless of the number of farmers connected. This can result in higher fixed cost per user. The farmers were also reminded that they will eventually operate the system so it is in their interest to get everyone involved and connected to the project.

4.8 Comments on the long term viability of project

4.9 The farmers wanted to know about the measures that will be in place for farmers that are within the service area but are not using the land for farming.

Response: The NIC suggests that the farmers should have internal discussion in the farmers group on how to effectively market the benefits of the project to all land owners in the service area and also explore alternative means, like leasing, for these farmlands.

4.10 Farmers enquired if there will be any water restriction during the drought season and if there will be a quota on the amount of water each farmer can use.

Response: NIC advised that during drought periods, it will operate a rotating schedule whereby some farmers will get service in the morning whilst others will be provided in the evening. However, it does not specify the maximum amount of water each farmer can use.

4.11 Farmers were interested to know if the NIC will recover the capital cost over time but the NIC stated that while the farmers are expected to contribute a portion of the capital cost, the government will determine the amount of contribution and this will be influenced by the types of crop produced.

4.12 The NIC also stated that it would be providing training to the farmers' group to adequately operate and maintain the system.

Chapter 5: Office Evaluation of Application

5.1 Introduction

As the government will not subsidize the operational costs of this project, it is essential that these costs are fully recovered from the rates. In this evaluation, the Office has determined the service and demand charges such that there is full cost recovery.

5.2 Employee Costs

The NIC has proposed employee costs of $1.302M. This provision accounts for a systems operator and 10% of works supervisor and regional manager services.

5.2.1 The works supervisor is responsible for overseeing the daily operations of the plant and the system operator. This works supervisor is employed to the NIC's Braco District Office. The cost of this service is $150,000.

5.2.2 The regional manager will allocate 10% of his time to this project and is responsible for overseeing the daily operations, including the supervision of the works supervisor and systems operator. This manager will allocate 90% of his time to the Beacon/Little Park and Hounslow projects.

5.2.3 Normally, the 10% allocated to the works supervisor would have been excluded as the cost would have already been accounted for in NIC's economic rates, and its inclusion in this project's cost would result in an over recovery. The Office is however of the view that these circumstances are exceptional since it is important to develop rates for Sevens River that are cost reflective and would send correct signals to the customers. It has therefore allowed this provision.

5.2.4 The Office has not made any adjustments to NIC's provision of $1.302M.

5.3 Electricity

The system is gravity fed, resulting in no provision for electricity expense.

5.4 Repairs and Maintenance (R&M)

NIC had proposed a provision of $120,000 for repairs to pipeline. This cost is based on the assumption that 20 feet of pipeline would require repair each month. Whilst the Office accepts that overtime there will be wear and tear on the network assets, it does not expect that the new pipes installed will get damaged and require replacement within the first month of operation.

5.4.1 The Office is of the view that it is more appropriate to include a general provision for R&M to account for yearly maintenance of the irrigation system. Given that there is no actual data on this project, the Office reviewed NIC's historical information to determine the proportion of its total cost is attributed to repairs and

maintenance over a 4-year period (2003 to 2006). The data indicates that R&M contributes on average 4% to total operating costs. This figure is adjusted to reflect projected movements[1] in operating expenses and revised upwards to 4.5%. With total operating costs projected at $2.262M,[2] the provision for R&M is determined to be $113,100.

5.4 Total Direct Costs

The sum of the costs outlined above will determine the demand charge. After accounting for the above adjustments, **the Office has determined that the total direct cost is $1.655M.**

5.5 Total Fixed Costs

In addition to the payment of a demand charge for the volume of water consumed, the farmers must pay a service charge to cover the fixed overheads incurred in providing the service. This charge is derived from dividing the total fixed costs by the total number of acreage expected to be served. NIC has proposed total fixed cost of $780,000 which includes provision for billing, rental, office and administrative expenses and operation supervision.

5.5.1 During the public consultation, members of the Water Users Association stated that they can engage in dialogue to reduce the expense associated with rental. They made a counter proposal of $60,000 annually as compared to NIC initial proposal of $120,000. The NIC had no objections to this proposal. Consequently, the Office has adjusted the initial provision downwards to reflect this.

5.5.2 In addition to the regional manager's salary provision, the NIC included a provision of $120,000 for operation supervision. The company states that this position will provide technical guidance on all operational issues pertaining to the operation and maintenance of the irrigation system. This supervision will be provided by NIC's Director of Engineering and Technical Services. Normally, this amount would have been excluded as the cost would have already been accounted for in NIC's economic rates, and its inclusion in this project's cost would result in an over recovery. The Office is however of the view that these circumstances are exceptional since it is important to develop rates for Sevens River that are cost reflective and would send correct signals to the customers. It has therefore allowed this provision.

[1] The movement of expenses reflects inflationary expectations.
[2] This amount accounts for all expenses excluding R&M provision.

5.5.3 The Office has allowed the other proposed provisions. With the downward adjustment in rental cost, **the total fixed cost included in the determination of service charge is $720,000.**

5.6 Total operating cost

Office has determined that total operating for this project is $2.375M. This is comprised of total direct cost of $1.655M and total fixed cost of $720,000. Table 2 gives a breakout of these expenses.

Table 2: Office determined total operating costs

Item	NIC Proposal ($)	Office determined ($)
Salaries	1,302,000	1,302,000
Repairs and maintenance	120,000	105,600
Other direct costs (roads and verges)	240,000	240,000
Total direct costs	**1,662,000**	**1,655,100**
Administrative and billing	360,000	360,000
Office expenses	120,000	120,000
Office Utilities	60,000	60,000
Rental Premises	120,000	60,000
Operation supervision	120,000	120,000
Total fixed costs	**780,000**	**720,000**
Total operating cost	**2,442,000**	**2,375,100**

Chapter 6: Office Determination

6.1 Revenue requirement

The Office has determined that the total operating costs to be recovered from revenues is $2.375M. Given that there is no associated taxation, depreciation charge or return on capital, the $2.375M represents the revenue requirement for the project. The rates determined should be sufficient to cover this amount.

6.2 Service Charge

The billing structure consists of two parts: a service charge and a demand charge. The service charge is derived from dividing the total fixed costs by the total acreage. The NIC proposed a service charge of $2,031.25 per hectare. After making the adjustments to the total fixed costs, the Office has determined that the applicable service charge is $1,875 per hectare. This is derived from dividing total fixed costs of $720,000 by total hectares in service area[3].

6.2.1 Determination 1

The Office has determined that the service charge per hectare is $1,875. This service charge is to be paid on a monthly basis and is independent of water consumed.

6.3 Recovery Rate

The total revenue projected from the collection of monthly service charge has been deducted from the revenue requirement to determine the net revenue requirement that the demand charge should cover. The total revenue to be generated from the service charge is projected at $720,000. This results in a net revenue requirement of $1.655M. The total water sales is projected at 488,868m^3. Consequently, the Office has determined that the volumetric charge per cubic metre is $3.39.

6.3.1 Determination 2

The Office has determined that the volumetric rate is $3.39 per cubic metre.

6.4 *Determination 3*

The Office has determined that these rates will become effective December 15th 2007 and will be in effect for a period of at least fifteen (15) months.

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[3] 32 hectares are projected to be served each month. This amount is converted to annual amount of 384 hectares.

6.5 Indexation Mechanism

The NIC also proposed that the Office develop an indexation mechanism to allow for annual adjustment of the rates without applying for a rate review. However, with the absence of actual data, the Office is unable to develop appropriate weights or an index to accurately reflect the movement in costs that will be associated with this project. It has therefore decided that at this time, an indexation mechanism will not be introduced. The NIC is required to submit annual audited financial statements on the operation of this project. After this submission, the Office will review the rates to determine if they adequately reflect the costs of providing the service. At that time it will, if sufficient data is available and it is deemed necessary, develop an indexation mechanism.

6.5.1 Determination 4

The Office has determined that an indexation mechanism will not be introduced at this time.

Chapter 7: Quality of Service Standards

7.1 Introduction

Given that the customers have to pay the full cost of the service it is important that NIC delivers acceptable quality of service. It is also important for strong signals to be sent to the NIC that the project is an independent business unit, and as such the delivery of quality service to its customers is critical to the success of the project.

7.2 The NIC has a Citizen's Charter which outlines service standards the Commission commits to observe. Whilst the Office recognizes this Charter, it has developed, as part of this determination, specific quality of service standards which will govern NIC's service delivery for this particular business unit. These standards are categorized as either Guaranteed or Overall Standards and are discussed below.

7.3 Guaranteed Standards

The Guaranteed Standards are service level agreements to be honored by the company. They affect individual customers and a breach of any standard will result in a compensatory payment to customers. Table 3 summarizes these standards.

Table 3: Guaranteed Standards

Area of Focus	Office Determined Standard
Meter Reading	Customers' meters must be read monthly.
Meter Replacement	Maximum of 30 business days to replace faulty meters
Reconnection	Customers are to be reconnected within 48 hours after payment of overdue amounts inclusive of reconnection fees
Wrongful Disconnection	NIC must, within 12 hours, reconnect any supply that the company inadvertently disconnected and a written apology extended.
Reliability of Supply	NIC must employ alternative means to ensure that customers are provided with water for any water lock off exceeding 30 hours.
Payment of Compensation	NIC must, within 30 working days of breach claim, process and make payment or inform customer that claim is denied (and upon what basis). Customers may make claims by telephone.

7.4 A breach of any Guaranteed Standard will result in a compensatory payment to customers. This payment will be equivalent to the applicable service charge ($1,875) and shall be credited by NIC to the affected account.

7.6 The Guaranteed Standards may be suspended in circumstances where compliance is beyond the reasonable control of NIC (hereinafter called force majeure conditions). In the event of any such conditions, NIC must notify the OUR within 24 hours indicating reasons for its application for suspension and its intended duration. Force majeure conditions include, strike, civil unrest and natural disasters.

7.5 Overall Standards

Unlike Guaranteed Standards, Overall Standards are not customer specific and are there to guide the general delivery of service by the Commission. Although there is no compensation attached, the Office will take into consideration the NIC's performance against these Overall Standards whenever the Commission requests a rate review. Table 4 summarizes the applicable Overall Standards.

Table 4: Overall Standards

Area of Focus	Office Determined Standard
Reliability of Supply – Notification of intention to interrupt supply	Minimum notification of 12 hours for short interruptions (less than 4 hrs) and 24 hours for longer interruptions
Reliability of Supply – Restoration after emergency lock off	Maximum of 24 hours to restore supply
Response to Complaints	95% of all investigations are to be completed within 30 business days.

7.6 Reporting Requirements

NIC must submit bi-annual reports on its performance against the Guaranteed Standards. The report must be submitted within 30 business days of the end of each six months period of operation.

Chapter 8: Summary of Office's Decision

8.1 The following summarizes the Office's decisions:

- The service charge is $1,875. The service charge is independent of the amount of water used and shall be paid on a monthly basis per hectare.
- The demand charge is $3.39 per cubic metre
- The rates become effective on December 15th 2007 and will be in effect for at least 15 months.
- NIC must submit audited annual financial statements on the Sevens River operation.
- The Office will determine if an indexation mechanism is necessary at the next rate review.
- The NIC must adhere to guaranteed standards as outlined in Table 4. Breach of any of these standards will result in a compensatory payment of $1,875.
- The NIC must submit bi-annual reports to the Office outlining its performance against the guaranteed standards. These reports are due 30 days after the end of each 6 month period.