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REGIONAL RAIL SYSTEMS SUPPORT PROJECT 690-0247

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Monitoring Visit

Swaziland Component

SUBMITTED TO
U.S. Agency for International Development

BY
Burlington Northern Railroad
Overland Park, Kansas

Nathan Associates Inc.
Economic and Management Consultants
Arlington, Virginia

PREPARED BY
Steven R. Ditmeyer
Thomas J. Oliverius
Michael A. Voelker
Burlington Northern Railroad

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Glossary

ACCPAC	an off-the-shelf general accounting package
AEI	automatic equipment identification
BN	Burlington Northern Railroad
CBT	computer-based training
CFM	Empresa Nacional de Portos e Caminhos de Ferro de Moçambique (Mozambique Ports and Railways)
CFM(S)	Mozambique Ports and Railways (South Division); serves the port of Maputo, Mozambique
DCI	DeLeuw, Cather International Limited, a US firm
E	Emalangeni, a unit of currency in Swaziland
FRA	Federal Railroad Administration (U.S.)
INTAC	Spoornet's revenue accounting system
ISO	International Standards Organization
LTTA	long-term technical assistance
RITES	consulting arm of Indian Railways
RTOS	Radio Train Order System
SADCC	Southern Africa Development Coordination Conference
SPRINT	Spoornet's wagon control system
SR	Swaziland Railway
STTA	short-term technical assistance
USAID	U.S. Agency for International Development

Preface

From July 30 to August 9, 1992, a team from Burlington Northern Railroad consisting of Steven R. Ditmeyer, Chief Engineer—Research and Telecommunications, Thomas J. Oliverius, Assistant Vice President—Financial Planning, and Michael A. Voelker, Director—Technical Training (Retired), visited Swaziland to monitor progress on the Swaziland Component of the Regional Rail Systems Support Project. Members of the team previously had participated in midterm evaluations of the Swaziland Component in late 1991 and of the Malawi Component in July 1992.

1. Background of the Project

At the request of the Swaziland Government, the U.S. Agency for International Development (USAID) contracted with a consortium consisting of DeLeuw, Cather International (DCI) and RITES (the consulting arm of Indian Railways) under the Swaziland Component of the Regional Rail Systems Support Project.

The project consists of the following activities:

- Long-term technical assistance (LTTA), for which DCI and RITES provided personnel for the following positions: Chief Executive Officer (DCI), Financial Director (RITES), Chief Civil Engineer (DCI), Commercial/Marketing Adviser (RITES), Operations Adviser (DCI), Personnel Adviser (DCI), and Training Adviser (DCI);
- Short-term technical assistance (STTA);
- Training; and
- Commodities, such as computers and furniture.

The objectives of the consortium are to (1) improve management performance of Swaziland Railway (SR), (2) improve its overall institutional capacity, (3) ensure its continued viability, and (4) arrange for transition to Swazi management. Currently, the monitoring team is measuring the performance of SR against these objectives. However, for SR these objectives may actually be in conflict with the overall objective of implementing a more efficient transportation system for all of southern Africa. In other words, what is good for SR may not be good for all of southern Africa, especially when viewed at the macroeconomic level.

The most obvious example is the issue of the port at Maputo, Mozambique, where a nonfunctioning port benefits SR to the detriment of southern Africa. This conflict of goals should be addressed explicitly for all future projects that may have an overall goal differing from individual goals. We recognize the disparate goals in this project and have concentrated our evaluation on the objectives identified for SR.

The monitoring team believes that since the midterm evaluation in November 1991, the LTTA team has made significant progress toward achieving the goals of the project.

2. Status of the Project

FINANCIAL STABILITY

For FY 1992 Swaziland Railway's (SR) financial accounts showed a net surplus of E 18.7 million. The surplus did not account for unpaid interest on debt, USAID contributions, deferred maintenance, or change in depreciation resulting from extended asset lives. The surplus did, however, account for excess staff; steam locomotive operations; provision of housing, fuel for heating, and social services to employees; and other noncommercial obligations.

One goal of the project is to reduce SR's operating ratio from 146 percent in 1986 to 68 percent by 1994. Although the "As Reported" number in Table 1 increased from 67 percent in 1991 to 71 percent in 1992, the adjusted number, which includes depreciation changes, government interest subsidy, and public policy/social burden expenses, showed an improvement from 103 percent in 1991 to 78 percent in 1992. This reduction was due primarily to a reduction in the number of irregular items booked in 1991 (Burlington Northern Railroad–Nathan Associates 1991).

In the 1992 *Report and Accounts* (Swaziland Railway 1992), the Appropriation Account was segregated into an Accident Reserve, a General Reserve, and a Fixed Asset Replacement Reserve in order to fund potential future expenditures in these categories. However, this allocation makes the accumulated deficit appear to be a larger negative number than if these accounts were not utilized.

Table 1. 1991–1992 Revenue Account

	Expenses/Revenue (million E)	Operating Ratio (percent)	Net Surplus (million E)
As reported	46.7/65.4	71.4	18.7
Change in depreciation (3.9)	50.6/65.4	77.4	14.8
Government interest subsidy (11.2)	61.8/65.4	94.5	3.6
Public policy and social burden expenses (10.5e)	51.3/65.4	78.4	14.1
USAID support (1.8e)	53.1/65.4	81.2	12.3

In the past year, the balance sheet has been strengthened. As of March 31, 1992, the net position (Cash + Equity – Total Debt, in thousand E) was

22,518 + 18,741 – 90,844 = –49,585.

In comparison, the net position as of March 31, 1991, was

16,095 + 29 – 95,140 = –79,016.

In terms of financial stability, assuming that Cash = 22.5 million and Debt = 90.9 million, the net position (Cash – Debt) as of March 31, 1992, was E –68.4 million, compared with a cash flow in 1992 of E 12.2 million. At the 1992 figure, it would take about 5.5 years (68.4 million/12.2 million) to repay the existing debt. However, such a repayment schedule may not be realistic given the projected cash flow requirements for future years, which may be significantly lower because of capital expenditure programs, diversion of traffic to Maputo port, potential labor buyouts, and economic declines. For instance, the 1992–1993 plan projects a cash flow of about E 6 million.

Table 2 details the total debt as of March 1992.

Table 2. Loan Status as of March 31, 1992

	Year	Amount (million E)	Status
Short-term			
Southern Rail Link	1978	27.0	9 percent: 40 years, on hold
Northern Rail Link	1984	8.0	0 percent[a]
Cyclone damage	1985	4.7	0 percent[a]
Usuthu River Bridge	1987	8.2	0 percent[a]
Railway equipment	1987	1.3	0 percent[a]
Debt	1989	9.7	2 percent: 10 years, April 1992
Replacement of commercial loan	1990	12.7	2 percent: 10 years, April 1993
Subtotal		71.7	
Long-term			
Republic of South Africa		8.0	4 percent: 15 years, June 1991
Industrial development		9.2	9 percent: 10 years, June 1986
National Provident		2.0	12.5 percent: 15 years, June 1985
Subtotal		19.2	
Total		90.9	

[a]Status unknown.

The increase in ongoing expenses may be masked by the revenue growth SR has experienced. Administrative expenses increased by 27 percent from 1992 to 1992, and operational expenses increased by 26 percent. This expense growth will become overwhelming if traffic diversion to Maputo occurs. Therefore, SR must continue to control its expense growth.

The future profitability of SR is dependent on

- Spoornet through-traffic,
- Status of Maputo port,
- Freight traffic originating and terminating in Swaziland,
- Staff size, and
- Union negotiations.

The planned capital expenditure program must be analyzed in terms of total costs for the financial return expected on the investments. Two major projects are currently being discussed: (1) Matsapha to

Phuzomoya and (2) Mpaka to Siweni. Given the anticipated traffic over these lines, any investment must be financially advantageous to SR before these projects begin. If these projects do not provide adequate financial return, SR should not fund them. The possibility of grants from other sources may be an option; however, the economic viability of these projects must be measured against alternative uses of funds.

The new Chief Financial Officer should continue to focus on finance and accounting controls, including

- Continued improvement and discussion of management reporting, including budgeting and variance reporting;
- Cost accounting activities by geographical line segment, the cost to Spoornet of diverting around SR, and the cost of subsidized programs to SR (staff size, housing, etc.);
- Coordination of the wagon control system to match revenues by wagon and hire expenses by wagon in order to determine specific amounts to be accounted for each wagon;
- Continued development of automated systems and training of system users;
- A review of depreciation policy and determination of feasibility and desirability of depreciating certain assets per unit consumed (i.e., rail); and
- Improvement of the accuracy levels of statistical measurements for use throughout the company. This includes training people who are the source of the data in the field.

STATUS OF MAPUTO PORT

Perhaps no other issue has a greater effect on freight traffic moving on Swaziland Railway than the status of the port at Maputo and the condition of the Caminhos de Ferro Moçambique South [CFM(S)] rail lines serving it. With Maputo port barely functioning, a great deal of import and export traffic from northern Transvaal, Zimbabwe, and Swaziland itself that might otherwise be routed through Maputo is instead being routed through the ports at Richards Bay and Durban, South Africa. USAID and other donor agencies have been providing funds to the Government of Mozambique for the rehabilitation of Maputo port. Since the signing of a peace agreement in August 1992 between the Mozambican government and the rebel forces to end the 16-year civil war, there has been a belief that cargo will once again begin moving through Maputo port.

The monitoring team found, however, a wide divergence of opinion on when and to what extent Maputo port will be operational. Forecasts of the impact on SR traffic range from 2 to 10 years, with a mean of about 7 years. The monitoring team is especially concerned about the "hockey stick" shape of some forecasts of cargo through Maputo port. These forecasts show sudden rapid increases in traffic following years of continual decline. The monitoring team is not saying that it does not believe the rapid increases could not occur, but rather that it is skeptical that they will occur. The team bases its belief on the occurrence of security problems in Maputo in recent years and the difficulty in convincing shippers that problems have been corrected.

If traffic starts moving through Maputo port, the first SR traffic to be affected will likely be the sugar traffic originating in Swaziland. Rather than moving south to Durban, traffic would move a much shorter distance east through Goba to Maputo. Phosphate traffic, which originates in the northern Transvaal and now moves across SR's north–south main line to reach Durban, would in the future be interchanged between Spoornet and CFM(S) at Rossano Garcia and never touch SR rails. Similarly, Zimbabwean imports and exports, instead of moving through South African ports and traveling by SR, would instead move across CFM(S)'s Limpopo line to and from Maputo.

LABOR RELATIONS

Labor relations is another issue with significant implications for the long-term viability of Swaziland Railway. Only recently was SR unionized, and its union is part of a larger transport workers' union that covers all modes of transportation. SR finds itself in a relatively weak position in relation to the union because of a strike in early 1992. The union believed that its members had been promised a "13th month" paycheck as a bonus. SR management argued that the bonus was promised only on the condition that the railway achieve certain targets. Because those targets were not met, the bonus would not be paid. The union went on strike, but on the second day the SR Board of Directors decided that the bonus had in fact been promised without conditions and therefore agreed to pay the bonus. The strike ended immediately.

A lesser issue causing contention between labor and management was the decision by the Chief Civil Engineer to issue orange (instead of blue) uniforms to the permanent way forces for reasons of visibility and safety. The union has objected, claiming that the orange uniforms attract snakes. Management believes that the union's real objection is that it will make railway workers more identifiable when they are absent without leave.

Another significant issue between union and management is that of the disposition of workers associated with the steam locomotive operations that were recently terminated. SR management has proposed severance payments for those workers, but the union wants them retained on the SR payroll. The dispute had gone through normal Swaziland labor law procedures, and the parties were awaiting a decision from the Industrial Court when the union decided to circumvent the procedures and appeal the matter directly before King Mswati III, which they are permitted to do under Swazi law. The king granted a hearing to SR management in August 1992.

Because both SR management and the union are new to collective bargaining, they are still trying to learn how to communicate with each other. USAID could possibly assist both parties by sponsoring training in the United States with either the Department of Labor or the American Federation of Labor and Congress of Industrial Organizations (AFL-CIO).

TRANSITION TO SWAZI MANAGEMENT

Swazi counterparts have been identified for six of the seven management positions on SR. They are as follows:

Chief Executive Officer	Gideon Mahlalela
Director of Finance	Bheka Manana
Director of Traffic	Stevenson Ngubane
Director of Personnel & Administration	Meshak Mabuza
Assistant Director of Marketing	Dumisani Gwebu
Manager of Training	Selbourne Dlamini

The long-term technical assistance (LTTA) team serving as SR management is working on finalizing a transition plan for all these positions. The current plan is for the last four managers to assume their positions between October and December 1992, and for the Chief Executive Officer and Director of Finance to assume their positions in March 1993. The monitoring team concurs with this schedule. It has not yet been determined how long members of the LTTA team will stay on to advise their successors.

Arrangements for the Chief Civil Engineer position are still not finalized. The LTTA team recommends combining the Mechanical Engineering and Civil Engineering departments and retaining an expatriate to head the combined department in view of the difficulty of finding and retaining trained engineers in Swaziland.

The monitoring team believes that as a result of the Swazi team's training and the efforts of the LTTA team to improve the management and financial structure of the railway, the Swazi team will be fully capable of running SR following the departure of the LTTA team.

TRAINING

The training program funded by USAID for the top 31 management positions is nearing completion. The monitoring team believes that the program was well designed, successfully administered, and should be completed on schedule. The training program as originally designed consisted of 52 individual programs, of which 30 have been completed. The remaining 22 are near completion or scheduled. They are listed in the appendix.

Although not part of the original USAID-sponsored project, the need for mid-level management training has been recognized, and a training program is being considered. Another item that was not part of the original USAID-sponsored project and that also needs to be addressed is technical training for operating, mechanical, and permanent way employees. Training of new hires as well as of journeymen in these categories is critical to the success of the railway. Fortunately, SR's new management team recognizes this need.

The monitoring team concurs with plans to downgrade the status of the Training Center at Sidvokodvo. The current Manager of Training is retiring, and his successor will be a facilitator who arranges and contracts for training within the region. The training can be offered at any cost-effective and convenient location, including the existing facility if it is renovated. This change has resulted in a reduction in staff of eight employees.

Because of plans at SR to terminate use of the Van Schoor token system for controlling train operations and to replace it with the Radio Train Order System (RTOS), it is imperative that all involved employees receive training in the near future in the use of RTOS. Even though Spoornet is obligated to provide training under its overall contract to provide and install RTOS hardware, that training has not yet begun.

FREIGHT WAGON MANAGEMENT

On the recommendation of the short-term technical assistance (STTA) team from Indian Railways (with concurrence by the Burlington Northern–Nathan Associates midterm evaluation team in November 1991), SR acquired and installed the Spoornet SPRINT system for freight wagon management in early 1992. Even though it is now operational on SR, there are several shortcomings in its implementation, not the least of which is that SR originations and terminations are not input into the system. They are handled only as interchanges to and from SR at the border crossings.

A further problem is that no department at SR claims ownership of the system, and as a result no one at SR really makes use of information from the system. Consequently, no significant benefits are being derived from its presence. Management needs to assign responsibility to the Traffic Department to ensure that complete, accurate, and timely data are input into the system, and that appropriate use is made of data within the system. SR also needs to make use of data from SPRINT to reconcile with revenue and wagon-hire expense statements from the accounting department.

SYSTEMS DEVELOPMENT

An important part of the USAID assistance program to SR was the provision of computerized data systems and associated training. In addition to SPRINT, SR acquired the INTAC system for revenue accounting from Spoornet. Implementation of INTAC on SR should be complete in February 1993.

In addition, SR acquired ACCPAC, an off-the-shelf general accounting package, which it plans to have operational in December 1992. SR will begin using a first-generation costing model from Deloitte Haskins and Sells in early 1993.

The monitoring team concurs with the direction being taken on the acquisition and implementation of these data systems. Training of SR staff, however, is very important if SR is to obtain full benefit from these systems. SR management must ensure adherence to the training schedule.

The monitoring team believes that SR should consider the possibility of establishing the position of Information Manager to oversee the aforementioned systems as well as other new systems in the coming years. In the meantime, once the new Director of Finance has assumed his position, the LTTA team member who previously served as Director of Finance will be available to handle this function for a while.

SR may also want to consider contracting with a service bureau (for example, Computronics, Ltd. located in Dlan'ubeka House) to provide maintenance of computer hardware and software. This would enable SR to avoid having to hire additional staff for these functions. Management of such a contract would be the responsibility of the Information Manager.

AUTOMATIC EQUIPMENT IDENTIFICATION

In the past year, the railroads of North America agreed to install an automatic equipment identification (AEI) system to improve the tracking of their locomotives, freight wagons, containers, and trailers. The AEI system consists of electronic transponders ("tags") installed on each piece of equipment and interrogators ("readers") installed at interchange points, junctions, and yards. A reader emits a burst of radio frequency energy that activates a tag. The tag responds by broadcasting its identification number back to the reader. The AEI specifications adopted by the North American railroads are the same as those adopted by the International Standards Organization (ISO) for international shipping containers and by the American Trucking Associations for highway trucks and trailers in the United States.

The railroads of southern Africa should consider adopting the same or a similar AEI system for their locomotive, wagon, and container fleets. By providing more timely and more accurate information about the location of these vehicles, utilization rates can be improved, fleet sizes can be reduced, and delivery times can be shortened.

Spoornet clearly would have the leading role in adopting such a system and would bear the major portion of the costs. SR and the other railways of the Southern Africa Development Coordination Conference (SADCC) would, however, face the cost of tagging their fleets and installing readers and communication links to computers. USAID and other donor agencies might be able to provide the financial assistance to assist them with this project.

3. Recommendations

MINISTRY OF TRANSPORT

1. Because of the possible loss of traffic resulting from the reopening of the port of Maputo, various alternatives for SR need to be examined, including

   - Renting or selling SR's north–south line to Spoornet,
   - Renting or selling SR's Mlawlula–Siweni line to CFM,
   - Trackage rights on or purchase of CFM(S)'s Goba–Maputo line,
   - Contracting with Spoornet for operation of SR's Matsapha–Phuzomoya line, and
   - Contracting for trackage rights on Spoornet to Richards Bay or Durban.

   Because these issues deal with both Swaziland's national transport policy and with Swaziland's foreign policy, they cannot be addressed by SR itself. Instead they need to be addressed by Swaziland's Ministry of Transport and, possibly, the Foreign Ministry.
2. The monitoring team recommends that the Ministry of Transport permit SR to proceed with the staff sizing study and to pursue the sale of housing and community facilities. The ministry should also resolve the issue of SR's proposed debt-for-equity swap.
3. SR management needs to work closely with the Ministry of Transport to reach appropriate decisions about the rebuilding of the Goba and Matsapha lines. Traffic forecasts should be used to determine the amount of capital that should be invested in these projects. The ministry should permit SR to proceed with picking up rails along the KaDake line that could then be used for relaying on the other lines being rebuilt.
4. Because of the severe impediments encountered by SR's management (as well as by the management of every other enterprise in Swaziland) resulting from a poor telecommunications system within the country, the Government of Swaziland should consider encouraging investment, perhaps with donor agency assistance, in improved communications links within Swaziland and between Swaziland and its neighbors. The private sector should preferably carry out such activity.

SWAZILAND RAILWAY

1. The monitoring team recommends that SR consider redividing the Traffic Department into two parts, the Operations Department and the Marketing/Commercial Department. The two departments were combined in late 1991 to deal with a personnel situation that has since resolved itself. The team also believes that SR management should consider combining the Operations Department with the Mechanical and Civil Engineering Department to form a single Operations/Maintenance Department.
2. The monitoring team continues to believe that SR should designate a single officer to have responsibility for overseeing and coordinating safety programs in all departments.
3. The monitoring team urges the Chief Executive Officer and CEO-designate to continue to bring about wider participation from department heads in preparing capital and operating budgets.

4. The monitoring team recommends that SR investigate the financial feasibility of procuring a container crane (or lifting device) capable of handling 40-foot containers at Matsapha to replace the existing crane, which is capable of handling only 20-foot containers.
5. The monitoring team urges SR to coordinate its marketing activities with those of Spoornet and CFM(S) to bring more traffic to SR.
6. The monitoring team urges SR to continue to pursue the segregating of public policy–social burden expenses from ongoing operations and to pursue divestiture of those costs where and when appropriate. These expenses include subsidized housing, overstaffing, and community facilities.

U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT

1. USAID should enlist technical assistance from the Office of Safety, U.S. Federal Railroad Administration (FRA) to assist the Ministry of Transport in the establishment of a Safety Inspectorate for railways because one is needed. Furthermore, USAID should consider involving FRA's Office of Policy in the structuring of future programs similar to the Regional Rail Systems Support Project.
2. USAID should consider taking a leadership role in bringing together the railroads of southern Africa to discuss the possibility of an AEI system for them. USAID may also want to consider the possibility of providing financial assistance for installing AEI systems on the SADCC railways.
3. As stated earlier in the section on labor relations, USAID could assist both SR and its union by sponsoring training in the United States with either the Department of Labor or the AFL-CIO.
4. If the transition of SR to Swazi management goes as well as the monitoring team believes it will, USAID can consider the Swaziland Component of the Regional Rail Systems Support Project successful and should consider adopting the same or a similar project structure to assist railways elsewhere in Africa and in the world.

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This bibliography is a continuation of that given in the Burlington Northern–Nathan Associates Inc. *Midterm Evaluation* (see below).

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Appendix

TRAINING PROGRAMS TO BE COMPLETED

101c	Senior Management Seminar	Will be offered when Mahlalela returns from Antioch University
103	Management Information Systems Seminar	Scheduled; vendor-offered
106	OJT program	Scheduled; offered regionally
107	Management Publications	Mahlalela is identifying appropriate books and periodicals while at Antioch
110a	Attachment to Foreign Railway System	Mahlalela, Manana, and Ngubane are scheduled to attend an 8-week program at Burlington Northern (BN) starting October 5, 1992
110b	Attachment to Foreign Railway System	This program is for the Chief Civil Engineer and Assistant Director of Marketing. It will be offered regionally when the Chief Civil Engineer position is filled.
111	BA Program for Chief Executive Officer	Was to have been completed by September 30, 1992
204	Advanced Bookkeeping and Cost Accounting	Scheduled for 1993
205, 205.1 206, 206.1	These four programs have been replaced by the 8-week program at BN. All material in these programs will be included in the 8-week program.	
301	Associate Degree in Engineering Technology	Course for T. Ndlovu started August 1991, and will be completed June 1993
302	Attachment to a Regional Railway	The wagon maintenance portion of this program has been completed. The locomotive maintenance portion is scheduled.

303	Railway Operating Practices	Mahlalela and Manana will attend Spoornet program after their return from US in December.
401	Basic Computer Skills	Classes held August 1992
403	Dynamic Reading	Self-paced programs currently being offered using Evelyn Wood as part of the academic work.
404	Improving English Language Skills	Self-paced CBT program will be used.
503	Computerized Payroll and Personnel Management Systems	Will be offered after Mavimbela has completed Accys Payroll Systems.
504	Personnel Management	Scheduled to be held at Spoornet.
608	Dealing with Road Competition	Contracted and scheduled.
609	Containerization Sessions I and II	Contracted and scheduled.