

## FINANCIAL ANALYSIS

### A. Ebeye Water Supply and Sanitation Project: Rationale

1. Ebeye has a high incidence of waterborne disease: about one reported case per eight residents each year. Since 2001, Ebeye Hospital has recorded an average of 1,182 cases per year of waterborne disease, primarily gastroenteritis. The high incidence of waterborne disease is due to (i) limited access to safe water; (ii) ineffective hygiene, particularly among children; and (iii) a dilapidated sanitation system. To address the high incidence of waterborne disease on Ebeye, the government and the Kwajalein Atoll Joint Utility Resource Inc. (KAJUR) have prepared electricity, water supply, and sanitation master plans with associated prioritized investment plans. The master plans will guide the development of electricity, water supply, and sewerage assets from 2015 to 2025. With the implementation of the master plans and under medium population growth scenarios, the demand for potable water from the Ebeye water supply system is forecast to grow from 1.55 million liters per day in 2015 to 1.60 million liters a day in 2025—and the water supply system is currently able to meet only about 38% of demand. The peak daily demand for electricity is expected to increase from 2.1 megawatts in 2015 to 2.7 megawatts in 2025; average daily sewage loads are projected to increase from about 1.1 million liters per day in 2015 to 1.9 million liters per day in 2025.

2. The project will deliver high-priority components of the Ebeye electricity, water supply, and sewerage master plans; a hygiene awareness and education program; and measures to improve KAJUR's financial and technical sustainability. The project outputs will be (i) output 1: secure and safe freshwater supplies; (ii) output 2: effective and efficient sewerage services; (iii) output 3: enhanced hygiene awareness and improved hygiene behaviors; (iv) output 4: secure electricity supply for water supply and sewerage operations; and (v) output 5: financial and technical sustainability of KAJUR. The project is estimated to cost \$19.02 million (Table 1). It will be financed by (i) a grant of \$5.00 million from the Special Funds resources of the Asian Development Bank (ADB); (ii) a grant from the Government of Australia of \$4.00 million, which will be administered by ADB; and (iii) counterpart financing by the Government of the Marshall Islands of \$10.02 million.

**Table 1: Summary Cost Estimates**  
(\$ million)

		Amount <sup>a</sup>
<b>A.</b>	<b>Base Cost<sup>b</sup></b>	
	1. Output 1: Secure and safe freshwater supplies	8.61
	2. Output 2: Effective and efficient sewerage services	4.55
	3. Output 3: Enhanced hygiene awareness and improved hygiene behaviors	0.67
	4. Output 4: Secure electricity supply for water and sewerage operations	1.39
	5. Output 5: Financial and technical sustainability of KAJUR	1.11
	<b>Subtotal (A)</b>	<b>16.33</b>
<b>B.</b>	<b>Contingencies<sup>c</sup></b>	<b>2.49</b>
<b>C.</b>	<b>External Grant Administration Fee</b>	<b>0.20</b>
	<b>Total (A+B+C)</b>	<b>19.02</b>

<sup>a</sup> Includes taxes and duties of \$1.86 million. All project costs will be exempted from taxation and duties in RMI.

<sup>b</sup> In early-2015 prices.

<sup>c</sup> Physical contingencies computed at 15% of base costs less grant administration fees and provision for land acquisition and resettlement costs. Price contingencies computed at an average of 1.3% on foreign exchange costs and 1.9% on local currency costs over the duration of the project.

Source: Asian Development Bank.

## **B. Financial Analysis**

### **I. Financial Performance of Kwajalein Atoll Joint Utility Resources**

3. KAJUR is a government-owned, for-profit corporation, which was established in 1990 to “engage in generating, making, delivering, transmitting, distributing, and selling electricity, water, other power, utilities, and telecommunications.”<sup>1</sup> Before 2006, KAJUR was managed by a board of directors comprising the RMI President and Vice Presidents, a secretary, and a treasurer. In May 2006, the Cabinet decided to transfer the management of KAJUR to the Majuro Energy Company (MEC) board of directors because KAJUR was insolvent and unable to deliver reliable services, particularly water supply services, to Ebeye.<sup>2</sup> Under MEC management, the electricity, water supply, and sewerage services have become more reliable. However, revenues from KAJUR’s services have not been sufficient to cover the cost of operations, leading to its reliance on subsidies for continued operation and grants for emergency maintenance and minor capital improvements. Because funds for routine and planned maintenance of KAJUR’s water and sewerage systems have not been available, the condition of these assets has degraded to a point extent where KAJUR is unable to meet Ebeye’s needs for potable water and sewerage services.

4. Since 2008, KAJUR has recorded operating losses of \$2 million or more, primarily because of inadequate tariff levels. Revenues are derived mostly from electricity sales, which grew from about \$4.05 million (97% of revenue) in fiscal year (FY) 2011 to \$4.76 million (94% of revenue) in FY2013. Water supply revenues are limited to charges levied on the small volume of deliveries by truck. No revenues are collected for sewer services. KAJUR’s operational expenses rose from \$6.03 million in FY2011 to \$7.59 million in FY2012, mainly because of higher fuel, salaries, and wages costs. Operational expenses dipped to \$6.98 million in 2013 because of lower depreciation and operation and maintenance (O&M) costs. Electricity production is the highest expense to KAJUR, which uses imported diesel for electricity generation; fuel costs accounted for 61% of KAJUR’s operational expenses in FY2011, 57% in FY2012, and 60% in FY2013. In FY2013, KAJUR’s operational costs were as follows: (i) electricity, \$4.503 million; personnel and administrative costs, \$1.701 million; (iii) water supply, \$0.527 million; and (iv) sewerage, \$0.249 million. KAJUR relies on subsidies from the national government (sourced from United States grants under the Compact of Free Association) to cover the losses.

5. KAJUR’s reports its operational results and budgetary requirements to the government at an annual budget briefing to the Parliament, but this is not adequate for planning purposes. Annual reports are not prepared and documentation on KAJUR’s financial performance is limited to the financial statements prepared by an external auditor and KAJUR’s annual budgets. Budgetary performance is routinely monitored only once a year in a reactive process that captures overspending after the fact. The effect of these constraints is compounded by short institutional memory as senior management are new to their positions and internal record-keeping is poor. KAJUR does not have a central filing system to keep records of capital projects or historical financial data. Preparation of an annual report, independent of the external audit report and covering KAJUR’s financial performance within 3 months of the close of every financial year, is recommended. Quarterly reports should also be prepared to facilitate monitoring of current activities and the end-of-year preparation of the annual report.

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<sup>1</sup> Kwajalein Atoll Joint Utility Resource Inc. 1990. Articles of Incorporation. Majuro.

<sup>2</sup> The MEC board is also responsible for the management of the Majuro Water and Sewer Company as well as KAJUR. It is known as the Combined Utilities Board.

6. Since 2007, MEC's finance department has provided KAJUR's internal auditing function through quarterly reviews of KAJUR finances. The internal audit identifies and resolves ongoing financial procedural issues during each review but does not prepare an internal audit report. Since the start of quarterly reviews of KAJUR finances in 2007, KAJUR's external audits have been unqualified.

7. KAJUR recognizes that its financial situation is unsustainable and has adopted a reform strategy to strengthen its financial management capacity and improve its financial sustainability through better operational efficiency and higher revenues. The project supports KAJUR's reform strategy targets to achieve full cost recovery by FY2022. Tariff reforms, including user charges for water supply and sewerage services, will be progressively introduced from FY2017 following the commissioning of the project's water supply and sewerage components. Until KAJUR achieves full cost recovery, subsidies will be necessary to cover the company's operational costs. KAJUR's financial sustainability will still require strengthening through other reforms including improved operating efficiency and increased liquidity.

8. Considerable human resource development activities will be needed—recruitment, training, and compensation reforms—to (i) boost KAJUR's capacity to prepare and manage its budgets on a multi-year basis; (ii) provide full financial reporting and disclosure to its management, Board, and external stakeholders with its own staff resources; and (iii) conduct adequate asset management and plan future investments. KAJUR finance staff do not have direct project implementation experience. Therefore, prolonged support by an international financial management specialist with knowledge of and experience with ADB financial management guidelines will be needed to ensure that KAJUR can financially absorb the project during implementation and strengthen KAJUR's financial management capacity.

9. The financial control risk is rated high because of KAJUR's (ii) lack of experience in managing large projects, (ii) weak record-keeping, and (iii) new management. The project will provide comprehensive institutional strengthening to make KAJUR technically and financially sustainable. A financial management advisor will be recruited under the project to help KAJUR strengthen its financial management systems and prepare financial documentation relating to the project.

## **II. Financial Evaluation of the Project**

10. The financial evaluation of Ebeye Water Supply and Sanitation Project was carried out in accordance with ADB guidelines to ensure that the project is financially sustainable and will generate sufficient revenues to cover O&M costs towards full cost recovery. The analysis evaluates incremental financial costs against projected incremental revenues from electricity, water supply, and sewer service operations enabled by the project.<sup>3</sup>

11. Under KAJUR's reform strategy, KAJUR will implement a revised electricity, water supply, and sewerage tariff structure following the commissioning of the project's major components in 2017. Charges for water and sewerage services will be universally applied, and the water tariff will rise annually by 15% until 2023. After 2023, tariff rates will be held constant in real terms. Table 2 shows the tariff structure and proposed tariff rates.

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<sup>3</sup> ADB. 2015. Technical Assistance Completion Report: preparing the Ebeye Water Supply and Sanitation Project. Manila

**Table 2: Proposed Tariff Structure**

<b>Electricity</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>
Unit Charge (\$/kWh)									
Residential	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430
Commercial	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
Government	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500
Residential Lifeline			0.200	0.200	0.200	0.200	0.200	0.200	0.200
<b>Water Supply</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>
Reverse Osmosis Water Delivered by Consumer Connection									
Unit Charge (\$/gal)									
Residential			0.006	0.007	0.008	0.009	0.011	0.013	0.015
Commercial			0.015	0.017	0.020	0.024	0.027	0.032	0.037
Government			0.035	0.041	0.047	0.055	0.064	0.074	0.086
Residential Lifeline			0.005	0.005	0.005	0.005	0.005	0.005	0.005
<b>Sewage Service</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>
Flat Monthly Charge (\$/month/connection)									
Residential					10.00	10.00	10.00	10.00	10.00
Commercial					70.00	70.00	70.00	70.00	70.00
Government					90.00	90.00	90.00	90.00	90.00

gal = gallon; kWh = kilowatt hour.  
Source: Asian Development Bank

12. A financial evaluation was done for a period of 30 years after project completion, considering the financial costs of the project excluding price contingencies. No residual value of investments was assumed. The weighted average cost of capital (WACC) uses nominal opportunity cost for external grant funds and funds from the Compact of Free Association. The financial internal rate of return (FIRR) is calculated at 18.1%, well above the WACC (3.53%), indicating strong financial viability. The project financial net present value, using the WACC as the financial discount rate, is calculated at \$43.8 million.

13. The financial performance of the project was tested against the following adverse changes in key parameters: (i) 20% increase in capital cost; (ii) 20% increase in financial O&M cost; and (iii) 20% decrease in revenues from electricity operations, water supply operations, and sewer service operations. In the analysis, each cost parameter was increased by 20% and the revenue parameter was decreased by 20%, separately and together. Under these scenarios, when assessed individually, the viability of the project declines, with FIRRs of 15.1%–17.8%. When all scenarios are considered together, the FIRR for the project falls to 10.2%. The project is robust against changes in any of the parameters, reflecting high financial viability. The most sensitive financial parameter is the stream of incremental electricity revenues, because those operations cross-subsidize the other two subsectors under the proposed tariff changes.