ATTACHMENT JA40

EXAMPLE FOR FP-EPA AND FP-PPR TYPE CONTRACTS -COMPLETION OF PRICE DATA SHEETS

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ATTACHMENT JA40

EXAMPLE FOR FP-EPA AND FP-PPR TYPE CONTRACT - COMPLETION OF PRICE DATA SHEETS

The objective of this document is to illustrate through examples how to complete the required Schedule B-2 and Price Data Sheets in the request for proposal (RFP) for **Fixed Price with Economic Price Adjustment (FP-EPA) and Fixed Price Prospective Price Redetermination (FP-PPR)** type contracts. These examples cover Schedule B-2, *Fixed Price Economic Price Adjustment;* Price Data Sheet 1*, Utility Services Charge;* Price Data Sheet 2*, Renewals and Replacements – 50-Year Plan;* Price Data Sheet 3*, Initial System Deficiency Correction(s) / Upgrade(s) / Connection Charge(s) / Transition Period;* and Price Data Sheet 4, *Recoverable Portion of Purchase Price*. Price Data Sheet 6, *Proposal – 50-Year Charges to the Government*, is also a required submittal in an FP-EPA and/or FP-PPR proposal; it is not discussed in this document.

Offerors[1] proposing a FP-EPA and/or FP-PPR contract must prepare their Schedule B-2 and Price Data Sheets in accordance with the methodology set forth in this Section.

Proposed Operations and Maintenance (O&M) and Renewals and Replacements (R&R) charges should be in first contract year dollars (real or constant dollars), and in the future years these prices will be adjusted for inflation based on the agreed-to EPA clause in the contract or utilizing the Prospective Price Redetermination process. The interest rate used to calculate the R&R prices should not include inflation; the prices will be adjusted for inflation based on the agreed-to EPA clause in the contract or as part of Prospective Price Redetermination.

All proposals utilizing Schedule B-2 must develop a residual value (RV) as described herein and must remove that RV amount from the total amount used to calculate the proposed R&R annual / monthly prices.

The Contractor will fund all capital investments (R&R, Initial System Deficiency Corrections (ISDC), etc.). The capital investments are recovered from the Government through the proposed R&R and ISDC charges.

The ISDC charge(s), Connection charge(s), Transition charge, Purchase Price Recovery charge and Purchase Price credit are proposed in nominal dollars (current dollars, including inflation). These nominal dollar charges and credits are not adjusted through the EPA process. The monthly charges (Purchase Price Credit, Purchase Price Recovery, ISDC(s), and Service Charge for R&R) should be calculated utilizing the Contractor's cost of capital rate (amortization interest rate). The ISDC charges may be proposed as a one-time charge or, if required by the solicitation/contract, amortized over a minimum

[1] The terms Offeror and Contractor are used somewhat interchangeably, but are intended to be the same entity, e.g., defined as the Offeror prior to contract award and as the Contractor after contract award.

amortization schedule. The interest rates used to calculate the ISDC charges should include inflation; ISDC charges will not be adjusted for inflation in the EPA process. Each ISDC charge will be effective after its capital investment project is completed and placed into useful service.

This J40 is intended to demonstrate to Offerors how to complete detailed assumptions and calculations and formulate a Schedule B-2 and applicable Price Data Sheets. Any proposal utilizing Schedule B-2 must include discussion of the following items in initial and final proposal revisions:

1. All assumptions used to develop a sufficient cash flow for both R&R and O&M.
2. Details of prices including profit level and mark-ups used in development of the O&M charges and capital investments (R&R, ISDC, etc.).
3. Offeror's approach to correct Government-identified deficiencies (as an ISDC project, R&R project, and/or O&M task).
4. Details of proposed cost of capital rate development. Provide details of the mix of borrowing rate, expected equity (shares and bonds) rate, etc., that comprise the proposed cost of capital rate.
5. The Purchase Price Credit is expected to be equal to the Purchase Price Recovery Charge and offset each other. The Offeror should explain if they are different and do not offset each other.

The following example is for illustration purposes only and should not be taken as representative of any DoD utility system. Similarly, the values used, or assumptions presented herein are hypothetical and Offerors should not place any specific significance on them as part of the preparation of its actual proposal(s).

JA40 EXAMPLE

The Government is considering privatization of a wastewater collection system at one of its installations. It plans to complete the privatization procurement process in year 2022, resulting in a 50-year contract for utility services. The Government has issued an RFP that, among other things, requires Offerors submitting an FP-EPA or FP-PPR proposal to complete Schedule B-2 presented in Section B. of the RFP and Price Data Sheets 1, 2, 3, and 4 and 6 presented in Section B of the RFP. The Government's inventory of the wastewater system is shown in **Table JA40-1**.

TABLE JA40-1: Wastewater System Inventory
Utilities Privatization

Component / Item	Size	Quantity	Unit	Approximate Year of Installation
Concrete Pipe	4-in.	2,000	LF	1972
Concrete Pipe	12-in.	2,000	LF	1972
Concrete Pipe	24-in.	1,000	LF	1972
CI Pipe	4-in.	1,000	LF	1985
CI Pipe	12-in.	4,000	LF	1985
PVC Pipe	4-in.	3,000	LF	2000
PVC Pipe	12-in.	8,000	LF	2000
PVC Pipe	24-in.	4,000	LF	2000
PVC Pipe	4-in.	3,000	LF	2015
PVC Pipe	12-in.	8,000	LF	2015
PVC Pipe	24-in.	4,000	LF	2015
Manhole		20	EA	1975
Manhole		10	EA	1985
Manhole		30	EA	2000
Manhole		30	EA	2015
Lift Station #1		1	EA	1985
Lift Station #2		1	EA	2000
Lift Station #3		1	EA	2015

In addition to the inventory, the RFP lists the Government-recognized system deficiencies and may include the approach the Government would take to remedy them if the system is not privatized. **Table JA40-2** is an example of the Government-recognized system deficiencies.

TABLE JA40-2: Recognized System Deficiencies
Utilities Privatization

System Component	Recognized Deficiencies and the Government's Approach to Remedy	Year to be Completed
Collection System	The system has excessive infiltration and inflow (I&I)	Within two years after contract start date
Lift Station #2	Lift Station #2 is prone to frequent overflows of sewage into the street; may be inappropriately sized	Within two years after contract start date

Table Notes: Deficiencies may be corrected by the Offeror as an ISDC project, R&R project, and/or O&M task.

JA40.1 Schedule B-2

Schedule B-2 is prepared based on the amortized purchase price credit and the data presented in Price Data Sheet 1, *Utility Services Charge,* Price Data Sheet 2, *Renewals and Replacements – 50-Year Schedule*, and Price Data Sheet 4, *Recoverable Portion of Purchase Price*. Projects shown in Price Data Sheet 3, *Initial System Deficiency Correction(s) / Upgrade(s) / Connection Charge(s) / Transition Period,* are not included in the totals shown in Schedule B-2 but are added to the monthly charge in accordance with the amortization schedule for each ISDC, upgrade, or connection project. The completed Schedule B-2 is presented in **Table JA40.1-1**.

TABLE JA40.1-1: Schedule B-2
Utilities Privatization

	Utility System [a]: _____				
CLIN	**Supplies/Services**	**Qty**	**Unit**	**Unit Price**	**Total**
0001	Operations and Maintenance (O&M) FPEPA O&M Utility Service Charge [b] $ Unit Price $		Months		
0002	Renewals and Replacements (R&R) FPPPR The unit price is the R&R Utility Services Charge less the monthly credit as payment for the purchase price (PP) pus the recoverable portion of the PP. R&R Utility Services Charge [b] $ Monthly Credit for PP [c] $ # of Months Interest Rate % Recoverable Portion of PP [c] $ # of Months Interest Rate % Unit Price $		Months		
0003	Initial System Deficiency Corrections/ Upgrades/Connection Charges [d] FFP				
0004	Transition Period [e] FFP		Each		

[a] Utility system to be filled in by the Offeror. A Schedule B-2 must be completed for each utility system offered, except as specifically stated in Section L. Utility systems are shown in paragraph B.1, *Systems to be Privatized*.

[b] The offeror should enter the O&M and R&R Utility Services Charges, as computed in Price Data Sheet 1.

[c] The offeror should enter the Monthly Credit for Purchase Price and Recoverable Portion of the Purchase Price, as computed in Price Data Sheet 4.

[d] The offeror should enter the Initial System Deficiency Corrections / Upgrades / Connection Charges as computed in Price Data Sheet 3.

[e] The offeror should enter the Transition Period Charges as computed in Price Data Sheet 3.

JA40.2 Supporting Calculations

The following sections describe the calculations used to determine the values for CLINs 0001, 0002, 0003 and 0004 in Schedule B-2.

JA40.2.1 CLIN 0001 Utility Services Charge Supporting Calculations - O&M

The *Utility Services Charge* (CLIN 0001) is comprised of the O&M portion of the Utility Services Charge. Based on the Offeror's assessment of the requirements in the RFP, its evaluation of the system, and its experience with wastewater systems, the Offeror determines the *utility services charge for O&M* to be $7,900.[2] This amount includes all costs for operations, maintenance, repair, and associated administration and general costs.

JA40.2.2 CLIN 0002 Utility Services Charge Supporting Calculations

The Utility Services Charge (CLIN 0002) is comprised of the R&R portion of the Utility Service charge as well as the Monthly Credit as Payment for Purchase Price and Recoverable Portion of Purchase Price. The *utility services charge for R&R* is developed starting with the example Price Data Sheet 2 developed by the Offeror shown in **Table JA40.2.2-1: Part 1**. R&R project costs are entered into Price Data Sheet 2 in first contract year dollars (constant 2022 $). The proposed service life is based on the Offeror's experience regarding a component's useful (design) life. The Offeror should calculate its present value using its proposed real discount rate (without inflation) and middle of the year discounting convention. The discount rate is the Offeror's time value of money or cost of capital rate. The residual value is the unrecovered investment in the utility system remaining at the end of the contract term. It is calculated based on the remaining service life at the end of the contract term (% of Service Life remaining x R&R Project Cost). The present value of the cumulative residual value is subtracted from the cumulative present value of R&R project costs to determine the total present value of the R&R investment recovered during the current contract. The Government recognizes the residual value as a Government liability representing the Contractor's unrecovered investment in the utility system. The residual value would be part of the subsequent contract term for utility services (after the 50-year term), or the Contractor would be duly compensated if the contract is not renewed.

Please note: The description of R&R must be specific enough to identify the exact component/item from the inventory listing. As shown in **Table JA40.2.2-1: Part 1 and Part 2**, the following must be clearly listed:

- The inventory item undergoing R&R, including component/item, size, quantity, and installation date.

- The type of replacement component/item if different from the original inventory item (e.g., if steel pipe is being replaced by PVC).

[2] Demonstrating how to develop the monthly charge for O&M is beyond the intent of this guidance document.

- The lifespan and expected replacement date(s) for the inventory line item and its replacement.

- The unit cost for the inventory item and its replacement if different.

- The impact of any Initial System Deficiency Correction(s) / Connection Charge(s) projects on the R&R schedule.

- The residual value for each inventory item (or respective replacement) at the end of the contract period. If a specific inventory item does not undergo R&R, there is no residual value for it.

TABLE JA40.2.2-1: Part 1: Price Data Sheet 2, Renewals and Replacements – 50-Year Plan
Utilities Privatization

	A	B	C	D	E	F	G	H	I	J	K	L	M
	Item	Size	Quant	Unit	Approx. Year Installed	Existing Unit RCN	Existing Item Service Life	First Expected Replace Date	New Item	New Item Service Life	New Unit Cost RCN	New Item RCN	Next Replace Dates
Row 1	Concrete Pipe	4-in.	2,000	LF	1972	$15	50	2022	PVC	50	$10	$20,000	2072
Row 2	Concrete Pipe	12-in.	2,000	LF	1972	$20	50	2022	PVC	50	$20	$40,000	2072
Row 3	Concrete Pipe	24-in.	1,000	LF	1972	$60	50	2022	PVC	50	$50	$50,000	2072
Row 4	CI Pipe	4-in.	1,000	LF	1985	$25	50	2035	PVC	50	$10	$10,000	2085
Row 5	CI Pipe	12-in.	4,000	LF	1985	$100	50	2035	PVC	50	$20	$80,000	2085
Row 6	PVC Pipe	4-in.	3,000	LF	2000	$10	50	2050	same	50	$10	$30,000	2100
Row 7	PVC Pipe	12-in.	8,000	LF	2000	$20	50	2050	same	50	$20	$160,00	2100
Row 8	PVC Pipe	24-in.	4,000	LF	2000	$50	50	2050	same	50	$50	$200,00	2100
Row 9	PVC Pipe	4-in.	3,000	LF	2015	$10	50	2065	same	50	$10	$30,000	2115
Row 10	PVC Pipe	12-in.	8,000	LF	2015	$20	50	2065	same	50	$20	$160,00	2115
Row 11	PVC Pipe	24-in.	4,000	LF	2015	$50	50	2065	same	50	$50	$200,00	2115
Row 12	Manhole		20	EA	1975	$3,500	60	2035	same	60	$3,500	$70,000	2095
Row 13	Manhole		10	EA	1985	$3,500	60	2045	same	60	$3,500	$35,000	2105
Row 14	Manhole		30	EA	2000	$3,500	60	2060	same	60	$3,500	$105,00	2120
Row 15	Manhole		30	EA	2015	$3,500	60	2075	same	60	$3,500	$105,00	2135
Row 16	Lift Station #1		1	EA	1985	$25,000	50	2035	same	50	$25,000	$25,000	2085
Row 17	LS Controls #1		1	EA	1985	$50,000	20	2022	same	20	$50,000	$50,000	2042, 2062
Row 18	Lift Station #2		1	EA	2000	$25,000	50	2022*	same	50	$25,000	$25,000	2072
Row 19	LS Controls #2		1	EA	2000	$50,000	20	2022	same	20	$50,000	$50,000	2042, 2062
Row 20	Lift Station #3		1	EA	2015	$25,000	50	2065	same	50	$25,000	$25,000	2115
Row 21	LS Controls #3		1	EA	2015	$50,000	20	2035	same	20	$50,000	$50,000	2055

This table represents a sample R&R plan. **For display purposes, the R&R table is split into two parts.** The first part shows the inventory items, the associated costs, and the respective replacement costs of the replacement items, if different from the original. The second part shown in Table JA40-2,2-1 Part 2, shows the annual cost breakouts. *Impacts of Initial System Deficiency Correction(s) / Connection Charge(s) projects on inventory must be accounted for in the R&R plan.*

- **Columns A-E:** Lists the original inventory description
- **Columns F:** Details the Replacement Cost New (RCN) unit cost at the component/item level
- **Column G:** Lists the service/design life of the existing component/item; number of years the item is expected to be in service
- **Column H:** Lists the first expected replacement date. Replacement Date = Approximate Year Installed + Service Life
- **Column I-J:** Describes the new replacement component/item and the new replacement component's service life
- **Columns K-L:** Details the unit cost of the new replacement component/item and total RCN cost
- **Column M:** Lists the next expected R&R dates during the 50-years. Replacement Date = Replacement Date(s) + Service Life
- ***Cell H18: Per** Table JA40-2 Lift Station #2 is listed as a deficiency. Offeror chose to replace LS #2 via R&R in first year.

TABLE JA40.2.2-1: Part 2: Price Data Sheet 2, Renewals and Replacements – 50-Year Plan
Utilities Privatization

	A	B	N	O	P	Q	R	S	T	U	V	W	X
	Item	Size	Planned Renewals & Replacement: Year 1, Year XX, Year 50									Cumulative Total	Residual Value in Year 50 (Const $)
			2022 Const $ Year 1	2035 Const $ Year 14	2042 Const $ Year 21	2045 Const $ Year 24	2050 Const $ Year 29	2055 Const $ Year 34	2060 Const $ Year 39	2062 Const $ Year 41	2065 Const $ Year 44		
Row 1	Concrete Pipe	4-in.	$20,000									$20,000	$400
Row 2	Concrete Pipe	12-in.	$40,000									$40,000	$800
Row 3	Concrete Pipe	24-in.	$50,000									$50,000	$1,000
Row 4	CI Pipe	4-in.		$10,000								$10,000	$2,800
Row 5	CI Pipe	12-in.		$80,000								$80,000	$22,400
Row 6	PVC Pipe	4-in.					$30,000					$30,000	$17,400
Row 7	PVC Pipe	12-in.					$160,000					$160,000	$92,800
Row 8	PVC Pipe	24-in.					$200,000					$200,000	$116,000
Row 9	PVC Pipe	4-in.									$30,000	$30,000	$26,400
Row 10	PVC Pipe	12-in.									$160,000	$160,000	$140,800
Row 11	PVC Pipe	24-in.									$200,000	$200,000	$176,000
Row 12	Manhole			$70,000								$70,000	$28,000
Row 13	Manhole					$35,000						$35,000	$19,833
Row 14	Manhole								$105,000			$105,000	$85,750
Row 15	Manhole											$0	$0
Row 16	Lift Station #1			$25,000								$25,000	$7,000
Row 17	LS Controls #1		$50,000		$50,000					$50,000		$150,000	$27,500
Row 18	Lift Station #2*		$25,000									$25,000	$500
Row 19	LS Controls #2		$50,000		$50,000					$50,000		$150,000	$27,500
Row 20	Lift Station #3										$25,000	$25,000	$22,000
Row 21	LS Controls #3			$50,000				$50,000				$100,000	$10,000
Row A	Total Const $		$235,000	$235,000	$100,000	$35,000	$390,000	$50,000	$105,000	$100,000	$415,000	$1,665,000	$824,883
Row B	Present Values		$230,992	$147,697	$49,400	$15,594	$146,307	$15,793	$27,925	$24,827	$92,927	$751,462	$150,261

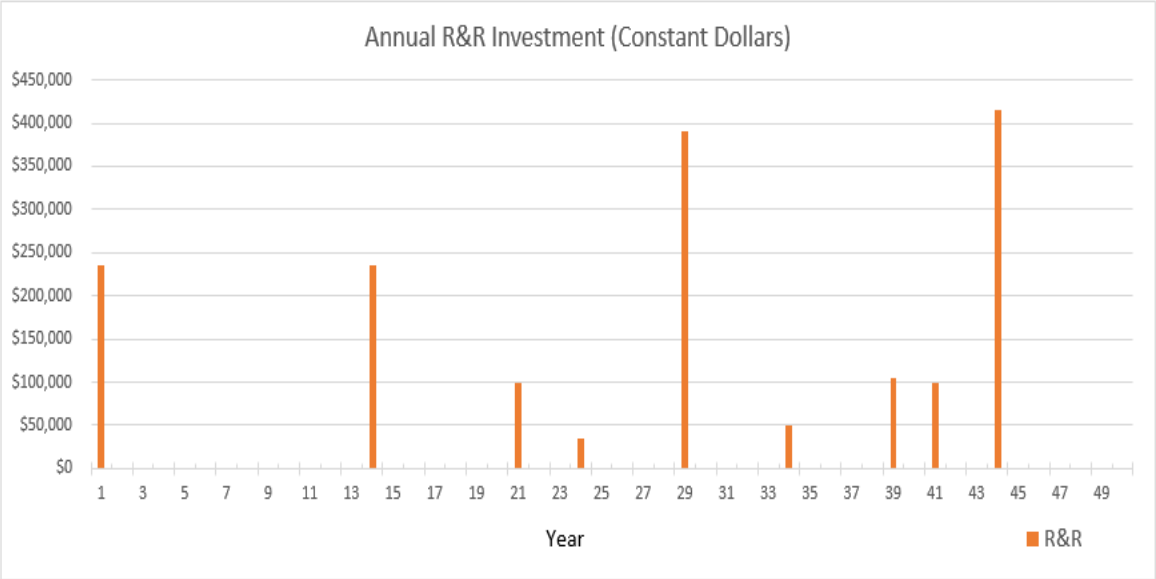
This is the second part of the R&R plan. It shows the annual R&R totals for each inventory line item.

- **Columns A-B:** Lists original inventory as described in Part 1
- **Columns N-V:** Corresponds to the year that R&R occurs, and R&R Investment (RRI) in **Rows 1-21**. RRI amounts are in constant year dollars based on the expected price levels during the first year (2022) of the utilities privatization service contract
- **Column W:** Totals of R&R Investment amounts of Columns N-V
- **Column X:** The Residual Value (RV) is the value of the investment, in constant year dollars, at the end of the contract term. RV = The last scheduled RRI (before end of contract) x (Contract Year (CY) of last replacement + Design Life – Contract length) / Design Life.
- **Row A:** Lists the RRI totals in Constant 2022$ per column (each year)

- **Row B (s**hown for example calculations)**:** Present Value of Row A, where Present Value (PV) = RRI x Discount Factor (DF); DF = [1 / (1 + I)^(N-0.5)]. I = the Offeror's Real (without inflation) Discount or Interest Rate. **N** is the year of the contract (i.e., 2022 is year one; therefore, (N – 0.5) = (1 – 0.5) = 0.5, in 2023, (N – 0.5) = (2 – 0.5) = 1.5 and so on for middle of the year discounting).
- ***Row 18: Per** Table JA40-2 Lift Station #2 is listed as a deficiency. Contractor chose to replace LS #2 via R&R in first year.
- **Service / Design Life** = The number of years the item is expected to be in service
- **Contract length** = A value of 50 years needs to be used
- **Example: Calculation of residual value at contract start based on Row 17 LS Controls**
  Recent RRI is $50,000, Contract Year of last replacement is year 41, Design life is 20 years, and Contract length is 50 years.
  RV = RRI x (Contract Year of last replacement + Design Life – Contract length) / Design Life
  RV = $50,000 x (41 + 20 – 50) / 20 = $27,500

Exhibit JA40.2.2-1 shows the projected R&R investments by year (Row A of **Table JA40.2.2-1(Part 2)**). This chart shows a distribution of investments (costs) roughly over the entire 50-year term of the contract.

EXHIBIT JA40.2.2-1: Renewals and Replacements Investment by Year
Utilities Privatization



Calculation of Annual / Monthly R&R: The Offeror must develop a *utility services charge for R&R* to pay for the investments proposed in Price Data Sheet 2. The Offeror proposes to spend $1,665,000 (in constant year 2022$) on planned R&R over the 50-year contract term, as shown in **Table JA40.2.2-1(Part 2)**. The cumulative present value of R&R investments is $751,462, using the 3.5 percent Real Discount Rate and middle of the year discounting convention. In this example, it is assumed the long-term cost of capital (I) for the Offeror is 3.5 percent. The cumulative residual value at the end of the contract term is $824,883. The present value of the cumulative residual value is $150,261. Therefore, the present value of the Offeror's total investment in R&R during the contract term is $601,201 ($751,462 - $150,261).

The utility services charge is calculated by amortizing the Present Value of Total Investment in R&R ($601,201) over 600 months, using an interest rate that results in a monthly charge sufficient for the Offeror to recover all its R&R investment costs. It is important that the interest rate (I), used in amortization is the Offeror's cost of capital, and the Discount Rate (DR), used in calculation of the Discount Factor (DF) for the present value (PV) calculations, must be exactly the same (DR = I) (see **Table JA40.2.2-2** for calculation details). If different rates are used, the *utility services charge for R&R* will be under- or over-collected during the 50-year contract period (see **JA40.2.2.1**). The timing of R&R investments during the 50 years does not affect the calculated *utility services charge for R&R* because the PV of R&R investments are used in the charge calculation (see **JA40.2.2.2**).

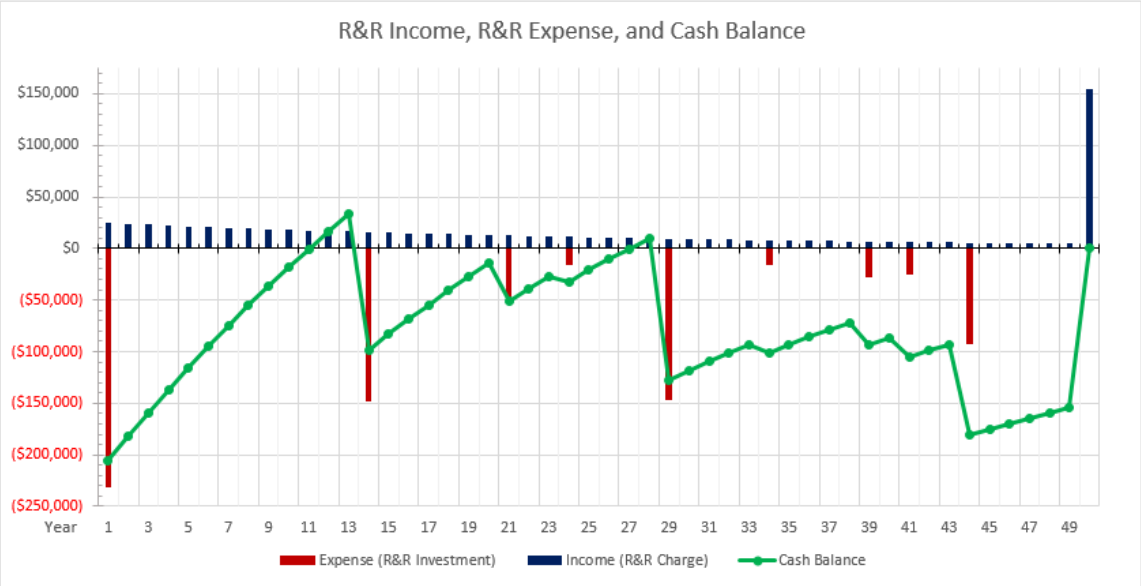
TABLE JA40.2.2-2: Calculation of Annual / Monthly R&R
Utilities Privatization

Calculation	Result
Present Value of Proposed R&R Cost (from Price Data Sheet 2) =>	$751,462
Cumulative Residual Value due to R&R Investments (from Price Data Sheet 2) =>	$150,261
(PV) Present Value of Total Investment in R&R = 751,462 – 150,201 =>	$601,201
(N) # Years to Recover R&R Cost =>	50
(I) Annual Interest Rate =>	3.50%
(A) Annual R&R Charge [a] =>	$25,194
(a) Monthly R&R Charge A / 12 =>	$2,099.53

Table Notes: [an] Annual R&R Charge calculated as uniform series of 50 annual payments and middle of the year discounting for the first year. $A = \{ PV \times [I \times (1 + I)^{50}] / [(1 + I)^{50} - 1] \} \times (1 / (1 + I)^{(1-0.5)})$

Exhibit JA40.2.2-2 shows the projected income and cost based on the Offeror's *utility services charge for R&R* and Price Data Sheet 2, respectively. The cash balance is the year-to-year cumulative sum of the income (R&R charge) and expense (R&R investment). The chart below shows negative cash balance where costs exceed income and positive cash balance during the few years where income exceeds costs. At the end of the contract the cash balance becomes zero (including the cumulative residual value added to the income), indicating complete recovery of R&R investments with interest.

EXHIBIT JA40.2.2-2: Income and Cost Forecast by Year
Utilities Privatization



The *Total Utility Services Charge* (CLIN 0001 and CLIN 0002) proposed by the Offeror is calculated as demonstrated in the example Price Data Sheet 1 shown in **Table JA40.2.2-3**.

TABLE JA40.2.2-3: Price Data Sheet 1, Utility Services Charge
Utilities Privatization

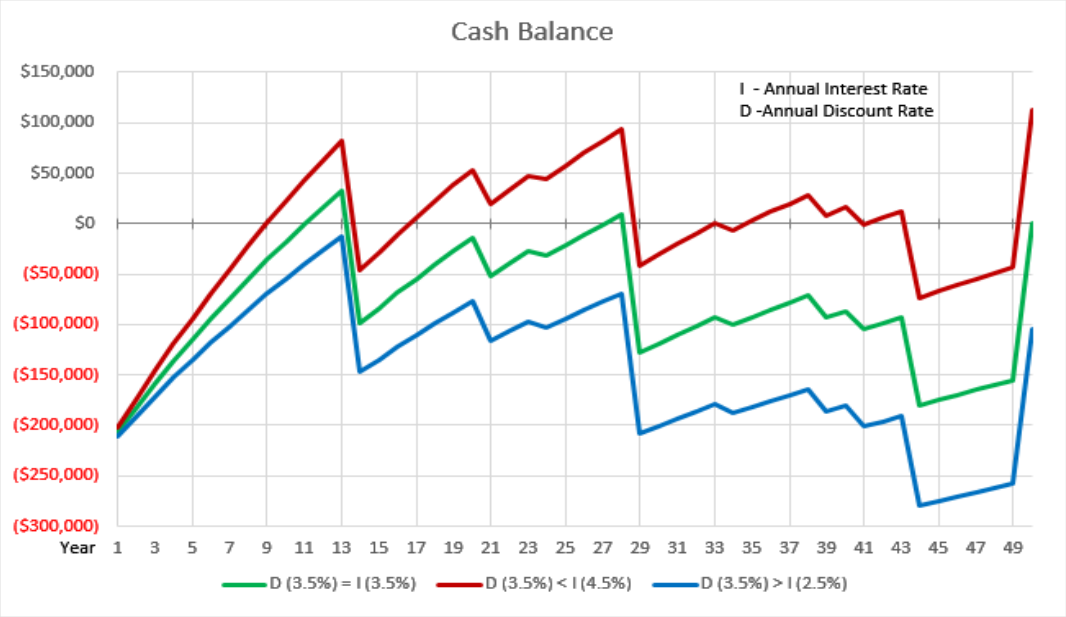
Component	Monthly Charge
1. Operations and Maintenance (O&M) CLIN 0001	$7,900.47
2. Renewals and Replacements (R&R) CLIN 0002	$2,099.53
Total Utility Services Charge	$10,000.00

JA40.2.2.1 Interest Rate and Discount Rate Should be the Same for R&R Charge Calculation

The annual interest rate should be the same as the annual discount rate, and both should be equal to the Offeror's cost of capital and time value of money rate. If they are different the cash balance will not be zero, indicating the Offeror is under-collecting or over-collecting its R&R investments.

Exhibit JA40.2.2.1-1 illustrates the financial management benefit when the annual discount rate matches the annual interest rate. The following graph shows the cash balances for three different annual interest rates (I = 2.5%, 3.5% and 4.5%; used in amortization) and the annual discount rate (D= 3.5%, used in the calculation of the discount factor (DF) used for present value (PV) calculations). When different interest and discount rates are used for the R&R charge calculation, the contract ending balance is not zero. The Offeror will be under-collecting (blue line), or over-collecting (red line) the R&R charges compared to the R&R investment, and the cash balance will not be zero at the end of the 50-year term.

EXHIBIT JA40.2.2.1-1: Cash Balance for Different Interest and Discount Rates
Utilities Privatization



JA40.2.2.2 R&R Schedule Does Not Impact R&R Cash Balance

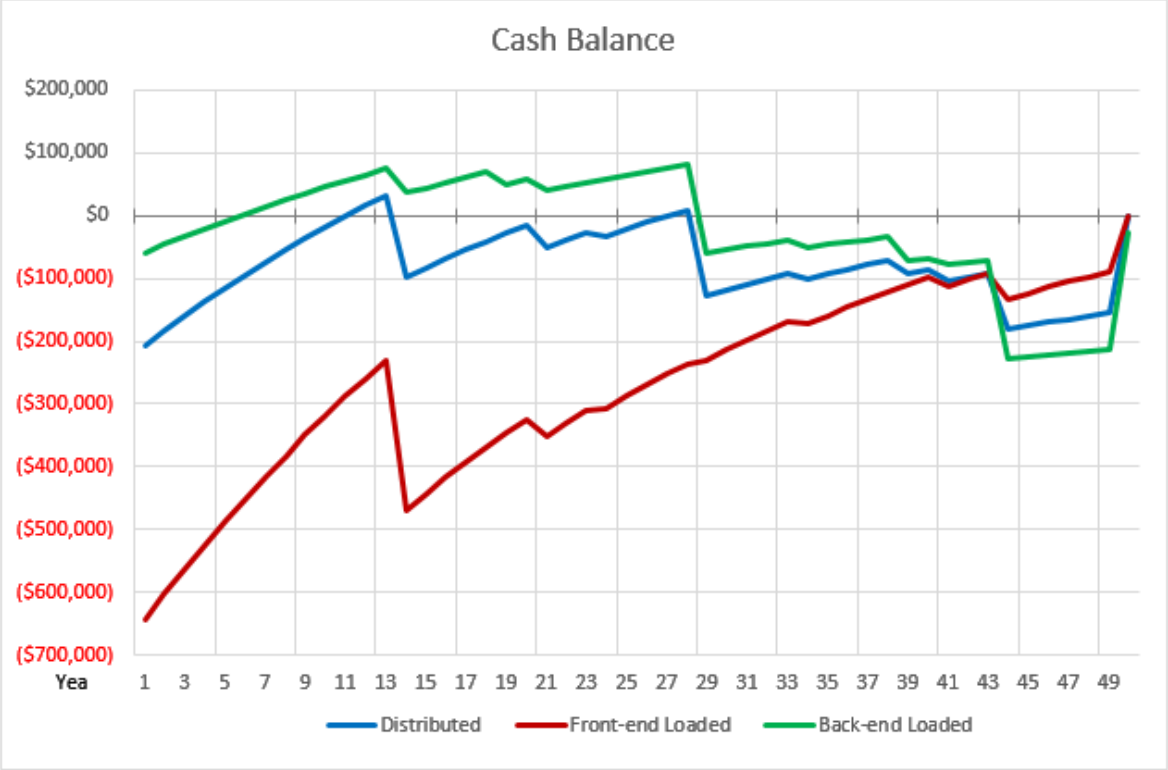
The following illustrates the R&R investment timing during the 50-year contract term does not result in R&R cash imbalance when the annual interest rate is exactly the same as the annual discount rate. **Table JA40.2.2.2-1** shows R&R investments scheduled under three scenarios: distributed, front-end loaded, and back-end loaded. Under the distributed scenario, the R&R projects are roughly distributed throughout the 50 years. In the front-end loaded scenario, the majority of the R&R projects are completed in the first half. Under the back-end loaded scenario, the majority of the R&R projects are completed in the second half of the 50-year contract.

TABLE JA40.2.2.2-1: R&R Investment for Distributed, Front-end Loaded, and Back-end Loaded Schedules
Utilities Privatization

Year	R&R Investments			Year	R&R Investments		
	Distributed	Front-end Loaded	Back-end Loaded		Distributed	Front-end Loaded	Back-end Loaded
1	$235,000	$700,000	$75,000	26	$0	$0	$0
2	$0	$0	$0	27	$0	$0	$0
3	$0	$0	$0	28	$0	$0	$0
4	$0	$0	$0	29	$0	$0	$0
5	$0	$0	$0	30	$390,000	$30,000	$390,000
6	$0	$0	$0	31	$0	$0	$0
7	$0	$0	$0	32	$0	$0	$0
8	$0	$0	$0	33	$0	$0	$0
9	$0	$0	$0	34	$0	$0	$0
10	$0	$0	$0	35	$50,000	$50,000	$50,000
11	$0	$0	$0	36	$0	$0	$0
12	$0	$0	$0	37	$0	$0	$0
13	$0	$0	$0	38	$0	$0	$0
14	$235,000	$425,000	$75,000	39	$0	$0	$0
15	$0	$0	$0	40	$105,000	$0	$155,000
16	$0	$0	$0	41	$0	$0	$0
17	$0	$0	$0	42	$100,000	$100,000	$50,000
18	$0	$0	$0	43	$0	$0	$0
19	$0	$0	$50,000	44	$0	$0	$0
20	$0	$0	$0	45	$415,000	$225,000	$720,000
21	$100,000	$100,000	$50,000	46	$0	$0	$0
22	$0	$0	$0	47	$0	$0	$0
23	$0	$0	$0	48	$0	$0	$0
24	$35,000	$35,000	$0	49	$0	$0	$0
25	$0	$0	$0	50	$0	$0	$0

Exhibit JA40.2.2.2-1 shows the ending cash balance is not affected irrespective of the R&R schedule. Cash balances (R&R Charge (income) + R&R Expense (investment)) are shown for distributed (blue line), front-end loaded (red line), and back-end loaded (green line).

EXHIBIT JA40.2.2.2-1: R&R Cash Balance for Distributed, Front-end Loaded, and Back-end Loaded R&R Schedules
Utilities Privatization



The ending cash balance for the three scenarios is zero, illustrating full recovery of the Contractor's R&R investments with interest (cost of capital).

JA40.2.3 CLIN 0002 Monthly Credit as Payment for Purchase Price Supporting Calculations

The Monthly Credit as Payment for Purchase Price (CLIN 0002) is calculated by amortizing the purchase price over the number of contract periods (months) the Offeror proposes to credit the purchase price.

- The Offeror proposes to purchase the wastewater system for $500,000.

- The $3,476.29 monthly credit is calculated by amortizing the $500,000 Purchase Price over 15 years (180 months) at a 3.16 percent annual interest rate (see **Table JA40.2.3-1** for calculation details). The interest rate is the Offeror's cost of capital for the amortization period.

TABLE JA40.2.3-1: Calculation of Annual / Monthly Purchase Price Credit
Utilities Privatization

Calculation	Results
(PP) Proposed Purchase Price =>	$500,000
(N) # Years to Amortize Purchase Price =>	15
(I) Annual Interest Rate =>	3.16%
CLIN 0002, (A) Annual Credit for Purchase Price [a] =>	$41,716
Monthly Credit for Purchase Price = (A) / 12 =>	$3,476.29

Table Notes: [an] Annual Credit as Payment for Purchase Price is calculated based on uniform series of payments and middle of the year discounting for the first year. $A = \{ PP \times [I \times (1 + I)^{15}] / [(1 + I)^{15} - 1] \} \times (1 / (1+I)^{(1-0.5)})$

JA40.2.4 CLINS 0003 and 0004 Initial System Deficiency Correction(s) / Upgrade(s) / Connection Charge(s) / Transition Period

JA40.2.4.1 CLIN 0003 Initial System Deficiency Correction(s) / Upgrade(s) / Connection Charge(s) Supporting Calculation

Initial System Deficiency Correction(s) / Upgrade(s) / Connection Charge(s) are documented in Price Data Sheet 3. Transition costs are also included in Price Data Sheet 3; however, these costs are addressed in CLIN 0004 (see section **JA40.2.4**). In this example, based on its assessment of the utility system, the Offeror identified three deficiencies in the wastewater system.

- All of the 1970s-era collection system piping needs to be replaced because it has reached the end of its service life, it requires excessive maintenance and has unacceptable infiltration and inflow (I&I). The cost to replace the collection piping was determined to be $110,000. The replacement is to be done in CY 1 of the contract term as planned renewal and replacement (R&R) costs. Even though this project may be a deficiency, the Offeror determined that it was actually the result of the system reaching the end of its service life and therefore addressed it as an R&R project by including it in Price Data Sheet 2.

- Cross connections between the Installation's wastewater system and stormwater system were determined to be the cause of the I&I problem. The cost to remedy the cross connections was determined to be $125,000. The Offeror included an Initial System Deficiency Correction(s) / Upgrade(s) / Connection Charge(s) project in Price Data Sheet 3 to address this deficiency. The project is amortized over 15 years at a 2.90 percent annual interest rate (assumed cost of capital for the Offeror for the amortization period). The Offeror also determines a program to periodically televise and test the system for I&I needs to be implemented. The Offeror determines the annual cost for this program will be $2,000 per year, which is included in the $7,900 monthly operating cost.

- The lift station prone to overflowing was evaluated and determined to be in good condition, but inappropriately sized for the facilities served. The cost to replace the lift station was determined to be $25,000 and was incorporated into the first year of performance as a planned R&R cost. Even though this project may be a deficiency, the Offeror accounted for it under R&R because it is a replacement and impacts the overall schedule of replacements.

Two of the deficiencies, replacing the 1980s-era pipes and lift station #2, were included in the first year of planned R&R. A portion of the other deficiency was accounted for in the O&M component of the utility services charge. Remedying the cross-connections in the system was not included as R&R and it must be included in the Initial System Deficiency Corrections in Price Data Sheet 3.

- The Offeror proposes a $125,000 Initial System Deficiency Correction to remedy the cross connections in the system. This project is scheduled to be completed in the 12th month of performance and amortized over the next 5 years (months 13 through 72) at a 2.90 percent annual interest rate (assumed Offeror's cost of capital for the amortization period (see **Table JA40.2.4.1-1** for calculation details).

TABLE JA40.2.4.1-1: Calculation of Annual / Monthly ISDC Charge
Utilities Privatization

Calculation	Result
(PV) Project Cost =>	$125,000
(N) # Years to Amortize Project Cost =>	5
(I) Annual Interest Rate =>	2.90%
(A) Annual Charge [a] =>	$26,830
Monthly Charge = (A) / 12 =>	$2,235.85

Table Notes: [a] Annual Charge calculated based on uniform series of payments and middle of the year discounting for the first year. $A = \{ PV \times [I \times (1 + I)^{5}] / [(1 + I)^{5} - 1] \} \times (1 / (1+I)^{(1-0.5)})$

JA40.2.4.2 CLIN 0004 Transition Period

The Transition Period charge (CLIN 0004) comes directly from Price Data Sheet 3 **(Table JA40.2.4.2-1)**. If the Contractor chooses to amortize the transition period payments, the same methodology that is used to calculate the Initial System Deficiency Correction(s) / Upgrade(s) / Connection Charge(s) must be used. Refer to CLIN 0003 Supporting Calculations.

The example Price Data Sheet 3 developed for Initial System Deficiency Correction(s) / Upgrade(s) / Connection Charge(s)/ Transition Period (CLINS 0003 and 0004) is shown in **Table JA40.2.4.2-1**.

TABLE JA40.2.4.2-1: Price Data Sheet 3, Initial System Deficiency Correction(s) / Upgrade(s) / Connection Charge(s) / Transition Period
Utilities Privatization

Project Name	Interest Rate	Project Cost (Constant $)	Project Start Date	First Full Month Project will be in Service	Amortization Period (Months)	Monthly Charge
Project 1 - Remedy Cross Connections	2.90%	$125,000		12	60	$2,235.85
Transition	0.00%	$50,000		0	1	$50,000.00

JA40.2.5 CLIN 0002 Recoverable Portion of the Purchase Price Supporting Calculation

The Monthly Charge for the Recoverable Portion of the Purchase Price (CLIN 0002) is calculated by amortizing the recoverable amount of the purchase price over the number of contract periods (months) the Offeror proposes to recover the purchase price (see Table **JA40.2.5-2**).[3]

- The Offeror proposes to purchase the wastewater system for $500,000.

- The Offeror proposes to recover the full amount of the purchase price. If there is any extra capacity in the system that can used by another entity with the permission of the Government, the Offeror can propose to serve and charge that entity and credit those charges to the Government (i.e., O&M, R&R, ISDC, and purchase price recovery).

- The $3,476.29 monthly charge is calculated by amortizing the $500,000 Recoverable Portion of the Purchase Price over 15 years (180 months) at a 3.16 percent annual interest rate (assumed Offeror's cost of capital for that time period (see **Table JA40.2.5-1** for calculation details)). Generally, the interest rate is the Offeror's cost of capital used in the calculation of the Purchase Price Credit; if it is different, it should be explained in the proposal.

[3] The Recoverable amount cannot exceed the Purchase Price. Additionally, recovery terms (interest rate, number of periods) should be the same as used when calculating the monthly credit for the Purchase Price (CLIN 0002).

TABLE JA40.2.5-1: Calculation of Annual / Monthly Purchase Price Recovery Charge
Utilities Privatization

Calculation	Results
(PP) Proposed Recoverable Portion of Purchase Price =>	$500,000
(N) # Years to Amortize Recovery =>	15
Annual Interest Rate =>	3.16%
CLIN 0001, (A) Annual Purchase Price Recovery Charge [a] =>	$41,716
Monthly Purchase Price Recovery Charge = (A) / 12 =>	$3,476.29

Table Notes: [a] Annual Purchase Price Recovery Charge is calculated based on uniform series of payments and middle of the year discounting for the first year. $A = \{ PP \times [I \times (1 + I)^{15}] / [(1 + I)^{15} - 1] \} \times (1 / (1+I)^{(1-0.5)})$

TABLE JA40.2.5-2: Price Data Sheet 4, Recoverable Portion of Purchase Price
Utilities Privatization

Item	Interest Rate	Amount	Amortization Period (Months)	Monthly Charge
Recoverable Portion of Purchase Price	3.16%	$500,000	180	$3,476.29