



Reference Manual – 35B Reference Manual for the Cost Recovery for National Park Service Provided Utilities

Final

February 2012

Executive Summary

Director's Order #35B, "Cost Recovery for National Park Service Provided Utilities" (DO 35B) replaces Special Directive 83-2, "Rates for NPS Produced Utilities" (SD 83-2). This reference manual (RM 35B) details the business practices and procedures to be used when implementing DO 35B within a park unit. The most substantial changes within DO 35B relate to the recovery of capital costs.

This reference manual provides guidance on how to determine and then apply a utility rate based on a formal rate base of the physical infrastructure of each utility system; the measurements of usage associated with each utility; and consistently applied costs consisting of operations, maintenance, component renewal, recapitalization and additions each utility. To determine a reasonable rate structure and then manage the rate base and the costs associated with the utilities, parks must draw on data recorded in the Facility Management Software System (FMSS) and the Project Management Information System (PMIS).

New in DO 35B is the recovery of capital costs for all capital and recapitalization projects completed after 2011 (starting with projects completed in FY 2012). Cost recovery is expressed as a straight-line cost for the life of the utility component and should be distributed in the rate base so that the cost recovery is distributed to all users of the utility, including the National Park Service (NPS), by the amount of usage that each entity utilizes. There is a phased implementation to include the capital costs and there are no lump sum or back payments involved.

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Director's Order #35B, "Cost Recovery for National Park Service Provided Utilities" (DO 35B) articulates National Park Service (NPS) policy and procedures for recovering utility costs. It brings NPS into alignment with Office of Management and Budget (OMB) guidance and better balances the NPS's need for more complete cost recovery when providing utilities, including annual operating costs, cyclical repair and rehabilitation costs, and capital investment cost, to non-NPS users. This reference manual describes the procedures associated with implementing DO 35B in parks. It is intended for park units that provide utilities to non-NPS users within the national park system. The manual contains implementation guidance in the form of instructions, procedures, and operational standards, as well as business practices related to various utility services.

The information in this manual is organized into the following sections:

- **Section 1 – Background** sets the context for and policies that have led up to the development and release of DO 35B.
- **Section 2 – Utilities Included in Director's Order #35B** lists those utilities subject to DO 35B.
- **Section 3 – Determination of Costs and Rate Structures** defines the major types of rate structures and what parks units must consider when determining the most appropriate structure.
- **Section 4 – Rate Base Considerations** discusses those considerations that may factor into the recovery rate for a given year.
- **Section 5 – Cost Recovery** contains guidance on how park units must recover costs for the utilities the NPS produces for, and conveys to users.
- **Section 0 –**
- **Utility Accounting** describes how to account for NPS-produced utility services in NPS information systems.
- **Section 7 – Phased Implementation** presents the utility rate implementation cycle for DO 35B within a park unit and across the Service.
- **Section 8 – Exceptions** defines those legitimate exceptions to complying with DO 35B.
- **Appendixes** – The appendixes contains business practices for the various utility services being provided to non-NPS users, including water, wastewater, electricity, solid waste, gas or fuel systems, and communications systems. It also contains a utility rate computation summary form.

1. Background

The Department of Interior Inspector General (IG) has conducted numerous evaluations of NPS utility programs since 1990. These evaluations have documented historical deficiencies and inconsistent applications in the collection and recovery of costs for utilities in accordance with OMB guidelines. These unrecovered costs, in general, may limit a park's ability to fund other operational and maintenance (O&M) needs, meet the NPS mission, or potentially manage the infrastructure that serves the public.

In 1983, Special Directive 83-2, "Rates for NPS-Produced Utilities" (SD 83-2) required parks to recover the O&M costs of NPS-provided utilities from non-NPS entities within national park

areas. In 1985, SD 83-2 was revised to also require parks to recover indirect costs (overhead) and certain resource concerns. This revision also dictated that inflationary factors, such as yearly inflation rates or known federal pay increases, be applied to historical costs and comparable data. In general, SD 83-2 required parks to establish utility rates based on actual operating costs, or comparable utility costs, whichever was greater. In 1990, a memorandum was sent from the Associate Director of Administration and Budget to the Field Directorate directing the recovery of capital costs; however, this memorandum was not implemented. It referenced the requirements of SD 83-2, which directed parks to not recover capital costs. Due to conflicting guidance in this memorandum, the recovery of capital costs did not occur until the issuance of DO 35B.

A memorandum dated June 13, 1999, from the Deputy Associate Solicitor, Division of Parks and Wildlife, to the Comptroller of the NPS stated that "it is the position of the IG that the NPS should be collecting a fair share of the capital costs of a utility system and retaining those funds for park utility system operations." The memorandum further stated that while the NPS has the legal authority to include capital costs in its utility rate structure, whether the NPS should include such costs was a matter of policy.

For partners, cooperating associations, and other non-profit organizations, DO 35B applies to stand alone facilities, where the organization is the only occupant, or where the organization occupies more than 50% of the facility. It does not apply to the where those organizations are in a co-located office or run a portion of the visitor center.

DO 35B replaces SD 83-2 and sets policy for parks to recover capital costs, in addition to O&M costs, for the provision of utilities to non-NPS users.

2. Utilities Included in Director's Order #35B

The guidelines contained in DO 35B apply to all utilities produced and conveyed by the NPS and utilized by other users. These utilities generally include, but are not limited to, the following:

- Electricity
- Fuel
- Natural gas
- Propane
- Water
- Wastewater
- Solid waste and recyclables
- Communications systems.

Agreements for cost reimbursement for services, such as plowing snow, and for other non-utility activities or services immediately reimbursable are not included in this DO.

3. Determination of Costs and Rate Structures

Parks may select from three types of rates structures when determining the most appropriate rate structure for recovering their utilities costs.

Single Unit Rate

The simplest form of rate structure is the **single unit rate** structure. It is calculated by dividing the total costs by the total number of units of utility service produced (e.g., 1,000 gallons of water cubic yards of waste disposed, etc.). This calculation results in a uniform rate equal to the cost per unit of utility service provided. This rate structure is the easiest to determine, is likely to be more accurate in recovering project costs, and is the simplest to manage administratively.

Variable Rate

A **variable or differential rate** structure, while more complex, can be used to serve specific goals. For example, where it is possible and desirable to encourage conservation and reduce energy usage during peak periods, it may be useful to charge higher rates during what would normally be periods of heavy (peak) usage or to have higher rates (an inclining block structure) for certain thresholds of usage. This practice would result in a rate structure that varies by time of use, time of day, or time of year (season) and usually requires extensive and advanced metering to accomplish.

A differential rate structure may be particularly valuable in reducing consumption during high rate periods as well as encouraging resource conservation. It serves to balance usage between peak and off-peak periods, as users are financially motivated to reduce utility usage or shift such usage away from peak periods. The rates for this structure should be set under the assumption that there will be reduced consumption as the customer responds to the price change. In addition to the general benefits of energy and utility conservation, reduced or redistributed usage may eliminate or at least postpone the need to expand the capacity of the physical utility plant providing the utility service.

Similar to the differential rate structure is a usage rate structure used for fuel systems, water consumption, and energy charges. Under such structures, a flat rate per unit measure is set to a maximum usage level. Usage above that level triggers another rate fee. For example, electric power usage up to 1,000 kWh is one fixed rate per kWh, but usage over 1,000 kWh is at a different rate.

Fixed Fee Plus Variable Rate

A third rate structure is a **fixed fee plus variable rate**. The fixed fee is assessed for a period of time (monthly, semiannually, or annually) and addresses fixed items in the rate structure that would occur regardless of usage volume; an additional charge is assessed for actual units used. This rate structure is useful in situations where the system has a high percentage of fixed costs that would remain even if usage were reduced. With reduced usage, revenues decrease and would not cover the fixed costs that remain. In those cases, a high unit rate may tend to discourage usage, but costs would not be commensurately reduced, and the park unit might find that the charges do not cover the full costs of operations.

Ultimately, the rate structure that is adopted must be as equitable as possible to all users and must be justified as being the appropriate recovery rate in seeking the regional director's approval (see section 8 for more information). This structure should be determined under the anticipation that the same structure (not the same rates) will be continued into the foreseeable future.

As part of any rate structure determination, it is also important to consider the presence of meters, which accurately measure utilities usage. See section 4.4 for more discussion of metering in the parks.

If, for some reason, it becomes apparent that a change should be made to the rate structure, that change must be proposed and justified to the Regional Director for approval.

The rate costs and structures are heavily dependent upon the Facility Management Software System (FMSS) and Project Management Information System (PMIS) data. The Facility Maintenance Software System (FMSS) is a Maximo® application that the NPS uses to manage facilities. The PMIS is an application for managing projects. It supports many different funding sources and project types. Projects are typically developed by grouping work orders from the FMSS into logical, functional projects and submitting them for review and approval. The primary funding source types involved in utility projects are Fee Demo, Repair/Rehab, Cyclic Maintenance, and Line Item Construction. This document is not intended to provide instructions on using the FMSS or PMIS, but rather to introduce readers who may unfamiliar with the applications.

The FMSS consists of records to which costs and work activities are assigned and tracked. The basic types of records are as follows:

Site Records	High-level organizational record. A park is defined as a “site” in the FMSS.
Location Records	A system of components designed for a purpose. For example, a wastewater utility system consists of all the components contributing to the collection, treatment, and disposal of wastewater. Similarly, a building is a location consisting of all the components that make up a structure and make it functional.
Asset Records	The components of a location record. Assets of a wastewater utility system are pipe, manholes, pumps, aerators, lagoons, etc.

Part of the management function of the FMSS includes tracking all work and costs associated with different records in the system. Correctly formatted and processed work orders contain the following primary work types:

- FO – Facility Operations
- FM – Facility Maintenance
- CI – Capital Improvement.

Work orders should contain all cost data when users enter labor, materials, tools, and contracted costs. Work orders may then be grouped and submitted to the PMIS projects to facilitate prioritization and funding.

4. Rate Base Considerations

After determining the most appropriate rate structure, parks must take into consideration other factors in formulating the costs that go into the final utility rate, how that information is captured, and how it is accurately measured.

4.1 Utility Systems

A utility system consists of the components required to produce, collect, or transmit services to or for the consumers of the service. Utility systems encompass all components and dedicated supporting structures required to provide the utility or service. Defining what is included in a

utility system is an important part of establishing the components of the infrastructure associated with the total cost of providing utility services.

To define the utility system within a park unit, a park must determine the included components of each system and strictly adhere to them in capturing costs. The NPS has adapted many industry standards in its asset management program, which includes recommending use of a municipal model for utilities to determine the boundaries of each utility system.

Utility systems will consist of all structures and equipment that are fully attributable to the support of or the provision of utility services. In the FMSS, these structures and equipment are the location and asset records previously described in section 3.

When only part of a structure or facility contributes to the utility service, it is often not appropriate to capture all of the costs. For example, a small laboratory that is part of a multi-purpose building might not be included as a part of the utility system, but the labor of the laboratory technician or operator and all equipment purchased for that laboratory would be fully attributable to the utility system. In such an example, **the cost for the laboratory technology and the equipment should be captured against a utility system record in the FMSS and not the multipurpose building in which it is located.** Another example is the case of service connections: In the municipal model, service connections are the responsibility of the “owner” of the facility being served. To illustrate this case, homeowners must pay for the cost of connecting their utility services in new homes, and they are responsible for all maintenance and repair done on that service connection. For more examples when only part of a structure or facility contributes to a utility service, see Table 1.

Table 1. Examples of Utility Systems Where Only Part of a Structure or Facility Contributes to the Utility System

Utility System	May Include (But Not Limited to)	Excludes
Water Treatment System	Treatment building and all equipment, pumping stations and supporting structures (vaults, buildings, collection and transmission piping, valves, fire hydrants, storage tanks, and intake systems, including structures, meters, fencing, standby generators)	Service connection laterals from corporation tap to facility served
Waste Water Treatment System	Treatment building and all treatment equipment, lift stations and supporting structures (vaults, buildings), collection and disposal piping, manholes, fencing, standby generators, valves, treatment tanks, solids treatment systems, pump truck	Service connections from facility served to main collection line, small septic tank and drain fields such as those serving one residence, vault toilets
Electrical Systems	Power-generating equipment, transmission lines, dedicated fuel tanks, transmission poles, substations, service connections to and including electrical service meters, fencing, bucket truck	Service connections from the meter to the facility or building entrance appurtenance
Fuel Systems	Fuel tanks, fueling stations, dispensing systems, associated pavement, fuel system piping, containment, protection, security, monitoring, vehicles as tools,	Service connections from fuel meter to the facility served

Utility System	May Include (But Not Limited to)	Excludes
	fencing, meters	
Solid Waste Systems	Packer truck, containers, container pads, incinerators, cleaning stations, recycling facilities, storage facilities, transfer station, fencing	Custodial services inside a building

4.2 Utility-Related Fleet Assets

Some fleet assets are associated with the provision of utilities and the costs of such assets should be considered for recovery. Small fleet assets should be included as costs in work orders at a standard rate; they do not need to be tracked separately. However, large, expensive fleet items should be tracked separately for use, replacement, and repairs. Examples of large fleet equipment include, but are not limited to, garbage packer trucks, wastewater pumper trucks, and bucket trucks. Replacement costs should likely be amortized over the life of the vehicle for inclusion in the recovery rate.

4.3 Retrieval of Cost Data from the Facility Management Software System

Each park must provide a list of all **location records** and **fleet and other asset records** to be included for rate recovery. This list must be submitted to the Regional Director for approval and may not be altered without cause; changes require subsequent review and approval. Additions to the list would normally only occur with the addition of a new utility-related location, such as a new wastewater treatment plant. Replacement equipment (such as roofs or pumps) added to existing locations do not require approval from the Regional Director.

The implementation of DO 35B includes custom reports based on the location and asset records included in the rate base. These reports capture all the cost data from each FMSS record in the approved rate base for a given utility. The custom reports show all recorded cost data according to the following criteria:

- Actual costs for labor, material, and tools for all FO work orders and all FM work orders **that are not a part of a PMIS project**. The included costs will be bracketed by a one-year time frame (i.e., October 1 to September 30 or another schedule as determined by rate structure). This work is generally considered O&M. It is most often park base funded, but it may have other sources.
- All costs for **completed** FM work orders that are a part of a PMIS project. This work is generally cyclic or repair/rehabilitation/replacement work and is completed at intervals typically longer than one year. These work orders are most often not park base funded, but park base funding does occur.
- All costs for **completed** work orders that are the CI work type. This work is often completed in PMIS projects, but it does not have to be.

The costs from these reports should be used, along with other data not captured in FMSS, to develop utility rates. Consumption/usage data (metered amounts or quantities of a service) is entered into rate tool to determine the cost per unit of utility service (e.g. cost per 1,000 gallons of water produced).

Note: Reallocation of a costly non-project/non-scheduled task into the fixed capital equipment accounting so that the costs can be amortized and does not fully impact the rate structure in a

single year is allowed without approval as long as the task is associated with a utility location already in the utility hierarchy. See section 8 for information on the waiver and approval process.

4.4 Consumption/Usage Data

The most effective means for accurately measuring utility usage is by incorporating meters, especially for utilities that convey resources that can be metered, such as water or electricity. Meter usage in parks varies—from parks that are not metered to those that are partially metered. Very few parks are fully metered, although parks are to plan for full metering within five years. Determining usage by metering is effective for water, wastewater (based on metered water), and electrical systems. This DO will be most consistently applied with full metering of all users, including metering NPS usage. Other utilities, such as solid waste systems, are based on weight or container volume. Usage issues for utilities are addressed in specific utility business practices (see the appendixes).

While it is desirable to have the most accurate measurement system in place, metering can be expensive to install. It is essential to have meters installed if a variable or differential rate structure is used in order to record the variations in usage. It is also likely to prove cost-effective to meter heavy consumers. In addition to the value of meters for determining usage, metering allows parks to maintain meticulous records of consumption, monitors periodic usage and usage patterns, and measures and identifies where system line losses are occurring.

Full and precise metering will allow the actual computation of line losses so that these losses can be distributed among all utility users. There are typically losses for utilities such as water, wastewater, and electrical/power systems. These losses should normally be within industry standards and prorated for all users. However, currently, losses are only applied to the NPS. This data on usage and potential line losses may also guide operation of the system or system components at various stages of the infrastructure life cycle and will ensure operation at continued optimum efficiency for the design life of the system and its components.

Under this DO, implementing system utility charges should be based on estimates where meters do not exist, but a plan to fully meter within five years, if at all possible, should be part of the park's utility plan. Metering should be applied to both NPS and non-NPS users.

5. Cost Recovery Recommendations

The provision of utility services has considerable cost implications for all users. This section discusses how a park unit can recover costs for NPS-provided utilities.

5.1 Cost Recovery Cost Categories

To recover utility costs, parks must evaluate the total cost to operate and maintain utility systems and use these costs, along with consumption data, to develop a transparent and uniformly applied rate. These rates are set specifically for each type of utility system, e.g., a rate for water, another for sewer. The single park rate approach for each utility type (e.g. one water rate per park versus multiple water rates within a park) is usually the simplest to recover costs for and is preferable for reasons of consistency, transparency, repeatability, and ease of incorporation, but it is not mandated.

The costs required to provide a utility service are divided into three broad categories:

Operations and Maintenance

- Includes all FO work orders and all non-project FM work orders
- Includes all actual costs accrued during the fiscal year
- Is not amortized
- Includes inflated labor to account for increased costs.

Facility Maintenance (FM) PMIS Project Work

- Includes all FM–PMIS project work orders noted as completed (FMSS status = CLOSE) during the fiscal year
- Includes all entered (FMSS) actual costs for the project (not fiscal year restricted)
- Is amortized.

Recapitalization/Capital Improvement (Recap/Cap)

- Includes any closed CI work order
- Is amortized.

The main differences in these categories are the cost, complexity, and frequency of the tasks. O&M work tends to consist of tasks performed annually or more frequently and is typically accomplished using park operations or utility reimbursable accounts. FM–PMIS project work tends to include cyclic maintenance and component renewal and generally recurs once every 10 years or less frequently. Project work can be both project funded or funded from park operations accounts. Recap/Cap tasks occur much less frequently and are almost always project funded.

The Utility Rate Computation Summary is shown in Appendix H:.

More detailed cost recovery guidance for each of these three categories is contained in the following sections.

5.1.1 Recovery of O&M Costs

The following cost activities fall within the O&M cost activity category:

- **Administrative Overhead** – Administrative overhead costs of 15 percent are assessed on the O&M portion of the rate base. There are no administrative overhead or design costs for Recap/Cap built into the rate base. See the Utility Rate Computation Summary in Appendix H:.
- **Operations and Maintenance** – O&M rates are calculated on a unit cost basis from the previous year's usage and O&M costs. Any known cost increases, such as wages and increased fees, can be incorporated into the new rate. The NPS consults standards, such as the *American Water Works Association Principles of Water Rates, Fees, and Charges* and the *Water Environment Federation's Financing and Charges for Wastewater Systems*, for determining rate computations.

All expenditures for personal services (e.g., salaries and benefits), travel, supplies and materials, utility fees, vehicle costs, energy usage, and consumables directly associated with the utility are included in the utility O&M rate base. Indirect labor costs, such as annual and sick leave, are determined by adding a leave surcharge to the total accrued expenditures in the location. The **leave surcharge** is calculated by multiplying personal service charges (including

accrued payrolls) by a percentage factor of 16 percent, which is based on an overall average of indirect costs for leave across the NPS.

Operating costs can be adjusted either up or down to reflect reasonably anticipated changes in costs (e.g., a known increase in electricity charges for pumping) and to account for **inflationary factors** (e.g., the yearly inflation rate) or the amount of the federal pay comparability increase (where salaries are a significant component of operating costs).

Unanticipated expenses incurred or savings realized are factored into the following year's rates. End-of-the-year payments by users or rebates by the NPS to equalize actual costs and payments are not made.

Unscheduled work for emergency repairs is included in this cost category initially. If a park determines that this work would more appropriately fit into project-type work, the park can choose to amortize the cost of this work. Allowing amortization minimizes the impact of high emergency repair costs to the rate and still allows for cost recovery.

5.1.2 Recovery of FM–PMIS Project Work Costs

FM–PMIS project work contains two cost categories described as follows:

- **FM–PMIS Project Work Orders** –This type of work is captured in FMSS work orders that are associated with PMIS projects and may include cyclical work, repair/rehabilitative projects, and component renewal. The sub-work types are not critical, but should be noted in the rate tool. FM–PMIS project work includes all (and only) work orders associated with PMIS projects.

The actual costs should be entered into the work orders; they contribute to the rate as an amortized amount based on the design life of the component. This work does not contribute to the rate until the work order is closed. The FMSS status is "CLOSE." At which time, the total cost of the work is amortized.

Costs for construction type projects should be obtained from Contracting. It is sufficient to have the net construction costs at substantial completion, i.e., when the owner (the NPS) can use the facility.

- **Equipment Replacement Projects** – Equipment replacement (project funded) for fleet assets identified in the rate base is captured in FMSS work order actual costs for replacement; it contributes to the rate as an amortized amount based on the design life of the asset. For example, a garbage packer truck should be replaced on an interval, and the cost for replacement is to be captured and amortized over the estimated life of the vehicle.

Project-funded work is amortized over the life of the project. Each project has an annual contribution to the rate until it is fully amortized. For example, a \$100,000 pipe project amortized over 40 years will contribute \$2,500 a year to the rate base for each of the 40 years. If the annual water production is 1 million gallons, the rate would be increased \$2.50 to the rate per 1,000 gallons.

5.1.3 Recovery of Recapitalization/Capital Improvement Costs

Infrastructure that is fixed (in a location) is called fixed capital equipment (FCE). Any completed CI work order fall into this category. FCE is considered part of the rate based on the following formulation:

- No CI work completed prior to FY 2012 should be included in the rate determination.
- A CI project should be considered in its entirety, however, for purposes of determining estimated design life (which determines the amortization period). For example, a wastewater treatment plant should not be broken down into components such as pumps, lagoons, or tanks. It should be considered as a single project.
- A CI project may be broken out if there is a clear separation between function and design life. For example, a new wastewater treatment facility may have additional sewage transmission lines in the same project. The treatment facility would have a life expectancy of 30 years, while the piping would have a life expectancy of 40 or more years.
- The contribution to the rate is the same as described in section 5.1.2.

Note: As components of a system are replaced, refer to section 5.1.2.

5.1.4 Addition of FM–PMIS Project Work and Recapitalization/Capital Improvement Costs to the Rate Base

When adding FM–PMIS project work or Recap/Cap improvement costs to the rate base, parks should follow these guidelines:

- **FM PMIS Projects** – Includes cyclic work and the replacement of components that make up a system. The contribution to the rate base for FM–PMIS project work is typically more frequent and depends on the life of the components. A single component may be replaced several times before the total system exceeds its design life. Table 2 contains examples of amortization schedules for various FM–PMIS projects.

Table 2. Amortization Schedule Examples for FM–PMIS Project Work

Type of Work	Design Life	Amortization Schedule
Roof of Water Treatment Plant	20 Years (dependent on roof type)	Add $\frac{1}{20}$ of the cost of the roof per year to the rate base for 20 years
Garbage Packer Truck	15 years	Add $\frac{1}{15}$ per year to the rate base for 15 years

Note that these costs are added in only after they have been the work has been completed. A brand new water plant, for instance, would initially have its construction cost amortized at $\frac{1}{30}$ per year. If the roof is replaced after 20 years, then the roof cost at $\frac{1}{20}$ per year, would be added to the rate base.

- **Recap/Cap Projects** – Projects that include new systems and/or major replacement/renewal of partial systems. This category does not include single components of a system. The change to the rate for Recap/Cap work is infrequent and only occurs after a project is completed. A new location requires the Regional Director’s approval to add it to the rate base. Table 3 contains examples of amortization schedules for Recap/New Cap projects.

Table 3. Amortization Schedule Examples for Recap/Cap Projects

Type of Work	Design Life	Amortization
New Water Treatment Facility	30 years	Add $\frac{1}{30}$ per year to the rate base for 30 years
New Water Distribution System	50 years	Add $\frac{1}{50}$ per year to the rate base for 50 years

Any capital improvement project, recapitalization project, or major component renewal work installed in or after fiscal year (FY) 2012 should be included and recovered as described in section 5.2. The estimated design life (EDL) for utility systems is based on industry standards, with EDLs ranging from 10 to 50 years depending on the scale and type of the project. Evaluation of completed projects must include a determination of the correct EDL to apply to the entire project.

5.2 Cost Recovery of Existing Fixed Capital Equipment

Completed capital improvement, recapitalization, and other project work associated with a utility that are completed during or after FY 2012 must go into the rate base when the work is completed and put into service. No capital or recapitalization costs prior to FY 2012 should be a part of the rate base. Inclusion in the rate base should be determined as follows:

- All utility projects completed in FY 2012 (or later) become a part of the rate base.
- Each project is evaluated for the accuracy of its completion costs and the location record(s) to which it applies.
- Projects that include multiple utility systems or include non-utility system components are evaluated and costs are distributed to the correct utility or location record. Projects costs that are not easily dedicated to a specific utility may not be included in the rate base.
- Each project is evaluated for its primary type and is assigned an industry- standard "design life," e.g., a pipe project may have a design life of 50 years, while a pump station project may have a design life of 20 years. The design life may be adjusted if the park has a justifiable reason. Adjusting the design life to increase the rate of cost recovery is not justifiable. The design life is used to calculate a straight-line amortization of the project. This amortized amount becomes a part of the yearly rate until the design life has been exceeded. If it has not been replaced after the design life is reached, the amortization amount is no longer included in the rate base. Components, such as roofs, are treated similarly.

No attempt will be made to collect the amortized amounts in the rates prior to the implementation of this DO, i.e., no lump sum or back payments will be collected.

5.3 Predicting Rates Beyond the Current Year

For the purpose of concession contract prospectus development and financial analysis, PMIS-formulated projects will be utilized to predict rate changes. The prediction of rates assists both NPS and non NPS users in planning and in formulating feasibility in the case of multi-year contracts, leases, permits, and/or agreements. The value of this is for planning purposes only and will neither be part of any rate base, nor will the predicted rates take precedence over the actual determined rate.

Projects in PMIS will be surveyed and included in a rate prediction application to reasonably estimate future rates. While all utility projects five years out from the current year will be considered, it should be recognized that the data beyond two to three years is subject to change; the accuracy of the prediction decreases the further out the project is to start. **NOTE: Project costs are not included in the rates until they are completed**, so typically a project funded to begin in year 20XX is not included in the rate until the project is complete (usually 20XX+1 or 20XX+2); the predictions consider that expected completion date.

6. Utility Accounting

Funds received from non-NPS users from reimbursable utilities become part of the NPS fiscal system and are retained and tracked in two separate accounts. One account tracks O&M receipts and expenditures, and the other tracks all project-related receipts and expenditures. These two separate reimbursable accounts, managed at the park level, with regional oversight, are set up as no-year funds used only for utility system work in the park from which the revenue was accumulated.

6.1 O&M Accounts

The O&M account consists of the work associated with FO work and all non-project FM work. There is no intent for this reimbursable fund to fully fund the utility operation. The Reimbursable O&M account is for the specific utility and must be combined with the park service's share of O&M. There should be little or no carryover in this reimbursable account from year to year as it is part of the operations of the system.

6.2 Project-Related Accounts

This account consists of the work as determined by CLOSED CI work orders and all CLOSED FM PMIS work orders. Funds received from the project portion of the utility rate may be used to offset future PMIS funding requests and/or to pay for unscheduled maintenance not accounted for in the utility operations accounts. The funds in this account must be used for utilities in the park from which they were collected, although they do not have to be used for the utility or location from which they were derived. The funds should be used as soon as practical; large year-end carryovers should be avoided. This account is not intended to be a savings account for a large project, although it can be used as part of a project. A five-year plan for the expenditures of these funds must be instituted so that funds are used and managed appropriately. Regional oversight of this account should be monitored for appropriate and timely expenditures.

This account is available for replacement of items predetermined as acceptable for replacement, recapitalization, component renewal, or repair and rehabilitation and other non-operational tasks. The tasks/items funded by this account must be tracked back to the project rate structure (amortized).

In the case of unscheduled work that is not part of a PMIS project but needs to be executed, funds from the project account may be used. The work should be outside of typical O&M tasks, and the costs should be tracked as a "project." The costs for this work should be tracked in FMSS and are added to the rate basis the next year and amortized to be consistent with other project work. This is not a double accounting of costs because the funds used to pay for the new work were obtained from previously accomplished work.

7. Phased Implementation

DO 35B may result in rate increases for non-NPS users because it calls for the cost recovery of all capital infrastructure that will be put in place with projects completed in 2012 and future years.

There are instances where the full implementation of DO 35B can occur at the date of implementation of the DO, but there are many instances where the non-NPS user is under a multi-year contract with the NPS that included an assumption of utility rates during contract preparation. In those instances, the increase in rates should be phased in so that the non-NPS user sees no more than a 10 percent rate increase per year. This practice would ensure that non-NPS users would pay no more than 10 percent more (assuming that their rate of consumption does not change), for each succeeding year, until such time as (1) DO 35B is fully implemented or (2) a new multi-year contract is awarded that includes full implementation of DO 35B.

The maximum rate increase is to be considered separately for each utility type/system. This phased-in approach may also mean that full implementation of DO 35B may occur on different time schedules for different users.

After full implementation of DO 35B, any unanticipated (i.e., not forecast or anticipated in the contract) increases that cause a 10 percent increase in rates in one year will also be phased in as previously described. Exceptions to this implementation cycle are covered in section 8.

When the maximum 10 percent per year implementation is applicable, the 10 percent increase should include all cost increases for the utility, not just those attributable to the changes in DO 35B. For example, a park implements DO 35B and installs a new feature for \$2.5M (amortized over 25 years). The non-NPS user has 7 years left on a contract and uses 10,000 gallons per year of the utility – the phase in costs are shown below.

Table 4. Sample Phased Implementation – Initial Year of Implementation of DO 35B for a Utility Producing 100 Million Gallons per Year

Rate Type	Previous Year Rate/1,000 gal	FY11	FY 12	FY 13	FY14	FY15
O&M (4% Inflation/year)	\$0.00	\$5.50	\$5.72	\$5.95	\$6.19	\$6.43
35B increase for \$2.5 million project, EDL 25 years			\$ 1.00	\$ 1.00	\$1.00	\$1.00
New "rate" per 1000 gal *		\$5.50	\$6.72	\$6.95	\$7.19	\$7.43
10% cap rate per 1,000 gal*			\$6.05	\$6.66	\$7.32	\$7.91
Total charge if user uses 100,000 gallons	<i>use lowest of new rate or 10% cap rate* 100 (1,000 gal)</i>	\$550.00	\$605.00	\$665.50	\$718.68	\$743.42

* FY 12 and FY 13 the rate is the 10% cap; By FY14, the actual cost is the rate and recovery is 100%

DO 35B is fully implemented in year 4 since the increase is less than 10 percent from the previous year.

Utility rates for non-NPS users must be reviewed and updated yearly. All non-NPS utility users will be notified of increased utility charges at least 60 days before the changes become effective. To account for such rate increases in its operations, NPS concessioners, who are typically the largest non-park user of utilities, must be notified of any utility changes as a result of DO 35B at least 90 days before the changes become effective. Figure 1 outlines the timeline for implementation of a rate.

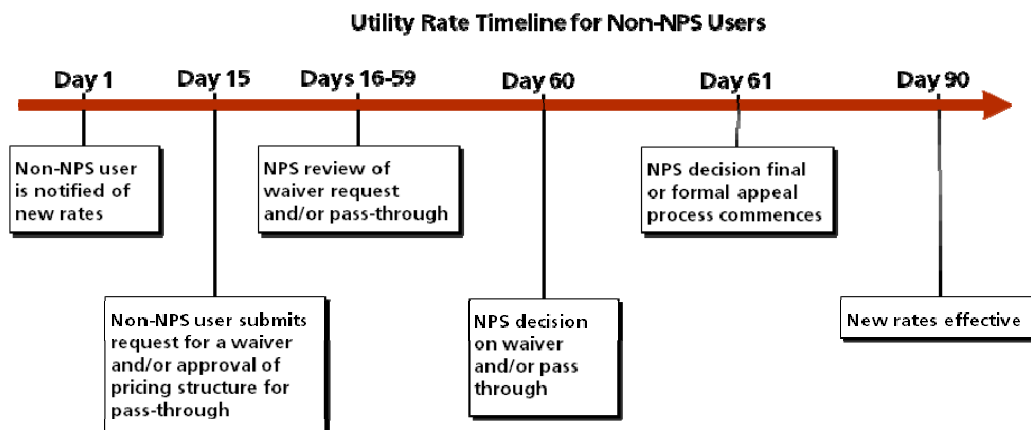


Figure 1: Utility Rate Timeline for Non-NPS Users

More specifically the below process applies to the concessioners.

If a concessioner requests a waiver of the new rate, the Associate Director (AD) Park Planning, Facilities, and Lands (PPFL) will review and approve the waiver in consultation with the park Superintendent, Regional Director of Business Services, Regional Director, and Associate Business Services. If the waiver is denied, the formal appeal process will be initiated by the concessioner through the park Superintendent and Regional Director to the Deputy Director. The appeal request must include new financial feasibility information not previously reviewed by the AD PPFL. The Deputy Director will review the appeal and make the final decision.

Costs associated with the provision of utility services to concessioners that are above those of comparable services can be recovered in accordance with the policies and procedures of the Commercial Services Program Rate Administration Program. Should questions about this recovery arise, please consult the procedures for calculating actual and comparable utility charges and cost distribution across services is in NPS-48 Chapter 18, paragraph F. In accordance with NPS 48, a request for adjustment of visitor prices by a concessioner for a utility charge must be submitted to the Superintendent within 15 days and must be acted upon by the NPS within 45 days of the notification. Adjustments to visitor service rates do not apply when the concessioner purchases the utility from non-park sources or when the NPS charges a comparable utility rate.

8. Exceptions

A waiver of all or part of the implementation requirements of DO 35B may be granted only by the Associate Director (AD) PPFL in consultation with the park Superintendent, Regional Director, and AD for Business Services, Interpretation and Education (I&E), Partnerships and Visitor Experience (PVE), Visitor and Resource Protection (VRP), or Natural Resource Stewardship and Science (NRSS) depending on the organization, after a careful feasibility analysis is conducted. The timeline for the implementation of the new rate is outlined in Figure 1 in section 7.

Utility rates are to be adjusted only when non-NPS users' other operating costs are extraordinarily high and cannot practically be absorbed while retaining feasibility of operation. When full cost recovery would raise prices for visitor services to an unacceptable level or jeopardize the economic viability of a non-NPS user, the user may supply a financial analysis for consideration for a waiver. However, the O&M and cyclical maintenance portions of the rate base should, in general, not be reduced. With few exceptions, only the project portion should be considered for a rate reduction.

Exceptions to the full utility rate may be allowed for cooperating associations as authorized under DO 32, but, they are required under DO 35B as a non-NPS users and must follow the same process as other non-NPS users. NPS employees residing in NPS housing are charged for NPS-produced utilities in accordance with current law and implementing guidance, including OMB Circular A-45 (policy governing charges for rental quarters and related facilities), the Departmental Quarters Handbook, and NPS-36 (Government Furnished Quarters Guideline).

For non-NPS users, the following procedure to request a waiver must be followed:

1. The non-NPS user must request a waiver and must justify the request. Additionally, it may be apparent during prospectus development or agreement development that a waiver should be considered for a non-NPS user. A waiver can therefore also be initiated during prospectus development or agreement development by the NPS AD of Business Services, I&E, P&V, VRP, or NRSS depending on the organization with accompanying justification for the exception.
2. A request for waiver of a utility charge exception by a non-NPS user must be submitted to the park Superintendent within 15 days of the non-NPS user's notification of the rate increase and must be acted upon by the NPS within 45 days of the notification. The AD PPFL will be responsible for make the final decision.

Additionally, the following procedures are in place for concessioners:

- For existing multi-year agreements, the waiver request must include an analysis of the rates that were assumed at the time of an agreement and an amount of the increase due to the new rates. The disposition of the increased cost in consumer rates must be proposed (e.g., a \$1 increase per day per horse ride; a \$10 increase per day on a room rate) so that the total scope of the rate difference can be analyzed. Any proposed rate reduction, based on a full financial analysis by the affected party with documentation as to why the reduction is necessary, must indicate how much subsidy is needed from such a rate reduction.
- All waiver requests must go through the regional office's business services division and be agreed upon by the Regional Director before being submitted for review and determination by the AD PPFL in consultation with the AD Business Services.

Should a waiver be denied, a non-NPS user may submit a formal appeal request with all associated documentation through the park Superintendent and Regional Director to the Deputy Director. The Deputy Director will review the appeal and make the final decision. The appeal request must include new financial feasibility information not previously reviewed by the AD PPFL. The appeal must be acted upon by the NPS within 30 days of request. Until the Deputy Director renders a decision, the new utility rates will not go into effect.

Appendix A: Acronym List and Terminology

A.1 Acronyms List

Acronym	Definition
CI	Capital Improvement
CR	Component Renewal
CSP	Commercial Services Program
DO	Director's Order
DO 35B	Director's Order #35B
EDL	Estimated Design Life
FCE	Fixed Capital Equipment
FM	Facility Maintenance
FMSS	Facility Maintenance Management Software System
FO	Facility Operations
FY	Fiscal Year
IG	Inspector General
NPS	National Park Service
O&M	Operations and Maintenance
OMB	Office of Management and Budget
ONPS	Operations of the National Park Service
PMIS	Project Management Information System
PPFL	Park Planning, Facilities, and Lands
R/R	Repair and Rehabilitation
SD	Special Directive
SD 83-2	Special Directive 83-2

A.2 Terminology List

Term	Definition
Rate Structure	The method determining how a rate is calculated
Rate Base	The components (location records, assets, work) that are incorporated into a rate
Rate	The fee per unit of measure (e.g., dollars per 1,000 gallons) based on all costs and amount of utility produced. Each user is billed based on a prorated amount calculated from the consumption.
Location Record	A record in the FMSS that encompasses a facility such as a building or a utility. It consists of many components

Term	Definition
Asset Record	A record in the FMSS that is a component of a location. Manholes are assets of a wastewater utility location record
Work Orders	Method used in the FMSS to describe work, purchases, and activities. Work orders are associated with a location record and often an asset record. They can be used to determine the total cost to provide the utility
Net Construction	Total cost to construct (e.g., a facility, major repair) that does not include compliance, design, or oversight costs
Substantial Completion	The point at which the deliverables in a project are substantially complete and accepted, i.e., the owner may occupy and/or use the facility

Appendix B: Water Utility Business Practice

The rate base for a water utility should include all of the physical attributes that are directly related to the production, treatment, transmission, and distribution of potable water to all users. The raw water acquisition through the treatment process and the main line transmission all involve physical attributes that serve all users. Distribution and small lateral lines that serve individual facilities are *not* part of the rate base, and any work, repairs, or other costs should not be charged as part of the general water utility. Large systems that serve the general public, however, may be appropriate to include in the rate base. For most purposes, that dividing line will be the connection (often a corporation cock) between the main line and the service or small lateral line.

A park must positively identify the physical attributes of the water utility so that there will be no question about what is included and excluded from the rate base. This list, once approved, may not be modified without written justification and approval by the Regional Director. The physical attributes of the rate base will be part of the rate approval process and will be distributed to any water utility user upon request. Such requests can be satisfied through a specific Facility Management Software System (FMSS) report for those locations identified as physical attributes to the water utility. This report, once generated and approved, should be locked at the regional level and cannot be modified without the above described approval process. There are no costs associated with a list of the physical attributes of a water utility, but it will provide the basis against which costs may be incurred.

The items in the rate base of a water utility should include, but are not limited, to raw intake structures and appurtenance, raw water transmission lines, wells, main distribution lines, fire hydrants, main line valves, water treatment buildings and equipment, lift stations, meters, water vaults, fencing, and standby generators for the water utility that serve more than one user. The lines that are not in the rate base should be well defined, and the users of those lines should be made aware of the different responsibilities. No charges are to be levied against the water utility for those lines serving one user, as defined by each park. Significant vehicles, such as garbage packers, sewage pumper trucks, and bucket trucks, that are owned and maintained by the park should be considered as items contributing to the rate base. All other vehicles should be considered as tools, and the costs for them should be determined by a tool rate and not be tracked as part of the rate base. All items in the rate base of a water utility should have a specific estimated design life (EDL) assigned to them for the purposes of planning, implementing, and tracking component renewal and capitalization/recapitalization expenditures.

A rate structure for a water utility should be set using some sort of measuring method. Normally, measurement would be achieved through a full metering of all facilities for both NPS and non-NPS users. A common measurement would be a set charge per 1,000 gallons, although this is not mandated. The rate structure should be set up so that incurred costs can be captured in three separate ways: operations and maintenance, component renewal, and recapitalization/new capital improvement. Any incurred costs will be captured through a variety of methods, although using FMSS and Project Management Information System (PMIS) data will be the databases of choice. Operations and maintenance cost recovery is generally funded out of the operations portion of the utility reimbursable account or regular park base. PMIS projects should not be included as operations and maintenance costs. Component renewal and recapitalization/new capital improvement projects are normally funded out of PMIS projects and not by operations or base park funds. The work in these two categories should be amortized over the EDL of the systems on which the work is performed.

Training and assistance with inputting this data and forecasting possible future expenditures through the FMSS and the PMIS will be provided by specific training from the Washington Office before the actual implementation date of Director's Order #35B. The data must be specific for each park with respect to those water utilities used by non-NPS users.

B.1 Operations and Maintenance – Typical Costs

The direct costs of treatment, storage, and distribution of water will vary depending on the type of treatment required, the amount of energy required for pumping and processing, the storage requirements, and the distribution system layout. In general, calculations of operating costs should include the following:

1. All personal services, supplies, power, and equipment repairs necessary to operate and maintain potable water facilities in accordance with federal and state standards
2. Maintenance projects (including replacement of small equipment components of the system) necessary for the operation of the utility funded out of base park operating funds.

The kinds of operation and maintenance costs, above personal services, supplies, and energy costs, which should be included, where appropriate, in calculating the operating costs of water systems include, but are not limited to, the following:

- Direct supervision of employees (Do not include costs for billing or indirect supervision, which are covered in the administrative costs.)
- Regular repair and replacement of valves, hydrants, meters, and other appurtenances
- Yearly inspections and testing, including flow tests of hydrants
- Periodic flushing of the system
- Replacement of water lines if less than 50 feet
- Cleaning of water storage reservoirs
- Maintenance on raw water reservoirs, intakes, and transmission lines
- Repair of electrical and mechanical components of the pumping or treatment process
- Chemical costs associated with the treatment process
- Costs of providing and maintaining standby power generation, including the costs and fees associated with the related fuel storage tanks
- Utilities and maintenance costs for any structures, housing treatment, and pumping equipment
- Replacement of cartridge-type filters
- Backwash pond cleaning and maintenance, including sludge removal
- Laboratory equipment and fees necessary to monitor process, control, and obtain reporting data as required by the regulatory agencies
- Cleaning and repairing of the distribution systems
- Winterizing and de-winterizing of the systems, including any plowing necessary to activate the system by keeping it accessible

- Costs of the production of water that does not go into service (e.g., process water, losses from leaks)
- Removal of animals, vegetation, and other obstructions (such as ice) from intakes
- State certification and licensing fees for plants and training costs for operations
- Cost to repair/maintain fences around plants and intakes
- Cost of special maintenance assistance/engineers to monitor and improve performance
- Cost of maintaining, calibrating, and reading water meters
- Cost to maintain and repair specialized fleet equipment
- Costs of medical surveillance, such as hepatitis shots and the use of personal protection equipment.

B.2 Component Renewal – Typical Projects

Typical component renewal projects involving a water utility include, but are not limited to, the following:

- Painting and sealing of water storage reservoirs
- Replacement of electrical and mechanical components of the pumping or treatment process
- Replacement of filter media
- Replacement of roof of water plants or buildings in the rate base
- Replacement of major pumps
- Replacement of standby generators in the rate base
- Replacement of pipes of more than 50 feet but that represent less than a full-scale replacement
- Total repainting of buildings included in the rate base
- Major meter acquisition and replacement
- Replacement/major repair of fencing around plants or intakes
- Replacement of well pumps
- Replacement of large, specialized fleet vehicles.

B.3 Recapitalization/New Capital Improvement – Typical Projects

Typical recapitalization/new capital improvement projects involving a water utility include, but are not limited to, the following:

- Replacement of a water treatment plant
- Replacement of large sections of pipe
- Expansion of a water system due to changed conditions or treatment requirements.

Appendix C: Wastewater Utility Business Practice

The rate base for a wastewater utility should include all of the physical attributes that are directly related to the collection, treatment, and disposal of wastewater from all users. The wastewater collection through the treatment and disposal process, including trunk sewers, involves physical attributes that serve all users. Individual and small collection lines that serve individual facilities are *not* part of the rate base, and any work, repairs, or other costs should not be charged as part of the general wastewater utility. Wastewater systems that serve the general public may be included in the rate base. For most purposes, that dividing line will be the connection between the main line sewer and the service or small lateral line.

A park must positively identify the physical attributes of the wastewater utility so that there will be no question about what is included and excluded from the rate base. This list, once approved, may not be modified without written justification and approval by the Regional Director. The physical attributes of the rate base will be part of the rate approval process and will be distributed to any wastewater utility user upon request. Such requests can be satisfied through a specific Facility Management Software System (FMSS) report for those locations identified as physical attributes to the wastewater utility. This report, once generated and approved, should be locked at the regional level and cannot be modified without the above described approval process. There are no costs associated with a list of the physical attributes of a wastewater utility, but it will provide the basis against which costs may be incurred.

Items in the rate base of a wastewater utility should include, but are not limited, to collection lines, manholes, main line valves, wastewater treatment buildings and equipment, lift stations, meters, vaults, fencing, and standby generators for the wastewater utility that serve more than one user. The lines that are not in the rate base should be well defined, and the users of those lines should be made aware of the different responsibilities. No charges are to be levied against the wastewater utility for those lines serving one user, as defined by each park. Significant vehicles, such as garbage packers, sewage pumper trucks, and bucket trucks, that are owned and maintained by the park should be considered as items contributing to the rate base. All other vehicles should be considered as tools, and the costs for them should be determined by a tool rate and not be tracked as part of the rate base. All items in the rate base of a wastewater utility should have a specific estimated design life (EDL) assigned to them for the purposes of planning, implementing, and tracking component renewal and capitalization/recapitalization expenditures.

A rate structure for a wastewater utility should be set using some sort of measuring device. Normally, measurement would be achieved through a full metering of all facilities for both NPS and non-NPS users. Meters just measuring wastewater are not reliable and tend to become clogged. A common measurement would be a set charge per 1,000 gallons of utilized water, although this is not mandated. The rate structure should be set up so that incurred costs can be captured in three separate ways: operations and maintenance, component renewal, and recapitalization/new capital improvement. Any incurred costs will be captured through a variety of methods, although using FMSS and Project Management Information System (PMIS) data will be the databases of choice. Operations and maintenance cost recovery is generally funded out of the operations portion of the utility reimbursable account or regular park base. PMIS projects should not be included as operations and maintenance costs. Component renewal and recapitalization/new capital improvement projects are normally funded out of PMIS projects and not by operations or base park funds. The work in these two categories should be amortized over the EDL of the systems on which the work is performed.

Training and assistance with inputting this data and forecasting possible future expenditures through the FMSS and the PMIS will be provided by specific training from the Washington Office before the actual implementation date of Director's Order #35B. The data must be specific for each park with respect to those wastewater utilities used by non-NPS users.

C.1 Operations and Maintenance – Typical Costs

The direct costs of wastewater collection, treatment and disposal will vary depending upon the type of facilities, such as septic tanks, absorption fields, lagoons, and complex mechanical treatment plants. In general, calculations of operating costs should include the following:

1. All personal services, supplies, power, and equipment repairs necessary to operate and maintain wastewater facilities in accordance with accepted standards for resource protection and compliance with federal and state regulations
2. Maintenance projects (including minor replacement of equipment components of the system) necessary for utility operation, regardless of the funding source.

The kinds of operation, maintenance, component, and minor repair costs that should be included, where appropriate, in calculating the operating costs of wastewater utility services include, but are not limited to, the following:

- Direct supervision of employees (Do not include costs for billing or indirect supervision, which are covered in the administrative costs.)
- Exercising valves and inspecting for infiltration/exfiltration
- Normal operational and maintenance procedures, in accordance with standard practices, required to comply with federal and state regulations and to provide resource protection
- Energy required for pumping and treating wastewater
- Cleaning and repairing of sewer lines and manholes
- Repair of pumps, motors, and electrical and mechanical equipment in lift stations and treatment plants
- Chemical costs associated with wastewater treatment and disposal
- Pumping of septic tanks, vault toilets, grease traps, pit toilets, and holding tanks (The cost of cleaning vault and pit toilets is not to be included.)
- Cost to maintain and repair specialized fleet equipment
- Lagoon and percolation pond cleaning
- Costs of providing and maintaining standby power generation, including the costs and fees associated with the related fuel storage tanks
- Laboratory equipment of fees necessary to monitor process, control, and obtain reporting data as required by regulatory agencies
- Repair of flow monitoring equipment
- Winterizing and de-winterizing of the system, including any plowing necessary to access the facilities
- Removal of animals, vegetation, and other obstructions from intakes
- Cost of groundwater monitoring wells and analysis of the groundwater

- Costs of maintaining fences around treatment facilities
- State certification and licensing fees for plants and training costs for operators
- Costs of special maintenance assistance/engineers to monitor and improve performance
- Costs of medical surveillance, such as hepatitis shots and personal protection equipment
- Repairs/replacement of sewer lines of less than 50 feet.

C.2 Component Renewal – Typical Projects

Typical component renewal projects involving a water utility include, but are not limited to, the following:

- Video inspection of lines
- Replacement of pumps, motors, and electrical and mechanical equipment in lift stations and treatment plants
- Absorption and leach field replacement
- Replacement of sludge drying bed media
- Replacement of filter media
- Sections of pipe or manholes of more than 50 feet
- Painting of buildings included in the rate base
- Replacement of generators
- Replacement of large, specialized fleet vehicles.

C.3 Recapitalization/New Capital Improvement – Typical Projects

Typical recapitalization/new capital improvement projects involving a wastewater utility include, but are not limited to, the following:

- Replacement/expansion of sewage treatment plants
- Replacement of large sections of piping and manholes
- Changing of treatment systems due to changing conditions.

Appendix D: Electrical/Power Utility Business Practice

The rate base for an electric utility should include all of the physical attributes that are directly related to the production, treatment, transmission, and distribution of electricity to all users. The power production or acquisition to the individual meter or service entrance involves physical attributes that serve all users. Distribution inside of a building or facility is *not* part of the rate base, and any work, repairs, or other costs should not be charged as part of the general water utility. For most purposes, that dividing line will be the meter or, for lack of a meter, the service entrance connection to a facility. Care must be taken in what is included in or excluded from the rate base when the generator facilities are an integral part of a building or facility, especially if no power is exported from that facility to the general park grid.

A park must positively identify the physical attributes of the electric utility so that there will be no question about what is included and excluded from the rate base. This list, once approved, may not be modified without written justification and approval by the Regional Director. The physical attributes of the rate base will be part of the rate approval process and will be distributed to any electric/power utility user upon request. Such requests can be satisfied through a specific Facility Management Software System (FMSS) report for those locations identified as physical attributes to the electric utility. This report, once generated and approved, should be locked at the regional level and cannot be modified without the above described approval process. There are no costs associated with a list of the physical attributes of an electric utility, but it will provide the basis against which costs may be incurred.

Items in the rate base of an electric utility should include, but are not limited, to generators, stand-by generators, fuel storage, and hydro facilities solely for producing power, solar panels, wind turbines, substations, transformers, power lines, power poles, and metering devices. The lines that are not in the rate base should be well defined, and the users of those lines should be made aware of the different responsibilities. Significant vehicles that are owned and maintained by the park should be considered as items contributing to the rate base. All other vehicles should be considered as tools, and the costs for them should be determined by a tool rate and not be tracked as part of the rate base. All items in the rate base of an electric utility should have a specific estimated design life (EDL) assigned to them for the purposes of planning, implementing, and tracking component renewal and capitalization/recapitalization expenditures.

A rate structure for an electric utility should be set using some sort of measuring device. Normally, measurement would be achieved through full metering of all facilities for both NPS and non-NPS users. A common measurement would be a set charge per kilowatt hour, although this is not mandated. The rate structure should be set up so that incurred costs can be captured in three separate ways: operations and maintenance, component renewal, and recapitalization/new capital. Any incurred costs will be captured through a variety of methods, although using FMSS and Project Management Information System (PMIS) data will be the databases of choice. Operations and maintenance cost recovery is generally funded out of the operations portion of the utility reimbursable account or regular park base. PMIS projects should not be included as operations and maintenance costs. Component renewal and recapitalization/new capital improvement projects are normally funded out of PMIS projects and not by operations or base park funds. The work in these two categories should be amortized over the EDL of the systems on which the work is performed.

Training and assistance with inputting this data and forecasting possible future expenditures through the FMSS and the PMIS will be provided by specific training from the Washington Office

before the actual implementation date of Director's Order #35B. The data should be specific to each park for those electric/power utilities used by non-NPS users.

D.1 Operations and Maintenance – Typical Costs

The direct costs of electrical generation and distribution will vary depending on the type of generation (e.g., hydro, diesel, and propane), the length of transmission, and the size of the generator. In general, calculations of operating costs should include the following:

1. All personal services, supplies, power, and equipment repairs necessary to operate and maintain electricity system facilities in accordance with federal and state standards
2. Maintenance projects (including replacement of minor equipment components of the system) necessary for the operation of the utility, regardless of the funding source.

The kinds of operation, maintenance, and minor repair costs that should be included, where appropriate, in calculating the operating costs of electricity systems include, but are not limited to, the following:

- Direct supervision of employees (Do not include costs for billing or indirect supervision, which are covered in the administrative costs.)
- Inspections
- Maintenance of turbines, transformers, and switch gear
- Maintenance of distribution lines and meters
- Maintenance of engines and generators
- Cost of fuel and antifreeze
- Winterizing and de-winterizing of the system, including any plowing necessary to access the facilities
- Removal of animals, vegetation, and other obstructions from hydro intakes
- Costs of medical surveillance and personal protection equipment
- Costs of special maintenance assistance/engineers to monitor and improve performance
- Cost of fence repair
- Cost and fees associated with underground or aboveground storage tanks for fuel storage
- Cost of any permits
- Cost of any losses due to transmission
- Cost of monitoring equipment
- Cost of meters, but not meter bases
- Cost to maintain and repair specialized fleet equipment.

D.2 Component Renewal – Typical Projects

Typical component renewal projects involving an electric utility include, but are not limited to, the following:

- Replacement of transformers
- Replacement of individual power poles
- Component renewal of roofs, painting, etc. of buildings associated with the electric utility
- Replacement of smaller generators
- Replacement of meter-reading devices
- Replacement of meters
- Replacement of large, specialized fleet vehicles.

D.3 Recapitalization/New Capital Improvement – Typical Projects

Typical recapitalization/new capital improvement projects involving an electric utility include, but are not limited to, the following:

- Replacement of power lines
- Mass replacement of power poles
- Replacement of large generators
- Major intake work
- Installation of new or additional generating facilities, including renewable energy.

Appendix E: Solid Waste Utility Business Practice

The rate base for a solid waste utility should include all of the physical attributes that are directly related to the collection, transfer, and disposal of solid waste, including recyclable solid waste that serves multiple users.

A park must positively identify the physical attributes of the solid waste utility so that there will be no question about what is included and excluded from the rate base. This list, once approved, may not be modified without written justification and approval by the Regional Director. The physical attributes of the rate base will be part of the rate approval process and will be distributed to any solid waste utility user upon request. Such requests can be satisfied through a specific Facility Management Software System (FMSS) report for those locations identified as physical attributes to the solid waste utility. This report, once generated and approved, should be locked at the regional level and cannot be modified without the above described approval process. There are no costs associated with a list of the physical attributes of a solid waste utility, but it will provide the basis against which costs may be incurred.

Items in the rate base of a solid waste utility should include, but are not limited, to solid waste transfer stations, large solid waste containers, solid waste truck/trailer washing facilities, solid waste storage rooms, and recycling storage areas, including associated fencing that serve more than one user. Significant vehicles that are owned and maintained by a park should be considered as items contributing to the rate base. All other vehicles should be considered as tools, and the costs for them should be determined by a tool rate and not be tracked as part of the rate base. All items in the rate base of a solid waste utility should have a specific estimated design life (EDL) assigned to them for the purposes of planning, implementing, and tracking component renewal and capitalization/recapitalization expenditures.

A rate structure for the solid waste utility should be set using some sort of measuring device. Normally, measurement would be achieved through a weight (or volume) system. A common measurement would be a per ton rate, although this is not mandated. The rate structure should be set up so that incurred costs can be captured in three separate ways: operations and maintenance, component renewal, and recapitalization/new capital improvement. Any incurred costs will be captured through a variety of methods, although using FMSS and Project Management Information System (PMIS) data will be the databases of choice. Operations and maintenance cost recovery is generally funded out of the operations portion of the utility reimbursable account or regular park base. PMIS projects should not be included as operations and maintenance costs. Component renewal and recapitalization/new capital improvement projects are normally funded out of PMIS projects and not by operations or base park funds. The work in these two categories should be amortized over the EDL of the systems on which the work is performed.

Training and assistance with inputting this data and forecasting possible future expenditures through the FMSS and the PMIS will be provided by specific training from the Washington Office before the actual implementation date of Director's Order #35B. The data should be specific to each park with respect to those solid waste utilities used by non-NPS users.

E.1 Operations and Maintenance – Typical Costs

Solid waste collection, recycling, and disposal costs will vary with the geographical distribution of the generating points, the volume generated at each location, and the distance to the disposal site. In general, calculations of operating costs should include the following:

1. All personal services, supplies, energy, fuel, and equipment repairs necessary to operate and maintain solid waste collection and disposal facilities in accordance with federal and state standards
2. Maintenance projects necessary for the operation of the utility, regardless of the funding source.

The kinds of operation, maintenance, and minor repair costs that should be included, where appropriate, in calculating the operating costs of solid waste systems include, but are not limited to, the following:

- Direct supervision of employees (Do not include costs for billing or indirect supervision, which are covered in the administrative costs.)
- Inspections
- Personnel and maintenance costs for collection/transportation equipment
- Personnel and maintenance costs for excavation and equipment at NPS- operated landfills
- Disposal costs at commercial disposal sites or costs for permits
- Fence repair at NPS landfills or transfer stations
- Cost of incineration or disposal outside of a park
- Cleaning of receptacles and vehicles
- Cost of litter collection
- Cost of a weighing program to confirm weights
- Winterizing and de-winterizing of the system, including any plowing necessary to access the facilities
- Costs of recycling programs
- Costs of medical surveillance, such as hepatitis shots and personal protection equipment
- Costs of special maintenance assistance/engineers to monitor and improve performance
- Cost to maintain and repair/replace specialized fleet equipment.

E.2 Component Renewal – Typical Projects

Typical component renewal projects involving a solid waste utility include, but are not limited to, the following:

- Cost of storage containers, bins and liners
- Major repair of transfer stations or storage buildings in the rate base
- Replacement of large numbers of solid waste containers
- Replacement of cleaning equipment
- Replacement of large, specialized fleet vehicles.

E.3 Recapitalization/New Capital Improvement – Typical Projects

Typical recapitalization/new capital improvement projects involving a solid waste utility include, but are not limited to, the following:

- Replacement/construction of transfer stations or solid waste storage facilities.

Appendix F: Fuel Systems Utility Business Practice

The rate base for a gas or fuel utility should include all of the physical attributes that are directly related to the acquisition, storage, measuring, and distribution of gas or fuel to all users. The gas or fuel acquisitions through the delivery process all involve physical attributes that serve all users. Distribution and small lateral lines that serve individual facilities are *not* part of the rate base, and any work, repairs or other costs should not be charged as part of the general fuel systems utility. For most purposes, that dividing line will be the gas or fuel meter at the facility.

A park must positively identify the physical attributes of the gas or fuel utility so that there will be no question about what is included and excluded from the rate base. This list, once approved, may not be modified without written justification and approval by the Regional Director. The physical attributes of the rate base will be part of the rate approval process and will be distributed to any fuel systems utility user upon request. Such requests can be satisfied through a specific Facility Management Software System (FMSS) report for those locations identified as physical attributes to the gas or fuel utility. This report, once generated and approved, should be locked at the regional level and cannot be modified without the above described approval process. There are no costs associated with a list of physical attributes of a gas or fuel utility, but it will provide the basis against which costs may be incurred.

Items in the rate base of a gas or fuel utility should include, but are not limited, to storage facilities, distribution lines, valves, meters, fencing, associated buildings or pads associated with the utility, and dispensing facilities for the gas or fuel utility that serve more than one user. The lines that are not included the rate base should be well defined, and the users of those lines should be made aware of the different responsibilities. Significant vehicles that are owned and maintained by the park should be considered as items contributing to the rate base. All other vehicles should be considered as tools, and the costs for them should be determined by a tool rate and not tracked as part of the rate base. All items in the rate base of a gas or fuel utility should have a specific estimated design life (EDL) assigned to them for the purposes of planning, implementing, and tracking component renewal and capitalization/recapitalization expenditures.

A rate structure for a gas or fuel utility should be set using some sort of measuring device. Normally, measurement would be through a full metering of all facilities for both NPS and non-NPS users. A common measurement would be a set charge per cubic foot or gallon, although this is not mandated. The rate structure should be set up so that incurred costs can be captured in three separate ways: operations and maintenance, component renewal, and recapitalization/new capital improvement. Any incurred costs will be captured through a variety of methods, although using FMSS and Project Management Information System (PMIS) data will be the databases of choice. Operations and maintenance cost recovery is generally funded out of the operations portion of the utility reimbursable account or regular park base. PMIS projects should not be included as operations and maintenance costs. Component renewal and recapitalization/new capital improvement projects are normally funded out of PMIS projects and not by operations or base park funds. The work in these two categories should be amortized over the EDL of the systems on which the work is performed.

Training and assistance with inputting this data and forecasting possible future expenditures through the FMSS and the PMIS will be provided by specific training from the Washington Office before the actual implementation date of Director's Order #35B. The data should be specific to each park for those fuel system utilities used by non-NPS users.

F.1 Operations and Maintenance – Typical Costs

The direct costs of gas and fuel supply and distribution will vary depending on the type of fuel, the length of transmission, and the size of the storage facilities. In general, calculations of operating costs should include the following:

1. All personal services, supplies, power, and equipment repairs necessary to operate and maintain fuel system facilities in accordance with federal and state standards
2. Maintenance projects (including replacement of small equipment components of the system) necessary for the operation of the utility, regardless of the funding source.

The kinds of operation, maintenance, component renewal/repair and rehabilitation costs that should be included, where appropriate, in calculating the operating costs of electricity systems include, but are not limited to, the following:

- Direct supervision of employees (Do not include costs for billing or indirect supervision, which are covered in the administrative costs.)
- Inspections
- Maintenance of tanks and lines
- Maintenance of distribution lines and meters
- Winterizing and de-winterizing of the system, including any plowing necessary to access the facilities
- Costs of medical surveillance and personal protection equipment
- Costs of special maintenance assistance/engineers to monitor and improve performance
- Cost of fence repair
- Cost and fees associated with underground or aboveground storage tanks for fuel storage
- Cost of any permits
- Cost of any losses due to transmission
- Cost of monitoring equipment.

F.2 Component Renewal – Typical Projects

Typical recapitalization/capital improvement projects involving a gas or fuel system utility include, but are not limited to, the following:

- Replacement of meters
- Replacement of dispensing equipment
- Component renewal of roofs, painting, etc. of buildings associated with the gas or fuel system utility
- Major fence repairs
- Replacement of cathodic protection.

F.3 Recapitalization/New Capital Improvement – Typical Projects

Typical component renewal projects involving a gas or fuel system utility include, but are not limited to, the following:

- Replacement of distribution lines
- Replacement of storage tanks
- Adding lines or increasing line size or adding storage facilities or increasing storage capacity
- Major fence replacement/repair
- Replacement of buildings/facilities associated with the utility.

Appendix G: Communications Systems Utility Business Practice

The rate base for a communications systems utility should include all of the physical attributes that are directly related to the acquisition, storage, measurement, and distribution of communication services to all users. The communications utilities through the delivery process all involve physical attributes that serve all users. Distribution and small lateral lines that serve individual facilities are *not* part of the rate base, and any work, repairs, or other costs should not be charged as part of the general communications utility. For most purposes, that dividing line will be the central receiving device at the facility.

A park must positively identify the physical attributes of the communications utility so that there will be no question about what is involved and excluded from the rate base. This list, once approved, may not be modified without written justification and approval by the Regional Director. The physical attributes of the rate base will be part of the rate approval process and will be distributed to any communication utility user upon request. Such requests can be satisfied through a specific Facility Management Software System (FMSS) report for those locations identified as physical attributes to the communications utility. This report, once generated and approved, should be locked at the regional level and cannot be modified without the above described approval process. There are no costs associated with a list of the physical attributes of a communications utility, but it will provide the basis against which costs may be incurred.

Items in the rate base of a communications utility should include, but are not limited, to transmitter stations, repeater stations or towers, standby generators and associated fuel storage, distribution lines, meters, fencing, pedestals, associated buildings or pads associated with the utility, and private branch exchange (PBX)-type facilities for the communications utility that serve more than one user. The lines that are not included the rate base should be well defined, and the users of those lines should be made aware of the different responsibilities. Handheld radios should not be part of the rate base for the communications utility. Significant vehicles that are owned and maintained by the park should be considered as items contributing to the rate base. All other vehicles should be considered as tools, and the costs for them should be determined by a tool rate and not be tracked as part of the rate base. All items in the rate base of a communications utility should have a specific estimated design life (EDL) assigned to them for the purposes of planning, implementing, and tracking component renewal and capitalization/recapitalization expenditures.

A rate structure for a communications utility should be set using some sort of measuring device. Normally, measurement would be achieved through full metering of all facilities for both NPS and non-NPS users. A common measurement would be a set charge per specific time of use, although this is not mandated. The rate structure should be set up so that incurred costs can be captured in three separate ways: operations and maintenance, component renewal, and recapitalization/new capital improvement. Any incurred costs will be captured through a variety of methods, although using FMSS and Project Management Information System (PMIS) data will be the databases of choice. Operations and maintenance cost recovery is generally funded out of the operations portion of the utility reimbursable account or regular park base. PMIS projects should not be included as operations and maintenance costs. Component renewal and recapitalization/new capital improvement projects are normally funded out of PMIS projects and not by operations or base park funds. The work in these two categories should be amortized over the EDL of the systems on which the work is performed.

Training and assistance with inputting this data and forecasting possible future expenditures through the FMSS and the PMIS will be provided by specific training from the Washington Office before the actual implementation date of Director's Order #35B. The data should be specific for each park for those communications utilities used by non-NPS users.

G.1 Operations and Maintenance – Typical Costs

The direct costs of communications systems will vary depending on the type of communication system (e.g., radio, telephone), the length of transmission, and the size of the system. In general, calculations of operating costs should include the following:

1. All personal services, supplies, power, and small equipment repairs necessary to operate and maintain communication system facilities in accordance with federal and state standards
2. Maintenance projects (including minor replacement of equipment components of the system) necessary for the operation of the utility, regardless of the funding source.

The kinds of operation, maintenance and component renewal/repair and rehabilitation costs that should be included, where appropriate, in calculating the operating costs of communications systems include, but are not limited to, the following:

- Direct supervision of employees (Do not include costs for billing or indirect supervision, which are covered in the administrative costs.)
- Inspections
- Maintenance of equipment and lines
- Maintenance of distribution lines and meters
- Winterizing and de-winterizing of the system, including any plowing necessary to access the facilities
- Costs of medical surveillance and personal protection equipment
- Costs of special maintenance assistance/engineers to monitor and improve performance
- Cost of fence repair
- Cost and fees associated with underground or aboveground storage tanks for fuel storage
- Cost of any permits
- Cost of any losses due to transmission
- Cost of monitoring equipment.

G.2 Component Renewal – Typical Projects

Typical recapitalization/new capital improvement projects involving a communications system utility include, but are not limited to, the following:

- Replacement of meters
- Component renewal of roofs, painting, etc. of buildings associated with the utility
- Major fence repairs

- Replacement of cathodic protection
- Replacement of standby generators and tanks.

G.3 Capitalization/New Capital – Typical Projects

Typical recapitalization/new capital improvement projects involving a communications system utility include, but are not limited to, the following:

- Replacement of distribution lines
- Replacement of storage tanks
- Adding lines or increasing line size or adding storage facilities or increasing storage capacity
- Major fence replacement/repair
- Replacement of base stations
- Additional towers or repeaters
- Upgrading of PBX-type systems
- Costs associated with facilities for upgrading the available technology.

Appendix H: Utility Rate Computation Summary

UTILITY RATE COMPUTATION SUMMARY	
PREPARER'S NAME:	Steve Whitesell
PARK NAME:	Great National Park
DATE PREPARED:	10/01/09
UTILITY:	Water
DURATION OF RATE:	Jan 1-Dec 31, 2010
TOTAL ANNUAL UNITS PRODUCED:	XXXX
UNIT OF MEASURE (ie - 1000's gallons, tons, kWh)	1000 gal
OPERATIONS AND MAINTENANCE	
1 PERSONAL SERVICES - (PAY AND BENEFITS)	
2 LEAVE SURCHARGE - 16% OF LINE 2	
3 GSA LEASED SPACE	
4 PARTS, MATERIALS, SUPPLIES, TOOLS, VEHICLE TOOL COSTS	
6 FEES AND CONTRACTED SERVICES	
7 ENERGY COSTS (INCLUDING FUEL COSTS BUT NO VEHICLE FUEL)	
8 TRAINING	
9 ALL OTHER EXPENDITURES	
10 TOTAL OF LINES 1 THROUGH 9	
11 15% OF LINE 10	
12 COSTS (TOTAL OF LINES 10 AND 11)	
13 NUMBER OF UNITS PRODUCED	
14 O&M RATE (DOLLARS PER UNIT OF MEASURE) LINE 12 DIVIDED BY LINE 13)	per unit
CYCLIC MAINTENANCE (Amortized portion)	
15 YEARLY CYCLIC MAINTENANCE (FROM CYCLIC MAINTENANCE AMORTIZATION SCHEDULE)	
16 COMPONENT RENEWAL RATE (LINE 15 DIVIDED BY LINE 13)	per unit
RECAPITALIZATION/NEW CAPITAL	
17 (FROM RECAPITALIZATION/NEW CAPITAL AMORTIZATION SCHEDULE)	
18 CAPITAL RECOVERY RATE (LINE 17 DIVIDED BY LINE 13)	per unit
UTILITY RATE	
19 TOTAL RATE ((LINE 12 + LINE 15 + LINE 17) DIVIDED BY LINE 13)	per unit

Standard EDLs for Blended and Specific Projects ¹

WATER		Wastewater		Electrical	
Recurring Facility Maintenance (typically EDLs < 10 years)	EDL	Recurring Facility Maintenance (typically EDLs < 10 years)	EDL	Recurring Facility Maintenance (typically EDLs < 10 years)	EDL
Tank cleaning and disinfection	5	Wet well cleaning	2		
Filtration sand replacement	5	Flush collection pipe	2		
Repaint hydrants	5	Replace pond media	2		
Recoat interior/exterior of tanks	10	Clean/video collection pipe	5		
		Paint plant piping	5		
		Clean/re-line ponds	10		
Capital Repair or Rehabilitation (typically EDLs > 10 years)	EDL	Capital Repair or Rehabilitation (typically EDLs > 10 years)	EDL	Capital Repair or Rehabilitation (typically EDLs > 10 years)	EDL
Water controls project	10	Sewer controls project	10	Lighting controllers	15
Mech equip (meters, motors, valves, etc)	15	Mech equip (air compressor, motors, etc)	15	Electrical components (transfer switches, power regulators, motor starters, contactors, meters)	18
Pumps	20	Sewage ejector pumps	15	Security components	20
Valve box, steel	20	Disinfection injection system	15	Lighting fixtures	20
Water tank project	20	Septic system project	20	Meters	20
Water pump station	20	Sewage treatment project	20	Communication - transmitter, annunciator	20
Water mandated project	20	Sewer mandate project	20	Battery (lead acid)	20
Fire suppression project	20	Sewage lagoon project	20	Enclosures with bus bars	20
Water treatment project	20	Sewage lift station	20	Generator set battery charger	20
Tanks, metal	25	Metal tanks - Aeration, Clarifier, Contact, Dry Well, Wet Well	25	Air terminals, Disconnect Switches	25
Valve box, CMU	30	Concrete tanks - Aeration, Clarifier, Contact, Dry/Wet Well	30	Generator set	25
Tanks, concrete	30	Manholes/cleanouts	30	Solar projects	30
Manholes	30	Sewer system project ³	30	Transformers	30
Water system project ³	30	Sewer piping project	40	Replace electrical distribution	40
Hydrants	35			Replace generation and distribution	40
Valve box, concrete	40			Replace lighting systems	40
Water piping project	40			Structural components (anchor/guy wires, conduit, handholes/manholes, poles, towers)	50
				Conductors/circuit breakers	50
				Battery (nickel alloy)	50
				Insulators/surge arrestors	60

Sources: 35B Water and Wastewater Business Practice Recommendations
 Inside NPS File containing EDL information (looking into name of document from Paul Laymon)

Notes: 1. Ancillary items - like fencing, signage, foundations, etc... - are stated elsewhere.
 2. The more mechanical/electrical components included in the project, the lower the expected blended EDL assigned.
 3. System project assumes treatment components and significant distribution/collection piping.

Standard EDLs for Blended and Specific Projects ¹

Fuel		Solid Waste		Other	
Recurring Facility Maintenance (typically EDLs < 10 years)	EDL	Recurring Facility Maintenance (typically EDLs < 10 years)	EDL	Recurring Facility Maintenance (typically EDLs < 10 years)	EDL
Clean/repaint fuel tanks	5				
Capital Repair or Rehabilitation (typically EDLs > 10 years)	EDL	Capital Repair or Rehabilitation (typically EDLs > 10 years)	EDL	Capital Repair or Rehabilitation (typically EDLs > 10 years)	EDL
High flow dispenser	10	Gas collection components - mechanical/electrical	10	Fencing - Wood	10
Pumps	15	Leachate collection components - mechanical/ electrical	10	Signage - Wood	10
Cathodic Protection	20	Receptacles/moveable containers (< 5 CY)	10	Parking lots resurfaced	10
Storage tanks	20	Stationary container, animal proof (>= 5 CY)	20	Paint Bldg Exterior	10
Valves	25	Leachate collection components - piping	20	Fencing - Metal	20
Fuel delivery system	30	Scale	20	Signage - Metal	20
Natural gas project	30	Compactor	20		
		Leachate pond	20		
		Gas collection components - piping	20		
		Incinerators	25		
		Tipping pad	30		

Sources: 35B Water and Wastewater Business Practice Recommendations
 Inside NPS File containing EDL information (looking into name of document from Paul Laymon)

- Notes:
1. Ancillary items - like fencing, signage, foundations, etc... - are stated elsewhere.
 2. The more mechanical/electrical components included in the project, the lower the expected blended EDL assigned.
 3. System project assumes treatment components and significant distribution/collection piping.

Appendix I: Change Log

REFERENCE MANUAL TITLE: Reference Manual – 35B
Reference Manual for the Cost Recovery for National Park
Service Provided Utilities

LAST CHANGE MADE ON: February 2, 2012

#	Page #	Change Description	Reason for Change	Approved By	Approved On