

JEFFERSON COUNTY PUD

Utility Development Plan

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Brown & Kysar, Inc.
Engineering & Consulting
P.O. Box 1720
Battle Ground, WA 98604
360.687.3966
360.687.5139 FAX

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UTILITY DEVELOPMENT PLAN

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ENGINEER'S CERTIFICATION

I certify that this Utility Development Plan for Jefferson County PUD was prepared by me or under my supervision and that I am a duly registered Professional Electrical Engineer under the laws of the State of Washington.



By: Erik J. Kysar
Erik J. Kysar, P.E.

Date: 06/03/2010



EXECUTIVE SUMMARY

Brown & Kysar, Inc., an engineering and consulting firm, has been engaged to prepare a Utility Development Plan for Public Utility District No.1 of Jefferson County (Jefferson PUD). The attached Utility Development Plan and associated timelines represent the approach Public Utility District No.1 of Jefferson PUD is using to add an electric utility function to its existing water and sewer operation. This Plan will aid Jefferson PUD as it hires staff, develops a rate structure, develops additional internal financial controls and efficiently assumes the role of local electric utility provider for Jefferson County.

As part of the final and definitive agreements with Puget Sound Energy (PSE), the Parties have agreed to a transition period ("Transition Period") prior to the start of Jefferson PUD's operation of the electric utility in what will be PSE's former Service Territory. As the Utility Development Plan provides, Jefferson PSE will be arranging financing and developing its electric utility operations capability during this Transition Period. A detailed timeline is also attached to this plan that provides a full view of how Jefferson PUD plans to prepare and begin electric utility operations.

PREFACE: This Utility Development Plan is designed to provide Jefferson PUD with a flexible management tool to assist and guide the utility as it prepares to provide electric service to Jefferson County, Washington. Please see the Jefferson PUD Service Territory Map following this Executive Summary. The planning and organizational structure outlined in this report represents one approach to achieve the start-up of electric utility services by Jefferson PUD. This suggested structure represents one option for a utility starting electric service and which will more than likely evolve and not be the final structure that Jefferson PUD adopts. This Utility Development Plan focuses on the operations side of the utility.

ACQUISITION: Jefferson PUD is acquiring 8 substations, 26.4 miles of 115 kV transmission line, 380 miles of overhead distribution line along with 353 miles of underground distribution line and one operations building with materials storage yard from PSE. There will be approximately 19,300 customers with approximately 322,750 megawatt hours sold.

POWER SUPPLY: Jefferson PUD will purchase electric energy from the Bonneville Power Administration ("BPA" or "Bonneville Power Administration") for all of its energy requirements. As a preference customer, Jefferson PUD will receive a share of Tier 1 priced energy in approximately three (3) years. Alternate power sources may be considered, particularly if Jefferson PUD becomes interested in providing renewable energy for customers.



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FINANCING: It is expected that financing will be provided by Rural Utility Services (RUS) and other sources as indicated in the Financing Plan. Revenue for the electric operations will be primarily from sales of electric energy; however, other sources of revenue include such things as contributions-in-aid of construction, service fees, and rental opportunities.

UTILITY OPERATIONS: Hiring of the recommended utility workforce will require a considerable period of time and is proposed to be staged to enable a smooth start up of Jefferson PUD and an efficient transition from PSE. Planning of the required system improvements, building facility needs, planning documents, policy documents, emergency conditions response, acquisition of operating equipment and materials, are outlined in the Utility Development Plan.

The recommended organizational structure for Jefferson PUD, including the electrical system operations, is based on current PUDs of similar size with effective operations pursuant to the Revised Code of Washington (RCW) 54.

It is recommended that the management staff be comprised of a General Manager and key departmental supervisors for the finance, electric engineering and operations, water systems, information technology, and human resources functions of the utility. These personnel are then supported by staff filling additional vital roles. The recommendation for electric operations crew and support positions is based on the objective of providing safe, reliable, and efficient electric energy delivery.

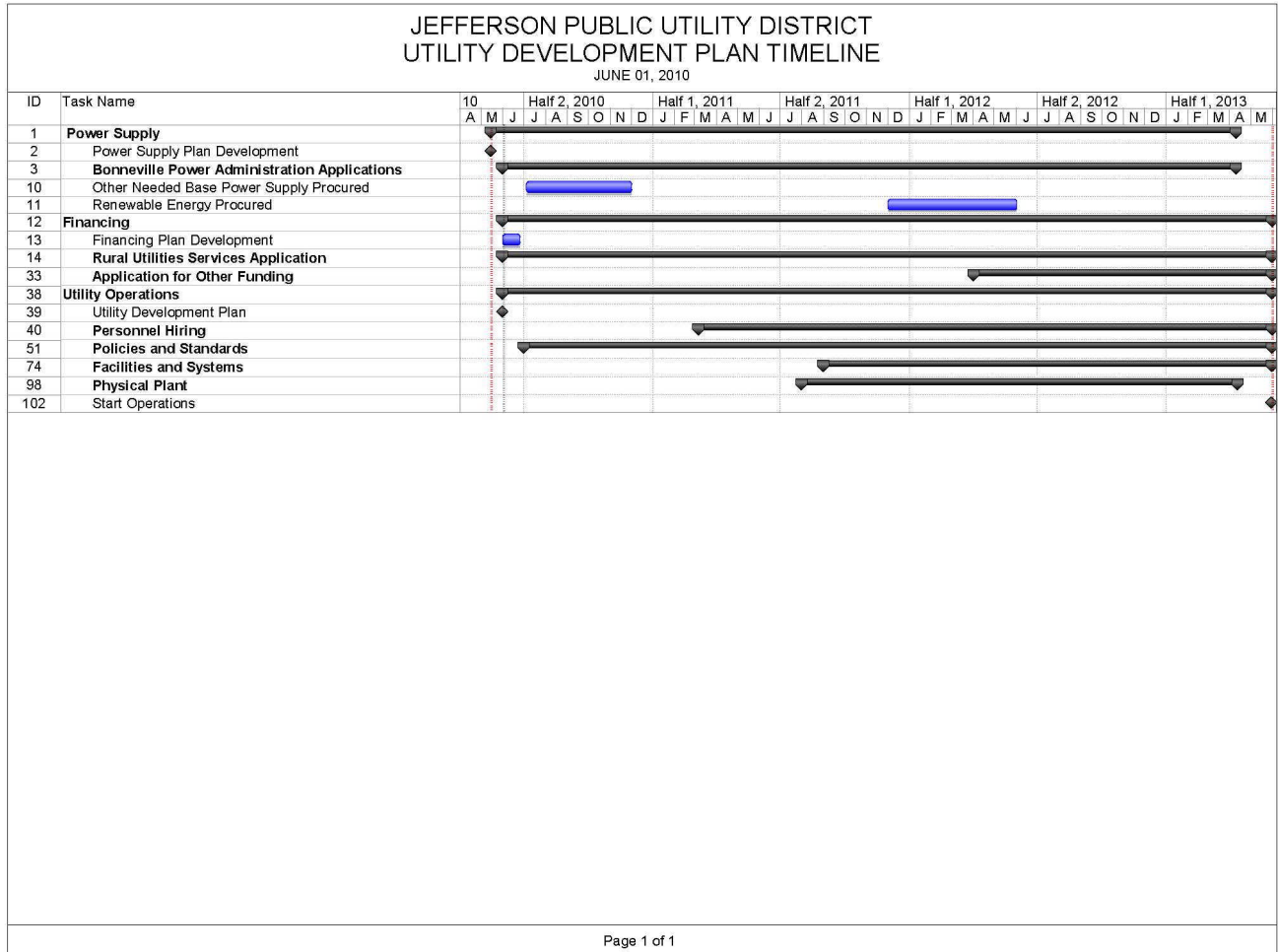
An organization structure chart is included in the Personnel Section of this Utility Development Plan.

TIMELINE: A detailed timeline for the key elements of the Utility Development Plan is attached in Exhibit D at the end of this report (Utility Development Plan Timeline). Each area discussed in this Utility Development Plan will reference the applicable tasks set forth in the Utility Development Plan Timeline.

A summary timeline is included on the next page.



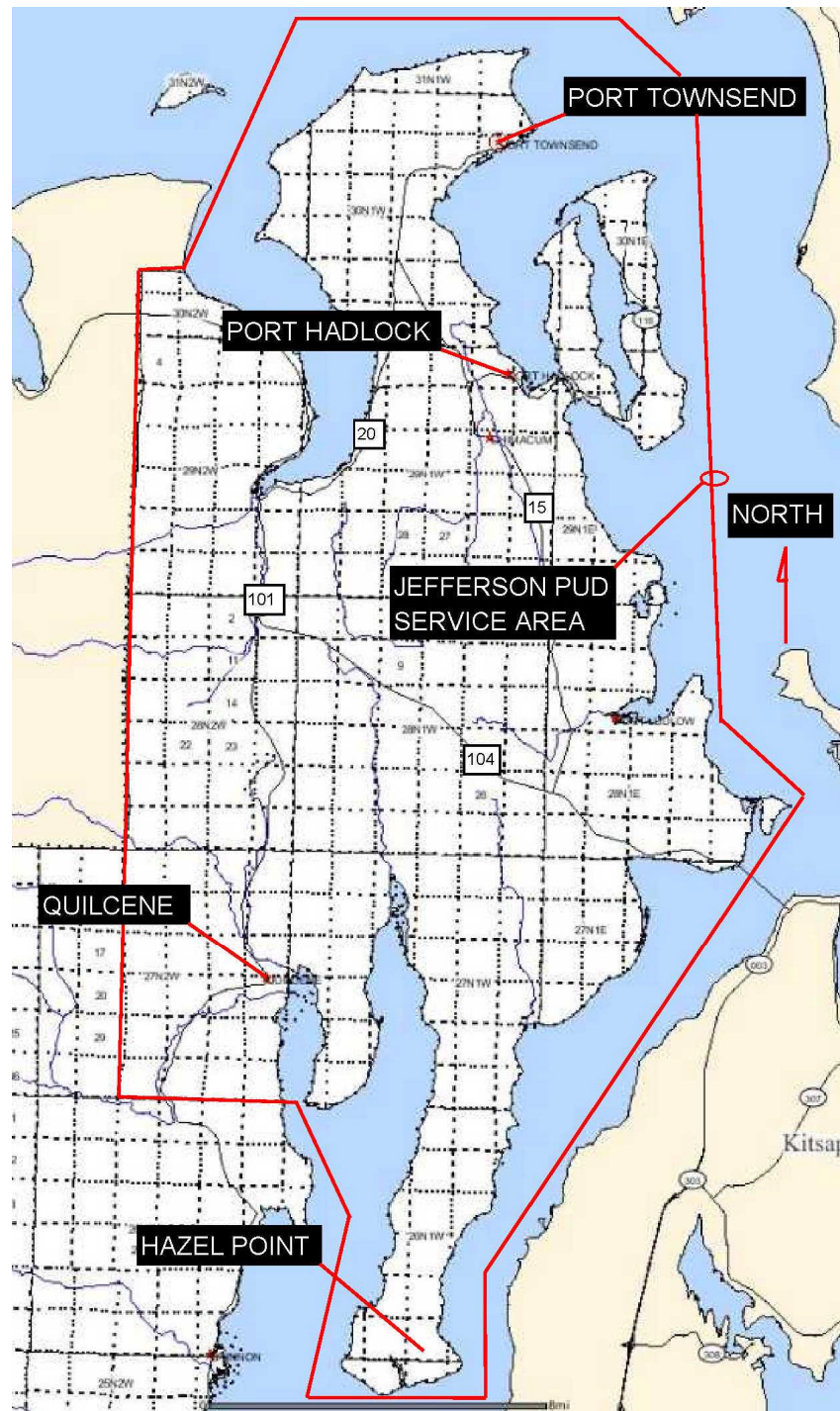
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SUMMARY TIMELINE



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JEFFERSON PUD SERVICE AREA MAP



POWER SUPPLY

A. SCOPE

One of the key elements of the Utility Development Plan is Power Supply. It is essential that Jefferson PUD be ready to provide adequate and reliable electrical service to its customers when the responsibility for providing electric service is transferred from PSE to Jefferson PUD. This section addresses the necessary commitments for Power Supply Agreement(s) and the Transmission Delivery Agreement that are necessary to be in place prior to taking ownership and operation of the PSE electric system. Please see Step Nos. 1 through 11 on the Utility Development Plan Timeline.

B. LOADS AND USAGE

At the time of cut-over, the total number of electrical customers to be served by Jefferson PUD is approximately 19,300 customers with approximately 322,750 megawatt hours sold. The system losses and other PUD usage is estimated to be 8%. The estimated total power purchased is 351,762 megawatt hours. The estimated average annual demand is 40.1 MW.

The annual peak demand is estimated to be 80 MW.

C. POWER SUPPLY – BONNEVILLE POWER ADMINISTRATION

The preferred power supplier is the Bonneville Power Administration (BPA). Jefferson PUD will enter into a contract with the Bonneville Power Administration for the power requirements of Jefferson PUD's electrical system.

D. TRANSMISSION ACCESS – BONNEVILLE POWER ADMINISTRATION

Jefferson PUD will receive power from the existing Bonneville Power Administration 115kV transmission system. The BPA points of delivery will be at the: Fairmount Substation, Quilcene Substation, and Discovery Bay Substation. Transmission delivery from BPA, independent of the Power Supply Agreement, needs to be negotiated. The BPA Transmission Group requires Jefferson PUD to have a power supply contract prior to addressing transmission issues.

Ultimately, the BPA Transmission Group will require an assessment of the existing loads in the Jefferson PUD service area and a load forecast that considers changes in the existing



customer usage (i.e. energy conservation, economic conditions, and weather impact) and additional customer loads (based on area population projections and other demographic factors).

E. OTHER NEEDED BASE POWER SUPPLY

BPA is in the process of implementing allocation procedures for the power generated by the federal power system. In September 2011, BPA will impose a Tiered Rate design where the existing resources of BPA's System will be effectively allocated by the establishment of a High Water Mark ("HWM") for each utility at Tier 1 rates.

Under the new scheme, BPA will set a percentage amount of power that Jefferson PUD would be eligible to receive from the federal power system (High Water Mark or HWM). This power will be priced by BPA at preference rate (Tier 1) based on the average system cost. BPA will serve any amounts over the set percentage, but such supplies will be provided under a market-based pricing structure.

When Jefferson PUD's power needs are above the rate period HWM, Jefferson PUD will have the option of relying upon BPA for market-priced power or power at the cost of new resources (Tier 2 service) or, alternatively, to secure non-federal power supply to augment its BPA supplies. This situation will more than likely not occur until load growth occurs in Jefferson PUD's service territory or when the federal power system supplies are low.

Although Jefferson PUD currently plans to purchase and receive all of its power requirements from BPA, it should be prepared to negotiate with other power suppliers in the event that additional supplies from BPA are priced above the market. Entities such as Northwest Requirements Utilities LLC and Energy Northwest can provide alternative wholesale energy sources in the Pacific Northwest for public utilities that rely on BPA for most or all of their wholesale electric power.

F. RENEWABLE ENERGY SUPPLY

Although it is mandatory in the State of Washington to provide a portion of the power supply from renewable energy sources such as wind projects, small hydro resources, biomass resources, landfill gas resources, geothermal resources and solar resources, Jefferson PUD is currently below the 25,000 customer limit set forth in Washington law and therefore has no mandatory renewable energy requirements.



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Since Jefferson PUD will continue to experience modest growth and it is likely that the requirements for renewable power supply will become more stringent, the utility is considering offering access to power generated by renewable resources. A high level of interest in alternative energy resources was expressed by customers during the initial public meetings discussing the PSE take-over in Jefferson County. It would therefore be prudent for Jefferson PUD to establish and offer an option whereby its customers can access energy generated from renewable resources.



FINANCING

A. SCOPE

The second key element of the Utility Development Plan is financing. It is essential to secure adequate financing for the acquisition of assets and other startup costs with reasonable interest rates. Please see Step Nos. 12 through 37 on the Utility Development Plan Timeline.

Since Jefferson PUD is currently a Rural Utilities Services (RUS) borrower for its water system, the preferred source of funds for the acquisition, start-up, and operations of the electric system is also RUS. RUS has certain borrowing restrictions that will require Jefferson PUD to supplement RUS funding with bond funding.

Whether the financing is from RUS or other sources, Jefferson PUD will need to develop a rate schedule for the various classes of customers' service (i.e. residential service; farm service; area lighting service; small, medium and large commercial service; seasonal service; small and large industrial service; renewable energy). The retail rates should include typical customer requirements for service such as hook-up fees, basic customer charge, charges for energy (kwh) consumption, demand (kW) if appropriate for the class of service, taxes, etc. A disconnect policy will be required for non-payment of power bills and a reconnection fee determined.

A financial forecast will be required to demonstrate that the revenues generated from Jefferson PUD customers through the retail rates will pay the purchased power cost, system losses, other operating expenses, and the debt service (interest and amortization of the debt) expense.

This section identifies RUS requirements for financing.

The details regarding the various alternatives under consideration for Jefferson PUD's Financing Plan are contained in a separate report.

B. FINANCING - RUS REQUIREMENTS

Obtaining access to RUS funding, obtaining a guarantee from RUS to fund Jefferson PUD's acquisition of PSE's electric facilities, and funding for electric system capital improvement expenditures is advantageous for Jefferson PUD. RUS provides preferential interest rates



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that are below market to publicly owned utilities. However, the requirements to qualify for that endorsement can be extensive.

Jefferson PUD will need to satisfy the applicable requirements set forth on the following acquisition checklist provided by RUS:

- 1) Rural eligibility of the service area
- 2) Description of system plant to be acquired
- 3) Engineering assessment and observations of plant and environmental assessments – Phase 1
- 4) Acquisition purchase price support
- 5) Load forecast
- 6) Long Range Plan
- 7) Construction work plan (2-year amendment)
- 8) Borrower's Environmental report for new construction
- 9) Financial forecast (10-year)
- 10) Timetable for proposed acquisition
- 11) Wholesale power supply commitments
- 12) Additional support documents
- 13) Compliance with RUS load contract provisions

In addition to items in the above checklist, RUS is adding a requirement (RUS 7CFR 1730 Section C) that borrowers must have a policy for interconnecting distributed generation systems to their system. Starting in 2011, RUS will require Jefferson PUD to have an Interconnection of Distributed Resources (IDR) agreement for interconnection of these distributed resources.

As mentioned in the Power Supply Section, the State of Washington requires that a portion of the power supply be from renewable energy sources for certain utilities. Although Jefferson PUD is exempt at this time it is likely that Jefferson PUD will need to meet the requirements for incorporating a renewable power supply in its power supply resource portfolio in the future.

Since RUS will require Jefferson PUD to interconnect with distributed generation resources, Jefferson PUD will need to set a Net Metering Policy that complements the IDR agreement. Jefferson PUD is required by Washington Law to allowing net metering for customer owned power sources. The net metering policy would be focused on small resource sites that may serve all or a portion of the energy requirements of that customer.



C. FINANCING – OTHER SOURCES

Although RUS is the preferred funding source, other sources of funding will be necessary to complete the acquisition, obtain working capital and develop capital improvements of the Jefferson PUD.

Funding from other sources will be needed for short-term financing of start-up costs before operations begin and for current assets (i.e. inventory, payroll and accounts receivable) when operation of the Electric Department commences.

The alternative funding sources will likely require a professional assessment of Jefferson PUDs ability to pay back the loan(s). Federal funds backing the Jefferson PUD will help reduce risk and Jefferson PUD expects that the interest rate on additional borrowing will be lower. The interest on these additional funding sources will not be tax exempt, except for current capital costs. Please see Step Nos. 33 through 37 on the Utility Development Plan Timeline.



UTILITY OPERATIONS

SCOPE

The third key element in the Utility Development Plan is Utility Operations. Please see Step Nos. 38 through 97 on the Utility Development Plan Timeline.

Developing a comprehensive plan of operations is a necessary step in the development of a utility providing efficient and reliable electrical services.

Jefferson PUD will need to add a significant number of staff to the existing water utility staff. At this time, it is anticipated that the water staff and structure will remain largely unchanged.

The development of the utility operations function for Jefferson PUD is discussed in the following four sections:

1. Personnel
2. Policies and Standards
3. Facilities and Systems
4. Physical Plant



1. PERSONNEL

A. SCOPE

Under Washington law, the PUD Commission is required to appoint a General Manager as chief administrative officer of the PUD in accordance with RCW 54.16.100. If it chooses, the Commission may also appoint a Treasurer (Financial Manager) and Auditor to direct Jefferson PUD's funds (RCW 54.24.10). These positions are considered critical to prudent management.



Other vital positions necessary to complete the management staff will be an Engineering and Operations Manager, a Purchasing Manager, a Customer Services Supervisor, an Information Technology Manager, and a Human Resources Manager. These personnel would be supported by other positions such as operations superintendent, accountant(s), engineering technician(s), energy efficiency technician, and administrative assistants.

The operations crews would consist of two servicemen and two line crews. One line crew would be a construction crew of four persons, and one line crew would be a service crew of three persons. Two mechanics would keep the vehicles operational, one meter/relay journeyman would keep the meter system and substations in good repair, and two storekeepers would see that the materials and equipment in the warehouse are stocked sufficiently.

It is anticipated that the electric system operations would add between 32 and 40 new employees. The hiring and training of employees will be accomplished during the transition period that was negotiated by Jefferson PUD in its asset purchase agreement with PSE (Transition Period). The hiring and training activities will be staggered throughout the Transition Period in order to efficiently use resources and assure a smooth transition from PSE to Jefferson PUD. Please see Step Nos. 38 through 50 on the Utility Development Plan Timeline.

B. MANAGEMENT

The following management positions are under consideration for the organizational structure of Jefferson PUD electric and water operations:



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General Manager	Engineering Technician
Auditor	Customer Services Supervisor
Finance Manager (Treasurer)	Information Technology Manager
Human Resources Manager	IT Assistant Manager
Administrative Assistant	GIS/Mapping Technician
Engineering and Operations Manager	Water Systems Manager
Operations Superintendent	Water Resource Manager Engineer

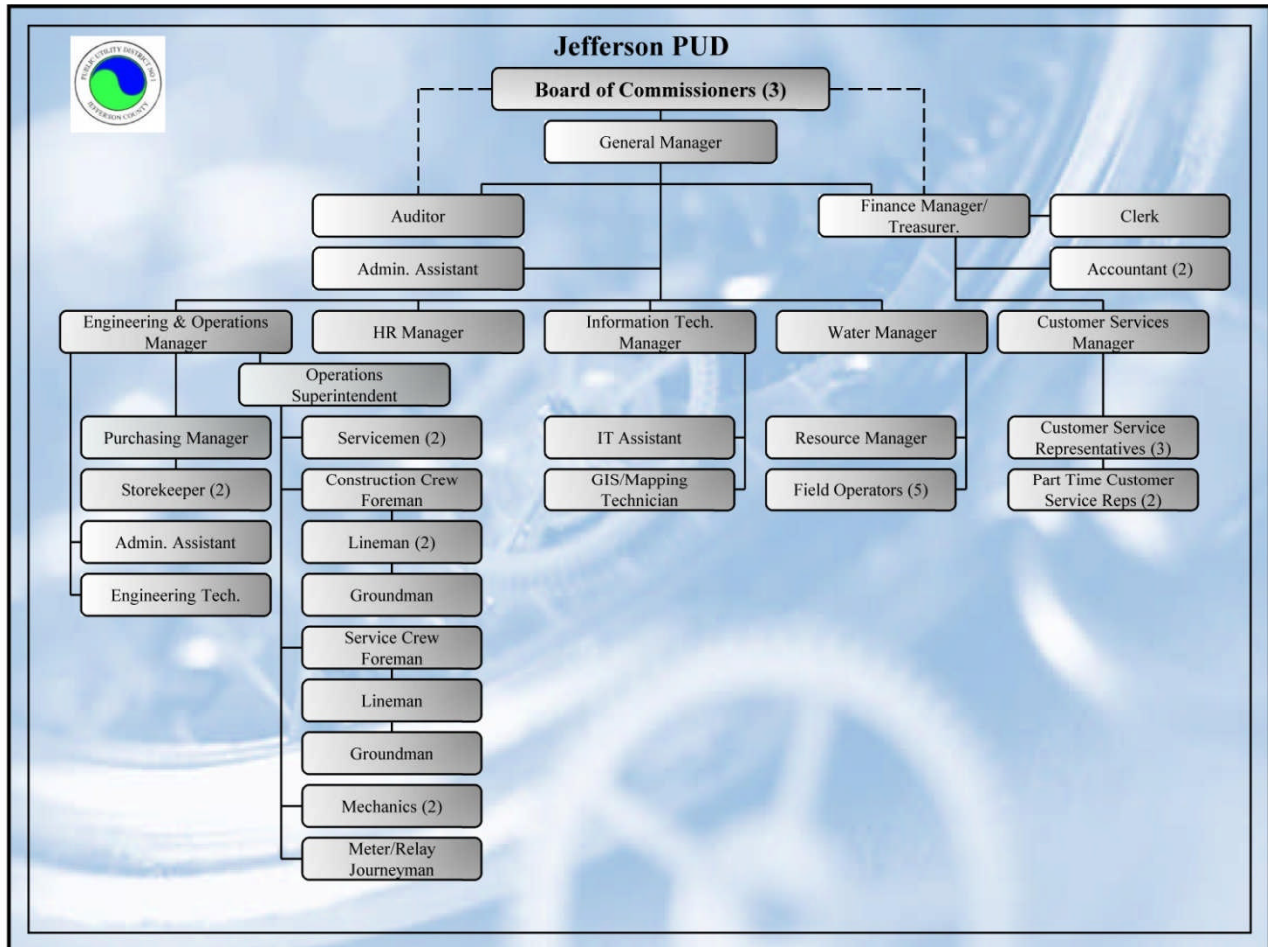
A proposed organizational chart incorporating these positions is provided on the following page. It is important to note that the positions and duties discussed in this Utility Development Plan are included for completeness.

Indeed, some of the duties and responsibilities of the various positions may be combined or contracted for in the final organizational design. Jefferson PUD has the advantage of beginning its electric operations staffing with a staff experienced with handling the utility needs of its water and sewer utility. Many of the decisions regarding combining of functions and duties between the water and electric utility staff will be addressed as Jefferson PUD moves towards full electric operations.

How Jefferson PUD's staff for its current water and sewer utility operations can handle the same functions and duties for Jefferson PUD's electric operations will be determined during the Transition Period.



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PROPOSED ORGANIZATIONAL CHART



C. ADDITIONAL UTILITY STAFF

The following job classifications are also recommended for the Jefferson PUD:

Serviceman	Storekeeper
Line Foreman	Customer Service Representative
Lineman	Clerk
Groundman	Water Operator
Mechanic	Accountant
Meter/Relay Journeyman	

D. GENERAL MANAGER'S RESPONSIBILITIES

The General Manager will carry out the orders of the Commission, and: (i) see that the utility follows all laws; (ii) keep the Commission fully advised as to the financial condition and needs of the PUD; (iii) prepare an annual estimate for the ensuing fiscal year of the probable expenses of the PUD; (iv) recommend to the Commission what development work should be undertaken, and what extensions and additions, if any, should be made during the ensuing fiscal year, with an estimate of the costs of the development work, extensions, and additions; (v) certify to the Commission all bills, allowances, and payrolls, including claims due contractors of public works; (vi) recommend to the Commission compensation of the employees of his or her office, and a scale of compensation to be paid for the different classes of service required by Jefferson PUD; (vii) hire and discharge employees under his or her direction; and (viii) perform such other duties as may be imposed upon the manager by resolution of the Commission.

E. AUDITOR'S RESPONSIBILITIES

The Auditor is responsible for verifying that Jefferson PUD's policies and procedures are followed. The Auditor will issue warrants for payments by Jefferson PUD. The Auditor will review work order closeout to verify that operating procedures were followed. The Auditor will review disbursements and receipts for accuracy. The duties of this position may be contracted for by Jefferson PUD.

F. FINANCIAL MANAGER'S RESPONSIBILITIES

Management of the financial resources of Jefferson PUD are under the direction of the Finance Manager (who may also serve as Jefferson PUD's Treasurer) and as such has the responsibility of investing District funds in accordance with policies set by the



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Commissioners. The Finance Manager will maintain and provide regular reports to the Commissioners and General Manager of the financial status of Jefferson PUD.

The accounting and bookkeeping functions for Jefferson PUD are to be under the direction of the Finance Manager. The Finance Manager duties include setting operating procedures for the accounting staff to follow. Jefferson PUD operating procedures will comply with RUS and FERC accounting policies and principles.

Customer Service Representatives may be supervised by the Finance Manager. The Customer Service Representatives would receive customer payments, greet customers, take service requests, make connect and disconnect arrangements, and assist customers with other account requirements.

G. ELECTRIC ENGINEERING AND OPERATIONS RESPONSIBILITIES

Lead responsibilities for engineering, operations, and purchasing for Jefferson PUD will fall to the Engineering and Operations (E&O) Manager. A key initial task would be to assist the General Manager with the completion of Jefferson PUD's power supply and transmission agreements with BPA. Thereafter the E&O Manager would manage these agreements for Jefferson PUD.

The E&O Manager will have a variety of duties including, but not limited to, construction standards, code compliance, engineering consultant contract management, mapping standards, power quality standards, emergency restoration plan, safety, departmental budgets, vehicle and equipments standards, materials management, and employee supervision.

An Operations Superintendent will manage the crews and schedule the various work projects, supervise routine maintenance, inspect work and ensure compliance with safety regulations. Construction of certain new electric facilities for customer service, system improvements and upgrades as well as repair and emergency service restoration will be accomplished by crew personnel outfitted with the necessary tools, vehicles, equipment and materials. Large construction projects would be built using contract crew labor after a public bid process. Routine line construction can also be accomplished using contract crews.

The warehouse and materials management duties would be the responsibility of the Purchasing Manager. Purchasing procedures must comply with state law governing PUDs and meet requirements of RUS. Water and electric purchasing requirements would be combined and coordinated with other purchases such as office supplies and equipment.



Setting inventory levels for prudent operation and financial control will be valuable to the utility.

H. INFORMATION TECHNOLOGY MANAGER'S RESPONSIBILITIES

The Information Technology Manager (IT) is responsible for the implementation and maintenance of the personal computers/workstations, computer software and other electronic equipment that are used to produce, manipulate, store/retrieve, communicate, and/or disseminate information. The IT system includes the cabling within the building(s), interconnections between buildings and interfaces with the internet, telephone system and possible remote user sites.

The IT manager will develop and monitor acceptable use of network resources and will implement selective access to electronic information and will verify proper access. The IT Manager will be supported by an Assistant IT Manager.

I. HUMAN RESOURCES MANAGER'S RESPONSIBILITIES

It is vital that Jefferson PUD ensure compliance with regulations relating to:

- recruiting and retention
- employee relations
- benefits administration
- compensation administration
- training and development
- employment policies and procedures
- employment law - EEO, FLSA, ERISA, OSHA/WISHA, FMLA, NLRA, Americans with Disabilities Act, Affirmative Action, age discrimination, sexual harassment, drug and alcohol testing (this is a partial list)

The Human Resources Manager will be charged with those duties. Filling this position early in Jefferson PUD's electric department formation will assist in the hiring of competent and capable employees. There will be a significant effort needed in hiring during the time leading up to operating the electric utility. Job descriptions will need to be put in place, benefits will need to be defined, personnel policies may need to be expanded to include work by electric department personnel, and salaries will need to be established,

Jefferson PUD will likely need to address a second collective bargaining agreement for the electrical workers.



J. WATER AND SEWER SYSTEM

For purposes of this Utility Development Plan, the water and sewer systems will function much as they currently do and staff levels would likely remain as is. This assumption will be tested during the Transition Period. Jefferson PUD expects to achieve synergistic benefits where practical between its utility functions. Coordination of billing and bill payments is an example of Jefferson PUD's goal of having its customers make only one bill payment. During the Transition Period, Jefferson PUD will evaluate its existing operations in order to maximize efficiencies and determine whether the needs of the electric utility may be served by the current water and sewer utilities personnel.

It is expected that policies will have to be developed in order to provide for separating the water, sewer, and electric accounts as needed.

Warehousing of materials may be improved through coordination between the utility departments. Vehicles and use of specialized equipment may be shared amongst the utilities to affect cost savings.



2. POLICIES AND STANDARDS

A. SCOPE

The Commissioners and management will need to establish policies, practices and procedures for the new electric services department. This section is comprised of the general concepts for an electric utility and describes many of the routine operational functions for a well managed utility. Jefferson PUD has been actively engaged in discussions with both neighboring public utility districts and people's utility districts regarding the appropriate policies and procedures. Jefferson PUD expects to utilize the work of other utilities to streamline its development of policies and procedures for its electric utility operations.

This section includes a description of policies and procedures that are required for Jefferson PUD to comply with Federal and State Rules and Regulations, RUS requirements, and BPA requirements. The recommended approaches are based on Brown & Kysar's recommendations for good operating practices for a PUD. Please see Step Nos. 51 through 73 on the Utility Development Plan Timeline.

B. FRANCHISES

Jefferson PUD will acquire all necessary franchise agreements with the State Department of Transportation for highways, the City of Port Townsend, and Jefferson County. These franchises will allow Jefferson PUD to place electric facilities within the street and road rights-of-way. Jefferson PUD has been in contact with the governments having jurisdiction to assure a smooth transition.

C. COST-OF-SERVICE AND RETAIL RATE STUDY

Jefferson PUD must determine the cost of providing service to the various classes of customers (i.e. residential; farm; area lighting; small, medium and large commercial; seasonal; industrial, etc.).

Jefferson PUD must also determine the expected costs of the separation projects, e.g., eliminating the need for submarine cable feeders that are currently used by PSE to serve loads near Shine Beach and Hazel Point. It is expected that the power supply to these areas will be served directly from the Jefferson PUD distribution system. The capital expenditures for modifications to the Jefferson PUD to serve these loads will need to be determined.



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Jefferson PUD must also determine the cost for metering at the delivery points from the BPA transmission grid. The cost-of-service will address the amortization of startup costs for negotiating and finalizing power supply agreements; preparing loan applications and finalizing PUD funding; and preparing and implementing the other elements of the Utility Development Plan.

Jefferson PUD must determine the capital expenditures necessary to correct any National Electric Safety Code (NESC) deficiencies or safety issues (poor grounding, lack of proper guying/anchors, etc.) that may be discovered during the PSE system assessment. Any recommended improvements and/or system additions needed for the first two years of Jefferson PUD's operation of the system will also need to be factored into the cost-of-service analyses.

A schedule of retail rates for various classes of customers must be developed. Jefferson PUD initially expects to use a rate structure similar to the rate structure used by PSE in order to minimize the overall disruption for customers. The rate study must allocate the expenses in a fair manner among all rate classes. Maintaining reasonable retail rates will protect the long-term viability of the Jefferson PUD.

The retail rates will also consider and incorporate anticipated operating expenses for purchased power costs, payroll, maintenance, taxes, etc., to determine the net revenue that will be available for principal and interest payments on Jefferson PUD's debt obligations. Jefferson PUD's experience with setting water and sewer rates will be instructive and informative as it pursues electric utility rate structure development.

D. ACCOUNTING & FINANCIAL RECORDS

Jefferson PUD will need to establish appropriate and useful operating ratios, financial reports, and other statistical information that will enable prudent management practices. Industry sources can provide typical ratios, used by utilities, as a starting point for setting targets. The Commissioners will set the standards.

The existing accounting software may need to be supplemented or replaced. Several other PUDs use accounting software from National Information Systems Cooperative (NISC). Full compliance with RUS requirements in 7CFR Parts 1767 and 1773, as well as the work order procedures in Bulletin 1767B-2, will be required. Jefferson PUD's experience as a current RUS borrower will ease compliance with these rules.

Jefferson PUD must comply with the Financial Accounting Standards Board (FASB) and relevant standards of the Governmental Accounting Standards Board (GASB). If not



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contracted for independent of the utility, the accounting software to be used will be suitable for maintaining accurate, up-to-date plant account records, providing payroll services for 50 to 60 employees, and future integration of a billing module with up to 30,000 customers. The software should also be capable of maintaining inventory records and be compatible with an electronic work order system.

The accounting software to be used will include the customary verification that the information being entered by multiple data entry specialists is correct. Appropriate audit and control procedures must be set.

In time, accounting records for the water utility can be transferred to the new accounting software.

E. EMERGENCY RESTORATION PLAN



Jefferson PUD needs to develop a written emergency restoration plan for use during routine or extraordinary power outages, fire or other natural disaster. Jefferson PUD will more than likely be able to review and utilize the plans established by neighboring PUDs. Any plan must address Homeland Security issues such as business anti-sabotage threats and security issues. The plan must address business restoration including such events as: a major computer virus affecting billing and SCADA systems; bomb threats; fire loss of

the office and/or shops; absence of key personnel, and other such issues. The plan must include a method for receiving customer phone calls and procedures for dispatching emergency response personnel.

The emergency plan must also address business restoration procedures such as alternate locations for personnel to work, backup assistance, and a plan to activate quick-delivery leased or rented items such as servers, computers, and modular office buildings, if necessary.



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The restoration plan must include procedures for orderly restoration of the system in the event of a wide outage resulting from a major natural disaster or other catastrophe including major flooding, earthquake, large storms, a major cold freeze, etc.

The plan must address procedures for isolated outages which includes a method for customers to contact Jefferson PUD in the event of loss of power. The plan must also includes procedures for locating and recovery from loss of power to Jefferson PUDs own offices. The plan must identify key loads, including consumers with special needs.

The plan must include a method to dispatch a response team which prioritizes manpower, and tools/equipment expected to be needed to restore service.

This plan must include procedures for contacting emergency agencies (fire, police, FEMA, hospital, BPA, etc), Jefferson PUD's management and other key personnel, contractor and equipment suppliers, other utilities, and any others that might need to be reached in an emergency.

F. MUTUAL AID AGREEMENT

Jefferson PUD will contact and discuss with neighboring PUDs (e.g., Clallam County PUD) options for emergency assistance.

Jefferson PUD will also consider becoming part of the mutual aid network of Western Washington PUDs which assists PUDs in situations of major system damage.

Jefferson PUD may consider developing a contract with several contractors to use their services when and if needed for a previously contracted price. It is typically much easier to negotiate reasonable rates and conditions prior to needing assistance, than it is during an emergency condition.

G. JOINT USE AGREEMENTS

Jefferson PUD must set a joint use policy for Jefferson PUD poles that are also contacted by communication companies and other entities. The policy will include a pole contact rate structure per Washington State House Bill #2533.

The policy will include guidelines so that a case-by-case review by Jefferson PUD is not required for simple installations. The plan includes a procedure for determining whether Jefferson PUD facilities are adequate for the joint contact. An application form will be developed as part of the plan to collect necessary information about the joint contact.



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After operations commence, Jefferson PUD will identify existing National Electric Code violations, if any, and rectify violations per RUS requirements. RUS requires that all new construction must comply with the NESC.

The joint use agreement allows Jefferson PUD to approve the contact prior to construction and has an application on record. The Agreement avoids costly pole replacements or modifications at Jefferson PUDs expense.

H. EASEMENTS

Jefferson PUD will develop a policy for utility easements on private property and adjacent to all public rights of ways, especially in new subdivision developments. This practice is typical for many utilities near suburban areas and avoids much of the difficulty in locating future feeder lines, underground line conversions, and line extensions to adjacent lots.

I. RENEWABLE ENERGY

Jefferson PUD will promote cost effective alternative, renewable energy sources. Jefferson PUD will advise customers of funding programs that are available from Federal or State government.

The State of Washington requires PUDs with over 25,000 customers to provide a portion of the power supply from renewable energy sources. Since Jefferson PUD has 19,300 customers it is exempt. Jefferson PUD will continue to grow and it is likely that the renewal requirements for renewable power supply will become more stringent. Jefferson PUD should be proactive by offering an optional renewable resource service rate.

Renewable energy would be from wind projects, small hydro resources, biomass resources, landfill gas resources, geothermal resources and solar resources. Jefferson PUD needs to set a net metering policy that compliments the RUS Interconnection of Distributed Resources (IDR) agreement. This will encourage distributed power supply resources that utilize renewable resources within Jefferson PUDs service area.

J. ENERGY CONSERVATION PROGRAMS

Jefferson PUD should develop an Energy Conservation policy to encourage energy audits and make recommendations to the residential consumers in order to promote energy conservation. Commercial and industrial energy conservation should also be promoted.



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Although not mandatory, Jefferson PUD should do their part in energy conservation by evaluating the Jefferson PUD system to identify unnecessary losses. A policy of balancing loads on feeders will help minimize losses.

K. GIS MAPPING

Jefferson PUD will obtain all current maps of the system maintained by PSE as part of the deliverables of the transaction with PSE. During the Transition Period, Jefferson PUD will develop an up-to-date and accurate set of utility maps. At this time it is anticipated that Jefferson PUD will use computer-based GIS mapping systems. The GIS based mapping system is a valuable tool for system modeling for engineering analysis (discussed in more detail in the next section) and for improving system and service reliability.

During the Transition Period, Jefferson PUD will determine the best software to use and the process to incorporate existing maps and customer data from PSE. As part of the Transition Period, Jefferson PUD and PSE have a Customer Transition Agreement that will provide the smooth transition necessary to make software decisions and customer data transitions. An integrated outage reporting process, including properly identified customers and their location on the system allows for efficient dispatch of a repair crew. The crew will not have to first patrol miles of line to identify the location of the problem.

It is recommended that Jefferson PUD use electronic records for all staking sheets. The staking sheets are automatically linked and updated to a new pole-by-pole CAD and GIS mapping system. The computer-based system could also be integrated into Jefferson PUD's other systems, such as accounting, billing, inventory, metering, etc.

L. ELECTRICAL SYSTEM MODELING

The computer-based GIS mapping records are used to develop a system model to be used for load forecast, long range planning for RUS reporting. The system model is also used for sectionalizing studies to improve system and service reliability to customers.

K. SPCC PLAN

During the Transition Period Jefferson PUD will develop an up-to-date Spill Prevention, Control and Countermeasure (SPCC) plan that complies with Environmental Protection Agency (EPA) requirements, as well as Washington State Department of Ecology (DOE) requirements.



The SPCC Plan must include the following:

- A written plan of how to handle oil spills.
- Adding secondary containment to all large oil vessels.
- Providing prevention, response and clean-up training to employees.
- Compliance documentation

L. PCB POLICY

The State of Washington requires a policy for equipment that contains more than 2PPM PCBs. A PCB policy needs to be developed that requires new equipment being purchased have no PCBs at the time of purchase.

During the Transition Period, Jefferson PUD will develop a policy that contains procedures for older, liquid-filled equipment, such as capacitors, reclosers, regulators and power transformers that are not tagged with less than 2PPM PCB level to be identified and samples taken for testing. The policy should include procedures for either replacement of equipment that exceeds the 2PPM level or have the fluid replaced. The policy should have procedures for proper disposal of the equipment and/or contaminated fluid.

M. MATERIALS & CONSTRUCTION STANDARDS

Jefferson PUD must establish a standard list of equipment and materials that complies with RUS requirements. Jefferson PUD must adopt a set of construction standards that comply with RUS requirements.

Construction Standards should include overall awareness of the environmental issues in the area. Jefferson PUD should adopt construction methods that minimize any impact on the environment.

New construction would be checked for conformance using Jefferson PUD's adopted standard. All standards would be reviewed for compliance with the latest codes.

N. INSPECTION & MAINTENANCE POLICY

Jefferson PUD must adopt an Inspection Policy that complies with RUS Bulletin 1730-1 "Electric System Operation and Maintenance."



UTILITY DEVELOPMENT PLAN

Equipment that is properly maintained is more likely to have an extended service life and is less likely to breakdown unexpectedly. The following are recommendations (some are RUS requirements) that should be included in the Inspection and Maintenance Policy:

- Substation equipment
- Line regulators, reclosers and capacitor banks
- Infrared inspections of all facilities
- Pole testing on all overhead transmission and distribution lines
- Service interruption records
- Distribution transformers
- Revenue meters
- Right-of-way maintenance and tree trimming

O. COORDINATION STUDY

Jefferson PUD will develop a System Coordination policy, taking into account the following items:

- Available fault currents and equipment capabilities
- Load currents and equipment sizing
- Equipment types and possible outage causes
- Coordination of various upstream and downstream devices

The policy will recommend appropriate practices for Jefferson PUD to follow to limit outage areas and thereby improve service reliability.

P. ARC FLASH

Effective fault protection is very important to the life, safety and welfare of the public and all parties working around energized equipment. Outside of Jefferson PUD staff, other parties include electricians and other maintenance personnel working on customer owned equipment.

The arc flash policy will review the potential arc flash hazard levels on the system and recommend guidelines for equipping workers with Personal Protective clothing and other equipment and safe operating procedures for working on Jefferson PUDs electrical facilities. The Arc Flash study will recommend safe working practices and possible system changes, if possible, for work areas with excessively high arc flash levels.



UTILITY DEVELOPMENT PLAN

For public safety reasons, Jefferson PUD should standardize on secondary fault current levels that are allowed on the secondary of transformers and state the applicable limiting values for future transformer purchases.



3. FACILITIES AND SYSTEMS

A. SUMMARY

The Commissioners and management will need to provide office and warehouse facilities and establish various systems necessary to support the operation of the new electric services department. This section includes recommendations of additional operational facilities and systems for an electric utility. This section describes many of the routine operational functions for a well managed utility. Please see Step Nos. 74 through 97 on the Utility Development Plan Timeline.

B. OPERATION CENTERS

Jefferson PUD currently owns one office building associated with its water operations. It is possible this building would continue to be utilized in the joint water/electric operations.

Jefferson PUD will acquire from PSE a former operations center building, warehouse, and storage yard. This facility will require an assessment to determine the suitability for Jefferson PUD's electric and water operations.

It is expected that additional facilities will be required to house the management staff to be added for the electric utility operations. Consideration will be given to consolidation of staff and building requirements during the Transition Period.

C. BILLING AND ACCOUNTING SYSTEM

Currently the mailing of bills for the water system is contracted out to a third party. The water systems are metered with an automated radio-read meter reading (AMR) system. Data collection is done by PUD staff.

PSE also utilizes AMR to gather data for billing the majority of customers. The ability to redirect Jefferson PUD customers' meter data using the existing AMR system to Jefferson PUD billing system must be determined during the Transition Period.

The accounting software must be integrated with the billing system (whether in-house or out-sourced) so that the accounts receivables are properly posted.

The accounting system will require the capability of recording payments from multiple customer service representatives or payments received by mail. The accounting system



should have the capability of on-line bill payments (either now or implemented in the future).

D. WORK ORDER SYSTEM

A Work Order system must be determined. It is preferable that this system be linked with the accounting system to use current cost data when preparing estimates for work orders.

The Work Order system should be linked to the GIS and mapping system so that as work flows through the planning, construction and completion phases of a project, the system maps are kept up-to-date. The final installed costs for the Work Order should be linked with the accounting system to update the plant accounts for the work performed.

E. OFFICE INFORMATION TECHNOLOGY (IT)

At this time, it is anticipated the electric division of Jefferson PUD will be at a new location(s). All of the management staff and other selected staff will be equipped with desktop computer terminals.

The desktop terminals are connected through a network, using Cat 6 Ethernet cables, to switching equipment, servers and storage devices. One server is a SNMP (Simple Network Management Protocol) device for remote access to the network. Provisions for wireless communication to mobile computers and/or cell phones will be included. Network monitoring will be implemented to verify the integrity of the network and report errors.

Servers will be provided for file servers, email server, fax server and backup server. Tape backups or external hard drives will be utilized for periodic backup and off-site storage of data on the file server. The phone system will utilize VOIP (Voice Over Internet Protocol) and will utilize the Cat 6 cabling. The phone system will include a PBX (Private Branch Exchange) to interface with the local telephone company system and/or internet service provider. The preferred internet service will have a 20 to 30 Mbps download/upload data transfer rate with a 7 Mbps minimum download transfer rate.

The servers and related equipment will be equipped with a UPS (Uninterruptible Power Supply) to provide “ride-through” for short term disturbances on the power supply and to provide an orderly shutdown of electronic equipment for a long-term outage.

The domain name and email service will be transferred from the Water PUD offices to the location of the Management Center. If the Operational Center(s) is at a different location, it



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is recommended that a VPN (Virtual Private Network) be implemented between locations for easy access to data and for telephone communication.

The Management Center and Operations Center(s) will be equipped with security systems.

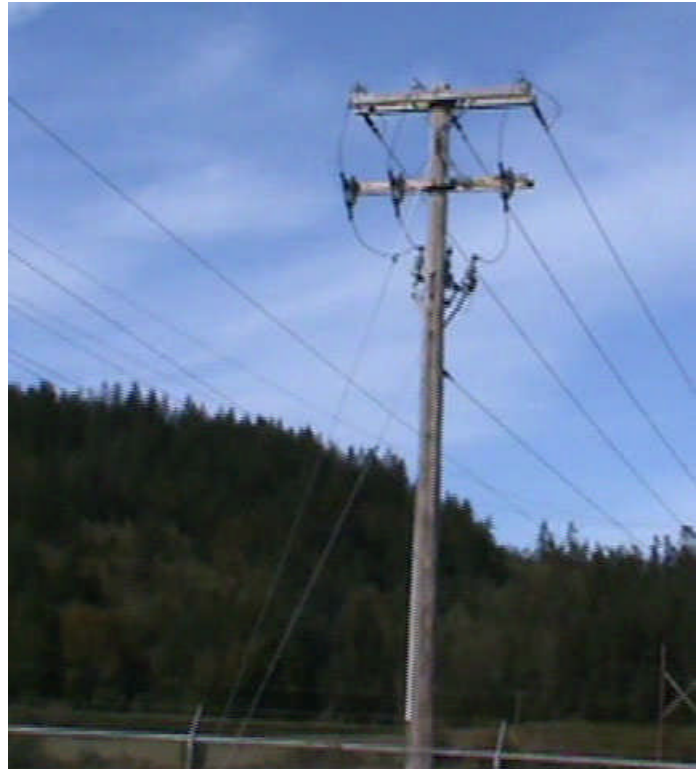
The Jefferson PUD website will be modified to include aspects related to the electric services (i.e. customer billing history, on-line bill payment, etc.)

F. COMMUNICATION SYTEMS (TELEHONE AND RADIO)

Jefferson PUD will need telephone and Internet services. The configuration of these communication systems will depend on the suitability of the systems in the existing buildings. The recommended telephone and internet system is described in detail in the IT section of this plan, and will be refined during the Transition Period.

Jefferson PUD will need to apply for FCC licensing for a radio communication system. The radio system will be utilized for two-way mobile radios and a base station. The vehicles for the crew for servicing and maintenance will be equipped with mobile radios.

Jefferson PUD will need to assess the utilization of the existing SCADA equipment in the substations. If the existing SCADA equipment is suitable for continued use, a new Master Terminal Unit must be purchased and communication to the Master Terminal Unit must be installed. During the Transition Period, issues regarding SCADA will also be discussed and evaluated with PSE through the Customer Transition Agreement.





G. OUTAGE MANAGEMENT SYSTEM

Jefferson PUD should implement an outage record keeping system to track every outage regardless of the number of consumers affected. Recording details of every outage will provide a more accurate status of the overall system reliability and identify prevalent causes as well as lines and areas commonly affected by outages. The goal of the record keeping is to improve reliability over time with good management and construction practices.

Portions of Jefferson PUD's transmission and distribution system are located in wooded areas. Therefore, the number of outages and resulting outage time is more than when compared to utility areas with sparse tree growth. The Outage Management System should allow assessment of the types, location, frequency, etc., and allow the management to assess system outages and develop measures to improve service reliability for customers.

During the Transition Period, Jefferson PUD will assess the suitability of the existing PSE Supervisory Control and Data Acquisition (SCADA) and Automated Meter Reading (AMR) to determine the suitability of those systems to be integrated with the Outage Management System.

H. VEHICLES, TOOLS & EQUIPMENT

Over the years, changing practices and new technologies have modified the role of staff and equipment requirements within a utility. Safety and other regulations have become more stringent.

Jefferson PUD must assess the needs of the electrical department and provide vehicles, equipment and tools necessary for workers to efficiently perform construction and maintenance activities in a safe and workman like manner.

Exhibits A and B at the end of the report show a general list of vehicles and equipment for the electrical department to consider for acquisition.

I. MATERIALS INVENTORY

Warehousing a larger than needed quantity of equipment can cause obsolescence prior to using the equipment, tie up a significant amount of capital, and incur the associated warehousing costs. Delivery times for various equipment and materials items can vary with



the level of construction in the country and the impact to emergency repair time must be considered.

An assessment of the condition of the existing transmission, distribution and substation facilities is required and a determination of the appropriate quantity and type of materials and parts needed for maintenance of the electrical system.

An electronic inventory tracking system is recommended to allow easy queries of existing stock in the warehouse, for easy development of picking lists for construction work, and for accurate posting of material costs to plant accounts. The inventory tracking system will be a tool for reporting inventory aging (for seldom used parts) and will be useful for selecting economic order quantities for materials, equipment, and spare parts.

Exhibit C at the end of the report provides a detailed list of suggested materials.

J. SYSTEM MAINTENANCE

Equipment that is properly maintained is more likely to have an extended service life and is less likely to breakdown unexpectedly.

An electronic record keeping system is recommended for tracking maintenance and scheduling recommended maintenance inspections of electrical equipment and Jefferson PUD vehicles and tools.

- Monthly inspections of substation equipment (reclosers & regulators)
- Annual inspections of reclosers, regulators and capacitor banks
- Oil testing of all substation power transformers
- Oil spill prevention training
- Infrared inspections of all facilities
- Pole testing program on both transmission and distribution lines
- Annual feeder load balance particularly during heavy loading
- Service interruption records by type of outage, duration, specific location, and exact cause
- Testing equipment that is removed from service, but before being re-installed
- Distribution transformers
- Revenue meters
- Inspection of all foreign attachments to PUD poles over a ten year interval
- Right-of-Way maintenance and tree trimming

The computer software program should notify the appropriate person when maintenance is required on plant equipment. The Maintenance software should also keep records of



vehicles, tools, etc., and notify the appropriate person when and what maintenance needs to be done.

K. METER READING & SUPERVISORY CONTROL AND DATA ACQUISITION SYSTEMS

Jefferson PUD will need to evaluate the continued use of the existing AMR equipment. The AMR system includes meters for collecting data and will be used for billing the customers. The entire revenue of the Utility hinges on accurate metering of consumed power.

Jefferson PUD should evaluate the suitability of the existing PSE SCADA equipment for use by Jefferson PUD or consider implementing a different SCADA system at the substations.

The AMR and SCADA systems will provide valuable information for distribution system outage reporting, design, customized billing services, proactive asset monitoring, and will maximize the value of the meter data to make better, more informed decisions in rate design, load forecasting, distribution system planning, energy efficiency, and load profiles for short- and long-term energy forecasting.

System installation could include monitoring in each substation and additional end-of-line monitoring for each substation feeder, especially the worst outage areas and the longest lines. Automatic notification could be installed, so that the on-call dispatch person receives a page (or cell phone message) stating where voltage is lost, allowing faster response to outages and better consumer service interaction. This data could be downloaded and automatically stored at reasonable intervals onto Jefferson PUD's main server. These options are inexpensive to add in conjunction with an existing and/or expanded AMR & SCADA system, and all will be evaluated during the Transition Period.



4. PHYSICAL PLANT

A. SUMMARY

In order for Jefferson PUD to acquire and operate the PSE system for service to the customers in northeast Jefferson County, improvements to the physical plant will be necessary to serve loads in the Shine Beach and Hazel Point areas. Customers in these areas are supplied power through the PSE submarine cable circuits. The transfer of the customers from the submarine cable circuits to distribution facilities in Jefferson County that will be owned by Jefferson PUD are referred to as Separation Projects in this Plan.

B. HAZEL POINT AREA

This area is currently served with three phase power across underwater cables from Kitsap Peninsula. Jefferson PUD will not be acquiring these cables and will need to reconstruct approximately 15 miles of single phase overhead line to three phase.

The existing single phase line originates at the Quilcene Substation.

C. SHINE BEACH AREA

This area is also currently served with three phase power across underwater cables from Kitsap Peninsula. Jefferson PUD will not be acquiring these cables and will need to upgrade the capacity of three phase overhead system between Port Ludlow substation and Shine Beach.



TIMELINE

SCOPE

A detailed Timeline has been attached in Exhibit D. The tasks that are listed in the timeline are in the same order as the sections and respective paragraphs in the report. Each of the recommendations above has been tied to the proposed timeline.

The three-year timeline is based on the anticipated lead time necessary for BPA to commit to Tier 1 power. The requirements for RUS financing are also quite extensive. While it may be possible to accelerate the startup date, Jefferson PUD is attempting to time its start-up with the availability of Tier 1 rates from BPA. A shorter timeline may also require that an alternative lender be identified.



EXHIBIT A

The following is a suggested list of required vehicles for use by the electric division:

4-wheel drive SUV or pickup

E&O Mgr
Ops Supt
Line Foreman
Line Foreman
Purchasing Mgr
General purpose (1)

Van style

Meter/Relay Journeyman
Mechanic

Flatbed pickup

Warehouse
Construction crew

One person Manlift – (2)

One each Serviceman

Two person Manlift – (2)

One each crew

Digger/derrick – (2)

One each crew

Specialty vehicle

Mechanic

Other wheeled vehicles

Forklift
Pole trailer (2)
Wire reel trailer - standard (2)
Wire reel trailer – large (1)
Materials trailer



EXHIBIT B

Following is a potential list of tools & equipment that would commonly be carried on the vehicles assigned to perform construction and maintenance on an Electrical Distribution System:

Power drill
Associated bits
Power press (for connectors & splices)
Power cutter head
Power tamp
Pole puller
Associated hoses for above (could be hydraulic or pneumatic)
Set of dies for press above
Electrical extension cords
Chain saws
Gas can
Chain saw tools
Peevees
Pike poles
Long-handled spade
Long-handled spoon
Straight-blade shovels
Curved-blade shovels
Wood-handled tamps
Broom
Rake
Insulated cover-up (some rubber, some fiberglass)

- rubber blankets
- rubber hose
- conductor covers
- crossarm covers
- insulator covers

Insulated hot jumpers
Grounding jumper sets
Hot sticks
Pole-mounted gin

Loadbreak tool (for opening fused cutouts)
Phasing tools & meter
Tong ammeter
Voltmeter
Hotstick mounted meter to verify energized/deenergized conductor
Steel breaking bar
Crowbar
Sledgehammer
Pipe wrenches
Open end wrenches (small set and large set)
¾ inch ratchet set with associated sockets
½ inch ratchet set with associated sockets
Spare set of hand tools for truck (in addition to that normally furnished by and carried by each worker):

- tool pouch
- lineman hammer
- speed wrenches
- screw driver
- Klein lineman pliers
- 12 inch crescent wrench
- wooden (or plastic) ruler
- wire stripping knife
- channel lock pliers

Tool kit associated with preparing underground conductor for terminations and splicing
Propane torch
Hand saw
Chisel
Level



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Crossarm-mounted gin
Insulated spreader arms
Chain hoists
Insulated “hot” hoists
Conductor grips (various sizes and configurations)
Pulling grip (“sock”)
Marlinspike
Travelers
Pulleys
Rope
Hand lines
Assorted nylon slings
Steel wire slings
Tire chains
Tow chain
Vehicle jumper cables
Cable cutters
Bolt cutters
Ladders

Hand presses (for various size sleeves)
First aid kit
Nitrile gloves
Blanket
Automated external defibrillator (aed)
Fire extinguisher
Bee spray
Water cooler
Lanterns
Flashlights
Headlamps
Traffic control devices:

- sign standards
- signs
- traffic cones
- hand paddles
- flagging vests
- flares

Spill response kit

There would also be the following items on the vehicles that are more of a personal assigned type and are either considered Personal Protective Equipment and are required to be furnished by the Employer or are made available by some other arrangement:

Hardhats
Cold weather hardhat liners
Safety glasses
Hearing protection
FR clothing
HV rubber gloves
Leather glove covers for HV rubber gloves

LV rubber gloves

Leather glove covers for LV rubber gloves

Fall arrest harnesses
Fall arrest lanyards
Climbing device (starting to see the use of devices such as the “buck squeeze”)
Raingear
Climbing tools (hooks)
Linemen tool belts



EXHIBIT C

The following items would be essential to construction and maintenance of an Electrical Distribution System and should be kept in supply at a storeroom and storage yard.

Note: Where a general item is listed, it is intended to include the various sizes and types common to the system in existence. For instance, “conductor” would include transmission, distribution, secondary, underground, and overhead conductor....all sizes common to the system. For system improvements, or new construction, it would be advisable to check delivery times with various manufacturers/suppliers to assure that any new items, or larger quantities, could be secured in a timely fashion.

Poles
Crossarms
Ground plates
Ground rods
Guy wire
Guy wire preformed grips
Anchors
Pole toppers
Bolts (numerous sizes and types)
Pole top pins
Crossarm insulator pins
Insulators
Preformed tie wires
Armor rod
Stirrups
Connectors
Splices
Deadend shoes
Hotline clamps
Fused cutouts
Cutout mounting brackets
Fuses
Lightning arrestors
Underground cable terminators
Conduit
Conduit fittings
Conduit mounting brackets
Lag screws

Area lighting materials
Street light materials
Hook-operated switches
Gang-operated switches
Bypass-disconnect switches
Oil switches
Vacuum switches
Reclosers
Voltage regulators
Sectionalizers
Capacitors
Mounting racks for various equipment
Cluster mounts
Voltage regulator platforms
Metering devices
Metering potential transformers
Metering current transformers
Pole-mount distribution transformers
Pad-mount distribution transformers
Pads (for mounting the pad-mount transformers)
Vaults
Junction-boxes (primary and secondary)
Conductor (overhead and underground)
Fault indicators
Tape
First Aid kit replacement items



UTILITY DEVELOPMENT PLAN

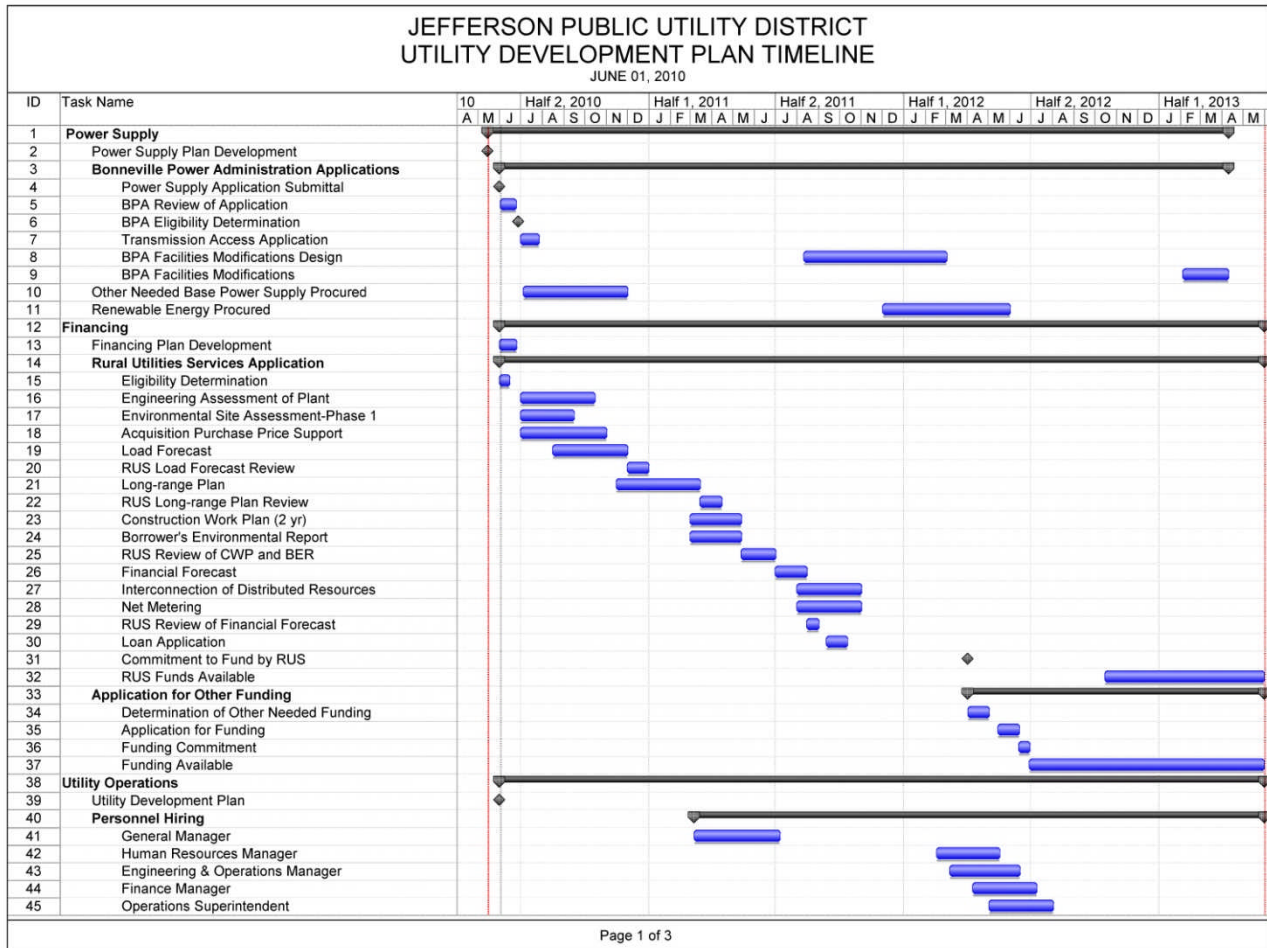
In addition to the above listed materials, the storeroom would also have a supply of spare tools that are listed as truck tools for timely replacement of those items if broken or misplaced. While a truck might carry one (1) spreader arm, there would be many more in the storeroom to be sent out on larger jobs such as a reconductoring job. Many of the items listed as truck tools would fall in this category.

The storeroom would also have in storage those items necessary to clean parts, make certain material repairs, and material-handling equipment of the type common to operating any warehouse. In addition, there would be a number of bulkier items stored that would occasionally go out with a crew for specific purposes but would not normally be carried on a truck. Some of these items are:

- Underground locating equipment
- Underground fault locating equipment
- Splicing equipment for larger conductor
- Generators
- Pumps
- Worksite lighting equipment
- Spill response materials
- Solvents
- Lubricants
- Oxidation-preventive agents
- Shop vacuums
- Bench grinder
- Complete set of shop tools
- Air compressor
- Hand trucks
- Fork lift
- First aid kit
- Automated External Defibrillator (AED)

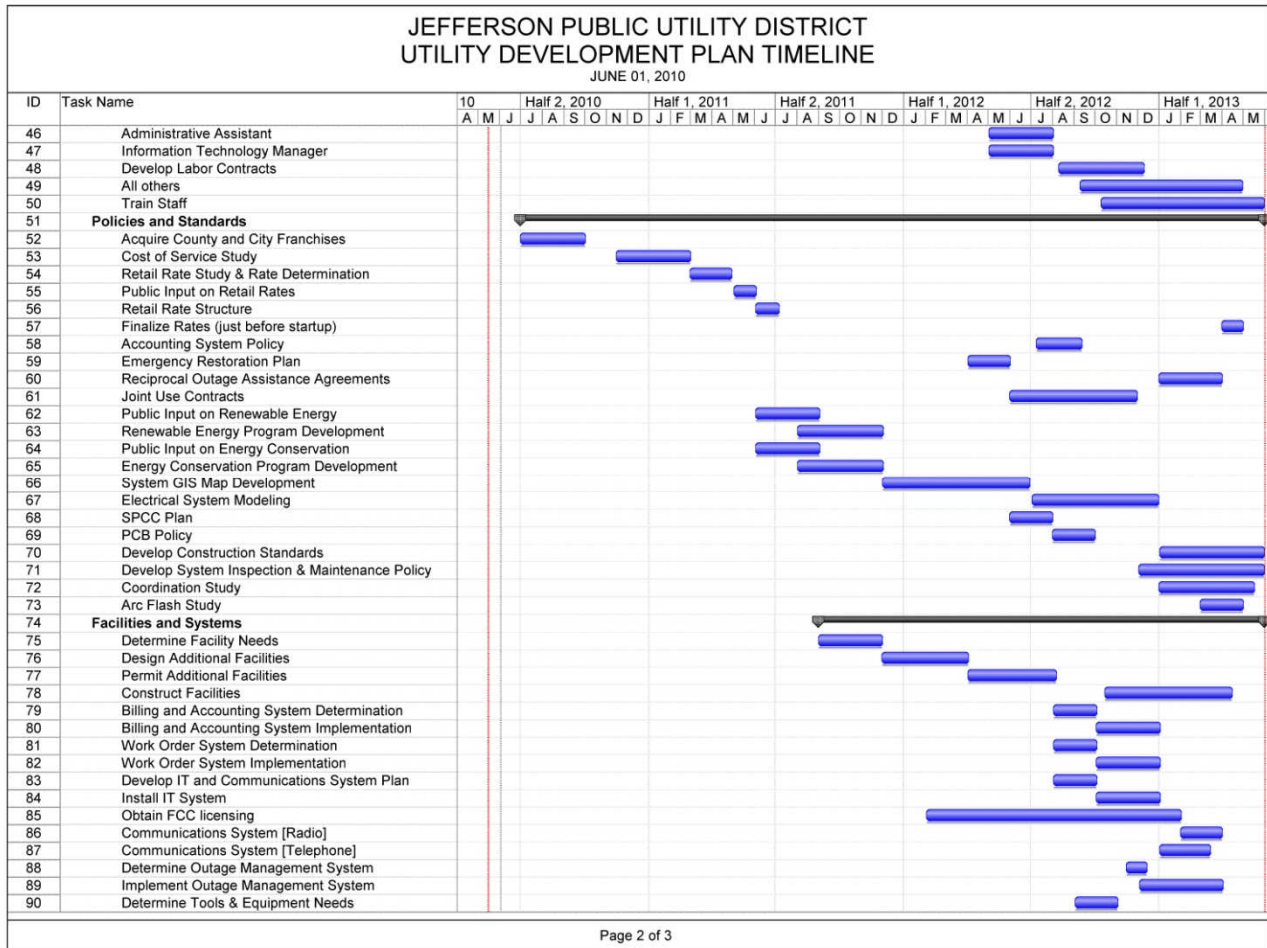
UTILITY DEVELOPMENT PLAN

EXHIBIT D



DETAILED TIMELINE

UTILITY DEVELOPMENT PLAN



DETAILED TIMELINE



DETAILED TIMELINE