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MARITIME ELECTRIC
A FORTIS COMPANY

March 28, 2023

Ms. Cheryl Mosher
Island Regulatory & Appeals Commission
PO Box 577
Charlottetown PE C1A 7L1

Dear Ms. Mosher:

UE20735 – 2023 Capital Budget Application
Response to Interrogatories from Commission Staff

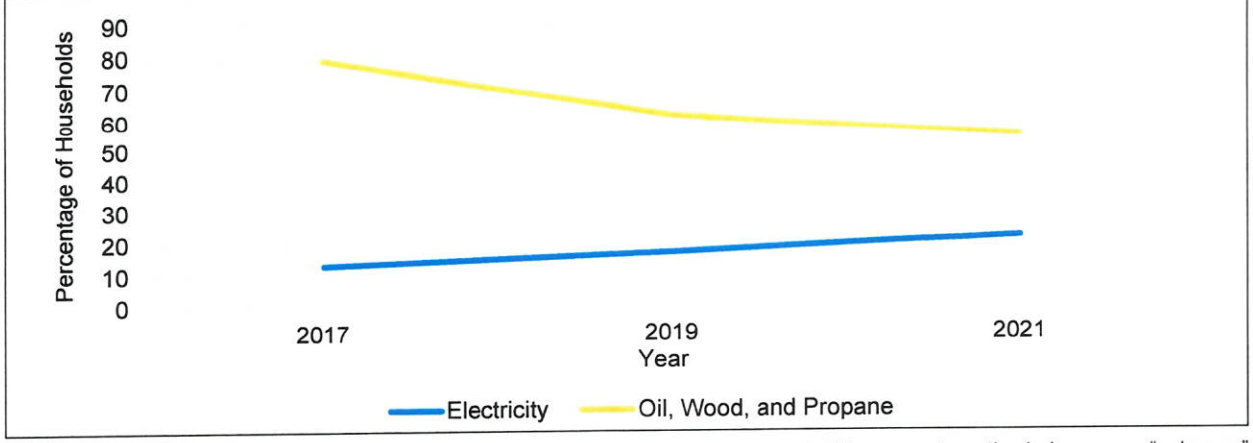
Please find attached the Company's responses to additional interrogatories from Commission staff with respect to the 2023 Capital Budget Application ("Application").

In the process of preparing the responses, including a teleconference between the Company and Commission representatives on March 15, 2023, concerns were raised by both parties regarding capital budget growth and Application approval timelines. As discussion of these issues does not fit specifically within one or more of the attached interrogatory responses, it has been included in this submission letter for the Commission's consideration.

Since 2017, Prince Edward Island ("PEI") has been experiencing increased electrification and population growth.[1] As a result of electrification, system components have to be upgraded to serve higher loads, and as a result of population growth, new customers require service connections. Population growth also contributes to load growth and resultant necessary system upgrades.

Figure 1 shows that since 2017 the use of electricity as the primary heat source for PEI households has grown by approximately 9 per cent.[2]

FIGURE 1
PEI Households Primary Heating Systems[a]
2017 to 2021



a. The yearly amounts for "electricity" and "oil, wood, and propane" do not total 100 per cent as the balance, an "unknown" component, is not shown.

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1 To date, increased electrification has primarily been associated with the conversion of space heating to electrically operated heat pumps. This conversion is expected to continue. Conversion to electric vehicles, while in the early stages, will also add to electrification as combustion-engine vehicles are phased out and replaced.

2 Household primary heating system data in Figure 1 was sourced from Statistics Canada at https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3810028601.

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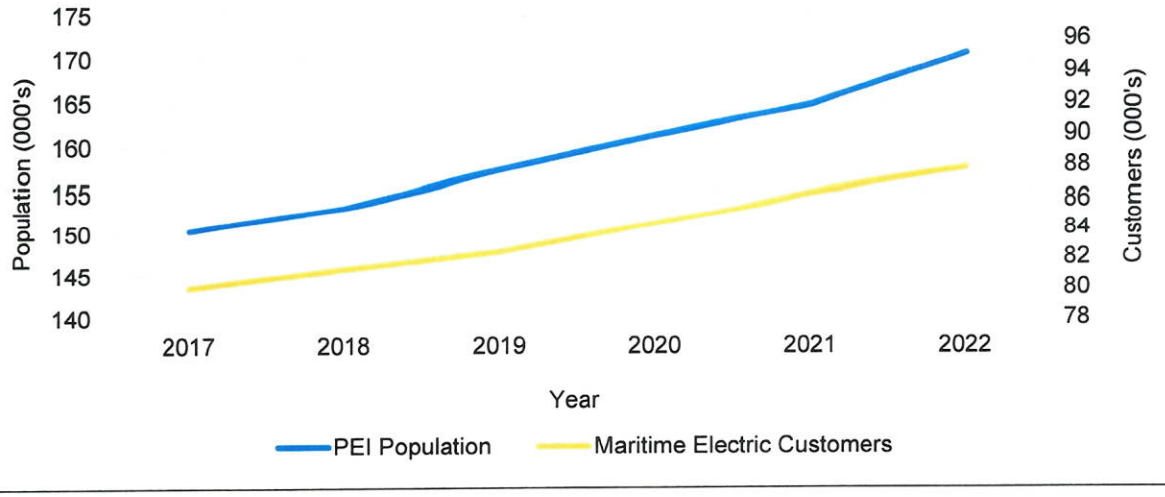
Figure 2 shows that since 2017 a 13.5 per cent increase in PEI's population has resulted in Maritime Electric's customer count increasing by 9.8 per cent.[3]

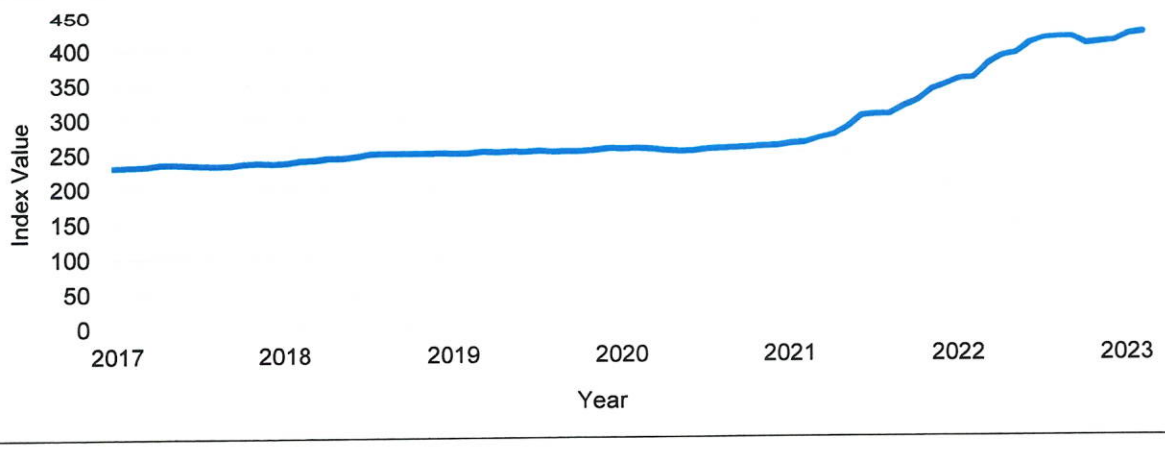
FIGURE 2
PEI Population and Maritime Electric Customers
2017 to 2022



In addition to electrification and population growth, electrical equipment supply costs have been increasing steadily during, and since, the onset of the global COVID-19 pandemic. These increases are higher than normal inflation and are industry wide.

Figure 3 shows that the producer price index for electric power and specialty transformer manufacturing has increased by 65 per cent since 2020.[4] On average, this is representative of the cost increases that Maritime Electric has been experiencing in this same timeframe, when ordering polemount, padmount, and substation transformers.

FIGURE 3
Electric Power and Specialty Transformer Manufacturing Index
2017 to 2023



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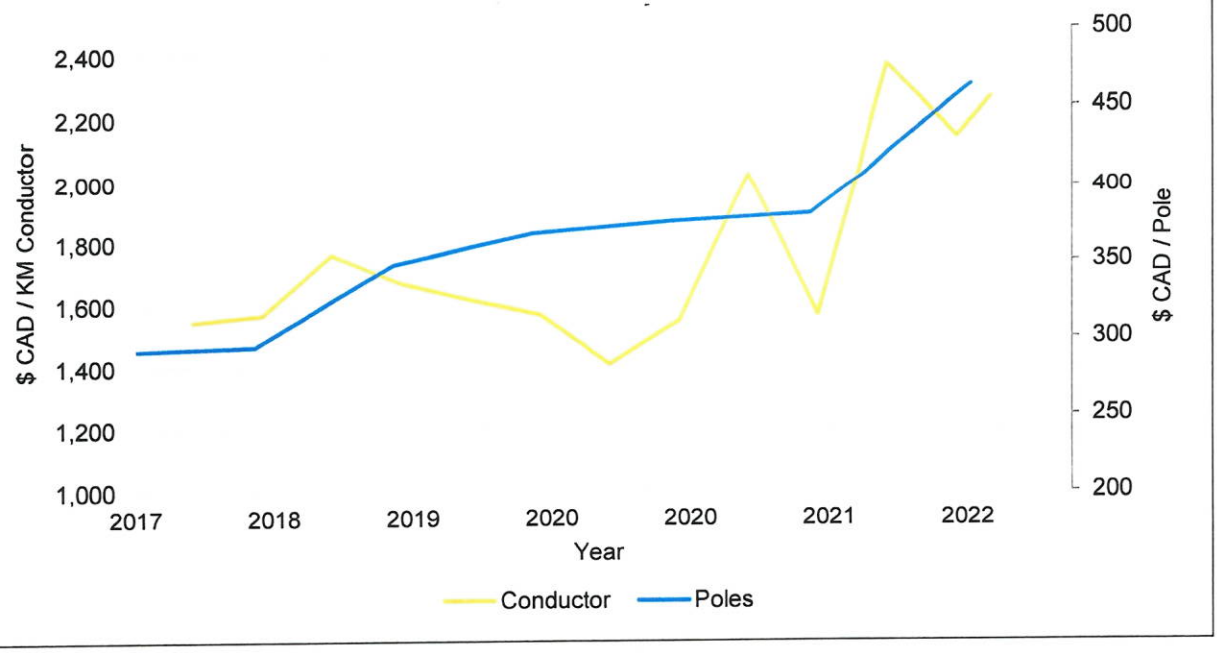
[3] Population data for Figure 2 was sourced from the PEI Statistics Bureau at https://www.princeedwardisland.ca/sites/default/files/publications/pt_pop_rep_0.pdf

[4] Data for Figure 3 was sourced from the Federal Reserve Economic Data ("FRED") website at https://fred.stlouisfed.org/series/PCU335311335311.

Figure 4 shows Maritime Electric's actual average costs for commonly used wooden utility poles and conductor. Since 2017, the cost of poles and conductor has increased 57.6 and 46.8 per cent, respectively.

FIGURE 4
Average Price of Conductor and Poles
2017 to 2023



Construction costs for capital projects involving civil works have also substantially increased in recent years, due to a general shortage of available contractors and record level diesel fuel prices.

Maritime Electric's annual capital expenditures for 2017 to 2023 have increased from $32.8 million to $52.2 million.[5] Figure 5 shows these capital expenditure amounts over this period, as well as what the expenditures equate to in 2023, when adjusted for inflation using consumer price index ("CPI") data for Canada.[6] For the years 2017 to 2020, the graph of CPI adjusted expenditures is relatively flat, whereas beyond 2020, the increasing annual capital requirement reflects CPI and industry-specific cost increases along with the impact of population growth and electrification. The impact of inflation on the 2023 Capital Budget was noted in the Section 3.7(d) of the Application, as approximately $5.2 million, or 50 per cent, of the increase over 2022.

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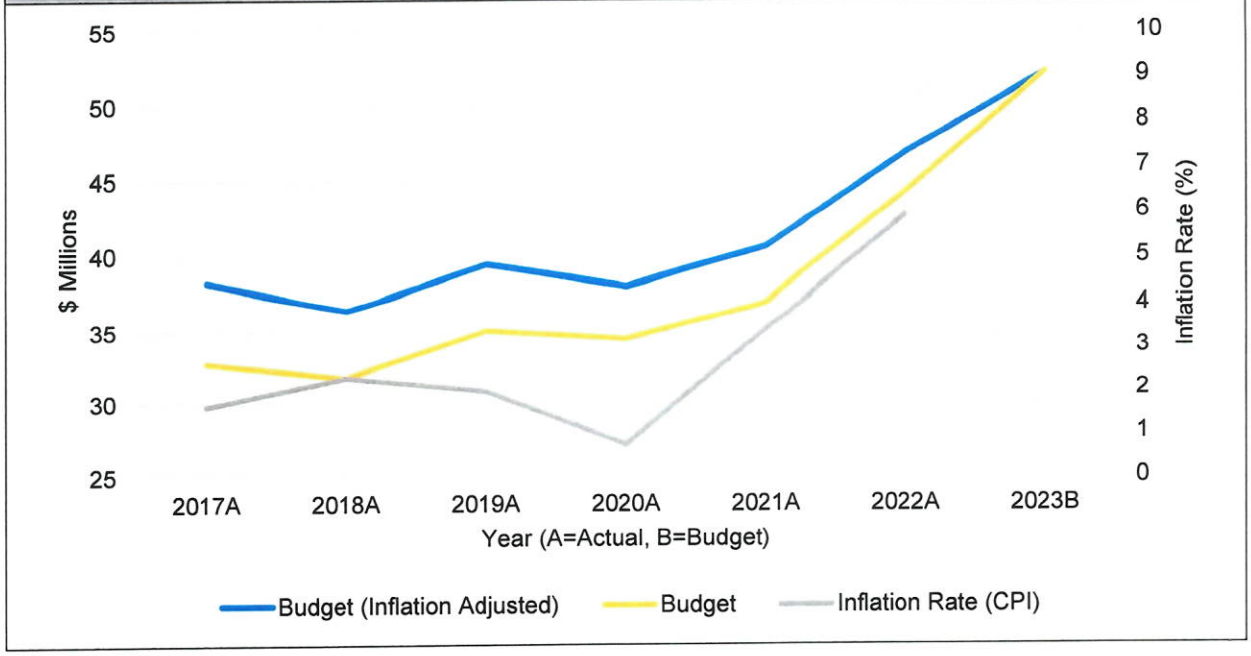
[5] The 2023 capital budget amount includes $3.2 million for the proposed Advanced Metering for Sustainable Electrification Project, filed separately as a supplemental capital budget request in November 2022.

[6] CPI data used to adjust annual budget amounts for inflation in Figure 5 was sourced from Statistics Canada at https://www150.statcan.gc.ca/n1/daily-quotidien/230117/cg-b001-eng.htm.

FIGURE 5
Maritime Electric Capital Expenditures
2017 to 2023



The extension of the Application review and approval process into the 2023 budget year is also a concern for Maritime Electric, as this can increase the cost to complete capital projects as well as increase reliability and safety risk in the near term. Uncertainty around budget approval makes it difficult to plan the work of internal staff, secure the contractor resources that are required to complete projects, and receive items with long-delivery lead times when they are required. This can negatively affect efficiency and productivity, and result in increased requirements for overtime, as the window for completing projects is reduced. Delayed budget approval can also lead to higher project costs when resources that are in limited supply, such as building trades and civil works contractors, have to be hired with minimal notice and at a time of year during which they are already committed to other projects. All of these issues have the potential to impact 2023 capital expenditures.

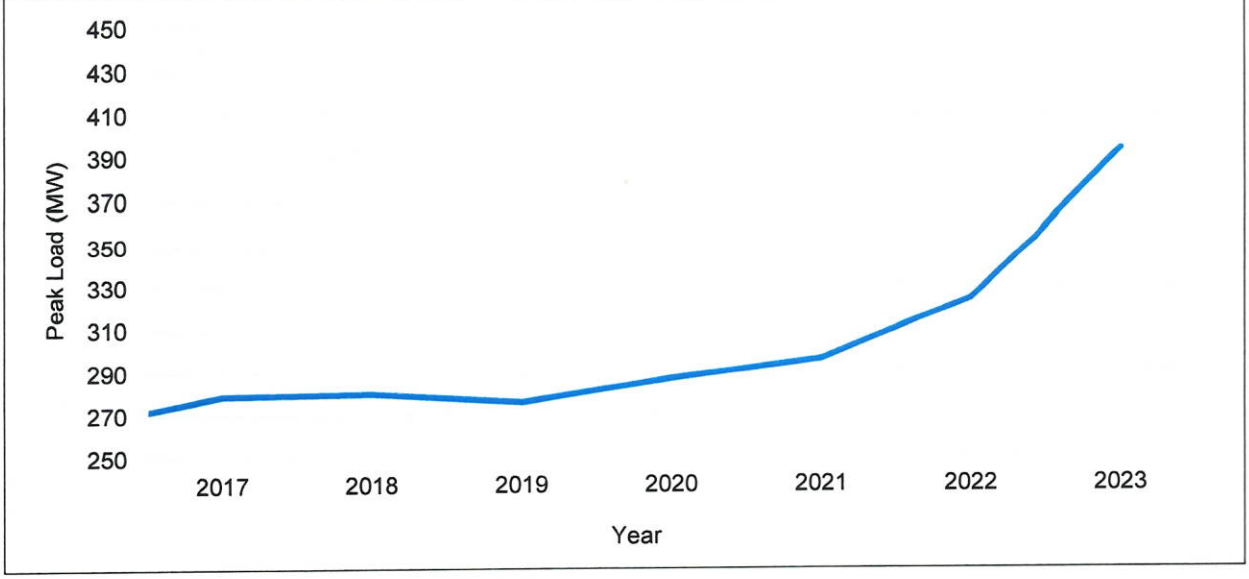
Maritime Electric's 2023 Capital Budget Application was prepared over the first six months of 2022. During this period, the Company updated its five-year capital plans, which is reflected in Appendix A of the Application. The budgeted expenditures in the five-year capital plans reflect the various cost issues discussed in this letter. Since mid-2022, the electrical system has experienced two significant events. The first event, Hurricane Fiona ("Fiona"), which occurred on September 23 and 24, 2022, required a three-week restoration response costing approximately $35 million.[7] The second event, a polar vortex with temperatures and wind chill as low as -27°C and -43°C, respectively, resulted in a new Island peak load of 395 megawatts ("MW") on February 4, 2023, as compared to the previous peak load of 322.9 MW on January 11, 2022.

.../5

[7] The $35 million system restoration cost for Fiona has been allocated as 44 per cent operating, 43 per cent capital, and 13 per cent retirement.

Figure 6 shows that since 2017 Island peak load has grown by 41.2 per cent.

FIGURE 6
PEI Peak Load
2017 to 2023



The system restoration costs resulting from Fiona are currently deferred by Commission Order UE22-08, pending potential reimbursement through Federal Government disaster relief funding. While an event such as Fiona is significant in terms of restoration cost, its impact on future system capital requirements is minimal.[8] Conversely, while the polar vortex event resulted in a 22 per cent increase in Island peak load over the previous record high, the immediate incremental costs were primarily associated with higher-than-normal energy supply requirements, outage response, and the necessary operation of on-Island combustion turbine generation. The longer-term impact of the polar vortex, and the resulting 395 MW Island peak load, is that any resulting system overload and/or deficiency issues have to be addressed as soon as possible. Such issues typically require capital upgrades to both transmission and distribution infrastructure. The 395 MW Island peak load also highlights the important role of dispatchable on-Island generation for emergency backup energy supply.

The February 2023 polar vortex event is expected to require material changes to Maritime Electric's capital plans for 2024 to 2028. The critical system upgrade requirements that will be driven by the new Island peak load are still being studied, but it is expected that the 2024 to 2028 capital plans will include accelerated upgrades to distribution and transmission infrastructure, including construction of a third west-to-east transmission line from Borden-Carleton to Lorne Valley, and related switching station facilities and equipment. These and other load-driven projects are included in the Company's 2020 Integrated System Plan, and a listing of capital projects planned for 2024 to 2028 will be included in the 2024 Capital Budget Application.

.../6

[8] Extreme weather events such as hurricanes can result in changes to line construction and vegetation management standards; however, the associated costs of the changes are relatively small in the context of annual capital and operating budgets.

In accordance with the *Electric Power Act*, Maritime Electric is legally obligated to "furnish at all times such reasonably safe and adequate service and facilities as changing conditions require." The rate that conditions have been changing in recent years is higher than that typically experienced in the past and this trend is projected to continue. As such, it will be important that as the Company responds to this ongoing period of load growth in a proactive manner. The Company is committed to working with all stakeholders to ensure the necessary system upgrades and expansions are implemented in a timely, efficient and safe manner.

Yours truly,

MARITIME ELECTRIC

Mark Victor

Mark Victor, FEC, MBA, P.Eng.
Manager, Corporate and Capital Planning

MEV02
Attachments

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I N T E R R O G A T O R I E S

Responses to Interrogatories of Commission Staff

2023 Capital Budget (UE22503)

Submitted March 28, 2023

IR-40 In IR-14, Commission staff asked *"In Sections 4 to Sections 7 (inclusive), there appear to be a number of projects that are discretionary and not necessarily required to provide safe and reliable service. MECL is also expected to seek to recover significant capital and operating expenses from ratepayers associated with post-Fiona restoration efforts. With this in mind, what (if any) proposed 2023 capital projects could reasonably be deferred to future years, without impacting MECL's ability to provide safe and reliable service?"* In response, MECL indicated the process of determining the projects required for 2023 involved consideration of whether or not they could be deferred to a later date, and no projects were identified that could be deferred.

Please provide a response to the question issued by Commission staff in IR-14, namely, what proposed 2023 capital projects could reasonable be deferred to future years without impacting MECL's ability to provide safe and reliable service?

Responses:

As indicated in the 2023 Capital Budget Application ("Application"), Maritime Electric's process for determining projects to be included in the Application considered whether they are necessary in 2023 or deferral to a subsequent year is possible. This involved balancing customer-driven system requirements and the timely replacement of aged and deteriorated assets, with undertaking projects to achieve reliability improvements and accommodate load growth.

In preparing the December 16, 2022 response to IR-14, the Company reviewed the capital projects proposed for 2023 and confirmed that while not all projects are required based on a purely literal interpretation the Company's obligation to provide safe and reliable service, they are required as work support services for facilities, operations and customer service.[1] Since that time, there have been some changes to the Company's work plans for 2023, due to new information that identified conflicting schedules or potential redundancy with other projects, and/or prerequisite regulatory approvals not received.

Although Maritime Electric believes that all proposed projects are justifiable on their merits, whether it be for safe and reliable service, improved customer service, or supporting the health and safety of employees and/or the public, the Company has identified several proposed 2023 capital projects that the Commission may deem possible to defer, as they are not directly associated with the Company's obligation to provide safe and reliable service. These projects, along with a rationale for deferral, or completion as planned in 2023, follows.

Projects that can or have to be deferred:

- Section 4.1(a) Energy Control Centre ("ECC") Facility and Equipment Upgrades
  Within this budget item, the proposed bicycle storage racking can be deferred to a future capital budget application, as the transition to alternate, more active and sustainable forms of transportation is still in early stages. The deferral would reduce the 2023 Capital Budget by $12,000.

[1] Work support services are foundational elements of the organization that critically support the efficient delivery of electrical service, and related capital projects are necessary to improve overall customer service and protect the health and safety of employees and the public.

- Section 4.4(a) Combustion Turbine #1 ("CT1") Generator Overhaul
  This budget item is associated with safe and reliable service; however, it has to be deferred to 2024 as planned work for the Combustion Turbine #3 ("CT3") equipment building project, delayed due to the timing of Commission approval, will require CT3 to be out of service during the same time period that was planned for the CT1 generator overhaul project. The deferral of the CT1 generator overhaul project will better facilitate scheduling of Company resources that are common to both projects. As noted, the Company intends to resubmit this project for consideration in the 2024 Capital Budget Application, as deferral beyond one year presents an unacceptable risk to safe and reliable service. The deferral will reduce the 2023 Capital Budget by $663,000.

- Section 6.1(g) 138 kV Breaker Replacement Program
  This budget item is associated with safe and reliable service; however, it has to be deferred as Maritime Electric's application to purchase certain PEI Government transmission assets in Bedeque, including the 138 kV breaker for Y-101, was not approved by Commission Order UE-23-02. The deferral will reduce the 2023 Capital Budget by $153,000.

- Section 7.2(d) Customer Services and Communication Enhancements
  Within this budget item, the project to enable customers to update their account information without speaking with a Customer Service Representative can be deferred, as the same functionality may be included in the new customer information system to be sourced as part of the Advanced Metering for Sustainable Electrification project. The deferral would reduce the 2023 Capital Budget by $58,000.

The total reduction to the 2023 Capital Budget that can be achieved through the deferral of the identified projects is $886,000.

Projects that should not be deferred:

- Section 4.1(a) ECC Facility and Equipment Upgrades
  Within this budget item, the ECC meeting room audio-visual equipment upgrades, operator chair upgrades and the Cumberland Street fence replacement should not be deferred as they are required for operational efficiency, employee health, and concerns around safety/liability, respectively.

- Section 4.1(b) Charlottetown Generating Station ("CGS") Miscellaneous Building and Site Upgrades
  This budget item should not be deferred as it is a provisional amount to enable necessary capital upgrades and replacements at the CGS site, as unplanned and emergency events occur throughout the year.

- Section 4.3(a) Borden Generating Station ("BGS") Communication Equipment Upgrades
  This budget item should not be deferred as the equipment currently used to provide internet access at the BGS is obsolete. High-speed internet service with wireless distribution inside the main building, maintenance building and two control rooms will significantly improve communication within the BGS for operational and administrative functions.

- Section 4.3(b) BGS Entrance Landscaping
  This budget item should not be deferred as the project is necessary to meet commitments made to the Town of Borden-Carleton during the process of permitting submarine cables 3 and 4, and related infrastructure, to be added to the Borden substation site.

- Section 4.3(c) BGS Miscellaneous Building and Site Upgrades
  This budget item should not be deferred as it is a provisional amount to enable necessary capital upgrades and replacements at the BGS site, as unplanned and emergency events occur throughout the year.

- Section 7.1(a) Recurring Annual Capital Requirements
  This budget item should not be deferred as it is a provisional amount to enable necessary capital upgrades and replacements at Company facilities, as unplanned and emergency events occur throughout the year.

- Section 7.1(b) Comprehensive Building Condition Assessments
  The Company considered the potential deferral of the comprehensive building condition assessment for either 180 Kent Street, the West Royalty Service Centre ("WRSC"), or both, and decided that no deferral should occur. Neither facility is sufficient for meeting the immediate, and future, needs of the Company and a timely assessment of both will ensure that the most cost-efficient option for their long-term use is determined as soon as possible.

- Section 7.1(c) Facility Access Security System Replacement
  This budget item should not be deferred for security purposes, as the facility access security system software has not been updated by the supplier since 2016 and is no longer supported by the Company's primary information technology network operating system.

- Section 7.2(d) Customer Services and Communication Enhancements
  Within this budget item, the projects to collect and track customer satisfaction data, enhance web chat services, and add an energy calculator to the Company's website should not be deferred, as they will improve the service provided to customers and help to identify what further improvements are required.

- Section 7.2(g) Survey System Refresh
  This budget item should not be deferred as the existing survey system, which is used to plan internal projects and service work for customers, is aged and difficult to support as the codebase programming language is no longer commonly used. In order to ensure that the survey system remains fully functional and is able to be supported and enhanced in the future, the project should be completed in 2023, as planned.

IR-41 In section 3.7(a) of the application, MECL explain the process of Standard Distribution of Costs which is used to allocate internal labour and transportation between operating and capital components for budgeting purposes. In regards to recording actual expenditures between operating and capital, and between capital projects, what manner of allocation is used? For example, does MECL use a time management approach to determine actual internal labour and transportation costs between operating and capital, and similarly between various capital projects?

Responses:

As indicated in Section 3.7(a) of the Application, Maritime Electric budgets internal labour and transportation ("ILT") costs to the appropriate accounts based on the planned capital and operating activities for the budgeted year (i.e., standard distribution based on planned activities). For recurring capital activities, this budget considers actual expenditures in recent years and any changes that may be necessary due to other factors. For non-recurring capital activities, the ILT budget is set based on an estimate of the type and quantity of resources required to complete the work. In the case of both recurring and non-recurring capital activities, when allocating ILT the budget is either assigned to a single project or, for efficiency, it is assigned to a group of projects or a program. In the Application, an example of the former is the Section 4.4(b) BGS Tank Farm Upgrades project, which assigns ILT to a specific project, and an example of the latter is the Section 6.1(f) Substation Modernization Program, which assigns ILT for all items in the program.

Once budgets are approved, actual costs are reviewed monthly and compared to budget. If the standard distribution allocation of actual ILT costs to capital and operating accounts does not accurately reflect the work completed, the allocation of ILT costs is adjusted. This review and adjustment ensures the allocation of ILT costs is reasonably accurate.

On a related note, while the Company does not use a time tracking approach for regular day-to-day work, it does use an exception timesheet system to record ILT associated with system events, specific projects and overtime, as necessary. For example, exception timesheets were used during the Fiona response to record associated ILT costs to a storm-specific account. Exception timesheets are also used when Company crews are assigned to specific capital projects (e.g., line extensions, line rebuilds, etc.), when work is being completed for, and billed to, a third party (e.g., joint-use make-ready projects), and when system repair and replacements costs can be recovered through insurance (e.g., damages resulting from a vehicle accident). This approach ensures costs are appropriately charged to the projects as they occur.

IR-42 Please provide a copy of Maritime Electrics capitalization policy.

Responses:

Maritime Electric's capitalization policy is documented in pages 6 to 21 of the Company's Accounting Manual, provided as IR-42 - Attachment 1, and has not materially changed since it was submitted to the Commission in response to IR-18 as part of the 2019 Capital Budget Application. This section of the Accounting Manual includes detailed information on the account classification of all property, plant and equipment ("PPE") for the Company. The manual is designed to follow specifications and instructions of the Federal Energy Regulatory Commission ("FERC") documented in Electric Plant Instructions and Electric Plant Accounts, provided as IR-42 - Attachment 2. In following FERC protocols, the Electric Plant Instructions and Electric Plant Account documents are used to determine what items are included and properly charged to an account.

In the United States ("US"), public electric utilities and licensees are required to maintain their books and records in accordance with FERC specifications and instructions. In Canada, while it is not a requirement, it is considered good utility practice to do so.

PPE are assets that are expected to have an economic useful service life beyond one year. Expenditures made to service PPE are capitalized when the expenditure provides a betterment to the asset and its service life is extended beyond its original expected service life. Once a PPE asset reaches the end of its useful service life, it is retired from service and the associated costs of removing the asset are charged to retirement.

All expenditures associated with development, engineering, acquisition or construction of the assets are accumulated and recorded as the cost of the asset when placed into service. Examples of cost include:

- Design, engineering and consulting;
- Internal labour and transportation costs;
- Contractor labour costs;
- Materials:
  - Materials purchased or constructed (i.e., transformers, substations, generating plants); and
  - Materials supplied by Maritime Electric Stores inventory (i.e., poles, conductor, line hardware and control devices);
- Legal and professional services; and
- Other directly attributable expenditures (i.e., travel, accommodations, meals).

When major adverse events or damage caused by weather, natural disasters, accidents or emergencies occur, and requires immediate restoration response, the Company capitalizes the installation of new equipment and certain vegetation management costs that are necessary to access the installation site. The Company measures the installation costs as the actual cost of the materials plus an allocation of labour. The labour allocation is based on historical experience installing similar equipment adjusted for emergency labour rate premium, travel and other costs.

IR-43 Please explain why the following budget items should be capitalized, and how they meet the criteria for capitalizing rather than expensing:

a. Section 4.1(a) ECC Facility and Equipment Upgrades - $78,000
b. Section 4.2(b) CT3 Fuel Tank Coating System Upgrade - $60,000
c. Section 4.2(c) CGS Combustion Turbine Improvements, Parts & Tools -$175,000
d. Section 4.3(c) BGS Miscellaneous Building & Site Upgrades - $35,000
e. Section 4.4(a) CT1 Generator Overhaul - $663,000
f. Section 5.5(b) Distribution Line Refurbishment - $815,000
g. Section 5.7 Distribution Equipment - $1,477,000
h. Section 6.1(f) Substation Modernization Program - $528,000
i. Section 6.2(b) Transmission Line Refurbishment - $951,000
j. Section 7.1(a) Recurring Annual Capital Requirements - $460,000
k. Section 7.1(b) Comprehensive Building Condition Assessment - $410,000
l. Section 7.2(b) Purchased Software and Upgrades - $634,000

Responses:

This interrogatory requests an explanation as to why certain expenditures meet the criteria for capitalizing rather than expensing. The capitalization of costs for these projects is similar in nature to those previously reviewed and approved by the Commission in past capital budget applications and are based upon established good utility practice, as supported by accounting standards and guidelines that currently exist throughout the industry.

Under existing Canadian Private Entity Generally Accepted Accounting Principles, rate-regulated entities are permitted to account for an event or a transaction in a manner specified by the regulator which may be different from the accounting that would follow in the absence of rate regulation. In the absence of specific guidance from the regulator or Canadian industry best practice, Maritime Electric will also use those rules established in the US as a guide.

In the US, FERC is responsible for the accounting and financial reporting of its jurisdictional companies. This is accomplished through the development and maintenance of FERC's Electric Plant Instructions and Electric Plant Accounts, and the issuances of various accounting rulemakings, guidances, and releases.[2] Following FERC as well as its accounting guidelines is considered good utility practice in Canada. According to FERC, to capitalize project costs, the costs must either be for a new asset or meet two qualifications:

1. Extend the life, increase the capacity or improve the safety or efficiency of an existing asset owned by a company; and

2. Improve the condition of that asset after the costs are incurred as compared with the condition of that asset when originally constructed or acquired.

The responses to IR-43(a to l) follow.

[2] FERC's Electric Plant Instructions and Electric Plant Accounts documents are provided in the response to IR-42, as IR-42 - Attachment 2.

a. Section 4.1(a) ECC Facility and Equipment Upgrades - $78,000

Please refer to the comments on capitalization of expenditures provided at the beginning of this response.

Section 4.1(a) ECC Facility and Equipment Upgrades involves the addition of assets or replacement of existing assets that have attained or exceeded their useful life (i.e., replacing ECC meeting room audio-visual equipment and operator chairs, installing bicycle racks, and replacing a deteriorated fence). Component replacements are necessary when repairs to the existing items are not economical. As such, these project expenditures meet the requirement of improving safety and/or efficiency of an existing asset owned by the Company as required by FERC. Also, the expenditures classified as capital under this budget item include only those that improve the overall condition of the equipment in question (i.e., a betterment), in order to meet the second qualification under FERC. Smaller, minor repairs are not included in the budget but instead are charged to operating expense as incurred.

b. Section 4.2(b) CT3 Fuel Tank Coating System Upgrade - $60,000

Please refer to the comments on capitalization of expenditures provided at the beginning of this response.

Section 4.2(b) CT3 Fuel Tank Coating System Upgrade involves replacing the exterior coating of the CT3 fuel tank by removing the existing coating, preparing the surface and applying a new coating. This project will improve the condition of the CT3 fuel tank as it will provide better tank surface protection and decrease the risk of corrosion, thereby extending its service life. As such, project expenditures meet the requirement of improving safety and/or efficiency of an existing asset owned by the Company as required by FERC. Also, the expenditures classified as capital under this budget item include only those that improve the overall condition of the equipment in question (i.e., a betterment), in order to meet the second qualification under FERC. Smaller, minor repairs are not included in the budget but instead are charged to operating expense as incurred.

c. Section 4.2(c) CGS Combustion Turbine Improvements, Parts and Tools -$175,000

Please refer to the comments on capitalization of expenditures provided at the beginning of this response.

Section 4.2(c) CGS Combustion Turbine Improvements, Parts and Tools is provisional in nature and actual expenditures will only be incurred for this project if required to sustain the safe and reliable operation of CGS combustion turbine equipment. As such, project expenditures, if incurred, will meet the requirement of improving safety and/or efficiency of an existing asset owned by the Company as required by FERC. Also, the expenditures classified as capital under this budget item will include only those that improve the overall condition of the equipment in question (i.e., a betterment), in order to meet the second qualification under FERC. Smaller, minor repairs are not included in the budget but instead are charged to operating expense as incurred.

d. Section 4.3(c) BGS Miscellaneous Building and Site Upgrades - $35,000

Please refer to the comments on capitalization of expenditures provided at the beginning of this response.

Section 4.3(c) BGS Miscellaneous Building and Site Upgrades is provisional in nature and actual expenditures will only be incurred for this project if required to sustain the safe and reliable operation of BGS miscellaneous building and site upgrades. As such, project expenditures, if incurred, will meet the requirement of improving safety and/or efficiency of an existing asset owned by the Company as required by FERC. Also, the expenditures classified as capital under this budget item will include only those that improve the overall condition of the equipment in question (i.e., a betterment), in order to meet the second qualification under FERC. Smaller, minor repairs are not included in the budget but instead are charged to operating expense as incurred.

e. Section 4.4(a) CT1 Generator Overhaul - $663,000

Please refer to the comments on capitalization of expenditures provided at the beginning of this response.

Section 4.4(a) CT1 Generator Overhaul involves inspection and testing of CT1's rotor and stator, bore-scope testing on the bearings, and gearbox inspection. The inspection and overhaul is an industry best practice that will enable the Company to identify any upgrades required for CT1 to remain functional. Component replacements are necessary when repairs to the existing items are not economical. As such, project expenditures meet the requirement of improving safety and/or efficiency of an existing asset owned by the Company as required by FERC. Also, the expenditures classified as capital under this budget item include only those that improve the overall condition of the equipment in question (i.e., a betterment), in order to meet the second qualification under FERC. Smaller, minor repairs are not included in the budget but instead are charged to operating expense as incurred.

f. Section 5.5(b) Distribution Line Refurbishment - $815,000

Please refer to the comments on capitalization of expenditures provided at the beginning of this response.

Section 5.5(b) Distribution Line Refurbishment involves inspection of distribution lines for the purpose of identifying and replacing deteriorated or failed components. The inspection is an integral first step of this overall process. The inspection costs are necessary to identify specific replacements required before they fail, to allow these lines to continue to be used reliably and safely, as well as extending the life of the asset into the future. By providing a future economic benefit to the Company and its customers, these costs meet the qualifications for capitalization under FERC guidelines.

g. Section 5.7 Distribution Equipment - $1,477,000

Please refer to the comments on capitalization of expenditures provided at the beginning of this response.

Section 5.7 Distribution Equipment involves the replacement of distribution system equipment that has failed or is deemed to be unsafe due to storm damage, lightning strikes, vandalism, electrical or mechanical damage, corrosion damage, technical obsolescence or performance testing. Replacements are necessary when repairs to the existing items are not economical. As such, project expenditures meet the requirement of improving safety and/or efficiency of an existing asset owned by the Company as required by FERC. Also, the expenditures classified as capital under this budget item include only those that improve the overall condition of the equipment in question (i.e., a betterment), in order to meet the second qualification under FERC. Smaller, minor repairs are not included in the budget but instead are charged to operating expense as incurred.

h. Section 6.1(f) Substation Modernization Program - $528,000

Please refer to the comments on capitalization of expenditures provided at the beginning of this response.

Section 6.1(f) Substation Modernization Program involves the addition of equipment that is not typically installed at older substations (e.g., backup generators, security cameras, etc.) and the planned replacement and upgrading of deteriorated and substandard substation infrastructure. Replacements are necessary when repairs to the existing items are not economical. As such, project expenditures meet the requirement of improving the condition, safety and/or efficiency of an existing asset owned by the Company as required by FERC. Also, the expenditures classified as capital under this budget item include only those that improve the overall condition of the equipment in question (i.e., a betterment), in order to meet the second qualification under FERC. Smaller, minor repairs are not included in the budget but instead are charged to operating expense as incurred.

i. Section 6.2(b) Transmission Line Refurbishment - $951,000

Please refer to the comments on capitalization of expenditures provided at the beginning of this interrogatory response.

Section 6.2(b) Transmission Line Refurbishment involves inspection of transmission lines for the purpose of identifying and replacing deteriorated or failed components. The inspection is an integral first step of this overall process. The inspection costs are necessary to identify specific replacements required before they fail, to allow these lines to continue to be used reliably and safely, as well as extending the life of the asset into the future. By providing a future economic benefit to the Company and its customers, these costs meet the qualifications for capitalization under FERC guidelines.

j. Section 7.1(a) Recurring Annual Capital Requirements - $460,000

Please refer to the comments on capitalization of expenditures provided at the beginning of this response.

Section 7.1(a) Recurring Annual Capital Requirements is provisional in nature and involves annual upgrades and replacements of various building and facility components. Historically these expenditures have related to window and door replacements, siding, roofing, paving, office furniture and equipment, and other similar unforeseen items. As such, project expenditures will meet the requirement of improving safety and/or efficiency of an existing facility owned by the Company as required by FERC. Also, the expenditures classified as capital under this budget item will include only those that improve the overall condition of the facilities in question (i.e., a betterment), in order to meet the second qualification under FERC. Smaller, minor repairs are not included in the budget but instead are charged to operating expense as incurred.

k. Section 7.1(b) Comprehensive Building Condition Assessment - $410,000

Please refer to the comments on capitalization of expenditures provided at the beginning of this interrogatory response.

Section 7.1(b) Comprehensive Building Condition Assessment involves determining whether it would be more cost effective to renovate and upgrade the existing 180 Kent Street building, or to construct or purchase a new building and sell the existing property. In addition, the West Royalty Service Centre building condition assessment project will evaluate the existing facility and provide detailed costs and requirements to bring the facility up to current standards. As such, project expenditures meet the requirement of improving safety and/or efficiency of an existing facility owned by the Company as required by FERC.

l. Section 7.2(b) Purchased Software and Upgrades - $634,000

Please refer to the comments on capitalization of expenditures provided at the beginning of this response.

Section 7.2(b) Purchased Software and Upgrades involves purchasing annual upgrades and replacements for the various Company software products that support core business functions and information technology infrastructure, where benefits extend beyond one year. As such, project expenditures meet the requirement of improving safety and/or efficiency of an existing asset owned by the Company as required by FERC. Also, the expenditures classified as capital under this budget item include only those that will improve the overall condition of the assets in question (i.e., a betterment), in order to meet the second qualification under FERC. Smaller, minor software support and upgrades are not included in the budget but instead are charged to operating expense as incurred.

I N T E R R O G A T O R I E S

IR-42 – Attachment 1

Accounting Manual

The Property, Plant and Equipment (PPE) Accounts of each distinct class of operations shall be subdivided into the main divisions, Production, Transmission, Distribution and General Property. Maritime Electric follows the guidelines for accounting established by the Federal Energy regulatory Commission's (FERC's) Uniform System of Accounts. The Account structure is a 4-segment, 13 digit series as follows:

First 2 digits	=	Department Code
Next 5 digits	=	Project Code
Next 4 digits	=	Natural Account Number
Last 2 digits	=	Expense Type

CONSTRUCTION ACCOUNTS

When a large construction project is under consideration and study, preliminary legal and engineering expenses will be incurred, these expenses shall be carried in a Capital Project Code in Progress until such time as they can be allocated to the appropriate accounts in the classification of Fixed Capital Accounts in the second part of this section.

Before the construction work is started, the management, accountants and construction engineers should agree upon the accounting methods or systems to provide a detailed cost of the construction to be undertaken, and they shall prepare a classification of construction accounts or Project Codes which will permit the detailed cost of the construction to be easily condensed or reclassified.

Transmission includes one or more transmission lines or main transformers or substations interconnecting Production plants, and transmitting energy to substations supplying cities, towns, rural areas and large power customers. The Fixed Capital record for Transmission should show the total cost of Transmission segregated into units and if so directed by management each unit will be divided as prescribed in the classification for Transmission lines.

Distribution includes all land, structures, conversion equipment, lines, line transformers, and other facilities employed between the primary source of supply (i.e. generating station, or transmission system, or point of receipt in the case of purchased power) and of delivery of customers, which are not includible in transmission system, whether or not such land, structures, and facilities are operated as part of a transmission system or as part of a distribution system.

General Property includes property or equipment not assignable to Production, Distribution, or Transmission.

PRODUCTION

Production consists of one or more power plants supplying electrical energy to an interconnected system serving various areas. The Fixed Capital record will show the total cost of each producing plant and, when so directed by the management each plant will be segregated into the classification prescribed for power plants.

POWER PLANT LAND

Includes the cost of land and land rights used in connection with steam-power, gas turbine or other internal combustion engine power generation. It shall not include the cost of buildings, structures or improvements other than as noted below.

Such items to be charged here include:

1. Survey in connection with acquisition of land.
2. Appraisals prior to closing title.
3. Examining and clearing title, insuring and registering in connection with the acquisition and defending against claims relating to the period prior to the acquisition.
4. Payments for obtaining consents or for abutting damages.
5. Conveyancers' and notaries' fees.
6. Fees, commissions and salaries to brokers, agents and others in connection with acquisition of the land.
7. Voiding leases upon purchase to secure possession of the land.
8. First cost of acquisition including mortgages and other liens assumed (but not subsequent interest thereon).
9. Filing satisfaction of mortgage.
10. Taxes accrued to the date of transfer of title.
11. Special assessments levied by public authorities for public improvements but not taxes levied to provide for maintenance of such improvements.
12. Grading the land except when directly occasioned by a building or structure.
13. Removing, relocating or reconstructing property of others, such as buildings, roads, power and communication lines, cemeteries, etc., in order to acquire quiet possession of land.
14. If on acquiring the land, buildings, structures or improvements are removed or wrecked without being used in the utility operation, the cost of removing or wrecking shall be charged to this account and any salvage credited to the account.

POWER PLANT - BUILDINGS AND STRUCTURES

Includes the cost of all permanent buildings, structures and improvements and all appurtenant fixtures devoted to the generation operation.

The cost of specially provided foundations not intended to outlast the machinery or apparatus for which provided, and the cost of steel work and castings, etc., installed to form part or all of a base of an item of equipment shall be charged to the same account as the cost of the machinery, apparatus or equipment.

The cost of weather protective enclosures forming part of, or supplied as an integral part of a gas turbine generating units shall be charged to the same account as the cost of the machinery, apparatus or equipment.

The cost of weather protective enclosures forming part of, or supplied as an integral part of a gas turbine generating unit shall be charged to the same account as the cost of the generating unit.

Some of the items to be included in the accounts for buildings and structures are as follows:

1. Architects and engineers plans and specifications including supervision.
2. Ash pits (when located with the building).
3. Boilers, furnaces, piping, wiring, fixtures and machinery for heating, lighting, signaling, ventilating, and air conditioning systems, plumbing, vacuum cleaning system, incinerator and smoke pipe, flues, etc.
4. Bulkheads, including dredging, riprap fill, piling decking, concrete, fenders, etc., when exposed and subject to maintenance and replacement.
5. Chimneys.
6. Coal bins and bunkers.
7. Commissions and fees to brokers, agents, architects and others.
8. Conduit (not to be removed) with its contents.
9. Damages to abutting property during construction.
10. Docks and wharves.
11. Door checks and door stops.
12. Drainage and sewerage systems.
13. Elevators, cranes, hoists, etc., and the machinery for operating them.
14. Excavation, including shoring, bracing, bridging, refill, and disposal of excess excavated material, cofferdams around foundation, pumping water from cofferdam during construction, and test borings.
15. Fences and fence curbs (not including protective fences isolating items of equipment, which shall be charged to the appropriate equipment account).
16. Fire protection systems when forming a part of a structure.
17. Floor covering (permanently attached).
18. Foundations and piers for machinery, constructed as a permanent part of a building or other item listed herein.
19. Grading and clearing when directly occasioned by the building of a structure.
20. Intrasite communication system, pole, pole fixtures, wires and cables.
21. Landscaping, lawns, shrubbery, etc.
22. Leases, voiding upon purchase, to secure possession of structures.
23. Leased property, expenditures on.
24. Lighting fixtures and outside lighting system.
25. Initial painting.
26. Permanent paving, concrete, brick, flagstone, asphalt, etc., within the property lines.
27. Partitions, including movable.
28. Permits and privileges.
29. Platforms, railings and gratings when constructed as part of a structure.
30. Power boards for services to a building.
31. Refrigerating systems for general use.
32. Retaining walls except when identified with land.
33. Roadways, railroads, bridges, and trestles intrasite except railroads provided for in equipment accounts.
34. Roofs.
35. Scales, connected to and forming a part of a structure.
36. Screens.
37. Sidewalks, culverts, curbs and streets constructed by the utility on its property.

38. Sprinkling systems.
39. Sump pumps and pits.
40. Stacks - brick, steel, concrete or fiberglass, when set on foundation forming part of general foundation and steelwork of a building.
41. Steel inspection during construction.
42. Storage facilities constituting a part of a building.
43. Storm doors and windows.
44. Subways, areaways, and tunnels, directly connected to and forming part of a structure.
45. Tanks, constructed as part of a building or as a distinct structural unit.
46. Temporary heating during construction (net cost).
47. Temporary water connection during construction (net cost).
48. Temporary shanties and other facilities used during the construction (net cost).
49. Topographical maps.
50. Water front improvements.
51. Water meters and supply system for a building or for general company purposes.
52. Water supply piping, hydrants and wells.
53. Window shades and ventilators.
54. Yard drainage system.
55. Yard lighting system.
56. Yard surfacing, gravel, concrete, or oil (first cost only).

PUMPHOUSE – MECHANICAL EQUIPMENT

Includes the cost installed of mechanical equipment located in a pumphouse, used for the purpose of supplying circulating water for condensing and cooling purposes, the pumphouse being remote from the plant building housing the generating machinery.

The cost of circulating water pumps, including motors, suction and discharge, valves and valve operators, water screens, screen wash pump, screen wash piping, valves and filters, and other mechanical equipment used in conjunction with this, and their installation are charged to this account.

PUMPHOUSE – ELECTRICAL EQUIPMENT

Includes the cost of electrical equipment associated with the pumphouse which is remote from the plant and supplying circulating water to the plant for condensing and cooling purposes.

Includes the cost of overhead and underground power supply circuits, transformers, switchgear, cables, conduits, motor protection and control devices and the installation of this equipment. It does not include the main primary supply circuit breakers which are normally located in the plant.

STEAM BOILERS AND AUXILIARY EQUIPMENT

Includes the cost installed of furnaces, boilers, and boiler apparatus and accessories, devoted to the production of steam for electric generation and for steam sales.

The specific items are:

1. Ash handling equipment, including hoppers, gates, cars, conveyors, hoists, sluicing equipment, including pumps and motors, sluicing water pipe and fittings, sluicing trenches and accessories, etc., except sluices which are a part of a building.
2. Boiler feed system, including feed water heaters, evaporator condensers, heater drain pumps, heater drainers, de-aerators, and vent condensers, boiler feed pumps, surge tanks, feed water regulators, feed water measuring equipment, and all associated drives.

3. Boiler plant cranes and hoists and associated drives.
4. Boilers and equipment, including boilers and baffles, economizers, superheaters, soot blowers, foundation and settings, water walls, arches, grates, insulation, slowdown system, drying out of new boilers, also associated motors or other power equipment.
5. Breeching and accessories, including breeching, dampers, soot spouts, hoppers and gates, cinder eliminators, breeching insulation, soot blowers and associated motors.
6. Coal handling and storage equipment, including coal towers, coal lorries, coal cars, locomotives and tracks when devoted principally to the transportation of coal, hoppers downtakes, unloading and hoisting equipment, skip hoists and conveyors, weighting equipment, magnetic separators, cable ways, housings and supports for coal handling equipment.
7. Draft equipment, including air preheaters and accessories induced and forced draft fans, air ducts, combustion control mechanisms, and associated motors or other power equipment.
8. Gas-burning equipment including holders, burner equipment and piping, control equipment, etc.
9. Instruments and devices, including all measuring, indicating and recording equipment for boiler plant services together with mounting and supports.
10. Lighting systems.
11. Oil-burning equipment, including tanks, heaters, pumps with drive burner equipment and piping, control equipment, etc.
12. Pulverized fuel equipment, including pulverizers, necessary motors, primary air fans, cyclones and ducts, dryers, pulverized fuel bins, pulverized fuel conveyors, and equipment, burners, burner piping priming equipment, air compressors, motors, etc.
13. Stacks, including foundations and supports, stack steel and ladders, stack brick work, stack concrete, stack lining, stack painting (first), when set on separate foundation independent of substructure or superstructure of building.
14. Station piping, including pipe, valves, fittings, separators, traps, desuperheaters, hangars, excavation, covering, etc., for station piping system, including all steam, condensate, boiler feed and water supply piping, etc., but not condensing water, plumbing, building heating, oil, gas, air piping.
15. Stoker or equivalent feeding equipment, including stokers and accessory motors, clinker grinders, fans and motors, etc.
16. Ventilating equipment.
17. Water purification equipment, including softeners, demineralizers and accessories, evaporators and accessories, heat exchangers, filters, tanks for filtered or softened water, pumps, motors, etc.
18. Water-supply systems, including pumps, motors, strainers, raw-water storage tanks, boiler wash pumps, intake and discharge pipes and tunnels not a part of a building.

STEAM TURBINE – GENERATORS AND AUXILIARY EQUIPMENT

Includes the cost installed of main turbine-driven units and accessory equipment used in generating electricity by steam.

The specific items are:

1. Air cleaning and cooling apparatus, including blowers, drive equipment, air ducts not a part of building, louvers, pumps, hoods, etc.
2. Circulating pumps, including connections between condensers and intake and discharge wells and tunnels.

3. Condensers, including condensate pumps, air and vacuum pumps, ejectors, unloading valves and vacuum breakers, expansion devices, screens, etc.
4. Generator hydrogen gas piping system and hydrogen detrainment equipment.
5. Cooling system, including towers, pumps, tanks, and piping.
6. Cranes, hoists, etc., including items wholly identified with items listed herein.
7. Excitation system, when identified with main generating units.
8. Fire-extinguishing systems.
9. Foundations and settings, especially constructed for and not expected to outlast the apparatus for which provided.
10. Governors.
11. Lighting systems.
12. Lubricating systems, including gauges, filters, water separators, tanks, pumps, piping, motors, etc.
13. Mechanical meters, including gauges, recording instruments, sampling and testing equipment.
14. Piping-main exhaust, including connections between turbo-generator and condenser and between condenser and hot-well.
15. Piping-main steam, including connections from main throttle valve to turbine inlet.
16. Platforms, railings, steps, gratings, etc., appurtenant to apparatus listed herein.
17. Pressure oil systems, including accumulators, pumps, piping, motors, etc.
18. Steelwork, specially constructed for apparatus listed herein.
19. Throttle and inlet valve.
20. Tunnels, intake and discharge, for condenser system, when not a part of a structure, water screens, etc.
21. Turbo-generators-main, including turbine generator, field rheostats and electric connections for self-excited units.
22. Water screens, motors, etc.
23. Moisture separators for turbine steam.
24. Turbine lubricating oil (initial charge).

GAS TURBINE – GENERATORS AND AUXILIARY EQUIPMENT

This account shall include the cost installed of main turbine-driven units and accessory equipment used in generating electricity by steam.

The specific items are:

1. Air cleaning and cooling apparatus including blowers, drive equipment, air ducts not a part of building, louvers, pumps, hoods, etc.
2. Circulating pumps, including connections between condensers and intake and discharge tunnels.
3. Condensers, including condensate pumps, air and vacuum pumps, ejectors, unloading valves and vacuum breakers, expansion devices, screens, etc.
4. Generator hydrogen, gas piping and detrainment equipment.
5. Cooling system, including towers, pumps, tanks, and piping.
6. Cranes, hoists, etc., including items wholly identified with items listed herein.
7. Excitation system, when identified with main generating units.
8. Fire-extinguishing systems.
9. Foundations and settings especially constructed for and not expected to outlast the apparatus for which provided.
10. Governors.

11. Lighting systems.
12. Lubricating systems, including gauges, filters, water separators, tanks, pumps, piping, motors, etc.
13. Mechanical meters, including gauges, recording instruments, sampling and testing equipment.
14. Piping - main exhaust, including connections between turbogenerator and condenser and between condenser and hotwell.
15. Piping - main steam including connections from main throttle valve to turbine inlet.
16. Platforms, railings, steps, gratings, etc., appurtenant to apparatus listed herein.
17. Pressure oil systems including accumulators, pumps, piping, motors, etc.
18. Steelwork, specially constructed for apparatus listed herein.
19. Throttle and inlet valve.
20. Tunnels, intake and discharge, for condenser system, when not a part of structure, water screens, etc.
21. Turbogenerators - main, including turbine and generator, field rheostats and electric connections for self-excited units.
22. Water screens, motors, etc.
23. Moisture separator for turbine steam.
24. Turbine lubricating oil (initial charge).

PLANT ELECTRICAL - EQUIPMENT

Includes the cost installed of auxiliary generating apparatus, conversion equipment and equipment used primarily in connection with the control and switching of electric energy produced by generating equipment, and the protection of electric circuits and equipment. It does not include transformers and other equipment used for changing the voltage and frequencies of electricity for transmission or distribution.
The specific items are:

1. Auxiliary generators, including boards, compartments, switchgear and equipment, and connections to auxiliary power bus.
2. Exciters when driven separately from the main primemover, including its drive, rheostats, storage batteries and charging equipment, circuit breakers, panels and accessories, knife switches and accessories, surge arrestors, instrument shunts, conductors and conduit, special supports for conduit, generator field and exciter switch panels, exciter bus tie panels, generator and exciter rheostats, etc., special housing, protective screens, etc.
3. Generator main connections, including oil circuit breakers and accessories, disconnecting switches and accessories, operating mechanisms and interlocks, current transformers, potential transformers, protective relays, isolated panels and equipment, conductors, and conduit, special supports for generator main leads, grounding switch, etc., special housing, protective screens, etc.
4. Station buses including main, auxiliary, transfer, synchronizing and fault ground buses, including circuit breakers and accessories, disconnecting switches and accessories, operating mechanisms and interlocks, reactors and accessories, voltage regulators and accessories, compensators, resistors, starting transformers, current transformers, potential transformers, protective relays, storage batteries and charging equipment, isolated panels and equipment, conductors and conduit, special supports, special housings.
5. Concrete pads, general station grounding system, special fire-extinguishing system, and test equipment.

6. Station control system, including station switchboards with panel wiring, panels with instruments and control equipment only, panels with switching equipment mounted or mechanically connected, trucktype boards complete, cubicles, station supervisory control boards, generator and exciter signal stands, temperature recording devices, frequency-control equipment, master clocks, watt-hour meters and synchronoscope in the turbine room, station totalizing watt-meter, boiler-room load indicator equipment, storage batteries, panels and charging sets, instrument transformers for supervisor metering, conductors and conduit, special protective screens, doors, etc.

NOTE: When any item of equipment listed herein is used wholly to furnish power to equipment included in another account, its cost shall be included in such other account.

POWER PLANT – MISCELLANEOUS EQUIPMENT

This account shall include the cost installed of miscellaneous equipment in and about the generating plants devoted to general station use and which is not included in foregoing accounts concerning power production accounts.

The specific items include:

1. Compressed air and vacuum cleaning systems, including tanks, compressors, exhausters, air filters, piping, etc.
2. Mobile cranes and hoisting equipment, including crane cars, crane rails, monorails, hoists, etc.
3. Fire extinguishing equipment for general station use.
4. Foundations and settings specially constructed for and not expected to outlast the apparatus for which provided.
5. Locomotive cranes not includible elsewhere.
6. Locomotives not includible elsewhere.
7. Marine equipment, including boats, barges, etc.
8. Miscellaneous belts, pulleys, countershafts, etc.
9. Miscellaneous equipment, including atmospheric and weather-indicating devices, intrasite communication equipment, laboratory equipment, signal systems, callophones, emergency whistles and sirens, fire alarms, insect-control equipment and other similar equipment.
10. Railway cars not includible elsewhere.
11. Refrigerating systems, including compressors, pumps, cooling coils, etc.
12. Station maintenance equipment, including lathes, shapers, planers, drill presses, hydraulic presses, grinders, etc., with motors, shafting, hangars, pulleys, etc.
13. Ventilating equipment, including items wholly identified with apparatus listed herein.

SHOP TOOLS AND EQUIPMENT

This account shall include the cost of tools, implements and equipment used in the Production area in repair work and general plant shops. It also includes the cost of equipment for receiving, shipping, handling and storage of production materials and supplies such as hoists, lockers, scales, shelving, storage bins, hand trucks, wheelbarrows, machine tools, motor-driven tools, tool racks, vises, work benches, etc.

RIVER PUMPHOUSE

Includes the cost of all permanent buildings, structures and improvements and all appurtenant fixtures devoted to the river pumphouse operation.

The cost of specially provided foundations not intended to outlast the machinery or apparatus for which provided, and the cost of steel work and castings, etc., installed to form part or all of a base of an item of equipment shall be charged to the same account as the cost of the machinery, apparatus or equipment.

Some of the items to be included in the accounts for buildings and structures are as follows:

1. Architects and engineers plans and specifications including supervision.
2. Piping, wiring, fixtures and machinery for heating, lighting, signaling, ventilating, and air conditioning systems, plumbing, vacuum cleaning system.
3. Bulkheads, including dredging, riprap fill, piling, decking, concrete, fenders, etc., when exposed and subject to maintenance and replacement.
4. Commissions and fees to brokers, agents, architects and others.
5. Conduit (not to be removed) with its contents.
6. Damages to abutting property during construction.
7. Docks and wharves.
8. Door checks and door stops.
9. Drainage and sewerage systems.
10. Elevators, cranes, hoists, etc., and the machinery for operating them.
11. Excavation, including shoring, bracing, bridging, refill, and disposal of excess excavated material, cofferdams around foundation, pumping water from cofferdam during construction, and test borings.
12. Fences and fence curbs (not including protective fences isolating items of equipment, which shall be charged to the appropriate equipment account).
13. Fire protection systems when forming a part of a structure.
14. Floor covering (permanently attached).
15. Foundations and piers for machinery, constructed as a permanent part of a building or other item listed herein.
16. Grading and clearing when directly occasioned by the building of a structure.
17. Intrasite communication system, poles, pole fixtures, wires and cables.
18. Landscaping, lawns, shrubbery, etc.
19. Leases, voiding upon purchase, to secure possession of structures.
20. Leased property, expenditures on.
21. Lighting fixtures and outside lighting system.
22. Initial painting.
23. Permanent paving, concrete, brick, flagstone, asphalt, etc., within the property lines.
24. Partitions, including movable.
25. Permits and privileges.
26. Platforms, railings and gratings when constructed as a part of a structure.
27. Power boards for services to a building.
28. Refrigerating systems for general use.
29. Retaining walls except when identified with land.
30. Roadways, railroads, bridges, and trestles intrasite except railroads provided for in equipment accounts.
31. Roofs.

32. Scales, connected to and forming a part of a structure.
33. Screens.
34. Sidewalks, culverts, curbs and streets constructed by the utility on its property.
35. Sprinkling systems.
36. Sump pumps and pits.
37. Stacks - brick, steel, concrete or fiberglass, when set on foundation forming part of general foundation and steelwork of a building.
38. Steel inspection during construction.
39. Storage facilities constituting a part of a building.
40. Storm doors and windows.
41. Subways, areaways, and tunnels, directly connected to and forming part of a structure.
42. Tanks, constructed as part of a building or as a distinct structural unit.
43. Temporary heating during construction (net cost).
44. Temporary water connection during construction (net cost).
45. Temporary shanties and other facilities used during the construction (net cost).
46. Topographical maps.
47. Tunnels, intake and discharge, when constructed as part of a structure, including sluice gates, and those constructed to house mains.
48. Vaults, constructed as part of building.
49. Water basins or reservoirs.

GAS TURBINE – GENERATORS AND AUXILIARY EQUIPMENT - BORDEN

Includes the costs installed of gas turbine-driven units and accessory equipment used in generating electricity.

The specific items are:

1. Air cleaning and cooling apparatus, including blowers, fans, drive equipment, air ducts, louvers, pumps, hoods, etc.
2. Controls, including fuel controls, governoring equipment, excitation controls, batteries, voltage regulators, and all instrumentation necessary for automatic and manual operation of the unit.
3. Compressors, air receivers, filters, etc.
4. Generator hydrogen gas piping system and hydrogen detrainment equipment.
5. Cooling systems including pumps, tanks, and piping.
6. Cranes, hoists and trolleys associated with the equipment listed herein.
7. Excitation system.
8. Fire extinguishing systems.
9. Foundations and settings, specially constructed for and not expected to outlast the apparatus for which provided.
10. Governors.
11. Lighting systems.
12. Lubricating systems, including gauges, filters, water separator, tanks, pumps, piping, motors, etc.
13. Mechanical meters, including gauges, recording instruments, sampling and testing equipment.
14. Platforms, railings, steps, gratings, etc., appurtenant to apparatus listed herein.

15. Pressure oil systems, including accumulators, pumps, piping, motors, etc.
16. Steelwork, specially constructed for apparatus listed herein.
17. Turbine, including gas generator, power turbine, reduction gearing, couplings, generators, field rheostats and electric connections.
18. Housings supplied with and forming part of the unit, including turbine and generator weatherproof housing, control and switchgear housing.
19. Ducts, including air inlet and exhaust ducts, filters and silencing baffles.
20. Fences installed specifically for equipment concerned.
21. Lubricating oil, first fill.
22. Fuel system including pumps, piping, tanks, filters, etc., installed for the specific unit; fuel used for commissioning.
23. Electrical equipment up to and including the generator circuit breaker, including cables, conduits, instrument transformer control panels, circuit breakers, surge diverters, capacitors, grounding transformers, resistors and reactors, space heating system, unit auxiliary transformer, inverters, battery chargers, auxiliary panels and wiring, etc.

ENERGY CONTROL CENTRE

This account includes the cost of the building in which the Energy Control Center is located. It also includes the cost of all fixtures permanently attached to and made a part of the building and which cannot be removed without impairment to the building, as well as the cost of improvements of a permanent character.

TRANSMISSION AND DISTRIBUTION

SUBSTATION LAND

Includes the cost of all land devoted to distribution or transmission substations or switching operations outside of a generating plant property or land acquired solely for electric power generating purposes. It shall not include the cost of buildings, structures or improvements (other than public improvements noted in item (11) below).

The account shall include, when cost is assumed or paid by the Company, on its own behalf, the cost of:

1. Survey in connection with acquisition of the land.
2. Appraisals prior to closing title.
3. Examining and clearing title, insuring and registering the title in connection with the acquisition and defending against claims relating to the period prior to the acquisition.
4. Payments for obtaining consents or for abutting damages.
5. Conveyancers' and notaries' fees.
6. Fees, commissions and salaries to brokers, agents and others in connection with acquisition of the land.
7. Voiding leases upon purchase to secure possession of the land.
8. First cost of acquisition including mortgages and other liens assumed (but not subsequent interest thereon).
9. Filing satisfaction of mortgage.
10. Taxes accrued to the date of transfer to title.

11. Special assessments levied by public authorities for public improvements but not taxes levied to provide for the maintenance of such improvements.
12. Grading the land except when directly occasioned by a building or structure.
13. Removing, relocating or reconstructing property of others, such as buildings, roads, power and communication lines, cemeteries, etc., in order to acquire quiet possession of the land.
14. If on acquiring the land, buildings, structures or improvements are removed or wrecked without being used in the utility operations, the cost of removing or wrecking shall be charged to this account and any salvage credited to the account.

SUBSTATION EQUIPMENT, BUILDINGS AND STRUCTURES

This account shall include the cost in place of all permanent buildings, structures, facilities and improvements to house, safeguard or support apparatus and equipment devoted to distribution or transmission substation or switching operations outside of a generating plant property or land acquired solely for electric power generating purposes.

Improvements include such items as roadways, fences, sidewalks, sewer and water systems, yard lighting, grading and landscape gardening, monuments and other permanent structures.

The account shall also include the installed cost of all distribution or transmission substation equipment including specially provided foundations. It will include such items as power transformers, converters, motor generators, regulators, switchgear, switching apparatus, etc., used primarily for changing electric power in either frequency of voltage or in controlling and measuring power and energy into or out of the distribution or transmission systems.

It will also include transformers installed in a distribution or transmission line to transform the voltage at a point between distribution or transmission systems of different operating voltage.

This account does not include distribution line transformers installed to step down the voltage from the utility's distribution system to the voltage at which it is used by the customer (normally 600 volts or less).

TRANSMISSION AND DISTRIBUTION LAND

Charge to this account the cost of all land acquired and used primarily for the distribution or transmission of power and energy from one point to another outside of substation or generating plant land, including examination, searching and clearing title and registration of title, and other similar assignable costs as noted under "Substation Land" account (see 1740 and 1840).

ROAD AND TRAILS

Charge to this account the cost of roads, trails, bridges used primarily as transmission facilities.

The specific items are:

1. Bridges including foundation piers, girders, trusses, flooring, etc.
2. Clearing land.
3. Roads including grading, surfacing, culverts, etc.
4. Structures constructed and maintained in connection with items included herein.
5. Trails including grading, surfacing, culverts, etc.

NOTE: The cost of temporary roads, bridges, etc., necessary during the period of construction but abandoned or dedicated to public use upon completion of the plant, shall be charged to the accounts appropriate for the construction.

TRANSMISSION TOWERS

This account includes the installed cost of tower and associated fixtures used for supporting overhead transmission conductors, including:

1. Anchors, guys and braces
2. Brackets
3. Crossarms
4. Excavation, backfill and disposal of excavated material
5. Foundation
6. Guards
7. Insulator pins and suspension bolts
8. Ladders and steps
9. Railings
10. Towers
11. Warning lights

OVERHEAD CONDUCTORS

Includes the cost of all overhead conductors used for the distribution or transmission of power and energy from one point to another, excluding service lines. It will cover all cables, conductors, and insulators installed above ground on towers or pole structures located outside of substation or generating plant structures.

POLES AND FIXTURES

This account shall include the cost installed of distribution or transmission line poles of wood or other material together with appurtenant fixtures used for supporting the overhead conductors but excluding line support insulators. It includes the cost of pole structure, transformer platforms and supporting poles, and structures supporting other line devices, crossarms, insulator pins, braces, brackets, guys and other supports for holding the structures in position. It does not include any structures erected for substation or generating plant purposes.

LINE CONTROL DEVICES

This account will include the cost installed of major electrical apparatus and devices installed on distribution or transmission line structures for the automatic control, protection or electrical measurement of these lines. It will include such devices as voltage regulators, reclosers, capacitor banks, non-revenue metering outfits, air breaks, automatic sectionalizing switches, etc., located outside of substation or generating plant structures.

LINE TRANSFORMERS

This account shall include the landed purchase cost of overhead, padmounted, submersible, and vault-type distribution line transformers owned by the utility for use in transforming electricity to the voltage at which it is supplied and used by the customer whether or not such units are in service or held in stock. It will also include the cost of lightning arrestors if used in conjunction with the transformer, fuse cut-outs, housings, foundations, enclosures and all material used solely for the installation of the transformer but excluding transformer platforms and supporting poles.

When a transformer is permanently retired from service, the original cost thereof shall be credited to this account.

The records covering line transformers shall be kept that the utility can furnish the number of transformers of various capacities in service and those in reserve, and the location and the use of each transformer.

LINE TRANSFORMER INSTALLATION

Charge to this account all labour, transportation and incidental expenses for the initial installation of any new transformer. This account will not include the cost of setting or removing an existing transformer relocated from one installation point to another.

SERVICES LINES

Includes the cost installed of all overhead conductors, conduits, insulators, racks, clamps, ducts, supports, etc., leading from the last pole of the overhead distribution system to the point of connection with the customer's outlet or entrance installation.

STREET AND YARD LIGHTING

Charge to this account the cost installed of all lamp posts, lighting fixtures and control devices operated and maintained for street, highway, yard and area lighting under contract entered into with a municipality, village or individuals. It will include street lighting transformers and equipment installed above ground, supports, suspension and control devices, overhead conduits, cables and conductors, if used exclusively for lighting service. The first installation of lamp bulbs should be charged to this account. This account does not include area lighting equipment installed on substation or generating plant property.

UNDERGROUND SYSTEM CABLES AND CONDUITS

This account shall include the installed cost of all conduits, manholes, pullpits, duct banks, sewer connections, sewer traps and all material and apparatus necessary for the construction of a duct bank system to house underground cables and line control devices.

It shall also include the installed cost of all power cables, neutral wires, ground wires, grounding systems, terminators, splices, and lighting arrestors used in conjunction with primary and secondary distribution systems and all pole-mounted equipment necessary to facilitate the attachment of underground cables to the poles.

This account shall include the installed cost of all underground fusing, switching, sectionalizing, whether manual or automatic used in conjunction with an underground distribution system.

UNDERGROUND SYSTEM SERVICE LINES

This account shall include the installed cost of all underground service cables, connectors, conduits, ducts, supports, etc., leading from the last pole of the overhead system, from the terminals of the transformer, or from a distribution bus system to the customer entrance installation.

UNDERGROUND SYSTEM STREET LIGHTING SUPPLY

This account shall include the installed cost of all lamp posts, bases, lighting fixtures, control devices, fuses, fittings, underground conduits, cable and connectors used in conjunction with street and yard lighting where lighting supply originates underground.

METERS

This account shall include the landed purchase cost of new meters, metering devices and appurtenances used in measuring power or energy delivered to a customer whether such equipment is actually in service or held in stock. It will also include the cost of the first Company and Government tests of the meter.

When a meter is permanently retired from service, the original cost thereof shall be credited to this account.

The records covering meters shall be so kept that the utility can provide information as to the number of meters of various capacities in service and in reserve as well as the location of each meter owned.

This account shall not include meters for recording output of a generating station, substation meters, etc. It includes only those meters used to record energy delivered to customers.

METER INSTALLATION

Charge to this account the cost of initial installation of a new meter or metering device used for determination or measurement of power and energy delivered to a customer. It will not include the cost of setting or removing an existing meter relocated from one installation point to another.

COMMUNICATION EQUIPMENT

Includes the cost installed of radio receivers, transmitters, terminal equipment, antenna, towers, associated motor generator sets, battery chargers and associated apparatus together with structures and improvements used exclusively for the purpose of operating a private radio communication system within the company. It will also include an overhead or underground multiplex, telephone lines and fibre-optic lines erected and operated by the utility as a component part of the system.

ENGINEERING, TEST AND SURVEY EQUIPMENT

This account shall include the cost installed of engineering and laboratory equipment used for testing, measurement, laboratory and engineering purposes not specifically provided for or includible in other functional accounts. It will include such items as transits, levels, ammeters, voltmeters, rotating standards, testing panels, portable ammeters, voltmeters and watt meters, variacs, galvanometers, etc.

DISTRIBUTION TOOLS AND STORES EQUIPMENT

This account shall include the cost of tools, implements and equipment used in repair work, general shops, line construction and garages, excluding generating plant shop tools and equipment. It also includes the cost of equipment for receiving, shipping, handling and storage of line materials and supplies such as chain falls, counters, cranes, hoists, lockers, scales, shelving, storage bins, hand trucks, wheelbarrows, etc.

SUPERVISORY AND CONTROL EQUIPMENT (SCADA)

Includes the cost installed of supervisory, telemetering and remote controlled equipment both master units and remote terminal units, dedicated computers, terminal facilities, keyboards, screens, printers and associated equipment.

GENERAL PROPERTY - LAND

Charge to this account the cost of all land acquired not assignable to any other account in this classification (i.e. plant, substation, T. & D.) Such costs include cost of survey, examination of title, registration of title fees, and other costs similar to those noted for "Substation Land".

GENERAL PROPERTY – OFFICE BUILDINGS AND STRUCTURES

Charge to this account the cost of buildings, structures and improvements not assignable to any other buildings and structures account.

GENERAL PROPERTY – LINE BUILDINGS AND STRUCTURES

Charge to this account the cost of buildings, structures, and improvements used in line operations and not assignable to any other buildings and structures account.

OFFICE EQUIPMENT

This account shall include the cost of office furniture and equipment devoted to utility service and not permanently attached to buildings, such as desks, chairs, tables, moveable safes, filing cabinets, drafting tables, adding machines, billing and accounting machines, computers and photocopiers, etc. Small articles of slight value or short life should not be charged to this account but to the appropriate operating expense account.

TRANSPORTATION EQUIPMENT

Includes the cost of equipment for general transportation purposes such as aircraft, automobiles, motor trucks, bicycles, snowmobiles, motor cycles, tractors, trailers and associated equipment such as battery chargers, gasoline and oil storage tanks and pumps. It will also include line construction digging equipment, winches, line bodies, aerial buckets and ladders, etc., which are mounted or attached as an integral part of the vehicle.

OFFICE LEASEHOLD IMPROVEMENTS

The cost of substantial initial improvements (including repairs, rearrangements, additions, and betterments) made in the course of preparing for utility service property leased for a period of more than one year, and the cost of subsequent substantial additions, replacements, or betterments to such property, shall be charged to the utility plant account appropriate for the class of property leased. If the service life of the improvements is terminable by action of the lease, the cost, less net salvage, of the improvements shall be spread over the life of the lease. However, if the service life is not terminated by action of the lease but by depreciation proper, the cost of the improvements, less net salvage, shall be accounted for as depreciable plant.

If improvements made to property leased for a period of more than one year are of relatively minor cost, or if the lease is for a period of not more than one year, the cost of the improvements shall be charged to the account in which the rent is included either directly or by amortization thereof.

INFORMATION TECHNOLOGY

COMPUTER HARDWARE

This account shall include the cost of general-purpose computer hardware.

COMPUTER SOFTWARE

This account shall include the cost of systems software and a right or license to use computer software.

I N T E R R O G A T O R I E S

IR-42 – Attachment 2

Specifications and Instructions of the Federal Energy Regulatory Commission ("FERC")

[Code of Federal Regulations]
[Title 18, Volume 1, Parts 1 to 399]
[Revised as of April 1, 1999]
From the U.S. Government Printing Office via GPO Access
[CITE: 18CFR]

[Page 291-304]

CHAPTER I--FEDERAL ENERGY REGULATORY COMMISSION, DEPARTMENT OF ENERGY

Electric Plant Instructions

1. Classification of electric plant at effective date of system of accounts (Major utilities).

A. The electric plant accounts provided herein are the same as those contained in the prior system of accounts except for inclusion of accounts for nuclear production plant and some changes in classification in the general equipment accounts. Except for these changes, the balances in the various plant accounts, as determined under the prior system of accounts, should be carried forward. Any remaining balance of plant which has not yet been classified, pursuant to the requirements of the prior system, shall be classified in accordance with the following instructions.

B. The cost to the utility of its unclassified plant shall be ascertained by analysis of the utility's records. Adjustments shall not be made to record in utility plant accounts amounts previously charged to operating expenses or to income deductions in accordance with the uniform system of accounts in effect at the time or in accordance with the discretion of management as exercised under a uniform system of accounts, or under accounting practices previously followed.

C. The detailed electric plant accounts (301 to 399, inclusive) shall be

stated on the basis of cost to the utility of plant constructed by it and the original cost, estimated if not known, of plant acquired as an operating unit or system. The difference between the original cost, as above, and the cost to the utility of electric plant after giving effect

to any accumulated provision for depreciation or amortization shall be recorded in account 114, Electric Plant Acquisition Adjustments. The original cost of electric plant shall be determined by analysis of the utility's records or those of the predecessor or vendor companies with respect to electric plant previously acquired as operating units or systems and the difference between the original cost so determined, less accumulated provisions for depreciation and amortization and the cost to the utility with necessary adjustments for retirements from the date of acquisition, shall be entered in account 114, Electric Plant Acquisition Adjustments. Any difference between the cost of electric plant and its book cost, when not properly includible in other accounts, shall be recorded in account 116, Other Electric Plant Adjustments.

D. Plant acquired by lease which qualifies as capital lease property under General Instruction 19. Criteria for Classifying Leases, shall be recorded in Account 101.1, Property under Capital Leases, or Account 120.6, Nuclear Fuel under Capital Leases, as appropriate.

2. *Electric Plant To Be Recorded at Cost.*

A. All amounts included in the accounts for electric plant acquired as an operating unit or system, except as otherwise provided in the texts of the intangible plant accounts, shall be stated at the cost incurred by the person who first devoted the property to utility service. All other electric plant shall be included in the accounts at the cost incurred by the utility, except for property acquired by lease which qualifies as capital lease property under General Instruction 19. Criteria for Classifying Leases, and is recorded in Account 101.1, Property under Capital Leases, or Account 120.6, Nuclear Fuel under Capital Leases. Where the term cost is used in the detailed plant accounts, it shall have the meaning stated in this paragraph.

B. When the consideration given for property is other than cash, the value of such consideration shall be determined on a cash basis (see, however, definition 9). In the entry recording such transition, the actual consideration shall be described with sufficient particularity to identify it. The utility shall be prepared to furnish the Commission the particulars of its determination of the cash value of the consideration if other than cash.

C. When property is purchased under a plan involving deferred payments, no charge shall be made to the electric plant accounts for interest, insurance, or other expenditures occasioned solely by such form of payment.

D. The electric plant accounts shall not include the cost or other

value of electric plant contributed to the company. Contributions in the form of money or its equivalent toward the construction of electric plant shall be credited to accounts charged with the cost of such construction. Plant constructed from contributions of cash or its equivalent shall be shown as a reduction to gross plant constructed when assembling cost data in work orders for posting to plant ledgers of accounts. The accumulated gross costs of plant accumulated in the work order shall be recorded as a debit in the plant ledger of accounts along with the related amount of contributions concurrently be recorded as a credit.

3. Components of construction cost.

A. For Major utilities, the cost of construction properly includible in the electric plant accounts shall include, where applicable, the direct and overhead cost as listed and defined hereunder:

(1) *Contract work* includes amounts paid for work performed under contract by other companies, firms, or individuals, costs incident to the award of such contracts, and the inspection of such work.

(2) *Labor* includes the pay and expenses of employees of the utility engaged on construction work, and related workmen's compensation insurance, payroll taxes and similar items of expense. It does not include the pay and expenses of employees which are

distributed to construction through clearing accounts nor the pay and expenses included in other items hereunder.

(3) *Materials and supplies* includes the purchase price at the point of free delivery plus customs duties, excise taxes, the cost of inspection, loading and transportation, the related stores expenses, and the cost of fabricated materials from the utility's shop. In determining the cost of materials and supplies used for construction, proper allowance shall be made for unused materials and supplies, for materials recovered from temporary structures used in performing the work involved, and for discounts allowed and realized in the purchase of materials and supplies.

Note: The cost of individual items of equipment of small value (for

example, $500 or less) or of short life, including small portable tools and implements, shall not be charged to utility plant accounts unless the correctness of the accounting therefor is verified by current inventories. The cost shall be charged to the appropriate operating expense or clearing accounts, according to the use of such items, or, if such items are consumed directly in construction work, the cost shall be included as part of the cost of the construction

(4) *Transportation* includes the cost of transporting employees, materials and supplies, tools, purchased equipment, and other work equipment (when not under own power) to and from points of construction. It includes amounts paid to others as well as the cost of operating the utility's own transportation equipment. (See item 5 following.)

(5) *Special machine service* includes the cost of labor (optional), materials and supplies, depreciation, and other expenses incurred in the maintenance, operation and use of special machines, such as steam shovels, pile drivers, derricks, ditchers, scrapers, material unloaders, and other labor saving machines; also expenditures for rental, maintenance and operation of machines of others. It does not include the cost of small tools and other individual items of small value or short life which are included in the cost of materials and supplies. (See item 3, above.) When a particular construction job requires the use for an extended period of time of special machines, transportation or other equipment, the net book cost thereof, less the appraised or salvage value at time of release from the job, shall be included in the cost of construction.

(6) *Shop service* includes the proportion of the expense of the utility's shop department assignable to construction work except that the cost of fabricated materials from the utility's shop shall be included in materials and supplies.

(7) *Protection* includes the cost of protecting the utility's property from fire or other casualties and the cost of preventing damages to others, or to the property of others, including payments for discovery or extinguishment of fires, cost of apprehending and prosecuting incendiaries, witness fees in relation thereto, amounts paid to municipalities and others for fire protection, and other analogous items of expenditures in connection with construction work.

(8) *Injuries and damages* includes expenditures or losses in

connection with construction work on account of injuries to persons and damages to the property of others; also the cost of investigation of and defense against actions for such injuries and damages. Insurance recovered or recoverable on account of compensation paid for injuries to persons incident to construction shall be credited to the account or accounts to which such compensation is charged Insurance recovered or recoverable on account of property damages incident to construction shall be credited to the account or accounts charged with the cost of the damages.

(9) *Privileges and permits* includes payments for and expenses incurred in securing temporary privileges, permits or rights in connection with construction work, such as for the use of private or public property, streets, or highways, but it does not include rents, or amounts chargeable as franchises and consents for which see account 302, Franchises and Consents.

(10) *Rents* includes amounts paid for the use of construction quarters and office space occupied by construction forces and amounts properly includible in construction costs for such facilities jointly used.

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(11) *Engineering and supervision* includes the portion of the pay and expenses of engineers, surveyors, draftsmen, inspectors, superintendents and their assistants applicable to construction work.

(12) *General administration capitalized* includes the portion of the pay and expenses of the general officers and administrative and general expenses applicable to construction work.

(13) *Engineering services* includes amounts paid to other companies, firms, or individuals engaged by the utility to plan, design, prepare estimates, supervise, inspect, or give general advice and assistance in connection with construction work.

(14) *Insurance* includes premiums paid or amounts provided or reserved as self-insurance for the protection against loss and damages in connection with construction, by fire or other casualty injuries to or death of persons other than employees, damages to property of others, defalcation of employees and agents, and the nonperformance of

contractual obligations of others. It does not include workmen's compensation or similar insurance on employees included as labor in item 2, above.

(15) *Law expenditures* includes the general law expenditures incurred in connection with construction and the court and legal costs directly related thereto, other than law expenses included in protection, item 7, and in injuries and damages, item 8.

(16) *Taxes* includes taxes on physical property (including land) during the period of construction and other taxes properly includible in construction costs before the facilities become available for service.

(17) *Allowance for funds used during construction* (Major and Nonmajor Utilities) includes the net cost for the period of construction of borrowed funds used for construction purposes and a reasonable rate on other funds when so used, not to exceed, without prior approval of the Commission, allowances computed in accordance with the formula prescribed in paragraph (a) of this subparagraph. No allowance for funds used during construction charges shall be included in these accounts upon expenditures for construction projects which have been abandoned.

(a) The formula and elements for the computation of the allowance for funds used during construction shall be:

$$Ai=s(S/W)+d(D/D+P+C)(1-S/W)$$
$$Ae=[1-S/W][p(P/D+P+C)+c(C/D+P+C)]$$

Ai=Gross allowance for borrowed funds used during construction rate.
Ae=Allowance for other funds used during construction rate.
S=Average short-term debt.
s=Short-term debt interest rate.
D=Long-term debt.
d=Long-term debt interest rate.
P=Preferred stock.
p=Preferred stock cost rate.
C=Common equity.
c=Common equity cost rate.
W=Average balance in construction work in progress plus nuclear fuel in process of refinement, conversion, enrichment and fabrication.

(b) The rates shall be determined annually. The balances for long-

term debt, preferred stock and common equity shall be the actual book balances as of the end of the prior year. The cost rates for long-term debt and preferred stock shall be the weighted average cost determined in the manner indicated in Sec. 35.13 of the Commission's Regulations Under the Federal Power Act. The cost rate for common equity shall be the rate granted common equity in the last rate proceeding before the ratemaking body having primary rate jurisdictions. If such cost rate is not available, the average rate actually earned during the preceding three years shall be used. The short-term debt balances and related cost and the average balance for construction work in progress plus nuclear fuel in process of refinement, conversion, enrichment, and fabrication shall be estimated for the current year with appropriate adjustments as actual data becomes available.

Note: When a part only of a plant or project is placed in operation or is completed and ready for service but the construction work as a whole is incomplete, that part of the cost of the property placed in operation or ready for service, shall be treated as Electric Plant in Service and allowance for funds used during construction thereon as a charge to construction shall cease. Allowance for funds used during construction on that part of the cost of the plant which is incomplete

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may be continued as a charge to construction until such time as it is placed in operation or is ready for service, except as limited in item 17, above.

(18) *Earnings and expenses during construction*. The earnings and expenses during construction shall constitute a component of construction costs.

(a) The earnings shall include revenues received or earned for power produced by generating plants during the construction period and sold or used by the utility. Where such power is sold to an independent purchaser before intermingling with power generated by other plants, the credit shall consist of the selling price of the energy. Where the power generated by a plant under construction is delivered to the utility's electric system for distribution and sale, or is delivered to an associated company, or is delivered to and used by the utility for purposes other than distribution and sale (for manufacturing or industrial use, for example), the credit shall be the fair value of the energy so delivered. The revenues shall also include rentals for lands,

buildings etc., and miscellaneous receipts not properly includible in other accounts.

(b) The expenses shall consist of the cost of operating the power plant, and other costs incident to the production and delivery of the power for which construction is credited under paragraph (a), above, including the cost of repairs and other expenses of operating and maintaining lands, buildings, and other property, and other miscellaneous and like expenses not properly includible in other accounts.

(19) *Training costs* (Major and Nonmajor Utilities). When it is necessary that employees be trained to operate or maintain plant facilities that are being constructed and such facilities are not conventional in nature, or are new to the company's operations, these costs may be capitalized as a component of construction cost. Once plant is placed in service, the capitalization of training costs shall cease and subsequent training costs shall be expensed. (See Operating Expense Instruction 4.)

(20) *Studies* includes the costs of studies such as nuclear operational, safety, or seismic studies or environmental studies mandated by regulatory bodies relative to plant under construction. Studies relative to facilities in service shall be charged to account 183, Preliminary Survey and Investigation Charges.

B. For Nonmajor utilities, the cost of construction of property chargeable to the electric plant accounts shall include, where applicable, the cost of labor; materials and supplies; transportation; work done by others for the utility; injuries and damages incurred in construction work; privileges and permits; special machine service; allowance for funds used during construction, not to exceed without prior approval of the Commission, amounts computed in accordance with the formula prescribed in paragraph (a) of paragraph (17) of this Instruction; training costs; and such portion of general engineering, administrative salaries and expenses, insurance, taxes, and other analogous items as may be properly includable in construction costs. (See Operating Expense Instruction 4.) The rates and balances of short and long-term debt, preferred stock, common equity and construction work in progress shall be determined as prescribed in paragraph (b) of paragraph (17) of this Instruction.

4. *Overhead Construction Costs*.

A. All overhead construction costs, such as engineering, supervision, general office salaries and expenses, construction engineering and supervision by others than the accounting utility, law expenses, insurance, injuries and damages, relief and pensions, taxes and interest, shall be charged to particular jobs or units on the basis of the amounts of such overheads reasonably applicable thereto, to the end that each job or unit shall bear its equitable proportion of such costs and that the entire cost of the unit, both direct and overhead, shall be deducted from the plant accounts at the time the property is retired.

B. As far as practicable, the determination of pay roll charges includible in construction overheads shall be based on time card distributions thereof. Where this procedure is impractical,

special studies shall be made periodically of the time of supervisory employees devoted to construction activities to the end that only such overhead costs as have a definite relation to construction shall be capitalized. The addition to direct construction costs of arbitrary percentages or amounts to cover assumed overhead costs is not permitted.

C. For Major utilities, the records supporting the entries for overhead construction costs shall be so kept as to show the total amount of each overhead for each year, the nature and amount of each overhead expenditure charged to each construction work order and to each electric plant account, and the bases of distribution of such costs.

5. Electric Plant Purchased or Sold.

A. When electric plant constituting an operating unit or system is acquired by purchase, merger, consolidation, liquidation, or otherwise, after the effective date of this system of accounts, the costs of acquisition, including expenses incidental thereto properly includible in electric plant, shall be charged to account 102, Electric Plant Purchased or Sold.

B. The accounting for the acquisition shall then be completed as follows:

(1) The original cost of plant, estimated if not known, shall be credited to account 102, Electric Plant Purchased or Sold, and concurrently charged to the appropriate electric plant in service accounts and to account 104, Electric Plant Leased to Others, account 105, Electric Plant Held for Future Use, and account 107, Construction

Work in Progress--Electric, as appropriate.

(2) The depreciation and amortization applicable to the original cost of the properties purchased shall be charged to account 102, Electric Plant Purchased or Sold, and concurrently credited to the appropriate account for accumulated provision for depreciation or amortization.

(3) The cost to the utility of any property includible in account 121, Nonutility Property, shall be transferred thereto.

(4) The amount remaining in account 102, Electric Plant Purchased or Sold, shall then be closed to account 114, Electric Plant Acquisition Adjustments.

C. If property acquired in the purchase of an operating unit or system is in such physical condition when acquired that it is necessary substantially to rehabilitate it in order to bring the property up to the standards of the utility, the cost of such work, except replacements, shall be accounted for as a part of the purchase price of the property.

D. When any property acquired as an operating unit or system includes duplicate or other plant which will be retired by the accounting utility in the reconstruction of the acquired property or its consolidation with previously owned property, the proposed accounting for such property shall be presented to the Commission.

E. In connection with the acquisition of electric plant constituting an operating unit or system, the utility shall procure, if possible, all existing records relating to the property acquired, or certified copies thereof, and shall preserve such records in conformity with regulations or practices governing the preservation of records of its own construction.

F. When electric plant constituting an operating unit or system is sold, conveyed, or transferred to another by sale, merger, consolidation, or otherwise, the book cost of the property sold or transferred to another shall be credited to the appropriate utility plant accounts, including amounts carried in account 114, Electric Plant Acquisition Adjustments. The amounts (estimated if not known) carried with respect thereto in the accounts for accumulated provision for depreciation and amortization and in account 252, Customer Advances for Construction, shall be charged to such accounts and contra entries made to account 102, Electric Plant Purchased or Sold. Unless otherwise ordered by the Commission, the difference, if any, between (1) the net amount of debits and credits and (2) the consideration received for the property (less commissions and other expenses of making the sale) shall be included in account 421.1. Gain on Disposition of Property, or

account 421.2, Loss on Disposition of Property. (See

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account 102, Electric Plant Purchased or Sold.)

Note: In cases where existing utilities merge or consolidate because of financial or operating reasons or statutory requirements rather than as a means of transferring title of purchased properties to a new owner, the accounts of the constituent utilities, with the approval of the Commission, may be combined. In the event original cost has not been determined, the resulting utility shall proceed to determine such cost as outlined herein.

6. Expenditures on Leased Property.

A. The cost of substantial initial improvements (including repairs, rear-rangements, additions, and betterments) made in the course of preparing for utility service property leased for a period of more than one year, and the cost of subsequent substantial additions, replacements, or betterments to such property, shall be charged to the electric plant account appropriate for the class of property leased. If the service life of the improvements is terminable by action of the lease, the cost, less net salvage, of the improvements shall be spread over the life of the lease by charges to account 404, Amortization of Limited-Term Electric Plant. However, if the service life is not terminated by action of the lease but by depreciation proper, the cost of the improvements, less net salvage, shall be accounted for as depreciable plant. The provisions of this paragraph are applicable to property leased under either capital leases or operating leases.

B. If improvements made to property leased for a period of more than one year are of relatively minor cost, or if the lease is for a period of not more than one year, the cost of the improvements shall be charged to the account in which the rent is included, either directly or by amortization thereof.

7. Land and Land Rights.

A. The accounts for land and land rights shall include the cost of land owned in fee by the utility and rights. Interests, and privileges held by the utility in land owned by others, such as leaseholds, easements, water and water power rights, diversion rights, submersion

rights, rights-of-way, and other like interests in land. Do not include in the accounts for land and land rights and rights-of-way costs incurred in connection with first clearing and grading of land and rights-of-way and the damage costs associated with the construction and installation of plant. Such costs shall be included in the appropriate plant accounts directly benefited.

B. Where special assessments for public improvements provide for deferred payments, the full amount of the assessments shall be charged to the appropriate land account and the unpaid balance shall be carried in an appropriate liability account. Interest on unpaid balances shall be charged to the appropriate interest account. If any part of the cost of public improvements is included in the general tax levy, the amount thereof shall be charged to the appropriate tax account.

C. The net profit from the sale of timber, cord wood, sand, gravel, other resources or other property acquired with the rights-of-way or other lands shall be credited to the appropriate plant account to which related. Where land is held for a considerable period of time and timber and other natural resources on the land at the time of purchase increases in value, the net profit (after giving effect to the cost of the natural resources) from the sales of timber or its products or other natural resources shall be credited to the appropriate utility operating income account when such land has been recorded in account 105, Electric Plant Held for Future Use or classified as plant in service, otherwise to account 421, Miscellaneous Nonoperating Income.

D. Separate entries shall be made for the acquisition, transfer, or retirement of each parcel of land, and each land right (except rights of way for distribution lines), or water right, having a life of more than one year. A record shall be maintained showing the nature of ownership, full legal description, area, map reference, purpose for which used, city, county, and tax district on which situated, from whom purchased or to whom sold, payment given or received, other costs, contract date and number, date of recording of deed, and book and page of record. Entries transferring or retiring land or land rights shall refer

to the original entry recording its acquisition.

E. Any difference between the amount received from the sale of land or land rights, less agents' commissions and other costs incident to the sale, and the book cost of such land or rights, shall be included in account 411.6, Gains from Disposition of Utility Plant, or 411.7, Losses from Disposition of Utility Plant when such property has been recorded

in account 105, Electric Plant Held for Future Use, otherwise to account 421.1, Gain on Disposition of Property or 421.2, Loss on Disposition of Property, as appropriate, unless a reserve therefor has been authorized and provided. Appropriate adjustments of the accounts shall be made with respect to any structures or improvements located on land sold.

F. The cost of buildings and other improvements (other than public improvements) shall not be included in the land accounts. If at the time of acquisition of an interest in land such interest extends to buildings or other improvements (other than public improvements) which are then devoted to utility operations, the land and improvements shall be separately appraised and the cost allocated to land and buildings or improvements on the basis of the appraisals. If the improvements are removed or wrecked without being used in operations, the cost of removing or wrecking shall be charged and the salvage credited to the account in which the cost of the land is recorded.

G. When the purchase of land for electric operations requires the purchase of more land than needed for such purposes, the charge to the specific land account shall be based upon the cost of the land purchased, less the fair market value of that portion of the land which is not to be used in utility operations. The portion of the cost measured by the fair market value of the land not to be used shall be included in account 105, Electric Plant Held for Future Use, or account 121, Nonutility Property, as appropriate.

H. Provisions shall be made for amortizing amounts carried in the accounts for limited-term interests in land so as to apportion equitably the cost of each interest over the life thereof. (For Major utilities, see account 111, Accumulated Provision for Amortization of Electric Plant Utility, and account 404, Amortization of Limited-Term Electric Plant. For Nonmajor utilities, see account 404.)

I. The items of cost to be included in the accounts for land and land rights are as follows:

1. Bulkheads, buried, not requiring maintenance or replacement.

2. Cost, first, of acquisition including mortgages and other liens assumed (but not subsequent interest thereon).

3. [Reserved]

4. Condemnation proceedings, including court and counsel costs.

5. Consents and abutting damages, payment for.

6. Conveyancers' and notaries' fees.

7. Fees, commissions, and salaries to brokers, agents and others in connection with the acquisition of the land or land rights.

8. [Reserved]

9. Leases, cost of voiding upon purchase to secure possession of land.

10. Removing, relocating, or reconstructing, property of others, such as buildings, highways, railroads, bridges, cemeteries, churches, telephone and power lines, etc., in order to acquire quiet possession.

11. Retaining walls unless identified with structures.

12. Special assessments levied by public authorities for public improvements on the basis of benefits for new roads, new bridges, new sewers, new curbing, new pavements, and other public improvements, but not taxes levied to provide for the maintenance of such improvements.

13. Surveys in connection with the acquisition, but not amounts paid for topographical surveys and maps where such costs are attributable to structures or plant equipment erected or to be erected or installed on such land.

14. Taxes assumed, accrued to date of transfer of title.

15. Title, examining, clearing, insuring and registering in connection with the acquisition and defending against claims relating to the period prior to the acquisition.

16. Appraisals prior to closing title.

17. Cost of dealing with distributees or legatees residing outside of the state or county, such as recording power of attorney, recording will or exemplification of will, recording satisfaction of state tax.

18. Filing satisfaction of mortgage.

19. Documentary stamps.

20. Photographs of property at acquisition.

21. Fees and expenses incurred in the acquisition of water rights and grants.

22. Cost of fill to extend bulkhead line over land under water, where riparian rights are

held, which is not occasioned by the erection of a structure.

23. Sidewalks and curbs constructed by the utility on public property.

24. Labor and expenses in connection with securing rights of way, where performed by company employees and company agents.

8. Structures and Improvements.

A. The accounts for structures and improvements shall include the cost of all buildings and facilities to house, support, or safeguard

property or persons, including all fixtures permanently attached to and made a part of buildings and which cannot be removed therefrom without cutting into the walls, ceilings, or floors, or without in some way impairing the buildings, and improvements of a permanent character on or to land. Also include those costs incurred in connection with the first clearing and grading of land and rights-of-way and the damage costs associated with construction and installation of plant.

B. The cost of specially provided foundations not intended to outlast the machinery or apparatus for which provided, and the cost of angle irons, castings, etc., installed at the base of an item of equipment, shall be charged to the same account as the cost of the machinery, apparatus, or equipment.

C. Minor buildings and structures, such as valve towers, patrolmen's towers, telephone stations, fish and wildlife, and recreation facilities, etc., which are used directly in connection with or form a part of a reservoir, dam, waterway, etc., shall be considered a part of the facility in connection with which constructed or operated and the cost thereof accounted for accordingly.

D. Where furnaces and boilers are used primarily for furnishing steam for some particular department and only incidentally for furnishing steam for heating a building and operating the equipment therein, the entire cost of such furnaces and boilers shall be charged to the appropriate plant account, and no part to the building account.

E. Where the structure of a dam forms also the foundation of the power plant building, such foundation shall be considered a part of the dam.

F. The cost of disposing of materials excavated in connection with construction of structures shall be considered as a part of the cost of such work, except as follows: (a) When such material is used for filling, the cost of loading, hauling, and dumping shall be equitably apportioned between the work in connection with which the removal occurs and the work in connection with which the material is used; (b) when such material is sold, the net amount realized from such sales shall be credited to the work in connection with which the removal occurs. If the amount realized from the sale of excavated materials exceeds the removal costs and the costs in connection with the sale, the excess shall be credited to the land account in which the site is carried.

G. Lighting or other fixtures temporarily attached to buildings for purposes of display or demonstration shall not be included in the cost of the building but in the appropriate equipment account.

H. The items of cost to be included in the accounts for structures and improvements are as follows:

1. Architects' plans and specifications including supervision.
2. Ash pits (when located within the building). (Major Utilities)
3. Athletic field structures and improvements.
4. Boilers, furnaces, piping, wiring, fixtures, and machinery for heating, lighting, signaling, ventilating, and air-conditioning systems, plumbing, vacuum cleaning systems, incinerator and smoke pipe, flues, etc.
5. Bulkheads, including dredging, riprap fill, piling, decking, concrete, fenders, etc., when exposed and subject to maintenance and replacement.
6. Chimneys (Major Utilities).
7. Coal bins and bunkers.
8. Commissions and fees to brokers, agents, architects, and others.
9. Conduit (not to be removed) with its contents.
10. Damages to abutting property during construction.
11. Docks (Major Utilities).
12. Door checks and door stops (Major Utilities).
13. Drainage and sewerage systems.
14. Elevators, cranes, hoists, etc., and the machinery for operating them.
15. Excavation, including shoring, bracing, bridging, refill and disposal of excess excavated material, cofferdams around foundation, pumping water from cofferdams during construction, and test borings.

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16. Fences and fence curbs (not including protective fences isolating items of equipment, which shall be charged to the appropriate equipment account).
17. Fire protection systems when forming a part of a structure.
18. Flagpole (Major Utilities).
19. Floor covering (permanently attached) (Major Utilities).
20. Foundations and piers for machinery, constructed as a permanent part of a building or other item listed herein.
21. Grading and clearing when directly occasioned by the building of a structure.
22. Intrasite communication system, poles, pole fixtures, wires, and cables.
23. Landscaping, lawns, shrubbery, etc.
24. Leases, voiding upon purchase to secure possession of structures.
25. Leased property, expenditures on.

26. Lighting fixtures and outside lighting system.
27. Mailchutes when part of a building (Major Utilities).
28. Marquee, permanently attached to building (Major Utilities).
29. Painting, first cost.
30. Permanent paving, concrete, brick, flagstone, asphalt, etc., within the property lines.
31. Partitions, including movable (Major Utilities).
32. Permits and privileges.
33. Platforms, railings, and gratings when constructed as a part of a structure.
34. Power boards for services to a building (Major Utilities).
35. Refrigerating systems for general use (Major Utilities).
36. Retaining walls except when identified with land.
37. Roadways, railroads, bridges, and trestles intrasite except railroads provided for in equipment accounts.
38. Roofs (Major Utilities).
39. Scales, connected to and forming a part of a structure (Major Utilities).
40. Screens (Major Utilities).
41. Sewer systems, for general use (Major Utilities).
42. Sidewalks, culverts, curbs and streets constructed by the utility on its property (Major Utilities).
43. Sprinkling systems (Major Utilities).
44. Sump pumps and pits (Major Utilities).
45. Stacks--brick, steel, or concrete, when set on foundation forming part of general foundation and steelwork of a building.
46. Steel inspection during construction (Major Utilities).
47. Storage facilities constituting a part of a building.
48. Storm doors and windows (Major Utilities).
49. Subways, areaways, and tunnels, directly connected to and forming part of a structure.
50. Tanks, constructed as part of a building or as a distinct structural unit.
51. Temporary heating during construction (net cost) (Major Utilities).
52. Temporary water connection during construction (net cost) (Major Utilities).
53. Temporary shanties and other facilities used during construction (net cost)
54. Topographical maps (Major Utilities).
55. Tunnels, intake and discharge, when constructed as part of a structure, including sluice gates, and those constructed to house mains.

56. Vaults constructed as part of a building.
57. Watchmen's sheds and clock systems (net cost when used during construction only) (Major Utilities).
58. Water basins or reservoirs.
59. Water front improvements (Major Utilities).
60. Water meters and supply system for a building or for general company purposes (Major Utilities).
61. Water supply piping, hydrants and wells (Major Utilities).
62. Wharves.
63. Window shades and ventilators (Major Utilities).
64. Yard drainage system (Major Utilities).
65. Yard lighting system (Major Utilities).
66. Yard surfacing, gravel, concrete, or oil. (First cost only.) (Major Utilities)

Note: Structures and Improvements accounts shall be credited with the cost of coal bunkers, stacks, foundations, subways, tunnels, etc., the use of which has terminated with the removal of the equipment with which they are associated even though they have not been physically removed.

9. Equipment.
A. The cost of equipment chargeable to the electric plant accounts, unless otherwise indicated in the text of an equipment account, includes the net purchase price thereof, sales taxes, investigation and inspection expenses necessary to such purchase, expenses of transportation when borne by the utility, labor employed, materials and supplies consumed, and expenses incurred by the utility in unloading and placing the equipment in readiness to operate. Also include those costs incurred in connection with the first clearing and grading of land and rights-of-way and the damage costs associated with construction and installation of plant.
B. Exclude from equipment accounts hand and other portable tools, which are likely to be lost or stolen or which have relatively small value (for example, $500 or less) or short life, unless

the correctness of the accounting therefor as electric plant is verified by current inventories. Special tools acquired and included in the purchase price of equipment shall be included in the appropriate plant account. Portable drills and similar tool equipment when used in

connection with the operation and maintenance of a particular plant or department, such as production, transmission, distribution, etc., or in stores, shall be charged to the plant account appropriate for their use.

C. The equipment accounts shall include angle irons and similar items which are installed at the base of an item of equipment, but piers and foundations which are designed to be as permanent as the buildings which house the equipment, or which are constructed as a part of the building and which cannot be removed without cutting into the walls, ceilings or floors or without in some way impairing the building, shall be included in the building accounts.

D. The equipment accounts shall include the necessary costs of testing or running a plant or parts thereof during an experimental or test period prior to such plant becoming ready for or placed in service. In the case of Nonmajor utilities, the utility shall pay the fee prescribed in part 381 of this chapter and shall furnish the Commission with full particulars of and justification for any test or experimental run extending beyond a period of 30 days. In the case of Major utilities, the utility shall furnish the Commission with full particulars of and justification for any test or experimental run extending beyond a period of 120 days for nuclear plant, and a period of 90 days for all other plant. Such particulars shall include a detailed operational and downtime log showing days of production, gross kilowatts generated by hourly increments, types, and periods of outages by hours with explanation thereof, beginning with the first date the equipment was either tested or synchronized on the line to the end of the test period.

E. The cost of efficiency or other tests made subsequent to the date equipment becomes available for service shall be charged to the appropriate expense accounts, except that tests to determine whether equipment meets the specifications and requirements as to efficiency, performance, etc., guaranteed by manufacturers, made after operations have commenced and within the period specified in the agreement or contract of purchase may be charged to the appropriate electric plant account.

10. Additions and Retirements of Electric Plant.

A. For the purpose of avoiding undue refinement in accounting for additions to and retirements and replacements of electric plant, all property will be considered as consisting of (1) retirement units and (2) minor items of property. Each utility shall maintain a written property units listing for use in accounting for additions and

retirements of electric plant and apply the listing consistently.

B. The addition and retirement of retirement units shall be accounted for as follows:

(1) When a retirement unit is added to electric plant, the cost thereof shall be added to the appropriate electric plant account, except that when units are acquired in the acquisition of any electric plant constituting an operating system, they shall be accounted for as provided in electric plant instruction 5.

(2) When a retirement unit is retired from electric plant, with or without replacement, the book cost thereof shall be credited to the electric plant account in which it is included, determined in the manner set forth in paragraph D, below. If the retirement unit is of a depreciable class, the book cost of the unit retired and credited to electric plant shall be charged to the accumulated provision for depreciation applicable to such property. The cost of removal and the salvage shall be charged or credited, as appropriate, to such depreciation account.

C. The addition and retirement of minor items of property shall be accounted for as follows:

(1) When a minor item of property which did not previously exist is added to plant, the cost thereof shall be accounted for in the same manner as for the addition of a retirement unit, as set forth in paragraph B(1), above, if a substantial addition results, otherwise

the charge shall be to the appropriate maintenance expense account.

(2) When a minor item of property is retired and not replaced, the book cost thereof shall be credited to the electric plant account in which it is included; and, in the event the minor item is a part of depreciable plant, the account for accumulated provision for depreciation shall be charged with the book cost and cost of removal and credited with the salvage. If, however, the book cost of the minor item retired and not replaced has been or will be accounted for by its inclusion in the retirement unit of which it is a part when such unit is retired, no separate credit to the property account is required when such minor item is retired.

(3) When a minor item of depreciable property is replaced independently of the retirement unit of which it is a part, the cost of replacement shall be charged to the maintenance account appropriate for the item, except that if the replacement effects a substantial betterment (the primary aim of which is to make the property affected

more useful, more efficient, of greater durability, or of greater capacity), the excess cost of the replacement over the estimated cost at current prices of replacing without betterment shall be charged to the appropriate electric plant account.

D. The book cost of electric plant retired shall be the amount at which such property is included in the electric plant accounts, including all components of construction costs. The book cost shall be determined from the utility's records and if this cannot be done it shall be estimated. Utilities must furnish the particulars of such estimates to the Commission, if requested. When it is impracticable to determine the book cost of each unit, due to the relatively large number or small cost thereof, an appropriate average book cost of the units, with due allowance for any differences in size and character, shall be used as the book cost of the units retired.

E. The book cost of land retired shall be credited to the appropriate land account. If the land is sold, the difference between the book cost (less any accumulated provision for depreciation or amortization therefore which has been authorized and provided) and the sale price of the land (less commissions and other expenses of making the sale) shall be recorded in account 411.6, Gains from Disposition of Utility Plant, or 411.7, Losses from Disposition of Utility Plant when the property has been recorded in account 105, Electric Plant Held for Future Use, otherwise to accounts 421.1, Gain on Disposition of Property or 421.2, Loss on Disposition of Property, as appropriate. If the land is not used in utility service but is retained by the utility, the book cost shall be charged to account 105, Electric Plant Held for Future Use, or account 121, Nonutility Property, as appropriate.

F. The book cost less net salvage of depreciable electric plant retired shall be charged in its entirety to account 108. Accumulated Provision for Depreciation of Electric Plant in Service (Account 110, Accumulated Provision for Depreciation and Amortization of Electric Utility Plant, in the case of Nonmajor utilities). Any amounts which, by approval or order of the Commission, are charged to account 182.1, Extraordinary Property Losses, shall be credited to account 108 (Account 110 for Nonmajor utilities).

G. In the case of Major utilities, the accounting for the retirement of amounts included in account 302, Franchises and Consents, and account 303, Miscellaneous Intangible Plant, and the items of limited-term interest in land included in the accounts for land and land rights, shall be as provided for in the text of account 111. Accumulated Provision for Amortization of Electric Plant in Service, account 404, Amortization of Limited-Term Electric Plant, and account 405,

Amortization of Other Electric Plant.

11. Work Order and Property Record System Required.

A. Each utility shall record all construction and retirements of electric plant by means of work orders or job orders. Separate work orders may be opened for additions to and retirements of electric plant or the retirements may be included with the construction work order, provided, however, that all items relating to the retirements shall be kept separate from those relating to construction and provided, further,

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that any maintenance costs involved in the work shall likewise be segregated.

B. Each utility shall keep its work order system so as to show the nature of each addition to or retirement of electric plant, the total cost thereof, the source or sources of costs, and the electric plant account or accounts to which charged or credited. Work orders covering jobs of short duration may be cleared monthly.

C. In the case of Major utilities, each utility shall maintain records in which, for each plant account, the amounts of the annual additions and retirements are classified so as to show the number and cost of the various record units or retirement units.

12. Transfers of Property.

When property is transferred from one electric plant account to another, from one utility department to another, such as from electric to gas, from one operating division or area to another, to or from accounts 101, Electric Plant in Service, 104. Electric Plant Leased to Others, 105. Electric Plant Held for Future Use, and 121, Nonutility Property, the transfer shall be recorded by transferring the original cost thereof from the one account, department, or location to the other. Any related amounts carried in the accounts for accumulated provision for depreciation or amortization shall be transferred in accordance with the segregation of such accounts.

13. Common Utility Plant.

A. If the utility is engaged in more than one utility service, such as electric, gas, and water, and any of its utility plant is used in

common for several utility services or for other purposes to such an extent and in such manner that it is impracticable to segregate it by utility services currently in the accounts, such property, with the approval of the Commission, may be designated and classified as common utility plant.

B. The book amount of utility plant designated as common plant shall be included in account 118, Other Utility Plant, and if applicable in part to the electric department, shall be segregated and accounted for in subaccounts as electric plant is accounted for in accounts 101 to 107, inclusive, and electric plant adjustments in account 116; any amounts classifiable as common plant acquisition adjustments or common plant adjustments shall be subject to disposition as provided in paragraphs C and B of accounts 114 and 116, respectively, for amounts classified in those accounts. The original cost of common utility plant in service shall be classified according to detailed utility plant accounts appropriate for the property.

C. The utility shall be prepared to show at any time and to report to the Commission annually, or more frequently, if required, and by utility plant accounts (301 to 399) the following: (1) The book cost of common utility plant, (2) The allocation of such cost to the respective departments using the common utility plant, and (3) The basis of the allocation.

D. The accumulated provision for depreciation and amortization of the utility shall be segregated so as to show the amount applicable to the property classified as common utility plant.

E. The expenses of operation, maintenance, rents, depreciation and amortization of common utility plant shall be recorded in the accounts prescribed herein, but designated as common expenses, and the allocation of such expenses to the departments using the common utility plant shall be supported in such manner as to reflect readily the basis of allocation used.

14. Transmission and Distribution Plant.

For the purpose of this system of accounts:

A. Transmission system means:

(1) All land, conversion structures, and equipment employed at a primary source of supply (i.e., generating station, or point of receipt in the case of purchased power) to change the voltage or frequency of electricity for the purpose of its more efficient or convenient transmission;

(2) All land, structures, lines, switching and conversion stations,

high tension apparatus, and their control and protective equipment between a generating or receiving point and the entrance to a distribution center or wholesale point; and

(3) All lines and equipment whose primary purpose is to augment, integrate

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or tie together the sources of power supply

B. Distribution system means all land, structures, conversion equipment, lines, line transformers, and other facilities employed between the primary source of supply (i.e., generating station, or point of receipt in the case of purchased power) and of delivery to customers, which are not includible in transmission system, as defined in paragraph A, whether or not such land, structures, and facilities are operated as part of a transmission system or as part of a distribution system.

Note: Stations which change electricity from transmission to distribution voltage shall be classified as distribution stations.

C. Where poles or towers support both transmission and distribution conductors, the poles, towers, anchors, guys, and rights of way shall be classified as transmission system. The conductors, crossarms, braces, grounds, tiewire, insulators, etc., shall be classified as transmission or distribution facilities, according to the purpose for which used.

D. Where underground conduit contains both transmission and distribution conductors, the underground conduit and right of way shall be classified as distribution system. The conductors shall be classified as transmission or distribution facilities according to the purpose for which used.

E. Land (other than rights of way) and structures used jointly for transmission and distribution purposes shall be classified as transmission or distribution according to the major use thereof.

15. Hydraulic production plant (Major Utilities).

For the purpose of this system of accounts hydraulic production plant means all land and land rights, structures and improvements used in connection with hydraulic power generation, reservoirs dams and waterways, water wheels, turbines, generators, accessory electric equipment, miscellaneous powerplant equipment, roads, railroads, and bridges, and structures and improvements used in connection with fish and wildlife, and recreation.

16. Nuclear Fuel Records Required (Major Utilities).

Each utility shall keep all the necessary records to support the entries to the various nuclear fuel plant accounts classified under ``Assets and Other Debits," Utility Plant 120.1 through 120.6, inclusive, account 518, Nuclear Fuel Expense and account 157, Nuclear Materials Held for Sale. These records shall be so kept as to readily furnish the basis of the computation of the net nuclear fuel costs.

[Code of Federal Regulations]
[Title 18, Volume 1, Parts 1 to 399]
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[Page 337-355]

CHAPTER I--FEDERAL ENERGY REGULATORY COMMISSION, DEPARTMENT OF ENERGY

Electric Plant Accounts

301 Organization.

This account shall include all fees paid to federal or state governments for the privilege of incorporation and expenditures incident to organizing the corporation, partnership, or other enterprise and putting it into readiness to do business.

ITEMS

1. Cost of obtaining certificates authorizing an enterprise to engage in the public-utility business.
2. Fees and expenses for incorporation
3. Fees and expenses for mergers or consolidations.
4. Office expenses incident to organizing the utility.
5. Stock and minute books and corporate seal.

Note A: This account shall not include any discounts upon securities issued or assumed; nor shall it include any costs incident to negotiating loans, selling bonds or other evidences of debt or expenses in connection with the authorization, issuance or sale of capital stock.

Note B: Exclude from this account and include in the appropriate expense account the cost of preparing and filing papers in connection with the extension of the term of incorporation unless the first organization costs have been written off. When charges are made to this account for expenses incurred in mergers, consolidations, or reorganizations, amounts previously included herein or in similar accounts in the books of the companies concerned shall be excluded from this account.

302 Franchises and consents.

A. This account shall include amounts paid to the federal government, to a state or to a political subdivision thereof in consideration for franchises, consents, water power licenses, or certificates, running in perpetuity or for a specified term of more than one year, together with necessary and reasonable expenses incident to procuring such franchises, consents, water power licenses, or certificates of permission and approval, including expenses of organizing and merging separate corporations, where statutes require, solely for the purpose of acquiring franchises.

B. If a franchise, consent, water power license or certificate is acquired by assignment, the charge to this account in respect thereof shall not exceed the amount paid therefor by the utility to the assignor, nor shall it exceed the amount paid by the original grantee, plus the expense of acquisition to such grantee. Any excess of the amount actually paid by the utility over the amount above specified shall be charged to account 426.5, Other Deductions.

C. When any franchise has expired, the book cost thereof shall be credited hereto and charged to account 426.5, Other Deductions, or to account 111, Accumulated Provision for Amortization of Electric Utility Plant (for Nonmajor utilities, account 110, Accumulated Provision for Depreciation and Amortization of Electric Plant), as appropriate.

D. Records supporting this account shall be kept so as to show separately the book cost of each franchise or consent.

Note: Annual or other periodic payments under franchises shall not be included herein but in the appropriate operating expense account.

303 Miscellaneous intangible plant.

A. This account shall include the cost of patent rights, licenses, privileges, and other intangible property necessary or valuable in the conduct of utility operations and not specifically chargeable to any other account.

B. When any item included in this account is retired or expires, the book cost thereof shall be credited hereto and charged to account 426.5, Other Deductions, or account 111, Accumulated Provision for Amortization of Electric Utility Plant (for Nonmajor utilities, account 110, Accumulated Provision for Depreciation and Amortization of Electric Plant), as appropriate.

C. This account shall be maintained in such a manner that the

utility can furnish full information with respect to the amounts included herein.

310 Land and land rights.

This account shall include the cost of land and land rights used in connection with steam-power generation. (See electric plant instruction 7.)

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311 Structures and improvements.

This account shall include the cost in place of structures and improvements used in connection with steam-power generation. (See electric plant instruction 8.)

Note: Include steam production roads and railroads in this account.

312 Boiler plant equipment.

This account shall include the cost installed of furnaces, boilers, coal and ash handling and coal preparing equipment, steam and feed water piping, boiler apparatus and accessories used in the production of steam, mercury, or other vapor, to be used primarily for generating electricity.

ITEMS

1. Ash handling equipment, including hoppers, gates, cars, conveyors, hoists, sluicing equipment, including pumps and motors, sluicing water pipe and fittings, sluicing trenches and accessories, etc., except sluices which are a part of a building.
2. Boiler feed system, including feed water heaters, evaporator condensers, heater drain pumps, heater drainers, deaerators, and vent condensers, boiler feed pumps, surge tanks, feed water regulators, feed water measuring equipment, and all associated drives.
3. Boiler plant cranes and hoists and associated drives.
4. Boilers and equipment, including boilers and baffles, economizers, superheaters, soot blowers, foundations and settings, water walls, arches, grates, insulation, blow-down system, drying out of new boilers, also associated motors or other power equipment.

5. Breeching and accessories, including breeching, dampers, soot spouts, hoppers and gates, cinder eliminators, breeching insulation, soot blowers and associated motors.

6. Coal handling and storage equipment, including coal towers, coal lorries, coal cars, locomotives and tracks when devoted principally to the transportation of coal, hoppers, downtakes, unloading and hoisting equipment, skip hoists and conveyors, weighing equipment, magnetic separators, cable ways, housings and supports for coal handling equipment.

7. Draft equipment, including air preheaters and accessories, induced and forced draft fans, air ducts, combustion control mechanisms, and associated motors or other power equipment.

8. Gas-burning equipment, including holders, burner equipment and piping, control equipment, etc.

9. Instruments and devices, including all measuring, indicating, and recording equipment for boiler plant service together with mountings and supports.

10. Lighting systems.

11. Oil-burning equipment, including tanks, heaters, pumps with drive, burner equipment and piping, control equipment, etc.

12. Pulverized fuel equipment, including pulverizers, accessory motors, primary air fans, cyclones and ducts, dryers, pulverized fuel bins, pulverized fuel conveyors and equipment, burners, burner piping, priming equipment, air compressors, motors, etc.

13. Stacks, including foundations and supports, stack steel and ladders, stack brick work, stack concrete, stack lining, stack painting (first), when set on separate foundations, independent of substructure or superstructure of building.

14. Station piping, including pipe, valves, fittings, separators, traps, desuperheaters, hangers, excavation, covering, etc., for station piping system, including all steam, condensate, boiler feed and water supply piping, etc., but not condensing water, plumbing, building heating, oil, gas, air piping or piping specifically provided for in account 313.

15. Stoker or equivalent feeding equipment, including stokers and accessory motors, clinker grinders, fans and motors, etc.

16. Ventilating equipment.

17. Water purification equipment, including softeners and accessories, evaporators and accessories, heat exchangers, filters, tanks for filtered or softened water, pumps, motors, etc.

18. Water-supply systems, including pumps, motors, strainers, raw-water storage tanks, boiler wash pumps, intake and discharge pipes and

tunnels not a part of a building.

19. Wood fuel equipment, including hoppers, fuel hogs and accessories, elevators and conveyors, bins and gates, spouts, measuring equipment and associated drives.

Note: When the system for supplying boiler or condenser water is elaborate, as when it includes a dam, reservoir, canal, pipe line, cooling ponds, or where gas or oil is used as a fuel for producing steam and is supplied through a pipe line system owned by the utility, the cost of such special facilities shall be charged to a subdivision of account 311, Structures and Improvements.

313 Engines and engine-driven generators.

This account shall include the cost installed of steam engines, reciprocating or rotary, and their associated auxiliaries; and engine-driven main generators, except turbogenerator units.

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ITEMS

1. Air cleaning and cooling apparatus, including blowers, drive equipment, air ducts not a part of building, louvers, pumps, hoods, etc.
2. Belting, shafting, pulleys, reduction gearing, etc.
3. Circulating pumps, including connections between condensers and intake and discharge tunnels.
4. Cooling system, including towers, pumps, tank, and piping.
5. Condensers, including condensate pumps, air and vacuum pumps, ejectors, unloading valves and vacuum breakers, expansion devices, screens, etc.
6. Cranes, hoists, etc., including items wholly identified with items listed herein.
7. Engines, reciprocating or rotary.
8. Fire-extinguishing systems.
9. Foundations and settings, especially constructed for and not expected to outlast the apparatus for which provided.
10. Generators--Main, a.c. or d.c., including field rheostats and connections for self-excited units, and excitation systems when identified with the generating unit.
11. Governors.
12. Lighting systems.

13. Lubricating systems including gauges, filters, tanks, pumps, piping, motors, etc.
14. Mechanical meters, including gauges, recording instruments, sampling and testing equipment.
15. Piping--main exhaust, including connections between generator and condenser and between condenser and hotwell.
16. Piping--main steam, including connections from main throttle valve to turbine inlet.
17. Platforms, railings, steps, gratings, etc., appurtenant to apparatus listed herein.
18. Pressure oil system, including accumulators, pumps, piping, motors, etc.
19. Throttle and inlet valve.
20. Tunnels, intake and discharge, for condenser system, when not a part of a structure.
21. Water screens, motors, etc.

314 Turbogenerator units.

This account shall include the cost installed of main turbine-driven units and accessory equipment used in generating electricity by steam.

ITEMS

1. Air cleaning and cooling apparatus, including blowers, drive equipment, air ducts not a part of building, louvers, pumps, hoods, etc.
2. Circulating pumps, including connections between condensers and intake and discharge tunnels.
3. Condensers, including condensate pumps, air and vacuum pumps, ejectors, unloading valves and vacuum breakers, expansion devices, screens, etc.
4. Generator hydrogen, gas piping and detrainment equipment.
5. Cooling system, including towers, pumps, tanks, and piping.
6. Cranes, hoists, etc., including items wholly identified with items listed herein.
7. Excitation system, when identified with main generating units.
8. Fire-extinguishing systems.
9. Foundations and settings, especially constructed for and not expected to outlast the apparatus for which provided.
10. Governors.
11. Lighting systems.
12. Lubricating systems, including gauges, filters, water

separators, tanks, pumps, piping, motors, etc.

13. Mechanical meters, including gauges, recording instruments, sampling and testing equipment.

14. Piping--main exhaust, including connections between turbogenerator and condenser and between condenser and hotwell.

15. Piping--main steam, including connections from main throttle valve to turbine inlet.

16. Platforms, railings, steps, gratings, etc., appurtenant to apparatus listed herein.

17. Pressure oil systems, including accumulators, pumps, piping, motors, etc.

18. Steelwork, specially constructed for apparatus listed herein.

19. Throttle and inlet valve.

20. Tunnels, intake and discharge, for condenser system, when not a part of structure, water screens, etc.

21. Turbogenerators--main, including turbine and generator, field rheostats and electric connections for self-excited units.

22. Water screens, motors, etc.

23. Moisture separator for turbine steam.

24. Turbine lubricating oil (initial charge).

315 Accessory electric equipment.

This account shall include the cost installed of auxiliary generating apparatus, conversion equipment, and equipment used primarily in connection with the control and switching of electric energy produced by steam power, and the protection of electric circuits and equipment, except electric motors used to drive equipment included in other accounts. Such motors shall be included in the account in which the equipment with which they are associated is included.

ITEMS

1. Auxiliary generators, including boards, compartments, switching equipment, control

equipment, and connections to auxiliary power bus.

2. Excitation system, including motor, turbine and dual-drive exciter sets and rheostats, storage batteries and charging equipment, circuit breakers, panels and accessories, knife switches and

accessories, surge arresters, instrument shunts, conductors and conduit, special supports for conduit, generator field and exciter switch panels, exciter bus tie panels, generator and exciter rheostats, etc., special housing, protective screens, etc.

3. Generator main connections, including oil circuit breakers and accessories, disconnecting switches and accessories, operating mechanisms and interlocks, current transformers, potential transformers, protective relays, isolated panels and equipment, conductors and conduit, special supports for generator main leads grounding switch, etc., special housings, protective screens, etc.

4. Station buses including main, auxiliary, transfer, synchronizing and fault ground buses, including oil circuit breakers and accessories, disconnecting switches and accessories, operating mechanisms and interlocks, reactors and accessories, voltage regulators and accessories, compensators, resistors, starting transformers, current transformers, potential transformers, protective relays, storage batteries and charging equipment, isolated panels and equipment, conductors and conduit, special supports, special housings, concrete pads, general station grounding system, special fire-extinguishing system, and test equipment.

5. Station control system, including station switchboards with panel wiring, panels with instruments and control equipment only, panels with switching equipment mounted or mechanically connected, truck-type boards complete, cubicles, station supervisory control boards, generator and exciter signal stands, temperature recording devices, frequency-control equipment, master clocks, watt-hour meters and synchronoscope in the turbine room, station totalizing wattmeter, boiler-room load indicator equipment, storage batteries, panels and charging sets, instrument transformers for supervisory metering, conductors and conduit, special supports for conduit, switchboards, batteries, special housing for batteries, protective screens, doors, etc.

Note A: Do not include in this account transformers and other equipment used for changing the voltage or frequency of electricity for the purposes of transmission or distribution.

Note B: When any item of equipment listed herein is used wholly to furnish power to equipment included in another account, its cost shall be included in such other account.

316 Miscellaneous power plant equipment.

This account shall include the cost installed of miscellaneous equipment in and about the steam generating plant devoted to general station use, and which is not properly includible in any of the foregoing steam-power production accounts.

ITEMS

1. Compressed air and vacuum cleaning systems, including tanks, compressors, exhausters, air filters, piping, etc.
2. Cranes and hoisting equipment, including cranes, cars, crane rails, monorails, hoists, etc., with electric and mechanical connections.
3. Fire-extinguishing equipment for general station use.
4. Foundations and settings specially constructed for and not expected to outlast the apparatus for which provided.
5. Locomotive cranes not includible elsewhere.
6. Locomotives not includible elsewhere.
7. Marine equipment, including boats, barges, etc.
8. Miscellaneous belts, pulleys, countershafts, etc.
9. Miscellaneous equipment, including atmospheric and weather indicating devices, intrasite communication equipment, laboratory equipment, signal systems, callophones emergency whistles and sirens, fire alarms, insect-control equipment, and other similar equipment.
10. Railway cars not includible elsewhere.
11. Refrigerating systems, including compressors, pumps, cooling coils, etc.
12. Station maintenance equipment, including lathes, shapers, planers, drill presses, hydraulic presses, grinders, etc., with motors, shafting, hangers, pulleys, etc.
13. Ventilating equipment, including items wholly identified with apparatus listed herein.

Note: When any item of equipment listed herein is wholly used in connection with equipment included in another account, its cost shall be included in such other account.

320 Land and land rights (Major only).

This account shall include the cost of land and land rights used in connection with nuclear power generation. (See electric plant instruction 7.)

321 Structures and improvements (Major only).

This account shall include the cost in place of structures and improvements used and

useful in connection with nuclear power generation. (See electric plant instruction 8.)

Note: Include vapor containers and nuclear production roads and railroads in this account.

322 Reactor plant equipment (Major only).

This account shall include the installed cost of reactors, reactor fuel handling and storage equipment, pressurizing equipment, coolant charging equipment, purification and discharging equipment, radioactive waste treatment and disposal equipment, boilers, steam and feed water piping, reactor and boiler apparatus and accessories and other reactor plant equipment used in the production of steam to be used primarily for generating electricity, including auxiliary superheat boilers and associated equipment in systems which change temperatures or pressure of steam from the reactor system.

ITEMS

1. Auxiliary superheat boilers and associated fuel storage handling preparation and burning equipment, etc. (See account 312 Boiler Plant Equipment, for items, but exclude water supply, water flow lines, and steam lines, as well as other equipment not strictly within the superheat function.)
2. Boiler feed system, including feed water heaters, evaporator condensers, heater drain pumps, heater drainers, deaerators, and vent condensers, boiler feed pumps, surge tanks, feed water regulators, feed water measuring equipment, and all associated drivers.
3. Boilers and heat exchangers.
4. Instruments and devices, including all measuring, indicating, and recording equipment for reactor and boiler plant service together with mountings and supports.
5. Lighting systems.
6. Moderators, such as heavy water, graphite, etc., initial charge.

7. Reactor coolant; primary and secondary systems (initial charge).

8. Radioactive waste treatment and disposal equipment, including tanks, ion exchangers, incinerators, condensers, chimneys, and diluting fans and pumps.

9. Foundations and settings, especially constructed for and not expected to outlast the apparatus for which provided.

10. Reactor including shielding, control rods and mechanisms.

11. Reactor fuel handling equipment, including manipulating and extraction tools, underwater viewing equipment, seal cutting and welding equipment, fuel transfer equipment and fuel disassembly machinery.

12. Reactor fuel element failure detection system.

13. Reactor emergency poison container and injection system.

14. Reactor pressurizing and pressure relief equipment, including pressurizing tanks and immersion heaters.

15. Reactor coolant or moderator circulation charging, purification, and discharging equipment, including tanks, pumps, heat exchangers, demineralizers, and storage.

16. Station piping, including pipes, valves, fittings, separators, traps, desuperheaters, hangers, excavation, covering, etc., for station piping system, including all-reactor coolant, steam, condensate, boiler feed and water supply piping, etc., but not condensing water, plumbing, building heating, oil, gas, or air piping.

17. Ventilating equipment.

18. Water purification equipment, including softeners, demineralizers, and accessories, evaporators and accessories, heat exchangers, filters, tanks for filtered or softened water, pumps, motors, etc.

19. Water supply systems, including pumps, motors, strainers, raw-water storage tanks, boiler wash pumps, intake and discharge pipes and tunnels not a part of a building.

20. Reactor plant cranes and hoists, and associated drives.

Note: When the system for supplying boiler or condenser water is elaborate, as when it includes a dam, reservoir, canal, pipe lines, or cooling ponds, the cost of such special facilities shall be charged to a subdivision of account 321, Structures and Improvements.

323 Turbogenerator units (Major only).

This account shall include the cost installed of main turbine-driven units and accessory equipment used in generating electricity by steam.

ITEMS

1. Air cleaning and cooling apparatus, including blowers, drive equipment, air ducts not a part of building, louvers, pumps, hoods, etc.
2. Circulating pumps, including connections between condensers, and intake and discharge tunnels.
3. Condensers, including condensate pumps, air and vacuum pumps ejectors, unloading valves and vacuum breakers, expansion devices, screens, etc.
4. Generator hydrogen gas piping system and hydrogen detrainment equipment, and bulk hydrogen gas storage equipment.
5. Cooling system, including towers, pumps, tanks and piping.

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6. Cranes, hoists, etc., including items wholly identified with items listed herein.
7. Excitation system, when identified with main generating units.
8. Fire extinguishing systems.
9. Foundations and settings, especially constructed for and not expected to outlast the apparatus for which provided.
10. Governors.
11. Lighting systems.
12. Lubricating systems, including gauges filters, water separators, tanks, pumps, piping motors, etc.
13. Mechanical meters, including gauges recording instruments, sampling and testing equipment.
14. Piping--main exhaust, including connections between turbogenerator and condenser and between condenser and hotwell.
15. Piping--main steam, including connections from main throttle valve to turbine inlet.
16. Platforms, railings, steps, gratings, etc. appurtenant to apparatus listed herein.
17. Pressure oil systems, including accumulators, pumps, piping, motors, etc.
18. Steelwork, specially constructed for apparatus listed herein.
19. Throttle and inlet valve.
20. Tunnels, intake and discharge, for condenser system, when not a part of structure water screens, etc.
21. Turbogenerators--main, including turbine and generator, field rheostats and electric connections for self-excited units.
22. Water screens, motors, etc.

23 Moisture separators for turbine steam.
24. Turbine lubricating oil (initial charge).

324 Accessory electric equipment (Major only).

This account shall include the cost installed of auxiliary generating apparatus, conversion equipment, and equipment used primarily in connection with the control and switching of electric energy produced by nuclear power, and the protection of electric circuits and equipment, except electric motors used to drive equipment included in other accounts. Such motors shall be included in the account in which the equipment with which they are associated is included.

Note: Do not include in this account transformers and other equipment used for changing the voltage or frequency of electric energy for the purpose of transmission or distribution.

ITEMS

1. Auxiliary generators, including boards, compartments, switching equipment, control equipment, and connections to auxiliary power bus.
2. Excitation system, including motor, turbine and dual-drive exciter sets and rheostats, storage batteries and charging equipment, circuit breakers, panels and accessories, knife switches and accessories, surge arresters, instrument shunts, conductors and conduit, special supports for conduit, generator field and exciter switch panels, exciter bus tie panels, generator and exciter rheostats, etc., special housing, protective screens, etc.
3. Generator main connections, including oil circuit breakers and accessories, disconnecting switches and accessories, operating mechanisms and interlocks, current transformers, potential transformers, protective relays, isolated panels and equipment, conductors and conduit, special supports for generator main leads, grounding switch, etc., special housings, protective screens, etc.
4. Station buses, including main, auxiliary, transfer, synchronizing and fault ground buses, including oil circuit breakers and accessories, disconnecting switches and accessories, operating mechanisms and interlocks, reactors and accessories, voltage regulators and accessories, compensators, resistors, starting transformers, current transformers, potential transformers, protective relays, storage batteries and charging equipment, isolated panels and equipment, conductors and conduit, special supports, special housings, concrete

pads, general station grounding system, fire-extinguishing system, and test equipment.

5. Station control system, including station switchboards with panel wiring, panels with instruments and control equipment only, panels with switching equipment mounted or mechanically connected, truck-type boards complete, cubicles, station supervisory control boards, generator and exciter signal stands, temperature recording devices, frequency-control equipment, master clocks, watt-hour meters and synchronoscope in the turbine room, station totalizing wattmeter, boiler-room load indicator equipment, storage batteries, panels and charging sets, instrument transformers for supervisory metering, conductors and conduit, special supports for conduit, switchboards, batteries, special housing for batteries, protective screens, doors, etc.

Note: When any item of equipment listed herein is used wholly to furnish power to equipment included in another account, its cost shall be included in such other account

325 Miscellaneous power plant equipment (Major only).

This account shall include the cost installed of miscellaneous equipment in and about the nuclear generating

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plant devoted to general station use, and which is not properly includible in any of the foregoing nuclear-power production accounts.

ITEMS

1. Compressed air and vacuum cleaning systems, including tanks, compressors, exhausters, air filters, piping, etc.
2. Cranes and hoisting equipment, including cranes, cars, crane rails, monorails, hoists, etc., with electric and mechanical connections.
3. Fire-extinguishing equipment for general station and site use.
4. Foundations and settings specially constructed for and not expected to outlast the apparatus for which provided.
5. Locomotive cranes not includible elsewhere.
6. Locomotives not included elsewhere.
7. Marine equipment, including boats, barges, etc.
8. Miscellaneous belts, pulleys, countershafts, etc.

9. Miscellaneous equipment, including atmospheric and weather recording devices, intrasite communication equipment, laboratory equipment, signal systems, callophones emergency whistles and sirens, fire alarms, insect-control equipment, and other similar equipment.

10. Railway cars or special shipping containers not includible elsewhere.

11. Refrigerating systems, including compressors, pumps, cooling coils, etc.

12. Station maintenance equipment, including lathes, shapers, planers, drill presses, hydraulic presses, grinders, etc., with motors, shafting, hangers, pulleys, etc.

13. Ventilating equipment, including items wholly identified with apparatus listed herein.

14. Station and area radiation monitoring equipment.

Note: When any item of equipment listed herein is wholly used in connection with equipment included in another account, its cost shall be included in such other account.

330 Land and land rights.

This account shall include the cost of land and land rights used in connection with hydraulic power generation. (See electric plant instruction 7.) For Major utilities, it shall also include the cost of land and land rights used in connection with (1) the conservation of fish and wildlife, and (2) recreation. Separate subaccounts shall be maintained for each of the above.

331 Structures and improvements.

This account shall include the cost in place of structures and improvements used in connection with hydraulic power generation. (See electric plant instruction 8.) For Major utilities, it shall also include the cost in place of structures and improvements used in connection with (1) the conservation of fish and wildlife, and (2) recreation. Separate subaccounts shall be maintained for each of the above.

332 Reservoirs, dams, and waterways.

This account shall include the cost in place of facilities used for impounding, collecting, storage, diversion, regulation, and delivery of

water used primarily for generating electricity. For Major utilities, it shall also include the cost in place of facilities used in connection with (a) the conservation of fish and wildlife, and (b) recreation. Separate subaccounts shall be maintained for each of the above. (See electric plant instruction 8C.)

ITEMS

1. Bridges and culverts (when not a part of roads or railroads).
2. Clearing and preparing land.
3. Dams, including wasteways, spillways, flash boards, spillway gates with operating and control mechanisms, tunnels, gate houses, and fish ladders.
4. Dikes and embankments.
5. Electric system, including conductors control system, transformers, lighting fixtures, etc.
6. Excavation, including shoring, bracing, bridging, refill, and disposal of excess excavated material.
7. Foundations and settings specially constructed for and not expected to outlast the apparatus for which provided.
8. Intakes, including trash racks, rack cleaners, control gates and valves with operating mechanisms, and intake house when not a part of station structure.
9. Platforms, railings, steps, gratings, etc., appurtenant to structures listed herein.
10. Power line wholly identified with items included herein.
11. Retaining walls.
12. Water conductors and accessories, including canals, tunnels, flumes, penstocks pipe conductors, forebays, tailraces, navigation locks and operating mechanisms, waterhammer and surge tanks, and supporting trestles and structures.
13. Water storage reservoirs, including dams, flashboards, spillway gates and operating mechanisms, inlet and outlet tunnels,

regulating valves and valve towers, silt and mud sluicing tunnels with valve or gate towers, and all other structures wholly identified with any of the foregoing items.

333 Water wheels, turbines and generators.

This account shall include the cost installed of water wheels and hydraulic turbines (from connection with penstock or flume to tailrace) and generators driven thereby devoted to the production of electricity by water power or for the production of power for industrial or other purposes, if the equipment used for such purposes is a part of the hydraulic power plant works.

ITEMS

1. Exciter water wheels and turbines, including runners, gates, governors, pressure regulators, oil pumps, operating mechanisms, scroll cases, draft tubes, and draft-tube supports.
2. Fire-extinguishing equipment.
3. Foundations and settings, specially constructed for and not expected to outlast the apparatus for which provided.
4. Generator cooling system, including air cooling and washing apparatus, air fans and accessories, air ducts, etc.
5. Generators--main, a.c. or d.c., including field rheostats and connections for self-excited units and excitation system when identified with the generating unit.
6. Lighting systems.
7. Lubricating systems, including gauges, filters, tanks, pumps, piping, etc.
8. Main penstock valves and appurtenances, including main valves, control equipment, bypass valves and fittings, and other accessories.
9. Main turbines and water wheels, including runners, gates, governors, pressure regulators, oil pumps, operating mechanisms, scroll cases, draft tubes, and draft-tube supports.
10. Mechanical meters and recording instruments.
11. Miscellaneous water-wheel equipment, including gauges, thermometers, meters, and other instruments.
12. Platforms, railings, steps, gratings, etc., appurtenant to apparatus listed herein.
13. Scroll case filling and drain system, including gates, pipe, valves, fittings, etc.
14. Water-actuated pressure-regulator system, including tanks and housings, pipes, valves, fittings and insulations, piers and anchorage, and excavation and backfill.

334 Accessory electric equipment.

This account shall include the cost installed of auxiliary

generating apparatus, conversion equipment, and equipment used primarily in connection with the control and switching of electric energy produced by hydraulic power and the protection of electric circuits and equipment, except electric motors used to drive equipment included in other accounts, such motors being included in the account in which the equipment with which they are associated is included.

ITEMS

1. Auxiliary generators, including boards, compartments, switching equipment, control equipment, and connections to auxiliary power bus.

2. Excitation system, including motor, turbine, and dual-drive exciter sets and rheostats, storage batteries and charging equipment, circuit breakers, panels and accessories, knife switches and accessories, surge arresters, instrument shunts, conductors and conduit, special supports for conduit, generator field and exciter switch panels, exciter bus tie panels, generator and exciter rheostats, etc., special housings, protective screens, etc.

3. Generator main connections, including oil circuit breakers and accessories, disconnecting switches and accessories, operating mechanisms and interlocks, current transformers, potential transformers, protective relays, isolated panels and equipment, conductors and conduit, special supports for generator main leads, grounding switch, etc., special housings, protective screens, etc.

4. Station buses, including main, auxiliary, transfer, synchronizing, and fault ground buses, including oil circuit breakers and accessories, disconnecting switches and accessories, operating mechanisms and interlocks, reactors and accessories, voltage regulators and accessories, compensators, resistors starting transformers, current transformers, potential transformers, protective relays, storage batteries, and charging equipment, isolated panels and equipment, conductors and conduit, special supports, special fire-extinguishing system, and test equipment.

5. Station control system, including station switchboards with panel wiring panels with instruments and control equipment only, panels with switching equipment mounted or mechanically connected, trucktype boards complete, cubicles, station supervisory control devices, frequency control equipment, master clocks, watt-hour meter, station totalizing watt-meter, storage batteries, panels and charging sets, instrument transformers for supervisory metering,

conductors and conduit, special supports for conduit, switchboards, batteries, special housings for batteries, protective screens, doors, etc.

Note A: Do not include in this account transformers and other equipment used for changing the voltage or frequency of electricity for the purpose of transmission or distribution.

Note B: When any item of equipment listed herein is used wholly to furnish power to equipment, it shall be included in such equipment account.

335 Miscellaneous power plant equipment.

This account shall include the cost installed of miscellaneous equipment in and about the hydroelectric generating plant which is devoted to general station use and is not properly includible in other hydraulic production accounts. For Major utilities, it shall also include the cost of equipment used in connection with (a) the conservation of fish and wildlife, and (b) recreation. Separate subaccounts shall be maintained for each of the above.

ITEMS

1. Compressed air and vacuum cleaning systems, including tanks, compressors, exhausters, air filters, piping, etc.
2. Cranes and hoisting equipment, including cranes, cars, crane rails, monorails, hoists, etc., with electric and mechanical connections.
3. Fire-extinguishing equipment for general station use.
4. Foundations and settings, specially constructed for and not expected to outlast the apparatus for which provided.
5. Locomotive cranes not includible elsewhere.
6. Locomotives not includible elsewhere.
7. Marine equipment, including boats, barges, etc.
8. Miscellaneous belts, pulleys, countershafts, etc.
9. Miscellaneous equipment, including atmospheric and weather indicating devices, intrasite communication equipment, laboratory equipment, insect control equipment, signal systems, callophones, emergency whistles and sirens, fire alarms, and other similar equipment.
10. Railway cars, not includible elsewhere.
11. Refrigerating system, including compressors, pumps, cooling

coils, etc.
12. Station maintenance equipment, including lathes, shapers, planers, drill presses, hydraulic presses, grinders, etc., with motors, shafting, hangers, pulleys, etc.
13. Ventilating equipment, including items wholly identified with apparatus listed herein.

Note: When any item of equipment, listed herein is used wholly in connection with equipment included in another account, its cost shall be included in such other account.

336 Roads, railroads and bridges.

This account shall include the cost of roads, railroads, trails, bridges, and trestles used primarily as production facilities. It includes also those roads, etc., necessary to connect the plant with highway transportation systems, except when such roads are dedicated to public use and maintained by public authorities.

ITEMS

1. Bridges, including foundations, piers, girders, trusses, flooring, etc.
2. Clearing land.
3. Railroads, including grading, ballast, ties, rails, culverts, hoists, etc.
4. Roads, including grading, surfacing, culverts, etc.
5. Structures, constructed and maintained in connection with items listed herein.
6. Trails, including grading, surfacing, culverts, etc.
7. Trestles, including foundations, piers, girders, trusses, flooring, etc.

Note A: Roads intended primarily for connecting employees' houses with the powerplant, and roads used primarily in connection with fish and wildlife, and recreation activities, shall not be included herein but in account 331, Structures and Improvements.

Note B: The cost of temporary roads, bridges, etc. necessary during the period of construction but abandoned or dedicated to public use upon completion of the plant, shall not be included herein but shall be charged to the accounts appropriate for the construction.

340 Land and land rights.

This account shall include the cost of land and land rights used in connection with other power generation. (See electric plant instruction 7.)

341 Structures and improvements.

This account shall include the cost in place of structures and improvements used in connection with other power generation. (See electric plant instruction 8.)

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342 Fuel holders, producers, and accessories.

This account shall include the cost installed of fuel handling and storage equipment used between the point of fuel delivery to the station and the intake pipe through which fuel is directly drawn to the engine, also the cost of gas producers and accessories devoted to the production of gas for use in prime movers driving main electric generators.

ITEMS

1. Blower and fans.
2. Boilers and pumps.
3. Economizers.
4. Exhauster outfits.
5. Flues and piping.
6. Pipe system.
7. Producers.
8. Regenerators.
9. Scrubbers.
10. Steam injectors.
11. Tanks for storage of oil, gasoline, etc.
12. Vaporizers.

343 Prime movers.

This account shall include the cost installed of Diesel or other prime movers devoted to the generation of electric energy, together with their auxiliaries.

ITEMS

1. Air-filtering system.
2. Belting, shafting, pulleys, reduction gearing, etc.
3. Cooling system, including towers, pumps, tanks, and piping.
4. Cranes, hoists, etc., including items wholly identified with apparatus listed herein.
5. Engines, Diesel, gasoline, gas, or other internal combustion.
6. Foundations and settings specially constructed for and not expected to outlast the apparatus for which provided.
7. Governors.
8. Ignition system.
9. Inlet valve.
10. Lighting systems.
11. Lubricating systems, including filters, tanks, pumps, and piping.
12. Mechanical meters, including gauges, recording instruments, sampling, and testing equipment.
13. Mufflers.
14. Piping.
15. Starting systems, compressed air, or other, including compressors and drives, tanks, piping, motors, boards and connections, storage tanks, etc.
16. Steelwork, specially constructed for apparatus listed herein.
17. Waste heat boilers, antifluctuators, etc.

344 Generators.

This account shall include the cost installed of Diesel or other power driven main generators.

ITEMS

1. Cranes, hoists, etc., including items wholly identified with such apparatus.
2. Fire-extinguishing equipment.
3. Foundations and settings, specially constructed for and not expected to outlast the apparatus for which provided.
4. Generator cooling system, including air cooling and washing apparatus, air fans and accessories, air ducts, etc.
5. Generators--main, a.c. or d.c., including field rheostats and connections for self-excited units and excitation system when identified

with the generating unit.

6. Lighting systems.

7. Lubricating system, including tanks, filters, strainers, pumps, piping, coolers, etc.

8. Mechanical meters, and recording instruments.

9. Platforms, railings, steps, gratings, etc., appurtenant to apparatus listed herein.

Note: If prime movers and generators are so integrated that it is not practical to classify them separately, the entire unit may be included in account 344, Generators.

345 Accessory electric equipment.

This account shall include the cost installed of auxiliary generating apparatus, conversion equipment, and equipment used primarily in connection with the control and switching of electric energy produced in other power generating stations, and the protection of electric circuits and equipment, except electric motors used to drive equipment included in other accounts. Such motors shall be included in the account in which the equipment with which it is associated is included.

ITEMS

1. Auxiliary generators, including boards, compartments, switching equipment, control equipment, and connections to auxiliary power bus.

2. Excitation system, including motor, turbine and dual-drive exciter sets and rheostats, storage batteries and charging equipment, circuit breakers, panels and accessories, knife switches and accessories, surge arresters, instrument shunts, conductors and conduit, special supports for conduit, generator field and exciter switch panels, exciter

bus tie panels, generator and exciter rheostats, etc., special housings, protective screens, etc.

3. Generator main connections, including oil circuit breakers and accessories, disconnecting switches and accessories, operating mechanisms and interlocks, current transformers, potential transformers, protective relays, isolated panels and equipment, conductors and conduit, special supports for generator main leads, grounding switch,

etc., special housing, protective screens, etc.

4. Station control system, including station switchboards with panel wiring, panels with instruments and control equipment only, panels with switching equipment mounted or mechanically connected, trunktype boards complete, cubicles, station supervisory control boards, generator and exciter signal stands, temperature-recording devices, frequency control equipment, master clocks, watt-hour meter, station totalizing wattmeter, storage batteries, panels and charging sets, instrument transformers for supervisory metering, conductors and conduit, special supports for conduit, switchboards, batteries, special housing for batteries, protective screens, doors, etc.

5. Station buses, including main, auxiliary transfer, synchronizing and fault ground buses, including oil curcuit breakers and accessories, disconnecting switches and accessories, operating mechanisms and interlocks, reactors and accessories, voltage regulators and accessories, compensators, resistors, starting transformers, current transformers, potential transformers, protective relays, storage batteries and charging equipment, isolated panels and equipment, conductors and conduit, special supports, special housings, concrete pads, general station ground system, special fire-extinguishing system, and test equipment.

Note A: Do not include in this account transformers and other equipment used for changing the voltage or frequency of electric energy for the purpose of transmission or distribution.

Note B: When any item of equipment listed herein is used wholly to furnish power to equipment included in another account, its cost shall be included in such other account.

346 Miscellaneous power plant equipment.

This account shall include the cost installed of miscellaneous equipment in and about the other power generating plant, devoted to general station use, and not properly includible in any of the foregoing other power production accounts.

ITEMS

1. Compressed air and vacuum cleaning systems, including tanks, compressors, exhausters, air filters, piping, etc.

2. Cranes and hoisting equipment, including cranes, cars, crane

rails, monorails, hoists, etc., with electric and mechanical connections.

3. Fire-extinguishing equipment for general station use.

4. Foundations and settings, specially constructed for and not expected to outlast the apparatus for which provided.

5. Miscellaneous equipment, including atmospheric and weather indicating devices, intrasite communication equipment, laboratory equipment, signal systems, callophones, emergency whistles and sirens, fire alarms, and other similar equipment.

6. Miscellaneous belts, pulleys, countershafts, etc.

7. Refrigerating system including compressors, pumps, cooling coils, etc.

8. Station maintenance equipment, including lathes, shapers, planers, drill presses, hydraulic presses, grinders, etc., with motors, shafting, hangers, pulleys, etc.

9. Ventilating equipment, including items wholly identified with apparatus listed herein.

Note: When any item of equipment, listed herein is used wholly in connection with equipment included in another account, its cost shall be included in such other account.

350 Land and land rights.

This account shall include the cost of land and land rights used in connection with transmission operations. (See electric plant instruction 7.)

351 [Reserved]

352 Structures and improvements.

This account shall include the cost in place of structures and improvements used in connection with transmission operations. (See electric plant instruction 8.)

353 Station equipment.

This account shall include the cost installed of transforming, conversion, and switching equipment used for the purpose of changing the characteristics of electricity in connection with its transmission or for controlling transmission circuits.

ITEMS

1. Bus compartments, concrete, brick, and sectional steel, including items permanently attached thereto.
2. Conduit, including concrete and iron duct runs not a part of a building.
3. Control equipment, including batteries battery charging equipment, transformers, remote relay boards, and connections.
4. Conversion equipment, including transformers, indoor and outdoor, frequency changers, motor generator sets, rectifiers, synchronous converters, motors, cooling equipment, and associated connections.
5. Fences.
6. Fixed and synchronous condensers, including transformers, switching equipment blowers, motors and connections.
7. Foundations and settings, specially constructed for and not expected to outlast the apparatus for which provided.
8. General station equipment, including air compressors, motors, hoists, cranes, test equipment, ventilating equipment, etc.
9. Platforms, railings, steps, gratings, etc. appurtenant to apparatus listed herein.
10. Primary and secondary voltage connections, including bus runs and supports, insulators, potheads, lightning arresters, cable and wire runs from and to outdoor connections or to manholes and the associated regulators, reactors, resistors, surge arresters, and accessory equipment.
11. Switchboards, including meters, relays, control wiring, etc.
12. Switching equipment, indoor and outdoor, including oil circuit breakers and operating mechanisms, truck switches, and disconnect switches.
13. Tools and appliances.

354 Towers and fixtures.

This account shall include the cost installed of towers and appurtenant fixtures used for supporting overhead transmission conductors.

ITEMS

1. Anchors, guys, braces.

2. Brackets.
3. Crossarms, including braces.
4. Excavation, backfill, and disposal of excess excavated material.
5. Foundations.
6. Guards.
7. Insulator pins and suspension bolts.
8. Ladders and steps.
9. Railings, etc.
10. Towers.

355 Poles and fixtures.

This account shall include the cost installed of transmission line poles, wood, steel, concrete, or other material, together with appurtenant fixtures used for supporting overhead transmission conductors.

ITEMS

1. Anchors, head arm and other guys, including guy guards, guy clamps, strain insulators, pole plates, etc.
2. Brackets.
3. Crossarms and braces.
4. Excavation and backfill, including disposal of excess excavated material.
5. Extension arms.
6. Gaining, roofing stenciling, and tagging.
7. Insulator pins and suspension bolts.
8. Paving.
9. Pole steps.
10. Poles, wood, steel, concrete, or other material.
11. Racks complete with insulators.
12. Reinforcing and stubbing.
13. Settings.
14. Shaving and painting.

356 Overhead conductors and devices.

This account shall include the cost installed of overhead conductors and devices used for transmission purposes.

ITEMS

1. Circuit breakers.
2. Conductors, including insulated and bare wires and cables.
3. Ground wires and ground clamps.
4. Insulators, including pin, suspension, and other types.
5. Lightning arresters.
6. Switches.
7. Other line devices.

357 Underground conduit.

This account shall include the cost installed of underground conduit and tunnels used for housing transmission cables or wires. (See electric plant instruction 14.)

ITEMS

1. Conduit, concrete, brick or tile, including iron pipe, fiber pipe, Murray duct, and standpipe on pole or tower.
2. Excavation, including shoring, bracing, bridging, backfill, and disposal of excess excavated material.
3. Foundations and settings specially constructed for and not expected to outlast the apparatus for which provided.
4. Lighting systems.
5. Manholes, concrete or brick, including iron or steel, frames and covers, hatchways, gratings, ladders, cable racks and hangers, etc., permanently attached to manholes.
6. Municipal inspection.

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7. Pavement disturbed, including cutting and replacing pavement, pavement base and sidewalks.
8. Permits.
9. Protection of street openings.
10. Removal and relocation of subsurface obstructions.
11. Sewer connections, including drains, traps, tide valves, check valves, etc.
12. Sumps, including pumps.
13. Ventilating equipment.

358 Underground conductors and devices.

This account shall include the cost installed of underground conductors and devices used for transmission purposes.

ITEMS

1. Armored conductors, buried, including insulators, insulating materials, splices, potheads, trenching, etc.
2. Armored conductors, submarine, including insulators, insulating materials, splices in terminal chambers, potheads, etc.
3. Cables in standpipe, including pothead and connection from terminal chamber of manhole to insulators on pole.
4. Circuit breakers.
5. Fireproofing, in connection with any items listed herein.
6. Hollow-core oil-filled cable, including straight or stop joints pressure tanks, auxiliary air tanks, feeding tanks, terminals, potheads and connections, ventilating equipment, etc.
7. Lead and fabric covered conductors, including insulators, compound filled, oil filled, or vacuum splices, potheads, etc.
8. Lightning arresters.
9. Municipal inspection.
10. Permits.
11. Protection of street openings.
12. Racking of cables.
13. Switches.
14. Other line devices.

359 Roads and trails.

This account shall include the cost of roads, trails, and bridges used primarily as transmission facilities.

ITEMS

1. Bridges, including foundation piers, girders, trusses, flooring, etc.
2. Clearing land.
3. Roads, including grading, surfacing, culverts, etc.
4. Structures, constructed and maintained in connection with items included herein.
5. Trails, including grading, surfacing, culverts, etc.

Note: The cost of temporary roads, bridges, etc., necessary during

the period of construction but abandoned or dedicated to public use upon completion of the plant, shall be charged to the accounts appropriate for the construction.

360 Land and land rights.

This account shall include the cost of land and land rights used in connection with distribution operations. (See electric plant instruction 7.)

Note: Do not include in this account the cost of permits to erect poles, towers, etc., or to trim trees. (See account 364, Poles, Towers and Fixtures, and account 365, Overhead Conductors and Devices.)

361 Structures and improvements.

This account shall include the cost in place of structures and improvements used in connection with distribution operations. (See electric plant instruction 8.)

362 Station equipment.

This account shall include the cost installed of station equipment, including transformer banks, etc., which are used for the purpose of changing the characteristics of electricity in connection with its distribution.

ITEMS

1. Bus compartments, concrete, brick and sectional steel, including items permanently attached thereto.
2. Conduit, including concrete and iron duct runs not part of building.
3. Control equipment, including batteries, battery charging equipment, transformers, remote relay boards, and connections.
4. Conversion equipment, indoor and outdoor, frequency changers, motor generator sets, rectifiers, synchronous converters, motors, cooling equipment, and associated connections.
5. Fences.
6. Fixed and synchronous condensers, including transformers, switching equipment, blowers, motors, and connections.
7. Foundations and settings, specially constructed for and not

expected to outlast the apparatus for which provided.

8. General station equipment, including air compressors, motors, hoists, cranes, test equipment, ventilating equipment, etc.

9. Platforms, railings, steps, gratings, etc., appurtenant to apparatus listed herein.

10. Primary and secondary voltage connections, including bus runs and supports, insulators, potheads, lightning arresters,

cable and wire runs from and to outdoor connections or to manholes and the associated regulators, reactors, resistors, surge arresters, and accessory equipment.

11. Switchboards, including meters, relays, control wiring, etc.

12. Switching equipment, indoor and outdoor, including oil circuit breakers and operating mechanisms, truck switches, disconnect switches.

Note: The cost of rectifiers, series transformers, and other special station equipment devoted exclusively to street lighting service shall not be included in this account, but in account 373, Street Lighting and Signal Systems.

363 Storage battery equipment.

This account shall include the cost installed of storage battery equipment used for the purpose of supplying electricity to meet emergency or peak demands.

ITEMS

1. Batteries, including elements, tanks, tank insulators, etc.

2. Battery room connections, including cable or bus runs and connections.

3. Battery room flooring, when specially laid for supporting batteries.

4. Charging equipment, including motor generator sets and other charging equipment and connections, and cable runs from generator or station bus to battery room connections.

5. Miscellaneous equipment, including instruments, water stills, etc.

6. Switching equipment, including endcell switches and connections, boards and panels, used exclusively for battery control, not part of

general station switchboard.

7. Ventilating equipment, including fans and motors, louvers, and ducts not part of building.

Note: Storage batteries used for control and general station purposes shall not be included in this account but in the account appropriate for their use.

364 Poles, towers and fixtures.

This account shall include the cost installed of poles, towers, and appurtenant fixtures used for supporting overhead distribution conductors and service wires.

ITEMS

1. Anchors, head arm, and other guys, including guy guards, guy clamps, strain insulators, pole plates, etc.
2. Brackets.
3. Crossarms and braces.
4. Excavation and backfill, including disposal of excess excavated material.
5. Extension arms.
6. Foundations.
7. Guards.
8. Insulator pins and suspension bolts.
9. Paving.
10. Permits for construction.
11. Pole steps and ladders.
12. Poles, wood, steel, concrete, or other material.
13. Racks complete with insulators.
14. Railings.
15. Reinforcing and stubbing.
16. Settings.
17. Shaving, painting, gaining, roofing, stenciling, and tagging.
18. Towers.
19. Transformer racks and platforms.

365 Overhead conductors and devices.

This account shall include the cost installed of overhead conductors and devices used for distribution purposes.

ITEMS

1. Circuit breakers.
2. Conductors, including insulated and bare wires and cables.
3. Ground wires, clamps, etc.
4. Insulators, including pin, suspension, and other types, and tie wire or clamps.
5. Lightning arresters.
6. Railroad and highway crossing guards.
7. Splices.
8. Switches.
9. Tree trimming, initial cost including the cost of permits therefor.
10. Other line devices.

Note: The cost of conductors used solely for street lighting or signal systems shall not be included in this account but in account 373, Street Lighting and Signal Systems.

366 Underground conduit.

This account shall include the cost installed of underground conduit and tunnels used for housing distribution cables or wires.

ITEMS

1. Conduit, concrete, brick and tile, including iron pipe, fiber pipe, Murray duct, and standpipe on pole or tower.
2. Excavation, including shoring, bracing, bridging, backfill, and disposal of excess excavated material.
3. Foundations and settings specially constructed for and not expected to outlast the apparatus for which constructed.
4. Lighting systems.

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5. Manholes, concrete or brick, including iron or steel frames and covers, hatchways, gratings, ladders, cable racks and hangers, etc., permanently attached to manholes.
6. Municipal inspection.
7. Pavement disturbed, including cutting and replacing pavement, pavement base, and sidewalks.

8. Permits.
9. Protection of street openings.
10. Removal and relocation of subsurface obstructions.
11. Sewer connections, including drains, traps, tide valves, check valves, etc.
12. Sumps, including pumps.
13. Ventilating equipment.

Note: The cost of underground conduit used solely for street lighting or signal systems shall be included in account 373, Street Lighting and Signal Systems.

367 Underground conductors and devices.

This account shall include the cost installed of underground conductors and devices used for distribution purposes.

ITEMS

1. Armored conductors, buried, including insulators, insulating materials, splices, potheads, trenching, etc.
2. Armored conductors, submarine, including insulators, insulating materials, splices in terminal chamber, potheads, etc.
3. Cables in standpipe, including pothead and connection from terminal chamber or manhole to insulators on pole.
4. Circuit breakers.
5. Fireproofing, in connection with any items listed herein.
6. Hollow-core oil-filled cable, including straight or stop joints, pressure tanks, auxiliary air tanks, feeding tanks, terminals, potheads and connections, etc.
7. Lead and fabric covered conductors, including insulators, compound-filled, oil-filled or vacuum splices, potheads, etc.
8. Lightning arresters.
9. Municipal inspection.
10. Permits.
11. Protection of street openings.
12. Racking of cables.
13. Switches.
14. Other line devices.

Note: The cost of underground conductors and devices used solely for street lighting or signal systems shall be included in account 373,

Street Lighting and Signal Systems.

368 Line transformers.

A. This account shall include the cost installed of overhead and underground distribution line transformers and poletype and underground voltage regulators owned by the utility, for use in transforming electricity to the voltage at which it is to be used by the customer, whether actually in service or held in reserve.

B. When a transformer is permanently retired from service, the original installed cost thereof shall be credited to this account.

C. The records covering line transformers shall be so kept that the utility can furnish the number of transformers of various capacities in service and those in reserve, and the location and the use of each transformer.

ITEMS

1. Installation, labor of (first installation only).
2. Transformer cut-out boxes.
3. Transformer lightning arresters.
4. Transformers, line and network.
5. Capacitors.
6. Network protectors.

Note: The cost of removing and resetting line transformers shall not be charged to this account but to account 583, Overhead Line Expenses, or account 584, Underground Line Expenses (for Nonmajor utilities, account 561, Line and Station Labor, or account 562, Line and Station Supplies and Expenses), as appropriate. The cost of line transformers used solely for street lighting or signal systems shall be included in account 373, Street Lighting and Signal Systems.

369 Services.

This account shall include the cost installed of overhead and underground conductors leading from a point where wires leave the last pole of the overhead system or the distribution box or manhole, or the top of the pole of the distribution line, to the point of connection with the customer's outlet or wiring. Conduit used for underground service conductors shall be included herein.

ITEMS

1. Brackets.
2. Cables and wires.
3. Conduit.
4. Insulators.
5. Municipal inspection.
6. Overhead to underground, including conduit or standpipe and conductor from last

splice on pole to connection with customer's wiring.
7. Pavement disturbed, including cutting and replacing pavement, pavement base, and sidewalks.
8. Permits.
9. Protection of street openings.
10. Service switch.
11. Suspension wire.

370 Meters.

A. This account shall include the cost installed of meters or devices and appurtenances thereto, for use in measuring the electricity delivered to its users, whether actually in service or held in reserve.

B. When a meter is permanently retired from service, the installed cost included herein shall be credited to this account.

C. The records covering meters shall be so kept that the utility can furnish information as to the number of meters of various capacities in service and in reserve as well as the location of each meter owned.

ITEMS

1. Alternating current, watt-hour meters.
2. Current limiting devices.
3. Demand indicators.
4. Demand meters.
5. Direct current watt-hour meters.
6. Graphic demand meters.
7. Installation, labor of (first installation only).
8. Instrument transformers.
9. Maximum demand meters.

10. Meter badges and their attachments.
11. Meter boards and boxes.
12. Meter fittings, connections, and shelves (first set).
13. Meter switches and cut-outs.
14. Prepayment meters.
15. Protective devices.
16. Testing new meters.

Note A: This account shall not include meters for recording output of a generating station, substation meters, etc. It includes only those meters used to record energy delivered to customers.

Note B: The cost of removing and resetting meters shall be charged to account 586, Meter Expenses (for Nonmajor utilities, account 556, Meter Expenses).

371 Installations on customers' premises.

This account shall include the cost installed of equipment on the customer's side of a meter when the utility incurs such cost and when the utility retains title to and assumes full responsibility for maintenance and replacement of such property. This account shall not include leased equipment, for which see account 372, Leased Property on Customers' Premises.

Items

1. Cable vaults.
2. Commercial lamp equipment.
3. Foundations and settings specially provided for equipment included herein.
4. Frequency changer sets.
5. Motor generator sets.
6. Motors.
7. Switchboard panels, high or low tension.
8. Wire and cable connections to incoming cables.

Note: Do not include in this account any costs incurred in connection with merchandising, jobbing, or contract work activities.

372 Leased property on customers' premises.

This account shall include the cost of electric motors, transformers, and other equipment on customers' premises (including municipal corporations), leased or loaned to customers, but not including property held for sale.

Note A: The cost of setting and connecting such appliances or equipment on the premises of customers and the cost of resetting or removal shall not be charged to this account but to operating expenses, account 587, Customer Installations Expenses (for Nonmajor utilities, account 567, Customer Installations Expenses).

Note B: Do not include in this account any costs incurred in connection with merchandising, jobbing, or contract work activities.

373 Street lighting and signal systems.

This account shall include the cost installed of equipment used wholly for public street and highway lighting or traffic, fire alarm, police, and other signal systems.

ITEMS

1. Armored conductors, buried or submarine, including insulators, insulating materials, splices, trenching, etc.
2. Automatic control equipment.
3. Conductors, overhead or underground, including lead or fabric covered, parkway cables, etc., including splices, insulators, etc.

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4. Lamps, are, incandescent, or other types, including glassware, suspension fixtures, brackets, etc.
5. Municipal inspection.
6. Ornamental lamp posts.
7. Pavement disturbed, including cutting and replacing pavement, pavement base, and sidewalks.
8. Permits.
9. Posts and standards.
10. Protection of street openings.
11. Relays or time clocks.
12. Series contactors.
13. Switches.

14. Transformers, pole or underground.

389 Land and land rights.

This account shall include the cost of land and land rights used for utility purposes, the cost of which is not properly includible in other land and land rights accounts. (See electric plant instruction 7.)

390 Structures and improvements.

This account shall include the cost in place of structures and improvements used for utility purposes, the cost of which is not properly includible in other structures and improvements accounts (See electric plant instruction 8.)

391 Office furniture and equipment.

This account shall include the cost of office furniture and equipment owned by the utility and devoted to utility service, and not permanently attached to buildings, except the cost of such furniture and equipment which the utility elects to assign to other plant accounts on a functional basis.

ITEMS

1. Bookcases and shelves.
2. Desks, chairs, and desk equipment.
3. Drafting-room equipment.
4. Filing, storage, and other cabinets.
5. Floor covering.
6. Library and library equipment.
7. Mechanical office equipment, such as accounting machines, typewriters, etc.
8. Safes.
9. Tables.

392 Transportation equipment.

This account shall include the cost of transportation vehicles used for utility purposes.

ITEMS

1. Airplanes.
2. Automobiles.
3. Bicycles.
4. Electrical vehicles.
5. Motor trucks.
6. Motorcycles.
7. Repair cars or trucks.
8. Tractors and trailers.
9. Other transportation vehicles.

393 Stores equipment.

This account shall include the cost of equipment used for the receiving, shipping, handling, and storage of materials and supplies.

ITEMS

1. Chain falls.
2. Counters.
3. Cranes (portable).
4. Elevating and stacking equipment (portable).
5. Hoists.
6. Lockers.
7. Scales.
8. Shelving.
9. Storage bins.
10. Trucks, hand and power driven.
11. Wheelbarrows.

394 Tools, shop and garage equipment.

This account shall include the cost of tools, implements, and equipment used in construction, repair work, general shops and garages and not specifically provided for or includible in other accounts.

ITEMS

1. Air compressors.
2. Anvils.
3. Automobile repair shop equipment.
4. Battery charging equipment.
5. Belts, shafts and countershafts.

6. Boilers.
7. Cable pulling equipment.
8. Concrete mixers.
9. Drill presses.
10. Derricks.
11. Electric equipment.
12. Engines.
13. Forges.
14. Furnaces.
15. Foundations and settings specially constructed for and not expected to outlast the equipment for which provided.
16. Gas producers.
17. Gasoline pumps, oil pumps and storage tanks.
18. Greasing tools and equipment.
19. Hoists.
20. Ladders.
21. Lathes.
22. Machine tools.
23. Motor-driven tools.

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24. Motors.
25. Pipe threading and cutting tools
26. Pneumatic tools.
27. Pumps.
28. Riveters.
29. Smithing equipment.
30. Tool racks.
31. Vises.
32. Welding apparatus.
33. Work benches.

395 Laboratory equipment.

This account shall include the cost installed of laboratory equipment used for general laboratory purposes and not specifically provided for or includible in other departmental or functional plant accounts.

ITEMS

1. Ammeters.
2. Current batteries.
3. Frequency changers.
4. Galvanometers.
5. Inductometers.
6. Laboratory standard millivolt meters.
7. Laboratory standard volt meters.
8. Meter-testing equipment.
9. Millivolt meters.
10. Motor generator sets.
11. Panels.
12. Phantom loads.
13. Portable graphic ammeters, voltmeters, and wattmeters.
14. Portable loading devices.
15. Potential batteries.
16. Potentiometers.
17. Rotating standards.
18. Standard cell, reactance, resistor, and shunt.
19. Switchboards.
20. Synchronous timers.
21. Testing panels.
22. Testing resistors.
23. Transformers.
24. Voltmeters.
25. Other testing, laboratory, or research equipment not provided for elsewhere.

396 Power operated equipment.

This account shall include the cost of power operated equipment used in construction or repair work exclusive of equipment includible in other accounts. Include, also, the tools and accessories acquired for use with such equipment and the vehicle on which such equipment is mounted.

ITEMS

1. Air compressors, including driving unit and vehicle.
2. Back filling machines.
3. Boring machines.
4. Bulldozers.
5. Cranes and hoists.

6. Diggers.
7. Engines.
8. Pile drivers.
9. Pipe cleaning machines.
10. Pipe coating or wrapping machines.
11. Tractors--Crawler type.
12. Trenchers.
13. Other power operated equipment.

Note: It is intended that this account include only such large units as are generally self-propelled or mounted on movable equipment.

397 Communication equipment.

This account shall include the cost installed of telephone, telegraph, and wireless equipment for general use in connection with utility operations.

ITEMS

1. Antennae.
2. Booths.
3. Cables.
4. Distributing boards.
5. Extension cords.
6. Gongs
7. Hand sets, manual and dial.
8. Insulators.
9. Intercommunicating sets.
10. Loading coils.
11. Operators' desks.
12. Poles and fixtures used wholly for telephone or telegraph wire.
13. Radio transmitting and receiving sets.
14. Remote control equipment and lines.
15. Sending keys.
16. Storage batteries
17. Switchboards.
18. Telautograph circuit connections.
19. Telegraph receiving sets.
20. Telephone and telegraph circuits.
21. Testing instruments.
22. Towers.

23. Underground conduit used wholly for telephone or telegraph wires and cable wires.

398 Miscellaneous equipment.

This account shall include the cost of equipment, apparatus, etc., used in the utility operations, which is not includible in any other account of this system of accounts.

ITEMS

1. Hospital and infirmary equipment.
2. Kitchen equipment.
3. Employees' recreation equipment.
4. Radios.
5. Restaurant equipment.
6. Soda fountains.
7. Operators' cottage furnishings.

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8. Other miscellaneous equipment.

Note: Miscellaneous equipment of the nature indicated above wherever practicable shall be included in the utility plant accounts on a functional basis.

399 Other tangible property.

This account shall include the cost of tangible utility plant not provided for elsewhere.

Income Chart of Accounts

1. Utility Operating Income

400 Operating revenues.
401 Operation expense.
402 Maintenance expense.
403 Depreciation expense.
404 Amortization of limited-term electric plant.
405 Amortization of other electric plant.

406 Amortization of electric plant acquisition adjustments.
407 Amortization of property losses, unrecovered plant and regulatory study costs.
407.3 Regulatory debits.
407.4 Regulatory credits.
408 [Reserved]
408.1 Taxes other than income taxes, utility operating income.
409 [Reserved]
409.1 Income taxes, utility operating income.
410 [Reserved]
410.1 Provisions for deferred income taxes, utility operating income.
411 [Reserved]
411.1 Provision for deferred income taxes--Credit, utility operating income.
411.3 [Reserved]
411.4 Investment tax credit adjustments, utility operations.
411.6 Gains from disposition of utility plant.
411.7 Losses from disposition of utility plant.
411.8 Gains from disposition of allowances.
411.9 Losses from disposition of allowances.
412 Revenues from electric plant leased to others.
413 Expenses of electric plant leased to others.
414 Other utility operating income.

2. Other Income and Deductions

a. other income

415 Revenues from merchandising, jobbing, and contract work.
416 Costs and expenses of merchandising, jobbing, and contract work.
417 Revenues from nonutility operations.
417.1 Expenses of nonutility operations.
418 Nonoperating rental income.
418.1 Equity in earnings of subsidiary companies (Major only).
419 Interest and dividend income.
419.1 Allowance for other funds used during construction.
420 Investment tax credits.
421 Miscellaneous nonoperating income.
421.1 Gain on disposition of property.

b. other income deductions

421.2 Loss on disposition of property.
425 Miscellaneous amortization.
426 [Reserved]
426.1 Donations.
426.2 Life insurance.
426.3 Penalties.
426.4 Expenditures for certain civic, political and related activities.
426.5 Other deductions.

Total other income deductions.

Total Other Income and Deductions.

c. taxes applicable to other income and deductions

408.2 Taxes other than income taxes, other income and deductions.
409.2 Income tax, other income and deductions.
409.3 Income taxes, extraordinary items.
410.2 Provision for deferred income taxes, other income and deductions.
411.2 Provision for deferred income taxes--Credit, other income and deductions.
411.5 Investment tax credit adjustments, nonutility operations.
420 Investment tax credits.

Total taxes on other income and deductions.

Net other income and deductions.

3. Interest Charges

427 Interest on long-term debt.
428 Amortization of debt discount and expense.
428.1 Amortization of loss on reacquired debt.
429 Amortization of premium on debt-Cr.
429.1 Amortization of gain on reacquired debt--Credit.
430 Interest on debt to associated companies.
431 Other interest expense.
432 Allowance for borrowed funds used during construction--Credit.

4. Extraordinary Items

434 Extraordinary income.

435 Extraordinary deductions.