



## Introduction

As the development of the master plan provides a road map for the future, so the implementation plan provides specific directions to facilitate the journey. This chapter focuses on the implementation of the proposed master plan, itemizing individual projects, grouping projects together into phases and setting cost goals both for individual projects and for phases.

Project costs are summarized in seven categories: Design, Construction, FF & E, Relocation, Administrative, Contingency Costs and Total Costs.

### DESIGN COSTS

Design costs are costs incurred for architectural and engineering services to prepare designs for new facilities and for the renovation of existing facilities.

### CONSTRUCTION COSTS (INCLUDING BLDG. & SITE)

Building construction costs encompass the costs of construction within five feet of the base building line, including all items required by code and items normally found in buildings, regardless of type. Building Construction costs also include interior fit-up and items such as interior partitions, doors and finishes. Site construction costs encompass work required beyond the building perimeter, including items such as grading and fill, fencing, service drives, parking, landscape development, walks, site lighting and graphics.

### FURNITURE, FIXTURES, & EQUIPMENT (FF & E)

FF&E costs include equipment items which may be installed before completion of the building and which are a part of the construction contract. These costs include such items as lockers, food service equipment, fixed seating, dock levelers, and costs associated with movable office furniture and interior landscape moveable partition systems.



### **RELOCATION COSTS**

Relocation costs are costs associated with moving personnel, furniture and equipment from existing spaces to new locations.

### **ADMINISTRATIVE COSTS**

Administrative costs are costs incurred by TVA in administrative support of the project.

### **CONTINGENCY**

Contingency costs are calculated as a percentage of the total construction cost and are included to serve as a planning, design, and construction reserve.

### **TOTAL COSTS**

The total costs of a project represents the total budget for construction, including all design, construction, FF&E, relocation, administrative and contingency costs.

### **ASSUMPTIONS**

Assumptions made regarding unit prices are listed at the top of the Comprehensive Budget Estimate. These assumptions are based on current information (1993) and represent the best judgement of the project team at the time of publication. In using this information, care should be taken to properly account for cost changes in future years.



## Project Budget Requirements

### PROJECT BUDGETS

Projected project costs represent the total budget required to occupy new or renovated facilities. These costs were developed utilizing the building assessment criteria.

Unit rates for renovation costs and new construction costs were based on discussions with TVA staff and comparisons with other similar projects. Renovation costs reflect facility assessment findings from the Kingston Fossil Plant Site and Facilities Assessment report. Facility condition information derived from the facility assessment report was broken down into major, moderate, and minor categories for the primary assets surveyed.

### BUDGET ASSUMPTIONS

- All unit and incremental costs are stated in FY 93 dollars
- No costs have been budgeted for site acquisition or permitting.
- No costs have been budgeted for specialized shop equipment, computers, telecommunications switches or audio visual equipment.



## Comprehensive Budget Estimate

Cost Factors		Unit Construction Costs	
Design=	10% Constr. Cost	Renov., Minor=	\$25/SF
FF & E=	\$5,500/Person	Renov., Normal=	\$60/SF
Reloc.=	\$500/Person	Renov., Major=	\$90/SF
Admin.=	3% Constr. Cost	New Minor=	\$75/SF
Contin.=	15% Constr. Cost	New Normal=	\$100/SF
		New Major=	\$125/SF
		New Special=	\$250/SF

PR. ID.	PROJECT NAME	UNITS	UNIT COST	PROJECT COSTS						Total
				Design	Constr	FF&E	Reloc.	Admin.	Contin.	
1.1	NEW AO/AUO CREW ROOMS/TOILETS			\$25,425	\$254,250	\$11,000	\$1,000	\$7,628	\$38,138	\$337,440
	Crew Rooms	508	\$250	\$12,700	\$127,000	\$11,000	\$1,000	\$3,810	\$19,050	\$174,560
	Toilets	194	\$125	\$2,425	\$24,250			\$728	\$3,638	\$31,040
	Goat Shack Removal	3	\$1,000	\$300	\$3,000			\$90	\$450	\$3,840
	Sewage Pumping System	1	\$100,000	\$10,000	\$100,000			\$3,000	\$15,000	\$128,000
1.2	POWERHOUSE VENTILATION UPGRADES			\$96,228	\$962,280	\$0	\$0	\$26,868	\$144,342	\$1,231,718
	Ventilation Equip. Upgrade	240,570	\$4	\$96,228	\$962,280			\$26,868	\$144,342	\$1,231,718
1.3	EPRI CENTER/OFFICE ELEVATOR ADDITION			\$124,035	\$1,240,350	\$110,000	\$10,000	\$37,211	\$186,053	\$1,707,648
	EPRI Addition	5,860	\$100	\$58,600	\$586,000	\$110,000	\$10,000	\$17,580	\$87,900	\$870,080
	EPRI Renovation	940	\$60	\$5,640	\$56,400			\$1,692	\$8,460	\$72,192
	Elevator/Toilet Addition	1,740	\$100	\$17,400	\$174,000			\$5,220	\$26,100	\$222,720
	Lobby Renovations	4,655	\$90	\$41,895	\$418,950			\$12,569	\$62,843	\$536,256
	Remove Training Trailer	1	\$5,000	\$500	\$5,000			\$150	\$750	\$6,400
1.4	PARKING LOT RENOVATION/NEW PORTAL			\$33,625	\$336,250	\$11,000	\$1,000	\$10,088	\$50,438	\$442,400
	Rework Paving	1,950	\$50	\$9,750	\$97,500			\$2,825	\$14,625	\$124,800
	Resurface/Restripe Paving	4,780	\$20	\$9,560	\$95,600			\$2,868	\$14,340	\$122,368
	New Sidewalks	800	\$10	\$800	\$8,000			\$240	\$1,200	\$10,240
	Remove Existing Portal	1	\$10,000	\$1,000	\$10,000			\$300	\$1,500	\$12,800
	New Portal	924	\$100	\$92,400	\$924,400	\$11,000	\$1,000	\$2,772	\$13,860	\$130,272
	New Ambulance Shelter	250	\$75	\$1,875	\$18,750			\$563	\$2,813	\$24,000
	Security Fencing	400	\$20	\$800	\$8,000			\$240	\$1,200	\$10,240
	Landscaping	0.30	\$20,000	\$600	\$6,000			\$180	\$900	\$7,680
1.5	PREDICTIVE MAINTENANCE RELOCATIONS			\$9,280	\$92,800	\$33,000	\$3,000	\$2,784	\$13,820	\$154,784
	Relocate Sheet Metal Equipment	1,040	\$25	\$2,600	\$26,000			\$780	\$3,900	\$33,280
	Relocate Predictive Maint. Crew	480	\$60	\$2,880	\$28,800	\$33,000	\$3,000	\$864	\$4,320	\$72,964
	Relocate Jig Storage/Fabrication	1,520	\$25	\$3,800	\$38,000			\$1,140	\$5,700	\$48,640
1.6	LOADING DOCK/POWER STORES ADDITION			\$110,950	\$1,109,500	\$27,500	\$2,500	\$33,285	\$166,425	\$1,450,180
	New Warehouse Addition	9,200	\$100	\$92,000	\$920,000			\$27,600	\$138,000	\$1,177,600
	New Loading Dock	1,560	\$75	\$11,700	\$117,000			\$3,510	\$17,550	\$149,760
	Stores Office Renovation	375	\$60	\$2,250	\$22,500	\$27,500	\$2,500	\$675	\$3,375	\$56,800
	Rework Paving	1,000	\$50	\$5,000	\$50,000			\$1,500	\$7,500	\$64,000
1.7	MODS RELOCATION/LIVEWELL TOILETS			\$27,959	\$279,585	\$55,000	\$5,000	\$8,388	\$41,938	\$417,868
	Mods/Partner Renovation	2,356	\$60	\$14,136	\$141,360	\$55,000	\$5,000	\$4,241	\$21,204	\$240,941
	Livewell Toilets Renovation	1,190	\$90	\$10,710	\$107,100			\$3,213	\$16,065	\$137,088
	New Corridor	415	\$75	\$3,113	\$31,125			\$934	\$4,669	\$38,640
1.8	NEW OUTAGE STAFF FACILITIES/FIRE STAIR			\$67,285	\$672,850	\$38,500	\$3,500	\$26,186	\$130,928	\$1,158,248
	New Fire Stair/Freight Elevator	3,850	\$125	\$48,125	\$481,250			\$14,438	\$72,188	\$616,000
	New Partner Facilities	3,666	\$100	\$36,660	\$366,600	\$38,500	\$3,500	\$10,998	\$54,990	\$511,248
	Remove/Relocate Trailers	5	\$5,000	\$2,500	\$25,000			\$750	\$3,750	\$32,000
1.9	NEW OUTAGE CREW FACILITIES			\$22,425	\$224,250	\$0	\$0	\$6,728	\$33,638	\$287,040
	New Crew Facilities	2,990	\$75	\$22,425	\$224,250			\$6,728	\$33,638	\$287,040
1.10	TURBO-GENERATOR BAY ROOF REPAIR			\$42,800	\$428,000	\$0	\$0	\$12,840	\$64,200	\$547,840
	Repair Structure	21,400	\$5	\$10,700	\$107,000			\$3,210	\$16,050	\$136,960
	Replace Roofing	107,000	\$3	\$32,100	\$321,000			\$9,630	\$48,150	\$410,880
1.11	NEW SEWAGE TREATMENT SYSTEM			\$20,950	\$209,500	\$0	\$0	\$6,285	\$31,425	\$268,160
	New Sewage System	1,000	\$200	\$20,000	\$200,000			\$6,000	\$30,000	\$256,000
	Relocate Gravel Road	1,900	\$5	\$950	\$9,500			\$285	\$1,425	\$12,160
<b>TOTAL - PHASE 1</b>				<b>\$600,962</b>	<b>\$6,009,615</b>	<b>\$266,000</b>	<b>\$26,000</b>	<b>\$180,288</b>	<b>\$901,442</b>	<b>\$8,004,307</b>



### Comprehensive Budget Estimate (Cont.)

PR. ID.	PROJECT NAME	UNITS	UNIT COST	PROJECT COSTS						Total
				Design	Constr	FF&E	Reloc.	Admin.	Contin.	
2.1	ASSEMBLY/FOOD SERVICE ADDITION			\$50,700	\$507,000	\$0	\$0	\$15,210	\$76,050	\$648,960
	New Addition	4,740	\$100	\$47,400	\$474,000			\$14,220	\$71,100	\$606,720
	Corridor Renovation	300	\$60	\$1,800	\$18,000			\$540	\$2,700	\$23,040
	Outdoor Eating/Landscaping	3,000	\$5	\$1,500	\$15,000			\$450	\$2,250	\$19,200
2.2	SHIFT SUPV./FIRE EQUIP. RELOCATIONS			\$8,697	\$86,970	\$27,500	\$2,500	\$2,609	\$13,046	\$141,322
	Shift Supervisors Renovation	833	\$90	\$7,497	\$74,970	\$27,500	\$2,500	\$2,249	\$11,246	\$125,962
	Fire Equipment Renovation	400	\$25	\$1,000	\$10,000			\$300	\$1,500	\$12,800
	New Doorways	2	\$1,000	\$200	\$2,000			\$60	\$300	\$2,560
2.3	UTILITY BUILDING RENOVATION			\$35,081	\$350,810	\$38,500	\$3,500	\$10,524	\$52,622	\$491,037
	Office/Locker/Lunch Room Renov.	3,334	\$90	\$30,006	\$300,060	\$38,500	\$3,500	\$9,002	\$45,009	\$426,077
	New Oil Storage/Pump	203	\$250	\$5,075	\$50,750			\$1,523	\$7,613	\$64,960
2.4	CONTROL BUILDING RENOVATION/ADDITION			\$46,796	\$467,960	\$49,500	\$4,500	\$14,039	\$70,194	\$652,999
	New Office Addition	848	\$100	\$8,480	\$84,800	\$49,500	\$4,500	\$2,544	\$12,720	\$162,544
	Office Renovation	469	\$60	\$2,814	\$28,140			\$844	\$4,221	\$36,019
	Control Room Renovation	2,298	\$90	\$20,682	\$206,820			\$6,205	\$31,023	\$264,730
	Public/Staff Renovation	1,690	\$60	\$11,340	\$113,400			\$3,402	\$17,010	\$145,152
	Communication Room Renov.	1,392	\$25	\$3,480	\$34,800			\$1,044	\$5,220	\$44,544
2.5	NEW PARTNER PORTAL			\$4,310	\$43,100	\$5,500	\$500	\$1,293	\$6,465	\$61,168
	Remove Existing Shelter	1	\$1,000	\$100	\$1,000			\$30	\$150	\$1,280
	New Portal	421	\$100	\$4,210	\$42,100	\$5,500	\$500	\$1,263	\$6,315	\$59,888
2.6	WATER CHEMISTRY LAB EXPANSION			\$3,301	\$33,010	\$5,500	\$500	\$980	\$4,952	\$48,253
	Office Addition	145	\$100	\$1,450	\$14,500	\$5,500	\$500	\$435	\$2,175	\$24,560
	Storage Addition	218	\$75	\$1,635	\$16,350			\$491	\$2,453	\$20,928
	Replace Existing Ceiling	1,080	\$2	\$216	\$2,160			\$65	\$324	\$2,765
2.7	FIRST FLOOR OFFICE ADDITION/RENOVATION			\$150,849	\$1,508,490	\$341,000	\$31,000	\$45,255	\$226,274	\$2,302,867
	Instrument/Electrical Shop Renov.	2,046	\$90	\$18,414	\$184,140			\$5,524	\$27,621	\$235,699
	Office Addition	4,500	\$100	\$45,000	\$450,000	\$341,000	\$31,000	\$13,500	\$67,500	\$948,000
	Office Renovation	9,715	\$90	\$87,435	\$874,350			\$26,231	\$131,153	\$1,119,168
2.8	SERVICE BAY LOCKER/CLINIC RENOVATIONS			\$56,610	\$566,100	\$5,500	\$500	\$16,983	\$84,915	\$730,608
	Toilets Renovations	4,963	\$90	\$44,667	\$446,670			\$13,400	\$67,001	\$571,738
	Health Clinic Renovation	1,327	\$90	\$11,943	\$119,430	\$5,500	\$500	\$3,583	\$17,915	\$158,870
2.9	SERVICE BAY SHOP RENOVATIONS			\$198,000	\$1,980,000	\$66,000	\$6,000	\$59,400	\$297,000	\$2,606,400
	Shop/Stores Renovation	22,000	\$90	\$198,000	\$1,980,000	\$66,000	\$6,000	\$59,400	\$297,000	\$2,606,400
2.10	SECOND FLOOR OFFICE WING RENOVATION			\$56,260	\$562,595	\$104,500	\$9,500	\$16,876	\$84,388	\$834,122
	Office Renovation	4,933	\$90	\$44,397	\$443,970	\$104,500	\$9,500	\$13,319	\$66,596	\$682,282
	Reclaim Janitor Closet	89	\$25	\$223	\$2,225			\$67	\$334	\$2,948
	Visitor Corridor	1,640	\$60	\$9,840	\$98,400			\$2,952	\$14,760	\$125,952
	Enclose Stairway	200	\$90	\$1,800	\$18,000			\$540	\$2,700	\$23,040
<b>TOTAL - PHASE 2</b>				<b>\$610,604</b>	<b>\$6,108,035</b>	<b>\$643,500</b>	<b>\$58,600</b>	<b>\$183,181</b>	<b>\$916,905</b>	<b>\$8,517,725</b>



### Comprehensive Budget Estimate (Cont.)

PR. ID.	PROJECT NAME	UNITS	UNIT COST	PROJECT COSTS						Total
				Design	Constr	FF&E	Reloc.	Admin.	Contn.	
3.1	ENTRANCE DRIVE LANDSCAPING/SIGNAGE			\$17,000	\$170,000	\$0	\$0	\$5,100	\$25,500	\$217,600
	Landscaping	8	\$20,000	\$16,000	\$160,000			\$4,800	\$24,000	\$204,800
	Signage	2	\$5,000	\$1,000	\$10,000			\$300	\$1,500	\$12,800
3.2	CONTROL ROOM RENOVATIONS			\$94,095	\$940,950	\$55,000	\$5,000	\$28,229	\$141,143	\$1,264,416
	Control Room Renovations	10,455	\$90	\$94,095	\$940,950	\$55,000	\$5,000	\$28,229	\$141,143	\$1,264,416
3.3	PUBLIC ACCESS AREA UPGRADE			\$6,000	\$60,000	\$0	\$0	\$1,800	\$9,000	\$76,800
	Sitework/Landscaping	3	\$20,000	\$6,000	\$60,000			\$1,800	\$9,000	\$76,800
3.4	CONTRACTOR PARKING RENOVATION			\$42,810	\$428,100	\$0	\$0	\$12,843	\$64,215	\$547,968
	Remove Paving	8,840	\$20	\$17,680	\$176,800			\$5,304	\$26,520	\$226,304
	New Concrete Paving	1,780	\$60	\$10,680	\$106,800			\$3,204	\$16,020	\$136,704
	Asphalt Paving	1,690	\$50	\$8,450	\$84,500			\$2,535	\$12,675	\$108,160
	Landscaping	3	\$20,000	\$6,000	\$60,000			\$1,800	\$9,000	\$76,800
3.5	YARD STORAGE AREA UPGRADE			\$63,900	\$639,000	\$0	\$0	\$19,170	\$95,850	\$817,920
	Building Removal	1	\$5,000	\$500	\$5,000			\$150	\$750	\$6,400
	Shed Removal	1	\$1,000	\$100	\$1,000			\$30	\$150	\$1,280
	New Storage Building	7,500	\$50	\$37,500	\$375,000			\$11,250	\$56,250	\$480,000
	Sitework Upgrade	10	\$20,000	\$20,000	\$200,000			\$6,000	\$30,000	\$256,000
	New Security Fencing	2,900	\$20	\$5,800	\$58,000			\$1,740	\$8,700	\$74,240
3.6	BUILDING EXTERIOR PAINTING			\$67,800	\$678,000	\$0	\$0	\$20,340	\$101,700	\$867,840
	Building Exterior Painting	678,000	\$1	\$67,800	\$678,000			\$20,340	\$101,700	\$867,840
3.7	CHEMICAL STORAGE/STORAGE BLDG. #1			\$8,800	\$88,000	\$0	\$0	\$2,640	\$13,200	\$112,640
	Chemical Storage Renovation	880	\$100	\$8,800	\$88,000			\$2,640	\$13,200	\$112,640
3.8	CHEMICAL STORAGE/SERVICE BAY BSMT.			\$9,000	\$90,000	\$0	\$0	\$2,700	\$13,500	\$115,200
	Chemical Storage Renovation	900	\$100	\$9,000	\$90,000			\$2,700	\$13,500	\$115,200
3.9	POWERHOUSE FLOOR REPAIR			\$18,360	\$183,600	\$0	\$0	\$5,508	\$27,540	\$235,008
	Tile Replacement	20,175	\$8	\$16,140	\$161,400			\$4,842	\$24,210	\$206,592
	New Expansion Joints	7,400	\$3	\$2,220	\$22,200			\$666	\$3,330	\$28,416
<b>TOTAL - PHASE 3</b>				<b>\$327,785</b>	<b>\$3,277,650</b>	<b>\$55,000</b>	<b>\$5,000</b>	<b>\$98,330</b>	<b>\$491,648</b>	<b>\$4,255,392</b>
4.1	WATER TREATMENT BUILDING RENOVATION			\$15,320	\$153,200	\$5,500	\$500	\$4,596	\$22,980	\$202,096
	Interior Renovation	2,300	\$90	\$13,800	\$138,000	\$5,500	\$500	\$4,140	\$20,700	\$182,640
	Exterior Upgrade	7,600	\$2	\$1,520	\$15,200			\$456	\$2,280	\$19,456
4.2	DEMINEALIZER BUILDING RENOVATION			\$8,000	\$80,000	\$0	\$0	\$2,400	\$12,000	\$102,400
	Exterior Upgrade	4,000	\$20	\$8,000	\$80,000			\$2,400	\$12,000	\$102,400
4.3	CHLORINATION BUILDING RENOVATION			\$700	\$7,000	\$0	\$0	\$210	\$1,050	\$8,960
	Exterior Upgrade	3,500	\$2	\$700	\$7,000			\$210	\$1,050	\$8,960
4.4	CRUSHER BUILDING RENOVATION			\$14,146	\$141,460	\$5,500	\$500	\$4,244	\$21,219	\$187,969
	Control Room Renovation	654	\$90	\$5,886	\$58,860	\$5,500	\$500	\$1,766	\$8,829	\$81,341
	New Fire Stair	600	\$100	\$6,000	\$60,000			\$1,800	\$9,000	\$76,800
	Exterior Upgrade	11,300	\$2	\$2,260	\$22,600			\$678	\$3,390	\$28,928
4.5	HOPPER BUILDINGS RENOVATION			\$51,906	\$519,060	\$5,500	\$500	\$15,572	\$77,859	\$670,397
	Interior Renovation	1,733	\$60	\$10,398	\$103,980	\$5,500	\$500	\$3,119	\$15,597	\$139,094
	Exterior Upgrade	18,540	\$2	\$3,708	\$37,080			\$1,112	\$5,562	\$47,462
	Car Thawing Upgrade	6,300	\$60	\$37,800	\$378,000			\$11,340	\$56,700	\$483,840
4.6	NEW RETARDER YARD SHELTER			\$1,500	\$15,000	\$0	\$0	\$450	\$2,250	\$19,200
	New Yard Shelter	200	\$75	\$1,500	\$15,000			\$450	\$2,250	\$19,200
4.7	NEW RECYCLING CENTER			\$4,750	\$47,500	\$0	\$0	\$1,425	\$7,125	\$60,800
	New Paving	550	\$50	\$2,750	\$27,500			\$825	\$4,125	\$35,200
	Landscaping	1	\$20,000	\$2,000	\$20,000			\$600	\$3,000	\$25,600
<b>TOTAL - PHASE 4</b>				<b>\$96,322</b>	<b>\$963,220</b>	<b>\$16,500</b>	<b>\$1,500</b>	<b>\$28,897</b>	<b>\$144,483</b>	<b>\$1,250,922</b>
<b>GRAND TOTAL - KINGSTON FOSSIL PLANT</b>				<b>\$1,635,652</b>	<b>\$16,356,520</b>	<b>\$1,001,000</b>	<b>\$91,000</b>	<b>\$490,696</b>	<b>\$2,453,478</b>	<b>\$22,028,348</b>