JOHN CHRISTENS

Kingston Fossil Plant
Master Plan

Revision 0.0

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Record of Revisions

Revision	Rev. Date	Pages Effected	Description/Purpose
0.0	2/16/94	All	Initial Issuance

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Introduction

PURPOSE OF PLAN

The intent of the master plan is to create a vision of the future site and facilities development at the Kingston Fossil Plant within a well defined budget framework, based on all available information including previous studies, TVA corporate input and Kingston site input. It is intended that the master plan be responsive to the daily operational requirements of the Kingston Fossil Plant, as well as the financial requirements of the Generating Group.

PLANNING APPROACH

This master plan utilized a two phase process: an analysis phase, which involved programming and a site and facilities assessment, and a synthesis phase, during which concepts and data compiled during the analysis phase were developed into a comprehensive plan. This plan utilized the results of the Workspace Quality Improvement Study which was completed in 1991. However, due to structural and strategic changes which occurred within TVA, it was determined that an extensive update was required.

The initial direction for the planning process was given by TVA Corporate and Kingston site participants through goal-setting work sessions. These occurred during June of 1992 and during May of 1993, respectively. Supplementing this body of information with information derived from previous studies and site visits, the planning team began the analysis phase of the planning process. Many ideas were discussed and tested during this phase, with input from TVA Corporate and Kingston site representatives.

The planning process encourages the consideration of numerous alternatives and seeks to bring these into focus during the synthesis phase, assuring that the stronger ideas become part of the master plan vision. Communication is very important in all phases of the planning process, but perhaps more so as the master plan begins to take shape and becomes an informational document. Master plan level information has been generated through the planning process and is communicated here in the form of graphic analysis, facilities assessments, concept planning diagrams, illustrative plans, and implementation charts.

There are several other studies or assessments, either planned or in progress, the results of which will be incorporated into later revisions to this document, including Coatings, Asbestos Abatement, Energy and Lighting, and Roofing.

DESCRIPTION OF DOCUMENT

The master plan is organized into four distinct chapters: Program Summary, Site and Building Assessment Summary, the Master Plan, and the Implementation Plan.

The contents of Chapter One, Program Summary, and Chapter Two, Site and Building Assessment Summary, together document the results of the first phase of the master planning process - Analysis. More detailed information is available in Appendix A, Departmental Space Lists and Appendix B, Building Assessment.

Chapter Three, Master Plan, and Chapter Four, Implementation Plan, are products of the second phase of the master planning process - Synthesis. Here, form is given to the analysis information generated during the Analysis phase. Chapter Three describes the physical and qualitative nature of the comprehensive plan as well as the individual components of the plan. This information is very important as individual projects are undertaken and information is communicated to the project architects, engineers, consultants and contractors. Chapter Four provides cost estimates for individual projects.

PROJECT TEAM PARTICIPANTS

The development of the Kingston Master Plan involved many individuals, both within TVA and the project team. Active support and guidance from the Generating Design and Development (GD & D) Group as well as the Kingston site participants was extremely important to the master planning process. The Project Team wishes to express their appreciation to all those involved in the process.

PROJECT TEAM

TVA CORPORATE

John Christens, Manager, Master Planning
James Vineyard, AIA, Manager, Fossil Projects

KINGSTON SITE TEAM

Randy Cole - Site Manager
Terry Cobb - Operations Supervisor
Ken Lewis - Maintenance Supervisor
Al Kelly - Plant Support
Bob Rehberg - Technical Services
John Dunn - Modifications Manager
Bill Foster - Yard Operations
Jim Stock - Health & Safety
Kim Rush - Business Manager
Jim Overton - Customer Group

CCBROWN & ASSOCIATES (Programming)

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FRANKLIN ASSOCIATES, ARCHITECTS, INC. (Planning)

Randall T. Cagle, Project Manager

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Tony B. Delbridge, P.E., Project Manager
Jeffrey B. Lacey, Electrical Engineer

Executive Summary

The master plan for the Kingston Fossil Plant addresses a comprehensive range of improvements to the both the site and facilities. The plan responds directly to both short and long term goals and directions established by Corporate Fossil & Hydro Power and Kingston site management and addresses the organizational, operational, functional and quality issues that will support the plant's successful operation into the future.

INTRODUCTION

The Kingston Plant, is located on the Watts Bar Lake between the Clinch and Emory Rivers, near Kingston Tennessee. The plant was completed in 1955 and is comprised of the main nine-unit plant with four units producing 175,000 kw and five units producing 200,000 kw. The site contains approximately 1,400 acres of land.

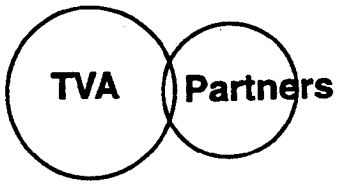
POPULATION

The master plan addresses a non-outage population of approximately 440 people, increasing to a peak of 847 during a major outage, according to the following breakdown:

	Total	Day Shift
Generating Group	402	247
Customer Group	8	8
Resource Group	4	4
Total TVA	*414*	*259*
Partners		
Non-Outage	3	3
Outage	410	285
Contractors	20	20
Credit Union	3	3
Total Non-Outage	*440*	*285*
Total Outage	*847*	*567*

The overall site population is not projected to increase over time, but remain constant through the 1996 planning period.

Executive Summary



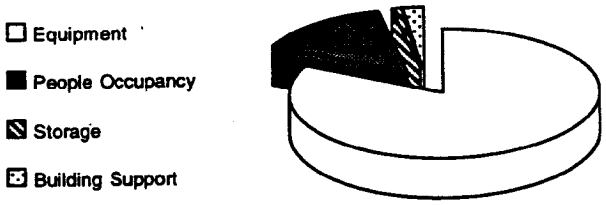
The addition of Plant Partners has been the most significant organizational change in recent times. This change has impacted the site from entry and circulation patterns to interior layouts in the office wing.

The master plan anticipates the partnership structure continuing in the future and addresses the unique physical conditions to support this structure.

FACILITIES

The existing facilities at Kingston are comprised of buildings and equipment original to the plant; permanent structures and mobile trailers which have been added for partners, contractors and training.

The facilities inventory indicates a total of approximately 885,600 gross square feet of facilities on site today in the following categories:



Equipment	693,000 sf
Control Rooms	17,000
Office	18,400
Laboratory	3,400
Shop	27,300
Stores	28,800
Shared Support*	31,000
Storage	38,500
Building Support**	28,300

The area of primary people occupancy is approximately 125,900 square feet or 14% of the total site.

Areas of primary people occupancy.
** Includes functions shared by the total population, (e.g. training, lockers, crew rooms).*
*** Includes mechanical, electrical rooms, rest rooms and primary circulation.*

Executive Summary

FACILITIES/SITE ASSESSMENT

Each facility which contains people occupied space was assessed for condition of architectural, mechanical and electrical systems, as well as building code and 504 compliance.

The majority of buildings were found to be in need of architectural renovation and repair, as well as mechanical and electrical systems upgrades or system replacement in order to extend the practical and useful life of the facility.

Observable code deficiencies have been identified, particularly in the area of egress and life safety. Non-compliance with 504 (handicap) regulations has been noted with remedies being recommended to those areas which could be occupied (according to job function) by a disabled person.

Site assessments have focused on those areas of the site which are in need of repair such as roadways, pedestrian circulation paths, security perimeter, and natural features such as ponds and areas within the flood plain. Recommendations have been included to those areas in need of repair or modifications that will support the efficient and safe operations of the plant.

MASTER PLAN

The master plan addresses a wide range of projects that will involve new construction, renovations to existing facilities, site improvements for access and circulation and operational improvements which may occur within a long term perspective. Existing facilities have been optimized in accomodating projected needs so that new construction would be contained at a minimum level.

Projects have been placed in logical groupings which represent the priority of need expressed by plant management. Each grouping represents a phased approach to implementation which will allow for the distribution of expenditures over a multiple year implementation period.

Executive Summary

The following summarizes the significant improvements and modifications recommended for the Kingston site:

Site Improvements:

- New Partner parking lot.
- Public access area upgrade.
- New sewage treatment system.
- Roadway and walkway repairs.

Facility Improvements:

- Office wing addition and renovation.
- EPRI Training Center addition.
- New Partner outage facilities.
- New Fly-Ash Contractors building.
- Carpenter and paint shop relocation.
- Maintenance Staff relocation.
- Planning staff relocation.
- Shift Supervisor relocation.
- Powerhouse renovations.
- Control Building renovation.
- Yard Building renovations.
- Service Bay renovations.

Long Range Projects:

- Long term ash disposal.
- Harriman coal conveyor and facilities.
- Switch yard expansion.
- New cooling towers.

IMPLEMENTATION PLAN

The implementation plan establishes anticipated expenditures for each project within four major groupings, or phases, as summarized below:

$000	Construction	Design	FF&E	Relocat.	Admin.	Cont.	*Total*
Phase 1	6,010	601	286	26	180	901	*8,004*
Phase 2	6,106	611	643	59	183	916	*8,518*
Phase 3	3,278	328	55	5	98	491	*4,255*
Phase 4	963	96	16	2	29	145	*1,251*
Total	*16,357*	*1,636*	*1,000*	*92*	*490*	*2,453*	*22,028*