

**PREVENTATIVE MAINTENANCE  
POLICIES AND PROCEDURES**

**PHYSICAL PLANT**

**SOUTHERN UNIVERSITY AND  
A&M COLLEGE**

**Prepared by  
PHYSICAL PLANT DEPARTMENT**

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## **Preventive Maintenance Program**

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### **Overview:**

Preventive Maintenance (PM) is routine maintenance performed to minimize breakdowns on both equipment and facilities and prevent the need for crisis management. The preventive maintenance approach emphasizes finding and fixing potential problems before they disrupt operations. The goals of the preventive maintenance program are to identify the most critical needs of building requirements and prioritize these needs. This is accomplished by periodic inspections of equipment and facilities and a scheduled maintenance program, as recommended by available manufacturer's maintenance guides, established to perform the repair of minor breakdowns before the breakdowns become major disruptions. The Office of Physical Plant and the Office of Facilities Services have the responsibilities for preventive maintenance that includes all University facilities and equipment used by Physical Plant in carrying out these responsibilities. The preventive maintenance program, through its work order system, has approximately 760 pieces of major heating and air conditioning equipment on line for routine service and also maintains an inventory of all general building elements (roofs, floors, mechanical systems, utility systems, etc.) as to the useful life and anticipated time when work will be required and/or equipment replaced.

The Preventive Maintenance Program involves an inventory of all general building elements, such as roofs, floors, mechanical systems, utility systems, etc., as to the useful life and anticipated time when work will be required and/or equipment replaced. A detailed inventory of all mechanical and electrical equipment for each building is maintained in Work Control. Maintenance work orders for this equipment produced in work control will be based on actual or run-time of equipment and automatically generated, reflecting the manufacturer's recommendations for services. The PM program indicates the most critical needs of building requirements, mechanical and electrical equipment repair and/or replacement and prioritizes these critical needs.

In addition to the University's annual general operating budget, Act 971 funds are also a source of funding for the preventive maintenance program. Under the terms of Act 971 of 1985 (R.S. 17:3386(A)), higher education institutions which adopt a building and facility preventive maintenance program approved by the Louisiana Board of Regents may retain any state general fund monies which remain unexpended and unobligated at the end of a fiscal year, provided that not less than fifty percent of the retained funds be used solely for preventive maintenance. The remaining funds may be spent on nonrecurring projects and are subject to approval by the Southern University System Board of Supervisors, the Louisiana Board of Regents, and the Joint Legislative Committee on the Budget. The carryover funds established in the procedure and parameters in Act 971 will be applied to the most pressing and important items. Items identified as needing repairs by the preventive maintenance program that cannot be completed in a timely manner are included on a deferred maintenance list. The University is required, as part of its Capital Outlay Requests, to submit a comprehensive list of deferred maintenance needs. For upkeep of existing facilities, the Louisiana Legislature provides funding to public universities for major repairs and deferred maintenance.

The Preventative Maintenance Program is under the direct responsibility of the Executive Director of Facility Services.

**Objective:**

To provide logistical and technical support to a variety of crafts that are assigned to perform preventive maintenance, through effective scheduling and job task listing. It is designed to increase the efficiency and life span of buildings and equipment serviced by Southern University Facility Services Department.

The overall goals of the Preventative Maintenance Program are to:

- decrease operating interruptions of critical systems and equipment.
- extend the life and improve the capability of buildings and equipment to perform at their maximum potential
- increase the productivity of maintenance personnel.
- improve work methods and procedures.
- reduce call back and overtime of maintenance personnel.
- select the most cost effective method of maintenance, i.e. (outside contracts versus plant forces).
- reduce and eliminate fire hazards.
- improve and maintain the esthetic qualities of each facility.
- maintain sufficient management information systems to allow analysis of physical plant and maintenance functions.
- implement programs to conserve energy in compliance with the ongoing energy conservation program and bring facilities into compliance with code modifications such as OSHA, ADA accessibility and fire safety.

**General:**

The University relies on routine inspections of its facilities as the basis for all preventive maintenance projects that are not on a regular schedule for service. Daily the custodial staff of the Office of Facilities Services is required to perform a complete walk through of the facilities and report to supervisors any items found that are in need of repair. The landscaping and grounds staff of the Office of Facilities Services is required to perform similar inspections of the University grounds and report items in need of repair such as walkways, driveways, and parking

lots. Additionally, the University's Environmental, Health, Safety and Risk Management Department, as part of its regular safety-related inspections of facilities, reports any items in need of repair that have been noted. All items noted as needing repairs are reported to the Office of Physical Plant where the report is included for action in its work control data base. Also, the University has various contracts with vendors and service companies that help maintain many different types of equipment throughout the campus.

Regularly scheduled preventive maintenance involves the operation of a service, adjustment, inspections and replacement of designated equipment to ensure the maximum operational use of equipment at minimum cost. Preventive maintenance consists of cleaning, lubrication, minor repairs, adjustments, replacement of parts and inspections which are performed on a schedule in accordance with the designated preventive maintenance instructions. The university also has various PM contracts with service companies and vendors who assist in the daily maintenance of a vast range of equipment throughout the university.

The following is a listing of items that are routinely included in the PM Program:

#### I. Facilities

##### A. Building Envelope

1. Foundation and floor
2. Structure
3. Walls
4. Roofs and water removal
5. Penetrations (windows, doors, utilities, roof vents)
6. Building projections (porches, etc.)
7. Special considerations

##### B. Building Interiors

1. Walls
2. Ceilings
3. Floors
4. Doors and hardware
5. Built-in equipment
6. Stairways
7. Toilet and shower facilities
8. Scheduled painting programs

##### C. Building Mechanical Systems

1. Compressors
2. Condensers
3. Air handling units
4. Cooling towers
5. Control systems
6. Dampers
7. Dehumidifiers
8. Exhaust hoods

9. Heat pumps
10. Humidifiers
11. Pumps
12. Unit ventilators
13. Water cooled condensers
14. Window air conditioners
15. Water coolers
16. Pressure reducing valves
17. Steam traps

## II. Site Maintenance Standards

### A. Landscape Items

1. Plant materials (trees, shrubs, flowers, natural areas)

### B. Site Constructed Items

1. Travel ways (roads, walks, parking areas, recreational surfaces)
2. Rigid concrete

### C. Site Equipment & Materials

### D. Site Support Facilities

1. Storage facilities
2. Maintenance facilities

### E. Trash Collection

### F. Water Activities

1. Freeze protection
2. Sealing window air conditioners

## III. Utility Systems Requirements

### A. Electrical Power

### B. Steam Condensate

### C. Domestic Water System

### D. Chilled Water

### E. Sanitary

1. Pipe drainage system
2. Lift stations
3. Septic tanks

4. Manholes
5. Sewage treatment

G. Fuels

1. Natural gas

IV. Utility Company Rates

A. Rate Schedules

1. Unit consumption rates
2. Meter reading
3. Delivery charges
4. Rate adjustment (seasonal changes)
5. Penalty charges

V. Energy Conservation

- A. Conservation Programs
- B. Retrofit Programs
- C. Analyzation of Utility Bills and Programs

Examples of the type of preventive maintenance work performed include the following:

Carpentry Repairs

1. Replace bolts and screws in coat racks, door hinges, chairs, etc.
2. Inspect all door locks.
3. Replace small broken window panes.
4. Repair window blinds and shades.
5. Re-nail loose wall paneling and molding.
6. Replace damaged or missing floor and ceiling tile.
7. Plane dragging or tight fitting doors; adjust doors as needed.
8. Re-glaze loose window panes.
9. Repair stair banister and stair tread.

10. Lubricate door hinges.
11. Replace door knobs.
12. Repair or replace door closures.
13. Other repairs that as assigned.

### Electrical Maintenance

1. Replace burned out bulbs.
2. Replace switch covers.
3. Observe wrong use of extension cords to operate equipment and report locations.
4. Make simple interior wiring repairs, such as a defective light switch.
5. Check all fused panels for proper size fuses.
6. Clean all high voltage bushings on transformers using cleaning solvent.
7. Clean surface or high voltage wiring on transformers where open wiring has been used. Use cleaning solvent if necessary.
8. Test transformer oil. Filter or change oil where necessary to meet test.
9. Check main secondary feeders for insulation deterioration.
10. Check transformer oil temperature and record.
11. Check secondary feeder temperature and record.
12. Check primary fuse size and record.
13. Other duties as assigned.

### Plumbing Maintenance

1. Replace defective traps on sinks.
2. Tighten packing glands.

3. Reseat water faucets.
4. Check emergency showers
5. Replace short sections of exposed defective water pipes.
6. Change defective valves in water closets.
7. Other duties as assigned.

Mechanical Maintenance

1. Purge air compressor tanks of condensate and oil.
2. Adjust belts on exhaust fans, compressors, cooling tower fans, etc.
3. Change oil in air compressors.
4. Clean and replace air filters.
5. Check condition of bearings in all air handling equipment and exhaust fans.
6. Bleed moisture from the control air lines.
7. Other duties as assigned or recommended by the Division of Administration.

Because of the size of the University, it is divided into priority areas. The facilities in the first priority area will be on a 60 day cycle for scheduled preventive maintenance; facilities which are in the second priority area will have a scheduled maintenance cycle of 120 days; and facilities which are in the third priority area will be a scheduled six month maintenance cycle. The buildings/areas are as follows:

SU Bldg. No.	Building Name
2	ARCHIVES
6	FARM COTTAGE (POULTRY) (TO BE DEMOLISHED)
17	RIVERSIDE HALL
18	RONALD E. MCNAIR OFFICE (NAVY R.O.T.C.)

20	ARMY R.O.T.C. OFFICE
29	ARMY R.O.T.C. SUPPLY
32	M.L. HARVEY SOUTHERN UNIVERSITY MUSEUM OF ART
39	INTRAMURAL "WOMEN" AUDITORIUM/GYMNASIUM (UNDER RENOVATION)
40	JOSEPH S. CLARK ADMINISTRATION ANNEX
42	COLLECTIONS & RECEIVABLES (OLD INFIRMARY)
43	WALLACE L. BRADFORD HALL DORMITORY
44	LOTTIE ANTHONY DORMITORY (TO BE RENOVATED)
46	JESSE OWENS HALL (ATHLETIC'S OFFICES)
48	GRANDISON HALL DORMITORY
49	ANNETTE W. MUMFORD STADIUM
49A	A.W. MUMFORD STADIUM NEW PRESSBOX ADDITION
49B	A.W. MUMFORD STADIUM ROSCOE MOORE TRACK & FIELD
49C	A.W. MUMFORD STADIUM FOOTBALL FIELD
54	FARM COTTAGE (DAIRY) (TO BE DEMOLISHED)
55	J.S. CLARK MEMORIAL (ALUMNI HOUSE)
56	A.A. LENOIR LAW CENTER
57	A.A. LENOIR LAW LIBRARY
57A	A.A. LENOIR LAW CENTER CLASSROOM ADDITION
57B	A.A. LENOIR LAW CENTER 2009 CLASSROOM ADDITION

66 WILLIAM LEE PASS POLICE STATION

68 CALF BARN (DAIRY)

74 HORTICULTURAL BARN

85 CLIFFORD T. SEYMOUR HALL  
(PHYSICAL EDUCATION "MEN'S GYM")

90 JOHN W. FISHER HALL

91 TOURGEE A. DEBOSE HALL  
"MUSIC"

91A PERFORMING ARTS THEATER  
"MUSIC"

91B ISAAC GREGGS  
BAND BUILDING

91C MECHANICAL BUILDING  
"MUSIC"

96 SEWAGE PUMP NO. 1

97 SEWAGE PUMP NO. 2

98 WASHINGTON HALL DORMITORY

99 HORACE G. WHITE HALL DORMITORY

100 WILLIAM EDWARD REED HALL  
DORMITORY  
FINANCIAL AID  
(OLD MECHANICAL ENGINEERING  
BUILDING)

122

124 BETHUNE HALL DORMITORY

125 PINKIE E. THRIFT FAMILY &  
CONSUMER SCIENCES

126 REBECCA F. NETTERVILLE HALL

127 ARCHITECTURAL WEST

128 ARCHITECTURAL EAST

128A	ARCHITECTURAL EAST (CLASSROOM SOUTHWEST)
128B	ARCHITECTURAL EAST (CLASSROOM SOUTHEAST)
129	LABORATORY HIGH & MIDDLE SCHOOL
129A	LABORATORY ELEMENTARY SCHOOL
129B	LABORATORY PRE-K & KINDERGARTEN SCHOOL
129C	LABORATORY SCHOOL (GYM/CAFETERIA)
132	POULTRY BUILDING BARN (RABBITS)
132A	POULTRY BREEDER HOUSE (EGGS)
132B	POULTRY BROILER HOUSE (CHICKENS)
133A	GREENHOUSE # 1
133B	GREENHOUSE # 2
133C	GREENHOUSE # 3
133D	GREENHOUSE # 4
134	POULTRY LABORATORY (CLASSROOM)
135	SMITH-BROWN MEMORIAL UNION
136	DAIRY CREAMERY
136A	DAIRY BULL PENS "A "
136B	DAIRY BULL PENS " B"
136C	DAIRY SILO/STORAGE (TO BE DEMOLISHED)

136D	DAIRY BARN (TO BE DEMOLISHED)
137	CAMPUS POLICE/HOUSING MAINT. SHOPS (OLD CENTRAL STORES)
138	BENJAMIN KRAFT BUILDING/ FACILITY SERVICES
138A	PHYSICAL PLANT WAREHOUSE
138B	PHYSICAL PLANT STORAGE LUMBER/EQUIPMENT SHED
138C	SURPLUS PROPERTY BUILDING
139	T.H. HARRIS HALL (MAIN BUILDING & COVERED WALKS)
139A	T.H. HARRIS HALL ANNEX (NORTH)
148	FARM SERVICE (LAB FARM-BAKER)
151A	EQUIPMENT STORAGE BARN (LAB FARM - BAKER)
151B	BEEF CATTLE FEEDING AND STORAGE (LAB FARM - BAKER)
	SILOS 1, 2, & 3 (LAB FARM - BAKER)
151C	BUTLER FEED TANK (LAB FARM - BAKER)
151E	MAURICE A. EDMOND LIVESTOCK SHOW ARENA (LAB FARM - BAKER)
	PORTABLE BUILDING & FISH POND (LAB FARM - BAKER)
153	JAMES W. LEE HALL
153A	HEALTH RESEARCH CENTER

154	FRANK HAYDEN HALL
155	UNIVERSITY PLACE
156	T.T. ALLAIN HALL
158A	JONES HALL DORMITORY
158B	DUNN HALL DORMITORY
158C	BOLEY HALL DORMITORY
159	WILLIAM HENRY JAMES HALL
160	WILLIAM W. STEWART HALL
161	JAMES B. MOORE HALL
162	LACUMBA'S "JAGUAR" HABITAT
163	F.G. CLARK ACTIVITY CENTER
164	UNIVERSITY BOOKSTORE
165	E.N. MAYBERRY DINING HALL
165A	MAYBERRY DINING ADMIN. ANNEX
166	JOSEPH S. CLARK ADMINISTRATION
167	JOHN B. CADE LIBRARY
169	MEAT PROCESSING PLANT
170	J.K. HAYNES (SCHOOL OF NURSING)
171	CENTRAL STORES & WAREHOUSE
172	MOTOR POOL/AUTO SHOP
172A	CAR WASH

173	FARROWING HOUSE "SWINE FARM"
173A	SWINE GROWING PEN
174	RUFFIN PAUL SR. CENTRAL PLANT
176	HEADHOUSE GREENHOUSE
177	HAZARDOUS WASTE STORAGE
178	RODNEY G. HIGGINS HALL
179	AUGUSTUS C. BLANKS HALL (SPECIAL EDUCATION)
MAIN VAULT	MAIN VAULT/SWITCH GEAR @ LAW CENTER (2400v/13,200v)  TRANSFORMER VAULT SOUTH OF SMITH - BROWN STUDENT UNION  TENNIS COURTS PHASE I - "A & B"  TENNIS COURTS PHASE II CAMPUS POLICE CHECKPOINT HOUSING CAMPUS POLICE CHECKPOINT HARDING BLVD
180	NATIONAL PLANT DATA CENTER
181	S.V. TODDY HALL DORMITORY
182	CAMILLE SHADE DORMITORY
183	ASHFORD O. WILLIAMS (CHANCELLOR WILLIAMS ADMIN BLDG)
184	STUDENT PAVILION
185	BARANCO-HILL HEALTH CENTER
186	PBS PINCHBACK ENGINEERING
187	DELORES L SPIKES HONOR'S COLLEGE

188	ATHLETIC'S TICKET OFFICE (7722 SCENIC HWY)
189	"Future Duplicating Center 618 HARDING BLVD LOT #36
190	CHILD DEVELOPMENT LABORATORY
191	ULYSSES SULLY JONES HALL DORMITORY
192	COUNSELING CENTER
193	LEE HINES BASEBALL STADIUM COMPLEX (STADIUM, TICKET BOOTH, CONCESSIONS & RESTROOMS, & DUGOUTS)
100	APARTMENT DORMITORY 100
200	APARTMENT DORMITORY 200
300	APARTMENT DORMITORY 300
400	APARTMENT DORMITORY 400
	MAIN ELECTRICAL SWITCH GEAR (NORTH OF TT ALLAIN)
	FUTURE LAW SCHOOL OFFICE (REFLECTIONS BOOKSTORE)

## **General Procedures:**

### **Facilities Inspection**

The University relies on a systematic assessment of each facility as the basis for all preventive maintenance projects that are not included in the regular scheduled PM Program. Daily assessments are conducted by the custodial staff that requires the staff to check each day for the condition of doors, the condition of building lights, the condition of the stairwells, signs of vandalism, and safety hazards. The custodial staff is required to perform a complete walk-through of each assigned facility and report any deficiency noted to the custodial supervisor. The landscaping and grounds staff is required to perform daily inspections of the University grounds and report items in need of repair such as walkways, driveways, and parking lots that pose safety hazards. Additionally, the University's Environmental, Health, Safety and Risk Management Department, as part of its regular safety-related inspections of facilities, reports any items in need of repair that have been noted. Also, senior administrators, department heads and chair persons routinely report deficiencies in University facilities that require repairs within their

respective departments or areas. All significant repairs identified by the Preventive Maintenance process are defined as planned maintenance projects through the normal work order system.

As a result of the daily inspections, any deficiencies noted that would require preventive maintenance related work, are reported to the Office of Physical Plant where it is noted for action in its work control system data base. Any conditions that pose an immediate threat to campus safety are reported to the Environmental, Health, Safety and Risk Management Department as well. Once the assessments and/or reports have been entered into the work control system, they are reviewed to determine the correct solution to the deficiency and the most effective and efficient manner to resolve it. The Work Control Administrative Coordinator evaluates the work order requests and prioritizes the work and determines the craft assignment before the work order is generated. The coordinator also follows up on the status of the work orders from the time the work order is generated through its completion through continuous communication with the craftsmen and foremen. The coordinator also determines the need for obtaining materials and services for the open work orders, and whether there is a backlog of work orders developing. Additionally, the work orders are reviewed by the Facility Services Manager as well as the Assistant Director and Executive Director, who determine that adequate resources are available and have been properly assigned to the project.

Work orders are to be completed in a timely manner and should not exceed a period of ninety days for completion. Open work orders requiring materials or funding for materials shall be reviewed after 90 days and "closed without action" for the Facility Manager or foreman's review and re-scheduling. When material notices are received from the warehouse or funds become available the work order is pulled from the backlog file and rescheduled by the foreman. The coordinator receives completed work orders from the foreman daily and reviews them for any discrepancies. The information provided is entered into the work control data base system for closing remarks, labor and material charges and then closed. The work orders are stamped "closed" on the document and filed in craft folders alphabetically by building names. If a work order extends beyond that ninety day period it is then re-evaluated as a PM project and considered for postponed maintenance. Deficiencies that result from postponed maintenance, or repairs that have been put off until a later time and that require repair or replacement to an acceptable condition relative to the age of the system or property are considered for inclusion in the Deferred Maintenance Program.

### **Scheduled Maintenance**

Scheduled preventive maintenance consists of cleaning, lubrication, minor repairs, adjustments, replacement of parts and inspections which are performed on scheduled frequencies in accordance with the designed preventive maintenance instructions. The facility manager has the primary responsibility for the PM Program for installed equipment and directs these efforts through reporting technical craft departments. Through this combined effort, a determination is made of the tasks to be performed on each individual item of equipment and the frequency that the inspections should occur. The PM Program, through its work order system, has approximately 760 pieces of major heating and air conditioning equipment on line for routine service as well as other pieces of equipment that are integral parts of facilities and integral parts

of the PM Program. Preventive maintenance task listings have been prepared for each category of equipment along with the task frequency.

Selection of the equipment to include in the scheduled preventive maintenance program is determined by the facility manager and the technical craft departments. The preventive maintenance task listing and the preventive maintenance frequency for each task from each category of equipment selected to be included on the active preventive maintenance schedule is reviewed and modified as needed by the appropriate technical craft departments. Changes are instituted only after review and approval by the facility manager.

Scheduled preventive maintenance procedures are documented by the respective technical craft departments on preventive maintenance forms. The University also has various contracts with vendors and service companies that help maintain many different types of equipment thought the campus.

# CUSTODIAL SERVICES

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## **Southern University Custodial Services**

### **Mission Statement**

Southern University Custodial Services strongly believes in quality service. Our mission is to become a respected leader in quality building maintenance services on the Baton Rouge Campus. We will achieve this goal by offering services and products that set the standard of excellence in quality and service and by working with administrators, faculty, staff, and students during our tour of duty. Southern University has great teamwork and the “Yes I can” attitude that helps us to maintain quality performance.

### **Responsibility/Beliefs as a Custodian**

Southern University Custodial Services believes that training and close supervision is important for consistent quality service. Our employees are highly trained in the custodial arena.

Every employee is entitled to a safe work place and needs assurance that every custodian has been professionally trained, retrained and supervised to implement a safe work environment.

Our safety program defines, initiates, maintains and adheres to appropriate procedures to prevent injuries. The primary principle of the safety program is that safety is the initial responsibility of each employee.

The Southern University safety program is not only designed to ensure the protection of employees against injury or harm, its mutual purpose is cost containment and regulatory compliance.

### **Quality Friendly Professional Services**

We provide campus administrators, faculty, staff, and students with friendly professional services. Services include;

- Highest quality materials
- Honest, dependable labor
- Supervised personnel
- Safe cleaning procedures
- Immediate response to extra requests
- Regular scheduled inspections
- Superior quality workmanship

## Specifications

### GENERAL OFFICE & CLASS ROOM AREAS:

- Dust and clean fixtures, office furniture, display units, window ledges
- Spot clean doors, frames, walls, switches
- Empty trash as needed
- Clean and sanitize phones & drinking fountains
- Empty and wash all ashtrays
- Polish furniture
- Damp wipe high low shelves, corners, high and low surfaces, dust door frames
- Dust all blinds, light fixtures and ceiling vents

### FLOOR CARE:

- Vacuum and spot clean carpeted areas
- Dust mop ceramic and resilient floor areas
- Damp mop ceramic and resilient floor areas
- Sweep concrete floor areas

### BREAK AREAS:

- Clean and disinfect kitchen counters, tables, and sink
- Clean and disinfect exterior of appliances

### REST ROOM CARE:

- Polish dispensers, fixtures, disinfects wash basins, toilets, urinals, spot clean partitions
- Polish metal and mirrors
- Re-stock paper products
- Clean restroom partitions with germicide

### GLASS:

- Remove smudges and fingerprints from front and back glass door

### CLOSING:

- Keep janitor closet cleaned and organized
- Turn off lights
- Lock doors

### GENERAL NOTES:

Report all building items in need of repairs such as; clogged toilets, dripping faucets, burnt out lights, broken soap dispensers, etc., to the work control station.

It is extremely important for employees working after normal business hours to place warning signs on all floors where chemical or hazardous material may be exposed requiring specific treatment. These signs must be visible for non-custodians to see for their safety and protection.

The "Communication Log Book" (a message board for supervisors) is located in the equipment room on a clip board and should be reviewed by supervisors or persons in training. Please check this board daily and nightly regarding items of concern.

### MSDS Sheets:

Must be made available and kept on-site in the MSDS book located in the Custodial Services Equipment room/supplies office area.

### Routine Duties:

Quarterly "walk through" inspections completed by the Director and Supervisor will be done without notice and at the request of the director.

## Summer Cleaning Check List

Southern University

Summer Cleaning Check List

Room/Area: \_\_\_\_\_ Date Completed: \_\_\_\_\_

High dust and/or clean all areas in room

Wash and clean blinds, lights, windows and vents within height limits

Clean and wash walls, light switches and lockers

Clean and wash doors, door frames, door windows and thresholds

Clean and wash ledges, shelves, furniture and trash containers

Clean and disinfect water fountains and polish all stainless steel

Carefully clean trophy and display cases

Clean/scrub corners, edges, baseboards and remove gum

Strip/scrub or extract floors thoroughly until clean

Check hard surface floors for visible dirt and re-scrub if necessary

Neutralize hard surface floors using citric acid before applying finish

Apply coats of floor finish five (5) coats for shower scrubbed floors or seven (7) coats for stripped floors. Do Not Apply More Than Three (3) Coats per day. Allow 72 hours for floor to cure and then burnish

Clean or replace any walk-off mats

Inspect work for completeness

Supervisor/Custodial Supervisor: \_\_\_\_\_

Date Completed: \_\_\_\_\_

## Custodial Services Square Footage Log

BUILDING NAME	SQ. FOOTAGE	EMPLOYEES ASSIGNED
JS CLARK Admin	41,171	1D/2.5N
Archives	2,221	1/D
Information Center	2,221	1/D
AROTC	8,147	1/D
NROTC	2,316	1/D
Riverside Hall	6,720	1/D
Museum	8,080	1/D
Debose Hall	18,350	1/D
Recital Hall	12,182	1/D
A.O. Williams	55,200	2/D
Clark Annex	16,246	1/D
Collections/Receivables	4,688	1/D
Pinkie E. Thrift Hall	28,802	1/D
Physical Plant	20,995	1/D
Student Health Center	11,496	1/D
Central Stores	3,440	2/TRUCK ROUTE
AutoShop/Motor Pool	4,784	2/TRUCK ROUTE
Stewart Hall	67,960	2D/2.5N
J.B. Moore	37,207	1/D/1N
T.T. Allain	95,608	3D/2N
Counseling Center	4,784	1/D
Headhouse/Greenhouse	1,944	2/TRUCK ROUTE
Nat Plant Data Center	8,120	2/TRUCK ROUTE
Poultry Farm	2,303	2/TRUCK ROUTE
Old Credit Union	4,002	2/TRUCK ROUTE
Slaughter House	5,005	2/TRUCK ROUTE
Honors College	7,796	1/D
Campus Police	2,442	1/D
School of Nursing	69,069	3/D
Isaac Greggs Band Bldg.	15,183	1/D
T.H. Harris Hall	46,080	1/D/1N
Performing Arts	12,182	1/D
A.W. Mumford Stadium/ Restrooms/Fieldhouse	160,000	2/TRUCK ROUTE
Financial Aid	8,857	1/D
Engineering E & W	55,421	1/D
Higgins Hall	74,935	3D/1N
Blanks Hall	49,00	2D/1N
William James Hall	60,950	2/D
Pinchback Eng.	114,000	3/D
Seymore Gym	46,700	1/D
Fisher Hall	50,475	1/D/1N
Lee Hall	114,000	1/D/1N

# LANDSCAPING SERVICES

## **Introduction**

The Landscaping Services Department manages the upkeep of all outdoor areas at Southern University's main campus as well as the Edmond Livestock Arena in Baker, La and the Athletic Ticket Office on Scenic Hwy. The primary maintenance responsibility for the department is maintain and management of turf and landscape areas around all buildings and facilities that covers over 500 acres. Other major responsibilities include waste management, parking areas, equipment maintenance, pesticide and herbicide application, and new landscape design/installation. Some projects that require specialized equipment or training, such as pruning or removing large trees, are contracted to outside agencies.

## **Operation Guidelines**

### **Daily**

- Parking lots and building entrances are examined for cleanliness (6:00 a.m. – 8:00 p.m.)
- High traffic areas take priority over less traveled areas. Entrances and parking areas around the buildings are cleaned daily. The remaining grounds are evaluated each day, and priority given to the area's most in need of attention. The entire campus is typically covered daily for debris pickup.

### **Weekly**

- All grass areas are cut, trimmed, and edged.
- During the peak growing season, (March – October) turf grass areas are maintained on a weekly/bi-weekly schedule. High traffic areas have priority over less used areas. Many areas of the campus have various types of grass, which grow at different rates. Some areas need to be cut weekly, while others may only need attention every two weeks. The Horticultural Supervisors and Director evaluates all areas of the campus, determines which areas are a priority, and schedules them for maintenance accordingly.
- Indoor plants and planter boxes area maintained.
- Indoor plants are watered, cleaned, and rotated in an effort to maintain their appearance. Planter boxes that contain annuals or perennials are watered and trimmed as needed.
- Equipment is checked daily by the operator and necessary maintenance and repair are completed in a timely manner.

- Fluids, tires, blades, and all movable parts are checked on mowers and necessary repairs done. Replacement supplies such as trimmer heads and trimmer line, mower and edger blades, oil and oil filters, belts and any other supplies necessary are evaluated and ordered as needed.

### **Monthly**

- Herbicide and pesticide applications are scheduled and completed.
- Herbicide applications are made to control weeds in areas where cracks in sidewalks, edges of parking lots and flower beds, ditches, and other trouble spots where weeds then to grow.
- Trees, shrubs, flowers, and lawns are routinely checked for insect and pathogen infestations during weekly maintenance. When an infestation is found, it is diagnosed and treated with the appropriate pesticide.

### **Seasonal**

- New and old beds are designed and landscaped.
- When funds are available, annuals and perennials are planted in beds scattered around campus during spring and fall. Occasionally, new shrubs are planted to control pedestrian traffic or to decorate a new building or facility.
- Tree litter and debris are cleared from lawns, sidewalks, and fence lines.
- During fall and winter months, leaves, branches, acorns, and other tree litter are raked and disposed of in dumpsters.
- Trees and shrubs are pruned.
- Trees and shrubs are heavily pruned during the winter season to promote vigorous growth and optimum shape throughout spring and summer months.
- Fertilizers are applied to particular plants at the appropriate times.
- Trees and shrubs are fertilized in early spring to ensure proper growth. Lawns are top-dressed with weed and feed in early March to eliminate winter weeds and promote thick, lush green growth.
- Annuals and perennials are fertilized at planting. Mid-summer fertilization is desirable for trees, shrubs, and lawns, but is limited by available funds.

- Application of mulch around trees, shrubs, and flower beds.
- Trees, shrubs, and flowerbeds are mulched during fall and spring months. New plantings are mulched at the time of installation.

# Landscape Maintenance in Zone 1 2 3 4 5, Ticket Office, Livestock Arena

## Adjacent Building

Description	Yes	No	Comments
A. Walkways			
B. Driveways			
C. Parking Lots			
D. Landscaping			
E. Waste Container			
F. Grounds			
G. Street Drain			
H. Catch Basin			
I. Curb / Handicap Cutout			
J. Dumpster			

Comments/Improvement Plan \_\_\_\_\_

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Date/Time \_\_\_\_\_ Supervisor \_\_\_\_\_

## **Equipment Preventive Maintenance**

### **Purpose**

To provide a uniform schedule for equipment maintenance.

### **Policy**

To establish continued maintenance of equipment on a regular basis.

### **Procedure**

All equipment has a PM performed daily as needed per manufacture schedule with the primary user.

This services area follows:

- Check fluid level
- Tire pressure
- Belt replacement as needed

## **Work Control Procedures**

The Work Control Center serves as the customer service division of the Physical Plant and is responsible for providing support toward accomplishing the overall departmental mission of providing a safe environment of higher learning for its faculty, staff and student body. The Center is responsible for forwarding open maintenance requests to respective crafts and departments daily. These procedures should be used as a guide to make the process of maintaining Southern University's Baton Rouge campus effective.

Work Control Staff:

1. Administrator Coordinator III
2. Administrator Coordinator II (Vacant)

The Work Control Center is in operation from 8:00 a.m. to 5:00 p.m. and controls work orders for the following units:

1. Custodial Services
2. Landscaping Services
3. Physical Plant
4. Warehouse
5. Central Plant

The Maximo Advantage Maintenance Management software shall be used to perform the following tasks:

1. Work Order Processing and Quick Search
2. Preventive Maintenance
3. Materials Management / Requisitions
4. Accounting / Labor and Maintenance Charges
5. Communications
6. Emergency Preparedness
7. Activity Reports

Office of Technology and Network Services

The Maximo Advantage software is currently networked with the Office of Technology and Network Services (TNS). Representatives from this office will provide technical assistance by maintaining the data backup, repairs and maintenance.

Work Order Processing

Requests for maintenance services are received by fax, telephone, campus mail, hand delivery and e-mail.

1. Emergency Requests
  - a. Emergency requests involving a threat to life, health, safety, of property (i.e. gas leak, broken water lines, utility outage, etc.) are given top priority. The appropriate craft foreman is dispatched the emergency work requests by 2-way radio immediately and a computerized work order is generated, stamped "urgent" and placed in the foreman's dispatch file pocket at the Work Control station. The

Facility Manager, Assistant Director and Executive Director are advised of the emergency.

- b. Departments are contacted regarding emergencies and utility outages as required.
- c. Requests from the Physical Plant's Executive Director, Vice-Chancellor for Administration and Finance, Chancellor and President's office shall be handled as a Priority I and dispatched to the appropriate foreman immediately.

#### Handling of Work Orders for Broken Glass through Risk Management

- 1) When maintenance requests involving broken glass are received, a work order is generated; the carpenter foreman is dispatched to identify extent of damages. If the broken glass creates a hazardous condition the area is secured until the glass is repaired. The glass company that holds the maintenance contract is faxed a work order with the police file number before being dispatched out make the necessary repairs. A police report file number should be reported when the request is made to work control.
- 2) If the glass company is needed then the Work Control Administrative Coordinator III will call or fax a copy of the generated work order with description of replacement and repairs with exact location. The work order is then stamped "transmitted" and kept on file until closed.
- 3) The glass company is required to sign the contractor's log sheet located at the receptionist's station in the lobby. When the work order is completed, it will be verified by the carpenter foreman and closed out.
- 4) When invoices are received, a comparison is made to ensure that the invoice is consistent with the work order and the police report. The invoices are forwarded to the Comptroller's Office for payment. If the invoice is over \$1,000.00, a claim is processed on an individual requisition and forwarded to Risk Management accompanied with a copy of the work order and police report. In the case of known vandalism the appropriate party is required to pay for the damages.

#### 2. Routine Requests

- a. Telephone requests are placed on a Request for Maintenance Form. A computerized work order is generated and placed in the appropriate craft foreman's dispatch file pocket.
- b. Faxed, campus mail, hand delivered and e-mail requests are computer generated by the Administrative Coordinator III.
- c. The computer assigns each work order number which is entered on daily job sheet forms on the date(s) worked on until they are completed and closed. The assigned number is used for tracking and status purposes from the open date until completed date.

## Maintenance Requests Requiring Written Approval

1. Lock / Core Changes
2. Building Renovation / Construction

The Administrative Manager shall be responsible for the following:

Overall management of the Work Control Division and its functions insuring the smooth work flow between Work Control, University Departments, Facility Planning, Purchasing, Comptroller's Office / Accounts Payable, Central Stores, Warehouses, Vendors and Contractors:

1. Ensuring that Work Control staff is responding in a quick and efficient manner and maintaining close follow-up in order to provide information to interested parties.
2. Monitoring database to ensure accuracy and lack of deficiencies or flaws in the system.
3. Providing information for cost estimates at the request of supervisors and managers.
4. Acting as liaison between the requester and Physical Plant personnel, campus safety officer and campus police.
5. Ensuring that work control staff is maintaining the work control center in a professional, efficient and courteous manner.

The Work Control Administrative Coordinator III shall be responsible for the following:

1. Evaluating maintenance requests, prioritizing and determining craft assignment before work orders are generated.
2. Following up on status of work orders from the time work orders are generated through completion by communicating with craftsmen, foremen and requester.
3. Monitoring of database daily to ensure database updates and responding to calls from requesters regarding status of work orders.
4. Meeting with each foreman on open work orders and monthly backlogs to determine status and provide assistance in obtaining materials and service.
5. Attending daily meetings with Executive Director, Assistant Director, Architecture, Facility Manager and craft's foremen on status of maintenance requests preventive maintenance and major projects.
6. The Work Control Administrative Coordinator III shall keep track of assigned 2-way radios and vehicles.
7. The Work Control Administrative Coordinator III shall provide the Administrative Manger with a monthly Central Plant work schedule.

The Assistant Director, Facility Manager, Access Control Manager, Architecture and Electrical Engineer shall be responsible for the following:

1. Work orders are to be picked up from the Work Control station at 8:00 a.m. and 12:30 p.m. and periodically throughout the day.
2. Notations are made on the back side of the work orders indicating the status and to turn in clipboards to Facility Manager or direct supervisor. Facility Manager will make sure clipboards are in by 4:15 p.m. daily, no later than 8:30 a.m. the following day.
3. Ensuring that the Warehouse Administrator indicates a purchase order number on stores requisition whenever material is checked out from the warehouse. A copy of the stores requisition or LaCarte card purchases shall accompany the completed work order.
4. Labor and material charges are recorded in the designated area of the work order, signed by the foreman and dated upon completion.
5. Reporting and inquiring with Architecture on roof repairs, renovations and major repairs to generate work orders accordingly.

#### Open Work Orders

Open work orders requiring materials or funding for materials shall be reviewed after 90 days and "closed without action" for Facility Manager or foreman's review and re-scheduling. When material notices are received from the warehouse or funds becomes available the work order(s) are pulled from the backlog file and rescheduled by the foreman.

#### Close-out of Completed Work Orders

The Work Control Administrative Coordinator III receives completed work orders from the foreman daily. They are reviewed before closing for any discrepancies. The information provided is entered into the maximo system for closing remarks, labor and material charges then closed.

The work orders are stamped "closed" on the work order and filed in craft folders alphabetically by building names.

#### Quick Search

The Work Control Administrative Coordinator III performs a quick search to provide information on work orders to requesters and / or management upon request.

#### Preventive Maintenance

Preventive Maintenance requests are passed on to employee or foreman as requested.

#### Materials Management

- 1) The Work Control Center has responsibility of working in conjunction with the Physical Plant warehouse personnel for the procurement of equipment, tools, supplies and materials for maintenance jobs.
- 2) The warehouse administrator shall provide material notices upon receipt of materials and supplies to Work Control Center for rescheduling of work orders.
- 3) The warehouse administrator fills out a stores requisition at the time the material notice is presented. The stores requisition is attached to the work order to verify material charges.

- 4) The warehouse administrator shall not issue materials and / or supplies without a work order number unless the Executive or Assistant Directors gives approval.

### Accounting

The Work Control Center is responsible for accounting of the following:

1. Labor sheet preparation and calculation
2. Utilities Accounts
3. Tracking of Purchase Orders / Departmental Invoices
4. Motor and Generator Repairs
5. Louisiana One Call
6. Wooddale Glass Co.
7. Unifirst, Inc.
8. Emco, Co.

### Labor Sheets

- A. Labor sheets for all craftsmen shall be filled in daily and tabulated for the periods of 1<sup>st</sup> – 15<sup>th</sup> and 16<sup>th</sup> – 31<sup>st</sup> of each month and forwarded to Comptroller's Office within three (3) days following the referenced periods.
- B. Each craft foreman shall turn in a daily time sheet consisting of labor hours, work order numbers and buildings served.
- C. The Work Control Administrator Coordinator III record data on the labor sheets and calculates the number of hours to buildings served daily. The hourly time is tabulated by the hourly pay rate for the employee.
- D. The time recorded on the labor sheets are cross referenced from the daily job sheets turned in daily by the foreman of each craft.

### Utilities Accounts

- A. The Work Control Administrator Coordinator III keeps an accounting spreadsheet of utilities cost and consumption using the Microsoft Excel software.
- B. Utilities bills are transmitted to Work Control from the Comptroller's Office by the Executive or Assistant Directors after they sign the bill / invoice. Once the bill / invoice have the approval signature it is submitted for payment in the Comptroller's Office. Work Control only keeps copies of each bill / invoice.

### Tracking of Requisitions / Purchase Orders

- A. The Work Control Administrator Coordinator III tracks requisitions and purchase orders from the date they are transmitted to Purchasing. This is to track timely receipt of materials, completion of work orders and balance in departmental accounts. These are various departmental accounts including, Maintenance parts, services, insurance claims, major repairs, ACT 971 accounts, and accounts paid by other university departments.
- B. All purchase orders shall be recorded in the database of Microsoft Excel software.
- C. Work order numbers are submitted on the requisitions to track each purchase to purchase order and vice-versa.

### Motor / Generator Repairs

The Work Control Center Administrator Coordinator III records and tracks motor generator repairs in order to keep an account of cost data as related to the maintenance agreement.

### Louisiana One Call

The Work Control Center Administrator Coordinator III records and tracks motor generator repairs in order to keep an account of cost data as related to the maintenance agreement.

### Wooddale Glass Co.

The Work Control Center Administrator Coordinator III records and tracks invoices of all glass replacement and door hardware replacement or repairs in order to keep an account of cost data as related to the maintenance agreement.

### Unifisrt, Inc.

The Work Control Center Administrator Coordinator III records weekly invoiced cost, related to the number of each item of employees' uniforms, washing, exchanging and recovery of uniforms in order to keep an account of cost data as related to the maintenance agreement.

### EMCO, Inc.

The Work Control Center Administrator Coordinator III tracks the cost of repairs and services to all 2-way radios in the Physical Plant's maintenance department.

### Communications

- A. The Work Control Center is responsible for the operation of the department's radio communications system and repairs to hand held 2-way radios
- B. All emergencies such as, fire, gas leaks, accidents, serious injuries, life and health threats (due to temperature controls, water leaks, appearance of mold, etc.) to Administrative Managers and if case by case deemed to be necessary to contact Campus Police.
- C. The Work Control Administrator III shall inform the Work Control Coordinator III of any misuse of the radio system, radios lost or found.
- D. The Work Control Administrator III is the communication system's coordinator of radio systems problems and concerns. Also act as liaison between Emco and Maintenance department on repairs, quotes and invoices to be paid from the Comptroller's Office.

- E. If the computer network system fails, work orders are manually and recorded in a spreadsheet format in Microsoft Excel software. The maintenance request is stamped “work order” and passed on to the appropriate craft foreman. A copy of the request is kept and stamped “file copy”. A requester call log sheet will be utilized.
- F. The Work Control Administrator III shall make random calls to requesters to give status of work orders and make inquiries of materials to be provided by requesting department.
- G. The Work Control Administrator III shall be responsible to contact all parties affected by emergency water, lights or gas shutdowns for any area of the university.

#### Emergency Preparedness

The Work Control Administrator III is the University’s Emergency Operations Center during natural and / or man-made disasters. Its responsibilities include emergency communications, providing emergency materials and equipment from the warehouse and coordinating emergency repairs.

#### Activity Reports

The Work Control Administrator III is responsible for providing the following reports by use of Maximo Advantage Software:

- A. Open Work Order Reports
- B. Closed Work Order Reports
- C. Backlog Reports

**COMPREHENSIVE PREVENTATIVE MAINTENANCE PROGRAM**

**Facility Survey:**

Name of Facility \_\_\_\_\_  
Address \_\_\_\_\_ Phone \_\_\_\_\_  
Contact \_\_\_\_\_ Title \_\_\_\_\_  
Survey Performed by \_\_\_\_\_ Date \_\_\_\_\_  
Type of Facility \_\_\_\_\_ Year Built \_\_\_\_\_  
Gross Area (sq. ft.) \_\_\_\_\_ Floors \_\_\_\_\_  
Building Shape \_\_\_\_\_  
Construction: Walls \_\_\_\_\_  
Windows \_\_\_\_\_  
Doors \_\_\_\_\_  
Roof \_\_\_\_\_  
Floor \_\_\_\_\_  
Insulation \_\_\_\_\_  
Miscellaneous Structure \_\_\_\_\_  
Primary Energy Sources \_\_\_\_\_  
Heating \_\_\_\_\_  
Cooling \_\_\_\_\_  
Ventilation \_\_\_\_\_  
Lighting \_\_\_\_\_  
Domestic Hot Water \_\_\_\_\_  
Miscellaneous Energy Users \_\_\_\_\_  
Describe Services Performed \_\_\_\_\_  
Recommendations \_\_\_\_\_  
Follow-up \_\_\_\_\_

**INSPECTION AND PREVENTIVE MAINTENANCE  
PROGRAM  
FORMS FOR ALL CRAFTS AND SAMPLES  
Appendix A**

**INSPECTION AND PREVENTIVE MAINTENANCE PROGRAM  
FOR BOILERS AND HVAC EQUIPMENT  
Appendix B**

INSPECTION AND PREVENTIVE MAINTENANCE PROGRAM  
FOR BOILERS AND AIR CONDITIONS EQUIPMENT  
AS RECOMMENDED BY THE INSURANCE SECTION  
DIVISION OF ADMINISTRATION

INSPECTIONS

1. FREON COMPRESSORS

- A. Daily (during cooling season)
  - 1. Oil level
  - 2. Suction pressure
  - 3. Discharge pressure
  - 4. Oil pressure
  - 5. Check for bubbles in Freon
  - 6. Check purge unit for moisture
- B. Monthly (during cooling season)
  - 1. Amperage draw of driving section (hermetic or open-drive)
  - 2. Amperage draw of crankcase heaters
- C. Annual
  - 1. (Open drive) motor inspection & cleaning to include bearings and motor controls.
  - 2. Check compressor oil for contamination
  - 3. Pull heads and check valves and cylinder walls
- D. 5 Years - Reciprocating
  - 1. Completely disassemble compressor and rebuild
- E. 10 Years - Centrifugal
  - 1. Completely disassemble compressor and rebuild

II. AIR COMPRESSORS

- A. Daily
  - 1. Check operation
  - 2. Belt condition and tension
  - 3. Proper operating pressure
  - 4. Oil level
- B. Weekly
  - 1. Drain moisture from storage tank (if tank is not trapped)

2. Clean air filter
- C. Annual
1. Change compressor oil

### III. AIR HANDLERS

- A. Weekly
1. Check belt condition and tension
  2. Check filters
- B. Monthly
1. Clean filters
  2. Check coil for cleanliness
  3. Check condensate pan for cleanliness
  4. Check condensate pan drain for freedom from obstruction
  5. Check bearing condition and lubrication

### IV. CHILLERS

- A. Weekly
1. Check for temperature drop across unit
  2. Check insulation, check for leaks and for icing
- B. Si-Annually
1. Pull end plate and check for corrosion, scale, and test for leaks (belted units)

### V. WATER TOWERS

- A. Weekly
1. Leakage
  2. Pump condition
- B. Monthly
1. Water treatment
  2. Clean slats and wash out tower
  3. Algae control
- C. Annual
1. Corrosion control of all metal parts

### VI. AIR COOLED CONDENSERS

- A. Weekly (in season)
1. Check for freon leaks
  2. Check for fan vibration
  3. Check belts

B. Monthly

4. Check fan motors for bearing condition and lubrication
5. Check coils and clean *as needed*

- C. Annually
  - 1. Perform needed corrosion prevention on exposed metal parts

## VII. WATER COOLED CONDENSERS

- A. Weekly
  - 1. Check for temperature drop across unit
  - 2. Check insulation, check for leaks and for icing
- B. Bi-Annually
  - 1. Pull end plate and check for corrosion, scale and test for leaks (belted units)

## VIII. BOILERS

- A. Weekly (during heating season)
  - 1. Proper pressure and temperature
  - 2. Pilot light and flame color
  - 3. Pop-off valve for leakage (hand test pop-off valve with boiler under pressure)
  - 4. Circulating pumps and condensate pumps for leakage
  - 5. Test low water fuel cut out while burner is in operation
- B. Annual
  - 1. Check pop-off valve for operation
  - 2. Open and check for cleanliness and tube corrosion or scale
  - 3. Check flue for proper installation, sooting, and condition

## IX. ABSORPTION SYSTEMS

- A. Weekly (during heating season)
  - 1. Proper pressure and temperature
  - 2. Pilot light and flame color
  - 3. Pop-off valve for leakage (hand test pop-off valve with boiler under pressure)
  - 4. Circulating pumps and condensate pumps for leakage
  - 5. Test low water fuel cut out while burner is in operation
- B. Annual
  - 1. Check pop-off valve for operation
  - 2. Open and check for cleanliness and tube corrosion or scale
  - 3. Check flue for proper installation, sooting, and condition

## X. HOT WATER HEATERS (Electric)

- A. Monthly
  - 1. Check for leakage and proper operation
- B. Annual
  - 1. Hand test pop-off valve for operation under pressure
  - 2. Check amperage draw

## XI. HOT WATER HEATERS (Gas Fired)

- A. Monthly
  - 1. Check for leakage
  - 2. Check flame color
  
- B. Annual
  - 1. Check pop-off valve for operation
  - 2. Check flue for sooting, installation and condition

## X11. SWITCH GEAR

- A. See Section Page Installation & Preventive Maintenance Guide E-1, page 5

**HVAC**  
**INSTALLATION AND PREVENTIVE MAINTENANCE GUIDE**  
**Appendix C**

## INSTALLATION AND PREVENTIVE MAINTENANCE GUIDE

<u>EQUIPMENT</u>	<u>GUIDE NO.</u>
AIR CONDITION SYSTEMS (INSTALLATION)	A-1
AIR CONDITION SYSTEMS (ACCESSORIES)	A-2
AIR CONDITIONING--ABSORPTION MACHINES (INSPECTION AND MAINTENANCE)	A-3
AIR CONDITIONING--CENTRIFUGAL MACHINES (INSPECTION AND MAINTENANCE)	A-4
AIR CONDITIONING--RECIPROCATING MACHINES (INSPECTION AND MAINTENANCE)	A-5
AIR CONDITIONING--MR-COOLED CONDENSERS (INSPECTION AND MAINTENANCE)	A-6
AIR CONDITIONING--COOLING TOWERS (INSPECTION AND MAINTENANCE)	A-7
AIR CONDITIONING--AUXILIARY PUMPS AND MOTORS (INSPECTION AND MAINTENANCE)	A-8
BOILERS (INSTALLATION)	B-1
BOILERS (INSPECTION AND MAINTENANCE)	B-2
ELECTRICAL SWITCH GEAR (INSPECTION AND MAINTENANCE)	E-1
TANKS-MR (INSPECTION AND MAINTENANCE)	T-1
TANKS--HOT WATER (INSPECTION AND MAINTENANCE)	T-2
TURBINES--STEAM (INSPECTION AND MAINTENANCE)	T-3

(1) THE FOLLOWING CHECKS SHOULD BE PERFORMED PRIOR TO STARTING UP A NEW INSTALLATION:

- (a) Machine installed in accordance with manufacturer's instructions.
- (b).. Piping is adequately supported (weight of piping should be on the hangars, not on the machine or accessories).
- (c) Examine discharge line piping for oil or condensed refrigerant vapor traps. Correct as warranted. See figures 4A and 4B.
- (d) No recirculation of condenser air (air-cooled condensers).
- (e) Air flow over coils is not obstructed (air-cooled condensers).
- (f) All accessories are present.
- (g) All accessories and controls function according to requirements.

WARNING: CRANKCASE HEATER SHOULD BE ENERGIZED APPROXIMATELY 6 TO 12 HOURS BEFORE STARTING-UP COMPRESSOR.

RECIPROCATING COMPRESSOR MACHINES

1. To prevent short cycling and resulting motor burn-out, all compressors shall be equipped with a recycling timer set at 10 minutes.
2. Install stainer-drier in the refrigerant liquid line.

RECIPROCATING AND CENTRIFUGAL MACHINES

1. To prevent the accumulation of liquid refrigerant in the compressor crankcase, a crankcase heater shall be installed. The heater shall be electrically connected so that the heater is "on" when the compressor is off.
2. Compressors equipped with a pressure lubrication system shall be equipped with an oil safety switch wired to shut down the compressor in the event of loss of oil pressure.
3. Install moisture indicator in the refrigerant liquid line.

ALL SYSTEMS

1. Install pressure and temperature gauges at the inlet and outlet connections on chillers.
2. Install flow switch in chilled water circuit on outlet side of chiller. The use of a differential pressure switch that accomplishes the same results *as a* flow switch is acceptable.

LOINUAL,

1. Receive a pre-season "start-up" inspection and adjust, covering the following check-points:
  - (a) Check and service evaporator and solution pumps and motors, starters, etc. lubricate as prescribed.
  - (b) Clean and flush out seal, water tank seal chamber and associated lines.
  - (c) Examine purge value diaphragm. Replace if necessary.
  - (d) Examine ball in check value. Replace if necessary.
  - (e) Examine and clean evaporator spray header, nozzles, etc. Replace defective units.
  - (f) Examine absorber and generator sight *glass*. Replace if required.
  - (g) Clean condenser and absorber tubes.
  - (h) Clean purge tanks.
  - (i) Lubricate capacity control valve motor linkage.
  - (0) Check adjustment and operation of each safety and operating control.
  - (k) Calibrate pressure and temperature gauges.
  - (l) Additional inspection or service recommended by respective manufacturer.

NOTE: IF THE UNIT OPERATES ON A YEAR-ROUND BASIS, A SPECIAL TIME PERIOD SHALL BE SET ASIDE EACH YEAR TO PERFORM PROCEDURES OUTLINED UNDER THE PRE-SEASON "START-UP" INSPECTION.

A-5 AIR CONDITIONING (RECIPROCATING COMPRESSORS FREQUENCY 10 HP AND LARGER)

ANNUAL

1. Receive a pre-season "start-up" inspection and adjust, covering the following check points:
  - (a) Check adjustment and operation of each safety and operating control.
  - (b) Check superheat temperature for any deterioration of the expansion valve.
  - (c) Calibrate pressure and temperature gauges.
  - (d) Examine motor starter for thinning, welding or badly pitted contacts. Repair or replace as needed (Replace contacts in pairs).
  - (e) Examine and tighten electrical connections. Clean *as* needed.
  - (f) Megger test motor (if under 1 megohm, no attempt should be made to start-up machine until the cause for the low reading has been determined and corrected).
  - (g) Test oil for quality.
  - (h) Check refrigerant charge.
  - (i) Clean chiller and condenser water box and tubes. Test for leaks (bolted units).
  - (j) Vacuum or blow out motor windings with low pressure air (less than 40 psig) on open-type compressor motors (wash out with approved solvent where oil or grease is present).
  - (k) Additional inspection or service recommended *by* respective manufacturer. (1) On cold start-ups, crankcase heater should be energized approximately 12 hours before starting-up compressor.
  - (m) Compressor current draw *is* within nameplate value. Voltage should be within the limitations of plus or minus 10% of nameplate value and plus or minus 3% between phases.

NOTE: IF THE UNIT OPERATES ON A YEAR-ROUND BASIS, A SPECIAL TIME PERIOD MUST BE SET ASIDE EACH YEAR TO PERFORM PROCEDURES OUTLINED UNDER THE PRE-SEASON "START-UP" INSPECTION.

FIVE YEARS.

1. Dismantle compressor. Perform in-depth overhaul.

## A-6 AIR CONDITIONING (AIR-COOLED CONDENSERS) FREQUENCY

### PRE-SEASON START-UP

1. Vacuum or blow out coils and fins.
2. Inspect fan blades for tightness, cracks and chipping. Repair or replace *as* needed.
3. Observe belt wear; replace worn belts. Adjust belt tension.
4. Check balance. Correct as warranted.
5. Lubricate fan bearings.
6. Service fan motor(s) and starter(s).

A-7 AIR CONDITIONING (COOLING TOWER)                      FREQUENCY

PRE-SEASON START-UP

1. Drain and flush down tower. Remove trash, dirt and algae from pans and screens.
2. Check structural members of tower for deterioration. Paint rust spots as required.
3. Examine fan blades for tightness, cracks and chipping. Repair or replace *as needed*.
4. Observe belt wear; replace worn belts. Adjust belt tension.
5. Lubricate fan bearings.
6. Drain and replace lubricant in gear box.
7. Service driving motor(s) and starter(s).
8. Check balance. Correct as warranted.

A-8 AIR CONDITIONING (PUMPS AND MOTORS 10 HP FREQUENCY AND LARGER)  
INTEGRAL WITH CHILLED WATER AND CONDENSER WATER CIRCUITS

A N N .

1. Examine motor starter(s) for thinning, welding or badly pitted contacts.  
Repair or replace as needed (Replace contacts in pairs).
2. Examine and tighten electrical connections. Clean as needed.
3. Open motors--visually inspect windings for cleanliness. Clean motor windings with vacuum or low pressure air (less than 40 psig). Wash out with approved cleaning solvent where oil or grease is present.
4. Motor current draw is within nameplate value. Voltage should be within the limitations of plus or minus 10% of nameplate value and plus or minus 3% between phases.
5. Check alignment. Correct as warranted.
6. Perform required lubrication.

Eufaula

1. Dismantle pump. Perform in-depth overhaul.
2. Dismantle motor. Inspect for loose or worn parts. Dry, dip and bake. Install new bearings.  
Rewind if warranted.

1. New Installations -- No boiler shall be installed in the state unless it has been constructed and inspected in accordance with the requirements of the Louisiana code for boilers and is so stamped or is inspected and stamped in accordance with the requirements of the National Board of Boiler and Pressure Vessel Inspectors. A boiler having a standard stamping of another state that has adopted a standard of construction equivalent to the standard of the Louisiana State Department of Labor may be accepted by the Commissioner provided, however, that the person desiring to install same shall make application for the installation of same and shall file with the application a manufacturer's data report covering the construction of the boiler in question.
2. Upon completion of installation, all such boilers shall be inspected by the Chief Inspector, a Deputy Inspector or a Special Inspector Commissioner to inspect boilers in this state, and at least once each year there-after shall be subjected to a regular internal and external inspection.
3. Second-Hand Installation--in any case where a second-hand boiler is installed, that is, both the ownership and location of which is changed, fittings and appliances must comply with the Louisiana Boiler Construction Code for new installation.

## B-2 BOILER

### WEEKLY

1. Test low water fuel cut-out(s) while the burner is in operation.

### ANNUAL

1. Hand test safety valve(s) with boiler under pressure.
2. Clean boiler interior of mud, loose scale, and deposits.
3. Clean fire side.
4. Examine pressure parts for signs of overheating, leakage, wear, corrosion and pitting. Repair *as* needed.
5. Examine tube ends for leakage. Repair *as* needed.
6. Clean and examine low water fuel cut-out, water column, gauge glass, and interconnecting piping. Repair *as* needed.
7. Examine condition of all refractories. Repair *as* needed.
8. Calibrate pressure and temperature gauges.
9. Clean; check operation of burner and controls.
10. Replace all handhold and manhole gaskets.
11. Additional inspection or service as recommended by the manufacturer.

E-1 ELECTRICAL SWITCH GEAR (MAIN STATIONS) FREQUENCY

al111U.L

1. Clean down and inspect for loose or worn parts. Adjust *as* needed.

FIVE YEARS

1. Perform in-depth engineering inspection and test service. Consult manufacturer.

Eufaula

Annually

1. Hand test safety value(s) under tank pressure.
2. Examine exterior of tank, including fittings, manholes and hand holes for leaks, rust, *and signs* of corrosion. Repair as needed.

Three\_YEARS

1. Tanks with manholes--open tank and remove rust, scale and buildup. Examine for pitting and corrosion. Repair *as* needed.
2. Replace gaskets.
3. Calibrate pressure gauge.

SPECIAL INSTRUCTIONS

DRAIN MOISTURE FROM TANK AS WARRANTED BY OPERATING CONDITIONS.

T-2 TANKS (HOT WATER)

FREQUENCY

ANNUAL,

1. Hand test safety valve(s) under tank pressure.
2. Examine exterior of tank, including fittings, manholes and hand holes for leaks, rust, signs of corrosion. Repair as needed.

TWO YEARS

1. Tanks with Manholes--Open tank and remove rust, scale and buildup. Examine for pitting and corrosion. Repair as needed.
2. Replace gaskets.
3. Calibrate all gauges.

## T-3 TURBINES 15 KW AND LARGER

### FREQUENCY: DAILY

1. Check and record all pressures and temperatures.
2. Check and record vibration of the unit at the bearing pedestals.

### FIVE YEARS

1. Check adjustment and operation of each safety and operating control.
2. Additional inspection or service as recommended by the manufacturer.

### FREQUENCY: FIVE YEARS

1. Remove casing, examine blades for damaged edges, cracking and pitting. Magnaflux for subsurface cracks.
2. Check axial and radial clearances.
3. Check seals, glands, drains and traps.
4. Examine bearings for wear and clearances.
5. Overhaul governor.
6. Overhaul all control valves.
7. Disassemble and examine for wear all auxiliaries.
8. Clean and inspect condenser and auxiliaries.
9. Clean and calibrate all gauges.
10. Additional inspection or service as recommended by the manufacturer.

**CUSTODIAL AND MAINTENANCE PROGRAM**  
**(Inspection reports)**  
**Appendix D**

## Summer Cleaning Check List

Southern University

### Summer Cleaning Check List

Room/Area: \_\_\_\_\_ Date Completed: \_\_\_\_\_

High dust and/or clean all areas in room

Wash and clean blinds, lights, windows and vents within height limits

Clean and wash walls, light switches and lockers

Clean and wash doors, door frames, door windows and thresholds

Clean and wash ledges, shelves, furniture and trash containers

Clean and disinfect water fountains and polish all stainless steel

Carefully clean trophy and display cases

Clean/scrub corners, edges, baseboards and remove gum

Strip/scrub or extract floors thoroughly until clean

Check hard surface floors for visible dirt and re-scrub if necessary

Neutralize hard surface floors using citric acid before applying finish

Apply coats of floor finish five (5) coats for shower scrubbed floors or seven (7) coats for stripped floors. Do Not Apply More Than Three (3) Coats per day. Allow 72 hours for floor to cure and then burnish

Clean or replace any walk-off mats

Inspect work for completeness

Supervisor/Custodial Supervisor: \_\_\_\_\_

Date Completed: \_\_\_\_\_

**LANDSCAPING SERVICES MAINTENANCE REPORTS**  
**(Inspections reports)**  
**Appendix E**

# ZONE INSPECTION CHECKLIST GROUNDS AND PAVEMENT

## Building

1 2 3 4 5 Ticket Office Livestock Arena

### BEDS

Condition of mulch  
Plant condition  
Condition of edging  
Presence of weeds

### TREES AND SHRUBS

Overall tree condition (shape, vigor, pruning)  
Presence of disease or high number of insects or damage  
Condition of mulch  
Damage to trunk from equipment  
Condition of old pruning cuts

### TURF

Bare, diseased or worn areas  
Proper edging at buildings, walks, curbs, and beds  
Noticeable insect populations (fire ants, etc.)  
Litter

### WALKS

Cracks or damage  
Debris, litter, or dirt  
Cleanliness and condition of outside mats  
Cleanliness and condition of smoking urns and trash receptacles  
Cleanliness and condition of benches

### PARKING LOTS AND STREETS

Condition of asphalt (cracks, depressions, alligating)  
Condition of striping  
Litter, dirt or debris  
Condition of traffic signs

Date

Signature

**PREVENTIVE MAINTENANCE PROJECTS  
UNDER CONTRACT  
Appendix G**