11/25/2018

SPHM
HOSPITALITY

SPHM – HOTEL ENGINEERING S.O.P

By: | Agustinus Agus Purwanto, SE MM

Hotel Engineering S.O.P

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP - 00	Page 1
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES Table of Contents	By: Drs. A. Agus Purwanto, MM

Engineering Standard Operating Procedures

TABLE OF CONTENTS

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP - 01	3˚Æ˘ǂ7
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES Property Operation Terminology	By: Drs. A. Agus Purwanto, MM

DIRECTOR OF ENGINEERING

Engineering department head of a hotel containing a required amount of rooms as specified by corporate directive to support this position (See job description Basic Function.)

CHIEF ENGINEER

Engineering department head of a hotel containing less than the amount of rooms as specified by corporate directive to support a Director of Engineering position (See job description Basic Function.)

ASSISTANT CHIEF ENGINEER

An individual who is salaried or hourly and who has limited management oversight responsibilities with limited decision-making authority (See job description Basic Function)

ENGINEERING MANAGER

A generic term referring to the ultimate authority in charge of all engineering functions.

ENGINEERING SUPERVISOR

An individual who supervises the effort of the Engineering Department by closely working with and receiving directions from the Director of Engineering

LICENSES AND PERMITS

The term referring to documents required by law to be obtained prior to commencement of or in continuing support of operations

SOP REVIEW TEAM

A group of chosen individuals who are charged with the responsibility of conducting inspections of their assigned properties in order to measure compliance with Standard Operating Procedures particular to their discipline

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP - 01	3˚Æ˘¥8
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES Property Operation Terminology	By: Drs. A. Agus Purwanto, MM

STANDARD OPERATING PROCEDURES (SOP)

Rules, standards and guidelines for each departmental discipline which sets policies for the smooth, efficient and consistent operation of that department in each hotel

POLICY

Statement of principle or an objective which delineates our way of doing business

PROCEDURE

The step-by-step activities to be undertaken to produce the standards

STANDARDS

The minimum acceptable levels of performance towards policy compliance

SOP REVIEW TEAM LEADER

An individual designated by corporate who works within the discipline assigned and who will coordinate the efforts of the inspection team and ensure completion of the SOP process.

BUDGET

An organized plan outlining the estimated expenses for departmental operation

LOSS PREVENTION

The defined activity to reduce or minimize losses due to accidents, theft or legal actions caused by unsafe conditions

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP - 01	3˚Æ˘¦9
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES Property Operation Terminology	By: Drs. A. Agus Purwanto, MM

LIFE SAFETY

Activities or prevention of activities and conditions that may endanger the safety or staff, patrons, guests or physical assets

ROUTINE WORK REQUEST

A form generated method of communicating work needs not containing items of a “life safety” nature.

SAFETY AND SECURITY WORK REQUEST

A form generated (red lettered) method of communicating work needs of a life-threatening nature or safety issue. This work request has priority over all others and will be addressed immediately upon request.

EQUIPMENT LOGS

Method to record and retain important data on specified equipment

PREVENTIVE MAINTENANCE

A planned, organized, self-generated activity designed to prolong the useful life or function of physical assets.

HVAC

An industry approved term used to define equipment relating to heating, ventilation and air conditioning.

CUSTOMER SERVICE STANDARDS

The company philosophy which utilizes eight specific guest satisfaction practices

CONTRACT SERVICES

Agents, other than employees, hired to perform contractual duties.

WARRANTIES

A binding agreement whereby the seller of a product or service guarantees the integrity of the product or service for a specified period of time. The warranty may include all or part of the goods or services received.

SHOP

The area defined as the Engineering Department's centralized work area for use by all within the department.

POWER PLANT

An area defined to contain electromechanical equipment, devices to soften and/or raise the temperature of water and equipment to raise or lower the ambient temperature of the hotel.

SPECIAL PROJECT

Work of a specific nature which has been planned (or unplanned), but not funded through the normal operational budget nor meeting the criteria of an asset or capital project.

ASSETS

Assets are defined as either personal property or real property having a useful life of a minimum of three years and costing more than $1,000.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP - 01	3 ˚Æ˘ǂ11
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES Property Operation Terminology	By: Drs. A. Agus Purwanto, MM

PAYROLL ACTION FORM (PAF)

Company form for initiation of all actions concerning employees

EMPLOYEE PROBLEM/SOLUTION NOTICE

Company form for notification to an employee of problems or work performance which is below acceptable standards.

TRAINING CHECKLIST

Company form using a checklist which parallels the job description thereby ensuring an employee is properly trained.

HAZARDOUS COMMUNICATION INSTRUCTION ACKNOWLEDGMENT

Company form which ensured an employee has been properly trained on hazardous chemicals which they may be required to handle or come in contact with.

MATERIAL SAFETY DATA SHEET (MSDS)

Manufacturer supplied documentation on chemicals, substances, solvents, which are deemed to contain hazardous properties in varying degrees. The document (MSDS sheet) contains information on each item. The information includes the identity of the item, hazardous components, physical data, fire and explosion data, exposure and effects, reactivity and polymerization, spill/leak and disposal procedures and special protective measures.

Sun Paradise Hotels Management Sun Paradise Hotel Management SPHM	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP - 01	3 ˚Æ˘ɟ12
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES Property Operation Terminology	By: Drs. A. Agus Purwanto, MM

PROCEDURE:

The CUSTOMER Program in its entirety will be an integral part of all Engineering practices. It will be the responsibility of the Engineering Manager to ensure that CUSTOMER is practiced by all within the department on a daily basis.

To further enhance CUSTOMER practices, the following procedures and practices will be utilized:

1. Create a welcoming, pleasant, and professional atmosphere.

   Use the customer's name, if and when possible.

   Speak to our customers in a respectful, friendly, and courteous manner. Take personal responsibility and respond immediately to our customers requests.

   Offer a warm and sincere greeting to each customer. Maintain a positive attitude.

   Extend a helping hand and anticipate the customer's needs.

   Remember to always offer a fond farewell, and ask the customer to return.

2. Name tags of the Trust pin-on type will be worn by all Engineering employees. Embroidered names on work shirts are not permitted.

3. Proper phone etiquette shall be used at all times. When dealing with guests, the procurement and subsequent use of the person(s) surname will be utilized during the conversation.

4. When answering a room call in an occupied room, the Engineering personnel will secure the registered party's name prior to going to the room. The name will then be utilized from the knock on the door until the parting phrase of "Have a nice day, Mr. or Mrs. Jones".

5. When answering a room call when the guest is not present, a courtesy card will be left after completion of the repair. Good penmanship shall be utilized in filling out the card as it further emphasizes our CUSTOMER philosophy and professionalism.

6. CUSTOMER will be practiced by Engineering when interacting with other departments. A call from the operator stating "go to the restaurant" is not acceptable. The Engineer must secure a name to contact in the restaurant, thereby practicing CUSTOMER internally, as well as reducing the time needed to identify the assistance required.
7. CUSTOMER Line (if available) is to be utilized to be sure guests are handled immediately. A log is to be maintained on a daily basis.
8. The CUSTOMER standards card is to be carried at all times by all associates.

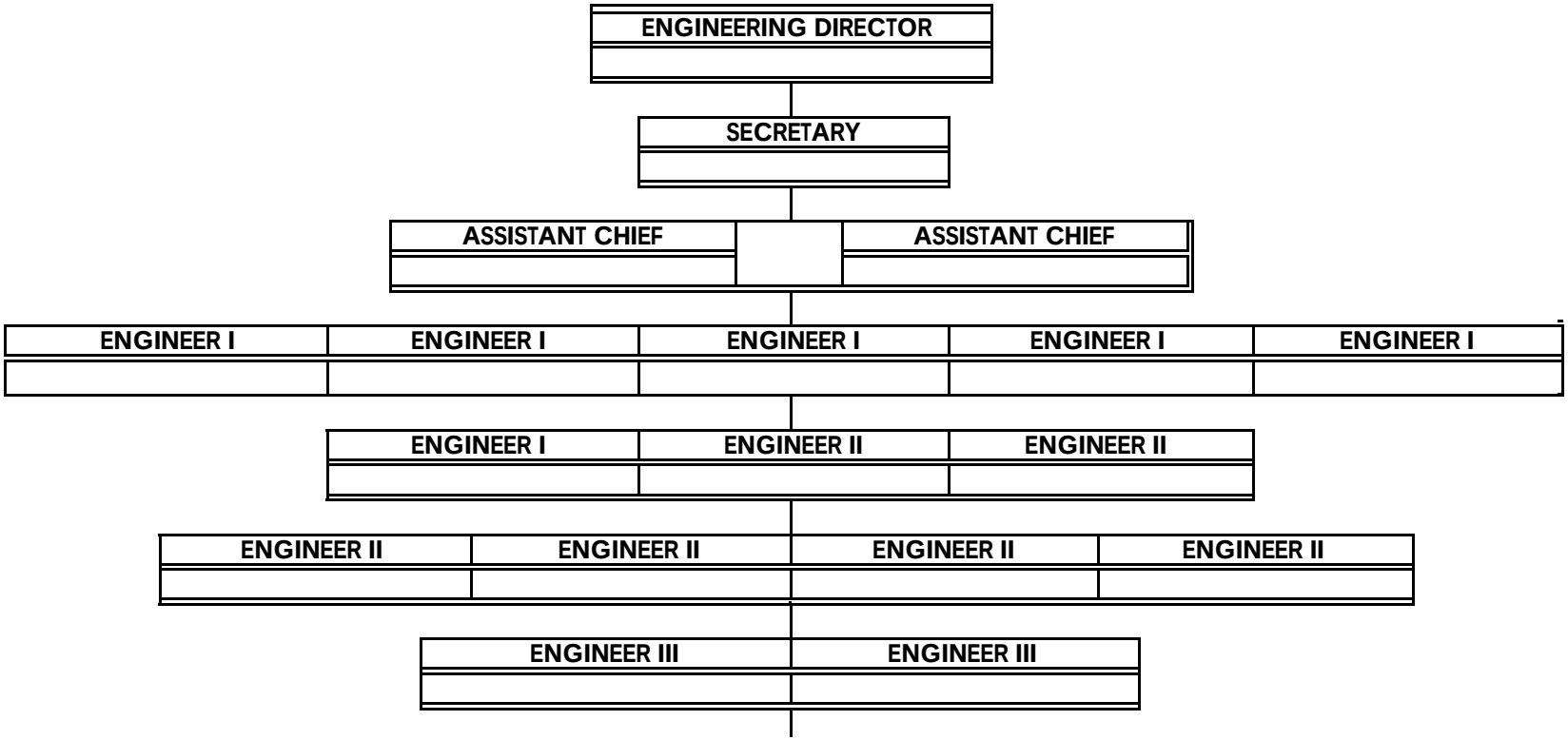
	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP - 02	3˚Æ˘#14
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES Organization Chart	By: A. Agus Purwanto, SE MM

PROCEDURE:

An organizational chart concerning Engineering will be developed and posted conspicuously within the shop area. (Example provided.) The chart will be kept current and will include all job classifications contained in the Engineering staffing guides for the particular property. The name of the individual occupying the position will be used in the appropriate box.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP - 02	3˚Æˇ#15
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES Organization Chart	By: A. Agus Purwanto, SE MM

ENGINEERING DEPARTMENT ORGANIZATIONAL CHART



	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP - 03	3˚Æˇ#16
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES Training Manual	By: A. Agus Purwanto, SE MM

PROCEDURE:

The Engineering Manager will develop, implement and keep current training manual for each job classification within the department. The originals will be kept in the Engineering office and an appropriate copy will be issued to each employee. This copy will be kept by the employee during his tenure. The Engineering Manager will ensure the employees' copies are updated should the training manual need changes or revisions. When the employee is thoroughly familiar with the contents of their training manual, a form stating this accomplishment must be signed by the employee and the trainer. This form will be placed in the employee's personnel file. The manuals for each classification include, but are not limited to the following, depending upon the need to know and scope of responsibilities.

1. Corporate Position Description
2. Operational Requirements
3. Job Specifications
4. Engineering orientation overview
5. General Responsibilities
6. Safety
7. Energy Management
8. Engineers Daily Report Routine House rounds
9. Handling of Routine Work Request
10. Handling of Safety and Security Work Request
11. Shift Procedures Per Shift
    a. Day
    b. Evening
    c. Midnight
12. Inclement Weather Procedures

13. Electrical Emergencies (shut offs, emergency power, etc.)
14. Handling of Hazardous Chemicals
15. Key Control
16. Parts and Material ordering
17. Uniforms
18. Tools
19. Security
20. Preventative Maintenance Overview
21. Major Equipment Locations
22. Fire Sprinkler Controls (isolation valves, shut offs)
23. Domestic Hot and Cold Water Riser Shut Offs
24. Chilled Water Riser Shut Offs
25. Heating Water Riser Shut Offs
26. Employee Acknowledgment form
27. Training Test

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP - 04	3˚Æˇ#18
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES Shop Organization	By: A. Agus Purwanto, SE MM

PROCEDURE:

The Engineering Manager will check and ensure compliance with all local, state and federal codes concerning material storage and use of items such as welders, torches and other tools of a high risk nature. The shop will be organized in the following manner.

1. Work Area

   An area where items to be repaired, built or serviced may be freely worked on

2. Short Term Storage

   An area where items of a quick turn-around nature may be stored for quick access. This area should be in close proximity to the work area

3. Tool Storage

   An area close to the work place where servicing, troubleshooting and maintenance tools will be kept. Electrical meters, gauges, etc., will be kept in an area free from dirt infiltration, thus ensuring accuracy.

4. High Risk Area

   An area set aside from the normal flow of traffic and away from any areas where the work done in this section may cause harm or damage to persons or property. Welders, torches, grinders and impact tools are to be used in this area. Proper curtains and protective devises such as safety glasses and fire extinguishers must also be located in this area.

5. Documentation Area

   The area set aside to do paperwork associated with the Engineering daily duties. This area should include the repair/service manual library and blueprint storage.

6. Flammables

   Local codes should be checked and direction should be given by the local Fire Marshall on proper storage of flammable materials within the jurisdiction. The items will include, but not limited to, oil base paint, paint thinner, mineral spirits, solvents and petroleum products.

7. Compressed Gas Cylinders See ENG-SOP-45.

8. Maintenance Devices

   These items are needed to properly maintain and service items by the Engineering staff. They should be located near the work area, but far enough away so as an unsafe condition will not exist.

   a. Compressed air line with quick disconnects fitting, gauges and regulator. The gauges (two) should be placed to read line and regulated pressure.

   b. Multi-voltage test panel with needed plugs and adapters to adequately meet the unit needs.

   c. Emergency preparedness items for fire prevention and safety. This will be a marked area in the shop and will include only items for shop emergency use.

   d. Sink with hot and cold running water preferably not plumbed directly to the sanitary drain, but free flowing to a floor drain.

   e. First aid kit suitable for minor cuts, abrasions and burns and eye wash stations.

9. Shop Security

   The shop will be kept locked and inaccessible to all unauthorized personnel.

10. A bulletin board or designated area for memos, letters and other written communications will be provided and maintained current within close proximity or in the main shop area. A current list of emergency phone numbers corresponding to the units emergency preparedness plan will be posted in this area. Work schedules, organizational chart and shop safety rules will also be posted.

11. Each shift will clean the shop prior to their departure. This will include restocking leftover material, bolts, nuts, wire, etc., wiping off all work benches and counter tops, filing the service manuals, broom sweeping the floor and emptying the shop trash container. Once per week the Engineering Manager will designate one individual to damp mop the floor and pick up any slippage on housekeeping generalities.

Sun Paradise Hotels Management Sun Paradise Hotel Management SPHM	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP - 05	3 °Æ˘#21
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES Power Plan Organization	By: A. Agus Purwanto, SE MM

PROCEDURE:

The Engineering Manager will ensure the power plant areas remain clean, safe, well lit, uncluttered and functioning as they were designed. To assist the Engineering Manager, a list of minimum standards is given:

1. Storage

   No storage of materials other than that which pertains to the equipment within the power plant.
2. Chemical Storage and Use

   a. Store an only chemical (Biocide, algaecide, boiler treatment, etc.) which pertains to the equipment in the power plant or individual mechanical room.

   b. Chemical training, storage and handling

3. Each major piece of equipment in the power plant will have a log sheet on a clipboard. The clipboard will be attached to or close to the equipment for reading and observations during the shift engineer's house rounds. The frequency of the logs and readings will be determined by code, statute or equipment manufacturer specifications.
4. All pipe insulation will be in place, serviceable and maintained in the original condition.
5. Pipe hangers, brackets and supports will be free of rust and checked to ensure they are functioning properly.
6. Lighting in the Power plant will be sufficient to allow enough light for normal plant routine. The fixtures will be in good repair and the light bulbs of consistent brightness.
7. Local codes should be reviewed concerning marking of pipe content and flow. If required, the proper decal and color according to OSHA will be used.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 06	3˚Æˇ#22
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES Work Schedule	By: A. Agus Purwanto, SE MM

PROCEDURE:

An up-to-date work schedule (see attached) will be posted in a conspicuous area in advance (subject to state and local laws) within the Engineering shop. Any changes in schedules shall be posted 24 hours in advance of the change. The schedule will include:

1. Full name of employee
2. Job classification
3. Day
4. Monthly numerical date
5. Hours (military time is suggested)
6. Days off
7. Holidays
8. Shift (day, evening, midnight)
9. Term of schedule

The example on page 2 is for form guideline only. The information such as hours, job class and shifts are to be adjusted for each individual's unit's requirements.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP - 06	3 °Æ˘♯23
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES Work Schedule	By: Agustinus Agus Purwanto, SE MM

ENGINEERING DEPARTMENT SCHEDULE

FROM _____ TO _____

NAME	CLAS	SAT	SUN	MON	TUE	WED	THUR	FRI

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP - 06	3 °Æ˘#24
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES Work Schedule	By: Agustinus Agus Purwanto, SE MM

Purchase requisition

QUAN.	TYPE UNIT	ITEM DESCRIPTION	CODE	UNIT COST	TOTAL PRICE

Approvals & Dates

Dept. Head _____ _____

Executive Committee _____ _____

Controller _____ _____

General Manager _____ _____

Sub-Total Excluding Sales Tax & Freight

Sales Taxes (if not for resale)

Freight Charges (est. 10% if applicable)

Total Purchase Requisition Value $

EXPENSE CODE: _____ EXPENSE CODE: _____ EXPENSE CODE: _____

BUDGET: _____ BUDGET: _____ BUDGET: _____

LAST BALANCE _____ LAST BALANCE _____ LAST BALANCE _____

THIS P.O. REQ. _____ THIS P.O. REQ. _____ THIS P.O. REQ. _____

(3) BIDS NEED TO BE OBTAINED ON ALL PURCHASES OF $500 OR MORE

BID #1 _____

BID #2 _____

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 06	3˚Æ˘#25
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES Work Schedule	By: Agustinus Agus Purwanto, SE MM

ENGINEERING DEPARTMENT SCHEDULE

FROM _____ TO _____

NAME	CLAS	SAT	SUN	MON	TUE	WED	THUR	FRI
Day								
Evening								
Mid								
Swing								

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 07	3˚Æˇ#26
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES Uniform Control Issue	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

The Engineering Manager shall ensure each job classification is uniformed in professional work apparel which is complimentary to the individual trade. The ratio of uniforms to be issued will ensure a clean, fresh uniform is available to each individual for their work shift.

The following information is a set of minimum suggested guidelines. The Engineering Manager shall choose uniform color and style which will portray the professionalism of Doubletree Engineering.

1. The Engineering Manager shall wear a business suit or a work uniform. The work uniform if chosen shall be different in style and color from the staff personnel. This difference is to distinguish the person in authority. Black or brown polish able shoes shall be worn. The shoes will be complimentary to the suit or uniform.
2. The Assistant Chief Engineer or second person in charge shall wear a uniform which will be similar to that worn by the Engineering Manager. Should the Engineering Manager choose to use business attire, the Assistant will use a uniform different in style and color from the staff personnel. This difference is to distinguish the person in authority in absence of the Engineering Manager.
3. Staff personnel shall be uniformed according to their trade and job needs.

Engineers, maintenance, refrigeration:

1. Color coordinated work pants and front button shirt.
2. Black or brown polish able work shoes. Steel toes may be worn if desired. The footwear is to be supplied by the individual. (Oxford black is preferred.)

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 07	3˚Æ˘#27
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES Uniform Control Issue	By: Agustinus Agus Purwanto, SE MM

Painter:

1. White painter pants and front button shirt.
2. Footwear shall be hard soled shoes or half boot. Care will be given to footwear to alleviate buildup of paint. Shoes will be supplied by the individual.

Carpentry:

1. The individual unit shall decide the carpenter's uniform. The uniform chosen shall be of a fit where loose clothing cannot be drawn into tools and equipment.
2. Shirts which do not button down the front (tee shirts) are unacceptable when worn as the primary covering.
3. Footwear shall be supplied by the individual and will be hard soled black or brown polish able shoe or boot.

Landscaping:

1. The individual unit will decide the landscaping uniform. Climate, weather conditions and scope of work shall be considered when choosing the apparel. A uniform which is unique to the geographical area should be the result.
2. Shoes will be supplied by the employee. The criteria in Item 1 will be used in this selection.

Secretarial:

1. The clerical staff shall conform to the guidelines set forth at the unit pertaining to secretarial and clerical standards. Exceptions would be individuals whose job contains more than clerical duties. These exceptions would include but not be limited to parts person and PM clerk. The uniforms for these positions should conform to the engineer, maintenance, refrigeration criteria.

Things not approved for uniforms.

1. Blue jeans
2. Tennis shoes

3. Hats unless deemed appropriate to the trade
4. Extraordinary belt buckles
5. Suspenders unless appropriate to the trade
6. Stick or pin-on emblems of non-Doubletree issue
7. Long sleeve apparel worn under a short sleeve shirt
8. Coats or jackets with graphic designs or words
9. Tee shirts with writing or pictures on them which when worn as undergarments are visible through the uniform shirt.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 08	3 °Æ˘#29
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES Personal Appearance & Dress Code	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

Specific guidelines for grooming and attire are as follows: ATTIRE

Employees must arrive at the hotel in full uniform or proper attire. Uniforms should be clean, neat and pressed at all times. The only pins or decorations that may be worn are name tags, or Company-issued special pins. Employees are responsible for their uniforms. Should you lose something, it may result in a payroll deduction from your earned wages. Any questions pertaining to your uniforms should be addressed with your department manager.

Non-uniformed female employees must dress in professional business clothing consisting of suits, dresses, blouses and skirts. Dress pants are considered appropriate when worn as a suit with a jacket that covers the hipline. Split skirts, shorts, leggings, stretch pants (stirrups) or tights are unacceptable. All female employees are required to wear proper undergarments, such as slip, bra, underwear, camisole and color coordinated pantyhose while working. Non-uniformed male employees are permitted to wear suits; or a sports coat with slacks and a tie. Jeans, shorts, polo shirts, T-shirts are unacceptable.

Note: Casual attires such as jeans, shorts, leggings, sundresses, faddish, or sheer attire is not permitted at any time.

HAIR

- Male Employees

  Hair is to be neatly cut and tapered so that it does not extend beyond or cover any part of your ears. Hair must be cut above the shirt collar. Ponytails, shaving or carving of the head and eyebrows or spiking the hair is not permitted. Appropriate hair confinement should be used in food service areas where required by law.

Mustaches and beards must be neatly trimmed and no extreme styles will be permitted. If you want to grow a beard or mustache, you must do it while you are on vacation.

Sideburns should be neatly trimmed and may be permitted to extend to the beginning/start of the earlobe, following their natural contour.

- Female Employees

Hair is to be kept neatly combed and well styled. Any extreme look, such as shaving or carving the head and eyebrows and spiked hair is not permitted. Extreme hair coloring outside of normal tones (brunette, blond or red) is not permitted. Hair confinement and accessories should be tasteful. No more than two combs or barrettes are to be used.

MAKE-UP

Your make-up should appear natural. Eyebrows should be neat and eye shadow and mascara should be used in moderation. False eyelashes are acceptable only if they are natural looking. Lipstick should complement your natural coloring. Avoid excessive make-up and heavily scented powder, cologne and perfume.

JEWELRY

Keep your jewelry simple. Do not wear fancy or “evening” jewelry to work. If you are in uniform, necklaces must not be visible. You are not permitted to wear more than two simple rings on each hand. You are not permitted to wear fancy costume rings or large cocktail rings since they may present a safety hazard. Wedding and engagement rings are considered as one ring.

You may wear either a wristwatch or one bracelet/chain per wrist. Ankle bracelets are not allowed. “Dangle “earrings or large hoop (longer than one inch in length) and multiple earrings in one hole are not allowed. Multiple matching earrings in one ear are allowed providing there are never more than two earrings in one ear, and one earring is a “stud.” The color of your earrings

must complement or match your uniform. Ear clips are not allowed. Male employees are not allowed to wear earrings. No other jewelry may be worn in your ears, nose, teeth, etc.

NAME TAGS

All employees have been issued a name tag, which should be worn with pride in an upright readable position. Since name tags are an integral part of the uniform, they should be seen and transferred to coats and jackets. There is a fee of $2.00 for the replacement of a lost name tag.

SHOES

Uniformed employees are requested to wear shoes as specified by the hotel. Non-uniformed employees are requested to wear appropriate dress shoes that complement their attire.

Sneakers, earth shoe styles, flat styles and wedge styles are not allowed unless approved as part of the uniform or attire for certain departments. Shoes should be polished and kept in good condition. Approved shoes and socks are required the first day you are in uniform.

PERSONAL HYGIENE

Due to close contact with guests and fellow employees, employees are requested to bathe, use deodorant and practice good oral hygiene on a daily basis. Fingernails must be kept clean and presentable at all times. Fingernail tips should not extend beyond the fingertip for males or more than 1/2 inch beyond the fingertip for females. Nail polish should not be flashy or multicolored. Male employees are not permitted to wear colored nail polish.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 09	3˚Æˇ#32
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES Departmental Meetings	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

The Engineering Manager shall conduct a monthly departmental meeting. The meeting will be held in a meeting room, not the engineering shop or associated mechanical rooms. The meeting shall be mandatory for all full- and part-time employees within the department. The meeting shall be scheduled according to workload allowances and during the period where the most personnel are already on the clock. This will eliminate costly call-in overtime and allow employees their full days off. The meeting should last at least one hour but no longer than two. A notice containing the agenda for the meeting will be posted one week in advance to allow preparation and scheduling. This notice will also contain a section for the staff to indicate their awareness of the meeting. Initials of the individuals on the posted notification will be sufficient. The Engineering Manager will utilize a planned written agenda to assist him in a smooth, well-structured meeting. This agenda will include the following:

1. CUSTOMER
    a. Your CUSTOMER representative will be given time to update the department on activities of the CUSTOMER Committee.
2. Loss Prevention
    a. Safety and security issues will be addressed during this portion of the meeting.
    b. Review of the Engineering Department's role in the emergency procedures plan.
    c. Drive home the point of "safety first".
3. Departmental Concerns
    a. Engineering related problems concerning maintenance or operation of hotel equipment which would benefit the entire group by discussing.

4. Energy
    a. Conservation measures or ideas to reduce utilities.
    b. Areas where improvement can be accomplished.
    c. Areas of abuse (lights left on, dripping faucets, etc.). ‘
5. Round table discussion
    a. Information on projects, equipment or functions of a useful nature to the majority in the meeting.
6. Technical Training
    a. Information on electrical, plumbing, HVAC, pool chemicals, etc., should be addressed on a continuous basis.
    b. Seminars and professionals can also be scheduled for department technical training.

NOTE: This timeframe is not a gripe session. Items of a delicate nature will be handled one-on-one, outside the departmental meeting.

Open communication should be encouraged by asking specific questions to individuals. Emphasize a “Listen & Respond” philosophy. This meeting is for the benefit of the entire Engineering Department, not solely for the Engineering Manager to once a month be a group leader. Other departments should be encouraged to attend the meeting. Communication and understanding the needs of others can accomplish a sense of team work. Copies of meeting notes should be forwarded to Human Resources and the General Manager.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 10	3˚Æ˘#34
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES Procedure Review	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

The Engineering Manager and Assistant shall review the Standard Operating Procedures semi-annually. A form for verification of the review and subsequent listing of revisions and additions will be used (form provided). All revisions and additions received will be initialed and dated at the time of placement into the SOP manual.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 10	3˚Æˇ#35
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES Procedure Review	By: Agustinus Agus Purwanto, SE MM

PROCEDURE REVIEW

2013

January (Initials) _____ DATE _____

July (Initials) _____ DATE _____

2014

January (Initials) _____ DATE _____

July (Initials) _____ DATE _____

2015

January (Initials) _____ DATE _____

July (Initials) _____ DATE _____

2016

January (Initials) _____ DATE _____

July (Initials) _____ DATE _____

2017

January (Initials) _____ DATE _____

July (Initials) _____ DATE _____

2018

January (Initials) _____ DATE _____

July (Initials) _____ DATE _____

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 10	3˚Æˇ#36
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES Procedure Review	By: Agustinus Agus Purwanto, SE MM

REVISIONS/ADDITIONS

Date Received _____
Subject _____
Section _____
Series _____

Date Received _____
Subject _____
Section _____
Series _____

Date Received _____
Subject _____
Section _____
Series _____

Date Received _____
Subject _____
Section _____
Series _____

Date Received _____
Subject _____
Section _____
Series _____

Date Received _____
Subject _____
Section _____
Series _____

Date Received _____
Subject _____
Section _____
Series _____

Date Received _____
Subject _____
Section _____
Series _____

Date Received
Subject
Section
Series _____

Date Received
Subject
Section
Series _____

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 11	3˚Æˇ#37
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES SOP AUDIT PROCESS & REVIEW	By: Agustinus Agus Purwanto, SE MM

POLICY:

Annually, every operational department within each Trust hotel will receive an audit. Usually, another Trust Manager is assigned to conduct the audit. Audits are also conducted by representatives of the Corporate Office and/or Internal Audit.

PROCEDURE:

1. SOP audits will be conducted once each year. If hotels are added to the system during the calendar year, they will not receive an SOP audit during the year as their conversion process always centers around implementation of corporate SOPs. The SOP audit is usually a scheduled visit.
2. SOP disciplines will be Rooms, Engineering, Food and Beverage and Human Resources.
3. SOP leaders (a Trust Manager that is well versed in his/her specific discipline) will be identified within specific regions and will perform SOP audits as assigned.

   No more than two SOP leaders will be identified in anyone hotel, so as not to put an undue burden on that operation. SOP leaders will be identified through the combined efforts of the General Managers and Vice President of Operations.

   SOP leaders cannot conduct the SOP audit of their own hotel. The SOP audit of an SOP's leader's hotel should be conducted by an SOP leader from another hotel or region who has been assigned for that discipline.
4. Being in a mobile industry, it is likely SOP leadership will change throughout the year. Because of this, it is recommended at the first of each year SOP training classes be held by the Assigned SOP leader with the identified SOP members. This training may be accomplished through memos or may involve gathering in a central meeting location. The determination to what extent the training must occur will be made by the Vice President of Operations based on the amount of turnover in the SOP leadership and/or annual changes in SOP audit content.

It will be the responsibility of an existing SOP leader as identified by the Vice President of Operations to orient any new SOP leaders within their discipline.

At a minimum, training should include:

a. Contest of the SOP inspection form

b. Updates to the SOPs and SOP inspection form

c. Instruction on completing the SOP inspection form

d. Format of Executive Summary

5. It will be the responsibility of an assigned SOP leader (as identified by the Vice President of Operations) to develop an update SOP inspection forms on an annual basis. These updates will be completed by the first of each calendar year, so they can be utilized in all SOP inspections which occur during the next budget year.

   The content of the SOP audits may change as SOPs are revised. It will be the responsibility of each assigned SOP leader to maintain a separate file of potential SOP content additions and deletions to ensure this once a year audit content revision is as thorough as possible. Revised SOP audit forms will be delivered to SOP leaders and all hotel General Managers by March 1st of each calendar year.

6. It will be the responsibility of each SOP leader to coordinate their audit schedule. This will be done as follows:

   a. SOP leader gains approval of the General Manager in their hotel to plan SOP audits during a specific time period, within the year, which will not interfere with the operation of their own hotel.

   SOP leader contacts the General Manager of the respective hotel to introduce themselves and appraise General Manager that they will be

contacting the appropriate division manager.

b. SOP leader then contacts the respective Division Manager in the hotels within their region to identify a "window of time".

c. SOP leader confirms schedules of all hotels in region, communication in writing to hotel General Managers and appropriate Executive Committee disciplines of exact timetable. Copy of correspondence to Regional Manager and Corporate discipline (visits should be coordinated to geographically "clustered" hotels, i.e. , North Carolina and Oklahoma to maximize productivity and reduce airfare).

7. Since inspections by SOP leaders will be conducted once a year, it is suggested that a minimum of two full working days will be designated for the audit. SOP agenda would be as follows:

a. The SOP leader arrives and reports to the General Manager to go over any specific details the General Manager may want him/her to review.

b. SOP leader meets with discipline counterpart to finalize agenda times. Determine if supplemental meetings with department heads (F&B, Rooms, etc.) are required.

c. Perform audit.

d. Review audit with General Manager and appropriate Executive Committee member prior to departing hotel.

e. The SOP leader will mail an Executive Summary within 21 days or SOP audit completion, outlining accomplishments and opportunities to the General Manager, Executive Committee member and Vice President of Operations.

Once the SOP leader has completed the Executive Summary and answered any subsequent questions which may arise due to this summary, he/she is no longer responsible for follow up unless requested

to return to the hotel if the General Manager requests an additional SOP audit.

The purpose of the SOP leader is to conduct the audit. The responsibility for corrective action, as well as update on how the hotel is doing in correcting deficiencies is the responsibility of the Hotel's Management with oversight by the Vice President of Operations.

8. Expenses associated with SOP audits will be incurred by the hotel being audited. Airfare or other transportation costs will be handled by Accounts Receivable with billing to the audited hotel. (Hotels should budget for airfare and other expected SOP expenses during the annual budgeting process.) Other expenses incurred by the SOP leader, excluding the SOP leader's hotel bill (which will be coded to A&G Travel), will be submitted by the SOP leader via standard expense report (approved by the Vice President of Operations) with these expenses also billed to the audited hotel through Accounts Receivable. All SOP related expenses must be paid within thirty days.

9. While there is no numeric score on SOP, there is an Executive Summary which will be written by the SOP leader. The Executive Summary should detail accomplishments and opportunities within the audited areas. The format for this Executive Summary will be outlined during SOP training and in each SOP leader's training manual.

10. After receipt of the SOP audit and Executive Summary, a formal action plan that addresses the steps to be taken, resources needed and to correct the areas in compliance will be required. A copy of this action plan must be mailed to the Vice President of operations no later than 30 days after receipt of the SOP audit and recap.

    The SOP audit process and action plans will be integrated into the Performance Appraisal Process. Each Departmental Discipline will submit action plans on a quarterly basis as part of the quarterly Performance Appraisal process which addresses the SOP compliance deficiencies.

These will be supplemental action plans to those which address revenue, costs and CUSTOMER standards.

Integrating the SOP process into the Performance Appraisal process will also require the four Division Disciplines within each hotel to conduct their own self-SOP audit prior to completion of each quarterly PAF report. This will ensure SOPs (those which in the past were shown to have been in compliance and those which were shown to be out of compliance) have been reviewed at a minimum of every three months. This is essential as management staff turnover often leads to breakdown in SOP compliance.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 11	3˚Æ˘#42
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES SOP AUDIT PROCESS & REVIEW	By: Agustinus Agus Purwanto, SE MM

TRUST STANDARD OPERATING PROCEDURES ENGINEERING AUDIT CHECKLIST	Meet Standards Yes No	Implementation Date
A. FINANCIAL		
1. Does the Director of engineering receive R & M; H, L & P;		
and Capital Improvement Budgets?		
2. Does the Director of Engineering receive a copy of		
the property Profit and Loss Statement each month?		
3. Does the Director of Engineering manage the Capital		
Expenditure Program?		
4. Does the Director of Engineering manage projects so as not		
to interfere with normal maintenance operations?		
5. Does the Director of Engineering review outstanding		
projects with the General Manager on a regular basis?		
B. ADMINISTRATIVE		
1. a. Does the Engineering Department have a fully		
implemented, standardized maintenance request system		
b. Is it in full compliance with Standard Operating		
Procedures?		
2. Is the backlog of maintenance requests less than ten days old		
3. Does the work order system have a “priority method”?		
4. Does the property maintain a work assignment log for “call		
in” request?		
COMMENTS		

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 11	3 °Æ˘#43
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES SOP AUDIT PROCESS & REVIEW	By: Agustinus Agus Purwanto, SE MM

STANDARD		Meet Standards Yes No	Implementation Date
5.	Does the property have an EMERGENCY SAFETY work order		
	assignment system?		
6.	Is there a follow-up system for the work order system?		
7.	Are the Engineering files maintained and all correspondence		
	handled effectively?		
8.	Are all drawings and blueprints filed and/or maintained in an		
	organized manner?		
9.	Are the Engineering Offices well organized and clean?		
10.	Does the Engineering Department have monthly staff meetings?		
11.	Is there a structured training program?		
12.	Do Engineering employees regularly attend outside Engineering		
	related courses to improve knowledge and skills?		
13.	a. Are any employees currently eligible and ready for promotion?		
	b. If so, whom?		
COMMENTS			

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 11	3˚Æ˘#44
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES SOP AUDIT PROCESS & REVIEW	By: Agustinus Agus Purwanto, SE MM

STANDARD	Meet Standards Yes	Meet Standards No	Implementation Date
14. a. Are all employees wearing proper uniforms and name			
badges?			
b. Are all uniforms neat, clean and well-tailored?			
15. Do all employees have complete job descriptions?			
16. Are staffing levels correct and sufficient to maintain the property			
to Trust standards?			
17. Are the qualifications of the staff appropriate to the needs of the			
mechanical plant?			
18. Is shift coverage appropriate to the needs of the property and			
guests?			
19. Does the Engineering Department maintain a bulletin board with			
at least the following:			
a. Hotel Organization Chart?			
b. Department Organization Chart?			
c. Work Schedules?			
d. Pertinent employee notices?			
20. Is an up-to-date list of maintenance contracts maintained on file			
21. Do the Director of Engineering and the Assistant make daily			
inspections of the hotel?			
22. Are the Engineering Purchase Logs in compliance with Trust			
Corporate standards?			
COMMENTS			

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 11	3˚Æ˘#45
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES SOP AUDIT PROCESS & REVIEW	By: Agustinus Agus Purwanto, SE MM

STANDARD		Meet Standards YesNo	Implementation Date
23.	Does the Engineering Department have a system to maintain		
	adequate inventory of repair parts and consumable supplies that		
	minimize down times and maximize cash flows?		
C.	**ENERGY CONSERVATION**		
1.	Does the Director of Engineering review the utility records and costs		
	on daily basis?		
2.	Are utility meters read and logged daily?		
3.	Does the Director of Engineering maintain utility consumption		
	Records and make visual and numerical comparisons?		
4.	Does the hotel have an Energy Management Plan?		
5.	a. Is the Director of Engineering currently pursuing the purchase		
	And/or installation of energy conserving systems or equipment?		
	b. If yes, please list:		
6.	A. Is the property currently using energy saving light bulbs?		
	B. If yes, please list what type and where:		
7.	Do the Chef and Kitchen employees participate in the Energy		
	Conservation Program?		
8.	Are energy costs calculated daily?		
COMMENTS			

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 11	3˚Æ˘#46
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES SOP AUDIT PROCESS & REVIEW	By: Agustinus Agus Purwanto, SE MM

STANDARD		Meet Standards YesNo	Implementation Date
9.	Do we use warm white fluorescent bulbs in all front of the house		
	areas?		
10.	Have water flow restrictors been installed where applicable?		
D.	***PURCHASING AND CONTRACTING***		
1.	Are approved bidding/purchasing procedures being utilized?		
2.	Do we maintain outside contractors' insurance certificates on		
	file?		
3.	Are all service contracts maintained on file?		
4.	a. Are all insurance company reports on file?		
	b. List all that are applicable?		
E.	***KEY CONTROL***		
1.	Are locks and the master keying system in working condition?		
2.	Is the Key Room secured at all times when not in use?		
3.	Is the Key Cabinet secured at all times?		
4.	Are all property "cutting masters" accounted for and stored in		
	the key cabinet?		
5.	Are all master keys controlled, with receipt and possession		
	documented by signatures.		
COMMENTS			

Sun Paradise Hotels Management Sun Paradise Hotel Management SPHM	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 11	3˚Æ˘#47
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES SOP AUDIT PROCESS & REVIEW	By: Agustinus Agus Purwanto, SE MM

	STANDARD	Meet Standards Yes	Meet Standards No	Implementation Date
6.	a. Do we maintain a back-up set of keys for each room?			
	b. Are they secured in the Key Room?			
7.	Does the Front Desk provide adequate Key Requisitions?			
8.	Does the property keep a record of the number of keys for each			
	room?			
F.	***WATER TREATMENT PROGRAM***			
1.	a. Does the property have a structured water treatment			
	program?			
	b. Company Name:			
2.	Does the chemical company engineer make monthly inspections			
	in conjunction with the Hotel Engineering Department?			
3.	Does the Engineering Department have a specific mechanic			
	who is assigned responsibility for water treatment?			
4.	Do we maintain log books for all readings and treatment?			
5.	Are all systems that require water treatment being treated?			
6.	Are sufficient automatic feeding devices installed?			
7.	Are all chemical readings consistently within the recommended			
	limits?			
G.	***ENGINEERING AND MECHANICAL SYSTEMS***			
1.	Are all mechanical rooms neat and clean, not used for			
	permanent storage?			
COMMENTS				

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 11	3˚Æ˘#48
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES SOP AUDIT PROCESS & REVIEW	By: Agustinus Agus Purwanto, SE MM

STANDARD	Meet Standards Yes	Meet Standards No	Implementation Date
2. Are all electrical rooms, vaults and transformer rooms clean and			
free of combustible materials?			
3. Are all Engineering Shops clean and well organized?			
Excellent _____ Good _____ Acceptable _____ Poor _____			
4. Are major valves tagged with permanent identification and			
logged as to what system and area they control?			
5. Are all circuit breakers and electrical switches labeled, identifying			
the area and equipment controlled?			
6. Are all electrical distribution panels thermo graphically tested at			
least every two years?			
7. Have all corrections recommended in the thermograph test(s)			
been completed?			
8. Chillers:			
a. Are condensers inspected regularly?			
b. Is seasonal preventive maintenance being performed?			
c. Is chiller oil being lab tested annually?			
d. Is the chiller on an annual inspection program?			
9. Cooling Towers:			
a. Are the towers clean?			
b. Are the towers in good condition?			
COMMENTS			

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 11	3˚Æˇ#49
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES SOP AUDIT PROCESS & REVIEW	By: Agustinus Agus Purwanto, SE MM

STANDARD	Meet Standards Yes	Meet Standards No	Implementation Date
10. Boilers:			
a. Are the boilers regularly opened for city and insurance			
inspections?			
b. Are all boilers "blown down" on a regularly scheduled basis?			
c. Are all safety devices functioning properly?			
d. Are all boilers in good overall mechanical condition?			
11. Piping:			
a. Is all pipe and vessel insulation intact?			
b. Is all piping identified and labeled?			
12. Air Handlers;			
a. Are all air filters clean?			
b. Does the property have a regular filter replacement program?			
c. Are all safety devices (i.e., freeze stats) functioning?			
d. Are all drive belts intact and in good condition?			
e. Are all air handlers clean and in good overall mechanical			
condition?			
13. Hot Water Systems:			
a. Are all hot water boilers, generators and/or storage tanks in			
good overall mechanical conditions?			
b. Does the hot water supply consistently meet guest demand?			
c. Are water temperatures in the guest rooms within the range of			
115° to 125° F?			
d. Is there sufficient hot water supply to meet the needs of the			
kitchen(s)and laundry?			
COMMENTS			

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 11	3˚Æˇ#50
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES SOP AUDIT PROCESS & REVIEW	By: Agustinus Agus Purwanto, SE MM

STANDARD		Meet Standards YesNo	Implementation Date
14.	Are logs maintained of all critical temperatures and pressures		
	maintained in the Engineering Office or Shop?		
	a. Chilled Water?		
	b. Domestic hot water temperature?		
	c. Steam Pressure?		
	d. Heating water temperature?		
15.	Controls:		
	a. Are all heating and cooling controls properly calibrated and		
	functioning?		
	b. Is the pneumatic compressor in good overall mechanical		
	condition?		
	c. Is the compressor "blown down" on a daily basis?		
16.	Are all seals, pipes, valves and flanges lead-free?		
17.	The overall condition of the mechanical equipment is:		
	Excellent _____ Good _____ Acceptable _____ Unacceptable _____		
18.	Are all guest room H.V.A.C. systems functioning properly?		
19.	Are all public area H.V.A.C. systems functioning properly?		
20.	a. Does the Engineering Department have a structure Mechanical		
	Preventative Maintenance Program?		
	b. Are proper files maintained?		
H.	**SAFETY AND FIRE PREVENTION**		
1.	Does the hotel have a functioning Safety Committee and/or a		
	Safety Coordinator?		
2.	Does the property conduct monthly Fire Drills?		
COMMENTS			

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 11	3˚Æ˘#51
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES SOP AUDIT PROCESS & REVIEW	By: Agustinus Agus Purwanto, SE MM

STANDARD	Meet Standards Yes No	Implementation Date
3. a. Is the Fire Suppression System tested on a scheduled basis,		
according to local codes?		
b. Is the testing documented?		
4. Is the Fire Pump pressure tested on an annual basis?		
5. Does the property maintain a Fire Incident Log Book?		
6. Are all fire extinguishers inspected and tagged annually?		
7. Does the property have an Emergency Disaster Plan?		
8. Does the property have a trained fire Response Team on all shifts?		
9. Are Engineering employees on all shifts trained in the operation of		
the sprinkler and/or smoke detector system?		
10. Are all fire exits, stairwells and hallways free of obstructions and		
fully accessible?		
11. a. Are all fire exits “signed’ and marked?		
b. Are they in full operating condition?		
12. Has the integrity of any fire-rated exits and/or corridors been		
impaired by illegal construction and/or alteration?		
COMMENTS		

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 11	3˚Æ˘#52
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES SOP AUDIT PROCESS & REVIEW	By: Agustinus Agus Purwanto, SE MM

STANDARD	Meet Standards Yes	No	Implementation Date
13. Do we comply with all local codes?			
14. Does the Engineering Department comply with all safe operating			
practices?			
15. Does the property comply with all O.S.H.A. regulations?			
16. Does the Director of Engineering have all applicable state and/or			
municipal fire codes/status ordinance on file?			
17. Are all guest rooms equipped with smoke detectors?			
18. Do all guest room doors and elevator landings have emergency			
exit instructions posted?			
19. Are all areas of the hotel sprinkled?			
20. Are all paints and solvents stored in a fire-rated paint locker?			
21. Is the paint shop adequately vented?			
22. Is the carpenter's shop adequately vented and provided with			
an exhaust system?			
I. GUEST ROOMS			
1. Does the Director of Engineering check the rooms that have			
had Preventative Maintenance completed?			
COMMENTS			

Sun Paradise Hotels Management Sun Paradise Hotel Management SPHM	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 11	3˚Æ˘#53
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES SOP AUDIT PROCESS & REVIEW	By: Agustinus Agus Purwanto, SE MM

STANDARD	Meet Standards Yes	Meet Standards No	Implementation Date
2. Does the property have a structured Rooms Preventative			
Maintenance Program?			
3. Does the individual assigned to Rooms Preventative Maintenance			
have the necessary skills to do a proper job?			
4. Does the property have the proper Preventative Maintenance			
cart and all tools to do a proper job?			
5. Is the Preventative Maintenance cart maintained in an organized			
manner?			
6. Is the individual assigned to Preventative Maintenance neat,			
clean and in uniform?			
7. Is the guest room left in a clean and orderly manner upon			
completion of the Preventative Maintenance?			
8. Are Preventative Maintenance Sheets kept on file?			
9. Does the Engineering Department have a Master Preventative			
Maintenance Sheet?			
10. Does the Engineering Department respond to Hot Line calls			
within the specified time?			
COMMENTS			

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 11	3 °Æ˘#54
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES SOP AUDIT PROCESS & REVIEW	By: Agustinus Agus Purwanto, SE MM

	STANDARD	Meet Standards Yes	Meet Standards No	Implementation Date
J.	***PUBLIC AREAS, BACK OF HOUSE AND MEETINGS ROOMS***			
1.	Is the overall physical condition and standard of maintenance			
	in the public areas:			
	Excellent ____ Good ____ Acceptable ____ Unacceptable ____			
2.	Is the overall physical condition and standard of maintenance			
	in the restaurant and lounges:			
	Excellent ____ Good ____ Acceptable ____ Unacceptable ____			
3.	Is the overall physical condition and standard of maintenance			
	in the back of the house:			
	Excellent ____ Good ____ Acceptable ____ Unacceptable ____			
4.	Does the property have a fully implemented Public Area			
	Preventative Maintenance Program?			
K.	***KITCHEN***			
1.	Are all ducts, hoods and jams cleaned and fireproofed on a			
	scheduled basis?			
2.	Is the exhaust hood fire extinguishing system inspected by a			
	licensed contractor on a semi-annual basis?			
3.	Does the exhaust hood fire extinguishing system meet			
	current codes?			
COMMENTS				

Sun Paradise Hotels Management Sun Paradise Hotel Management SPHM	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 11	3 °Æ˘#55
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES SOP AUDIT PROCESS & REVIEW	By: Agustinus Agus Purwanto, SE MM

	STANDARD	Meet Standards Yes	Meet Standards No	Implementation Date
4.	a. Is all kitchen equipment in good overall mechanical			
	condition?			
	b. List any equipment that is not in good working condition:			
5.	a. Does the property have a designated kitchen mechanic?			
	b. If yes, is the mechanic fully trained in the maintenance of			
	all kitchen equipment?			
6.	Is the dishwashing equipment in good mechanical condition?			
7.	Are all grease traps cleaned on a monthly basis?			
8.	a. Are floors, walls and ceilings well maintained?			
	b. List the most recent dates each was painted:			
	Floors			
	Walls			
	Ceiling			
9.	Is all kitchen equipment on a Preventative Maintenance			
	Program?			
L.	***REFRIGERATION***			
1.	Is all refrigeration equipment including ice cubers, walk-in coolers,			
	freezers and portable reach-ins in good mechanical condition?			
2.	Is all refrigeration equipment on a Preventative Maintenance			
	Program?			
COMMENTS				

Sun Paradise Hotels Management Sun Paradise Hotel Management SPHM	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 11	3˚Æ˘#56
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES SOP AUDIT PROCESS & REVIEW	By: Agustinus Agus Purwanto, SE MM

STANDARD	Meet Standards Yes	Meet Standards No	Implementation Date
3. a. Does the property have a designated refrigeration mechanic?			
b. If so, is the mechanic fully trained in the maintenance of all			
refrigeration equipment?			
M.SWIMMING POOL AND/OR WATER FEATURE			
1. Is the swimming pool and related equipment in good mechanical			
condition?			
2. Is the swimming pool water chemically within the recommended range?			
a. Ph			
b. Alk			
c. Chl			
3. Does the property maintain logs and document all test results?			
4. Are all safety rules posted in the pool and exercise area?			
5. Is all safety equipment readily accessible and in good condition			
per applicable codes?			
6. Is the Jacuzzi operation within the recommended range?			
a. Temp			
b. Ph			
c. Chl			
d. Alk			
7. Is a safety cover installed over the Jacuzzi suction drain?			
COMMENTS			

Sun Paradise Hotels Management Sun Paradise Hotel Management SPHM	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 11	3 °Æ˘#57
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES SOP AUDIT PROCESS & REVIEW	By: Agustinus Agus Purwanto, SE MM

STANDARD	Meet Standards Yes No	Implementation Date
4. Is the laundry ventilation system maintained in good mechanical		
condition?		
5. Are laundry pars maintained so as to allow down time for		
scheduled maintenance?		
P. MISCELLANEOUS		
1. Grounds, Landscaping and Parking Facilities:		
a. Are all grounds, landscaping and parking facilities maintained		
in good condition?		
b. Rating		
Excellent _____ Good _____ Acceptable _____ Unacceptable _____		
2. Roofs:		
a. Are all roof and related areas maintained in good condition?		
b. Are all roof areas inspected regularly?		
c. Does the property maintain roof condition reports on file?		
3. Trash Removal:		
a. Is all trash removal equipment clean and in good mechanical		
condition?		
4. Communications:		
a. Is all communication equipment maintained in good		
mechanical condition?		
COMMENTS		

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 11	3 °Æ˘#58
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES SOP AUDIT PROCESS & REVIEW	By: Agustinus Agus Purwanto, SE MM

STANDARD

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 12	3˚Æ˘#59
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES EQUIPMENT CHECK LOG	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

The Engineering Manager shall ensure a check log for each piece of equipment which requires daily readings is kept on or close to the equipment for which it is designed (see example). Each log will be kept on a clipboard until it is full or completed. The completed logs will be kept on file for historical record for at least two years. These logs do not include utility daily readings. The machinery logs should include but not be limited to:

1. Chiller(s), including associated pumps
2. Boilers (domestic and heating)
3. Compressors (air)
4. Compressors (refrigeration)*
5. Pools and spas (chemicals and mechanical equipment)
6. Standby generator
7. Fire control center

* Refrigeration referred to is walk-in freezers and coolers. The log should not include the smaller type refrigeration equipment. These would be handled in normal house rounds.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 12	3 °Æ˘#60
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES EQUIPMENT CHECK LOG	By: Agustinus Agus Purwanto, SE MM

DAILY ROUTINE

DATE: _____ ENG: _____

FIRST SHIFT	SUN	MON	TUES	WED	THUR	FRI	SAT
CHILLER ROOM:							
CHILLER READING							
HOT/COLD WATER READING							
AIR COMPRESSORS							
FIRE PUMP							
SUMP PUMP							
LAUNDRY:							
BOILER							
IRONER							
TRASH COMPACTOR							
POOL AREA							
POOL FILTER PUMPS							
SPA							
REFLECTION POND							
LAKE PUMP							
SUMP PUMP							
LOBBY:							
FAN ROOM #1							
FAN ROOM #2							
COMPUTER ROOM							
MECHANICAL ROOM							
FIRE CONTROL ROOM							
MAIN ROOF:							
COOLING TOWER							
EXHAUST FANS							

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 12	3 °Æ˘#61
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES EQUIPMENT CHECK LOG	By: Agustinus Agus Purwanto, SE MM

DAILY ROUTINE

DATE: _____ ENG: _____

SECOND SHIFT	SUN	MON	TUES	WED	THUR	FRI	SAT
CHILLER ROOM READING							
COLD WATER READING							
AIR COMPRESSORS							
LOBBY:							
FAN ROOM #1							
FAN ROOM #2							
COMPUTER ROOM							
MAIN ROOF:							
COOLING TOWER							
EXHAUST FANS							
WALK FLOORS FOR LIGHTS OUT							

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 12	3 °Æ˘#62
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES EQUIPMENT CHECK LOG	By: Agustinus Agus Purwanto, SE MM

DAILY ROUTINE

DATE: _____ ENG: _____

THIRD SHIFT	SUN	MON	TUES	WED	THUR	FRI	SAT
CHILLER ROOMS:							
CHILLER READINGS							
HOT/COLD WATER							
AIR COMPRESSOR							
LAUNDRY:							
BOILER							
IRONER							
LOBBY:							
FAN ROOM							
COMPUTER ROOM							
MECHANICAL ROOM							
LIGHTING							
GARAGE							
TRASH PICK-UP							
STAIRWELL							
SUMP PUMP							
LIGHTING							
WATER TESTING:							
COOLING TOWER WATER							
BOILER WATER							
POUR ENZYME INTO FLOOR DRAIN							
POOL FILTER PUMPS							
SPA							

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 12	3 °Æ˘#63
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES EQUIPMENT CHECK LOG	By: Agustinus Agus Purwanto, SE MM

WATER HEATER LOG

DATE: _____

Time		0100	0300	0500	0700	0900	1100	1300	1500	1700	1900	2100	2300
#1 Ray Pack	Temperature												
	Pressure												
#2 Ray Pack	Temperature												
	Pressure												
#3 Ray Pack	Temperature												
	Pressure												
Tank #1													
Tank #2													
Tank #3													
Kitchen Temperature													
Tower Return Pressure													
Hot Water Pressure	In												
	Out												
Cold Water Pressure	In												
	Out												
Engineer Initial													

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 13	3˚Æˇ#64
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES ENGINEER ASSIGNMENT REPORT	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

The Engineering Manager will produce and utilize an engineering daily assignment sheet (samples). This form will be used for work assignments given by the Engineering Manager which are to be accomplished during a particular shift. The shift personnel will pick up their form at the beginning of their shift and complete all work assigned. The reason for non-completion/room calls section is to explain time used other than that assigned and to keep an on-going log of rooms calls for each day.

The completion time section is to be used for a log of hours spent on each particular assignment to assure productivity levels are being met. The last section is self-explanatory. An explanation is to be given by the individual who could not complete the work assigned to him by the Engineering Manager in the assigned work section.

The completed engineering assignment sheet will be turned in at the end of each working day to the Engineering Manager and will be retained as a log for the day of personal accomplishments and as a log of completed work on property plus all room calls for that time period. These reports will be maintained in a file for the engineer completing the work and retained for one-year periods and stored in archive for two years.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 13	3 ˚Æ˘#65
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES ENGINEER ASSIGNMENT REPORT	By: Agustinus Agus Purwanto, SE MM

TRUST DAILY ASSIGNMENT SHEET

DATE: NAME:	SHIFT:
ASSIGNMENTS	COMPLETION TIME

REASON FOR NON-COMPLETION/ROOM CALLS

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 13	3˚Æˇ#66
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES ENGINEER ASSIGNMENT REPORT	By: Agustinus Agus Purwanto, SE MM

ENGINEERING DAILY REPORT

SHIFT PERSONNEL: _____ DATE:_____ SHIFT:_____

Assigned Work:
Completed Work:
Comments:
Notice: Uncompleted assigned work requires detailed explanation.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 13	3˚Æ˘#67
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES ENGINEER ASSIGNMENT REPORT	By: Agustinus Agus Purwanto, SE MM

MACHINERY READINGS

Boiler #1 _____ PSI _____ Temp _____ Status_____

Boiler #2 _____ PSI _____ Temp _____ Status_____

Boiler Return _____ Temp _____ PSI _____

Hot Water Supply Temp_____

Domestic Hot Water Boiler #1 _____ Status _____

Domestic Hot Water Boiler #2 _____ Status _____

Domestic Hot Water Supply Temp _____ Return Temp _____

Boiler Hot Water Pump #1 _____ Status _____

Boiler Hot Water Pump #2 _____ Status _____

Domestic Hot Water Recirc. Pump #1 _____ Status _____

Domestic Hot Water Recirc. Pump #2 _____ Status _____

Chiller #1 _____ Status _____

Chiller #2 _____ Status _____

Chill Water Pump #1 _____ Status #2 _____ Status _____

Condenser Water Pump #1 _____ Status #2 _____ Status _____

Machinery Air Compressor _____ PSI _____ Status _____

Laundry Air Compressor _____ PSI _____ Status _____

Water Softeners #1 _____ Status #2 _____ Status _____

Firemain _____ PSI _____

Outside Temp _____

Penthouse Temp _____

Remarks: _____

_____

Machinery Startup or Shutdown Times & Reason: _____

_____

Sun Paradise Hotels Management Sun Paradise Hotel Management SPHM	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 14	3˚Æˇ#68
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES READING	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

Each engineering shift will take equipment readings at the beginning of their tour of duty, a minimum of two times per day. These readings will be noted not only on the equipment check logs (see ENG-SOP-13), but also on the machinery readings form. The form will include, but not be limited to:

1. Chillers and related pumps
2. Heating boilers and related systems
3. Domestic boilers and related systems
4. Water softeners (hardness)
5. Air compressors (PSI oil level)
6. Fire suppression
    a. Fire main (PSI)
    b. Jockey pump (PSI)
7. Major refrigeration equipment

This form is for easy reference only and will not take the place of the equipment check logs located at the machinery. The remarks section is for problems noted to be watched or information to be passed to the oncoming shift. The last (start and stop) section is self-explanatory and is for use as noted.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 15	3˚Æˇ#69
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES EQUIPMENT REPAIR MANUAL LIBRARY	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

The Engineering Manager will provide an area within the shop and designate it as the library for equipment repair manuals. The article to use for the safe storage and use of these manuals will be as designated in this procedure. All manuals for maintenance of each piece of equipment will be maintained in this library. The Engineering Manager shall ensure a manual exists for each major piece of equipment in an organized manner.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 16	3˚Æ˘#70
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES PURCHASING CONTROL	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

The Engineering Manager, in close coordination with the General Manager, shall be responsible for purchasing repair parts, items and services to maintain the property in a superior state. The Engineering Manager will be aware of the most competitive pricing but will not sacrifice quality. The Engineering Manager shall utilize the expense dictionary to formulate the budget and ensure proper placement of items and services (see ENG-SOP-18) purchased. The Engineering Manager shall use the Checkbook Accounting tracking form to maintain a current list of monies expended in each operation category (see FN02 attached). The tracking form will run consecutively month to month. Purchasing of parts or services will be as follows:

1. Price of part of service is determined
2. Purchase order is filled out (see APOB attached)
    a. Company name
    b. Department
    c. Date of order
    d. Vendor number
    e. Account number (use expense dictionary)
    f. Description
    g. Item number (if applicable)
    h. Quantity (if more than one)
    i. Unit (gal, ea, box, pound, etc.)
    j. Unit price (per unit)
    k. Amount
    l. Freight (lower unit column)
    m. Tax (lower unit column)
    n. Total
    o. Approval (Engineering Manager's signature)
    p. Bid process should be utilized.

3. Purchase is sent to the General Manager for signature.
4. Signed purchase order is returned to Engineering Manager and order is place.
5. Copy of purchase order is retained in Engineering Manager's files for one calendar year and in dead files for two years after.
6. Upon receipt of item(s) a notation (date received is made on the budget tracking form).
   * The accounting department will furnish this list (see sample).

     The Checkbook Accounting will show the monies available and give a current running total. Items purchased on one purchase order which utilize different expense categories will be reflected on the purchase order (see AP08 attached) and noted in the appropriate budget tracking forms. These forms will be kept on an annual basis and disregarded after its yearly duration.
   * Computerized control system is acceptable. Back-up hard copies are required.
   * Engineering staff should be trained in the above procedures to issue prompt vendor payment and to avoid "boiler room" scam telephone sales situations.
7. Receiving Department or Manager on Duty must verify all deliveries and approve.

070-52115-00 CHIEF ENGINEER
070-52120-00 ASSISTANT CHIEF ENGINEER
070-52125-00 ENGINEERING MANAGER
070-52210-00 ENGINEERING SUPERVISOR
070-52215-00 CLASS 1
070-52220-00 CLASS 11
070-52225-00 CLASS III
070-52230-00 CLASS IV
070-52240-00 GROUNDSKEEPER
070-52245-00 CLERICAL
070-52500-00 CONTRACT LABOR

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 16	3 °Æ˘#72
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES CHART OF ACCOUNT	By: Agustinus Agus Purwanto, SE MM

070-59500-00 PAYROLL TAXES AND BENEFITS
070-59800-00 BONUS AND INCENTIVE PAY
070-59950-00 MISCELLANEOUS BENEFITS
070-60200-00 AIR CONDITIONING & HEATING
070-60900-00 BUILDING
070-61900-00 CLEANING SUPPLIES
070-61950-00 CONSULTANTS
070-61955-00 CURTAINS AND DRAPES
070-62800-00 DATA PROCESSING
070-63005-00 ELECTRIC BULBS
070-63006-00 ELECTRICAL AND MECHANICAL
070-63007-00 ELEVATORS
070-63008-00 ENGINEERING SUPPLIES
070-63110-00 EQUIPMENT - KITCHEN
070-63120-00 EQUIPMENT - LAUNDRY
070-63130-00 EQUIPMENT - OTHER
070-63200-00 FIRE PROTECTION
070-63230-00 FLOOR COVERING
070-63235-00 FURNITURE
070-63260-00 GROUNDS AND LANDSCAPING
070-64150-00 LICENSES
070-64155-00 LOCKS AND KEYS
070-64200-00 MAINTENANCE CONTRACTS
070-64700-00 MISCELLANEOUS EXPENSE
070-67100-00 PAINTING AND DECORATING
070-67150-00 PEST CONTROL
070-67300-00 PHOTOCOPY
070-67301-00 PLUMBING
070-67302-00 POOL
070-67340-00 POSTAGE & DELIVERY
070-67340-01 POSTAGE
070-67340-02 OVER NIGHT & COURIER
070-67350-00 PRINTING AND OFFICE SUPPLIES
070-67350-01 PRINTING & STATIONERY
070-67350-02 OFFICE SUPPLIES
070-67350-03 COMPUTER SUPPLIES
070-67360-00 RADIOS & BEEPERS
070-67800-00 SMALL TOOLS
070-67850-00 SNOW REMOVAL
070-67900-00 TELEPHONE
070-67950-00 TELEVISION REPAIRS
070-68200-00 T&E TRAVEL
070-68210-00 T&E ENTERTAINMENT
070-68300-00 UNIFORMS
070-68500-00 VEHICLE MAINTENANCE
070-68800-00 WASTE REMOVAL
070-68825-00 WINDOW CLEANING
075-68100-00 ELECTRIC POWER
075-68200-00 FUEL/OIL
075-68300-00 GAS
075-68600-00 SEWAGE
075-68700-00 STEAM
075-68800-00 WATER

Certain accounts which have proven themselves to be worthy of preferential consideration should be noted and used. This is not to be confused with gifts or other items which may evoke a conflict of interest. Items which this policy is referring to may include:

1. Weekend hours of operation
2. Extended hours of operation
3. Delivery
4. 24-hour emergency telephone
5. Personal service (salesman)
6. Loaner equipment
7. Price consideration

PROCEDURE:

A list of preferred vendors will be kept by the Engineering Manager which shows (see example):

1. Type of product
2. Contact's name
3. Hours other than normal (if any)
4. Telephone numbers business/residence

This list will be used not only in normal business transactions but will serve as a ready reference for unforeseen emergencies and needs. In the absence of the Engineering Manager, the list will serve as a guide for the person left in charge. The list will be in the form of a business card index marked "preferred vendors" or a Rolodex file which has a section marked "preferred vendors". This list should be updated annually and also kept in Accounting and Purchasing.

NOTE: Use of this list will not initiate a conflict of interest. The Engineering Manager will ensure the corporate guidelines on conflict of interest are adhered to.

Items of a service nature which may include but not be limited to are:

1. Locksmiths
2. Sewer service
3. Electrician
4. Trash removal
5. Maintenance contract help*
6. Welding
7. Plumbing
8. Elevators

* Large items of equipment which may have a full maintenance contract whereby the contractor does most of the maintenance. In times when the item may break down he would be the person to call for repair.

PROCEDURE:

A list of preferred service vendors will be kept by the Engineering Manager which show (see example):

1. Type of service
2. Contract's name
3. Hours other than normal (if any)
4. Telephone numbers business/residence

This list will be used not only in normal business transactions but will serve as a ready reference for unforeseen emergencies and needs. In the absence of the

Engineering Manager, the list will serve as a guide for the person left in charge. The list will be in the form of a business card index marked preferred service vendors or a Rolodex file which has a section marked “preferred service vendors”.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 19	3˚Æˇ#76
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES BUDGET REVIEW AND CONTROL	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

The Engineering Manager shall conduct a minimum monthly review of expenditures for that particular month. A copy of the general ledger will be obtained from accounting concerning the engineering budget. The general ledger will be compared against the Checkbook Accounting form (see ENG-SOP-17) for any variances. Research will be made into these variances and corrections made to the budget tracking form or the general ledger.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 20	3 °Æ˘ǂ77
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES ASSETS SELECTION	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

The Engineering Manager, due to the many codes, restrictions and utility requirements shall review all asset selections to ensure compliance. The Engineering Manager (if responsible for the asset program) shall issue a form (enclosed) to all department heads well in advance of the budget planning process. This form will be used by the departments for gathering information on each asset item. These bids must be taken on all items. A separate form for each bid must be submitted. The completed form will be returned to the Engineering Manager for review prior to submittal to the executive or budget review committee. Approved assets shall be purchased according to unit budgetary practices and under supervision of the Engineering Manager.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 21	3 °Æ˘#78
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES ROUTINE MAINTAINANCE REQUEST	By: Agustinus Agus Purwanto, SE MM

POLICY:

The maintenance request system is designed to accomplish the following functions:

1. Standardization – to provide a standard system for expediting the maintenance function.
2. Simplicity – to reduce oral communication and paperwork by providing the mechanism for requests to be initiated, assigned, completed and reported without rewrite, via the use of ticket.
3. Analysis – to provide a written record of the date, type of problem, location, to whom assigned, and completion time.
4. Approval – to provide a convenient means of screening the maintenance requests of management.
5. Planning – to provide a readily visible evaluation of back-log projects.
6. Control – to provide management with simple means of evaluation of the flow of maintenance problems, time required performing, and whether or not the requests are being efficiently solved.
7. Zero Defects – to improve quality in eliminating problems before the guests can discover them.

The features of the maintenance request system are the specific work orders and the assignment and report board on which the tickets are displayed. The three page tickets are printed on 3 ½ x 7 ½ in stock. The top page is white, the second is blue and the third is printed on heavier stock, buff. The front sides of pages one, two and three are alike and have spaces for recording the following information:

1. Date of request
2. Person or department requesting
3. Location of problem
4. Description of problem
5. To whom assigned
6. When completed
7. Time spent completing
8. Remarks by person completing

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 21	3 °Æ˘#79
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES ROUTINE MAINTAINANCE REQUEST	By: Agustinus Agus Purwanto, SE MM

PROCEDURE

This is how the system works:

1. Tickets are issued to persons designated by management to initiate requests.

2. All maintenance requests are written on the white paper which automatically, via NCR stock, prepares copies on the blue and buff pages.

3. Originator keeps the white page for his record and sends the buff copies to the maintenance department.

4. If the request is urgent, the supervisor assigns the request to a member of the staff by handing the blue and buff copies of the ticket on the "assignment hook".

5. If the request can wait, the request is placed on the "back log" hook. Tickets placed on the "back log" hook are to be performed whenever time is available after the "assigned" are cared for.

6. The ticket is priced up by the staff member who detaches the blue copy and places it on the "in process" hook.

7. The staff member takes the buff ticket, goes to designated room or area (he may, or course, take more than one ticket) and completes work if possible.

8. Before leaving problem site, the maintenance man inspects the area for other maintenance deficiencies, repairing them if possible. If this cannot be done, he checks back of buff ticket and explains problem.

9. Next, the worker returns to the maintenance department, removes blue ticket from "in process" hook and staples it to the buff ticket which he has filled out. If assigned work has been finished, he places both tickets on the "complete" hook.

10. If work cannot be completed, he writes an explanation on tickets and hangs both tickets on “not complete”. If his inspection revealed a maintenance deficiency he could not correct, then both tickets go on the “not complete” hook.
11. Chief Engineer or other staff member assigned removes tickets from report section, and if job is completed, sends blue copy back to originator. The buff copy is filed in the Engineering Department.
12. If the problem is not solved, he gets the proper material or person to complete the work and reissues the ticket. In the case of parts on order, the ticket is held on the “back log” hook.

MAINTENANCE REQUESTS GENERATED BY HOUSEKEEPING

1. The Housekeeping Department will call the PBX operator with all room-related maintenance requests.
2. The PBX operator will address the call the same as a guest request using the CUSTOMER standards.
3. The engineer will respond to the room call within 15 minutes and facilitate repairs.
4. The housekeeper will generate a written maintenance request to be handed in to engineering by the end of the working day.
5. The engineer who facilitated the work will complete the maintenance request using the routine system.
6. The Manual Routine Maintenance Request system may be replaced with a fully automated system using digital mobile devices to submit work orders and record the status of all maintenance requests through computer software. These systems will provide permanent detail on all maintenance performed, including sophisticated reporting tools. A fully automated system must be evaluated for practicality for the specific hotel.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 21	3 °Æ˘#81
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES ROUTINE MAINTAINANCE REQUEST	By: Agustinus Agus Purwanto, SE MM

This procedure will ensure that room-related maintenance is addressed before a guest's arrival.

EVALUATION OF THE MAINTENANCE REQUEST SYSTEM

1. There is a written record of all maintenance requests made to the Engineering Department.
2. The initiator has a white copy of the record and in turn a blue copy to verify completion of the work.
3. The Engineering Department has a buff copy for their files and to evaluate the work load of the department.
    a. To measure the effectiveness of the maintenance employees.
    b. To isolate repetitive problem areas by location and type of problem.

To identify the back log problem areas in order to plan and staff for them.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 21	3˚Æ˘#82
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES ROUTINE MAINTAINANCE REQUEST	By: Agustinus Agus Purwanto, SE MM

GUEST ROOM MAINTENANCE LOG

DATE	ROOM NUMBER	TIME IN	DESCRIPTION OF PROBLEM	ROOM STATUS	GUEST NAME	REPORTED BY	TIME OUT	ENG. INITIALS	TIME COMP.

REMARKS: _____

_____

_____

ITEMS TO BE HANDLED IN THE ORDER THEY ARE REPORTED - LOG CHANGE AT 4:30 PM EACH DAY EMERGENCY _____ TO BE CALLED TO PBX FOR ENGINEERING

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 22	3 °Æ˘#83
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES SAFETY WORK ORDER	By: Agustinus Agus Purwanto, SE MM

POLICY:

The safety work order system is designed to accomplish the following functions:

1. Standardization - To provide a system whereby items of an emergency, safety, security or life threatening nature can be communicated and dealt with expeditiously.
2. Simplicity - By providing a written report and requiring a single call from the department head enduring receipt.
3. Analysis - An immediate description of the problem in the submitter's words.
4. Approval - To provide an immediate means of identification on advanced approval.
5. Control - To provide management with a simple means of identification and timely repair of priority items.
6. Loss Prevention - To improve the safety and welfare of our guests and employees.

Description of the system-essential features of the safety and security requests are specially designed tickets of a two-part configuration in bold red lettering. The tickets are 3 1/2 x 7 1/2 inch stock and have spaces for recording the following:

1. Date of request
2. Person (department head) requesting
3. Time the request was made
4. Location of problem
5. EXACT description of problems
6. To whom assigned (by Engineering Manager)
7. Date it was assigned
8. Date completed

9. Time it took to complete
10. Any remarks from person completing

PROCEDURE:

This is how the safety system works:

1. Tickets are issued to department heads and a supply is kept in the Engineering Manager's office. The supply in the Engineering Manager's office will be for times when a department head is not available.
2. The department head prepares the safety work order which automatically, via NCR stock, copies the final hard copy of the two part ticket.
3. Originator keeps the top copy and calls the Engineering Department (see bottom of ticket) to verify the problem and have the hard copy picked up for processing.
4. The Engineering Manager will upon notification immediately dispatch a person to secure the safety work order and complete the task. In the absence of the Engineering Manager, the engineering staff will be aware of and utilize the procedures concerning safety work orders.
5. If work cannot be completed or the problem reduced from a priority, the Engineering Manager will be notified immediately. The originator of the safety work order will be notified of the delay and the area or items secured from service until such time as adequate repairs can be made.
6. When repairs are made, the completed safety work order will be given to the Engineering Manager. The Engineering Manager will then notify the originator of the completed ticket. A small notation should be made on the hard copy of the ticket as to the time and date the originator was notified of completion.
7. Safety work orders will be kept on file for a minimum of two years. They shall be filed separately from the routine work requests.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 22	3 °Æ˘#85
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES SAFETY WORK ORDER	By: Agustinus Agus Purwanto, SE MM

EVALUATION OF THE SAFETY WORK ORDER REQUEST SYSTEM

1. A written record of reaction and repairs to all items of an emergency or life threatening situation.
2. The originator (department head) has a copy of the ticket and in turn will be notified personally upon completion.
3. The Engineering Department has a copy for their files.
    a. To ensure and evaluate immediate responses to priority situations.
    b. Ensure the problem is not repetitive.
    c. Establish a back log of problem areas and show historical responsiveness to each situation.
    d. Afford our guest and employees, through our caring attitude, the safest possible hospitality environment.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 23	3 °Æ˘#86
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES PROJECT WORK	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

When project work is necessary, the engineering project request form will be utilized (see attached form).

1. The department manager will be responsible to complete the project request form noting location of project to be considered and detailing a full description of the project requested.
2. The department manager then turns in the project request form to the Engineering Manager who reviews the project for feasibility and achievability. Then using the bottom portion of the form, he will detail the cost of the entire project including labor.
3. The Engineering Manager will submit the project request form for the General Manager's approval.
4. After receiving the approval for the project, the Engineering Manager will schedule it to be completed within a reasonable time frame ensuring house calls and routine daily work can be covered in spite of the demand for labor to complete the project.
5. After completion of the project, the actual cost, including labor will be noted on the budget request form and the form will be filed for a period of one year.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 23	3 °Æ˘#87
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES PROJECT WORK	By: Agustinus Agus Purwanto, SE MM

ENGINEERING PROJECT REQUEST

DATE: DEPARTMENT:PROPERTY:	
REQUESTED BY: DEPARTMENT HEAD APPROVAL:	
LOCATION:	
PROJECT DESCRIPTION:	
FOR ENGINEERING USE ONLY	
MATERIALS NEEDED	COST
ESTIMATED LABOR	
TOTAL HOURS: COST PER HOUR:TOTAL	
TOTAL ESTIMATE PROJECT COST	

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 23	3˚Æ˘#88
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES PROJECT WORK	By: Agustinus Agus Purwanto, SE MM

PUBLIC RESTROOMS • MEN'S LOCKER ROOM

Engineer:_____ Date:_____

Repaired	Replaced	Checked and OK	
			Check wall covering needed repairs.
			Touch up paint on entry doors and frames.
			Check all wall stone for cracks, grout missing, loose stone. Repair/replace as needed.
			Check floor stone sealer consistent and in good condition. Check for damaged or loose stone, grout missing. Repair/replace as needed.
			Check ceilings for needed repairs/painting, etc.
			Check fluorescent light diffusers for repair/replacement.
			Check lights for operation, proper bulbs and wattage.
			Check all faucets for leaks and repair. Clean aerators.
			All hot and cold knobs tight on spindles. Spindles turning freely.
			Sink stoppers and linkage operating freely.
			Sink drains flowing freely.
			Check sink caulking and replace as needed.
			Counter tops and splashes secure. Touch up repair chips or cracks.
			Replace caulking where needed.
			Mirrors secure, free of cracks and chips.
			All toilets, urinals (men's) flushing properly, free of obstructions.
			Sloan flush valves functioning properly, no leaks. Adjust/repair as needed.
			Check stalls = all partitions secure, doors, latches, hinges functioning properly. Adjust/repair as needed. Replace any missing tamper proof screws with same.

Notes/Comments: _____

_____

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 23	3˚Æ˘#89
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES PROJECT WORK	By: Agustinus Agus Purwanto, SE MM

PUBLIC AREA PREVENTATIVE MAINTENANCE

2ND FLOOR, HALLWAY & STAIRS

Engineer: _____ Date: _____

Repaired	Replaced	Checked and OK	
			Check wall covering throughout for loose seams, needed repairs.
			Touch up wood trim and baseboard.
			All receptacles and cover plates of proper type, secure and in good repair.
			Brass signage clean and secure.
			Guest room door numbers secure and in good repair.
			Check all lights for operation, proper bulb and wattage.
			All light diffusers secure, clean and in good repair.
			Clean ceiling vents.
			Check all ceilings for needed repair, paint touch-up, etc.
			Touch up paint - door frames, doors, etc.
			All pull stations in good repair, glass and hammers present.
			Check all carpeting for frays, needed repairs to seams, etc.
			Check emergency lighting and Exit signs for proper operation.

Notes/Comments: _____

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 24	3 °Æ˘#90
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES PREVENTIVE MAINTENANCE ADMINISTRATION	By: Agustinus Agus Purwanto, SE MM

PROCEDURES

The Engineering Manager will ensure a Preventative Maintenance Program is in place and used throughout the property. All preventative maintenance performed must be permanently documented for easy review. It is highly suggested that a software program be utilized similar to the ones provided by M-Tech (Hotsos, PM Works, Tact, etc.) Guest room preventative maintenance should be scheduled a minimum of two (2) times annually. The guest room PM checklist should be designed specific to each property. All other machinery, equipment, HVAC, chillers, fire safety preventative maintenance should be scheduled by local code, equipment maintenance specifications, or other criteria specific to the item. All preventative maintenance performed should be inspected and approved by the Chief Engineer. The preventative procedures will cover at a minimum the following areas; however, they should be extremely thorough:

1. HVAC
2. Refrigeration
3. Kitchen Equipment
4. Laundry Equipment
5. Electrical Distribution
6. Boiler/Heaters
7. Chillers
8. Health Facilities
9. Water Treatment Corrosion Control
10. Mechanical Equipment
    a. Pumps
    b. Exhaust fans
    c. Hand held extinguishers
    d. Air compressors

e. Emergency generator
f. Fire pump / jockey
g. Water softeners
h. Circulating pumps
i. Cooling tower
j. Pneumatic valves
k. Automatic emergency transfer switches

11. Public areas (see attached example)
12. Guest Rooms

The minimum standard for any preventative maintenance system other than rooms will include:

1. Data information document (enclosure 1).
2. Repair and replacement historical document (enclosure 2).
3. Routine preventative maintenance document (enclosure 3).
4. A cabinet or rack for safe storage.
5. Methodology for determining weekly, monthly, quarterly, semi-annual and annual inspection/preventative maintenance.

NOTE: Properties with computerized programs will be able to print copies of the data, repair and preventative maintenance documents.

The data information document will be filled out for each piece of equipment and will show the following information:

1. Machine/equipment number
2. Manufacturer's name

3. Serial number
4. Size, type, model number
5. Vendor name
6. Electrical data (if applicable)
7. Pump/motor data (if applicable)
8. Bearing data (if applicable)
9. Drive belt data (if applicable)
10. Spare parts

The repair and replacement document will be filled out for each piece of equipment and will show the following information:

1. Machine/equipment number
2. Date (when repairs were done or expenditures made of any type to maintain the item)
3. Inspector (person who is filling the information)
4. Repairs and replacements (parts or expenditures to maintain the item)
5. Cost (materials and contracted labor cost)
6. Cost to date

The routine preventative maintenance document will be filled out for each piece of equipment and will show the following information:

1. Description (return fan, circulating pumps, etc.)
2. Machine / equipment number
3. Location
4. Manufacturer
5. Model

6. Routine preventative maintenance instructions (services to be performed weekly, monthly, quarterly, semi-annual, annual)
7. Date (date preventative maintenance was done)
8. Inspector (person who did maintenance)
   a. Weekly “W”
   b. Monthly “M”
   c. Quarterly “Q”
   d. Semiannual “SA”
   e. Annual “A”

The methodology for frequency of service will be determined from manufacturers specifications for the piece of equipment. The devices used to denote the type of service “W, D, M, Q, SA, A” will be supplied with the preventative maintenance system used.

The method/system chosen must be simplistic in form and administration. It is up to the unit Engineering Manager to ensure whatever system of accountability is used contains all the minimum standards. Computerized PM administration is recommended for each hotel.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 24	3 °Æ˘#94
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES PREVENTIVE MAINTENANCE ADMINISTRATION	By: Agustinus Agus Purwanto, SE MM

PUBLIC AREA PREVENTATIVE MAINTENANCE

PROMENADE LOUNGE

Engineer: _____ Date:_____

Repaired Replaced	Checked and OK	
		Touch up paint throughout. Patch and repair walls where necessary.
		Check lights for operation, proper bulbs and wattage.
		Check dimmers for proper operation and secure.
		Check lights in display case. Display cases secure.
		Check all furniture for: loose legs, loose table tops, etc. Repair/touch up as needed.
		Check columns for chips and gouges. Insure corner mold is secure.
		Check room temperature for proper control by EMS.
		All receptacles, switches, cover plates functioning properly, of proper type, secure and in good repair.
		Check brass bar foot rail. Tighten as necessary.
		All artwork secure and in good repair.
		Inspect bar for chips and quality of finish.
		Inspect glass table tops for chips & cracks.
		Sink drains flowing freely.
		Faucets functioning properly. No leaks.
		Hose cup and hose secure.
		Sprinkler escutions flush.

Notes/Comments: _____

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 24	3 °Æ˘#95
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES PREVENTIVE MAINTENANCE ADMINISTRATION	By: Agustinus Agus Purwanto, SE MM

PUBLIC AREA PREVENTATIVE MAINTENANCE

PUBLIC RESTROOMS • LOBBY/MEN'S

Engineer: _____ Date: _____

Repaired	Replaced	Checked and OK	
			Check wall covering needed repairs. Touch up paint on entry doors and frames
			Check all wall stone for cracks, grout missing, loose stone. Repair/replace as needed.
			Check floor stone-sealer consistent and in good condition. Check for damaged or loose stone, grout missing. Repair/replace as needed.
			Check ceilings for needed repairs/painting, etc.
			Check fluorescent light diffusers for repair/replacement.
			Check lights for operation, proper bulbs and wattage.
			Check all faucets for leaks and repair. Clean aerators.
			All hot and cold knobs tight on spindles. Spindles turning freely.
			Sink stoppers and linkage operating freely.
			Sink drain flowing freely.
			Check sink caulking and replace as needed.
			Counter tops and splashes secure.
			Touch up repair chips or cracks. Replace caulking where needed.
			Mirrors secure, free of cracks and chips.
			All toilets, urinals (men's) flushing properly, free of obstructions.
			Sloan flush valves functioning properly, no leaks. Adjust/repair as needed.
			Check stalls = all partitions secure, doors, latches, hinges functioning properly. Adjust/repair as needed. Replace any missing tamper proof screws with same.

Notes/Comments: _____

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 24	3˚Æ˘#96
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES PREVENTIVE MAINTENANCE ADMINISTRATION	By: Agustinus Agus Purwanto, SE MM

PUBLIC AREA PREVENTATIVE MAINTENANCE

PUBLIC RESTROOMS • LOBBY/WOMEN'S

Engineer: _____ Date: _____

Repaired	Replaced	Checked and OK	
			Check wall covering needed repairs.
			Touch up paint on entry doors and frames.
			Check all wall stone for cracks, grout missing, loose stone. Repair/replace as needed.
			Check floor stone - sealer consistent and in good condition. Check for damaged or loose stone, grout missing. Repair/replace as needed.
			Check ceilings for needed repairs/painting, etc.
			Check fluorescent light diffusers for repair/replacement.
			Check lights for operation, proper bulbs and wattage.
			Check all faucets for leaks and repair. Clean aerators.
			All hot and cold knobs tight on spindles. Spindles turning freely.
			Sink stoppers and linkage operating freely.
			Sink drains flowing freely.
			Check sink caulking and replace as needed.
			Counter tops and splashes secure.
			Touch up repair chips or cracks. Replace caulking where needed.
			Mirrors secure, free of cracks and chips.
			All toilets, urinals (men's) flushing properly, free of obstructions.
			Sloan flush valves functioning properly, no leaks. Adjust/repair as needed.
			Check stalls = all partitions secure, doors, latches, hinges functioning properly. Adjust/repair as needed. Replace any missing tamper proof screws with same.

Notes/Comments: _____

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 24	3 °Æ˘#97
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES PREVENTIVE MAINTENANCE ADMINISTRATION	By: Agustinus Agus Purwanto, SE MM

PUBLIC AREA PREVENTATIVE MAINTENANCE

HUNTER'S

Engineer: _____ Date: _____

Repaired	Replaced	Checked and OK	
			Touch up paint throughout. Patch and repair walls where necessary.
			Check lights for operation, proper bulbs and wattage.
			Check dimmers for proper operation and secure.
			Check lights in display case. Display cases secure.
			Check all furniture for: loose legs, loose table tops, etc. Repair/touch up as needed.
			Check columns for chips and gouges. Insure corner mold is secure.
			Check room temperature for proper control by EMS.
			All receptacles, switches, cover plates functioning properly, or proper type, secure and in good repair.
			Check brass bar foot rail. Tighten as necessary.
			All artwork secure and in good repair. Inspect bar for chips and quality of finish.
			Inspect glass table tops for chips & crack.
			Sink drains flowing freely.
			Faucets functioning properly. No leaks.
			Hose cup and hose secure.
			Sprinkler escutions flush.

Notes/Comments: _____

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 24	3˚Æ˘#98
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES PREVENTIVE MAINTENANCE ADMINISTRATION	By: Agustinus Agus Purwanto, SE MM

PUBLIC AREA PREVENTATIVE MAINTENANCE

PRE-FUNCTION HALLWAY

Engineer: _____ Date: _____

Repaired	Replaced	Checked and OK	
			Touch up paint throughout. Patch and repair walls where necessary.
			Clean ceiling vents.
			Check all lights for operation, proper bulbs and wattage.
			Check all furniture for proper placement and repairs/touch up as needed.
			Check all exterior doors for operation - panic hardware, closers, etc.
			Lubricate closers, spindles.
			Check wall covering in phone alcoves for needed repairs.
			Touch up shelves in phone alcoves, check glass for secure.
			Check all stone floor surface areas for holes, chips, grout missing, etc. Repair as needed.
			All receptacles, switches, and cover plates functioning properly and secure.
			Check room temperature to insure proper control from the EMS.
			Check Front Desk marble for secure. Replace grout where necessary.
			Check Front Desk Drawers and doors for proper operation, adjust as needed.
			Check all artwork throughout for secure, in good repair.
			All sprinkler escutions flush.
			Check ceiling tile throughout for needed touch up, repair/space as needed.
			Exit signs lit. Check emergency lighting.

Notes/Comments: _____

_____ _____

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 24	3˚Æˇ#99
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES PREVENTIVE MAINTENANCE ADMINISTRATION	By: Agustinus Agus Purwanto, SE MM

PUBLIC RESTROOMS

PRE-FUNCTION MEN'S RESTROOM

Engineer: _____ Date: _____

Repaired	Replaced	Checked and OK	
			Check wall covering needed repairs.
			Touch up paint on entry doors and frames.
			Check all wall stone for cracks, grout missing, loose stone. Repair/replace as needed.
			Check floor stone-sealer consistent and in good condition. Check for damaged or loose stone, grout missing. Repair/replace as needed.
			Check ceilings for needed repairs/painting, etc.
			Check fluorescent light diffusers for repair/replacement.
			Check lights for operation, proper bulbs and wattage.
			Check all faucets for leaks and repair. Clean aerators.
			All hot and cold knobs tight on spindles. Spindles turning freely.
			Sink stoppers and linkage operating freely.
			Sink drains flowing freely
			Check sink caulking and replace as needed.
			Counter tops and splashes secure. Touch up repair chips or cracks.
			Replace caulking where needed.
			Mirrors secure, free of cracks and chips.
			All toilets, urinals (men's) flushing properly, free of obstructions.
			Sloan flush valves functioning properly, no leaks. Adjust/repair as needed.
			Check stalls = all partitions secure, doors, latches, hinges functioning properly. Adjust/repair as needed. Replace any missing tamper proof screws with same.

Notes/Comments: _____

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 24	3 ˚Æ˘#100
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES PREVENTIVE MAINTENANCE ADMINISTRATION	By: Agustinus Agus Purwanto, SE MM

PUBLIC RESTROOMS

PRE-FUNCTION LADIES' RESTROOM

Engineer: _____ Date: _____

Repaired	Replaced	Checked and OK	
			Check wall covering needed repairs.
			Touch up paint on entry doors and frames.
			Check all wall stone for cracks, grout missing, loose stone. Repair/replace as needed.
			Check floor stone - sealer consistent and in good condition. Check for damaged or loose stone, grout missing. Repair/replace as needed.
			Check ceilings for needed repairs/painting, etc.
			Check fluorescent light diffusers for repair/replacement.
			Check lights for operation, proper bulbs and wattage.
			Check all faucets for leaks and repair. Clean aerators.
			All hot and cold knobs tight on spindles. Spindles turning freely.
			Sink stoppers and linkage operating freely.
			Sink drains flowing freely.
			Check sink caulking and replace as needed.
			Counter tops and splashes secure. Touch up repair chips or cracks.
			Replace caulking where needed.
			Mirrors secure, free of cracks and chips.
			All toilets, urinals (men's) flushing properly, free of obstructions.
			Sloan flush valves functioning properly, no leaks. Adjust/repair as needed.
			Check stalls = all partitions secure, doors, latches, hinges functioning properly. Adjust/repair as needed. Replace any missing tamper proof screws with same.

Notes/Comments: _____

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 24	3˚Æˇ#101
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES PREVENTIVE MAINTENANCE ADMINISTRATION	By: Agustinus Agus Purwanto, SE MM

PUBLIC RESTROOMS

LADIES' LOCKER ROOM

Engineer: _____ Date: _____

Repaired	Replaced	Checked and OK	
			Check wall covering needed repairs.
			Touch up paint on entry doors and frames.
			Check all wall stone for cracks, grout missing, loose stone. Repair/replace as needed.
			Check floor stone - sealer consistent and in good condition. Check for damaged or loose stone, grout missing. Repair/replace as needed.
			Check ceilings for needed repairs/painting, etc.
			Check fluorescent light diffusers for repair/replacement.
			Check lights for operation, proper bulbs and wattage.
			Check all faucets for leaks and repair. Clean aerators.
			All hot and cold knobs tight on spindles. Spindles turning freely
			Sink stoppers and linkage operating freely.
			Sink drains flowing freely.
			Check sink caulking and replace as needed.
			Counter tops and splashes secure. Touch up repair chips or cracks.
			Replace caulking where needed.
			Mirrors secure, free of cracks and chips.
			All toilets, urinals (men's) flushing properly, free of obstructions.
			Sloan flush valves functioning properly, no leaks. Adjust/repair as needed.
			Check stalls = all partitions secure, doors, latches, hinges functioning properly. Adjust/repair as needed. Replace any missing tamper proof screws with same.

Notes/Comments: _____

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 25	3 °Æ˘#102
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES GUEST ROOMS PREVENTIVE MAINTENANCE	By: Agustinus Agus Purwanto, SE MM

POLICY

Preventive measures must be developed to detect and correct any maintenance issues before a guest makes contact with the hotel.

PROCEDURES

The Engineering Manager will use the enclosed checklist as a guideline to prepare a permanent checklist specific to the hotel, listing all items to be serviced, checked or repaired. The rooms' preventative maintenance will ensure each room is serviced at least twice in a calendar year. Changing room filters should be dated.

If a computerized preventative maintenance program is utilized, the dates of the completion of the work must be permanently maintained. A hard copy of all work performed and completed in each guestroom will also be permanently maintained in a binder, by date in sequential order. A recap form will be placed in the beginning of the binder listing all rooms, indicating the dates of all preventative maintenance performed.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 25	3 °Æ˘#103
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES GUEST ROOMS PREVENTIVE MAINTENANCE	By: Agustinus Agus Purwanto, SE MM

GUESTROOM PREVENTATIVE MAINTENANCE
RECAP FORM

_____ **Hotel Name**

Room #	Date	Date	Date	Date	Date	Date	Date	Date	Date
101	2/9/07	8/15/07	3/1/08						
102									
103									
104									
105									
106									
107									
108									

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 25	3 ˚Æ˘#104
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES GUEST ROOMS PREVENTIVE MAINTENANCE	By: Agustinus Agus Purwanto, SE MM

PREVENTATIVE MAINTENANCE CHECKLIST FORM

GUEST ROOM NO. _____

(Use a separate form for each guest room)

☐ **OK** ☐ **NEEDS REPAIR** ☐ **REPAIR COMPLETE** **PROPERTY** _____

AIR CONDITIONING	Date/Initials		
1. A/C Unit (check operation and correct position)			
2. Thermostat (secure and functioning)			
3. Filters and Grilles (clean)			
4. Condensate water drain (clean)			
5. Blower fan (check & secure)			
6. Check for leaks in hot and chilled water systems			
7. Check plug & receptacle for tight fit (replace if loose)			
8. Switches (check operation)			
9. Lamp sockets (tighten)			
10. Lamp shades (repair or replace)			
11. Bulbs (replace if necessary) check required wattage.			
12. Plugs (replace as necessary)			

FURNITURE	Date/Initials		
31. Drawer handles & knobs (check)			
32. Drawer guides (lubricate if necessary)			
33. Stains (clean and touch)			
34. Springs on chairs (check)			
35. Table tops (check, repair small defects)			
36. Headboards (check & secure)			
37. Wheels (check and secure)			
38. Night stands (check and secure)			
39. Coat racks (check paint and secure)			
WINDOWS			
40. Window guides and stops (lubricate)			
41. Mirror hangers (check & secure)			
42. Windows Hardware (check and secure)			
WALL, FLOOR, CEILING			
43. Baseboards (check)			
44. Carpet (check)			

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 25	3 ˚Æ˘#105
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES GUEST ROOMS PREVENTIVE MAINTENANCE	By: Agustinus Agus Purwanto, SE MM

SWITCHES			
13. Outlet Wall plates (match wall color, inspect, clean, secure)			
14. Switches (match wall. Color, inspect clean, secure)			
15. Switches and receptacles (replace missing screws)			
16. Receptacles (change if necessary)			
TV's & RADIOS			
17. Radio (check time, operation)			
18. TV audio/video (check TV channels)			
19. Knobs (replace if necessary)			
20. Fine tuning (adjust if necessary)			
21. Antenna outlet (secure plate)			
22. Antenna Connectors (check, repair if necessary)			
23. Remote control and satellite cinema box (check for proper operations)			
24. Security mount radio & TV (check)			
PHONES			
25. Dialing instructions & message			

45. Pictures (check)			
46. Ceilings (check for cracks, mildew and/or peeling paint)			
47. Paint & vinyl (check paint on walls & floor casings)			
DRAPES			
48. Inspect & secure drapes & drapery hardware, including drapery guard			
DOORS			
49. Handles (check & secure)			
50. Lock cylinder set screw (check)			
51. Hinges & hinge pins (lubricate & secure)			
52. Door chain, viewer and chain magnet (repair if necessary)			
53. Lock striker plates (check & secure)			
54. Night latch (check)			
55. Door frame rubber bumpers (replace if necessary)			
56. Fire exit plan & room rate card (check)			
57. Check all doors for smooth, tight fit			
58. Check guest room locks for ease			

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 25	3 °Æ˘#106
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES GUEST ROOMS PREVENTIVE MAINTENANCE	By: Agustinus Agus Purwanto, SE MM

light			
(replace if necessary)			
26. Defects (report any other defects to			
hotel operator)			
SLIDING DOORS			
27. Sliding door tracks (check & repair)			
28. Floor guides for sliding doors (check)			
29. Bumpers on sliding doors (check)			
30. Floor door stop (check)			

of			
operation			
59. Door stops (check)			
AIR LEAKS			
60. Check leaks (check under A/C units &			
doors, weather stripping, etc.)			
BATHROOM			
61. Bathtub safety - slip guard used			
62. Toilet flush valve (check)			
63. Toilet seat (inspect & replace			
if necessary)			
64. Toilet seal (check for evidence of leaks)			
65. Bath & lavatory drain plugs & pop-ups			
(check)			

PREVENTATIVE MAINTENANCE CHECKLIST FORM (continued)

BATHROOM (continued)	Date/Initials		
66. Mixing valve (secure handle)			
67. All washers (replace if necessary)			
68. Shower & lavatory faucets (check and/or replace if necessary)			
69. Escutcheon plates (secure) Exhaust grill (clean)			
70. Shower enclosure, tracks, doors,			

	Date/Initials		

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 25	3 °Æ˘#107
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES GUEST ROOMS PREVENTIVE MAINTENANCE	By: Agustinus Agus Purwanto, SE MM

bumpers & handles (check)								
71. Trap under basin (check)								
72. Faucet strainer & flow restrictors (clean or replace)								
73. Basin bowl hangers (re-glue or re-secure)								
74. Toilet paper holder (check)								
75. Coat hook on door (check)								
76. Facial tissue holder (replace or re-secure)								
77. Floor & wall tile (check grouting, whiten if necessary)								
78. Soap dish & grab bars (check & re-secure)								
79. Towel racks (resecure)								
80. Toilet privacy locks (check)								
OTHER								
81. Vanity light fixtures (check)								
82. Bath area light (check)								
83. Bed bases (secure)								
84. Smoke detector (check & replace if necessary								

NOTES:

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 28	3 °Æ˘#108
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES ELECTRICAL DISTRIBUTION PREVENTIVE	By: Agustinus Agus Purwanto, SE MM

POLICY:

To further compliment the established PM Program for electrical distribution. Modern technology has developed a tool whereby hot spots and potential hazards may be identified and repaired. Infrared scanning is an important form of non-contact testing that has become an indispensable preventive maintenance tool.

An infrared survey is performed with a portable infrared imaging system. This equipment detects infrared energy emitted from an object, converts it into a video signal and reproduces it as an image on a monitor screen. Because infrared energy is a direct and proportional function of temperature, the video image is designed to depict temperature levels on the monitor. This thermal image looks very similar to a black and white television picture where the various shades of gray represent different temperature levels throughout the chosen temperature range. Black corresponds to a colder temperature, and white indicates a hotter temperature.

To distinguish between the different shades of gray, an isotherm (black dots) that shows all areas in the image having the same temperature is used to determine the actual temperature. When reading a temperature, the isotherm level is varied throughout the temperature range until it reaches the area of unknown temperature. The degrees Celsius rise or drop can then be calculated from the documented isotherm temperature minus the ambient. Our infrared imaging equipment has the capability to sense object temperatures from 20 to 2000 degrees Celsius.

When an area or component with an unusual temperature differential occurs, a video recording of the thermal image and a visual image are made. From the video tape recording, a thermal print can be made or a computer generated report produced. These thermo grams, along with a standard photo, our problem definition and recommended corrective action, provide you with the necessary information to correct the problem before it becomes serious.

For your reference as a maintenance scheduling tool, the following temperature differential table is presented.

Temperature Differential	Severity
1-100°C	Correct within six months
11-200°C	Correct within three months
21-350°C	Correct as soon as possible
Over 360°C	Immediate attention

It must be noted that the above temperature differential/severity guide is based on our experience with electro/mechanical inspections. Although most of the problems identified in the report are significant, the ultimate decision to repair them must be made by your maintenance department.

It must be noted that the above temperature differential/severity guide is based on our experience with electro/mechanical inspections. Although most of the problems identified in the report are significant, the ultimate decision to repair them must be made by your maintenance department.

WHEREVER A SURFACE TEMPERATURE DIFFERENTIAL MAY INDICATE AN ABNORMAL CONDITION, THERE IS AN APPLICATION FOR AN INFRARED SURVEY.

The design, manufacturing and maintenance fields of electrical and mechanical equipment have numerous applications for this kind of survey. Because there is no physical contact with the apparatus under test, the survey can be performed while the system or systems are running and under full load. Within these fields the applications are virtually unlimited. Mechanical and electrical inspections plus heat and energy studies can be accomplished in a fraction of the time previously required, therefore saving both time and money.

With an infrared survey, maintenance priorities can now be established before a problem occurs. In addition, meaningful direction and scheduling priorities can be determined before a scheduled maintenance shutdown is performed.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 28	3˚Æˇ#110
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES ELECTRICAL DISTRIBUTION PREVENTIVE	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

The Engineering Manager will on an annual basis have an infrared scan conducted on the electrical distribution components. These items will include but not be limited to:

1. Buss ducts/trays
2. Motor control centers
3. Switchgear
4. Transformers
5. Automatic transfer switches
6. Breaker boxes and panels
7. Chiller controls
8. Pumps (supply, return, recirculating)
9. Fans (supply, exhaust, pressurization)
10. Cooling tower (motors and controls)

A printed and pictorial review of findings will be furnished by the scanning contractor. Upon completion of repairs, a rescan will be taken of the problem areas only to verify elimination of the hazard.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 29	3˚Æˇ#111
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES FUEL EFFICIENCY TESTS	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

Fuel efficiency tests should be performed on hot water boilers, hot oil boilers, heating boilers, steam boilers and gas fired ironers. Normally the local gas company will perform these tests for you upon request.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 30	3˚Æˇ#112
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES AMERICAN DISABILITY ACT	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

The Engineering Manager will ensure compliance with all ADA related standards. The areas of responsibility are:

1. Public restrooms
2. Lobby areas
3. Meeting spaces
4. Exterior grounds
5. Pool areas
6. Guest rooms
7. Offices
8. Workspace

The Engineering Manager will utilize a checklist (see example) to ensure compliance and maintain records of any corrections or alterations made to the property. The Engineering Manager must without exception be knowledgeable of the American Disabilities Act and ensure adherence to any and all additions or deletions.

Each hotel will submit asset expenditures or special projects in the normal budget process to comply with ADA.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 30	3˚Æˇ#113
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES AMERICAN DISABILITY ACT	By: Agustinus Agus Purwanto, SE MM

ADA ISSUES CHECKLIST

		YES	NO
1.	Is a list of current multi lingual employees including sign language available?		
2.	Do the elevator hall call buttons have Braille and raised tactile lettering?		
3.	Do the floor call buttons inside the elevator cabs have Braille and raised tactile lettering?		
4.	Does the elevator announce the passing of each floor audibly?		
5.	Does the elevator indicate the direction of travel on each floor landing by audible and visual devices?		
6.	Do the accessible facilities in the public rest rooms have the following:		
	A. Insulated hot water supply and drain at the accessible lavatory		
	B. Levers instead of knobs at the accessible lavatory		
	C. Proper distance from the bottom of the accessible lavatory counter to the floor allowing wheelchair accessibility		
	D. Accessible stalls containing grab bars and dispensers at the proper height		
7.	One public pay phone in a grouping of four or more must be accessible, TDD capable, and utilize a volume control type hand set?		
8.	Are the proper number of hearing impaired, sight impaired and accessible rooms available according to the ADA standards for total number of rooms at this hotel?		
9.	Are closed captioned decoders available for the hearing impaired guestrooms?		

ADA ISSUES CHECKLIST (continued)

10. Are TDD devices available for the hearing impaired guestrooms?

11. Is there an auxiliary fire alarm for the hearing and sight impaired accessible rooms?

12. Is there an audible and visual device which will alert the occupants of an accessible room to someone knocking at their guestroom door?

13. Is there an audible and visual device which will alert the occupants of an accessible room to the guestroom telephone ringing?

14. When the occupants of an accessible room are asleep, is there a device which can be placed under the mattress or pillow which will vibrate should the phone ring, building alarm sound or someone knock at their guestroom door?

15. Are levers instead of knobs installed at the vanity and shower faucet in the accessible rooms?

16. Has the exposed drain and hot water supply piping under the vanity in the accessible rooms been insulated?

17. Has the door viewer (peep hole) in the accessible room been lowered to accommodate persons in wheelchairs?

18. Has the night security lock/chain in the accessible room been lowered to accommodate persons in wheelchairs?

19. Is there a level type handle on the guestroom entrance and bathroom door of the accessible guestrooms?

20. Has the closet shelf and clothes rod in the accessible room been lowered to accommodate wheelchair accessibility?

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 30	3˚Æˇ#115
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES AMERICAN DISABILITY ACT	By: Agustinus Agus Purwanto, SE MM

ADA ISSUES CHECKLIST (continued)

		YES	NO
21.	Has the air conditioning controls in the accessible room been lowered?		
22.	Are the appropriate grab bars installed in the accessible guestroom bathroom?		
23.	Is the bottom edge of the reflective surface of the vanity mirror no higher than 40 inches from the finished floor?		
24.	Does the bathroom vanity in the accessible guestroom meet the ADA standards for wheelchair accessibility?		
25.	Are the table lamps in the accessible guestrooms equipped with push button on/off type switches?		
26.	Is there an area set aside at the front desk which is accessible to individuals in wheelchairs, or are there procedures in place such as utilizing clip boards?		
27.	Is there a clear barrier free pathway from the hotel entrance to all facilities?		

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 31	3 °Æ˘#116
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES FREON DISCHARGE	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

The preferred methodology will be to purchase the proper equipment to perform this task in-house and to have at least one person certified to operate the equipment. If an outside contractor is utilized, that contractor must be certified and use the proper procedures as specified by the act, including removal and disposal.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 32	3˚Æ˘#117
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES FACILITY CONSERVATION	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

1. During routine inspection, recurring maintenance work is determined and highlighted.
2. Preventive and proactive training designed to eliminate recurring maintenance is to be implemented in close coordination with the appropriate Executive Committee member, via orientation, departmental meetings, general meetings or one-on-one sessions.
3. During routine inspection, training effectiveness is to be evaluated by reduction of recurring maintenance.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 33	3 ˚Æ˘♯118
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES CONTRACT SERVICE	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

Contracts concerning yearly or one-time execution will be handled according to corporate guidelines. The Engineering Manager will obtain the needed signatures from corporate through his General Manager. Traces should be initiated to ensure contracts are reviewed prior to their expiration each year. All contracts should be put out to bid yearly. A list of all contracts should be maintained by Engineering.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 34	3 °Æ˘#119
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES WARRANTIES	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

In new properties or properties which have gone through a major renovation, it is imperative that the Engineering Manager collect or receive all warranties and ensure that informational cards or warranty validation forms are returned as specified. The Engineering Manager will institute the following file system for warranties.

1. A file labeled warranties will be kept in the Engineering Manager's office.
2. Within this warranty file will be kept all warranties regardless of the duration for which the warranty is good for.
3. The warranties will be alphabetized according to the produce name for which it covers.
4. Warranties which have elapsed will be removed from the active warranty file, but retained in a deal file for one year.
5. The Engineering Manager will conduct a yearly review of the warranty file.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 35	3 ˚Æ˘Ĥ120
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES GROUNDSKEEPING	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

The Engineering Manager, if responsible for exterior groundskeeping, will develop a program (see example 1) to ensure the exterior aesthetic integrity remains pleasing to the viewer and safe from obstacles. If contracted services are used for exterior groundskeeping, a copy of the contract will be kept in the Engineering Manager's office and reviewed as necessary for compliance and/or changes which are needed.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 35	3˚Æˇ#121
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES GROUNDSKEEPING	By: Agustinus Agus Purwanto, SE MM

LANDSCAPING DAILY REPORT

DATE: _____

LANDSCAPER:_____

WORK PERFORMED	TIME SPENT	DESCRIPTION
Property Trash Pick-up		
Entry Clean-up		
Javeline Clean-up		
Parking Lots		
Watering Lawns		
Watering Citrus		
Watering Flowers		
Sprinkler Zones		
Sidewalk Sweeping		
Curb Sweeping		
Raking		
Planting		
Pruning		
Ballroom		
Pre-Function		
Steam Cleaning		
Rock Bed Cleaning		

Comment or repairs needed:_____

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 36	3˚Æˇ#122
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES PARKING AREA	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

The parking facility will be entered into the preventative maintenance system. A maintenance program will be devised, using a checklist for the planned maintenance of parking facilities. The following checklist is intended to cover most typical aspects of maintenance including those related to cleaning, safety, equipment and structure. A suggested desirable and a minimum frequency of observation or attention area indicated by a "D", "W", "M", and "A" respectively, which indicate daily, weekly, monthly or annually. The aspects covered are:

Cleaning - D

Painting - A

Parking Control Equipment - D

Roofing and Waterproofing - A

Safety Checks - W

Security System - M

Signs (graphics) - A

Snow and Ice Control - as needed Structural System - A

Concrete Deterioration - A

Concrete Repair and Preventive Maintenance - A

Waterproofing, Preventive Maintenance - A

Ventilation/Exhaust System - D

Elevators - M

Drainage - M

Lighting - W

It is recommended that for each parking facility a specific maintenance program be developed. Each facility has features unique to it alone, so any sort of "uniform" program may miss important features.

Particular problems of parking facilities will also be addressed.

1. Drainage

   Drainage is a very important feature of parking facility maintenance. If drainage is not kept open, water will back up and accumulate on the surface, creating guest dissatisfaction, damage to the parking lot and potential damage to the property of others.

   All drainage outlets will be inspected monthly. Catch basis and inlets should be cleaned of all debris. If the drainage structure has a sump below the outfall storm sewer line, this sump should be cleaned of all accumulations at least annually.

   To inspect the drainage outlets the lid should be removed and inside of the drainage structure inspected. The lids are normally made of cast iron and can weight over 100 pounds.

2. Inspections

   A visual inspection should be made of the surface of the parking lot. If several cracks are evident and if it appears water can penetrate the surface into the subsurface a more detailed inspection is appropriate.

   Normal construction calls for the surface course to be provided a waterproof surface, while the subsurface components are porous and will allow water to penetrate.

   As water penetrates the surface course it enters the base course causing the base course to become saturated. Some of the water continues on through the base course into the subbase saturating it also. As these porous materials become saturated they lose their cohesive properties

and ability to support the surface course. At this point failure of the entire system is imminent.

Even small hairline cracks should be of concern. When cracks appear it is an indicator that the surface needs to be sealed to preclude entry of surface water into the base and subbase courses.

Careful notes need to be made of any cracks observed. If the same area is observed to be a repeat failure, strong indicators exist of a deeper rooted problem or of a design failure. In either case, it deserves additional attention.

On bituminous surfaces, the bituminous may be lost by exposure to the elements, especially sunlight. As the bitumens are lost the ability to provide waterproofing diminishes and the entire material loses its flexible nature. This is a nature condition and should be offset by periodic sealing to renew the bitumens and seal off the effects of the elements.

3. Sealing and Waterproofing*

If the inspection of the surface course indicates water is penetrating the surface course, sealing and weatherproofing is needed.

For asphalt or bituminous type surfaces the sealant is commonly a liquid sealer, applied uniformly over the surface. It is applied by any of several methods, ranging from hand brushing to pressure liquid application. In any of these cases, the purpose is two-fold - to waterproof the surface and to renew the bitumens near the surface.

For concrete surfaces the available sealants range from liquid materials to overlays of new materials. Liquid materials are the easiest and cheapest to apply, but have limited effectiveness due to the rigid nature of the concrete

surface. Often the concrete lot is sealed by application of an asphalt overlay of from 1 1/2 to 3 inches.

Sealants should form a waterproofing over the entire surface. To accomplish this they should be pliable enough that they do not crack themselves because of weather and temperature changes. Overlays of asphalt materials or concrete are more expensive but may be the recommended solution.

Certain problems arise with the application of overlays. If the overlay is too thin it will have a tendency to crack and break up in a relatively short period. If it does not adhere to the existing surface problems can be caused, unless it is specifically designed not to adhere. If the overlay is laid too thick, or if insufficient working elevation is available, the direction of surface waters flow may be affected. This can cause water to pond or even run back toward the building rather than away from it.

* Sealing and waterproofing will be done according to the geographical demands. A maximum of five years without resealing is allowable if the climate in which the facility is located is tolerable. The Midwest or the region commonly referred to as the salt belt must utilize a more aggressive waterproofing program. A three year maximum will be utilized in this geographical area.

4. Snow and Ice Removal

On surface parking lots it is usually advisable to remove snow and ice rather than control its placement. If the parking lot is not fully utilized, or if the snow problem is expected to be of short duration, the removed snow and ice may be temporarily stored on part of the parking lot.

The primary purpose of any snow and ice control program is to return the parking lot to a safe and useable condition the lot of ice and snow quickly and efficiently once the storm is over. This often does not mean complete eradication, but rather a reasonable and acceptable level of service.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 36	3˚Æ˘#126
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES PARKING AREA	By: Agustinus Agus Purwanto, SE MM

Plowing is generally the first line of defense. If the snowfall is heavy, spreading some type of chemical or abrasive is often done. Salt is a common additive. Sometimes, such as in the case of ice, salting or the addition of an abrasive is the only practical defense. The abrasive provide temporary traction, which the salt also will do as it begins its melting action. However, abrasives do not remove the ice and snow, nor does it prevent bonding to the pavement.

There are two basic types of salt in use. Calcium chloride and sodium chloride. Calcium chloride continues to act and remain effective at lower temperatures.

Salt is basically a deicer, while abrasives are a traction aid. Salt becomes ineffective at the lower temperatures. Calcium chloride has low effectiveness below 20° and sodium chloride loses effectiveness below 15°.

If used improperly, salt can present environmental problems and contribute to the deterioration of pavements and structures in addition to problems of the runoff.

One major concern with the use of salt is that when salt brine is allowed to run off in storm water it can increase the chloride or sodium level of the runoff. This can have a detrimental effect on the quality of storm water discharged from the property and also on the property landscaping that has contact with the runoff.

Plowing cannot remove all the snow from the pavement surface and what is not removed may turn to hazardous hardpacked bonded to the pavement by traffic. Salt is often a good aid in this if used early. With bonded hardpack, salt is often essential in order to loosen it so it can be plowed off.

The decision to rely on plowing alone, use a combination, or rely on abrasives must be made locally, based on local conditions, preferences and acceptable standards.

Thus, snow and ice removal are important for all the obvious reasons of guest convenience and safety, but also for protection of property assets.

5. Painting

Painting serves two purposes.

a. Protection of metals against corrosion and resulting loss of structural capacity.

b. Enhancement of appearance.

Some metals such as anodized aluminum and stainless steel do not require painting. Galvanized steel surfaces do not initially require painting. However, because the galvanizing is sacrificial, under some exposure conditions the galvanization and thus the protection, is lost as the surfaces age.

Paint as a protective coating depends upon its adherence to the underlying surface. Therefore, before painting any surface, it is extremely important to properly clean and prepare the surface. Preparation for painting may include removal of rust, removal or previous coats of paint, application of caulking or sealant, waterproofing concrete or masonry or other preparation appropriate to the surface and exposure conditions. Paints should be carefully selected to be appropriate for each particular application.

All painted surfaces should be inspected annually to determine their condition. Small rust spots that are observed should be cleaned and touched up each year. Complete repainting should be done as may be required by the element, type of paint and the exposure conditions. Most painted surfaces in parking facilities will need repainting at intervals in the 3 to 7 year range.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 36	3˚Æ˘#128
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES PARKING AREA	By: Agustinus Agus Purwanto, SE MM

Handrails and guardrails serve safety related functions. They should be inspected and painted at intervals as required to ensure retention of their structural capacity.

Regular painting of exposed metals such as doors, door frames, pipes and pipe guard not only helps prevent corrosion deterioration but provides a pleasant and well kept appearance. Metal pan stairs must be inspected and painted on a regular basis.

Parking stall striping is a basic element of all parking facilities. Stall striping should be repainted whenever the paint stripes fade or deteriorate. With the increasing number of small cars on the road, many parking facilities are being restriped to reflect the smaller size cars. It is recommended that when changing the striping, the old stripes be removed completely rather than painted over. Painting over old stripes usually results in two sets of stripes being visible and thereby confusing to the user. Paint over the old stripes often wears off or does not stick at all. Gravity fed paint for stall striping tends to last longer than sprayed paint.

Old adhesive stripes should be pulled off before resealing or resurfacing. Most adhesives can be released by solvents recommended by the manufacturers.

Old paint stripes should be removed. Although it is time consuming and relatively expensive, the best method is grinding off the paint stripe. A very thin coating is removed in the process, but if this is less than 1/8 inch no harm should be done.

The painting of interior or exterior concrete and masonry is usually done for appearance. Some masonry paints also serve as waterproofing. At regular intervals, these elements should be repainted. Some of the new anti-graffiti paints are effective for that purpose and should be considered when graffiti is or may be a problem.

Painting of curbs is usually safety related and they should be repainted more frequently than other elements. Semi-annual painting is recommended.

6. Structural Repairs

When structural failure occurs, such as potholes or broken areas accompanied by soft spots, structural repairs are necessary. This usually involves removing and replacing the damaged material to alleviate the problem.

Seldom will surface repairs suffice. Normally it is necessary to remove the unstable or overstressed materials and stabilize, replace or reinforce them sufficiently to meet design conditions.

Often failures of surface parking lots and driveways are related to one of the problem soils. These include (1) saturated cohesive soils, (2) saturated fine non-cohesive or low cohesive soils, (3) organic soils and (4) soils with great variations in moisture content.

7. Cleaning

In part, the suggested frequencies of cleaning are based upon the concept that people have less tendency to litter in a clean, neat environment than in an environment which is already messy. A clean, well kept parking garage promotes a good reputation and invites people that offset the cost of keeping the facility clean.

Grease and oil drippings from cars build up at parking spaces as well as entrance and exit lanes. These grease buildups should be removed with appropriate degreasers. High pressure steam is an excellent example of a degreaser. A minimum of twice a year is recommended. Large oil spots should be cleaned as they occur. The degreaser used should be compatible with the surface to which they are applied. A product that works well with concrete may destroy an asphalt surface.

High pressure water jet systems should not be used on floor slabs new control or expansion joint sealants. High pressure water jets can damage sealant and cause leakage which can lead to serious deterioration. High pressure water or steam may be used for removing grease spots on the floor slab when care is taken to avoid damage to joint sealant material.

Particular care should be given to frequent and regular cleaning of the tracks or grooves in elevator floor sills. These tracks are in both the elevator cab floor sill and each landing floor sill. Dirt in these tracks can cause the elevator doors to malfunction.

8. Safety Checks

Included in this section are discussions of:

- Carbon monoxide monitors
- Guardrails and handrails
- Pedestrian exit signs
- Emergency lights
- Fire safety equipment
- Emergency calls in elevators
- Tripping hazards

There are some elements in a parking garage that merit some special safety checks.

Carbon monoxide monitors are often used in enclosed or underground parking garages. These monitors should be checked daily for proper performance. The instruction and operation manual for this equipment should be consulted and followed.

Metal handrails and guardrails at the edges of parking floors are subject to damage from impact and corrosion. It is recommended that these handrails and guardrails be checked monthly to verify that they are rigid, not damaged and can serve their intended purpose. Less susceptible to damage, but equally deserving of periodic safety checks, are concrete

guard walls and stair handrails.

Most building codes require illuminated exit signs to be placed by each stairway on all floors and at other points of pedestrian egress. Many times these are white with red letters. The illuminated signs should be checked daily to see that the light bulbs are working and the sign faces are intact.

Special emergency lights should be checked regularly for proper operation.

Fire safety equipment should be checked regularly. This includes fire extinguishers, stand pipes, detectors and pull stations, hose cabinets, fire sprinkler systems, automatic door closures in safe areas and fire pumps.

Elevator cabs have emergency call alarms and sometimes telephones, intercoms or television cameras. These should be checked daily for proper operation.

Concrete floors or sidewalks can develop holes or pockets due to deterioration which can be tripping hazards. These holds or pockets should be filled immediately, even if on a temporary basis.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 37	3 ˚Æ˘#132
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES EXTERIOR SIGNAGE & SECURITY LIHGTING	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

The exterior signage will be checked visually each night on the normal house rounds of the evening and swing shift. Any problems noted will be promptly repaired or documented on the Engineering daily report, under the remarks section, as to why the repairs could not be made.

Security lighting will also be checked nightly. Portions of the parking facilities will be included in these areas as they serve a definite deterrent to crime when operating properly. Other security lighting which will be checked are:

1. Docks
2. Passenger entrances, exits and walkways
3. Exterior stairwells (example - garage stairs)
4. Sidewalks
5. Light poles (dedicated for the purpose of illuminating a high-risk area)
6. Parking areas
7. Pool lights

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 38	3 ˚Æ˘#133
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES ENGINEERING SERVICE REQUEST	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

The Engineering Manager will develop a service request sheet for items and services beyond the routine or complimentary services. The request form will contain the following information (see example).

1. Name or firm requiring services
2. In-house contact.
3. Date(s) service is required
4. Address and phone number of name or firm requiring services.
5. Booth number (if applicable)
6. Services desired
   a. Electrical
   b. Plumbing
   c. Gas
   d. Labor
   e. Telephone

   NOTE: Prices for service will be listed on the sheet and will be fair in value.
7. Total amount due
8. Authorized signature (person requiring services)
9. Return address for payment
10. Appropriate disclaimers
    a. 10-day prior payment
    b. Fee for same day service without notice

The blank forms will be issued to the sales and catering staff. Completed forms will be returned to the Engineering Manager and the desired services accomplished. A credit will be reflected in the appropriate manner for services and materials used to complete the quest request.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 38	3 ˚Æ˘♯134
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES ENGINEERING SERVICE REQUEST	By: Agustinus Agus Purwanto, SE MM

ENGINEERING SERVICE REQUEST FORM

NAME OF CONVENTION:_____ BOOTH #:_____

EXHIBITOR COMPANY:_____ IN-HOUSE CONTACT: _____

ADDRESS:_____

PHONE NUMBER: _____ DATES:_____ TO _____

ELECTRICAL OUTLETS/CHARGES PER CONNECTION:

_____ 110 volt outlet @ $10.00

115 Volts

_____ Outlet with total capacity 600 watts (5 amps) @ $10.00

_____ Outlet with total capacity 1800 watts (15 amps) @.$15.00

_____ Outlet with total capacity 3000 watts (25 amps) @ $20.00

_____ 150 watt floodlight with outlet (each) per day @ $15.00.

220 Volts-one phase:

_____ Outlet with total capacity 1800 watts (15 amps) @ $20.00

_____ Outlet with total capacity 3000 watts (25 amps) @ $30.00

220 Volts-three phase:

_____ Outlet with total capacity 3000 watts per phase (25 amps per phase) @ $50.00

277/480 Volt Service and High Amperage Service Available and Quoted According to Requirements (Special Wiring)

_____ Touch-Tone Telephone (through hotel operator) @ $20.00/day

(Direct outside line - quoted on individual basis)

SPECIAL WIRING: Accommodations for special hook-ups (wiring, plugs, receptacles, connectors, etc.) are available with at least 72 hours notice. Billing for these items will be at retails.

ENGINEERING SERVICES:

_____ Labor charges for special accommodations or crating, uncrating, etc., per man, per hour @ $16.00

_____ Hijacker available at $31.00/hr., $31.00 minimum (includes operator)

_____ Hot/Cold water and natural gas services available and quoted according to requirements.

_____ **TOTAL AMOUNT DUE** **AUTHORIZED SIGNATURE** _____

Total payment is due 10 days prior to hook-up date. Make check payable to: _____

SEND TO: Convention Services Manager **ALL SERVICES REQUESTED ON DATE OF HOOK-UP WILL INCLUDE A $25.00 C.O.D. CHARGE**

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 39	3 ˚Æ˘#135
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES KEY CONTROL	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

The Engineering Manager, where applicable, will ensure compliance with Trust Standard operating Procedures concerning key control.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 40	3 °Æ˘#136
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES ENVIRONMENTAL COMMITTE	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

The Engineering Manager will take an active part in the Environmental Committee. An active committee requires participation from all departments; however, most items will fall in the realm of engineering needs. The Engineering Manager will ensure his department's responses to the needs are timely.

1. Items for discussion by the Engineering Manager may include:
2. Safety and security work orders accomplished.
3. Emergency work orders accomplished.
4. Repairs made or repairs needed to security lighting. This will include parking and grounds lights.
5. Security issues or concerns affecting the entire hotel.
6. Solicitation of comments or suggestions on potential safety hazards.
7. Recycling efforts for the property.
8. Energy conservation.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 41	3˚Æ˘#137
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES SECURITY	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

The Engineering Manager will ensure the department's knowledge and active participation in the security effort.

General rules for the engineering shop will be as follows:

1. The shop area, mechanical rooms, electrical rooms, boiler rooms, chiller rooms, and any other associated area containing equipment, tools or supplies will be locked. Access to these areas will be limited to departmental personnel. A secondary key to these areas must be available to the MOD or Security. Should an engineer be hurt in one of the secured areas this secondary key would provide emergency access.
2. Guestroom Calls
    a. Vacant and clean, vacant and dirty, out of order - the engineer upon arriving at the room will block the guestroom entry door open with a door stop. The door will be blocked open at the halfway point between fully open and fully closed. The door will remain open during the time the engineer is in the room. If the room is left for any reason, such as securing parts, the door will be shut. Upon returning to the room, the door will again be secured in the manner mentioned.
    b. Occupied and quest not present - the same criteria listed in "A" will be used along with the following guidelines:
        i. Care will be given to ensure the door to the guestroom can be seen at all times. If work is to be done in an area of the room which does not allow monitoring of the 1/2 open entry door, the door will be closed and a notification device must be used alerting the presence of an engineer within. It is suggested a card such as the privacy door hanger be developed with the verbiage "ENGINEER PRESENT". Should the guest return to the room while the entry door is 1/2 open, the engineer must challenge the guest (TACTFULLY) and ensure the individual is the registered occupant.

c. Occupied and guest present - the same criteria listed in "A" will be used along with the following guidelines:

   i. Should the guest request that the door be shut, the engineer should explain that it is standard procedure for the guest's safety as well as the employee. If the guest will not allow the door to be left open, the engineer will place the notification device on the outside of the door, shut the door and notify PBX via walkie talkie of his location. PBX must be notified when the engineer leaves that location.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 42	3 ˚Æ˘#139
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES SHOP AND JOB SAFETY	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

The Engineering Manager will invoke and practice good safety on the job and within the engineering spaces. Rules to work by area, but not limited to:

1. Horseplay of any form is not allowed.
2. Proper clothing (see ENG-SOP-08) will be worn.
3. Employee. tools will be of top quality and in good repair.
4. Hotel tools will be in top quality and in good repair.
5. Compressed gas tanks will be stored and utilized properly (see ENG-SOP-45), this will include inspection of the other areas of the hotel to ensure they are using proper handling procedures.
6. Safety goggles or shields will be worn when using grinders, reciprocating devised, impact devices and dealing with chemicals (see ENG-SOP-43).
7. Proper welding techniques will be used (see enclosure).
8. All electrical tool devices will be properly grounded and in good service repair.
9. Extension cords of the two prong 18 gauge wire type will not be used. Usage of these cords by other departments will be highly discourages.
10. Liquids or powders will be stored in the original container or be clearly marked as to its content if the original container is not available. Liquids or powders will not be stored in open containers on shelving above eye level.
11. Lock out procedures and devices will be used when handling electrical and mechanical repairs (see ENG-SOP-49).
12. Air tight, non-flammable rag barrels will be used for rags in the shop area and all maintenance rooms where greasy/oily rags are present. These containers must be a minimum emptied weekly.

13. All guards and protective devices will be in place on all tools and machinery.
14. Paint and flammable liquids will be stored according to the N.F.P.A. and local authorities.
15. Departmental employees will police and clean up after each job completion.
16. Wearing of rings, bracelets and metal watchbands are discouraged due to electrical conductivity.
17. Mushroomed tools will be ground off or replaced.
18. All spills will be wiped up immediately.
19. Proper lifting techniques will be observed. Lifting belts will be available for use by departmental employees. It is suggested that one belt per size be available. Use the buddy system when possible.
20. All accidents or injuries will be reported immediately.
21. Use of the proper tool for the job. Shortcuts cause injuries and damage to equipment.
22. Everyone within the department is to be knowledgeable of the hazardous chemicals used and the location of the MSDS sheets (see ENG-SOP-43).

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 42	3˚Æ˘#141
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES SHOP AND JOB SAFETY	By: Agustinus Agus Purwanto, SE MM

TEN ESSENTIALS OF WELDING

1. Ensure that all tanks to be welded have been properly purged of its contents.
2. Secure all tanks in an approved two wheel type dolly or fastened securely to the wall.
3. Jigs and holding devices shall be used at all times. It is impossible to obtain the correct angles and sight lines when holding the items with one hand.
4. The welding area should be free from batteries, compressed gasses and flammable materials. The sparks from the welder fly in all directions and may lie dormant and smoldering for days.
5. Make sure all stingers are properly attached to the welding cables. The ground should be checked to ensure the proper continuity exists between the item to be welded and the welder. Torch ends should be checked for cleanliness and proper mixture of gas and oxygen. The resulting flame of a properly cleaned and balance torch is very distinct and well defined.
6. Proper ventilation must be present to remove built up noxious gasses from the welding sight. Do not have a fan blowing directly on the items to be welded as this may cause premature cooling and fractures.
7. The proper tinted eye protection must be used. Electric welding requires a darker glass than the torch would use. Do not allow others to watch the arc or flame without their own eye protection. A seasoned welder knows his preference of tint for convenience and protection.
8. Proper body protection will be used. Gloves, hat and leather welding sleeves are recommended. Exposed parts of the body can receive 1st and 2nd degree burns not only from the sparks but the heat and intense light given off.
9. All welding should be consistent in size and bead. If the bead is filled with pits and valleys it must be ground down to alleviate stress points.
10. A fire extinguisher located at the welding sight is a must. A steel container and a bucket filled with water is also recommended for discard “hot” material.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 43	3 °Æ˘#142
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES HAZARDOUS CHEMICALS	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

The Engineering Manager is responsible for implementing the corporate program for handling hazardous material.

1. All chemicals in bulk containers will be clearly marked for content and use.
2. No containers will be stored open. All must have lids or dispensing pumps.
3. Manufacturers safety data sheets will be secured and posted.
    a. In the proximity of the chemicals.
    b. A master file of all chemicals will be kept in Human Resources and in the Engineering Manager's office.
4. Chemicals will not be stored on, over or near floor drains.
5. Proper protective clothing will be furnished by the hotel for each chemical site. It is not enough to keep one set of protective clothing for use by everyone in the shop. You should not assume they will go to the shop and retrieve the protective clothing prior to handling the chemicals. A full set of clothing may not be needed at each site. The Engineering Manager must evaluate the chemicals being used and provide proper protection. The articles will be:
    a. Rubber boots.
    b. Full length rubber apron.
    c. Rubber full length gloves. (The gloves should be checked for proper use. Some chemicals require products other than rubber.)
    d. Face shield (not goggles).
    e. Aerator mask (painter's mask).

6. A mounted emergency eye wash kit will be permanently mounted at each chemical site.
7. Dispensing pumps will not be interchanged from barrel to barrel. A pump will be furnished for each chemical container. If a pump has to be used for emergency reasons, it will be emptied of all prior chemicals and thoroughly rinsed or neutralized before immersion into the second chemical barrel.
8. Caution will be taken concerning measuring cups and dispensing budgets. These items will be rinsed or neutralized after each chemical usage.
9. An aerator mask designed for chemical use will be used when the chemical MSDS sheets requires its use.
10. Powders which emit a flammable or explosive gas vapor (chlorine) must be stored away from open flame or electrical switch gear which may spark.
11. Current list of hazardous materials must be maintained.
12. Changes in OSHA or local laws to ensure compliance.
13. Specific training for all departments will be the responsibility of the department head. All employees will receive orientation on hazardous communication.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 44	3˚Æˇ#144
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES UNDERGROUND STORAGE TANKS	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

The Engineering Manager will check into who has the governing authority over in-ground storage tank inspection. Any license, permits, or documents needed will be secured and posted as to the local authority mandates.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 45	3˚Æˇ#145
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES COMPRESSED GAS CYLINDERS	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

The Engineering Manager shall ensure:

1. All cylinders used by Engineering will have valves closed and caps in place when not in use.
2. All cylinders used by Engineering which are stored or in service, shall be adequately secured to prevent falling or being knocked over.
3. Carts for oxygen/acetylene rigs will be sufficient to maintain the cylinders in a self-supportive upright position.
4. Refrigeration canisters will be stored away from open flame and in a cool room. This will include refrigeration canisters associated with a recycle or reclaim machine.
5. A refrigeration canister will only contain the refrigerant for which it is labeled. Do not mix refrigerants in recycle or reclaim canisters.
6. Other departments which utilize compressed gas cylinders have the necessary equipment to store and use them safely. It is also the responsibility of the Engineering Manager to monitor and correct areas of inappropriate handling and storage of gas cylinders by other departments.
7. Local codes are practiced concerning inspections and licensing.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 46	3˚Æ˘#146
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES RECORD RETENTATION	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

The Engineering Manager will retain the following records and documents for the period noted or according to local jurisdiction.

Document	Retention
1. Prints/Shop Drawings Project manuals Operational manual Air balance report Water balance report Renovation manuals and Specification booklets	Life of Building
2. Preventative maintenance on mechanical equipment	Life of the Equipment
3. Routine work requests	Three years
4. Safety/security work request	Five years
5. Daily assignment sheet	Six months
6. Equipment check logs	Two years (minimum)
7. Utility bills	
a. Electricity	Five years (minimum)
b. Gas	Five years (minimum)
c. Water	Five years (minimum)
d. Steam	Five years (minimum)
e. Sewer	Five years (minimum)
F. Chart & Graph	Five years (minimum)

8. Fire inspections	Life of Building
9. Insurance inspections	Life of Building
10. Building owner inspection	Life of Building
11. Warranties	Through warranty period and six additional months thereafter
12. Contracts	Through contract period and additional months thereafter
13. Work schedules	One calendar year
14. Departmental meeting minutes	Five years (minimum)
15. SOP review	Life of SOP
16. Fire drill	Life of Building
17. Purchase orders	Two calendar years
18. Documentation of purchases of CFC containing Freon and Freon which has been sent to recycle	Life of Building
19. Earthquake drills	Life of Building

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 46	3 ˚Æ˘#148
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES RECORD RETENTATION	By: Agustinus Agus Purwanto, SE MM

TOOL CHEST INVENTORY

DATE INSPECTED _____ INSPECTORS INITIALS _____

UPPER DRAWER 1

Hex Wrench Set – Standard
Hex Wrench Set - Metric
Thread Restorer

UPPER DRAWER 2

Chiesels & punches
10 Punches
8 Chiesels
2 Small files
1 Set Feeler Gages

UPPER DRAWER 3

53 Piece 1/4" Socket Set – Standard and Metric Ratchet, Breaker Bars, and Screwdriver

UPPER DRAWER 4

Key hole saws
Large Files
Torpedo Level
Aviation Snips
Wire Strippers

UPPER DRAWER 5

Ratchets Breaker Bars 1/2 & 3/8

UPPER DRAWER 6

Drill Bits
Flaring Tools
Wheel Puller
Spanner Wrenches
Pin Wrench

LOWER DRAWER 1

Open & Box Wrenches
29 pieces Metric & Standard
3 packs Ignition Wrenches
2 Standard
1 Metric

LOWER DRAWER 2

1 BX Cutter
1 set Hole Saw
Knockout Punch Set
1 Halogen Leak Detector
1 Flashlight
1 Gas Leak Detector
1 AMP Probe

LOWER DRAWER 3

5 Hammers
1 22 oz. Framing
2 Ball Peen 8 oz. Nylon
Hammer 12 oz. Claw
Hammer 16 oz.

LOWER DRAWER 4

Electric Staple Gun 1/2"
Electric Glue Gun
1 Box Staples 1/2"
12 Feet Chain
1 Magnet

LOWER DRAWER 5

1 set Welding Gages
1 set Welding Hoses
1 Turbo Torch with Hose
2 rolls Grit paper
1 Cutting Tip
2 rolls Solder
1 Ignition
1 Pack of Silver Solder

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 46	3˚Æˇ#149
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES RECORD RETENTATION	By: Agustinus Agus Purwanto, SE MM

ENGINEERING TOOL CAGE INVENTORY

TOOLS	QUANTITY	DATE INSPECTED				INSPECTOR INITIALS			
of AC Gauges	One Set								
Threading Dies	One Set								
Cordless Drill (Skill)	One								
Cordless Drill (Makita)	Two								
Power Drill (Skill)	One								
Saw (Skill)	One								
Gun	One								
Hack-saw	Two								
Saw (Disston)	One								
Saw (Skill)	One								
Wrench	One								
Pipe Wrench	One								
Pump	One								
Bolt Cutter	One								
Cable	One Set								
Tape	One								
Belt Sander	One								
Framing Square	one								
Water Pump	One								
(Milwaukee)	One								
Index	One								
Drain Cleaner	One								
CUTTER	One								
Drain Cleaner	One								
mm C Clamps	Six								
mm Clamps	Four								
	One								
Chain Saw	One								
Piece Tap & Die	One Set								
Drill	One								
portable	One								
loor Jack	One								
Hydraulic Jack	One								

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 46	3˚Æ˘#150
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES RECORD RETENTATION	By: Agustinus Agus Purwanto, SE MM

TOOL CAGE WALL INVENTORY

TOOLS	QUANTITY	DATE INSPECTED				INSPECTOR INITIALS			
Pipe Wrench	One								
Pipe Wrench	Three								
Pipe Wrench	Three								
Wrench	One								
Cutter	Two								
Drivers	One Set (3/16-1/2)								
	Two								
Crescent	One								
Square	One								
2'	One								
Sockets	Set (from 9mm-18mm Top row)								
Socket & Standard	Set (from 9mm-24mm & Universal Middle Row)								
Standard Socket	7/16 - 1 1/2								
	5/16 - 1 1/2								
Hammer	one								
	One								
Benders	Two								
Snake	one								
Screwdrivers	25								
Locks	Three								
Joint Pliers	One								
Screwdriver	One								
& Number Punches	Set (each)								

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 47	3˚Æˇ#151
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES TOOL INVENTORY CONTROL	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

The Engineering Manager shall develop a checklist for all tools within the Engineering Department's control. The list (see example) will be modified to cover the different shop design and requirements of the individual hotels. A quarterly audit will be conducted and missing or unserviceable tools noted and replaced immediately.

Although it is highly discouraged, it will infrequently become necessary to loan tools. A tool check-out form (example 2) will be used to verify usage and return. A reasonable time (maximum one hour) will be given for the person to use the tool. Under no circumstances will electronic test or diagnostic equipment be loaned. Guests who request the use of tools must be denied. Do the work for them as the liability factor is much lower and the CUSTOMER attitude will be evident.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 48	3 °Æ˘#152
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES VEHICLE MAINTENANCE	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

The Engineering Manager shall initiate and administrate the following procedures concerning vehicle maintenance. If the responsibility of all or some of the company vehicles rests within another department, the Engineering Manager will work with that department to ensure the vehicle is being maintained per the following criteria:

1. A black, 3-ring, loose-leaf binder will be purchased and placed in each vehicle. The company furnished General Manager's car shall be exempt from the trip log. (Binders will be 8 1/2 x 5 1/2).
2. Purchases for the vehicles gas, oil, antifreeze, washer fluid, etc., will be documented in the binder (example form furnished).
3. A trip log containing the following information will be completed for each trip (example form enclosed).
4. All vehicles will be serviced as needed daily.
5. A list of persons authorized to purchase gas and oil will be supplied to the service station by the controller. One service station for all gas and oil purchases is to be specified by the General Manager. It is suggested that this service station also be able to do maintenance and repairs.
6. Services to all vehicles will be documented in the 3-ring binder assigned to the vehicle. All services to the vehicles will have the prior approval of the Executive Committee member in charge of the department and will be in accordance with the manufacturer's recommendation and frequency.
7. The notebooks will be reviewed monthly for compliance of this policy. The Engineering Manager shall initial and date the form provided.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 48	3 °Æ˘ǂ153
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES VEHICLE MAINTENANCE	By: Agustinus Agus Purwanto, SE MM

MONTHLY REVIEW VEHICLE #_____

REVIEWER INITIALS	VEHICLE CONDITION	TRIP LOG	PURCHASE LOG	SERVICE LOG	DATE

PURCHASES VEHICLE #_____

ITEM	$ AMOUNT	DATE	QUANTITY	MILEAGE

V E	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 48	3 ˚Æ˘#154
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES VEHICLE MAINTENANCE	By: Agustinus Agus Purwanto, SE MM

HICLE #_____

DRIVER'S INITIALS	DATE	DESTINATION	TIME DEPART	TIME RETURN	BEGIN MILES	END MILES

SERVICES VEHICLE #_____

TYPE OF SERVICE	$ AMOUNT	MILEAGE

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 48	3˚Æˇ♯155
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES VEHICLE MAINTENANCE	By: Agustinus Agus Purwanto, SE MM

MONTHLY REVIEW VEHICLE #_____

REVIEWER INITIALS	VEHICLE CONDITION	TRIP LOG	PURCHASE LOG	SERVICE LOG	DATE

PURCHASES VEHICLE #_____

ITEM	$ AMOUNT	DATE	QUANTITY	MILEAGE

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 49	3 °Æ˘#156
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES ELECTRICAL LOCK OUT PROCEDURES	By: Agustinus Agus Purwanto, SE MM

POLICY:

In order to assure safety when working on electrical switchgear, mechanical equipment and ordinary circuitry prudent proven practices must be implemented and enforced.

PROCEDURE:

The Engineering Manager will secure needed devices to comply with the following procedures for electrical lock out. A written procedure pertaining to the use of the devices will be compiled and placed in the training manual. The following information will be used in compiling the written program.

1. Devices used for locking out electrical switchgear and knife blade type switches will be purchased for each engineer. Locks for each device will also be furnished. The locks will not be keyed alike to prevent anyone removing the lock other than the engineer to which it was assigned. The device will be similar to Grainger catalog number 10177.

2. If multiple engineers are working on a particular piece of equipment they will all affix their assigned lock on to the one locking device. This will prevent throwing the switch prematurely and possibly injuring someone still working on the equipment.

3. All breaker panels which are readily accessible to all employees or guests will be locked closed at all times. Exceptions to this standard would be electrical devices within the locked confines of the engineering spaces.

4. An engineer who has purposely tripped a circuit breaker(s) to repair or work on the circuitry will close and lock the breaker panel while making the repair. A note indicating the breaker tripped and the engineer responsible will be affixed to the outside of the breaker panel. This note will alert others of the repair and stop the re-energizing of a circuit before it injures the repairman.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 50	3 °Æ˘#157
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES EMERGENCY PREPAREDNESS	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

The Engineering Manager and Director of Security will coordinate development of a written loss prevention plan dealing with emergency preparedness. Due to the possible involvement of each department during an emergency situation, it is necessary for all employees to be familiar with their part in the procedures. The Executive Committee will be the governing body to ensure familiarity with the procedure.

The procedure shall include, but is not limited to:

1. Fire
2. Power failure
3. Bomb threat
4. Inclement weather
5. Tornado (where applicable)
6. Hurricane (where applicable)
7. Earthquake (where applicable)
8. Flooding
9. General charts and information
10. Civil unrest

The plan upon completion must conform to local state and federal jurisdiction and be signed for acceptance by the local governing authority.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 51	3 °Æ˘#158
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES LIFE SAFETY / OPERATION & TRAINING	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

The Engineering Manager will ensure compliance with all local codes concerning life safety tests, fire drills, evacuation procedures, emergency preparedness and training for each above item.

A minimum of two fire drills will be conducted annually regardless of a less frequent requirement by local authorities. The drill will be documented (see form attached) and corrective action on shortcomings taken immediately. The local fire department authorities will be asked to view at least one drill during a 12-month period.

The Engineering Manager or designate will attend each new employee orientation and discuss the proper operation of fire extinguishers, safety features of the building, the employees participation in loss prevention and field questions concerning these topics.

The Engineering Manager shall once a year give a class to (but not limited to) all managers on proper fire prevention/fighting techniques. The local fire departments will be most willing to assist in this area. A hands-on class whereby each person must use an extinguisher to extinguish a small controlled test fire is suggested.

The Engineering Manager shall ensure his department's readiness in an emergency situation by:

1. Discussing their assignments at department meetings (see ENG-SOP-10, paragraph C).
2. Ensuring all are familiar with the respective training manuals.
3. Encouraging suggestions on improving reaction time and procedures.
4. Complying with insurance carriers request/ suggestions on fire safety (fire coverage).
5. Ensure all life safety equipment are present and properly maintained.
6. All engineering personnel will be CPR certified.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 52	3 °Æ˘#159
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES EMERGENCY TELEPHONE LIST	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

The Engineering Manager will develop and maintain two emergency phone lists. The first list will be for engineering use only and shall be posted in a conspicuous location within the shop. This list shall contain but not be limited to:

1. Engineering Manager's home phone
2. Person in charge of engineering in the absence of the Engineering Manager
3. Electric utilities (24-hour emergency)
4. Fuel utilities (24-hour emergency)
5. Steam utilities (24-hour emergency)
6. Water (24-hour emergency)
7. Sanitary waste (emergency service)
8. Elevator (emergency service)
9. All engineering staff home phone numbers

The second list will be for general hotel use and will be posted in PBX on their bulletin board. This list shall include but not be limited to:

1. Corporate Hot Line
2. Emergency Public Service
   a. Fire
   b. Police
   c. Ambulance
   d. Paramedic
   e. Bomb Threat
   f. Poison Control Center
3. Executive Committee (See PBX)
4. Engineering manager (See PBX)
5. Departmental heads (See PBX)

Items 3, 4, and 5 are usually on a confidential nature and should be access controlled. A secured Rolodex is suggested with access only by PBX.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 53	3 °Æ˘#160
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES MOBILE COMMUNICATIONS	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

The Engineering Manager shall ensure effective utilization of mobile communication for the engineering staff and critical managerial personnel (MOD). At least four handheld, two-way (walkie talkie) radios must be maintained for critical hotel personnel. These two-way radios must be of the quick recharge type and have a watt capacity sufficient to service the entire physical property (5 watt suggested) . The brand of radio shall be serviceable at a local repair facility. Loaner radios from this repair facility should be available while repairs are made.

Critical personnel for two-way radio use shall be:

1. Shift engineer on duty
2. PBX/Engineering Manager*
3. Security**
4. Manager on Duty

* If a base station is used, the two way radio assigned to PBX is not necessary and should be carried by the Engineering Manager.

* * Hotels with a full time Director of Security and a full time 24-hour staff should have their own communication procedures. If this is the case, the hotel's two way radios will have an A and B channel, thereby allowing security the privacy of channel B and the monitoring capabilities of channel A.

Hotels with a lesser security staff will utilize one channel radios. All critical personnel will then be on one frequency.

NOTE: Many restrictions apply to two-way communication. These restrictions vary between states and municipalities. The Engineering Manager shall ensure the proper license, permit, or any other documents are secured prior to utilizing this type of communication.

Pagers come in a myriad of styles, types and capabilities. While a good form of communication, these items should not (unless temporarily used) be carried by critical personnel. Most pagers are carried by non-critical, but essential

personnel in other departments. It is the Engineering Manager's responsibility to ensure these pagers are repaired and maintained in a timely manner.

A code system needs to be established at each property (see sample as recommendation).

ENGINEERING CODES

#10 TOILET PROBLEM
#11 SHOWER VALVE
#12 TELEPHONE PROBLEM
#13 TV PROBLEM
#14 DOOR LOCK PROBLEM
#15 LEAK
#16 TOO COLD
#17 TOO HOT
#18 LIGHT PROBLEM
#19 FLOODING
#20 VANITY LIGHT BULB OUT
#21 TUB NEEDS CAULKING
#22 KEYS CUT
#23 NO WATER PRESSURE
#24 TORN WALLPAPER

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 54	3 °Æ˘#162
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES EMERGENCY VALVE CHART	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

The Engineering Manager shall ensure an emergency valve chart (s) is posted in a conspicuous area within the shop. Each valve designated for main or zone control will be numbered and its location and area served noted. Valves on the emergency chart will include but not be limited to:

1. Gas main and zones
2. Cold domestic water main and zones
3. Heated domestic water main and zones
4. Heated domestic water return main and zones
5. Chilled water supply and return main and zones
6. Heating water supply and return main and zones
7. Steam supply and return main and zones
8. Fire suppression water (sprinklers) main and zones
9. Chiller condenser water supply and return main
10. Fire department pump truck connections

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 55	3 °Æ˘#163
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES VALVE CHART	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

The Engineering Manager shall ensure a listing of numbered valves with their location and area served is posted within the shop area. The list shall include but not be limited to:

1. Domestic hot water riser supply
2. Domestic hot water riser return
3. Domestic cold water supply
4. Chilled water riser supply
5. Chilled water riser supply
6. Heating water riser supply
7. Heating water riser return
8. Steam supply and return (if applicable)
9. Outlet controls (if not on risers)
    a. Lounge
    b. Restaurant
    c. Health Facilities

The valves referred to in this section are isolation valves. They mainly control risers which have multiple devices or risers on the stack. Valves which control a single device such as a sink or fountain are not included.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 56	3 °Æ˘♯164
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES MAJOR EQUIPMENT & AREAS SERVED	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

A set of documents (prints) which show the major equipment areas served will be maintained in the Engineering shop. Major equipment will be defined as but not limited to:

1. Air handling units (major)
2. Zone electrical switchgear
3. Boilers (heating) (multiple units)
4. Domestic Boilers (multiple units)
5. Emergency Power Grid
    a. Stair-well pressurization
    b. Fire pump
    c. Automatic transfer switch
    d. Fire control center
    e. Standby generator

The documents (prints) which are used will be marked in highlighter colors. These colors will show the different systems which may overlap on one print thus making it easier to follow. These documents will be, if stored with the other building prints, singled out in a fashion which will denote them as special.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 57	3 °Æ˘#165
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES ENERGY MANAGEMENT COMPUTER	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

All requests for purchase of energy management computers, systems or programs must have Corporate approval. Buildings which currently have these systems in place must use them to the fullest and be able to prove their usefulness during the SOP audit.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 58	3 °Æ˘#166
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES ENERGY MANAGEMENT HOUSEKEEPING	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

The Engineering Manager and Executive Housekeeper will develop a manual system of energy management for the Housekeeping Department. The system must be customized for each property but will include the following considerations.

Guestrooms

1. Guestroom thermostat setting - winter
    a. Unoccupied - off - 65 degrees
    b. Occupied guest absent on 65 degrees
    c. Occupied guest present on leave alone
2. Guestroom thermostat setting - summer
    a. Unoccupied - off - 75 degrees
    b. Occupied guest absent - on - 75 degrees
    c. Occupied guest present - on - leave alone
3. Sheer Drapes
    a. Unoccupied - closed
    b. Occupied guest absent - closed
    c. Occupied quest present - leave alone
4. Black out drapes
    a. Unoccupied - leave a 12" maximum opening to allow light infiltration.
    b. Occupied guest absent - close, but allow a 12" maximum opening for light infiltration.
    c. Occupied guest present - leave alone

5. Blinds

    a. Unoccupied - blinds will be set in a "down" view to 3/4 of its maximum closed setting.

    b. Occupied guest absent - blinds will be set in a "down" view to 3/4 of its maximum closed setting.

    c. Occupied guest present - leave alone

6. TV/Radio

    Regardless of occupied status the housekeeping will not use the TV. The radio may be used while servicing the room. However, the selector switch must be returned to the TV mode upon departure.

7. Lighting

    a. Unoccupied - all lights off

    b. Occupied guest absent all lights off

    c. Occupied guest present leave alone

    d. Turndown service - will leave 2 bed light on

8. Repairs

    A quick check for proper operation of the following items with work orders on problems written.

    a. Both tub/shower (leaks dripping)

    b. Vanity/wash basin (leaks dripping)

    c. Commode (leaks dripping, constant running/filling of water closet)

    d. Lighting - burned out bulbs or damaged lights

PUBLIC SPACE

1. Public Restrooms

   A quick check for proper operation of the following items with work orders on problems written.

   a. Dripping faucets
   b. Dripping/leaking commodes
   c. Constant running water closets
   d. Improperly working electric hand dryers
   e. Burnt out or flickering lighting
   f. Temperature control (too hot, too cold)

PUBLIC AREAS

A quick check for proper operation of items with work orders on problems written.

1. Water fountains (consistently running)
2. Electronic doors
3. Lighting
4. Elevator (operation)
5. Temperature control
6. Meeting rooms (see sample)

SERVICE AREAS, OFFICES, BACK OF THE HOUSE

A quick check for proper operation of items with work orders on problems written.

1. Employee restrooms (drips/leaks, water closets running consistently).
2. Corridor lighting

3. Temperature control
4. Equipment left on (coffee pots)

Properties with computerized energy management should consider its capabilities prior to writing a manual program.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 59	3 °Æ˘#170
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES ENERGY MANAGEMENT KITCHEN	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

The Engineering Manager and Executive Chef will develop and implement a manual procedure in writing for energy management in the kitchen food preparation area. The system must be customized for each property but will include the following considerations.

1. Exhaust hoods, ducts and motor cleaned biannual (outside contractor).
2. All ovens, flat top ranges, spider top ranges, food warmers, deep fryers, steam tables, steam cabinets and plate warmers should be off when not in use or between meal serving periods.
3. Dripping or leaking faucets to be written up on a work request.
4. Dish machine temperatures to be at manufacturers or health department specification.
5. Leaking valves and drains on dish machine to be written up on a work request.
6. Refrigeration door gaskets and automatic door closers to be in good working condition.
7. Frayed or damaged cords on equipment to be placed out of order until repaired.
8. Lights which are flickering or burnt out to be replaced immediately.
9. Lights in refrigeration equipment will be in accordance to manufacturers specification (lowest wattage possible).
10. Ovens to be checked monthly for temperature settings and calibrated if necessary.
11. Pilots to be functioning and in good working order.
12. All gas nozzles to be clean and allowing free flow of gas

The procedure should reflect a conscientious effort from the kitchen staff to control energy waste.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 60	3 °Æ˘#171
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES ENERGY BILL RECONCILIATION	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

The Engineering Manager will secure from each utility the billing calculation procedure and the rate category for which the property is being charged (see enclosure 1 electrical). A calculation worksheet will be developed (see enclosure 2) from the information supplied by the utility. An actual billing (see enclosure 3) will be used in conjunction with the calculation worksheet to develop ease of reference when reconciling future billings.

Any other pertinent information such as surcharges, demand factors, or property utility assessments should be noted also (see enclosure 4).

The purpose of the reconciliation is to accomplish the following:

1. Ensure only the correct billing is paid.
2. Make the Engineering Manager familiar with all utilities and rates.
3. When an Engineering Manager leaves or is transferred he will have an easy to understand procedure for his replacement.
4. Make the Engineering Manager aware of hidden extras such as four month averaging for set peak demand (enclosure 4), or pipe line carrier charges for gas distribution.
5. Meet annually with utility company to discuss rates.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 60	3 °Æ˘#172
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES ENERGY BILL RECONCILIATION	By: Agustinus Agus Purwanto, SE MM

BILLING CALCULATION

In order to ensure the proper charge for electrical service, the following procedure should be used to calculate/check the power invoice.

1. Ensure the account number is correct.
2. Check the rate code (2GLAE).
3. Calculate the kilowatt hours used, (see calculation A.) and the dollar amount billed for the used kilowatt hours (see calculation B.).
4. Calculate the energy cost adjustment, (see calculation C.). NOTE: This adjustment is for the network use of the Wolfe Creek Nuclear plant and can be an addition or subtraction to the bill. A (CR) following the dollar factor or the negative (-) symbol behind the calculated dollar amount indicates the amount is to be deducted from the kilowatt hour dollar amount.
5. Calculate the demand charge (see calculation D.). Use the billing demand amount for this calculation. The billing demand is determined by the peak demand established from building usage. The peak demand amount is then multiplied by 70% to give the billing demand charge.
6. Calculate the Franchise Tax. (See calculation E.).
7. Calculate Local Sales Tax. (See calculation F.). This tax is 76% exempt.
8. Add totals from calculations B, C, D, E and F. The total should be within 5 cents of amount due.

a.
68293 Present
–67160 Previous
1133 Total
x 300 Meter Constant
339900 KWH Used

b. 731 x 120 hours = 877720 KWH

(1) Maximum first step = 600 KWH at .0758 =	454.80
(2) 731 x 180 = 131,580 KWH at .0649 =	8539.54
(3) 731 x 180 = 131,580 KWH at .0573 =	7539.53
(4) 70740 KWH x .04 =	2829.60
TOTAL BILLING KWH	19363.47
Energy Cost Adjustment	– 173.35
TOTAL	19190.12

339900	KWH Used
– 6000	1st step maximum
333900	
– 131580	2nd step
202320	
– 131580	3rd step
70740	4th step

c..000510	Factor
x 339900	KWH Used
173.35	Adjustment

The (CR) or negative (-) symbol means to deduct from total billing KWH (19363.47). this must be done before computing taxes.

d. Demand 731

(1) 60 KW of billing demand x 7.43 =	445.80
(2) 340 KW of billing demand x 5.55 =	1887.00
(3) 331 KW of billing demand x 4.48 =	1482.88
	3815.68

DEMAND CHARGE

731 Billing Demand

–60 1st Step
671

–340 2nd Step
331 3rd Step

e. 19190.13 KWH
+ 3815.69 Demand
23005.81 Total Demand & KWH
x 3% City Tax Rate
690.17 Franchise Tax

f. 23005.81 Total Demand & KWH
+ 690.17 Franchise Tax
23695.98
x 4.5% Local Tax Rate
1066.32 Local Tax
x 76% Exemption
810.40 Adjusted Exemption

1066.32 Local Tax
–810.40 Adjusted Exemption
255.92 Local Sales Tax

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 61	3 °Æ˘#175
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES ENERGY AUDIT	By: Agustinus Agus Purwanto, SE MM

PROCEDURE

Team leaders will be the Chief Engineer and Executive Housekeeper. The General Manager will review and submit to corporate for discussion and approval.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 61	3 °Æ˘#176
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES ENERGY AUDIT	By: Agustinus Agus Purwanto, SE MM

ENERGY AUDIT

	AUDIT QUESTIONS	**Meet Standards? Yes**	**No**	**Follow Up Actions**
A.	**Turn it Off When Not in Use**			
1.	Turn off al non-emergency lighting in unoccupied spaces.			
2.	Turn off heat-producing kitchen/laundry equipment when not in use.			
3.	Set back thermostats in unoccupied spaces.			
4.	Shut down escalators at night.			
5.	Turn off an elevator at low occupancy times.			
6.	Turn off retail display and F&B signage during late night hours.			
B.	**Use Free Energy**			
7.	Use outside air (airside economizer) for free cooling			
C.	**General Maintenance**			
8.	Deliver guest room hot water at 120° F			
9.	Audit Energy Management System to check set points and hours of operation for each piece of equipment and space			
10.	Clean all equipment components: filters, strainers, traps, coils, condenser and evaporator tubes, boiler tubes, cooling towers, etc. to assure most efficient operation.			
11.	Assure adequate insulation on all HVA equipment, ductwork and piping, including roof-mounted components.			

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 61	3 °Æ˘#177
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES ENERGY AUDIT	By: Agustinus Agus Purwanto, SE MM

	Audit Questions	Meet Standards? Yes	No	Follow Up Actions
12.	Survey and assure proper sealing of HVAC equipment.			
13.	Adjust drive mechanisms and motors for preferred tension, alignment, wear to assure best power transmission, etc.			
14.	Lubricate all components of all equipment as recommended by manufacturers to preclude excess friction and loss of power.			
15.	Remove any obstructions at air intake or delivery grills.			
16.	Clean lint from laundry equipment filters regularly.			
17.	Check calibration on all controls including valve and damper actuators, thermostats, sensors, etc. and adjust or replace device as required.			
18.	Check air and water flows, rpms. and motor amp draw on all fans, pumps, chillers, etc. and adjust to maximum.			
19.	Check operation of control motors, valves, and dampers: adjust, repair or replace device as required,			
20.	Check operation of all airside economizer cycles and adjust/repair as required.			
21.	Insure a complete chemical treatment program is in effect on chilled water, condenser water and heating hot water systems.			
22.	Check that kitchen and laundry equipment venting is fully functional and optimized.			
23.	Assure proper operation of dock fly fans.			
24.	Operate all water storage at all times: don't allow stagnating.			

25.	Survey for and repair all leaks.			
	AUDIT QUESTIONS	**Meet Standards? Yes**	**No**	**FOLLOWUP ACTIONS**
26.	Treat all water and sanitize tanks after maintenance.			
27.	Remove any cross-connection between domestic and non-domestic water systems.			
28.	Adjust heating and cooling water temperature set points to align with demand. Use a reset schedule to avoid affecting comfort.			
D.	**Parking Lot & Landscaping**			
29.	Calibrate timers to assure minimum "on" time for landscaping and parking lot lighting.			
30.	Turn off, reduce or dim patio, terrace and balcony lighting wherever possible without compromising safety.			
31.	Shut down water features at midnight if equipment permits.			
32.	Manage irrigation systems.			
33.	Water plants, not buildings or pavement.			
34.	Water only when needed.			
35.	Restrict lawn/bed watering to mornings.			
36.	Assure good soil management.			
37.	Clean outdoor paving by sweeping with a broom rather than a hose.			
E.	**Building Envelope**			
The building envelope is the first line of defense against energy waste. Well-maintained roof and wall systems, and adequate thermal insulation, are essential for an energy efficient structure. A well sealed building, under positive pressure, will prevent the infiltration of untempered air that can destabilize HVAC systems.				

	Audit Questions	**Meet Standards?** **Yes**	**No**	**Follow Up Actions**
38.	Close draperies to reduce heat loss or gain through radiation, convection or air leaks.			
39.	Open draperies in heating season on sunny days to take advantage of "free" heat and light.			
40.	Close draperies in heating season on dark, cold days.			
41.	Maintain door weather striping and window gaskets to preclude air and water leaks.			
42.	Maintain all building sealants, assure appropriate locations and condition preclude air and water leaks.			
43.	Maintain good condition of wall surfaces to preclude air and water leaks.			
44.	Maintain roofs free of debris, plants and ding water – reduce failures.			
45.	Survey roof to assure good maintenance and timely repairs.			
46.	Survey for adequate DRY building insulation.			
F. Meeting Rooms				
The hotel meeting rooms represent the largest portion of lighting and air-conditioning load outside of the guestrooms. These spaces are generally ***not*** occupied all day, everyday. Constant vigilance is needed to prevent waste or energy on unoccupied spaces.				
47.	Turn off lights in unoccupied rooms.			
48.	Lock unoccupied rooms.			
49.	Establish and ***maintain*** temperature set points for unoccupied meeting rooms.			
50.	Do not under-load a meeting room			
51.	Whenever possible, schedule function setup and breakdown back-to-back.			

52.	Use a lower lighting level for set up/break down of meeting rooms. Use fluorescent only.			
	Audit Questions	**Meet Standards? Yes**	**No**	**Follow Up Actions**
53.	Open drapes for "free" setup light.			
54.	Close draperies when room is not in use.			
55.	Close the ice bin when not in use.			
56.	Plug in cooking and warming equipment only when needed.			
57.	Turn catering equipment off when not in use.			
G.	**Food & Beverage Spaces and Kitchen**			
The percentage of a hotel's energy that is used by the food and beverage department can range from 10% for a prototype Select Service property, to 20% for a larger downtown property, to 40% for a convention/resort property. Energy is often the highest departmental cost in the entire hotel. Proper associate training and behavior will achieve the bulk of the potential energy savings in a food and beverage operation.				
58.	Turn off the lights when an area is not being used.			
59.	Turn off all lights after hours.			
60.	Set thermostats back after hours, maintain building positive pressure.			
61.	Turn off equipment power and water when not in use.			
62.	Hotbox and refrigerator doors should be closed at all times.			
63.	Survey for and repair all leaks: Maintain faucets leak-free.			
64.	Ensure proper and accurate temperature settings for stoves and ovens.			

65.	Defrost food under refrigeration – not water.			
	Audit Questions	**Meet Standards? Yes**	**No**	**Follow Up Actions**
66.	Clean hood filters regularly			
67.	Contract for quarterly hood cleaning.			
68.	Run only full loads in dishwasher.			
69.	Insure dish machine heating elements are off when they are not in use.			
70.	Ensure proper and accurate temperature settings for each dishwasher cycle.			
71.	Assure proper operation of walk-in and reach-in refrigerator door closers.			
72.	Reduce frequency of walk-in and reach-in door opening/closing.			
73.	Use rack and stack policy for dishwasher use.			
H.	**Public Toilet Rooms**			
74.	Survey for and repair all leaks.			
75.	Don't over supply water.			
76.	Maintain toilet ball cocks and flappers.			
I.	**Laundry**			
77.	Consider reduction of laundry schedule to 6 days or less.			
78.	Consider operation of laundry at non-peak utility hours – avoid operation between 11:00 a.m. and 6:00 p.m.			

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 61	3 °Æ˘#182
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES ENERGY AUDIT	By: Agustinus Agus Purwanto, SE MM

	Audit Questions	Meet Standards? Yes	No	Follow Up Actions
79.	Weigh all loads to maximum efficiency			
80.	Complete linen logs daily.			
81.	Turn air conditioning off after hours.			
82.	Turn lights off after hours.			
83.	Calibrate washer water levels.			
84.	Set dryer times properly for fabrics in each load.			
85.	Calibrate washer temperature controls.			
86.	Leak check the compressed air system periodically.			
87.	Turn off compressor and air dryer when laundry is not in operation.			
88.	Maximize tunnel washer system presses to optimize de-watering.			
J.	**Recreation Facilities**			
89.	Assure proper water restriction in locker room showerheads, faucets, and toilets.			
90.	Keep interior & exterior swimming pools at 82°F maximum.			
91.	Turn hydrotherapy pool on only when in use.			
92.	Maintain hydrotherapy pool at 104°F maximum.			
93.	Consider shut-down of pool when weather conditions inhibit use.			
	Audit Questions	**Meet Standards? Yes**	**No**	**Follow Up Actions**

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 61	3 °Æ˘#183
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES ENERGY AUDIT	By: Agustinus Agus Purwanto, SE MM

	Audit Questions	Meet Standard?		Folow up Actios
94.	Maintain saunas and steam rooms at minimum functional temperature			
95.	Charge golf carts only during off-peak hours.			
96	**Guestrooms**			
97	**Warning: Initiate a towel and linen reuse program ONLY where required by government agencies having jurisdiction AND by approval of the Regional SVP.**			
98.	Assure minimum heat/AC in unoccupied rooms, within proper range for efficient recovery and building health.			
99.	Leave minimum lights on at turndown.			
100.	Maintain color corrected fluorescent lighting in all fixtures.			
101	Set draperies to provide maximum view AND maximum protection from heat loss and gain.			
102	Keep room HVAC system clean to improve unit efficiency.			
103	Replace room HVAC system filters per maintenance schedules.			
104	Maintain positive pressure in rooms at all times.			
105	Survey for and repair all leaks.			
106	Maintain toilet ball cocks and flappers.			
107	“Tune” toilets so the trap level reaches full at the same time the tank is full.			

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 61	3 ˚Æ˘#184
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES ENERGY AUDIT	By: Agustinus Agus Purwanto, SE MM

	Audit Questions	Meet Standards? Yes	No	Follow Up Actions
108.	Do not over supply water temperature.			
109.	Check mini-bar defrost cycle effectiveness during room PM			
110.	Keep mini-bar condensers free of dust and well ventilated.			
111.	Close balcony/patio doors while cleaning exterior floors.			
112.	Keep hair dryer fan intake filter free of lint.			
113.	Defrost in-room refrigerators weekly.			
114.	Shut down office equipment at the end of the day or when not in use, to reduce energy consumption and heat load.			
115.	Set BOH temperatures to 70°F/21°C in winter and to 75°F/24°C in summer.			
116.	Set temperatures in guest occupied space to =/-78°F (summer), =/-68°F (winter), IF the system can recover to 74°F (summer), 70°F (winter) within a 30 minute period, on demand.			
117.	Control interior humidity to reduce AC load.			
118.	Reduce wattage of or remove unnecessary light bulbs. Maintain required lighting levels.			

119. Balance supply and exhaust air to assure positive pressure in all spaces except poolrooms and trash rooms, which must be under slight negative pressure.

	Audit Questions	Meet Standards? Yes	No	Follow Up Actions
M.	**Improve Efficiencies of Existing Heating Water System**			
120.	Assure sufficient ventilation in boiler, pool equipment, and other rooms with heating equipment, to maximize combustion efficiency.			
121.	Set power burner boilers burner controls up to minimize or eliminate cycling.			
122.	Clean soot, scale, etc. from tubes and firewalls.			
123.	Check tempering valve systems for calibration: do not allow domestic hot water temperatures to exceed design temperatures.			
124.	Schedule boiler lowdown on an as-required basis.			
125.	Check for insulation or recirculation system deficiencies if supply water temperature (at the boiler) exceeds delivered temperature (at the most remote faucet) by more than 5°F.			
126.	For efficient burning and SAFETY assure that all rooms containing combustion-fueled equipment (including guestrooms with fireplaces) are under positive pressure.			

127.	After performing tune-up on boilers measure efficiency and consider replacement of any that cannot achieve better than 80%.			
N.	**Improve Efficiencies of Existing Chilled Water System**			
128.	Keep Chiller condenser tubes clean.			
129.	Install an energy control system on chiller(s) to assure maximum efficiency.			
130.	Install variable speed drives on the secondary chilled water pumps.			
131.	Install sub-meter on cooling tower for sewer credit.			
132.	Maintain condenser water temperature as low as manufacturer supports.			
O.	**Improve Efficiencies of Existing General Systems**			
	Audit Questions	**Meet Standards? Yes**	**No**	**Follow Up Actions**
133.	Use temperature reset on heating and cooling water.			
134.	Insure that supply and return fans operate in conjunction with each other.			
135.	Balance air and water flows to match conditions and demand.			

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 61	3 ˚Æ˘#187
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES ENERGY AUDIT	By: Agustinus Agus Purwanto, SE MM

	Audit Questions	Meet Standard?		Folow up Actios
136.	Set domestic water pump systems to assure adequate pressure (35-40 psi) to the highest and/or most remote point in the system. Inspect staged pumps for efficiency.			
137.	Divert all loads possible to off-peak times			
138	Check pneumatic control systems for proper calibration and operation.			
P.	**Use Most Efficient New Equipment**			
139	Analyze equipment for efficiency upgrades, and remember that the entire system impacts energy savings.			
140	Consider all facets of all alternatives			
141	Obtain accurate information on actual consumption, systems, operations and conditions of existing equipment.			
142	Compare to efficiency of newer equipment and evaluate ROI potential.			
143	Properly size equipment to minimize in/off cycling.			

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 62	3 °Æ˘#188
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES ENERGY CHART ABD GRAPHS	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

The Engineering Manager will develop an individual line graph (see enclosure) for each utility showing actual budget and previous year cost.

1. Electricity
2. Fuel (natural gas)
3. Water
4. Waste water
5. Purchased steam
6. Purchased chilled water

The actual line will be in red pencil. The budget line will be in blue pencil. The previous year will be in black pencil.

The bottom half of the graph will show by month the budget, actual and variance for cost. Totals at year end will be added when completed.

The second part of the bottom graph will contain energy consumption of the current year converted to a common denominator of MMBTU. The conversion factors to be used are:

1. Electricity (KWH x .0034 - MMBTU)
2. Fuel (CU.FT. - 1000 = MMBTU) or (MCF x 1.0 - MMBTU)
3. Water (CU.FT. x 7.48 - Gallons)
4. Waste Water (CU.FT. x 7.48 - Gallons)
5. Purchased Steam (Pounds - 1000 = MMBTU)
6. Purchased Chilled Water (Tons/HR x .012 = MMBTU)

A black 8 1/2 x 11 inch, three-ring binder with indexing dividers will be used to contain the following information on energy.

1. Indexing by utility
2. Copies of current year utility bills
3. Charts and graphs per utility
4. Procedure by utility for bill calculation
5. Bill reconciliation worksheet by month
6. Energy conservation

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 63	3 °Æ˘#189
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES ENERGY COMMITTEE	By: Agustinus Agus Purwanto, SE MM

PROCEDURE:

The Engineering Manager will chair a quarterly Energy Committee. The committee will consist of but not be limited to:

1. Engineering Manager
2. Executive Housekeeper
3. Rooms Division Manager/Front Office Manager
4. Food and Beverage Manager
5. Banquet Manager (not applicable clubs)
6. Chef (not applicable clubs)
7. CUSTOMER Committee Representative

Substitution on a permanent basis for the above individuals is not allowed.

The meeting will be well structured and project the ideal of energy conservation. A written agenda will be followed and will include the following:

1. Review of utility bills
   a. Electricity
   b. Gas
   c. Water
2. Problem area identification
3. Assignments to committee members of problem areas. They will formulate ideas and give written recommendations.
4. Policy review of existing energy conservation measures.
5. Idea recommendations on improving utility costs which in turn improved bottom line profit.

The committee will work together to solve conservation problems. It will not be a time for pointing and accusing wasteful practices, but will through cooperative efforts identify and solve these problem areas.

This committee may be combined with the Environmental Committee if deemed appropriate at the hotel property.

PROCEDURE:

Conditioning - Ventilation equipment:

- Changing and cleaning air condition filters or fan coil unit filters.
- Cleaning air-conditioning unit coils on both interior and exterior sides.
- Performing thorough maintenance on cooling towers.
- Cleaning and straightening the fins of the condensing coils.
- Repairing weather stripping on doors and windows.
- Repair all duct work with leaks and/or insulation deficits.
- Cleaning all air conditioner unit drains off proper drainage.
- Cleaning exhaust fans and motors.

Kitchen Equipment:

- Check all refrigeration compressors and coils for cleanliness.
- Repair refrigeration door moldings for proper fit and tightness.
- Clean kitchen exhaust fans and motors.
- Defrost all refrigerators.

Laundry Equipment:

- Drain and flush the hot water heaters
- Inspect and clean gas burners of all gas fired equipment
- Clean and replace filters in the laundry room ventilating units

- Check insulation on hot water storage tanks, pipes and steam lines. Control temperatures based on your properties equipment set up.
- Inspect water supply for leaks.

Hot Water System:

- Repair all leaking faucets in guest rooms, laundry, kitchen and public areas.
- Repair hot water piping insulation.
- If gas or oil-fired or water heaters are used, check and adjust combustion and clean the burners.
- Lower water temperature whenever possible. Inspect and test hot water temperature controls for proper operations.
- Check swimming pool and its circulating pumps for leaks.
- Clean coils on ice makers.

General(some items require capital approval for funds):

- Rent rooms wisely, e.g., compress the house into wings or floors.
- Install "displacement devices" in all toilet tanks to conserve water
- Install low-flow shower heads.
- Install low-flow aerators on all vanity and kitchen sink faucets.
- Repair all plumbing leaks
- Lawn sprinkler system that is tied into a City Water System: Install a separate meter for the sprinkler system. (Eliminates sewage cost.)
- Ask your local Electric Company about rebate programs.
- Make sure your utility company to be sure the property is on the best available Utility Rate Schedule. Ask the utility company how the peak demand charge for your property is calculated. How and when during the year is the peak demand set for your hotel.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 64	3 °Æ˘#192
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES GENERL ENERGY CONSERVATION PROGRAM	By: Agustinus Agus Purwanto, SE MM

- Replace incandescent bulbs with warm deluxe mercury, multi-vapor, or fluorescent bulbs, where practical. (Achieves Wattage reduction)
- Control lights, T.V. and HVAC units for checkouts/stay overs.
- Close down buildings or complete floors during slack periods.
- Implement a controlled lighting plan to turn off lights when rooms and corridors are unused.
- Clean dryer lint screens and cylinders as needed.
- Wash and Dry only full loads of laundry
- Thermostat settings should be set correctly. Summer cooling at 75 degrees F and winter heating at 65 degrees F.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 65	3 °Æ˘#193
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES SPRINKLERS	By: Agustinus Agus Purwanto, SE MM

PROCEDURES

- Sprinklers must be tested annually by an outside vendor or according to the brand standards.
- Self-testing should be done monthly, quarterly according to the attached procedures and documented.
- If your property has a fire pump, this needs to be self tested weekly utilizing the attached procedures. The fire pump must be tested by an outside vendor once annually or according to the brand standards.
- Engineering should check fire/sprinkler control panel at the beginning of each shift for any malfunction and document.
- ON daily walk through, engineering should do a visual check of sprinkler heads.
- Laundry room sprinklers heads should be checked and cleaned of lint and debris a minimum of once a week.
- Kitchen sprinkler heads need to be checked once a week for build up of grease and dirt particles.
- Pool equipment rooms and rooms where chemicals are stored should have sprinkler heads that are wax coated to prevent rust and corrosion.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 65	3 °Æ˘#194
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES SPRINKLERS	By: Agustinus Agus Purwanto, SE MM

MONTHLY FIRE PREVENTION INSPECTION

Valve Inspections (inspect locked valves at least once a month.)

All inside and outside valves controlling sprinklers or fire protection water supplies are listed below. Check the

condition of the valve as found. Physically "try" gate valves including non-indicating and indicator post-gate valves.

Do not report a valve as open unless you have personally tried it. FM-approved PIVA's (post indicator valve

assemblies) should be visually checked at close range.

Unit: Address:

NUMBER	VALVE LOCATION	AREA CONTROLLED	OPEN	SHUT LOCKED

The factory Mutual valve-shut tag system is used to guard against delayed reopening valves. Factory Mutual Red Tags should be used every time a sprinkler control valve is closed.

Were any valves operated since the last inspection? YES___ NO___

Were Factory Mutual Red Tags used? YES___ NO___

Was the valve reopened fully and a drain test made before the valve was relocked and resealed? YES___ NO___

Check all extinguishers and list any missing or needing service. YES___ NO___

Housekeeping GOOD_____ NEED ATTENTION_____

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 65	3 °Æ˘#195
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES SPRINKLERS	By: Agustinus Agus Purwanto, SE MM

QUARTERLY TESTS OF SPRINKLER FLOW AND TAMPER SWITCHES

Property: _____ Date:_____

Address: _____ Inspection Made by: _____

_____

This form is to be used to document quarterly sprinkler system tests. It is to be kept on file as a record of the tests which

Demonstrate to local fire officials that the code requirements for testing and maintenance of these systems are being met.

When testing the sprinkler control valves and tamper switches, it is necessary to remove locks, chains, or seals. Upon completion of the test, relock or reseal the valves in the open position. If tamper, flow or pressure switches failed to respond during the test, note date of repairs and person doing repairs under “Remarks”.

LOCATION	TYPE OF DEVICE Control Valve, Tamper Switch, Flow Switch, Pressure Switch	TESTED Satisfactory Unsatisfactory	REMARKS

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 65	3 °Æ˘#196
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES SPRINKLERS	By: Agustinus Agus Purwanto, SE MM

LOCATION	TYPE OF DEVICE Control Valve, Tamper Switch, Flow Switch, Pressure Switch	TESTED Satisfactory Unsatisfactory	REMARKS

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 65	3 °Æ˘#197
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES SPRINKLERS	By: Agustinus Agus Purwanto, SE MM

DIESEL FIRE PUMP

WEEKLY TEST PROCEDURES

1. Assure fire pump and jockey pump are in automatic mode.
2. Check engine fluids (oil & water/antifreeze). Add if low.
3. Bleed system pressure until jockey pump starts. Allow pump to run until pressure is Satisfied and shuts pump off. If pump is on timer, you may shut pump off when the pressure is satisfied.
4. Turn the jockey pump control "Off".
5. Bleed system pressure until fire pump starts. Run pump approximately thirty minutes which allows the engine and components to reach operating temperature. VERIFY THE FOLLOWING:
   A. Engine automatic cooling loop opens and flows adequate stream to prevent diesel engine and pump casing from overheating.
   B. Packing gland leakage is adequate to keep glands from overheating.
   C. Bearing housings are not excessively hot.
   D. No unusual vibration or noise levels.
   E. No fuel or water leaks on or around the engine.
6. Stop fire pump after the recommended run time. Note: most diesel pumps must be stopped manually even if started on the automatic mode.
7. Return jockey pump control to "AUTOMATIC" position.
8. Record check list items.

	HOTEL ENGINEERING STANDARD OPERATING PROCEDURES	ENG – SOP – 65	3 °Æ˘#198
		Effective: Revised :	
	AREA Hotel Engineering	PROCEDURES SPRINKLERS	By: Agustinus Agus Purwanto, SE MM

VALVE LOCATION AND IDENTIFICATION

BUILDING	FLOOR	VALVE LOCATION	VALVE FUNCTION	VALVE CODE & NO.