

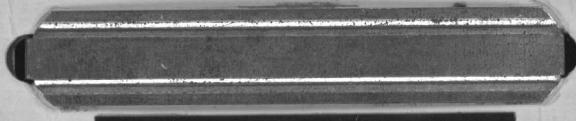
BLD. 20

FROM —

20

Howe

2-9-93



BLD. 20

BOMB THREAT AND
FIRE DRILL



020920

UNITED STATES MARINE CORPS
Base Maintenance Division
Marine Corps Base
Camp Lejeune, North Carolina 28542-5000

MO 5500.1
MAIN/RES/rsm
02 Apr 1985

MAINTENANCE ORDER 5500.1

From: Base Maintenance Officer
To: Distribution List

Subj: Bomb Threat Response Plan

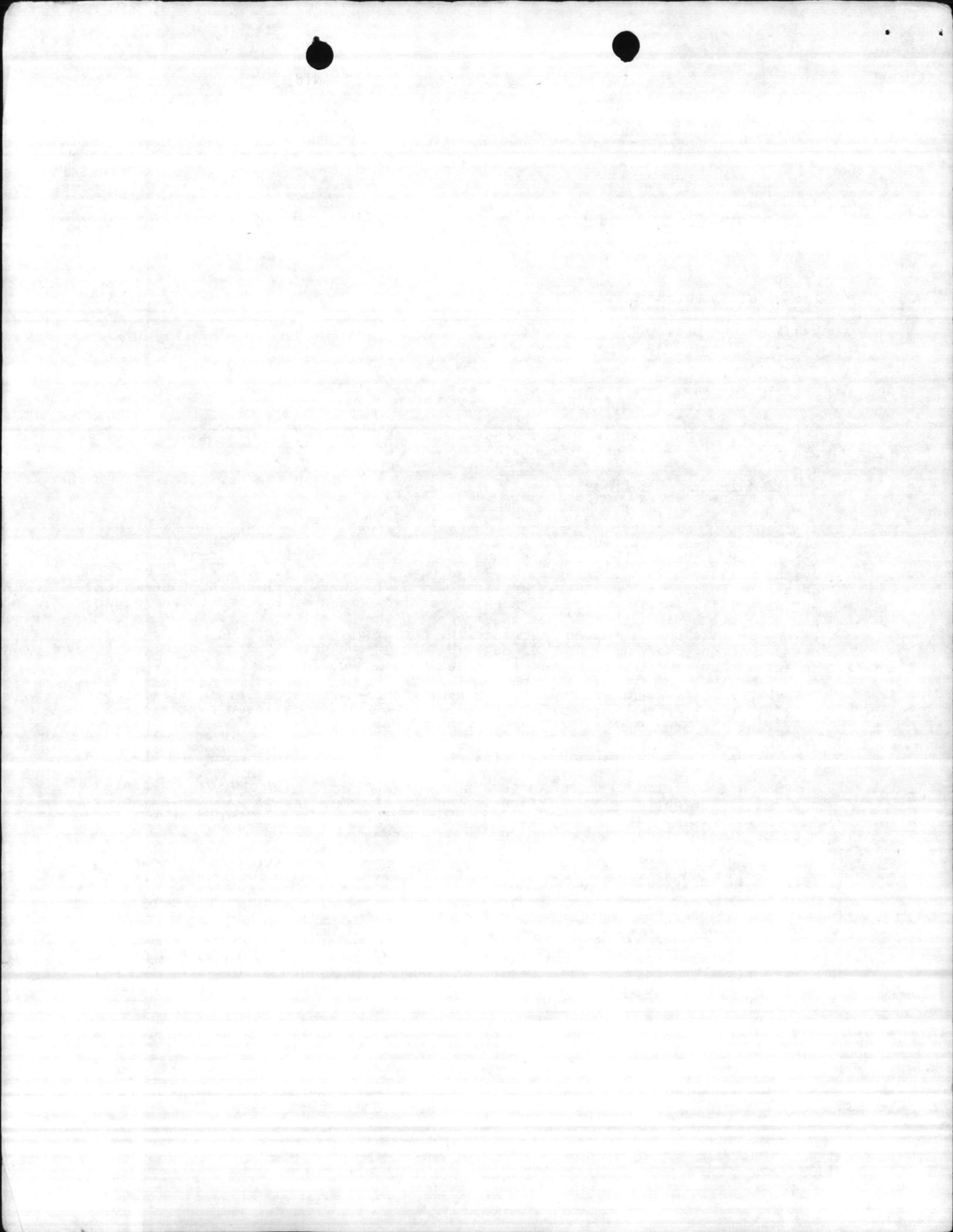
Ref: (a) BO 5500.3

Encl: (1) Bomb Threat Checklist
(2) Bomb Threat Report

1. Purpose. To establish procedures within the Division for handling bomb threats and amplify the instructions contained in the reference.
2. Background. Nationwide increase in the number of bomb threats necessitates that employees be prepared to respond to such threats.
3. General. Experience has shown that normally bomb threats will be received at either the specific building or location or to an authoritative agency. Although the Base Maintenance Division does not have a high visibility for such threats as a whole, utility plants/facilities may have some vulnerability. Therefore, certain pertinent information may be ascertained which will help in locating the explosive and materially assist in the apprehension of the person making the threat and/or planting the device. Employees who may be in the position to receive such a threat, should be instructed to reduce the conversation to writing as soon as possible. Enclosures (1) and (2) contain information which the recipient of a bomb threat should try to obtain before the caller hangs up.
4. Telephone Procedures. Do not hang up the phone when a caller terminates the call. The procedures outlined in the enclosures will be followed by the person receiving the bomb threat.
5. Evacuation of Buildings/Facilities
 - a. The decision to evacuate personnel will rest with the senior occupant present in the building at the time of the threat. If time is limited, evacuation of the facility should be implemented immediately. Personnel should be evacuated to a point at least 200 meters from the threat area.
 - b. Depending on the circumstances, action should be taken to shut down equipment; secure power, etc.
 - c. Time permitting, vehicles and movable equipment should be moved away from the threatened facility.
 - d. The Director, Utilities Branch will be responsible for issuing separate instructions regarding the evacuation of manned plants when such evacuation may cause damage to equipment or otherwise result in violation of law, contamination, etc.
6. Applicability. The provisions of this Order are applicable to all personnel and activities within the Base Maintenance Division upon receipt.


H. L. COTTRELL

DISTRIBUTION: A



BOMB RESPONSE PLAN - OUTLYING PLANTS

1. If you receive a BOMB THREAT, complete bomb threat checklist attached.
2. Ask questions through item (f). DO NOT HANG PHONE UP. LEAVE OFF HOOK.
3. Leave plant operating but secure chlorine cylinders at Cl₂ tank.
4. Take bomb threat checklist and go to secondary phone. Call Base Operator Extension 1113 or 1115. Report threat and phone number with receiver left off.
5. Call Leader at Bldg. 670. Report information on checklist.
6. Stand by at safe distance at least 200 meters or 640 feet to provide keys, assistance, etc. Have bomb threat checklist available for appropriate personnel.

SAFEGUARD LIST.

LEADERS - BLDG. 670

1. After receiving call from outlying plant complete items 4, 5, 6, 7, 8, and 10 of bomb threat checklist.

Note: Record time on item (5) but telephone off hook applies to outlying plants phone.

Note: Item 9 will be completed by supervisory personnel.

2. Log appropriate information concerning bomb threat.
3. If radio communication available, stand by base station and maintain contact with operator.

BOMB THREAT CHECKLIST

1. DO NOT . . DO NOT HANG UP THE TELEPHONE UNLESS ABSOLUTELY NECESSARY.

2. Questions to ask: Exact words of the conversation.

a. Who is this? _____

b. When will bomb explode? _____

c. Where is bomb located? (Building number, inside, outside, etc.)

d. What does bomb look like? _____

e. What kind of bomb is it? _____

f. Why did you plant the bomb? _____

3. Go, or send someone, to another telephone and call the Base Operator (Ext 1113, 1115, ~~1115~~), report the bomb threat and the telephone number of the phone that you left off the receiver. Extension 2080

4. Report the bomb threat to the Provost Marshal's Office, 2555/2455, from the second phone.

5. DO NOT HANG UP THE TELEPHONE

a. Time called received: _____

b. Time caller hung up: _____

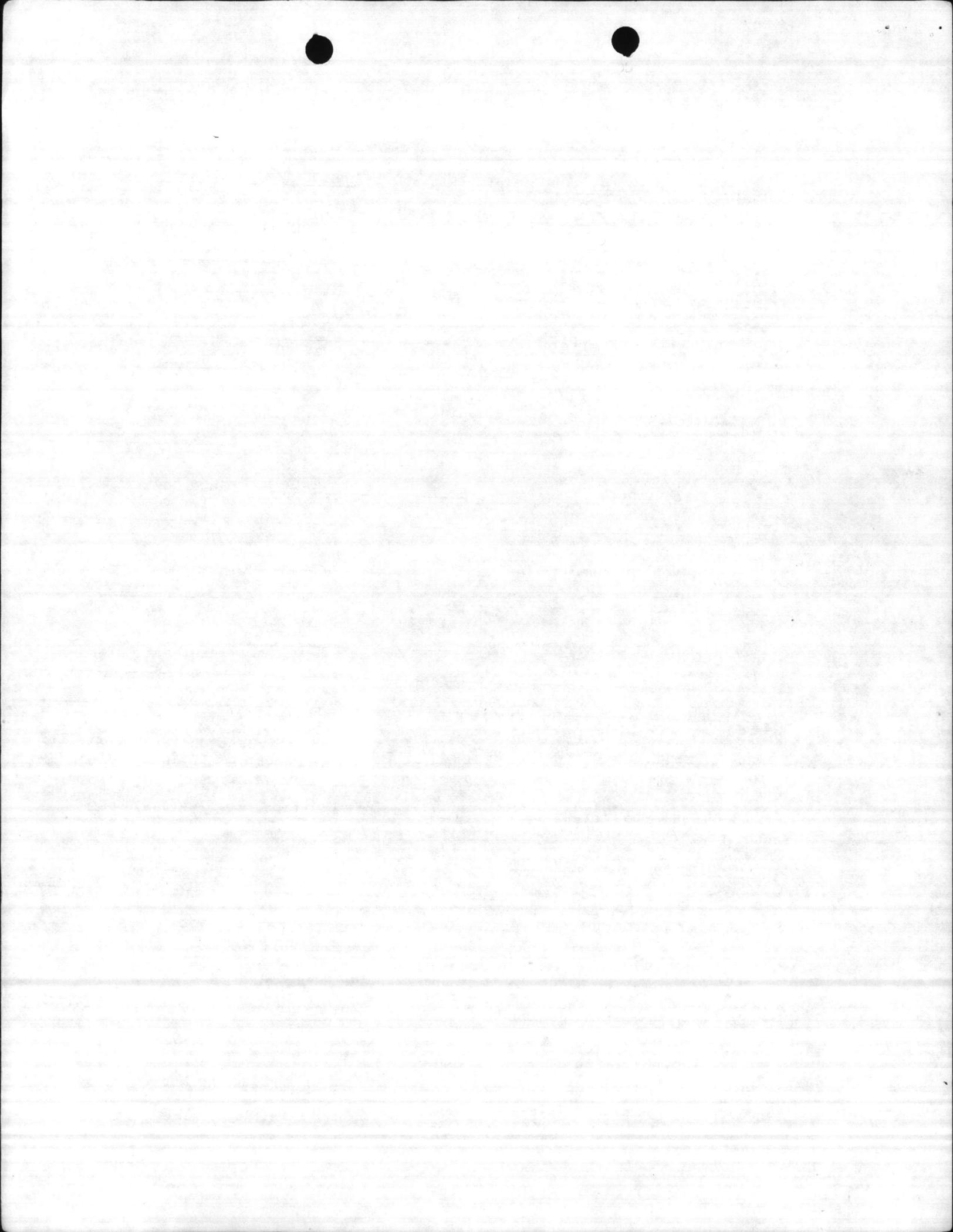
6. Notify key personnel (Supervisor, Branch Director, etc).

7. Notify the Assistant Base Maintenance Officer/Base Maintenance Officer.

8. If immediate action is required - evacuate the building.

9. Start recall roster of personnel intimately familiar with the building to assist in the search of the bomb (Clerks, Shop Heads, etc.).

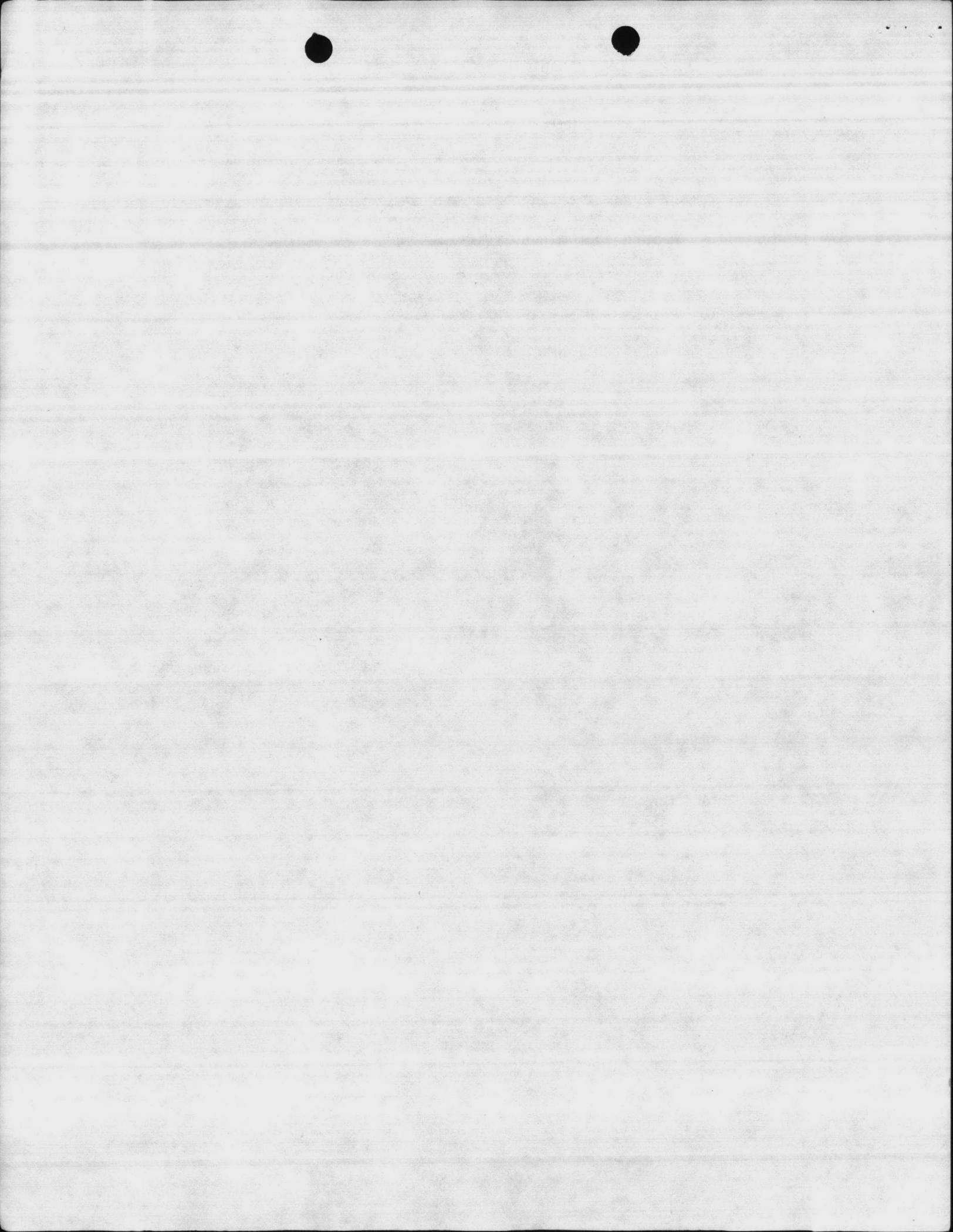
10. Assign personnel to stand by with keys to assist in opening locked doors as requested by the search team.



CONTAMINANT THREAT PLAN - OUTLYING PLANTS

1. If you receive a CONTAMINANT THREAT, complete checklist, enclosure (1).
2. Ask questions through item (e). DO NOT HANG PHONE UP. LEAVE OFF HOOK.
3. Take contaminant threat checklist and go to secondary phone and call Base Operator Extension 1113 or 1115. Report contaminant threat and phone number with receiver off.
4. Call Leader on duty at Bldg. 670 - relay information on checklist.
5. SECURE PUMPING EQUIPMENT AND PLANT IN THE FOLLOWING SEQUENCE.
 - a. CUT OFF VALVES TO ELEVATED TANKS. SECURE SO WATER CANNOT LEAVE TANK.
 - b. CUT OFF HIGH LIFT PUMPS.
 - c. SECURE TREATMENT PROCESS.
6. Leaders will complete items 4, 5, 6, 7, and 8 of checklist. Insure that you relay information to appropriate personnel of areas that have been secured, etc.
7. Log all appropriate information.
8. Maintain contact with personnel via radio communication.
9. Stand-by to assist operator or send well man if available to assist operator at affected plant.

NOTE: Items 3 and 4 will have to be completed very quickly to preclude contaminant entering distribution system.



CONTAMINANT THREAT CHECKLIST

1. DO NOT . . . DO NOT HANG UP THE TELEPHONE UNLESS ABSOLUTELY NECESSARY.

2. Questions to ask: Exact words of the conversation.

a. Who is this? _____

b. Where is contaminant located? _____

c. What chemical is it? _____

d. When did you put contaminant into system? _____

e. Why did you induce contaminant into system? _____

3. Go, or send someone, to another telephone and call the Base Operator (Ext 1113, 1115) report the contaminant threat and the telephone number of the phone that you left off the receiver. Extension _____

4. Report the contaminant threat to the Provost Marshal's Office, 2555/2455, from the second phone.

5. DO NOT HANG UP THE TELEPHONE

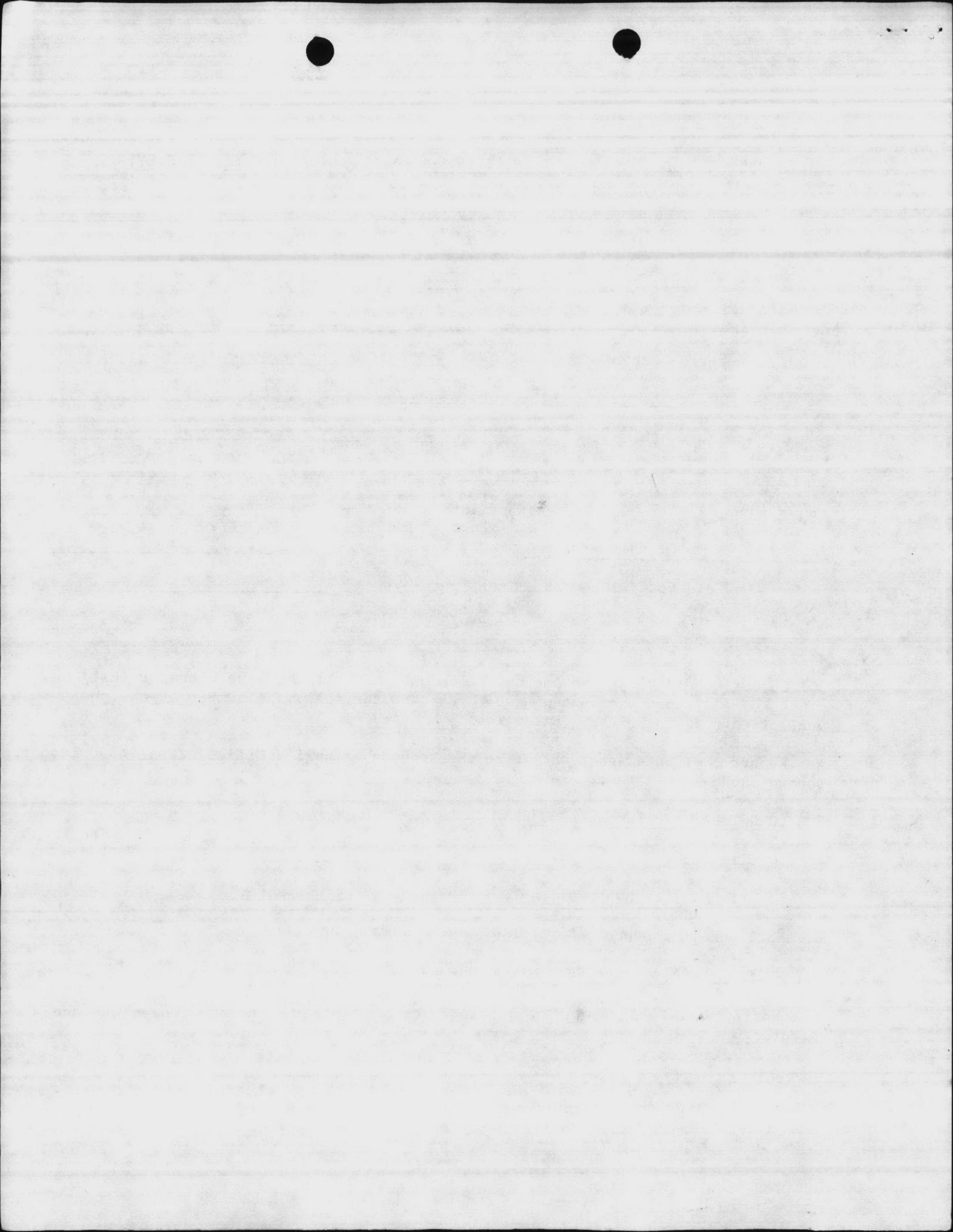
a. Time call received: _____

b. Time caller hung up: _____

6. Notify key personnel (Supervisor, Branch Director, etc).

7. Notify the Assistant Base Maintenance Officer/Base Maintenance Officer.

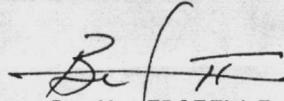
8. Notify Fire Department, Steam Generation and Sewage Plant of problem and areas secured.



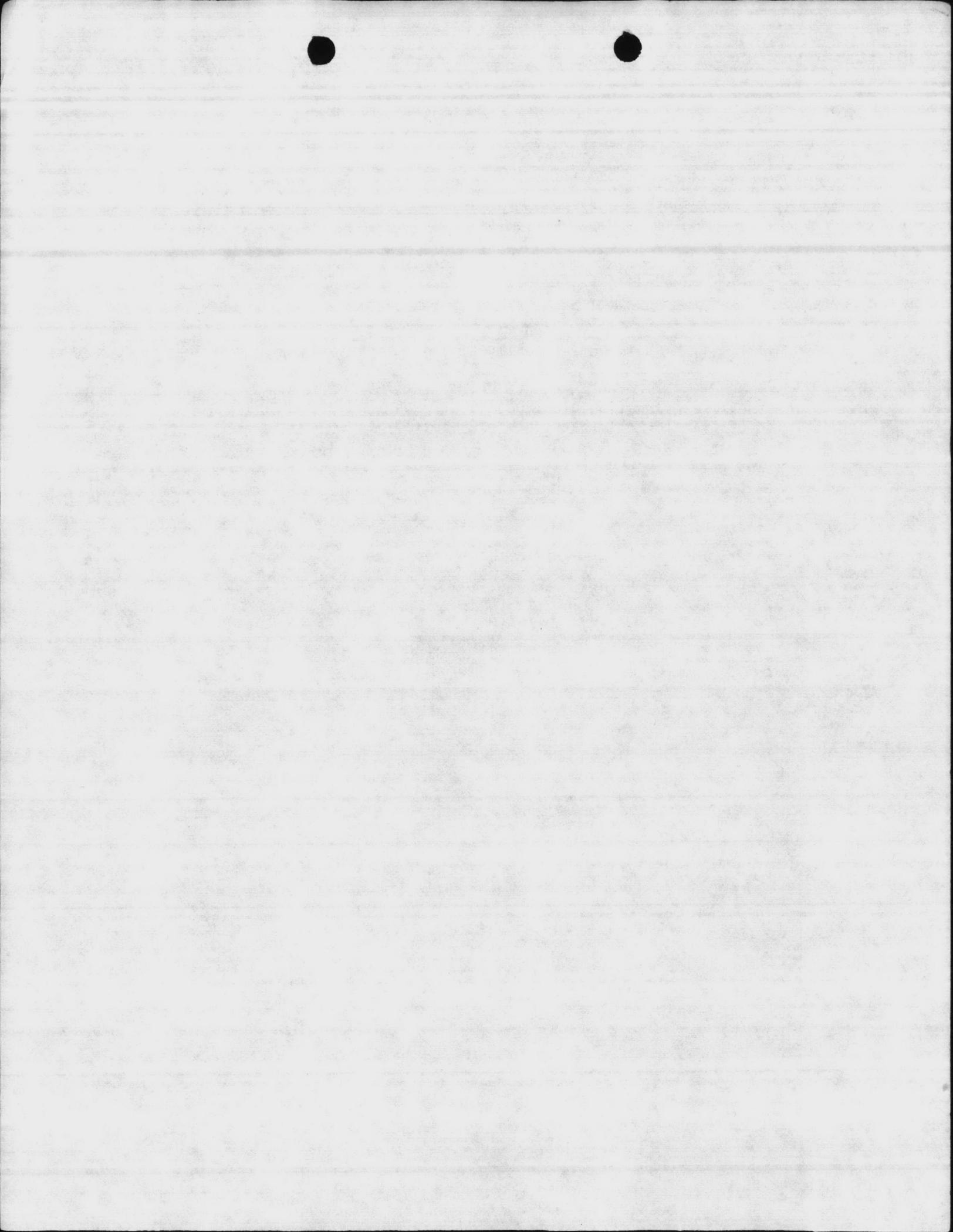
DATE: LEADERS (Bldg. 670)
OPERATORS (MCAS and 20)
FROM: Utilities Systems General Foreman
TO:

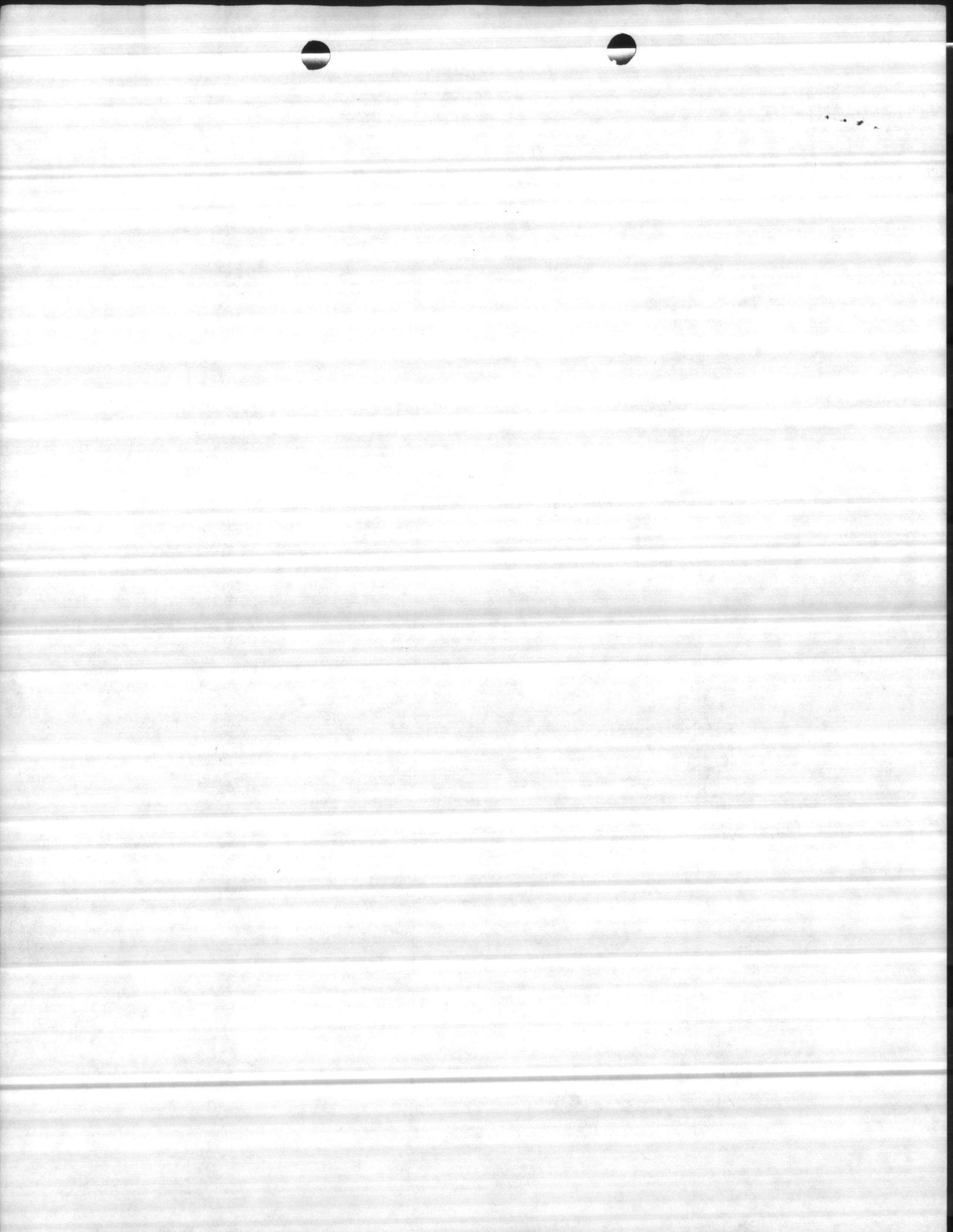
SUBJ: FIRE DRILLS

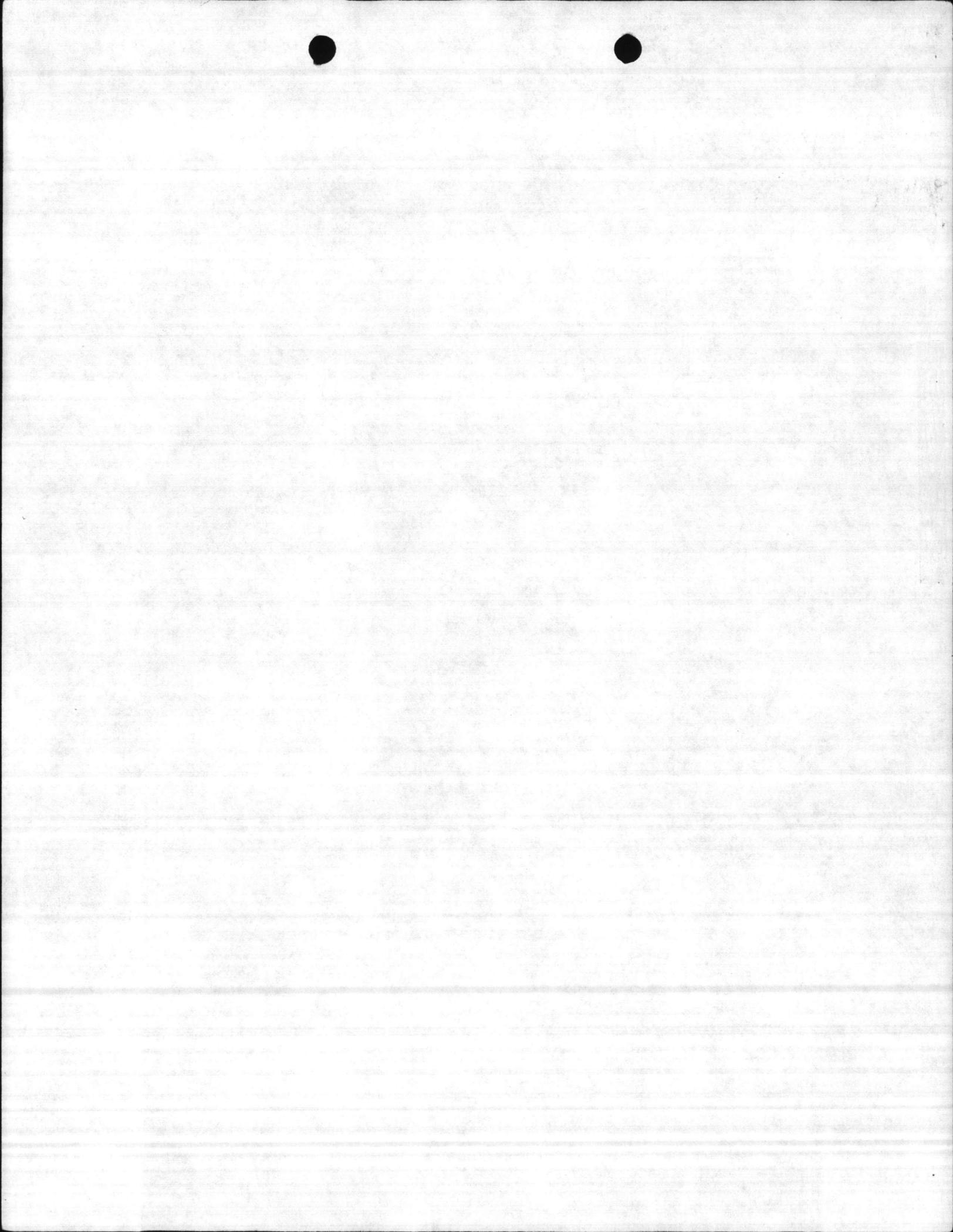
1. Fire drill will be held semi-annually at these locations and a record will be kept of each drill.
2. Follow the fire evacuation plant posted at each plant. Make sure all personnel stay up wind of transformers that contain P.C.B..

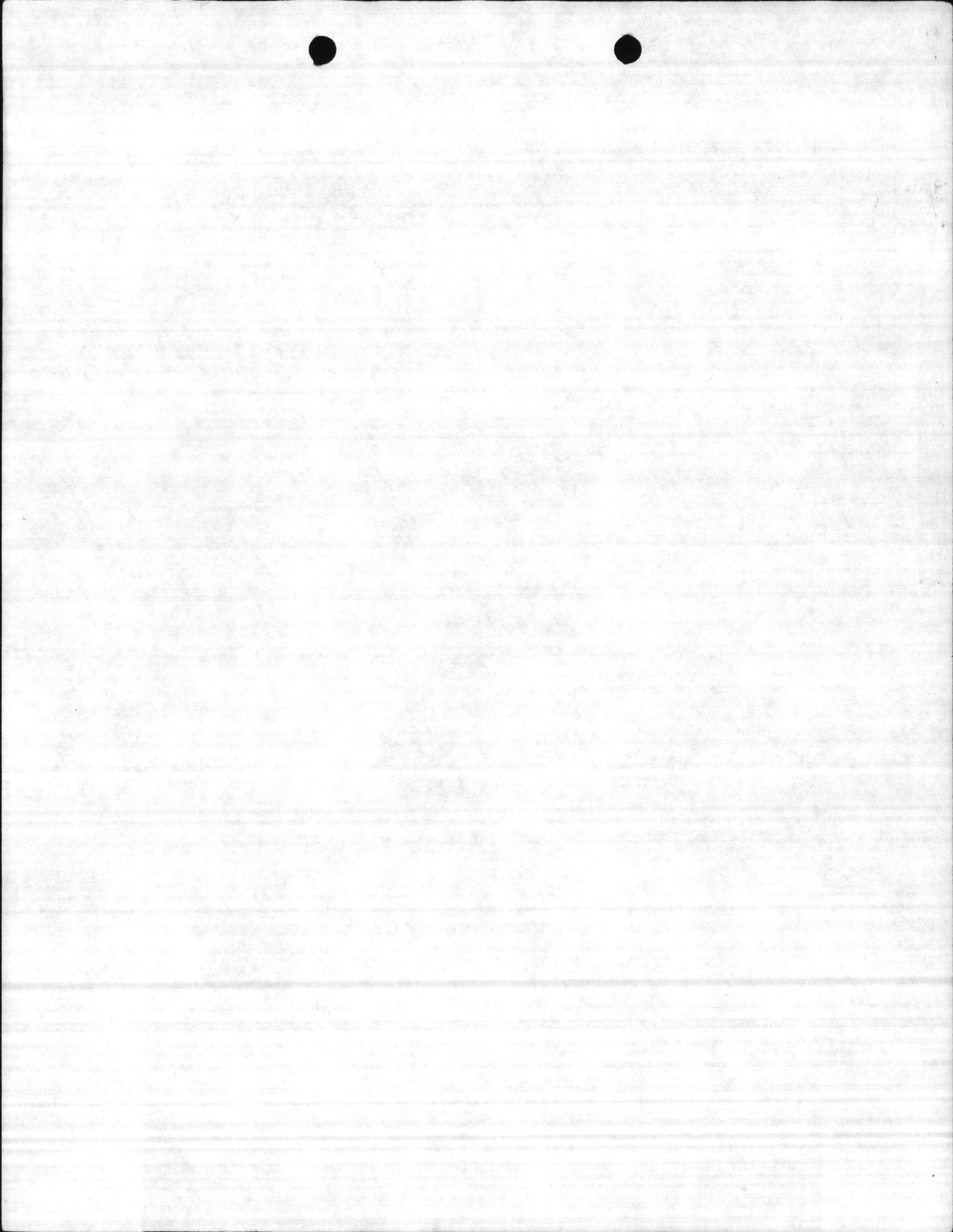


B. M. FRAZELLE, II









Memorandum

DATE: 24 September 1985

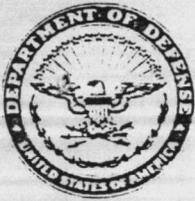
FROM: Foreman, Water Treatment

TO: All Water Treatment Plant Personnel

SUBJ: Chlorine Gas Mask; use of

1. New Wilson respirators have been issued to all water treatment plants replacing the old canister types. The respirators will be used when changing chlorine cylinders and will be on the employee's face in working order whenever chlorine is changed.
2. If while changing chlorine a leak develops or any other time a leak in chlorine is detected the self contained breathing apparatus (Scott or Survivair) will be utilized to shut off chlorine, repair, etc.
3. These directives are for your protection. The new Wilson respirator is only good up to 10 p.p.m. chlorine and will not sustain life in a heavily concentrated chlorine environment. When a leak develops there is no way to determine what concentration chlorine is present so it is imperative that you wear the self contained breathing apparatus.
4. The Wilson respirator will only be used for changing chlorine. These directives will be strictly adhered to.


BYRON M. FRAZELLE



UNITED STATES MARINE CORPS

Base Maintenance Division
Marine Corps Base
Camp Lejeune, North Carolina 28542

Foreman Shop 83

IN REPLY REFER TO
MAIN/RES/jik
5100/431
OCT 19 1983

From: Base Maintenance Officer
To: All Supervisors

Subj: Personnel Protective Equipment; non-utilization of

Ref: (a) MO 5100.1B

1. It is being brought to my attention that personnel protective equipment is not being utilized by employees when engaged in work requiring its use. In several instances this has resulted in lost time injuries at considerable expense to the government.
2. It is my intention to enforce the Base Maintenance policy set forth in the reference and as supervisors, I recommend you ensure compliance with both your responsibilities and the safety standards outlined in the order.
3. Effective immediately appropriate disciplinary action will be recommended for any employee or supervisor when there is an apparent disregard of either the compliance or enforcement of safety practices or procedures.

J. T. Marshall
J. T. MARSHALL

Handwritten signature or scribble in the bottom right corner.

STANDARD OPERATING PROCEDURES

FOR

WATER TREATMENT

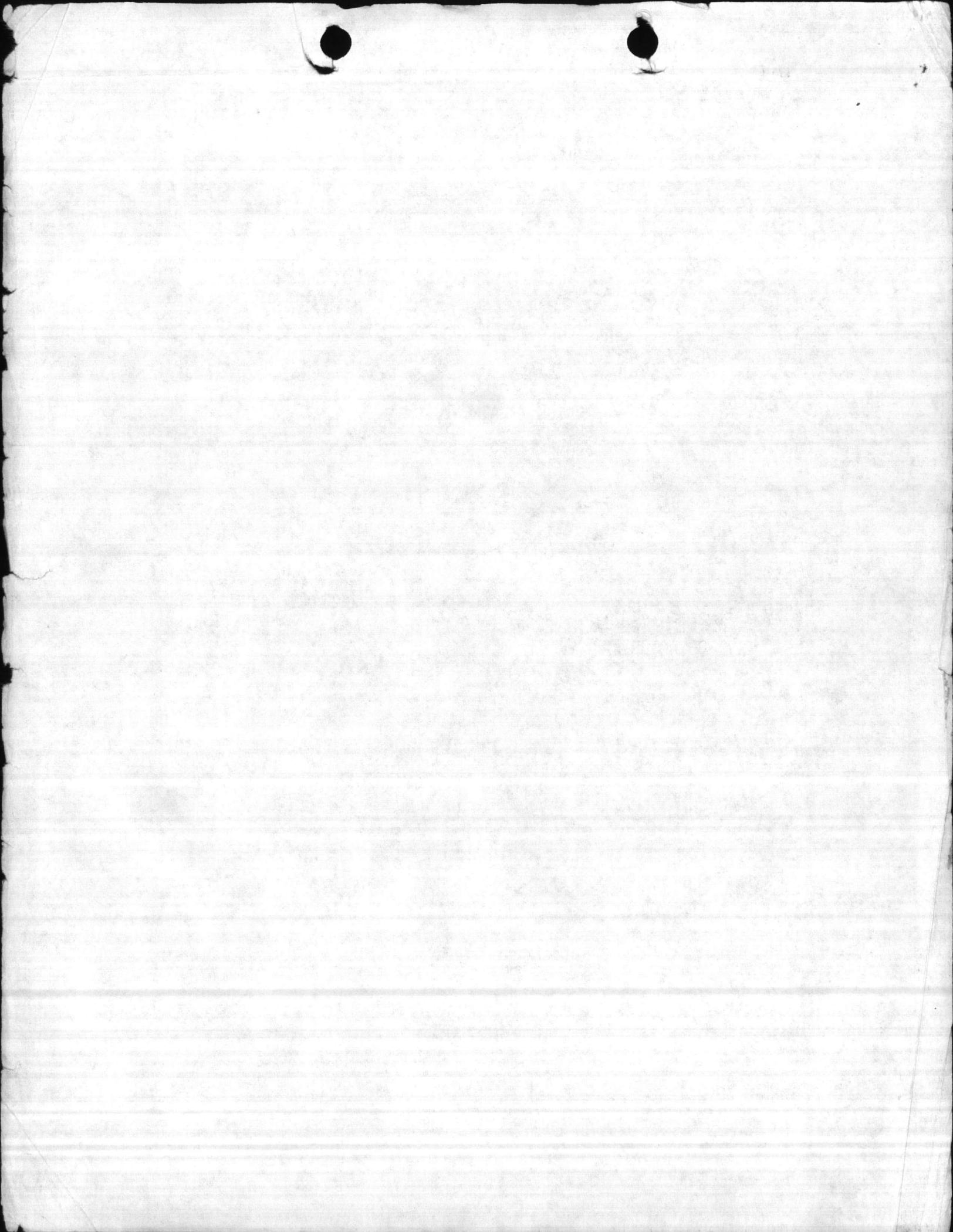
JUNE 1987

S. L. Miller

SUBMITTED BY: S.L. MILLER
WATER TREATMENT PLANT
OPERATOR FOREMAN

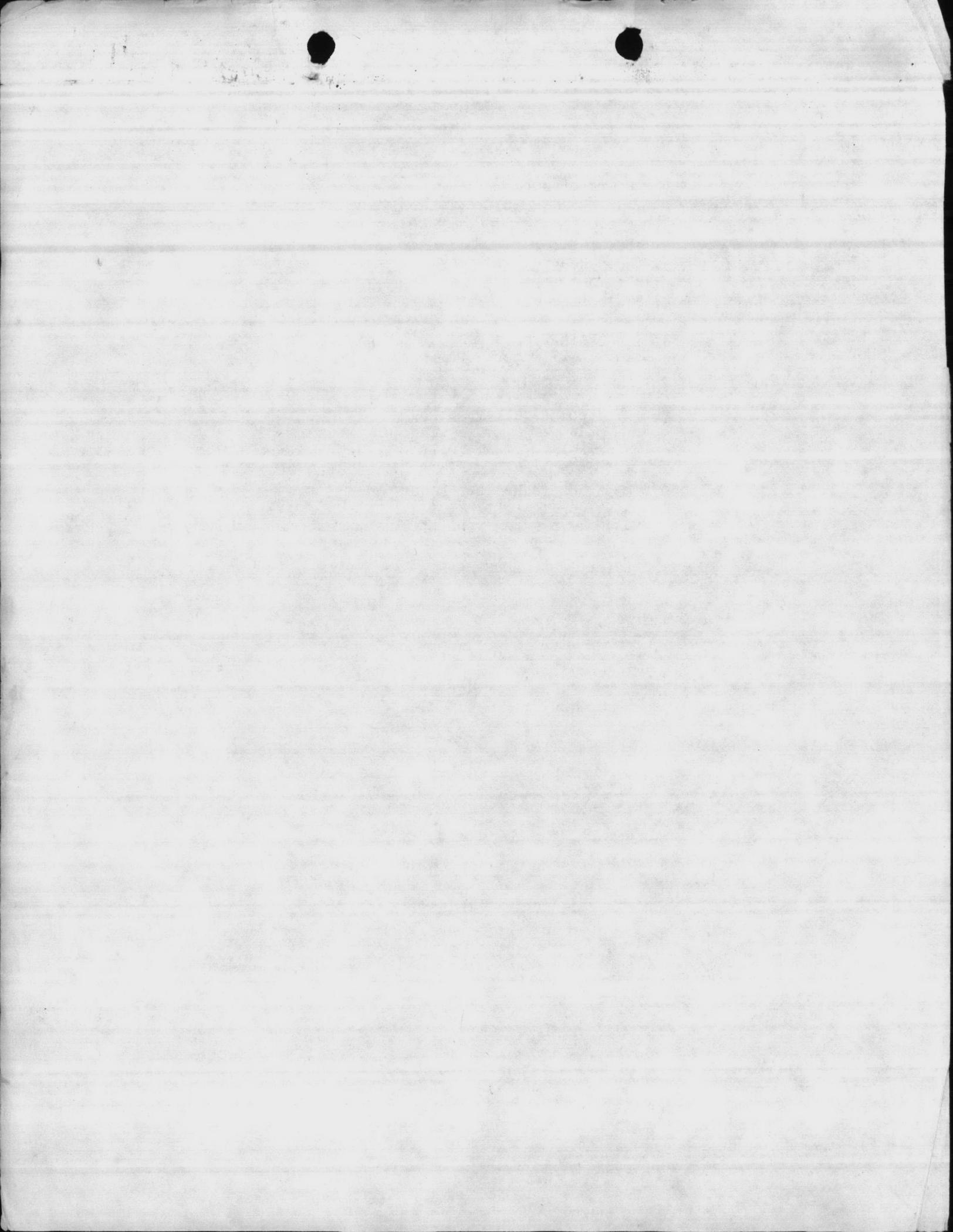
C. H. Baker

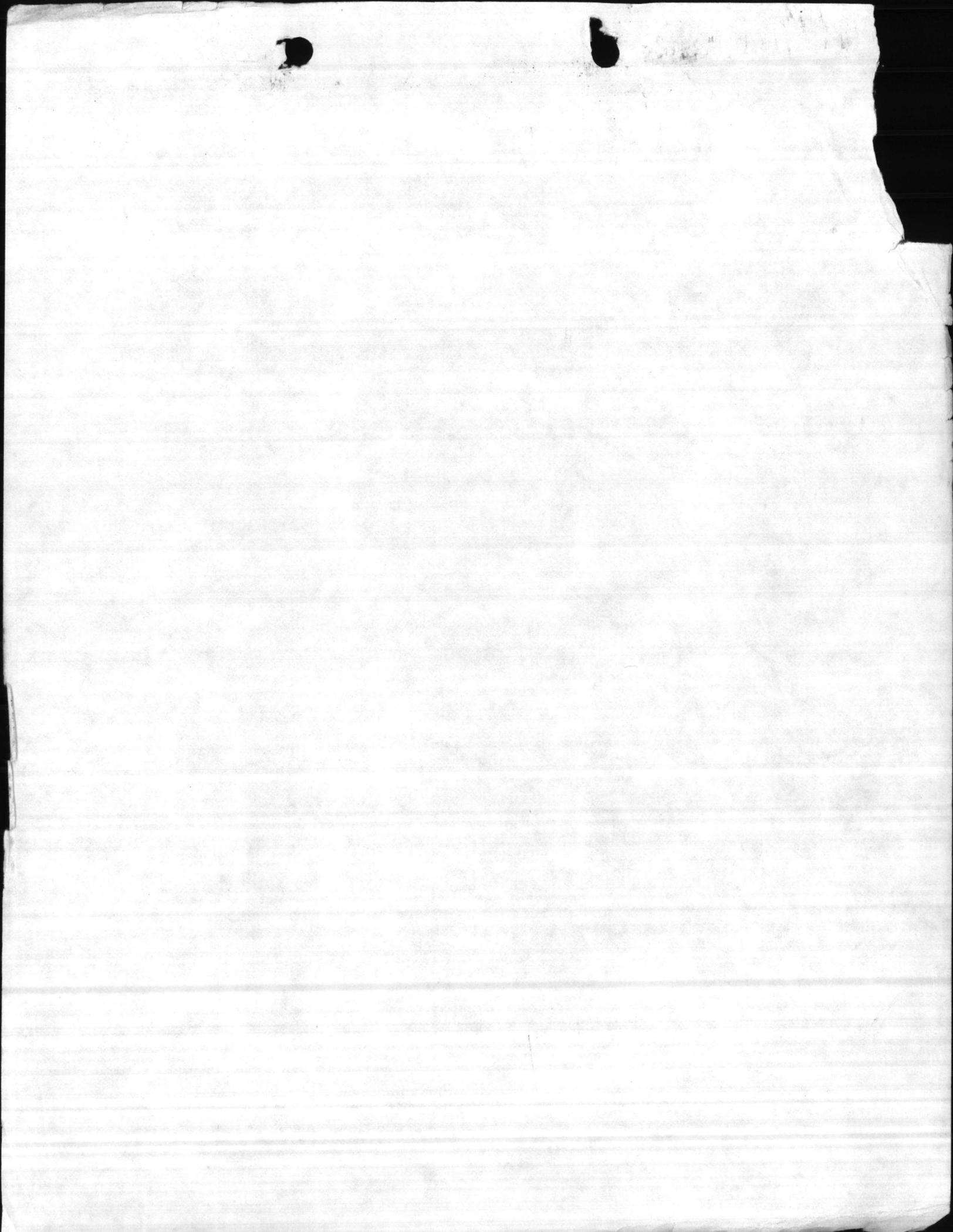
APPROVED BY: C.H. BAKER
DIRECTOR, UTILITIES

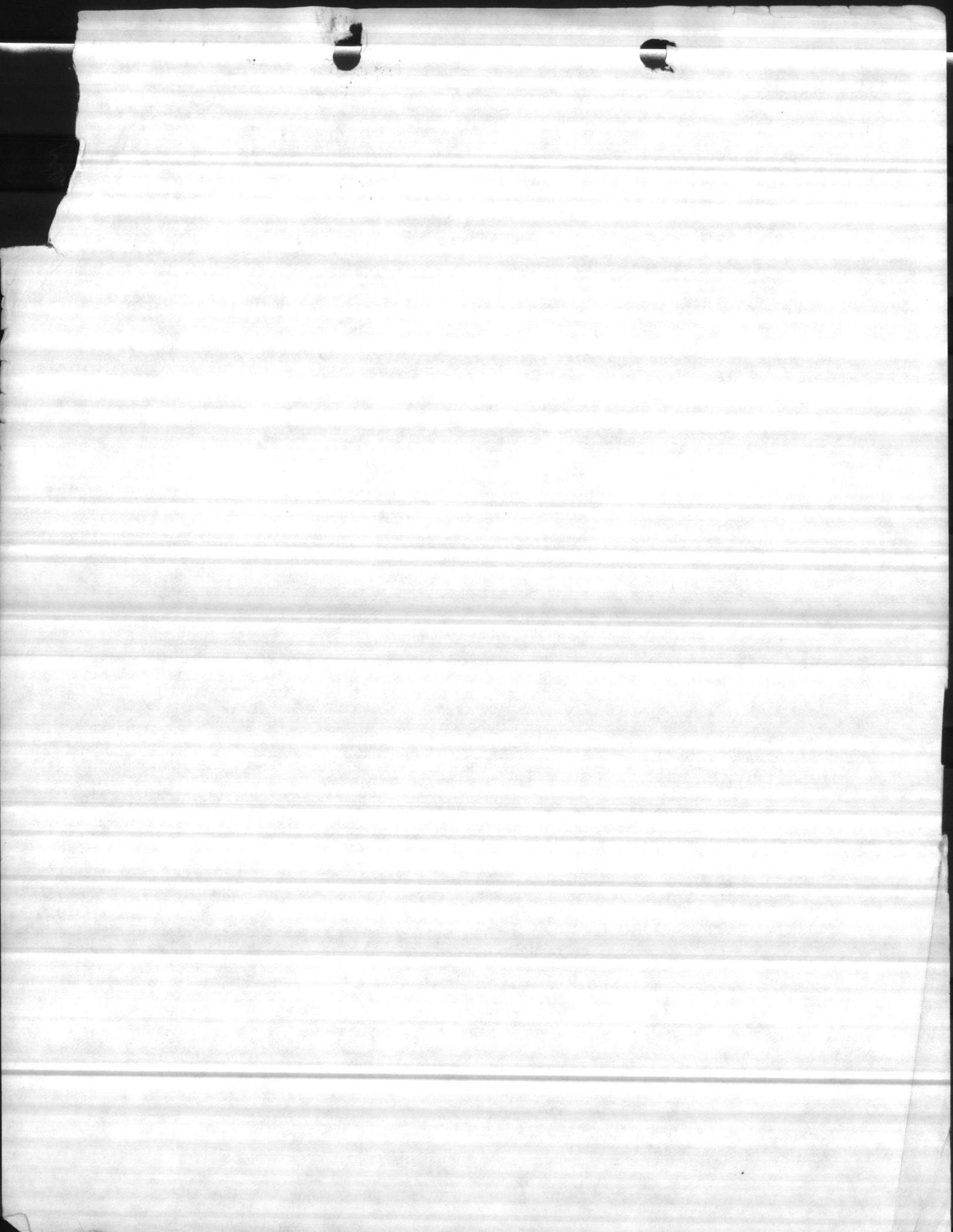


INDEX

1. Hours of Work
2. Duties
3. Housekeeping & Safety
4. Telephone Use
5. Check in Procedures
6. Leave
7. Handtool Requirements
8. Job Descriptions & Performance Standards
9. Destructive Weather Plan
10. Bomb Threat and Fire Drill (on left side of folder)
11. Safety Data Sheets (on left side of folder)

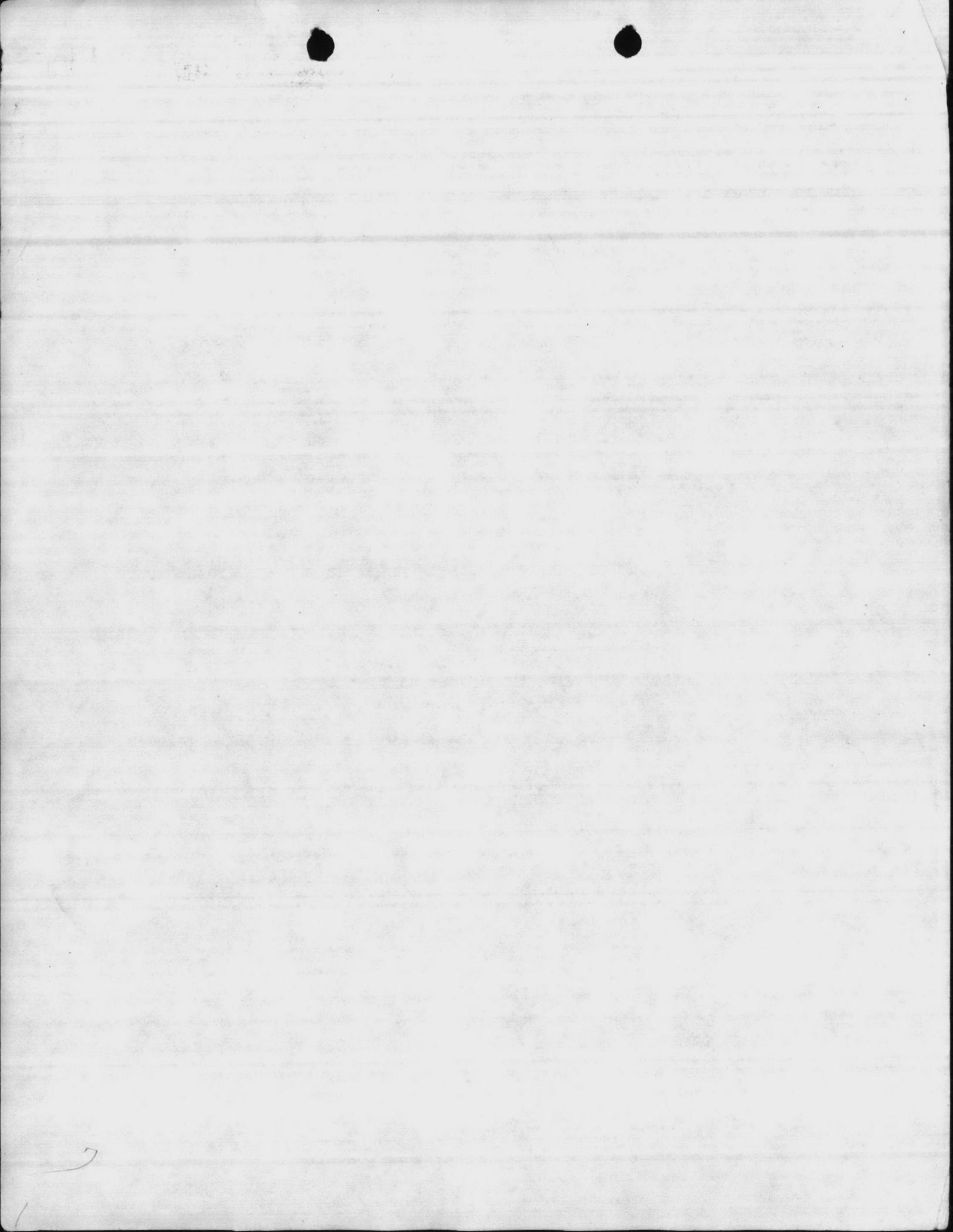






HOURS OF WORK

1. The Water Treatment Plant operates as a twenty-four hour, seven days a week basis.
2. The three scheduled shifts are 2400-0800, 0800-1600, and 1600-2400 daily.
3. The work week begins at 0000 Sunday and ends at 2400 Saturday.
4. Each operator is scheduled to work forty hours each week, Two days off can be given any time during the seven day period.
5. Each operator is expected to work on a rotating shift schedule.
6. Shifts change at 0800, 1600, and 2400: At these times the off-going operator will call Building 670 phone 5988 or 1081 to log themselves out and to log in their relief, if any. Calls must be brief in order to complete the rotation shift.
7. Check out time for personnel working from 0730 to 1600 will not be earlier than 1600 unless leave is requested and approved by the supervisor.
8. These rules apply to all Water Treatment Branch personnel, and will be observed without exception unless excused by your supervisor.



DUTIES

WATER TREATMENT PLANT

STANDARD OPERATING PROCEDURES FOR OPERATORS AND HELPERS

GENERAL INSTRUCTIONS FOR ALL SHIFTS

All personnel will report promptly for work on their scheduled shift and respective plant.

Operator when reporting for a shift will make a complete and thorough check of plant at start of assigned shift. Any discrepancies found will be recorded on log sheet and same corrected by operator on duty and noted on log sheet. Operators should inspect equipment such as high lift pumps, motors, chemical pumps, spiractors, softeners, filters, keys to plant and wells, emergency lights and comparators. Particular attention will be given to operating temperatures of motors and bearings, inspection of oil levels in bearings and motors, unusual noises in machinery, chemical levels in tanks, operating pressure, pumping rates water levels in resevoirs and tanks, chlorine feed rates and general cleanliness of plant and equipment. Operator on duty will not turn plant over to another operator if they think the person is not in good physical condition and will remain on duty until supervisor is notified and they have been properly relieved.

All machinery and equipment will be observed regularly on each shift for abnormal operation.

Helper and/or operator reporting for duty will check in to operator with whom they work and then with helper and/or operator whom they are relieving for any exchange of operating information. Immediately after their operator has accepted plant, helper and/or operator will check with them for specific instructions, such as, well pumps to be turned off or on, specific work assignments and so forth.

Each operator will be thoroughly familiar with all emergency equipment in the plant (how to start, adjust, and when to use).

The telephone will be used for official business only. Conversations will be brief. When answering the telephone personnel will give the location and person speaking and be polite and courteous at all times.

All personnel will strive to be neat and orderly on the job, wear clean clothes and be polite and courteous to others and alert and attentive to duty at all times. Each operator and/or helper is expected to study his job thoroughly, looking for ways to improve operations, be economical in the use of material and conservation of utilities. All personnel will check bulletin board regularly for a review of memos and for new or specific information.

All water treatment personnel have a specific job, and a very important responsibility that is, to see that we at all times maintain a safe and adequate potable water supply for this Base.

More specific instructions will be given following this for each shift and specific jobs.

All personnel driving government trucks will check truck which they will be going to use and determine if it has any new discrepancies since the last time they used it. They should check oil level, water level, tires pressure, cleanliness, check to insure all equipment that is assigned to the truck is in truck, check for new scratches and/or dents etc. If discrepancies are found they will report same to Leader on duty at 670 and the information will be logged in log book. If during routine inspections, supervisory personnel or Roadmaster's check discrepancies are found that have not been reported: the operator of the truck on duty at the time the discrepancies are found will be held accountable.

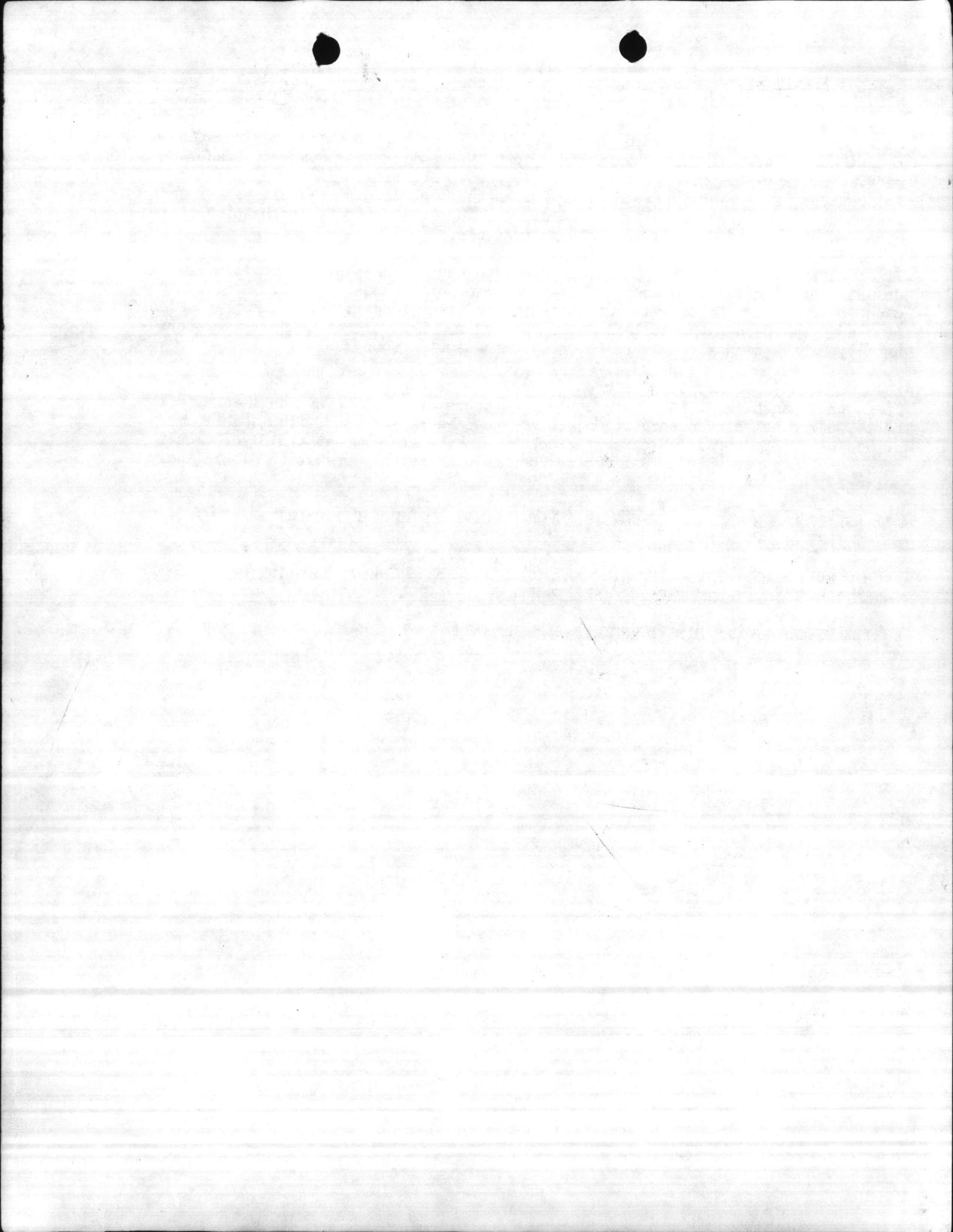
If at anytime your relief appears, in your judgement, incapable of performing normal operating functions due to sickness or other reasons, you will not turn plant over to them. You will immediately notify the Leader, Water Treatment Plant 670, and remain on duty until directed by Leader, whom will call supervisor, or until you have been properly relieved by competent personnel.

Wall lockers (Government) have been issued to personnel for their convenience. Items that can be kept in government wall lockers are such things as rain gear, boots, personnel convenience items, tools etc. Paint and other flammable items should never be stored in lockers. Lockers will be searched at the discretion of supervisory personnel. Failure to open said locker may result in disciplinary action.

ALL RELIEF MEN/WOMEN ARE RESPONSIBLE FOR ACCOMPLISHING SPECIFIC DUTIES REQUIRED OF SHIFT THEY ARE WORKING.

EACH OPERATOR WILL HAVE WITH HIM/HER ON THEIR SHIFT THE REQUIRED LIST OF TOOLS FOR WATER TREATMENT PIANT OPERATOR (SEE TOOL LIST).

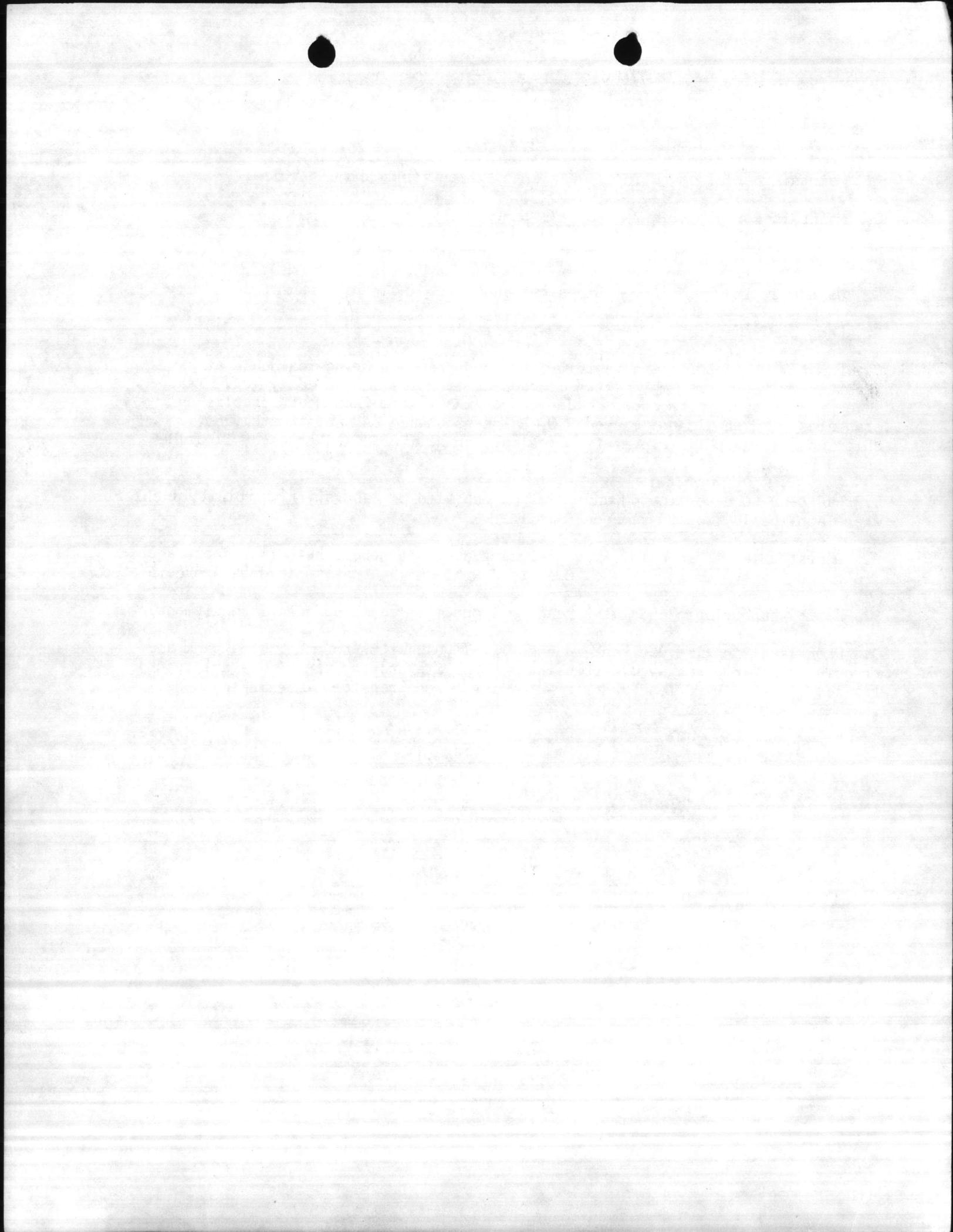
AUXILIARY GAS MOTORS/DIESAL ENGINES WILL BE TEST RUN UNDER LOAD EACH THURSDAY. (PLANTS)



WATER TREATMENT

SPECIAL INSTRUCTIONS

1. Maintain normal operating levels in overhead tanks and resevoirs.
2. Maintain correct treatment at all times.
3. Be alert and industrious.
4. Wash out lime pumps three times on each shift and more often if needed.
5. Keep lime pumping and feeding equipment clean.
6. Run test to determine alkalinity, hardness, and chlorine residuals at least every two hours, more often if needed. Record same on daily log. Make necessary changes in treatment equipment to insure readings meet established standards. pH should not exceed 9.0, Hardness should be approximately 60, chlorine should be 1.0 p.p.m. free residual on delivered and treated, flouride should be 1.0 p.p.m.
7. Run test to determine pH and flouride one time on each shift, turbidity & chloride where applicable, record same on Daily Log.
8. Operators are responsible for assigning duties to their helpers and/or Water Treatment Plant Operators WG-7. Operators will ensure that these jobs are completed.
9. Notify supervisors and maintenance personnel of any breakdown in equipment.
10. When level in lime day tank reaches low level switch to other lime tank and transfer lime into tank you were using. When lime storage tank (outside) reaches low level notify WTPO Leader for re-ordering. Log transfer times in log book. including start and stop times.



OPERATOR'S INSTRUCTIONS - BACK WASH HOLDING LAGOONS

1. Holcomb Blvd., H.P., MCAS, R.R., and C.H.B., O.B. have backwash holding tanks or lagoons. The following information applies:

(a) Check lagoon/holding tank pumps daily for proper operation. Check should include, operating temperature, grease, packing gland, basin level, excess noise, pressure, oil level, aerator, compressors, etc.

(b) Clean and paint areas including pumps, rails, etc., as required.

(c) ~~Mow~~ grass and clean areas as required.

(d) Lubricate pumps and equipment as necessary.

(e) If operation or maintenance problems arise, contact W.T.P.O. Leader at extension 5988.

WATER TREATMENT PLANT

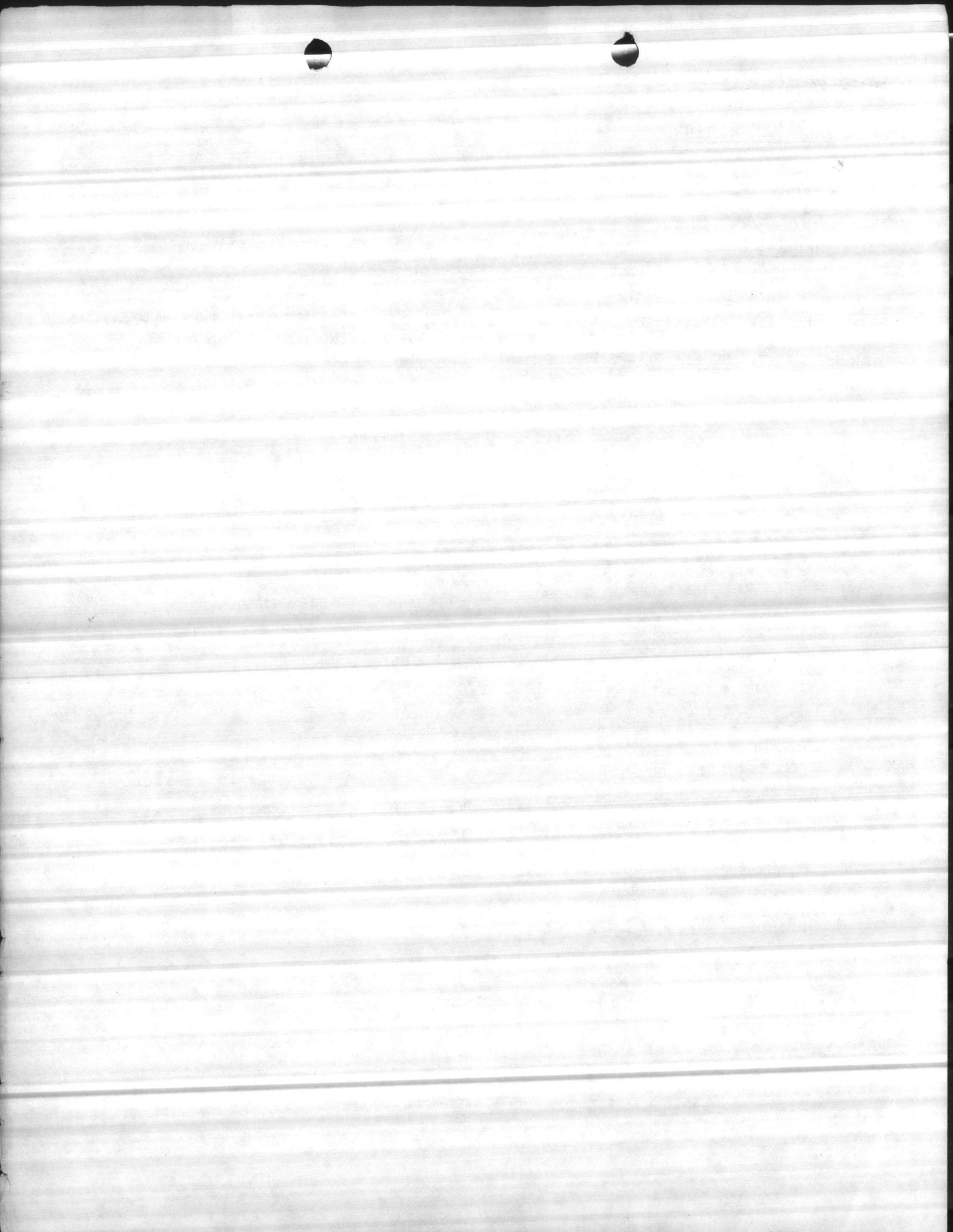
LIME HANDLING PROCEDURES

LIME MIXING - R.R., C.H.B., use 50 lbs. of lime to 1 tank of water each day or as needed.

LIME HANDLING - The 8 - 4 operator is responsible for notifying Leader when lime gets down to one week supply or seven bags.

CAUTION

BEFORE HANDLING ANY LIME BE SURE TO PUT ON APRON, GOGGLES, GLOVES, AND RESPIRATOR. LIME DUST CAN BE HAZARDOUS TO YOUR HEALTH. EXTREME CAUTION SHOULD BE USED WHEN HANDLING LIME. TO ALL PLANTS WHEN CLEANING LIME TANK OR FEEDER USE THE ABOVE PROTECTIVE EQUIPMENT.

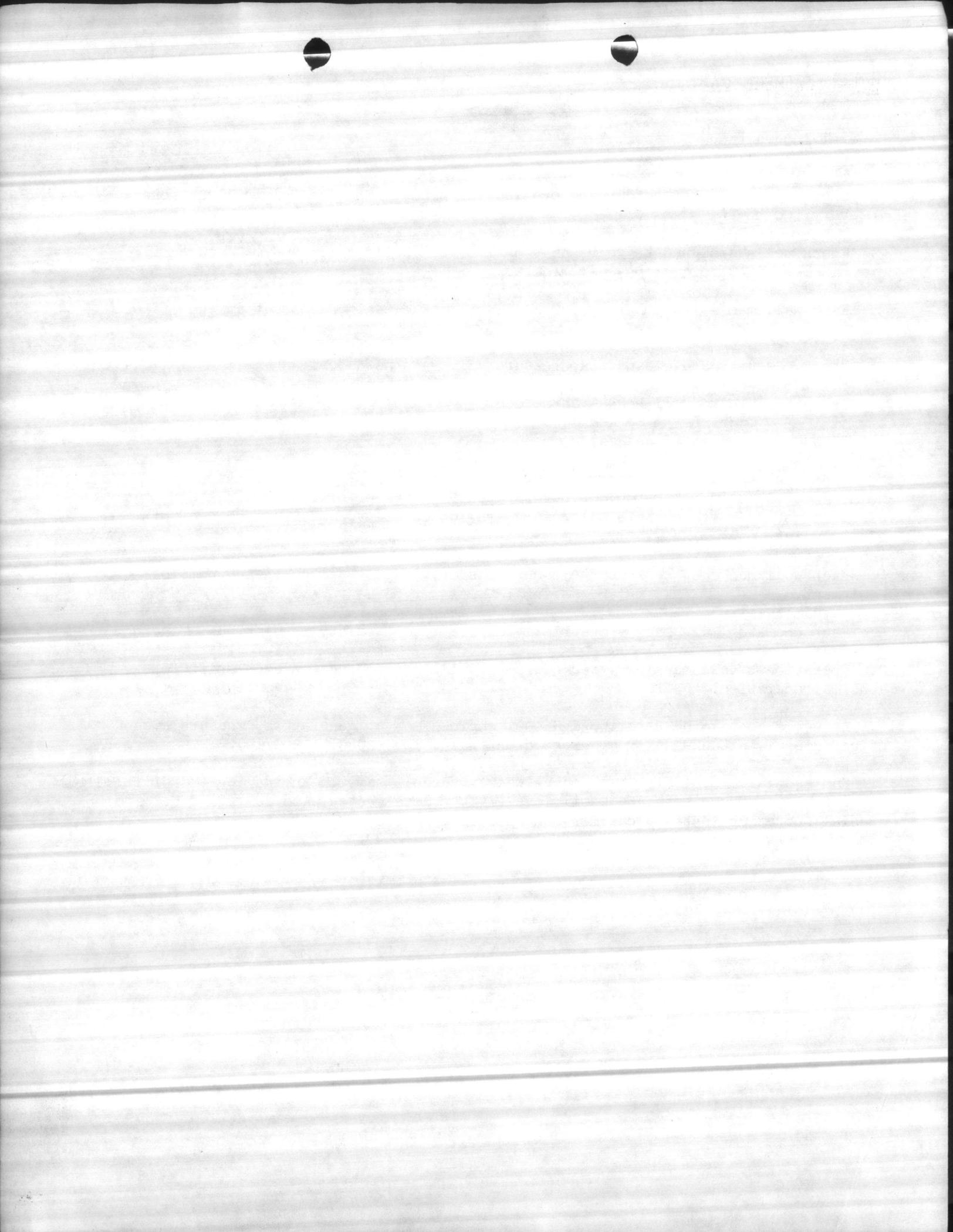


WATER TREATMENT PLANT

General Instructions for Well Men

1. Check with operator on duty before leaving plant. When out on well run, check in every two hours.
2. Check wells assigned to your shift daily. Oil wells daily and make sure oil drip is between 3 to 4 drops, per minute.
3. Each well man is responsible for keeping truck clean. Sweep out at end of each shift.
4. Check, adjust, and clean back pressure valves as needed.
5. Cut grass around well houses as needed.
6. Clean well houses as needed.
7. Grease electric motors every 6 months or more often if necessary.
NOTE: Some electric motors do not have grease fittings or oil reservoir. On electric motors which contain oil reservoirs, check daily, and if in need of oil, add 20 weight.
8. Each well man must know how to connect, start, adjust all emergency pumping equipment.
9. Each operator must know and strictly adhere to all safety regulations.
10. Operation of all machinery and equipment will be observed on each shift for abnormal operation.
11. At wells containing gasoline & diesel engines and/or generators, measure amount of gas/diesel in tanks daily and record on engine log (MCBCL 11330/10).
12. Run auxiliary motors in well houses weekly. Record same on Engine Log (MCBCL 11330/10). Prior to ^{after} running engines, check oil level, water level, etc.. Add as required. See special operating instructions for schedule of frequency.

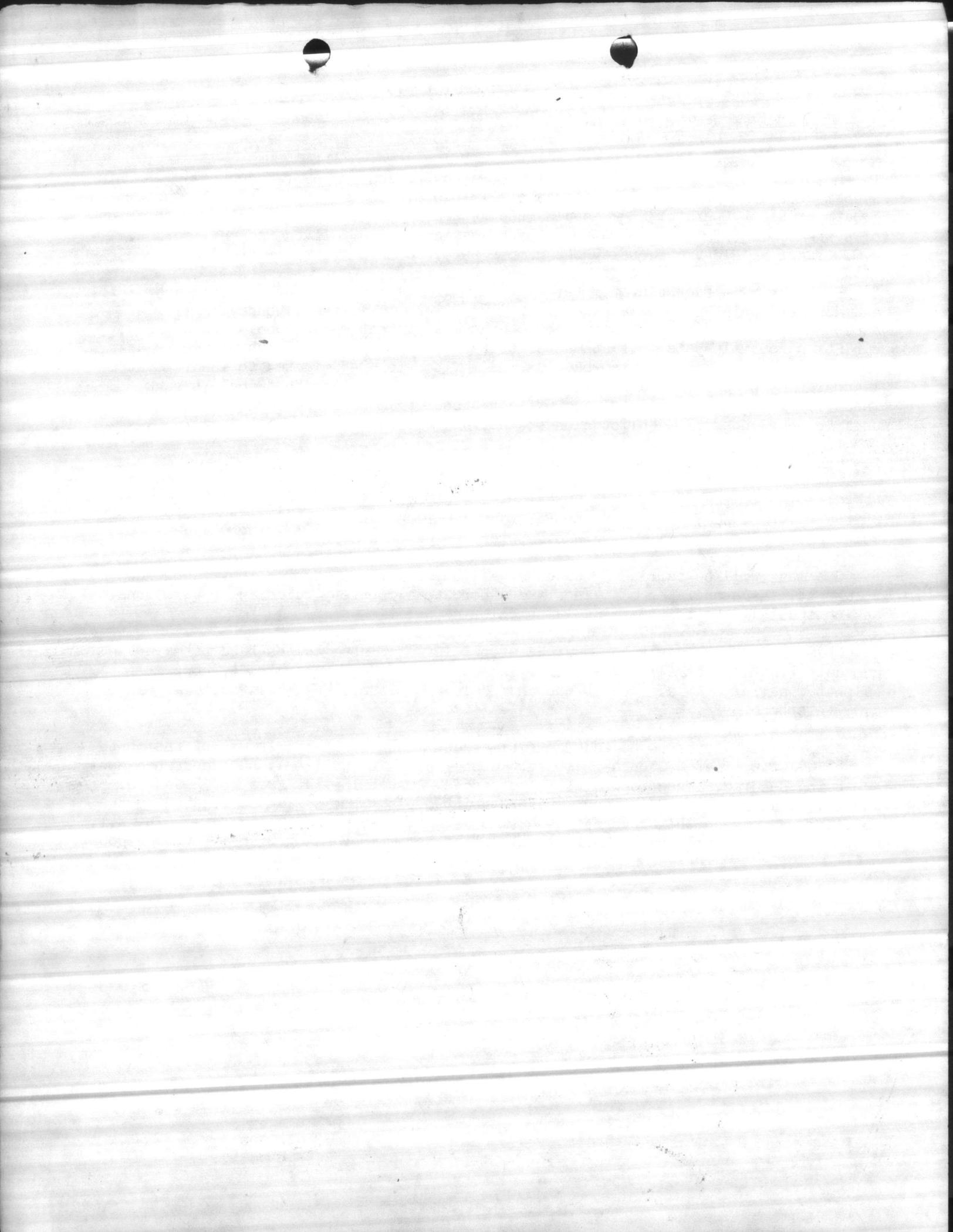
and after



WATER TREATMENT

SWIMMING POOL OPERATING INSTRUCTIONS

1. Chlorine residual, pH and temperature is controlled by a Stran controller. This system should maintain a Cl_2 residual of 0.8 p.p.m., pH of 7.4. However the Water Treatment Plant Operator WG-7 should check the pool twice a day for proper operation of system. If this does not correct problems, call 5642. If on weekend, call W.T. P.O. Leader at Bldg. 670, telephone number 5988 and inform them of problem.
2. Backwashing - Backwash at interval of not greater than 300 hours at Area No. 2, 5, and Montford Point pools. Backwash Paradise Point & T.T. every Monday. Prior to backwashing, call 5642 and inform computer operator that pool is being backwashed, cut Stran control system off at master switch. Follow pool backwash procedure; after backwashing, turn Stran system back on and monitor for 3-5 minutes to insure system is operating properly. Call 5642 to inform computer operator that pool is back in service. MCA Enlisted pool and Officer's pool will be backwashed every other day on a 48 hour interval - enlisted on one day and officers on the next day.
3. Make up water and added fresh water as needed.
4. Cleaning - Area No. 2, Area No. 5, Paradise Point filter rooms will be cleaned by the W.T.P.O. WG-7 on Monday and Saturday - more often if so needed, Montford Point and MCAS filter will be cleaned twice a week on 8-4 shift.
5. Gas mask will be carried in truck at all times for your protection. Know how to use it. Each operator must know and adhere to all safety rules and regulations, taking special note to those involving chlorine.
6. Chemical - Check daily to insure a proper level of chemical on hand to maintain adequate treatment at all times. This includes chlorine, caustic soda, copper sulphate, sulfuric acid. When these chemicals are needed, call W.T.P.O.L. at Bldg. 670, telephone 5988.
7. Copper sulphate is to be added one time each month on the first day of the month by the W.T.P.O.L. at 670 on 4-12 shift. Copper sulphate will only be added when pools are being secured. Keep record of pounds added. Use 4 lbs. at Area No. 2 and No. 5, use 2 lbs. at Paradise Point and Montford Point pools. Pools will be treated by the operator on duty on the above date and time using 4 lbs. of copper sulfate. The W.T. P.O. WG-7 at MCAS will comply with treatment at same time, using 2 lbs. for each pool.



EFFECTIVE IMMEDIATELY

The following list of equipment has been assigned to each operator and shift supervisor at Building 20. You will be responsible for painting, cleaning and maintaining assigned equipment. Each operator will still be responsible for performing duties assigned to whichever shift he is working; backwashing filters, cleaning floors, etc:

- ELLIS/MARHELKO - #1 & #2 Backwash basin pumps run only 1 pump at a time & rotate monthly
- #1 & #2 Filters
- #1 Spiractor
- #4 High Lift Pump (Back wash pump rotates monthly-only 1 at a time)
- #1 Raw Water Pump
- General on High Lift pump
- #1 Mixer and Day Tank

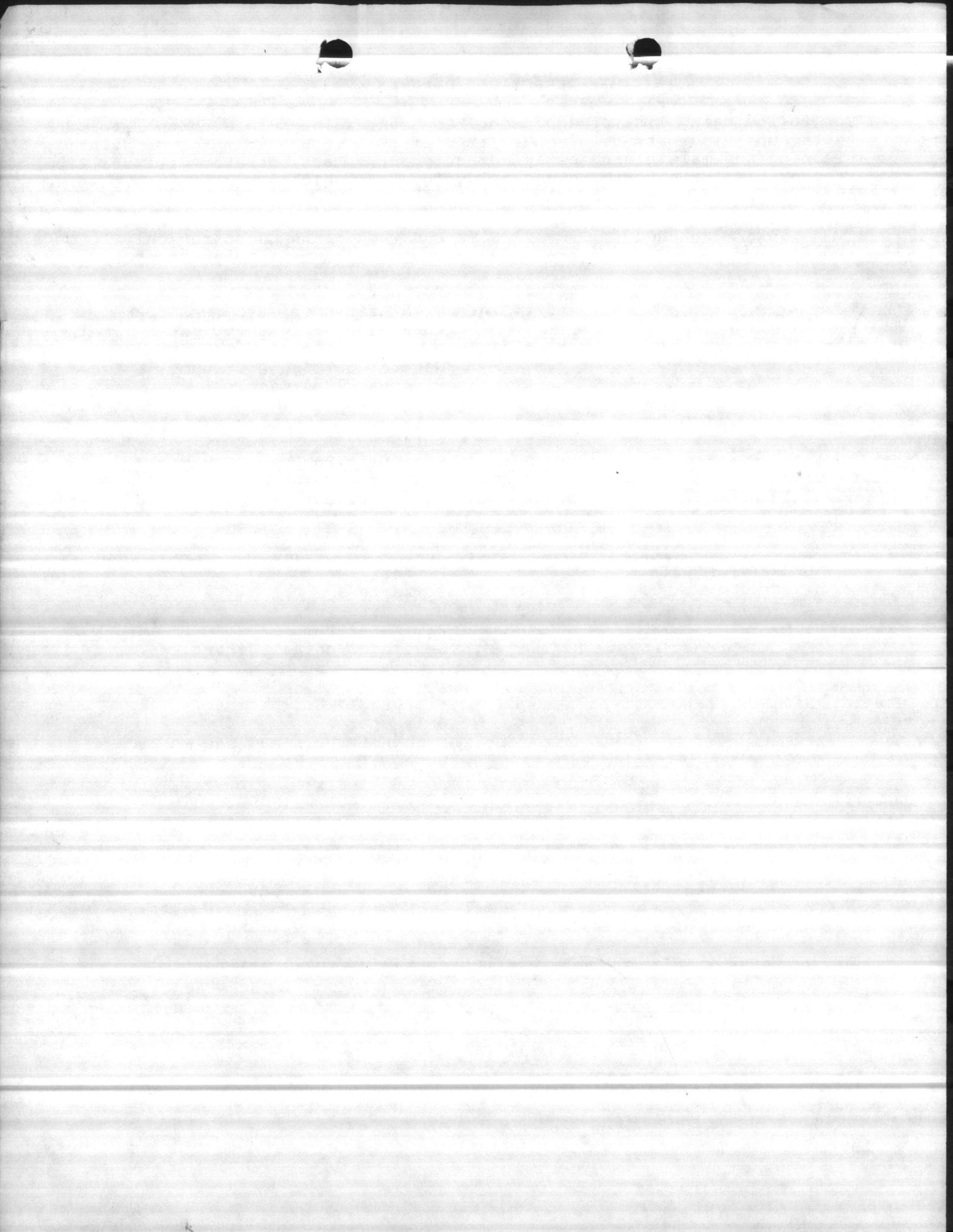
- SUMNER/HARDISON - #3 Filter
- #3 Spiractor
- #2 High Lift Pump and Gas Motor
- #2 Raw Water Pump
- Air Compressor (includes 1 upstairs 2 in silo)
- #2 Mixer and Day Tank

- BECKER/B.MORTON - #4 Filter
- #2 Spiractor
- #3 High Lift Pump
- #3 Raw Water Pump
- Generator on Raw Water 4, 5 and 6 pumps

- HARTSOE/CANNON - #5 Filter
- #4 & #5 Spiractor
- #1 High Lift Pump and Gas Motor
- Wash Water Pump
- Re-Carb
- 1, 2, 3 Pumps

NOTE: Filter walls will be cleaned as necessary. Launderers in spiractors will be cleaned daily and weir holes cleaned monthly.

THE DUTIES FOR THIS EQUIPMENT INCLUDE CLEANING, PREVENTATIVE MAINTENANCE, PAINTING AND REPORTING ANY REQUIRED MAINTENANCE.



12-8 SHIFT - SPECIAL INSTRUCTIONS:

Maintain proper level in reservoirs. Watch pressure chart closely. Hold pressure as near as possible at 56-58 lbs. from 2400-0600 and 58-60 lbs. from 0600-0800. Maintain special treatment of water at all times.

Cleaning duties - Daily: Backwash #4 and #5 filters using correct backwash procedures.
All chemical pumps and lime feeders.
All floors on second deck from front door to and including chlorine room. Wash room floor and sink, shower etc., Transformer room etc. Cleaning should include window sills, meters, rails, etc. Empty all trash cans.

Keep gate locked at night. Allow no visitors. Chemical readings will be taken and recorded at intervals of not greater than 2 hours, more often if conditions warrant.

8-4 Shift - Special Instructions:

Maintain proper level in reservoirs. Maintain proper treatment and quantity of water keeping pressure at approximately 60 lbs. Instruct and assign duties to helper and Water Treatment Plant Operator WG-7. Run #4 high lift pump for 1-2 hours per week. Record on log sheet..

Cleaning duties - Daily: Backwash #1 and #2 filters using correct backwash procedures.
All chemical pumps and lime feeders.
Office, plant and grounds including top of reservoirs
Mow grass at plant and police up grounds
Raw water booster pump room (floor, windows, etc.)
Spiractor room, pipe galley, high lift pump room, lime pumping room.
Empty all trash cans.
Punch out spiractors on Monday of each week.

4-12 Shift - Special Instructions:

Maintain proper treatment and quantity of water at all times - maintain pressure at 60 lbs. from 1600-2100 and 58-60 lbs. from 2100-2400. Keep gate locked at night. Allow no visitors. Prepare and change charts at 2300 daily, recording meter readings at this time and record on log sheet. Figure daily flow. Close out previous log sheet and accurately transfer appropriate data to new log sheet daily.

Cleaning duties - Daily: Backwash #3 filter using correct backwash procedures.

All chemical pumps and lime feeders.

Clean top floor from lime room to filter deck including head, operators tables, window sills, filter tables, etc.

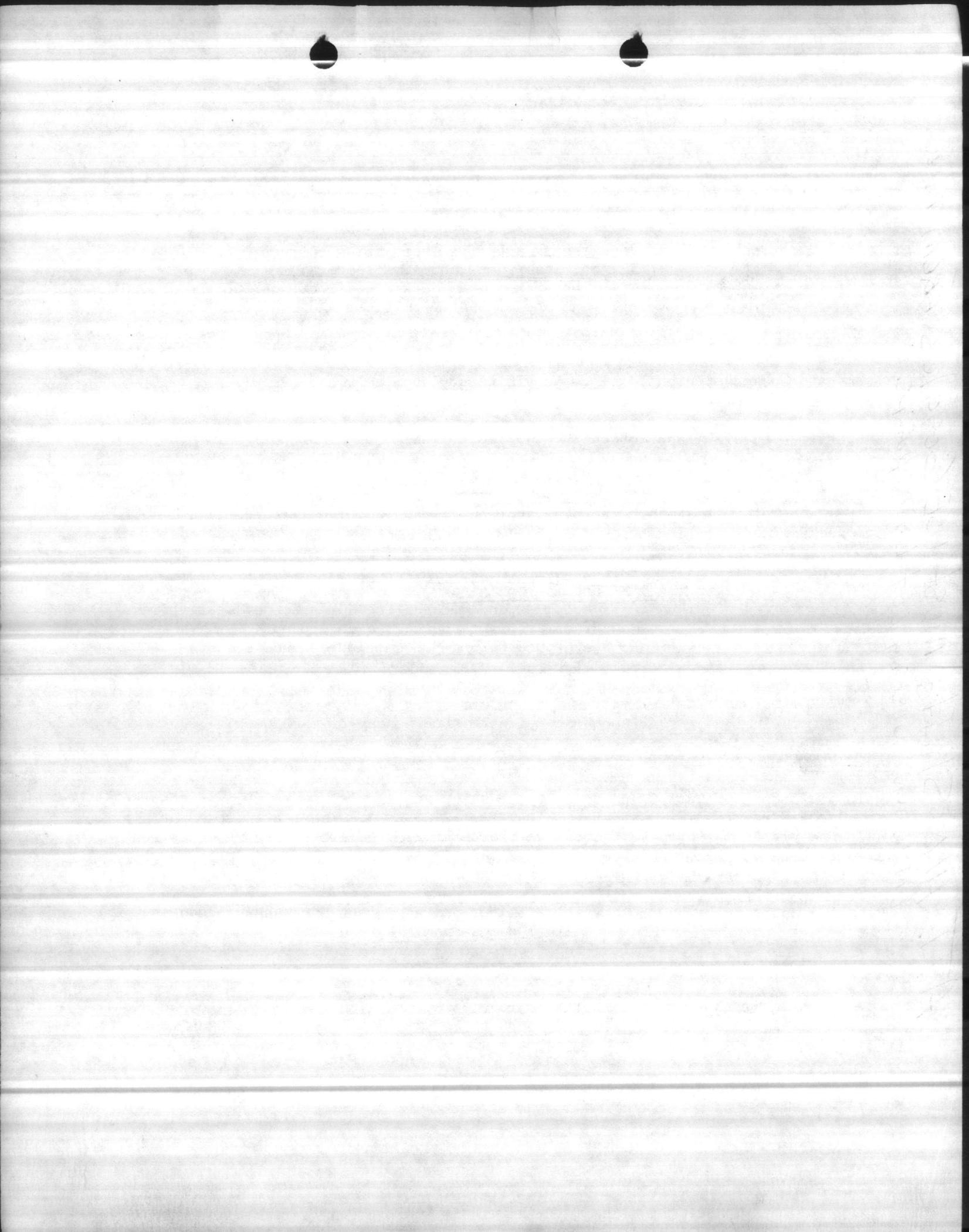
Empty all trash cans.

8-4 shift ~~ten~~ → Clean lime silo outside ^{inside} this includes air filter on blower twice per month on 1st and 3rd Wednesday of each month and record on log.

Check backwash holding tank and pumps daily for operation and cleanliness.

NOTE: ALL SHIFTS BACKWASH FILTERS EACH 48 HOURS OF OPERATION.

ATTN. ALL Shifts MUST USE Goggles FROM NOW ON when washing out lime pumps.



WATER TREATMENT PLANT(Hadnot Point)

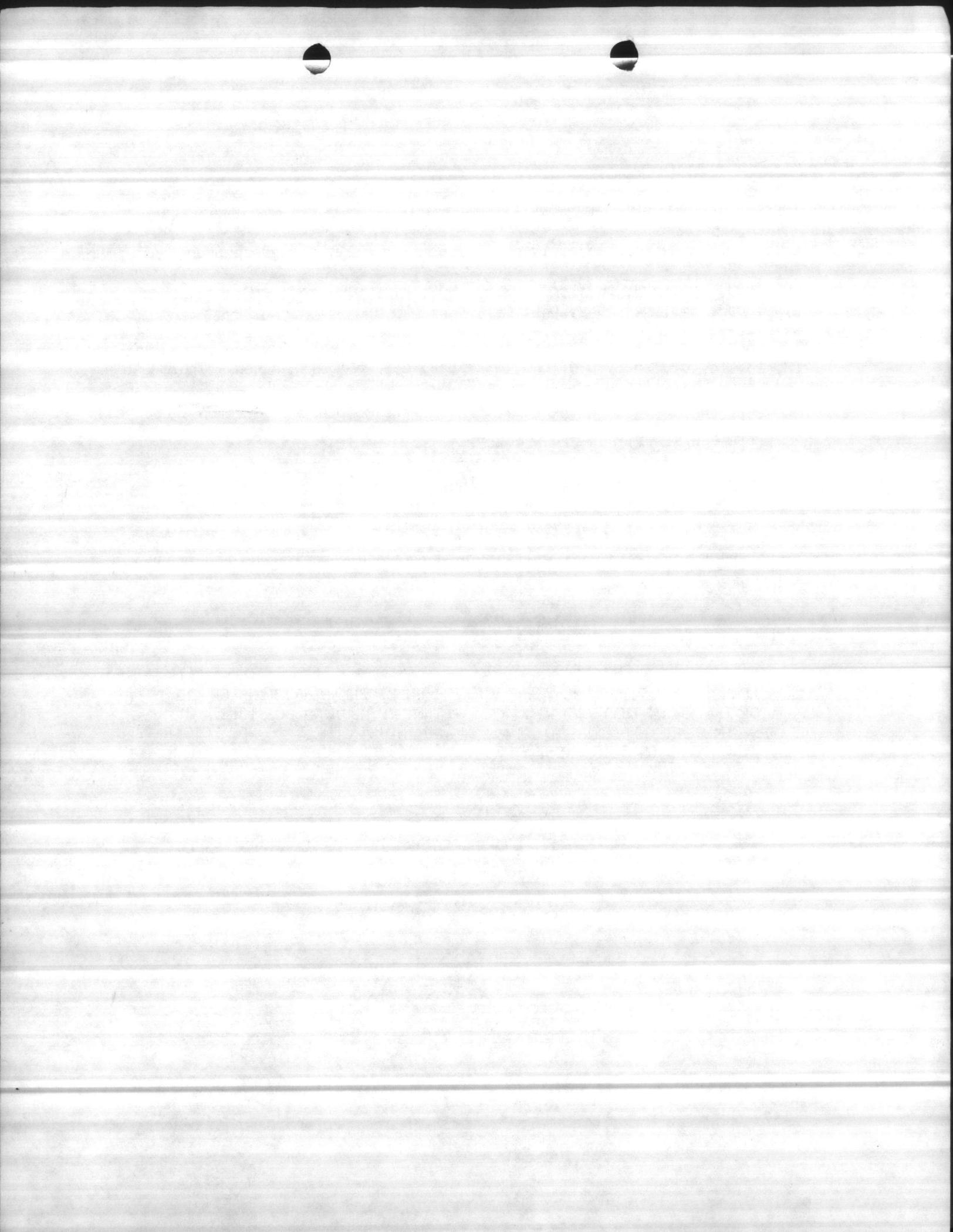
SPECIAL INSTRUCTION FOR WELL PERSONNEL

1. The wells are to be checked every day, group A on 4-12, and group B on 8-4.
 - A. 601, 603, 622, 623, 607, 660, 4009, 4007, 616, 613, 633, 610, 637, 602, 5186, 650, 645, 648, 647, 646, 645, 644, 643 and well 1-10 HB.
 - B. 654, 641, 620, 653, 651, 636, 635, 634, 642, 652, 606, 609, 661, 662, 11, 12, 13, 14, 629, 628, 639, 640, 632, 638, 655, 608, (SH-8 Mon & Thur, 656 Wed., 742 Thur.)

NOTE: The sample must be taken from inside the Compound at SH-8 on Tuesdays.

2. Keep well log sheet filled out accurately.
3. Pick up samples on Tuesday per instruction.
4. Backwash pools per swimming pool operating instruction.
5. The auxiliary motor gas/diesel will be run on a weekly basis by to whom the wells are assigned to.
6. Check with Foreman each weekday morning for mail & paperwork that needs to be carried to different shops and/or payroll.

NOTE: ALL HELPERS AND W.T.P.O. WG-7 ARE WORKING UNDER THE DIRECTIONS OF THE OPERATOR/LEADER ON DUTY AND WILL ASSIST THEM AS MUCH AS POSSIBLE. ALL MEN/WOMEN ARE EXPECTED TO BE ALERT AND INDUSTRIOUS. DO NOT LOITER AT OTHER FACILITIES ON THIS BASE.



SOP - WELL AND POOL OPERATORS - BLDGS. 670 and 20

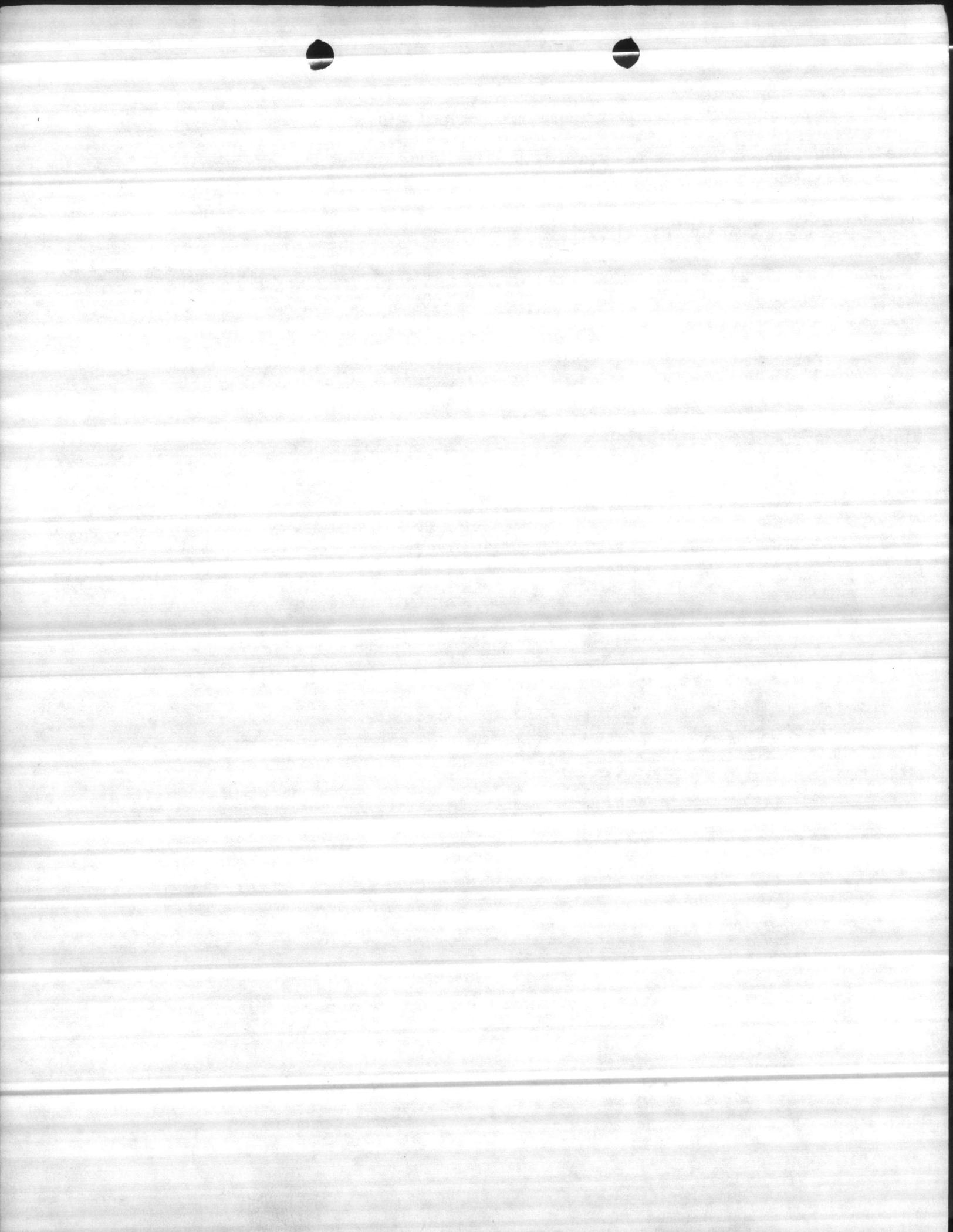
Wells will be checked and maintained as per existing SOP. (see General Instructions for well men).

Pools will be checked on 8-4 shift twice daily and once on 4-12 shift at approximately 1800 daily.

Pools will be checked and maintained as per (swimming pool operating Instructions).

WELLS

4-12 shift		8-4 shift	
660	622	654	629
4009	623	641	628
4007	607	620	639
616	5186	653	640
613	650	651	632
633	649	636	638
610	648	635	655
637	647	634	608
602	646	642	SH-8 Monday & Thursday
603	645	652	Weekly
1	6	606	Von—Orde Fish Pond—Wed
2	7	609	Weekly
3	8	661	742 Thursday weekly
4	9	662	
5	10	11	
		12	
		13	
		14	

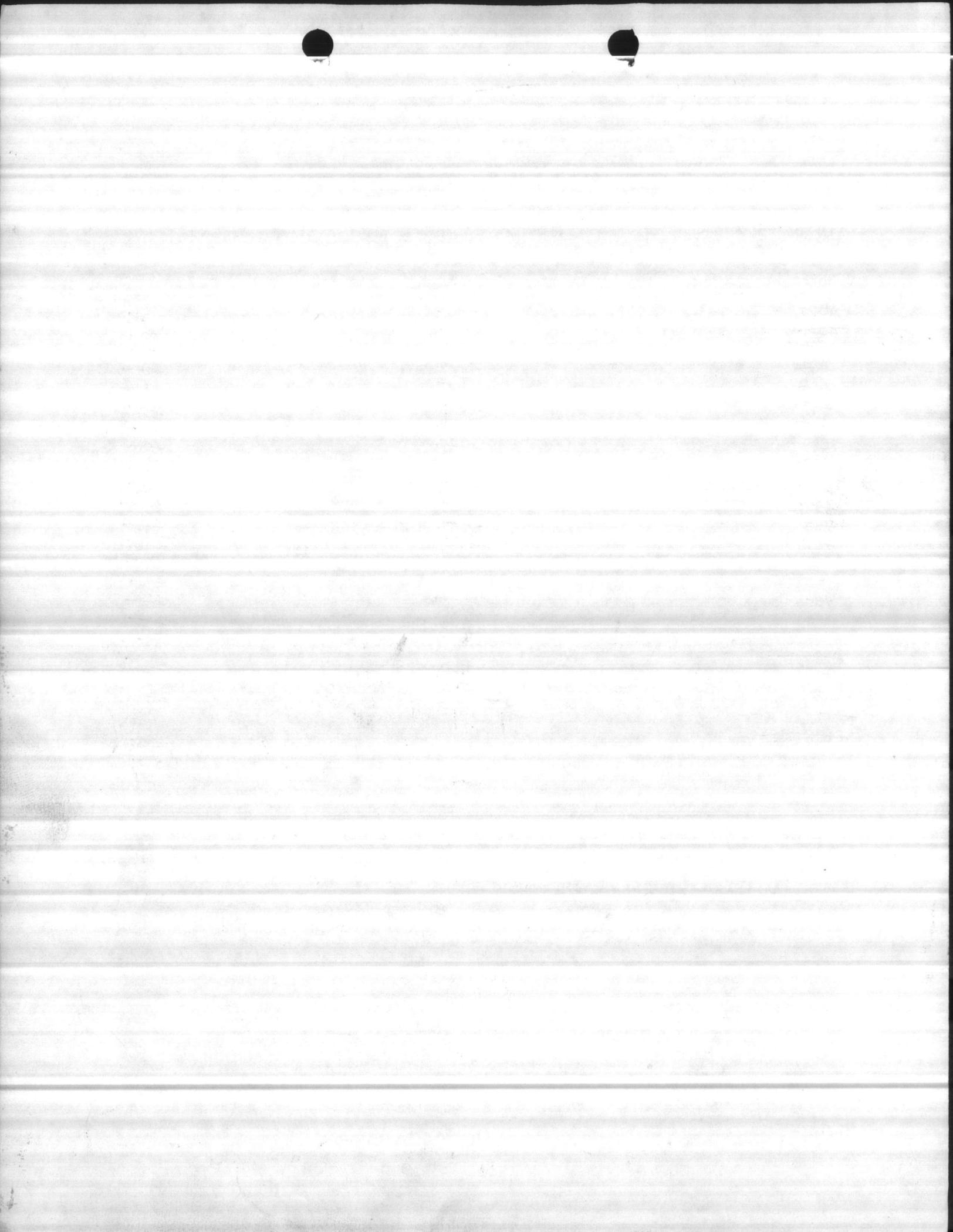


AREA OF RESPONSIBILITY - WELL PERSONNEL

AREA ASSIGNED TO THE FOLLOWING PERSONNEL FOR GRASS CUTTING, CLEANING, PREVENTATIVE MAINTENANCE AND RUNNING OF AUXILIARY MOTORS (GAS & DIESEL) ALSO GENERATORS.

<u>CONNERS</u>	<u>BELY</u>	<u>MONIZ</u>
4009*	660*	606
4007*	602	609
622*	603*	620
643*	608*	628*
644	610*	661*
645*	623*	632
648	607*	635
649	613*	636
650	5186*	638*
698	616	662*
699*	633	639*
700*	634	640*
701	637	641
703*	704	642
629*	705*	651*
706	647*	652
708	646*	653
#5 pool #540	S-830	654*
SFC 314	#2 pool #236	655*
S-29	S-1000	2632 PPpool
710*	SH-8	707
711		742
SLCH 4004		663*
		656

NOTE: * DENOTE AUXILIARY MOTOR IN WELL HOUSE THESE ARE ASSIGNED TO PERSONNEL TO WHOM WELLS ARE ASSIGNED TO. RUN EACH MOTOR WEEKLY. RUN UNDER A LOAD AT LEAST TWICE PER MONTH FOR 30 MINUTES.



TO TEST RUN GENERATORS - BUILDING 20 - HIGH LIFT PUMPS

1. Pull main disconnect (service disconnect) located (outside chlorine room) to off position. High lift pumps should cut off. Check to make sure! Generator will crank automatically. If it does not, check for fault, lost oil pressure, etc. Generator will automatically shut down while running if low oil pressure, water temperature too high, etc.

2. Make sure high lift pumps off. Push transfer to emergency switch on transfer panel.

3. Re-start high lift pumps by starting pumps in any room. #1 and #2 pumps are the only ones hooked to generator.

(TO RETURN TO COMMERCIAL POWER)

1. Cut off high lift pumps - push stop buttons in pump room. Insure pump stopped rotating.

2. Return main service disconnect to on position.

3. Push re-transfer switch to normal. This will return commercial power to high lift pumps.

4. Start high lift pumps by pushing start buttons in pump room.

5. Generator will cycle for 3 to 5 minutes and shut down!

RUNNING AND SERVICE PROCEDURES FOR GENERATOR AND GAS AUXILIARY MOTORS - BLDG. 20

Generators and gas auxiliary motors are to be run once a week on Thursdays UNDER A LOAD for at least 30 minutes or more.

Service Generators and gas auxiliary motors by:

1. Check oil.
2. Check water level in radiator.
3. Check battery level.
4. Check gas after use.

(Before & after
J.R.H

IF YOU RUN INTO ANY PROBLEMS, CALL LEADERS AT 670 SO THEY CAN TURN IN A TICKET FOR REPAIRS.



ALL RELIEF PERSONNEL ARE RESPONSIBLE FOR ACCOMPLISHING SPECIFIC DUTIES REQUIRED ON-SHIFT THEY ARE WORKING.

EACH OPERATOR WILL HAVE WITH THEM ON THEIR SHIFT THE REQUIRED LIST OF TOOLS FOR WATER TREATMENT PIANT OPERATOR (SEE TOOL LIST).

Auxiliary gas/diesel motors and/or generators will be test run on Thursday. The generator will be run under load for thirty minutes. This will be accomplished on the 0800-1600 shift; on Thursday of each week.

WHEN TEST RUNNING AUXILIARY MOTORS DISCONNECT COMMERCIAL POWER BY PULLING DISCONNECT MAIN SWITCH. AFTER TEST RUN THROW DISCONNECT TO RETURN TO COMMERCIAL POWER.

TO TEST RUN GENERATOR: PULL DISCONNECT LOCATED IN RAW WATER BOOSTER PUMP ROOM. GENERATOR SHOULD CRANK AND TRANSFER. IF GENERATOR FAILS TO CRANK TURN SWITCH (LOCATED ON GENERATOR) TO RESET AND BACK TO AUTO. IF GENERATOR FAILS TO CRANK CALL EMERGENCY MAINTENANCE. IF GENERATOR CRANKS BUT FAILS TO TRANSFER THIS CAN BE ACCOMPLISHED MANUALLY BY OPENING PANEL FAR LEFT TURN SWITCH TO OFF, INSERT HANDLE INTO EMERGENCY TRANSFER, AND PULL DOWN. THIS SHOULD ACCOMPLISH TRANSFER. TURN SWITCH BACK TO ON. (MAKE SURE SWITCH IS TURNED TO OFF PRIOR TO EMERGENCY TRANSFER). START RAW WATER BOOSTER PUMP BY PUSHING START BUTTON IN RAW WATER BOOSTER PUMP ROOM (#2 PUMP ONLY HOOKED TO GENERATOR). MAKE SURE ALL SPIRATORS COME ON, IF NOT FOLLOW START PROCEDURES. START LIME FEEDING AND PUMPING EQUIPMENT. THROW EMERGENCY LIGHT SWITCH LOCATED IN TRANSFORMER ROOM. TO RETURN TO COMMERCIAL POWER THROW DISCONNECT IN RAW WATER BOOSTER PUMP ROOM TO NORMAL POSITION. GENERATOR SHOULD RUN APPROXIMATELY 10 MINUTES AND SHUT DOWN. DURING POWER FAILURE GENERATOR SHOULD CRANK, TRANSFER, AND SHUT DOWN AUTOMATICALLY.

NOTE: IF YOU CAN'T GET POWER TO TRANSFER, CHECK BREAKER SWITCH ON GENERATOR BEFORE CALLING LEADERS.

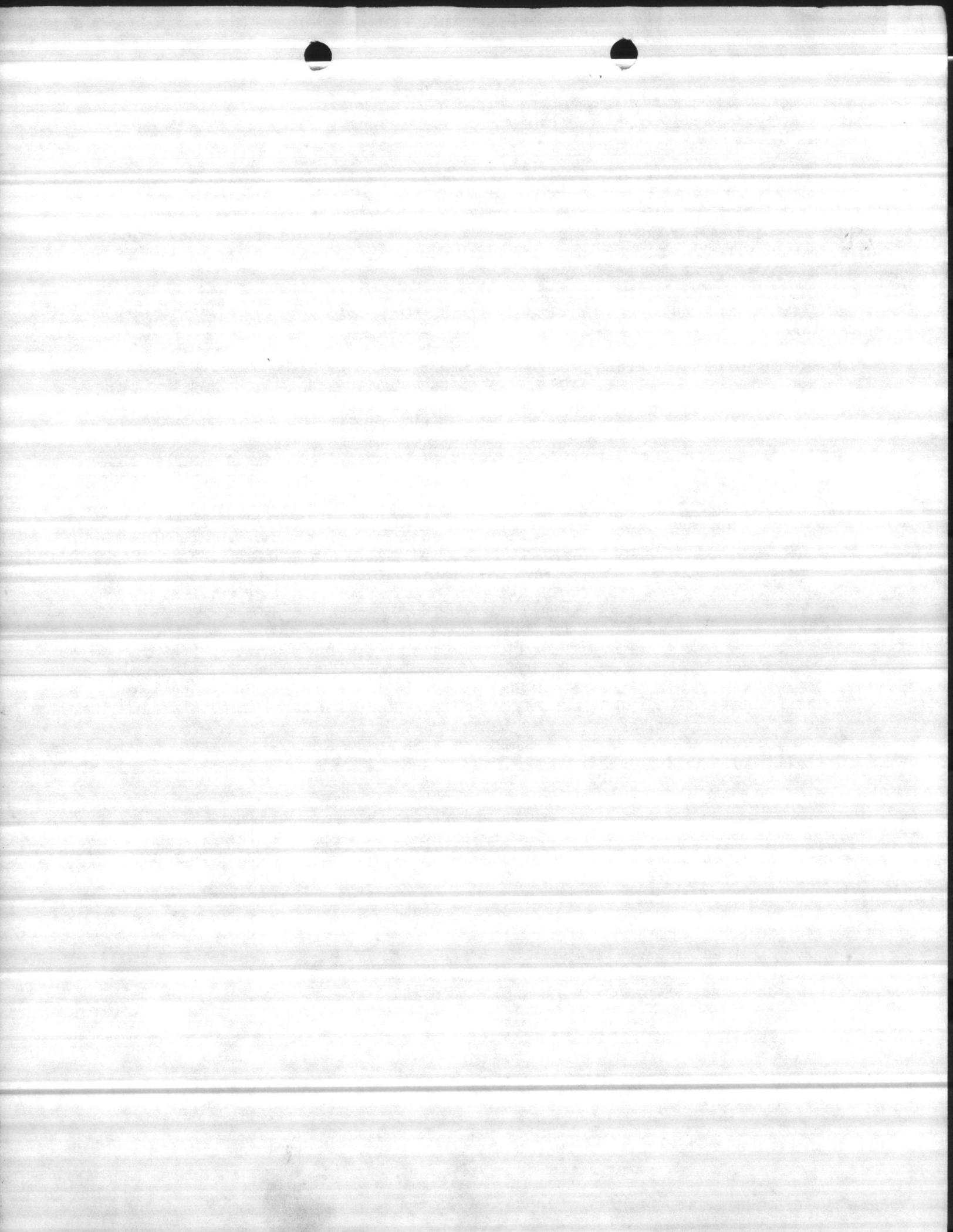
RUNNING & SERVICE PROCEDURES FOR GENERATOR AND GAS AUXILIARY MOTORS

Generators and gasoline auxiliary motors are to be run once a week on Thursday under a load for at least 30 minutes or more.

Service generators and gas auxiliary motors by:

1. Check oil.
2. Check water level in radiator.
3. Check battery level.
4. Check gas after use.

Before & after
J. R. H



MAINTENANCE INSPECTION/SERVICE CHECKLIST

Location AUXILIARY GENERATORS PREVENTIVE MAINTENANCE CHECKLIST

CHECKPOINT: DESCRIPTION

- : Weekly Checks:
- 1. : Lubrication system: Check the engine oil level, add as need
: Issue ticket for oil change at 200hrs of operations or
: annually which ever comes first.
- 2. : Cooling system: Check for proper coolant level
- 3. : Air intake system: check for and remove any restriction of
: the air cleaner
- 4. : Electrical system: Check for proper operation of battery
: charger system
- 5. : Generator run test: Start and run the engine generator
: for approx 30 minutes. Check for proper voltage on AC/
: DC, proper frequency (60Hz) and or RPM.
- 6. : Check Automatic Transfer Switch: For any visual malfunction
: and general cleanliness
- 7. : Engine coolant heater: Check for proper operation

: NOTE: ISSUE TICKETS TO APPROPRIATE SHOPS FOR REPAIRS AS
: REQUIRED.

: * CONTACT INSPECTION SECTION, MR. JONATHAN WHALEY OR
: MR. G. L. SHOEMAKER FOR MAJOR GENERATOR PROBLEMS, SUCH AS
: WORN OUT GENERATORS, OR COMPLETE SYSTEM FAILURES.

*Keep up on number of hours motor or generator has
run. Keep a total number of hours added up each time
and also be sure to transfer total to next month's sheet.*

95-94

9-51-95

MAINTENANCE INSPECTION/SERVICE CHECKLIST

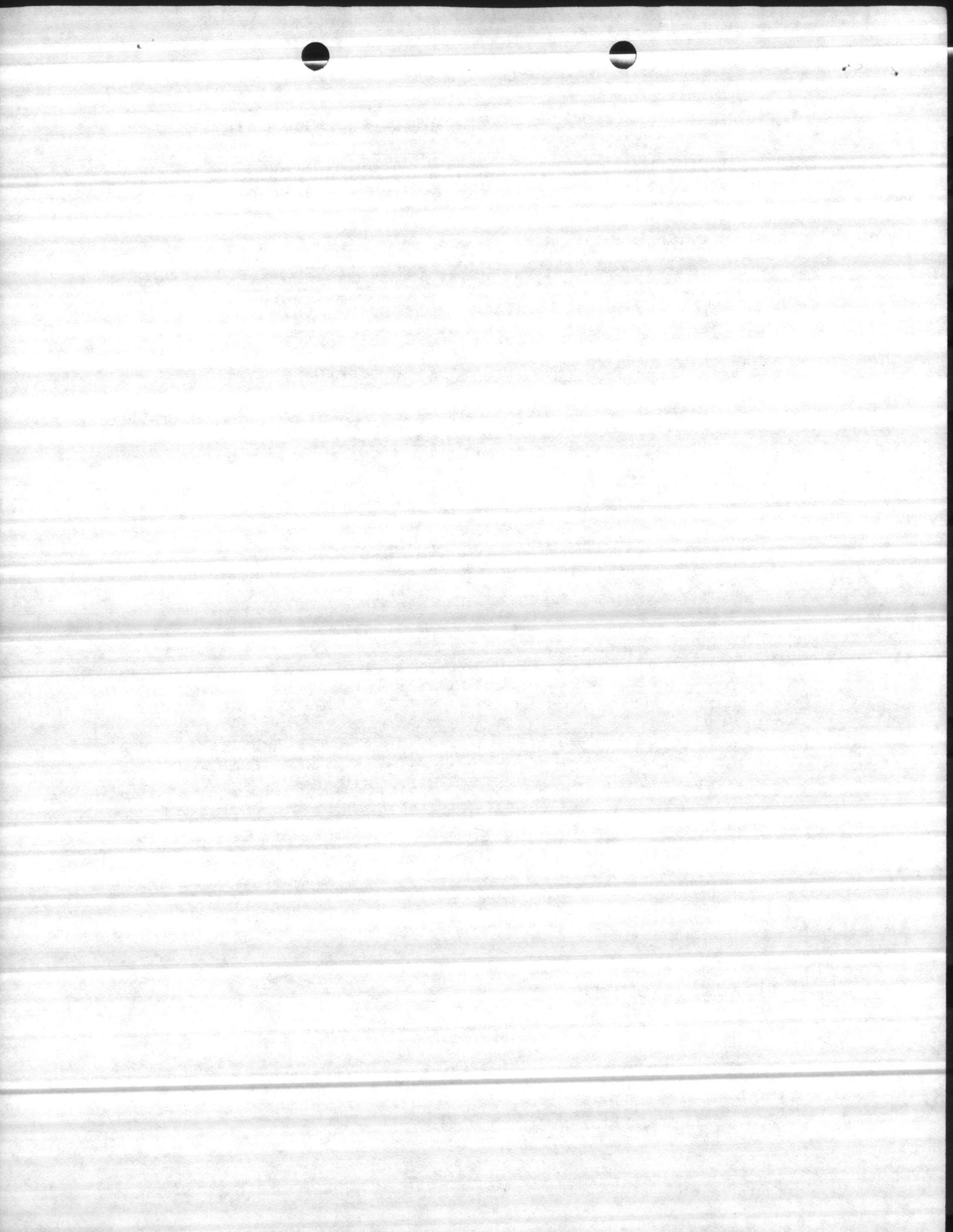
Location: AUXILIARY GENERATORS PREVENTIVE MAINTENANCE CHECKLIST

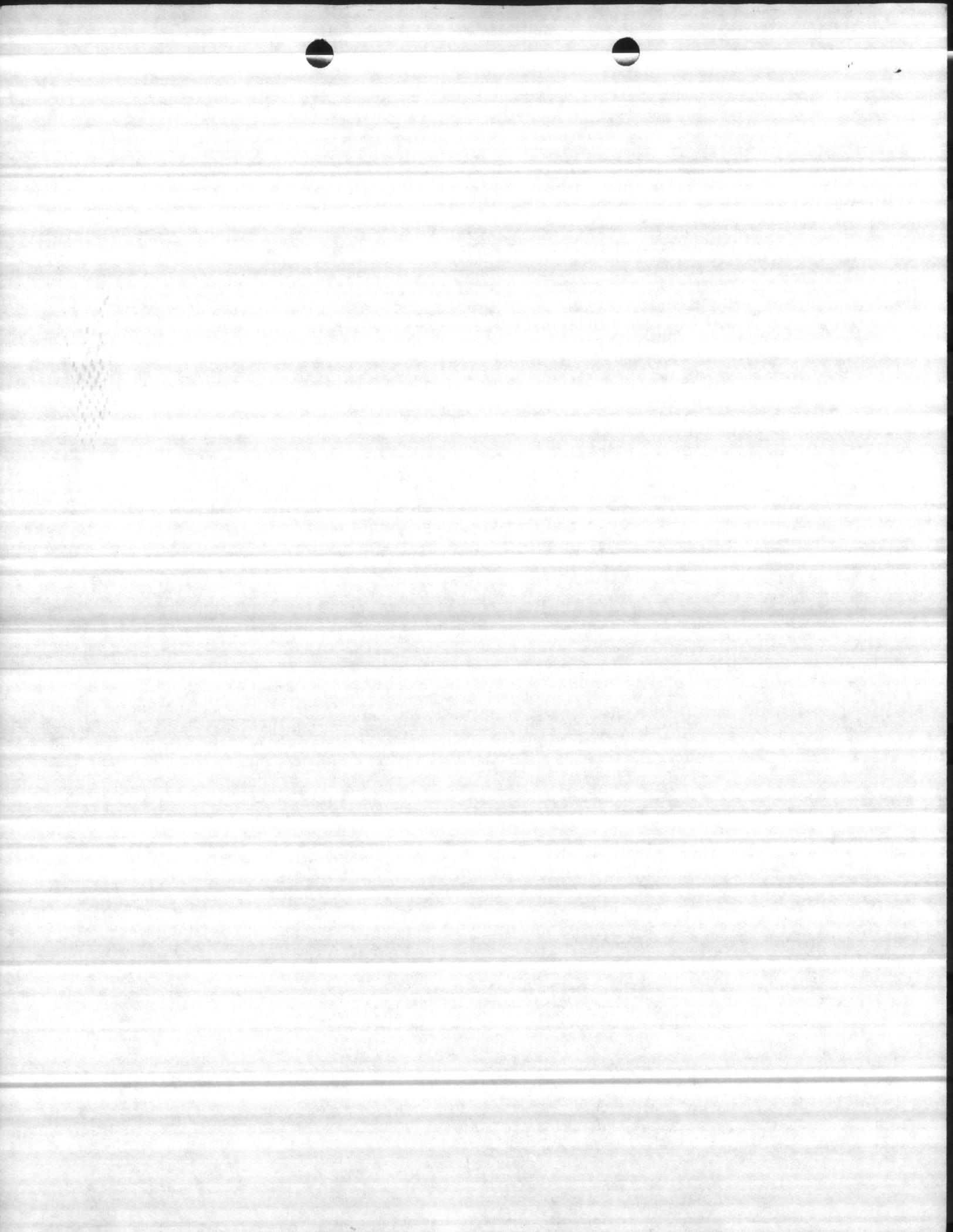
CHECKPOINT: DESCRIPTION

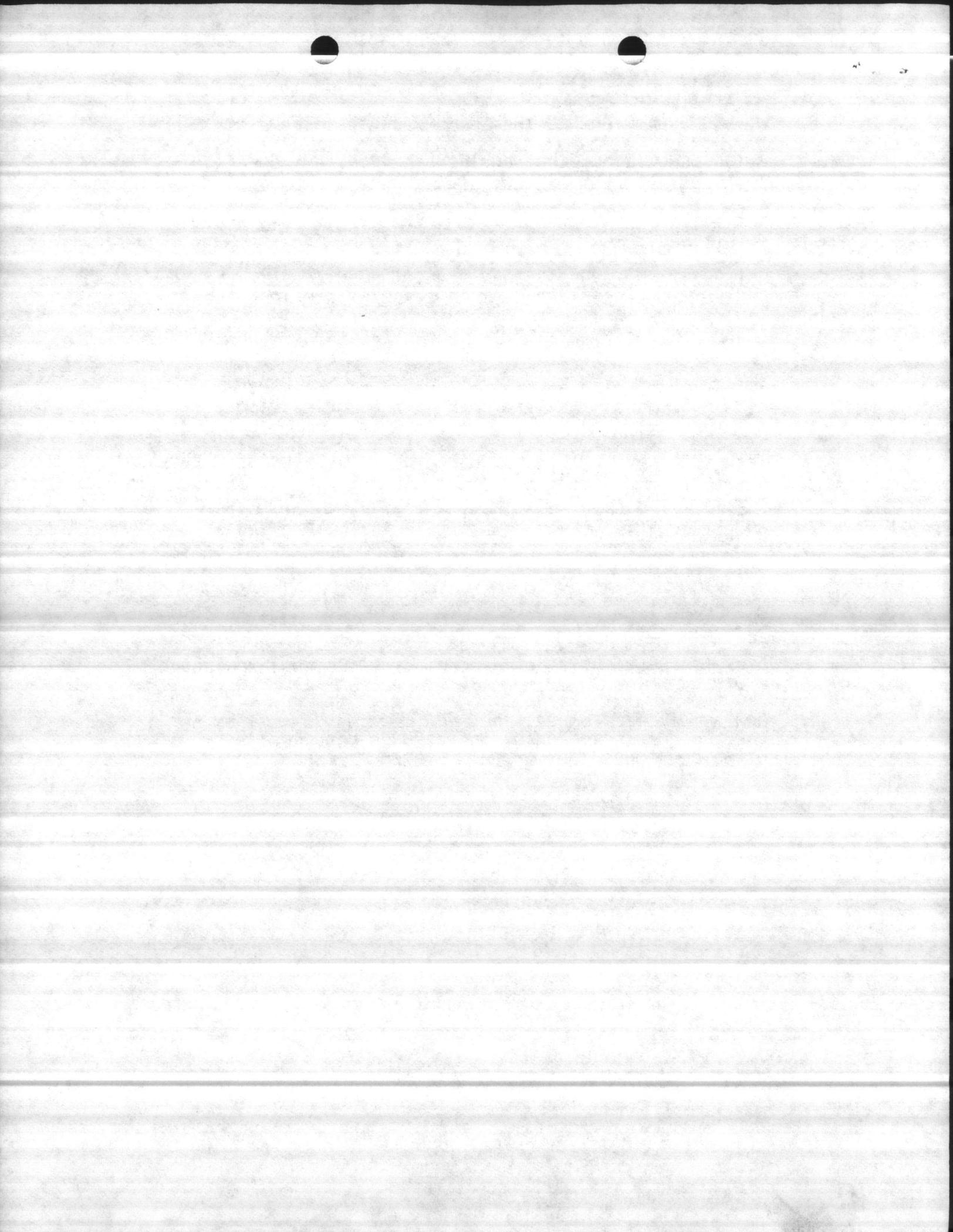
- : Monthly Checks:
- :
- 1. : Cooling system: Check condition of hoses and connections
- : and look for leaks, check condition and tension of belts
- :
- 2. : Operate transfer switch: Connect actual load by using test
- : switch if possible, check with DIC about interruption of
- : computers, etc. before you start operation test.
- :
- 3. : Fuel system: Make sure that fuel in the day and main tanks
- : are at the proper levels, check proper operation of
- : fuel transfer pump
- :
- 4. : Check auto transfer switch and emergency generator:
- : For rust and corrosion.
- :
- 5. : Electrical system: Check all engine and generator meters
- : and verify that they operate properly.

: NOTE: ISSUE TICKETS TO APPROPRIATE SHOPS FOR REPAIRS AS REQUIRED.

: *CONTACT INSPECTION SECTION, MR. JONATHAN WHALEY OR MR. G. L. SHOEMAKER FOR MAJOR GENERATOR PROBLEMS, SUCH AS WORN OUT GENERATORS, OR COMPLETE SYSTEM FAILURES.





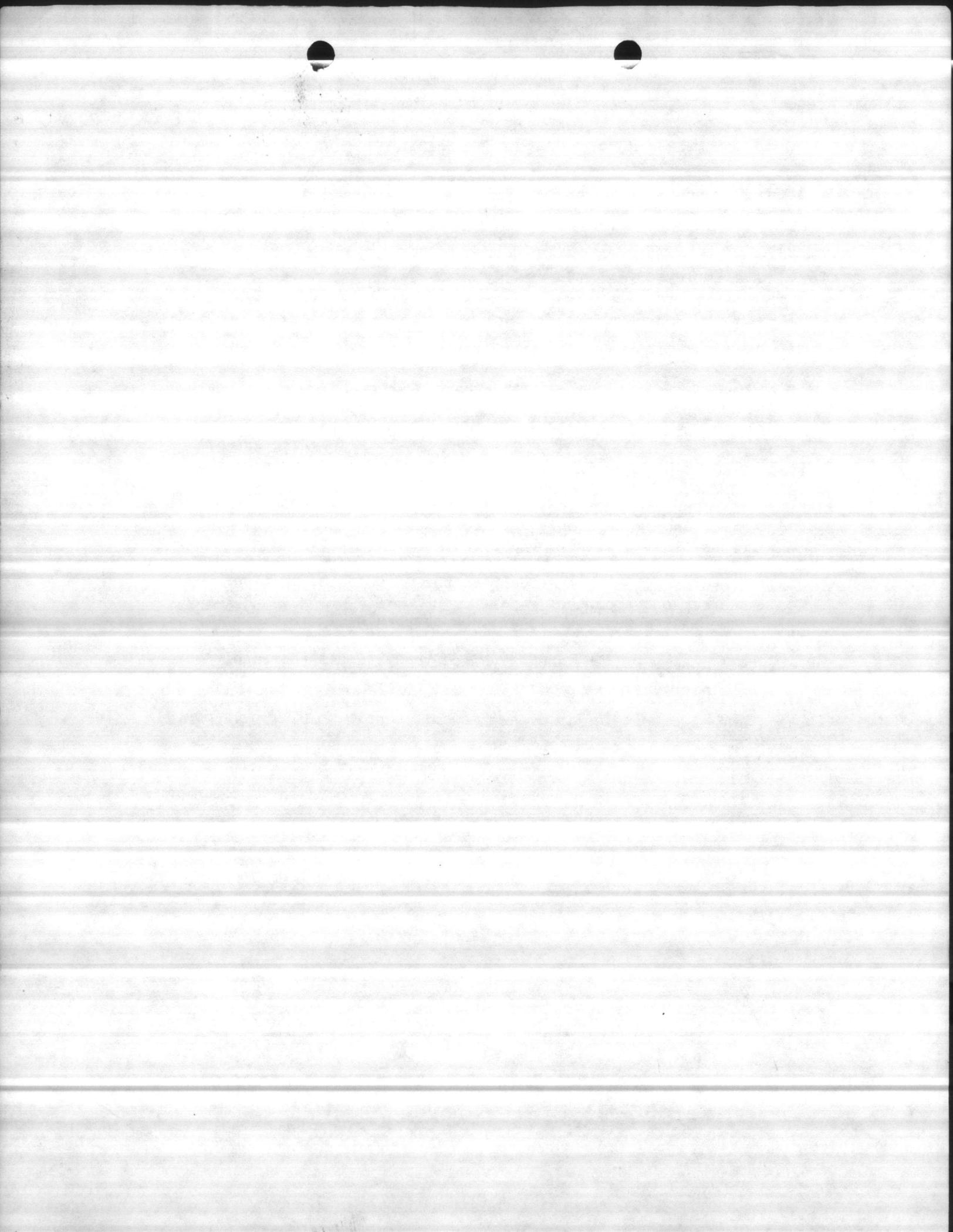


BASE MAINTENANCE DEPARTMENT
Utilities Division
Marine Corps Base
Camp Lejeune, North Carolina 28542

1 May 1975

From: Supervisors
To: All Employees
Subj: Lawn Mowers

1. The following procedures will be followed by ALL employees:
 - a. Oil and air cleaner will be checked prior to starting engine.
 - b. Mower will be greased prior to starting engine.
 - c. Blade tightness and condition will be checked prior to starting engine.
 - d. Since lawn mowers only cut grass and weeds, no more manholes, pipes, valves, lines or any inorganic materials will be cut.
 - e. Gross negligence is evident on the part of the operators by the current amount of repairs continually being repeated on the same lawn mowers - This will be stopped.
 - f. All mowers will be washed, wiped, and cleaned thoroughly before leaving shift each day that grass is cut.
 - g. Any discrepancies in a lawn mower's condition will be reported immediately to the Foreman.
 - h. All inspections by the Foreman and General Foreman will include inspection of lawn mowers, and any mower found in improper condition will be considered grounds for proper disciplinary action.



BASE MAINTENANCE DEPARTMENT
Marine Corps Base
Camp Lejeune, North Carolina 28542

MO 11330
MAIN/RES/gbg
19 Oct 1978

MAINTENANCE ORDER 11330

From: Base Maintenance Officer
To: Distribution List

Subj: Standing Operating Procedures - Potable Water Sampling

Encl: (1) Fluoride Sampling Procedures
(2) Chemical Analysis Procedures
(3) Bacteriological Sampling Procedures
(4) Semi-Annual Well Fluoride Sampling Procedures

1. Purpose. To publish a standard procedure for potable water sampling technique and schedule for the Marine Corps Base in accordance with state and naval regulations, and the Safe Drinking Water Act.

2. Responsibilities.

a. The General Foreman, Water Treatment Branch, is responsible for the proper collection of potable water samples from the distribution system and water treatment plants. The General Foreman is also responsible for the delivery of water samples to the Quality Control Laboratory, Building 65.

b. The Chief, Quality Control Laboratory is responsible for

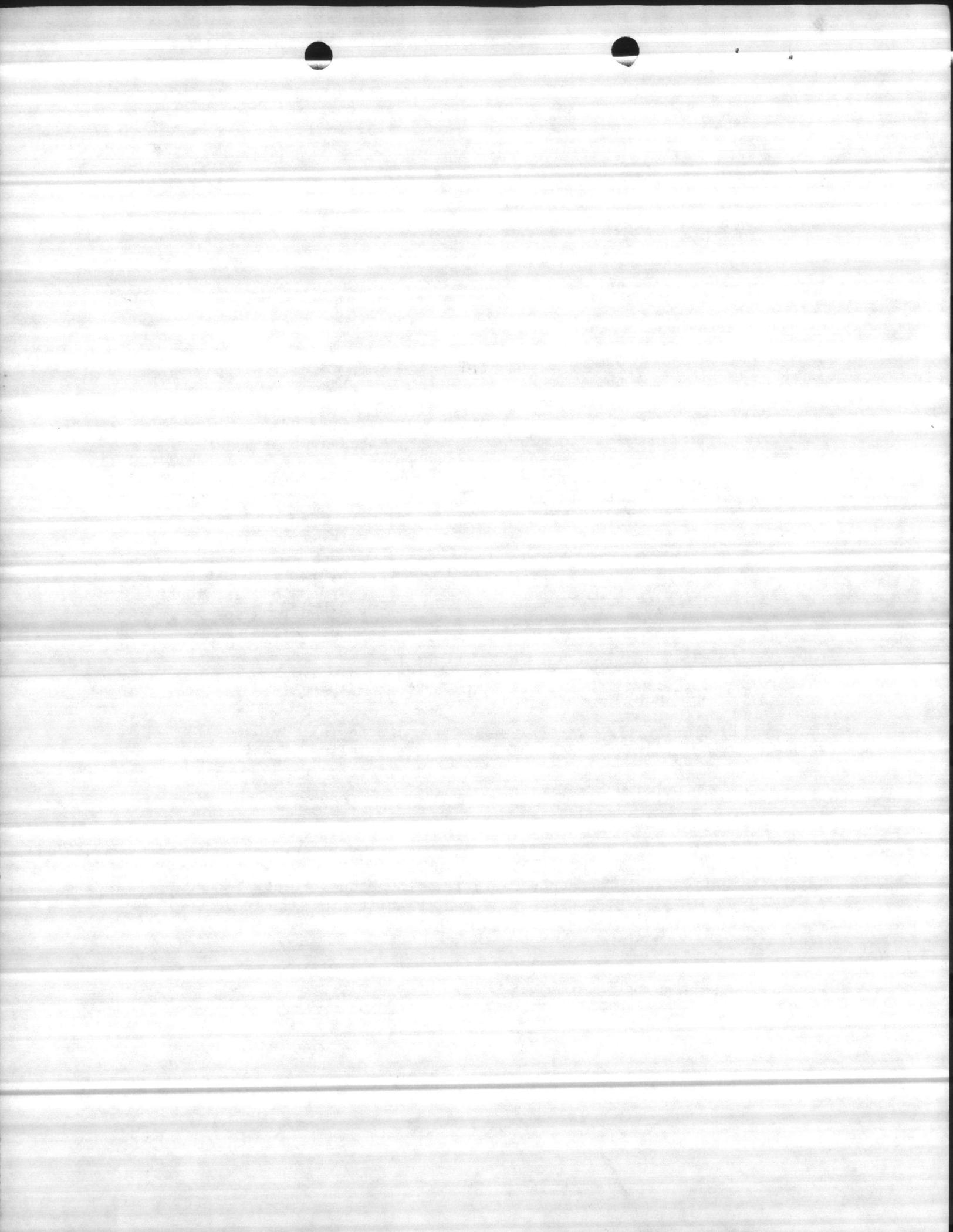
(1) Instructing water samplers (designated by the General Foreman, Water Treatment Branch) in the proper sampling techniques.

(2) Providing adequate containers for sampling.

3. Frequency of Sampling.

a. Fluoride samples of treated and untreated water will be collected daily (seven days per week) from the Hadnot Point, Tarawa Terrace, and Holcomb Blvd Water Treatment Plants. (See Enclosure (1) for procedures.)

b. Chemical analysis samples of treated water will be collected weekly from all Water Treatment Plants. (See Enclosure (2) for procedures.)



Chemical Analysis Sampling Procedures

1. General.

a. Samples will be collected each Tuesday from all the Water Treatment Plants' treated water. These samples are used to determine that proper treatment and chemical additions have been performed.

b. Sample bottles will be provided by the laboratory.

2. Apparatus.

a. Sample bottle, 1000 mls, plastic pre-labeled.

b. Chlorine residual label sticker on bottle.

c. Sample container or carrier.

3. Sampling Procedure.

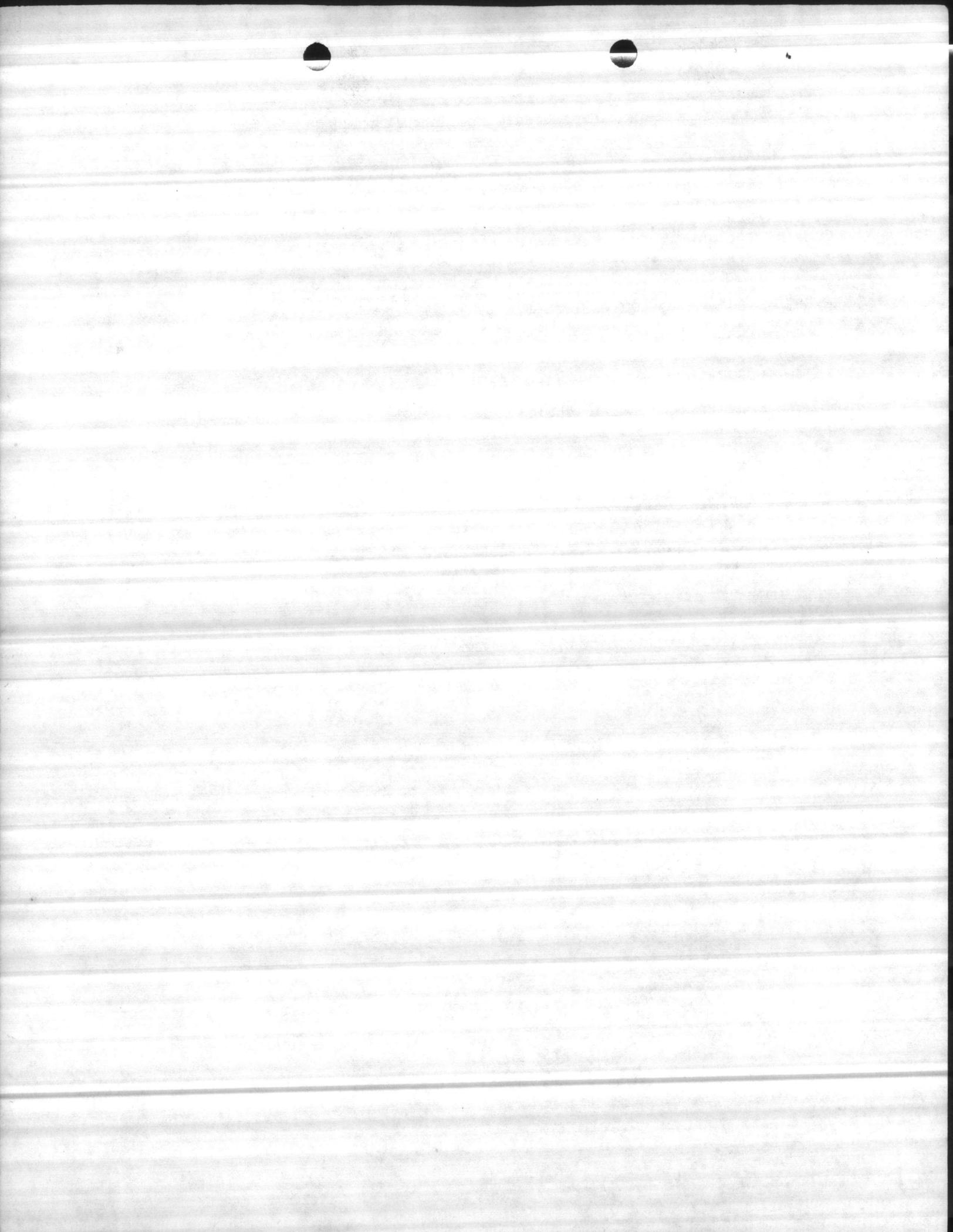
a. Turn on the spigot and run the water (to waste) approximately one minute or longer to clear the line.

b. Rinse the sample bottle with the sample two times (i.e., fill up the bottle and discard the contents).

c. Fill the sample bottle with the sample.

d. Test for the chlorine residual and record it on the sample bottle.

e. Deliver the samples to the laboratory.

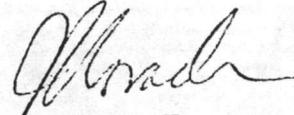


MO 11330
19 Oct 1978

c. Bacteriological analysis samples of all potable water distribution systems will be collected weekly. (See Enclosure (3) for procedures.)

d. Fluoride analysis samples of well water will be collected semi-annually. (See Enclosure (4) for procedures.)

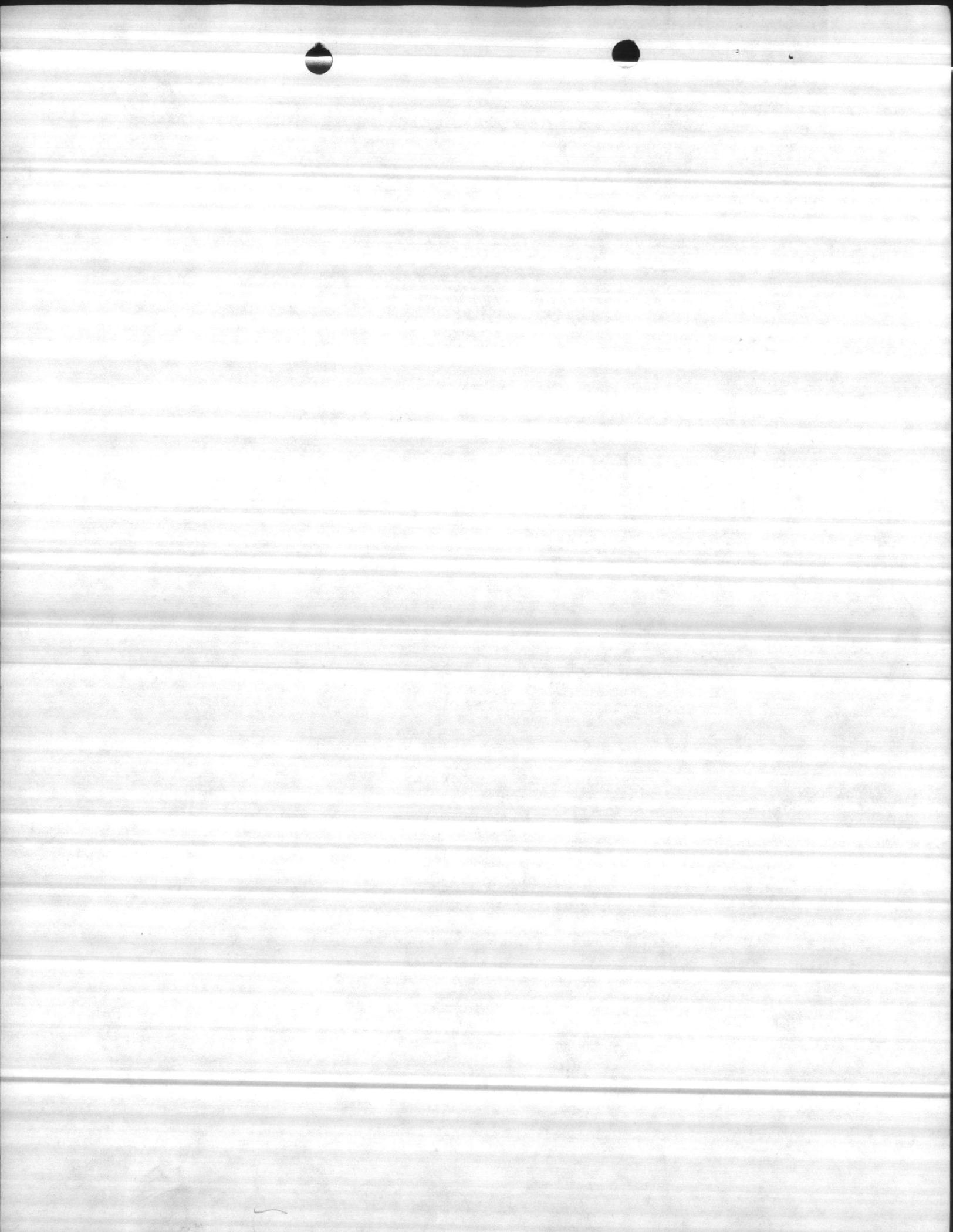
e. Repeat or check samples will be collected as required.



J. KOVACH

DISTRIBUTION:

Dir, NREA Div
✓ Dir, Utilities Div
Dir, Admin Div
Dir, Opns Div



Fluoride Sampling Procedures

1. General.

a. Daily samples will be collected from the raw and treated water from each Water Treatment Plant that adds fluoride to the water.

b. Sample locations will be designated by the General Foreman, Water Treatment Plant.

c. Fluoride samples will be collected each morning and delivered to the laboratory by 1000 hours.

2. Apparatus.

a. Plastic bottles, 500 mls. Each bottle to be labeled (i.e., raw, treated).

b. Sample carrier or container.

3. Sampling Procedure.

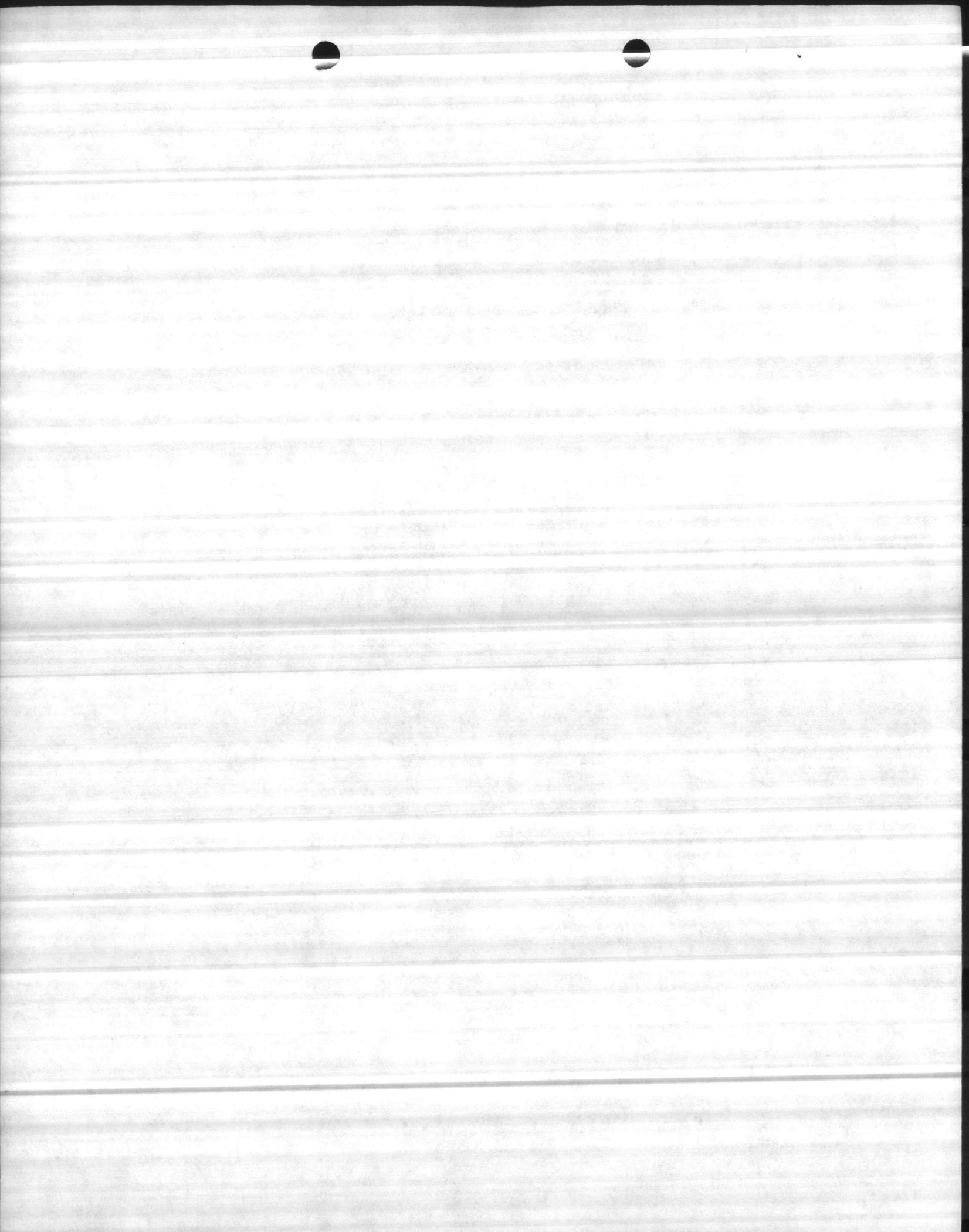
a. Turn on the spigot and run water (to waste) approximately one minute or longer to clear the line.

b. Rinse the sample bottle with the sample two times. (Note: This step is important to assure a good sample).

c. Fill the sample bottle.

d. Deliver the samples to the laboratory.

e. Pick up bottles for the next day's samples.



Semi-annual Well Fluoride Sampling Procedures

1. General.

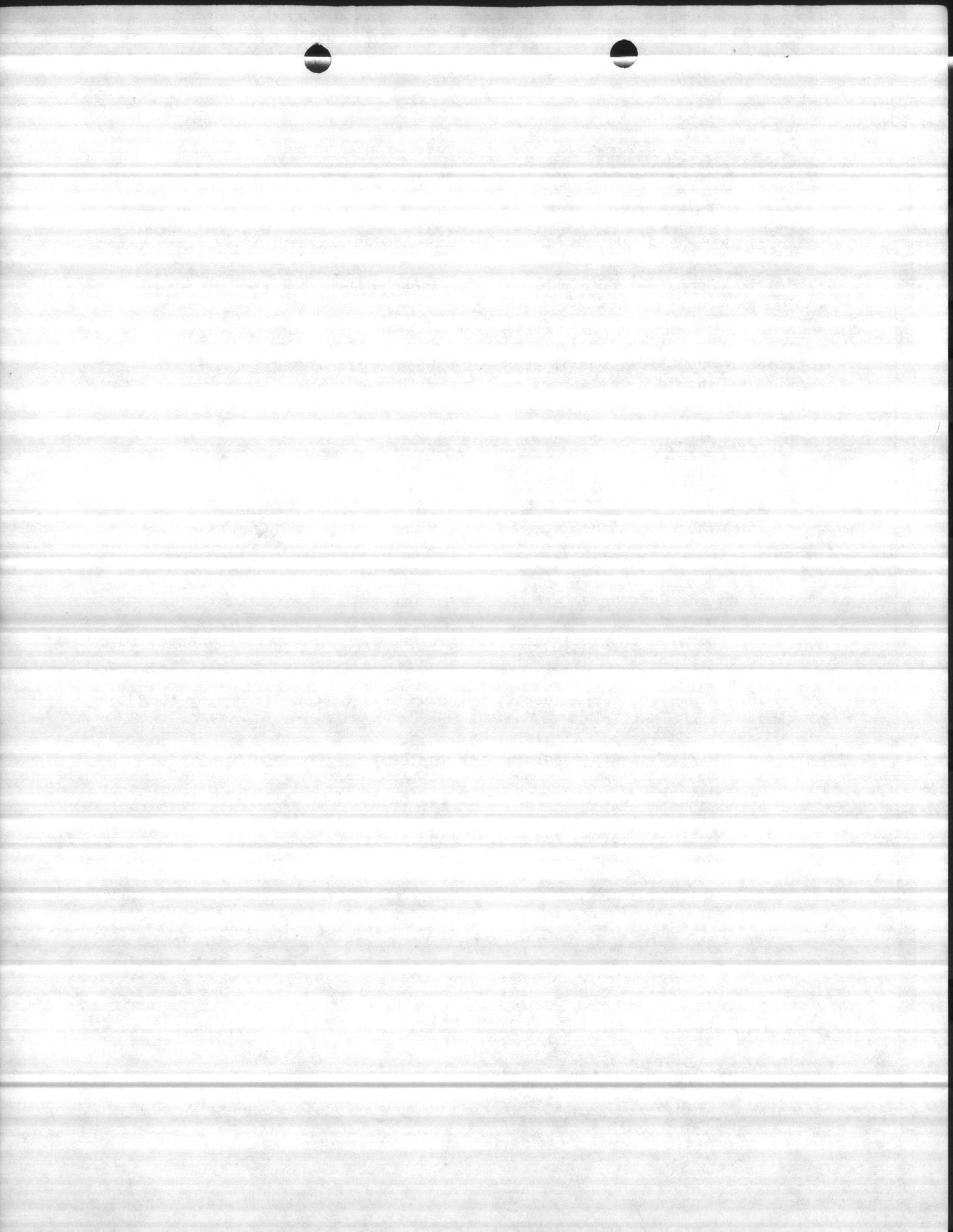
- a. Fluoride samples are collected twice a year from the well sites.
- b. Sampling periods are from January to June and from July to December.
- c. Sample collection times will be agreed upon by the General Foreman and Chief, Quality Control Laboratory. Ideally, these samples should be collected during a one-week period, time and schedule permitting.

2. Apparatus.

- a. Plastic or glass sample bottles.
- b. List of wells.
- c. Sample carrier or container.

3. Sampling Procedure.

- a. Turn on the well sample spigot and run the water (to waste) to clear the line.
- b. Rinse the sample bottle twice by filling and discarding the sample in the bottle.
- c. Fill the sample bottle with the sample.
- d. Record the well building number on the tape on the bottle.
- e. Deliver the samples to the laboratory.



Bacteriological Sampling Procedure

1. General.

a. Bacteriological sampling will be conducted each Tuesday. The purpose of the sampling is to insure disinfection and that bacteria do not exceed the limits established by the Safe Drinking Water Act of four per 100 milliliters (mls), or more than an average of 1 per 100 mls for the distribution system.

b. It is extremely important that proper precautions and techniques are used to preclude water samples from becoming contaminated with bacteria from hands, clothing, etc.

* c. DO NOT take samples from outside spigots or from leaking spigots.

d. When taking samples from spigots that have aerators, remove the aerator before running the water (to waste) and collecting the sample. After the sample is collected replace the aerator.

2. Apparatus.

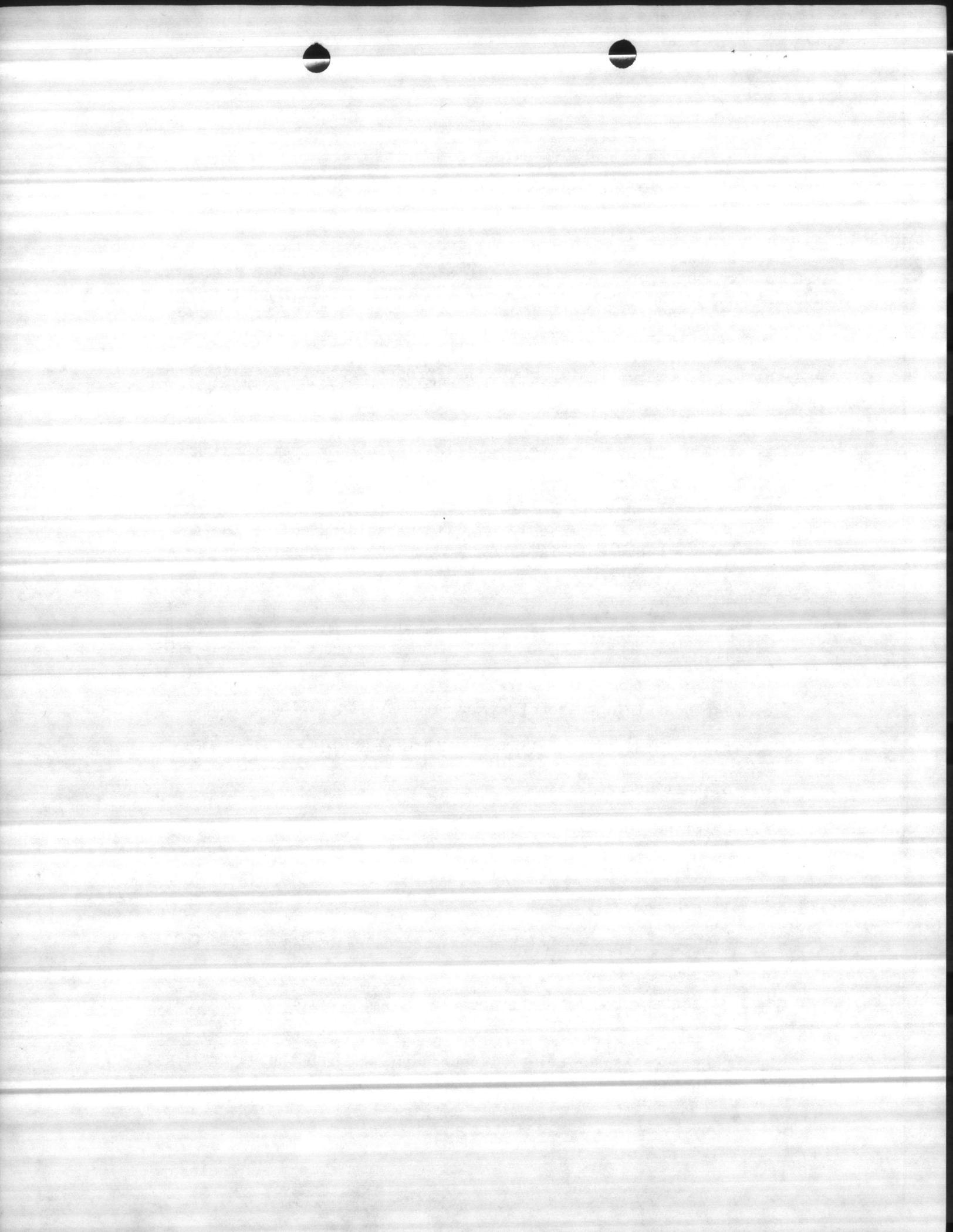
- a. Sterile sample bottle, approximately 100 mls.
- b. Forceps
- c. Jar containing alcohol - saturated cotton balls
- d. Bacteriological Sample Form (MCBCL 11330/4)
- e. Lighter or matches
- f. Chlorine Test Kit
- g. Sample bottle rack or holder

3. Sampling Procedure.

a. Select the proper building (as indicated on the Sample Collection Form).

b. Select the proper number bottle that corresponds to the sample site.

c. Remove faucet aerator, if necessary, and run the water (to waste) for five minutes.



d. Perform a chlorine check on the water, and record the results on the form. (Note: Chlorine residual should be 0.2 mg/l, or higher).

* e. Shut off the water and flame the spigot for about one minute to sterilize.

f. Turn on the water and run (to waste) a few seconds.

g. Remove the top of the sample bottle, taking care not to handle the neck of the bottle or the inside of the cap, and collect about 100 mls of sample. (Note: DO NOT rinse the bottle. DO fill only to the shoulder of the bottle, leaving about one inch of air space).

h. Recap the bottle and return it to the sample carrier.

4. Bacteriological Form MCBCL 1130/4.

a. Record the chlorine residuals in the appropriate place.

b. In "roving" area sample, write the building number sampled.

c. The person collecting the samples must sign and date the form in the place indicated.

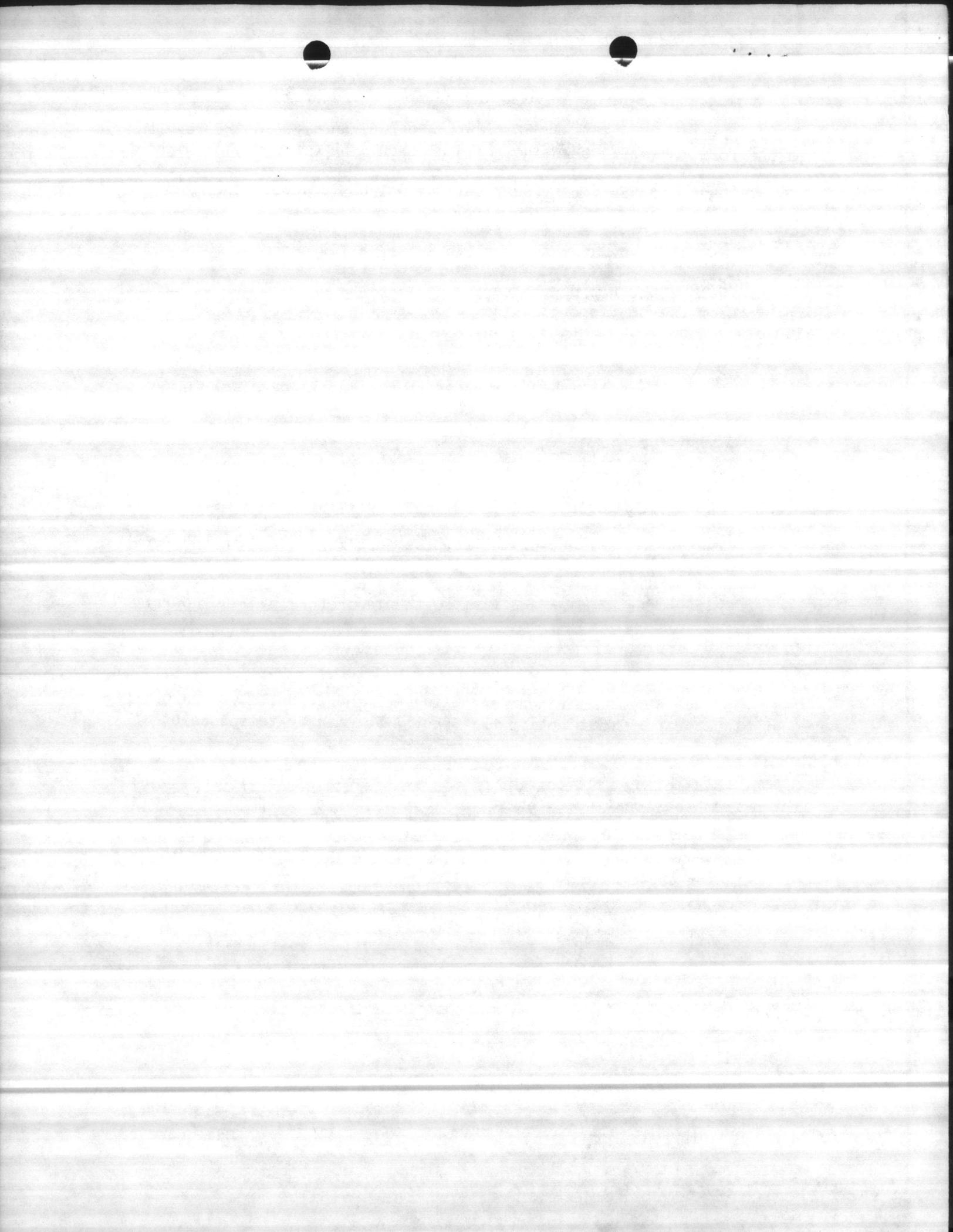
d. Return the samples and form to the laboratory by 1400 hours.

5. Repeat Samples.

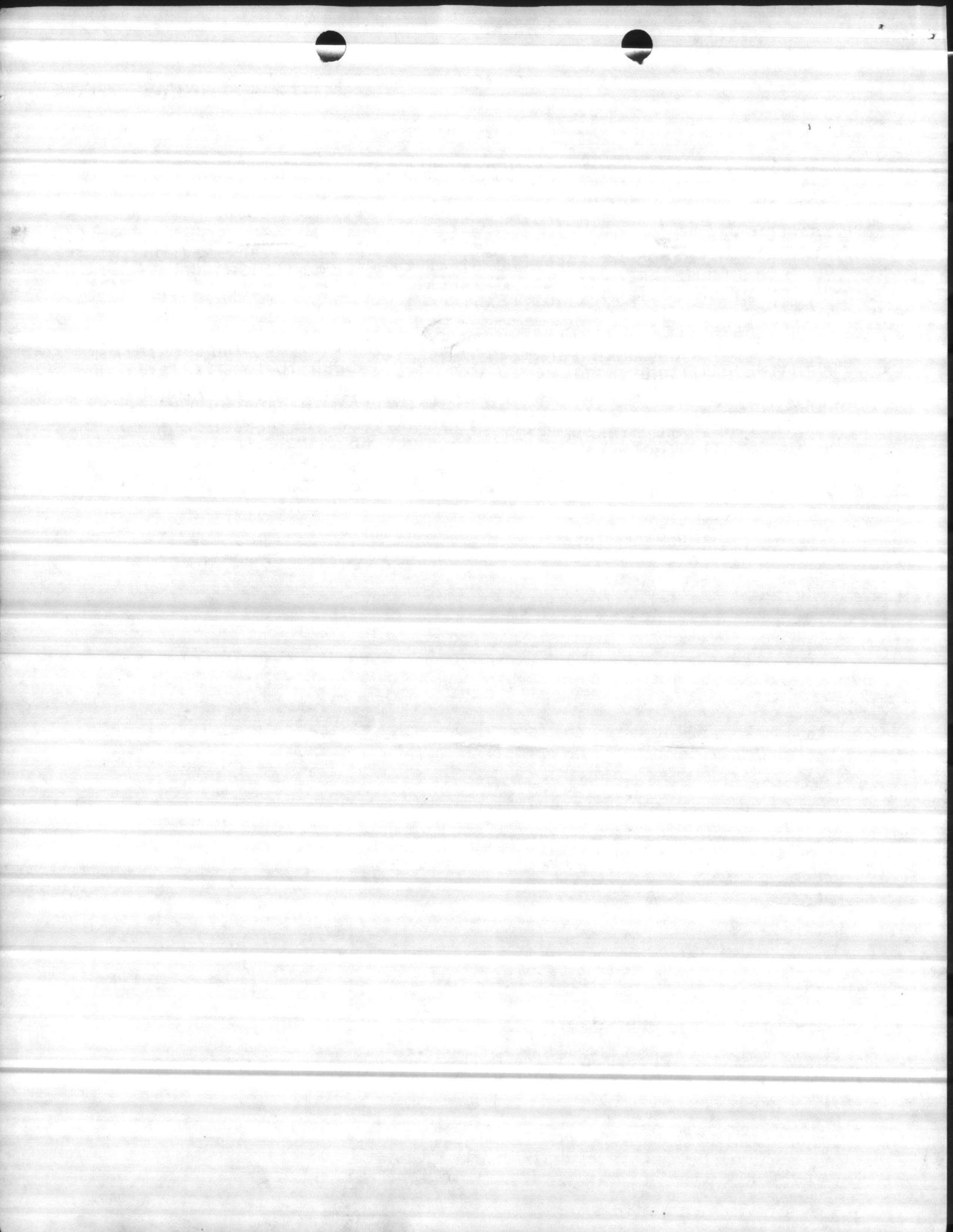
a. From time to time the bacteria count will exceed the permissible limit of four per 100 mls and resampling must be conducted. The Quality Control Laboratory will notify the General Foreman by telephone of this need.

b. Resampling will consist of at least two additional samples taken from the location in question. Resampling procedures will be performed as outlined in the Sampling Procedures.

NOTE: Make sure you record time of collection on MCBCL Form 1130/4. This is for each bacteria sample collected. Also make sure form is signed and dated on bottom of form.



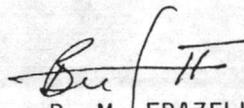
HOUSEKEEPING & SAFETY

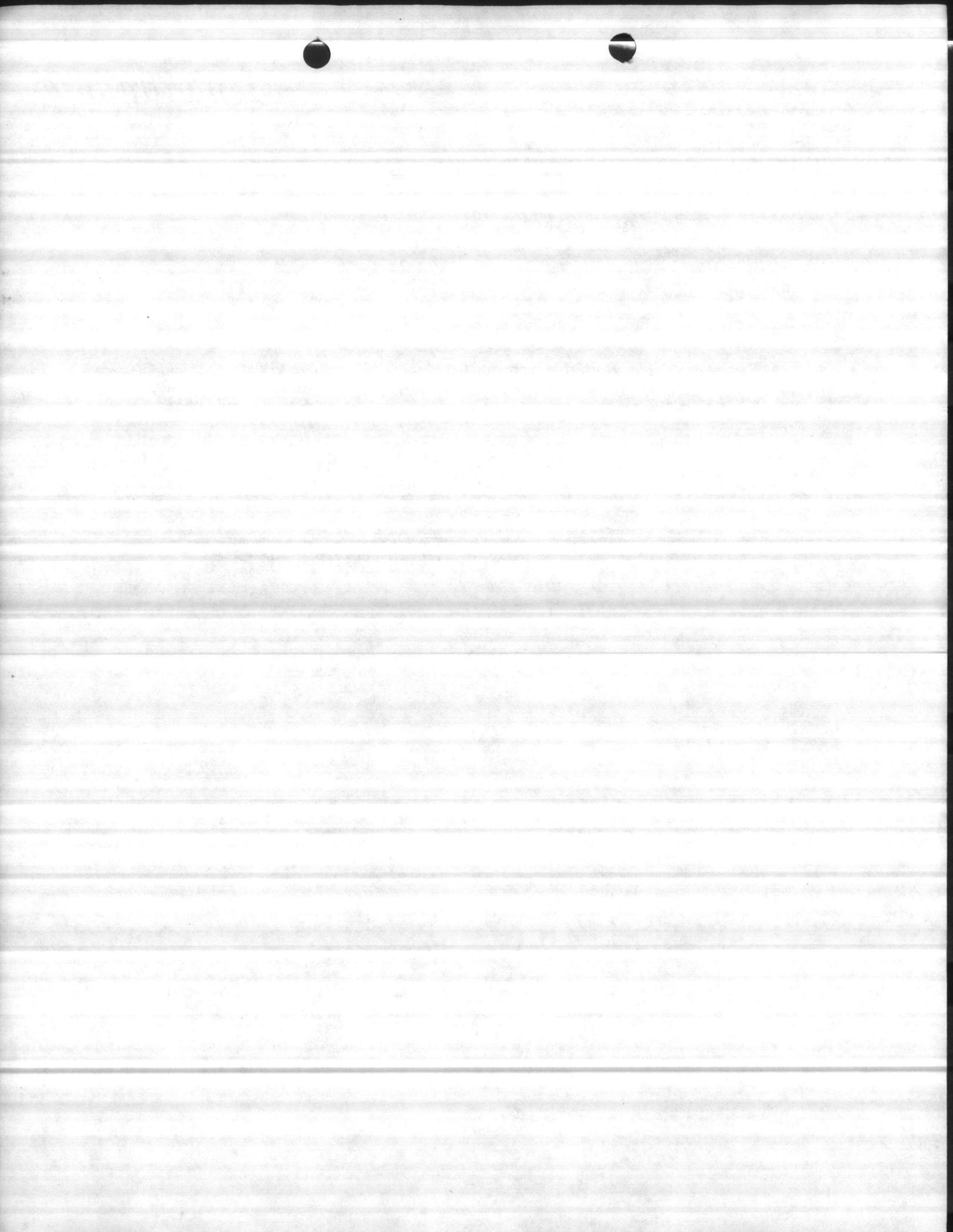


DATE: 18 March 1987
FROM: Utilities Systems General Foreman
TO: All Personnel

SUBJ: HANDLING CHEMICALS; REGULATIONS CONCERNING

1. All personnel are reminded appropriate personal protective equipment will be utilized when handling and using all chemicals. If you are unsure of appropriate personal protection to utilize, contact your leader on duty or supervisory personnel.
2. Disciplinary action may be taken for failure to utilize appropriate personal protection.

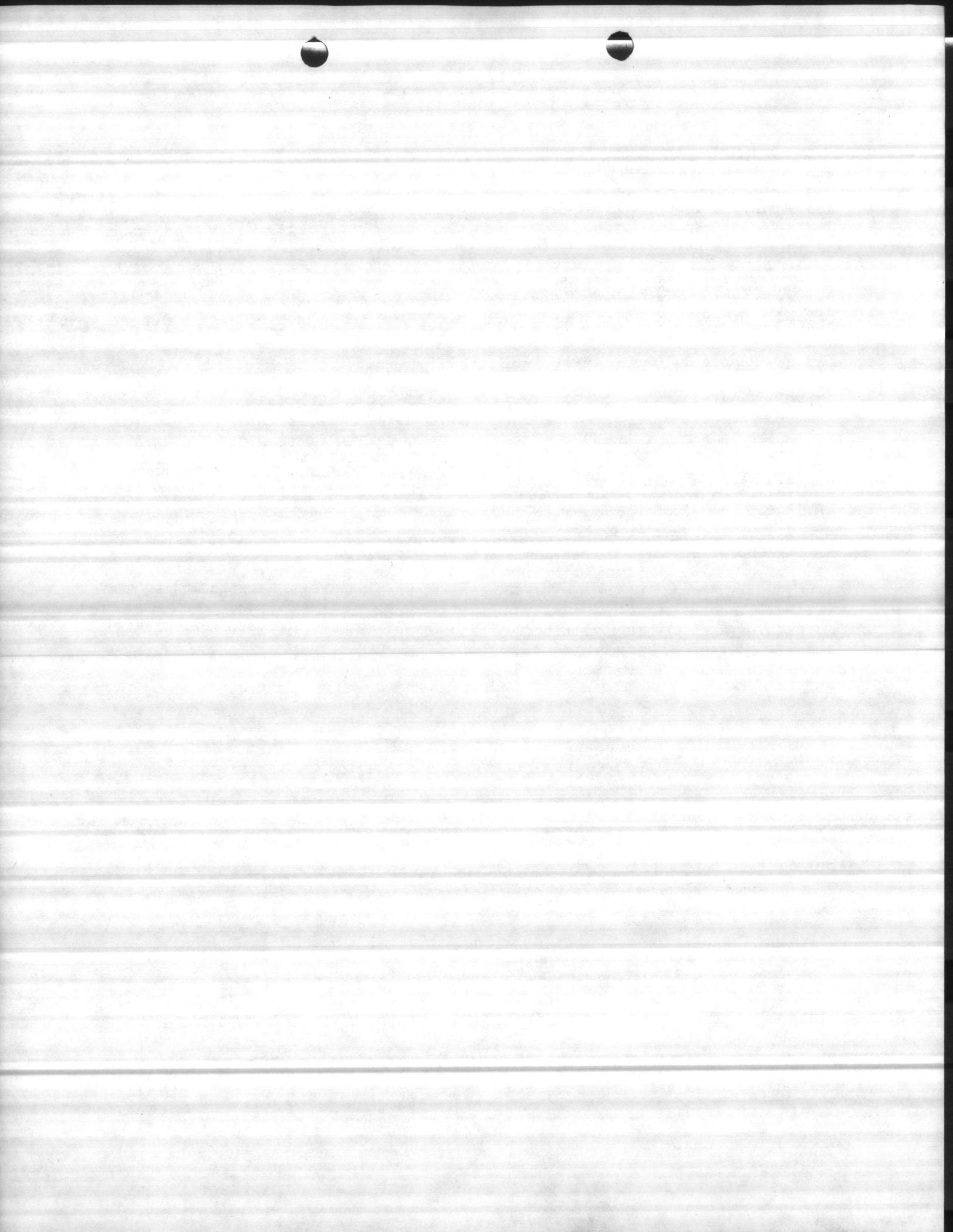

B. M. FRAZELLE, II



STANDARD OPERATING PROCEDURES

DRY CHLORINE (H.T.H.)

1. H.T.H. is a form of Chlorine and must be handled with Caution. When using H.T.H. to spread at sewage breaks and other areas such as pits, tanks, etc., the following will be worn.
 - A. Rubber Gloves
 - B. Rubber Boots as required
 - C. Goggles
 - D. Rubber Pants and Jackets as required
 - E. Masks or Respirators if using in confined spaces or using in concentrated form.
2. Do not handle with bare hands. Wear goggles or face shield and rubber gloves, and only thoroughly clean, dry, utensils when handling. Irritating to nose and throat. Avoid breathing dust and fumes. Remove and wash contaminated clothing before reuse.



SECTION II

SAFETY STANDARDS AND PROCEDURES201. SAFETY STANDARDS

1. All personnel must give active support through initiative and leadership in safety matters.
2. Safety must be considered important in both work improvement and production.
3. Environments must be provided and maintained to assure maximum safety to personnel in offices, shops, utility plants, and in the field.
4. Methods and operating procedures must be such that personnel will not be exposed unnecessarily to accidents or industrial health hazards.
5. Personnel will be instructed to work in a safe way at all times, and methods must be continually revised to ensure that jobs are being performed safely as well as efficiently.
6. Safety devices and machine guards will be furnished for hazardous operations and danger points, and use is mandatory.
7. Ample protection from electrical shock must be provided.
8. Personal protective equipment will be worn by personnel engaged in hazardous work, and its use will be mandatory.
9. Personnel will be assigned only to jobs they are physically qualified to perform and permitted to work only when physically fit.
10. Equipment, tools and component parts used by personnel will be so designed and built so that work can be carried out safely and efficiently.
11. Injuries, however minor, and diseases arising from industrial operations will be treated and reported promptly in accordance with safety rules and regulations.

202. SHOP SAFETY PROCEDURES

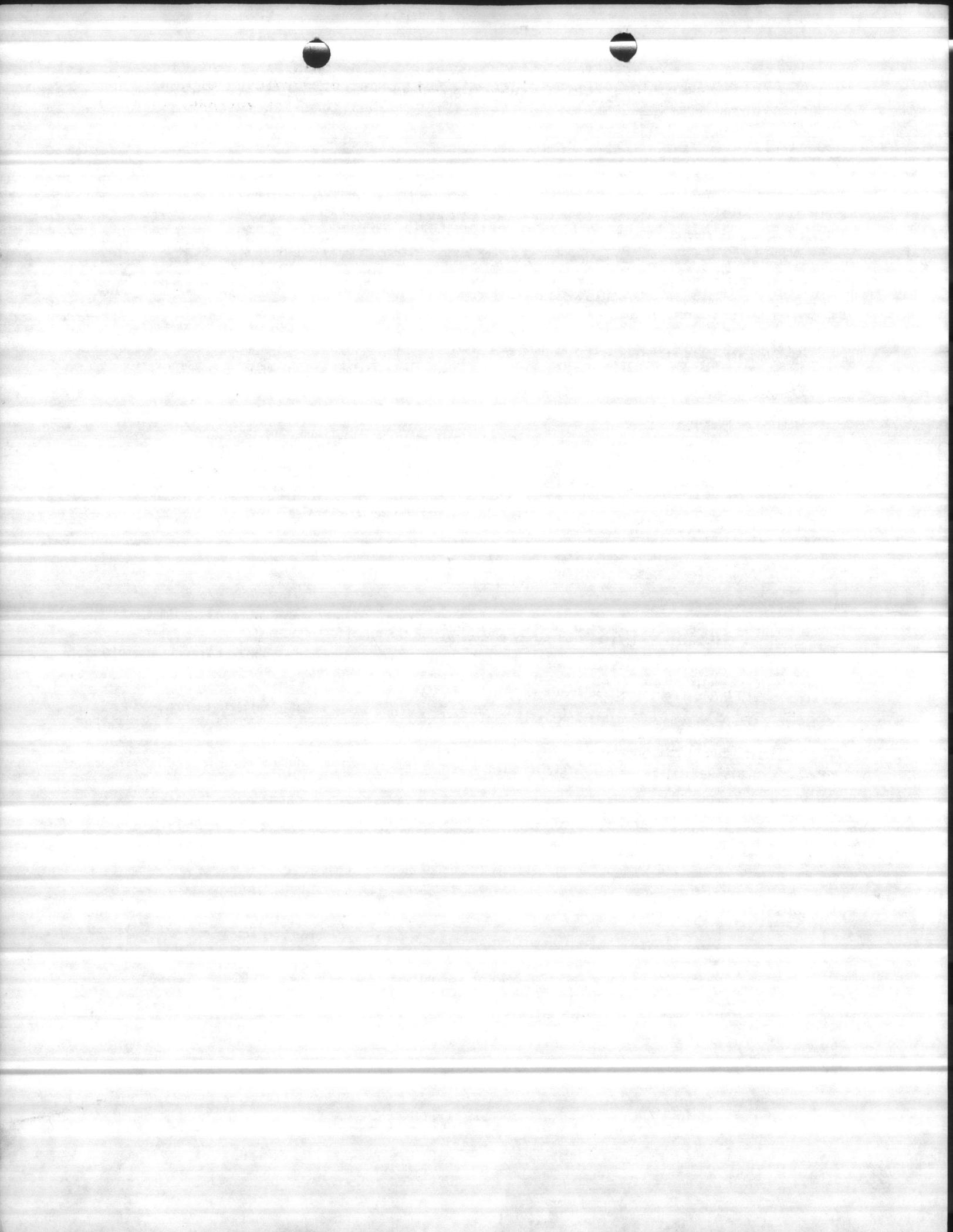
1. The intent of this Order is to provide general safety guidance and not specific shop procedures. Therefore, shop supervisors will institute written shop safety procedures for their respective shop or plant.
2. Shop Safety Procedures will as a minimum contain the information and location of shop hazard areas (i.e., noise, eye, foot, etc.), equipment hazards and safeguards, smoking/non-smoking areas, location of protective equipment, and other safety information deemed applicable by the shop supervisor.
3. The Shop Safety Procedures and this Order will be permanently displayed on all shop bulletin boards.

203. SAFETY ORIENTATION AND TRAINING

1. New shop employees will be given a safety orientation by the shop supervisors which will include the Shop Safety Procedures and the contents of this Order.
2. Appropriate training will be given new employees on equipment and/or operations of high hazard risks.
3. Employees returning to duty from safety related on-the-job injuries will be critiqued by the supervisor to prevent recurrence of similar accidents.

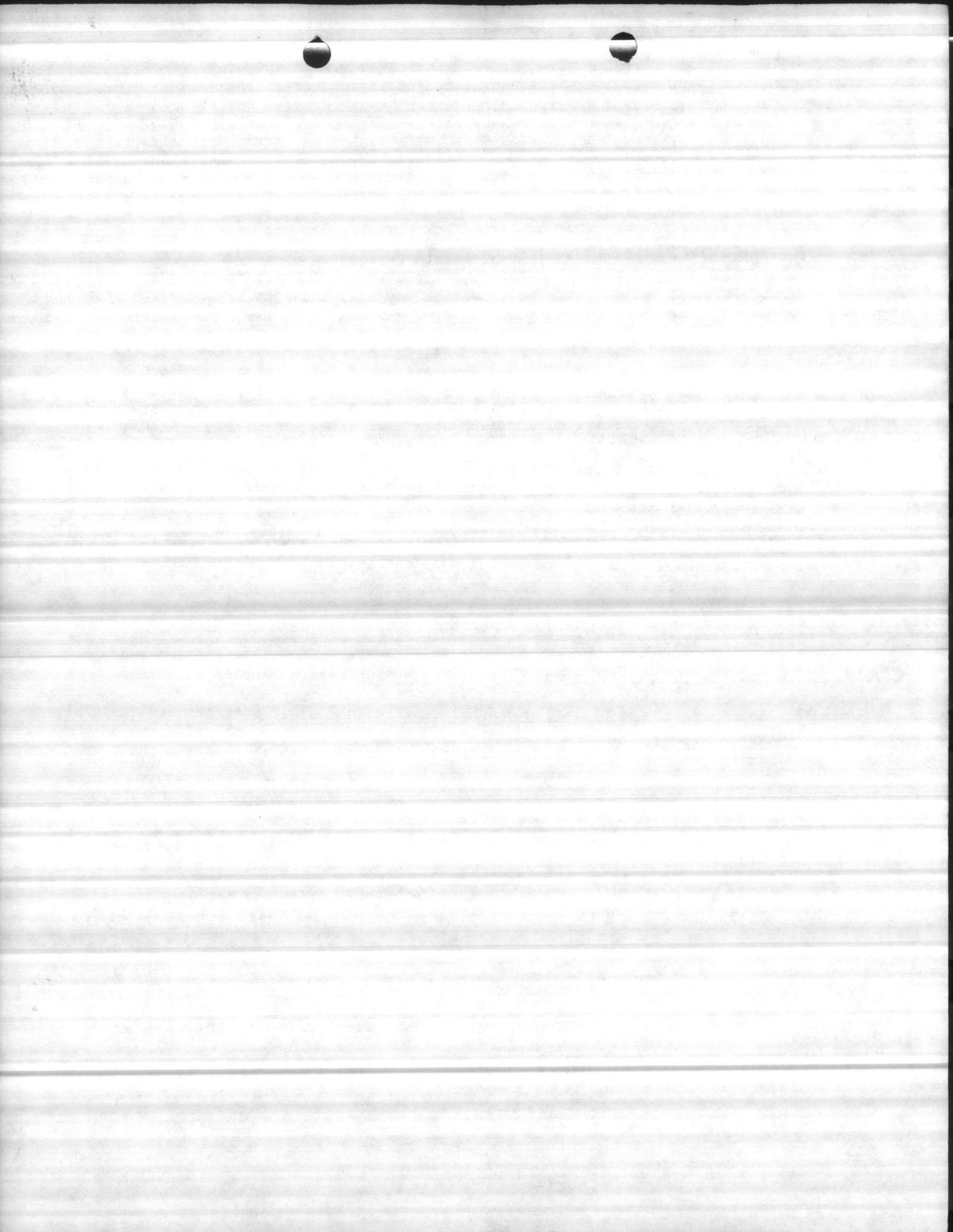
204. SAFETY INSPECTIONS

1. Inspections will be conducted by supervisors at all levels on a continuing basis to determine and correct unsafe practices or conditions before they cause accidents.
2. Discrepancies noted on safety inspections will be corrected immediately. Corrective action not within the scope of a shop supervisor will be reported to the Base Maintenance Safety Officer.
3. In the event corrective action cannot be immediately accomplished, appropriate action will be taken to inform personnel, deadline equipment, etc. to avoid a possible accident.



205. Lock-out and Tagging of Power Sources

1. Employees are required to lock-out and tag the main source of power before any maintenance, inspection, cleaning, adjusting, or servicing of equipment or systems (electrical, mechanical or other) that requires entrance into, or close contact with, machinery, equipment or systems that have potential to cause injury or death. The lock-out shall be of a technique that physically prevents a reactivation of a main power source by means of padlocks, blank flanges, padlock-with-chains, or similar devices, and accompanied by a tag that has the installer's full name, shop, phone number and date of installation.
2. In any instance where a physical lock-out of the main power source is not possible, a "watch stander" is required to be located at the control device for the duration of any work efforts. Employees performing the work are responsible for complying with either the physical lock-out or the watch-standing arrangement.
3. Supervisors are responsible for training or reviewing lock-out/tagging procedures with each employee not less than on an annual basis and each training/review session shall be documented accordingly. Documentation will include the signature of each employee as confirmation that training/review of lock-out/tagging has been conducted and understood.
4. Every shop that conducts work involving electrical, mechanical, hydraulic, pneumatic, or any potentially harmful power source is required to conduct training/review sessions.
5. New employees are to receive training prior to any work assignment. Typically, this is to be done during shop check-in.
6. All employees required to perform lock-out/tagging will be furnished appropriate locks and tags at all times. Each employee required to perform lock-out/tagging will also be furnished with the OSHA Standard Requirements For Locking and Tagging Guide for reference. Respective shop foremen are responsible for providing and maintaining an appropriate supply of items.
7. The Directors of Utilities and Maintenance and Repair Branches are responsible for implementing, verifying, and associated record-keeping requirements to ensure compliance with the procedures as described in this paragraph.



20
6260
MAIN
12 Sep 90

From: Industrial Hygienist
To: Base Maintenance Officer
Via: Director, Utilities

Subj: HANDLING AND STORING CHLORINE GAS CONTAINERS

Ref: (a) 29 CFR 1910.134
(b) Occupational Exposure to Chlorine, HEW Publication
No. (NIOSH) 76-170 dtg 1976

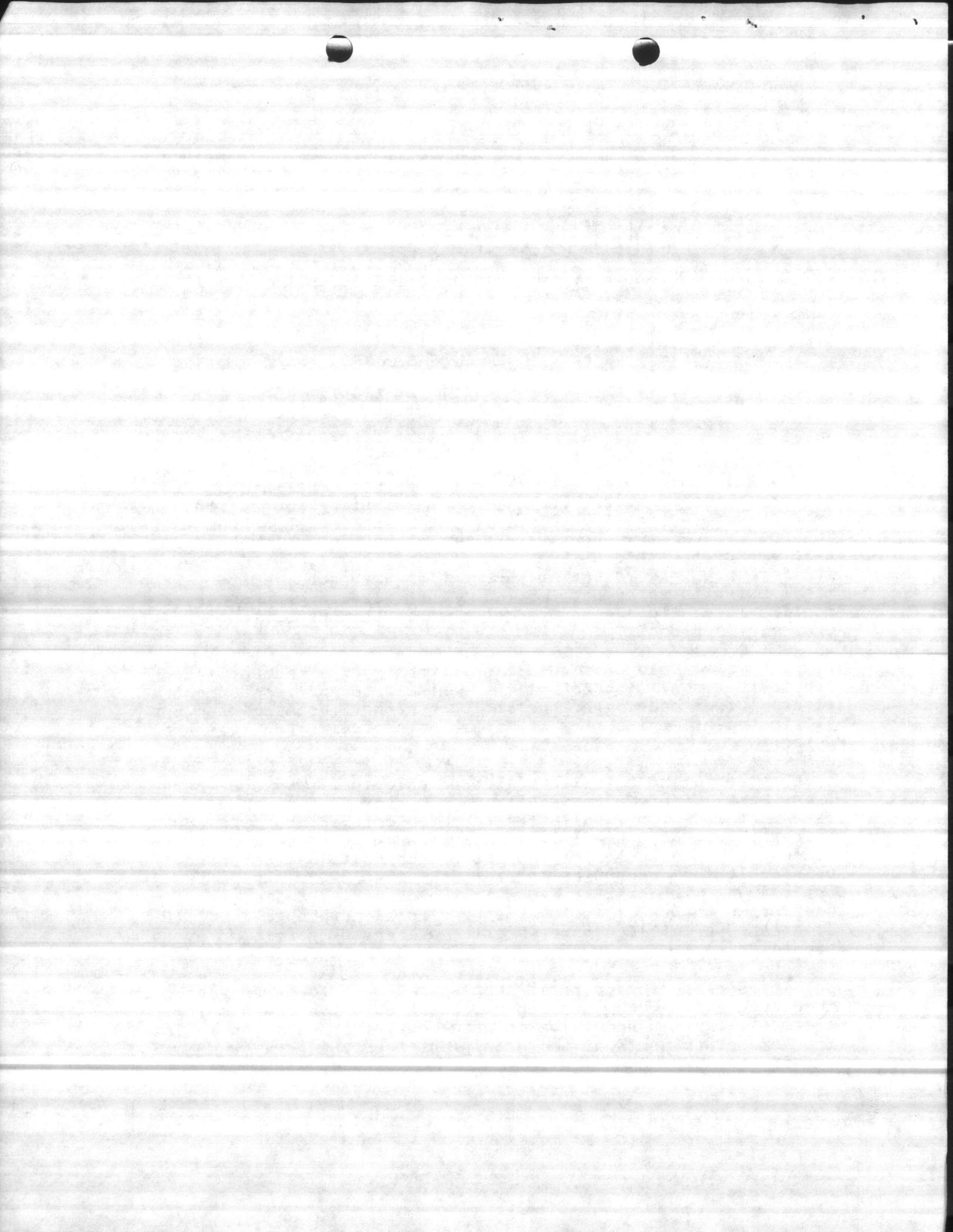
Encl: (1) Results of Air Monitoring for Chlorine Gas
(2) Base Maintenance Standard Operations Procedure for
Handling and Storing Chlorine Gas Containers

1. During past safety inspections, it was noted that all the water/waste water plants in Base Maintenance contained several different respirators. The type of respirators ranged from full face cartridge type to self contained breathing apparatus (SCBA). The full face respirators were used in the routine changing of chlorine cylinders and tanks. The condition of many of these fullface respirators was not in keeping with good sanitary practices noted in reference (a). The SCBA were in good order, but routine inspections were not recorded on the inspection cards or operators log books.

2. The first rule of a good respirator program and respirator use is the identification of the contaminate and its concentrations. Other considerations include whether a contaminate can be eliminated by engineering controls and/or administrative procedures.

3. The contaminate is identified as chlorine. The concentrations were measured over a 15 minute period of time on different dates and locations, while the operator changed chlorine containers, see enclosure (1). The instrument used to measure the concentration of chlorine was the Dräger Multi Gas Detector, using chlorine absorption tubes, Lot # 2390-8992, expiration date April 1991. The results cited in enclosure (1) reveal the concentration to be well below the permissible exposure level (PEL) of 1 part per million time weighted average as permitted by reference (b).

4. The engineering controls in place at each location were more than adequate. Each location had an exhaust fan and a chlorine alarm system in place. The chlorine container area was isolated from all other parts of the pool/plant facilities.



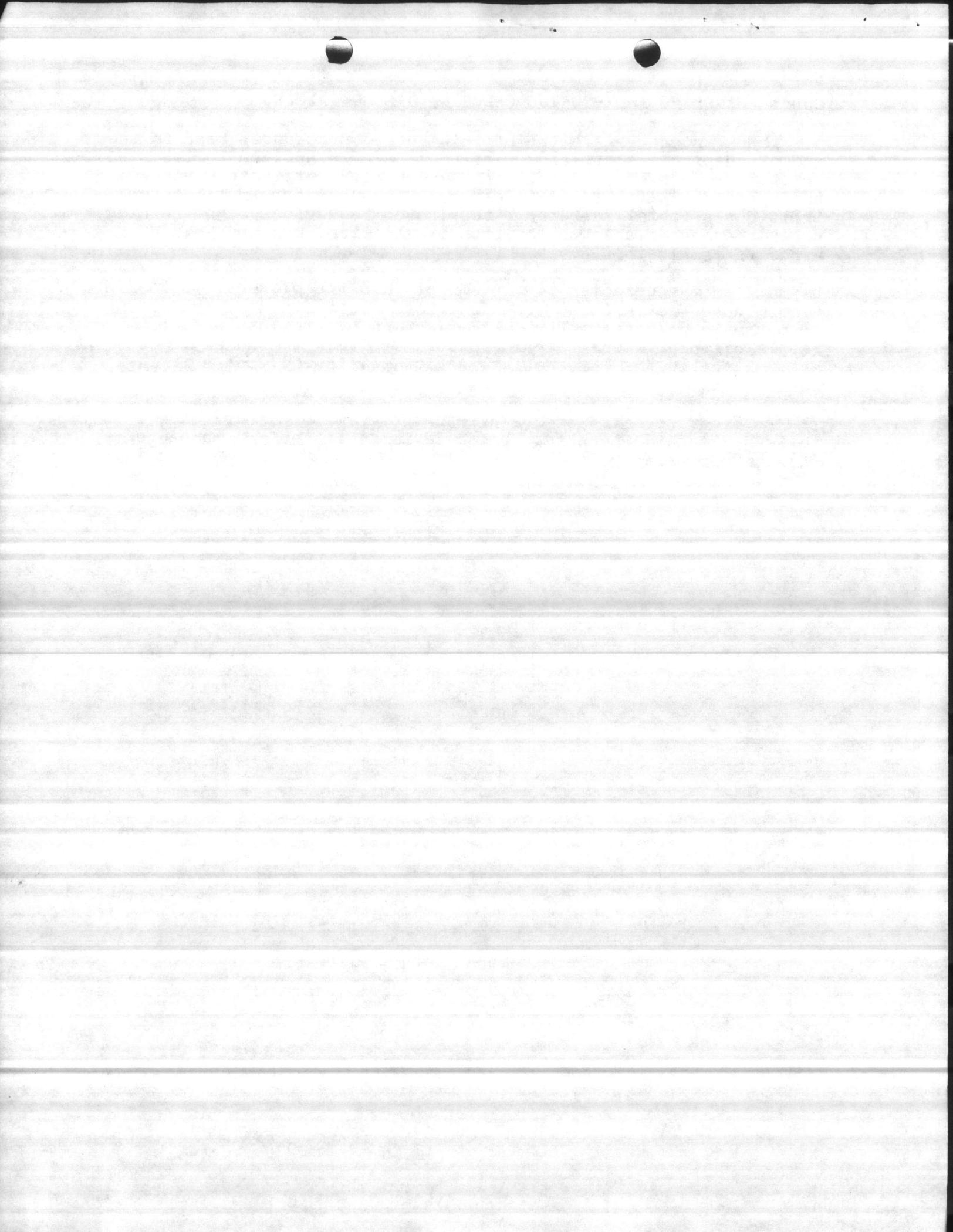
Subj: HANDLING AND STORING CHLORINE GAS CONTAINERS

5. The main concern is the administrative procedures used in the use of respirators at each chlorine site. In addition to the sanitation problem of cleaning the community respirators, none of the operators have been fit tested. Without a proper fit to an individual's facial features a respirator is useless. No training records are available on the proper selection, use and maintenance of respirators.

6. Due to the detected low levels of chlorine present, it is recommended that all fullface cartridge respirators be removed from the water/waste water facilities and turned into DRMO for resale/disposal. The chlorine exposure levels to the employees are well below the PEL, medical action levels and pose a minimal health risk.

7. In order to bring the respirator program into compliance a revised Standard Operating Procedure is submitted in enclosure (2) for water/waste water facilities.

J. L. Waldrop
J. L. WALDRCP



INDUSTRIAL HYGIENE
BASE MAINTENANCE
AIR MONITORING RESULTS

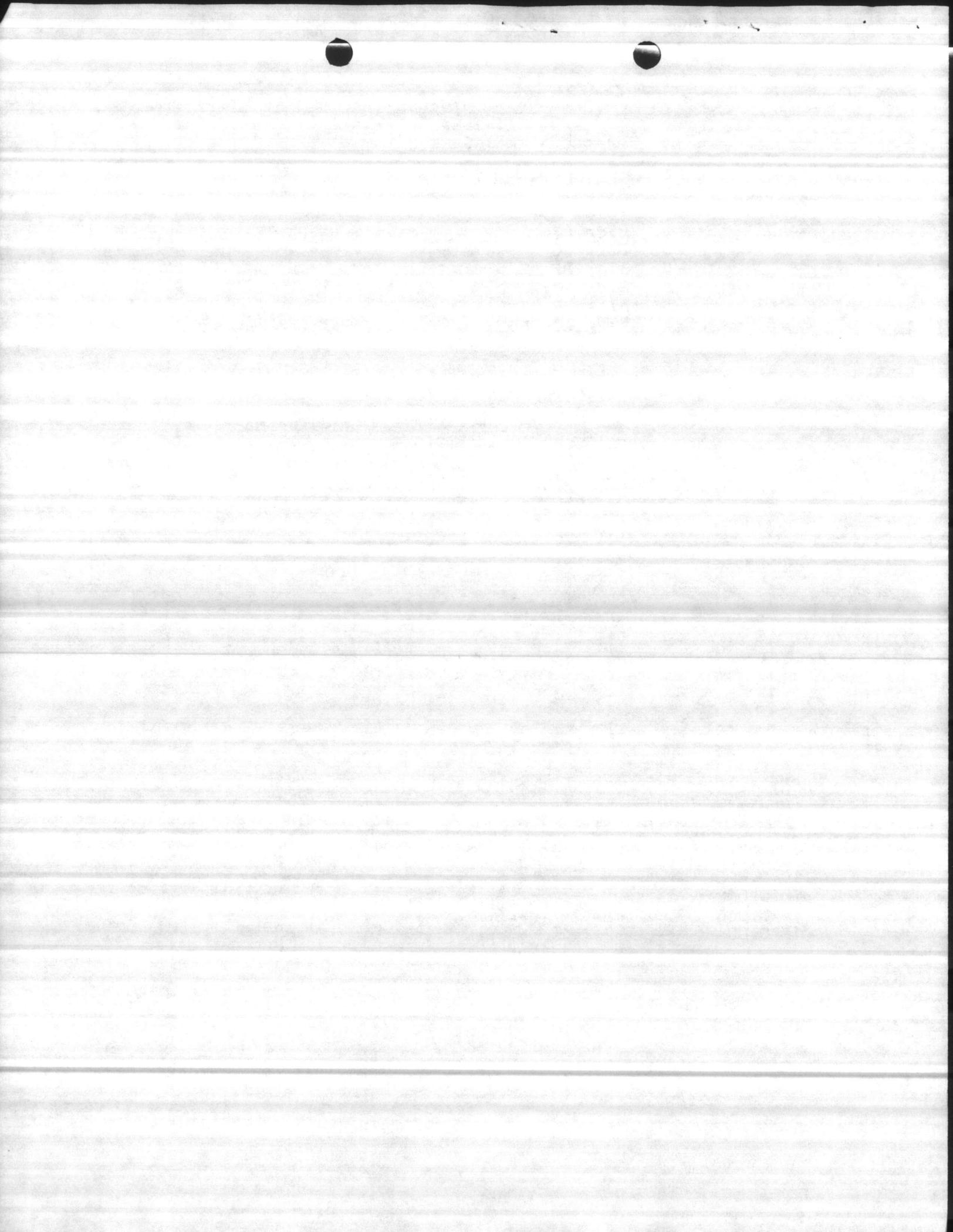
- | | | | |
|---------------|--|-----------------|--|
| 1. LOCATIONS: | A. Bldg 670
B. Bldg 20
C. Bldg 22
D. Bldg 20
E. Bldg PP-2615
F. Bldg TC-563 | 2. SAMPLE DATE: | 26 Apr 1990
15 May 1990
20 Jun 1990
07 Aug 1990
27 Aug 1990
05 Sep 1990 |
|---------------|--|-----------------|--|

3. TYPE OF SAMPLE: Breathing zone/room using chlorine absorption (Dräger) tubes

4. FINDINGS:

<u>Lab Number</u>	<u>Substance</u>
1A	Chlorine
1b	Chlorine
1C	Chlorine
1D	Chlorine
1E	Chlorine
1F	Chlorine

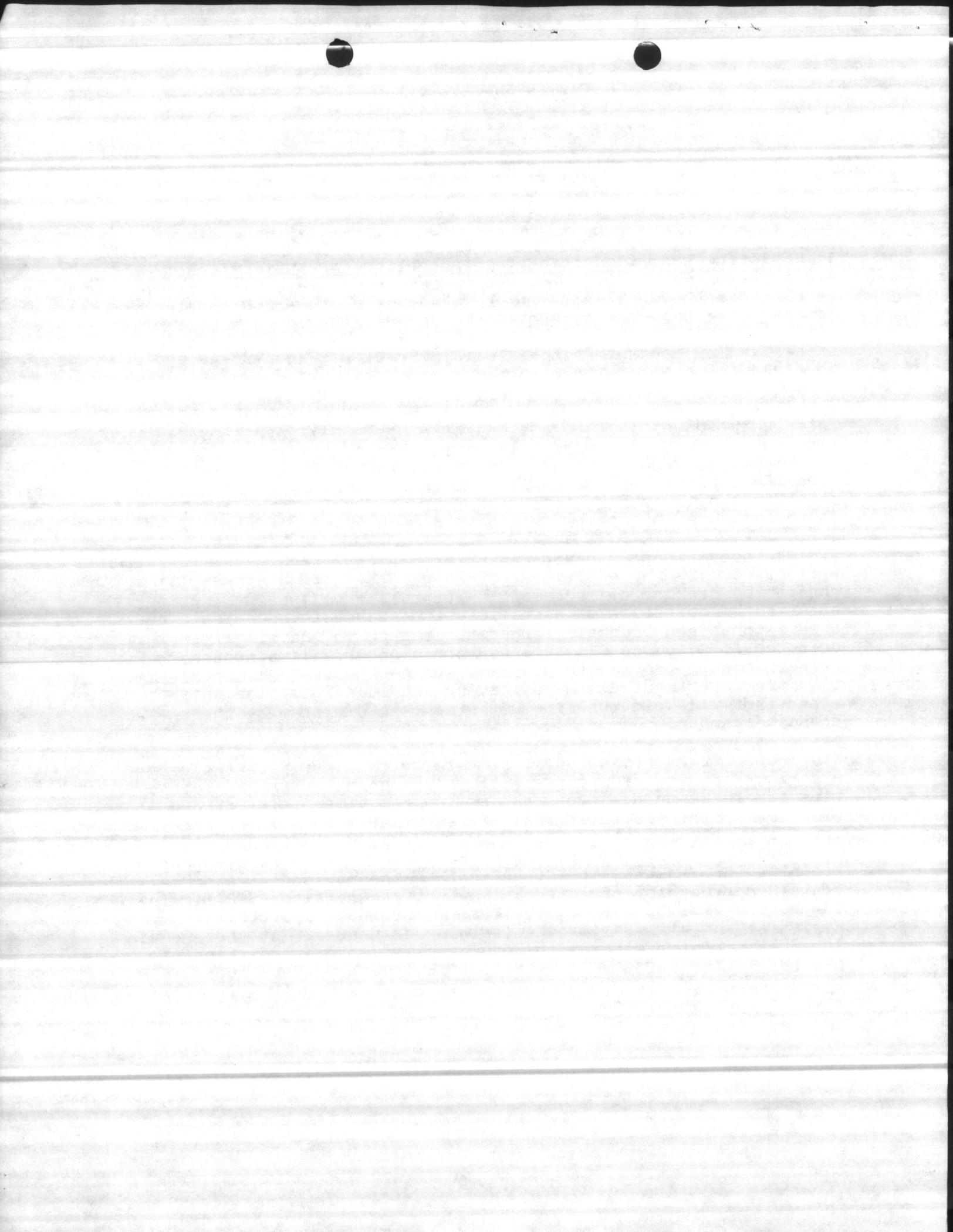
<u>RESULTS PPM</u> <u>8hr TWA</u>	<u>PEL/TLV</u>	<u>Exceeded</u>
1A 0.003	1 PPM	No
1E 0.000	1 PPM	No
1C 0.006	1 PPM	No
1D 0.000	1 PPM	No
1E 0.000	1 PPM	No
1F 0.006	1 PPM	No



BASE MAINTENANCE
STANDARD OPERATING PROCEDURE FOR
HANDLING AND STORING CHLORINE GAS
CONTAINERS

1. Chlorine gas (Cl₂) is a greenish-yellow gas, which is not flammable; however, it is corrosive and can be fatal if inhaled in sufficient quantities. It can occur at usage areas due to leaks in the chlorine cylinder, the chlorinator, or associated piping. It will irritate the eyes, lungs, and other mucous membranes at low concentrations. Cl₂ is heavier than air and will be first detected just above ground level.
2. If a Cl₂ leak is suspected, a rag soaked in ammonia hydroxide water solution affixed to the end of a stick will aid in detecting the leak. Cl₂ reacts with ammonia to form a white cloud. The soaked rag should be held in front of the holder close to the floor in approaching the suspected leak. If Cl₂ is present, short shallow breathing is recommended when evacuating the area or if present use the escape only hooded compressed air respirator.
3. All operations involving changing one ton tanks or cylinders will be done by two employees. The operator of the plant will change the tank or cylinder and a supervisor will be present and observe the operation at a sufficient distance to be able to don a self contained breathing apparatus and go to the aid of the operator if a sudden Cl₂ release should occur. If a sudden release occurs proceed to a safe distance and dial 911 to alert the Fire Department of the situation and location. The shift supervisor will aid the Fire Department as dictated by the on-scene-commander.
4. The shift supervisor will be totally familiar with the proper use, location and procedures employed in using emergency repair kits for leaks on Cl₂ tanks and cylinders. A training record will be kept by the Water/Waste Water General Foreman on each shift supervisor. This training will be given semi-annually and recorded in these records. Shift Supervisors will receive annual training through the Fire Department in the use and care of self contained breathing apparatus. The shift supervisor SCBA training record will be kept by the Base Maintenance Industrial Hygienist who will review the training as needed. At the end of the SCBA training classes the employees will have their individual respirator cards updated by the instructor. Each supervisor will be issued their own SCBA and will be responsible for its security and maintenance.

Encl (2)



5. If Cl₂ alarms are activated and indicate a potential problem may exist, the shift supervisor will call 911 and give the location of the activated alarm. The shift supervisor will then proceed to that location. The shift supervisor will then wait for the Fire Department to arrive at the scene before investigating the reason for the alarm activation.

6. Procedures for handling and storing chlorine gas containers:

a. All chlorine cylinders will be stored upright and secured with a chain.

b. Cylinders/tanks will not be bumped or dropped.

c. Protective valve caps will be kept on containers not in use.

d. Cylinders will never be used for any other purpose than chlorine gas.

e. Before entering enclosed area, activate the vent fan. Open valves carefully with the proper wrench, 1/4 turn at a time. Wrench extensions should never be used.

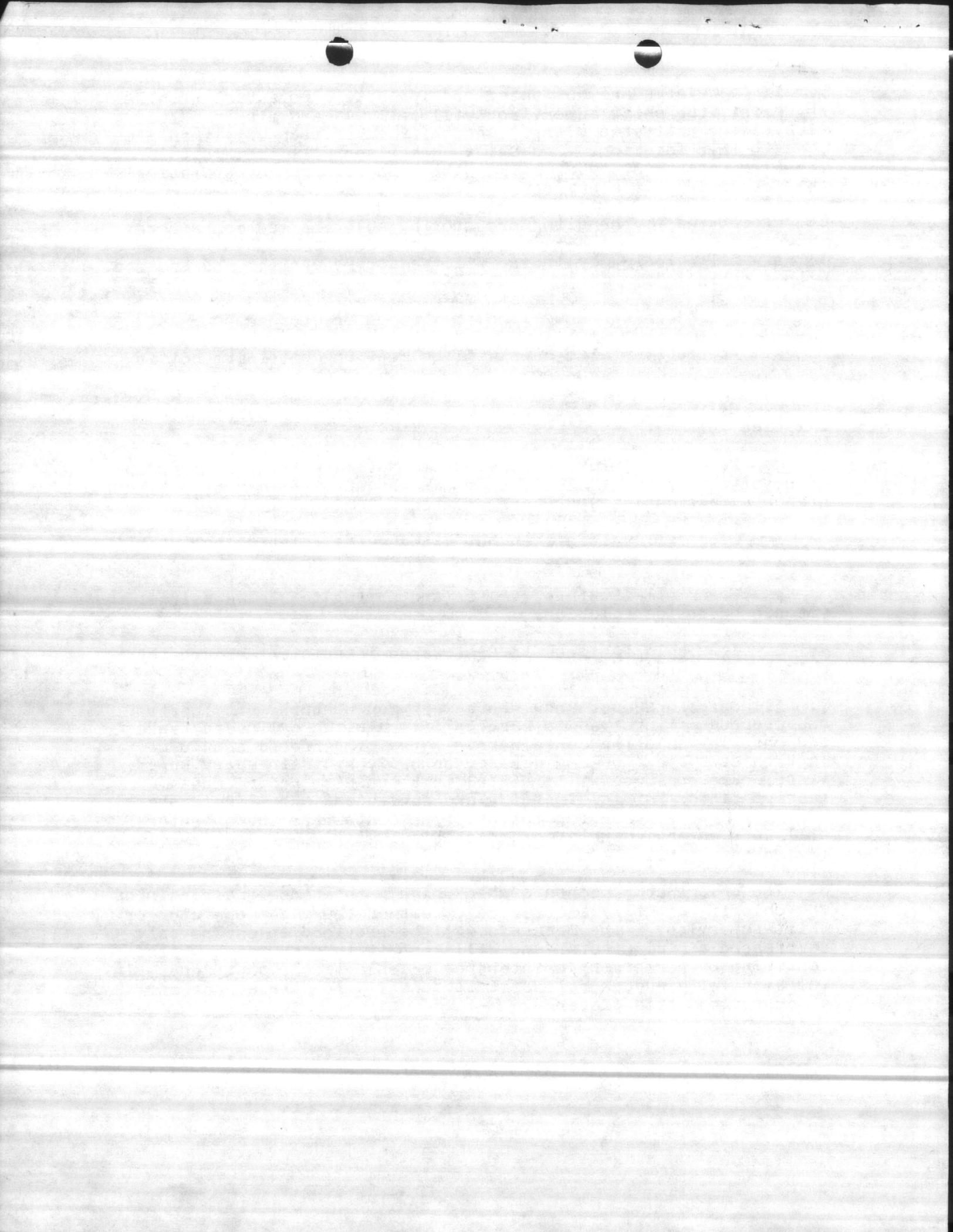
f. Close all valves when not withdrawing chlorine and when empty.

g. Check all fittings, valves and piping for leaks using ammonia hydroxide solution.

h. If a chlorine leak is discovered immediately secure the chlorine containers.

7. All operators must know where vent fan controls are located and procedures involved in turning off chlorine cylinders/tanks and changing chlorine containers. A training record should be kept on each operator and updated annually by their shift supervisor. The employee will initial that training record upon receipt of the initial training and subsequent annual refresher training. While changing the chlorine containers the operator will wear impervious gloves and chemical goggles or face shield (8 inches minimum).

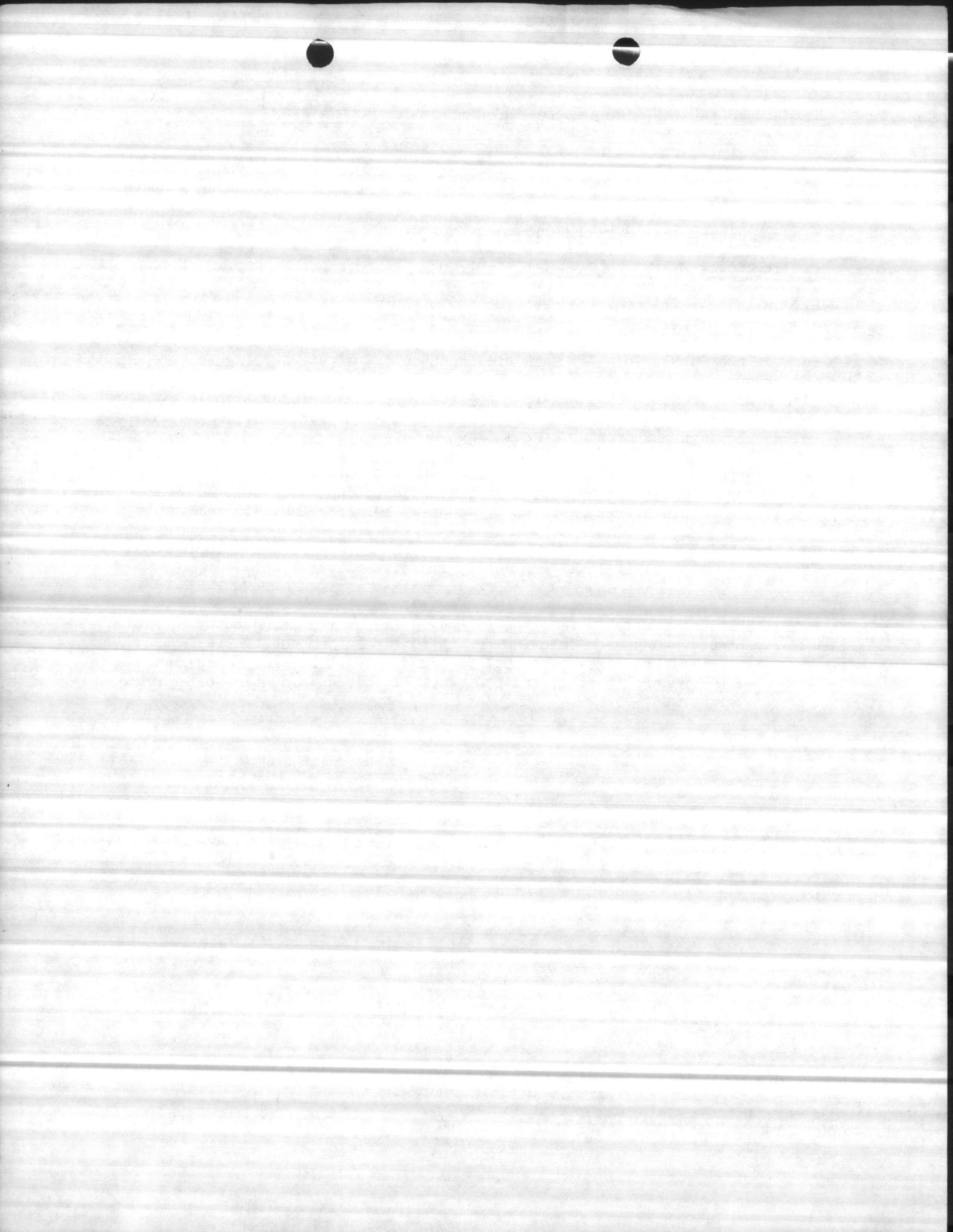
8. The chlorinator mechanic when doing maintenance and repair on the chlorinator will be observed by either the plant operator or shift supervisor. The mechanic will be provided an escape only compressed air respirator and will keep it in easy reach while repairing or performing maintenance on chlorinator equipment. In the event of a sudden release telephone 911 for assistance and evacuate to a safe distance.



PROCEDURES FOR HANDLING AND STORING CHLORINE GAS CONTAINERS

1. All chlorine containers will be stored upright and secured with a chain.
2. Containers will not be bumped or dropped.
3. Protective valve caps will be kept on containers not in use.
4. Cylinders will never be used for any other purpose other than chlorine gas.
5. Before changing chlorine put on chlorine gas mask. Either the Scott Air Pack or the Permissible Gas Mask are acceptable. After checking for proper fit and breathing continue procedures for changing chlorine. Open valves carefully with proper wrench. They are opened $\frac{1}{4}$ turn. Tapping wrench lightly aids in operating stuck valves. Extension on wrench is never used. Close cylinder valves when not withdrawing chlorine and when empty.
6. Slightest leak of gas is given immediate attention. Leaks may be located by passing an un-stoppered bottle of ammonia solution along chlorine lines and around fittings. White fumes of ammonium chloride indicate leak.
7. When chlorine leak has been discovered immediately secure chlorine cylinder. If operator cannot fix leak then notify immediate supervisor.

NOTE: Chlorine gas is extremely poisonous. It is irritating to eyes, mouth, throat, and nose. Chlorine gas in sufficient amount can be FATAL. All operators and other personnel must know how to use gas mask, know where vent fans are located, and procedures involved in cutting off chlorine cylinders.



WATER TREATMENT PLAN

PROCEDURES FOR HANDLING AND STORING SODIUM FLUORIDE

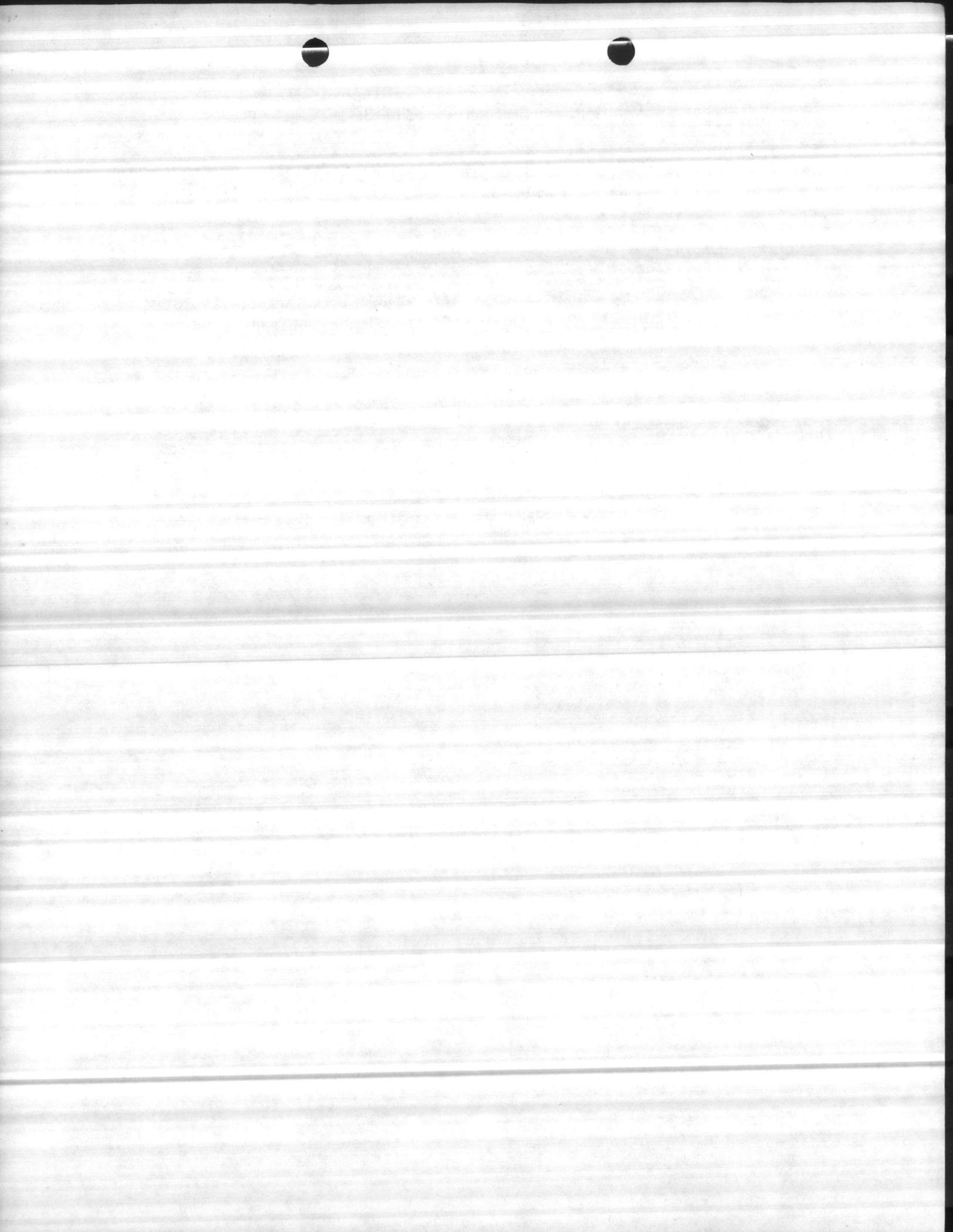
STORING: Sodium Fluoride will be stored in a room to itself. The room will be labeled as such and have a lock. Ensure that no other chemicals are stored with Sodium Fluoride.

HANDLING: Before handling any Fluoride be sure to put on apron, goggles, and respirator.

CAUTION: Sodium Fluoride may be fatal if inhaled or swallowed. Avoid breathing dust. Wash thoroughly after handling. Sweep up spillage.

USAGE: Bldg. 20 - When fluoride drops to 20 lbs. in fluoridator, add 200 lbs. Be sure to use exhaust fan when adding fluoride.

Bldg. 670 -Add 100 lbs. of fluoride when amount in fluoridator has been depleted.



Memorandum

DATE: 6 October 1986

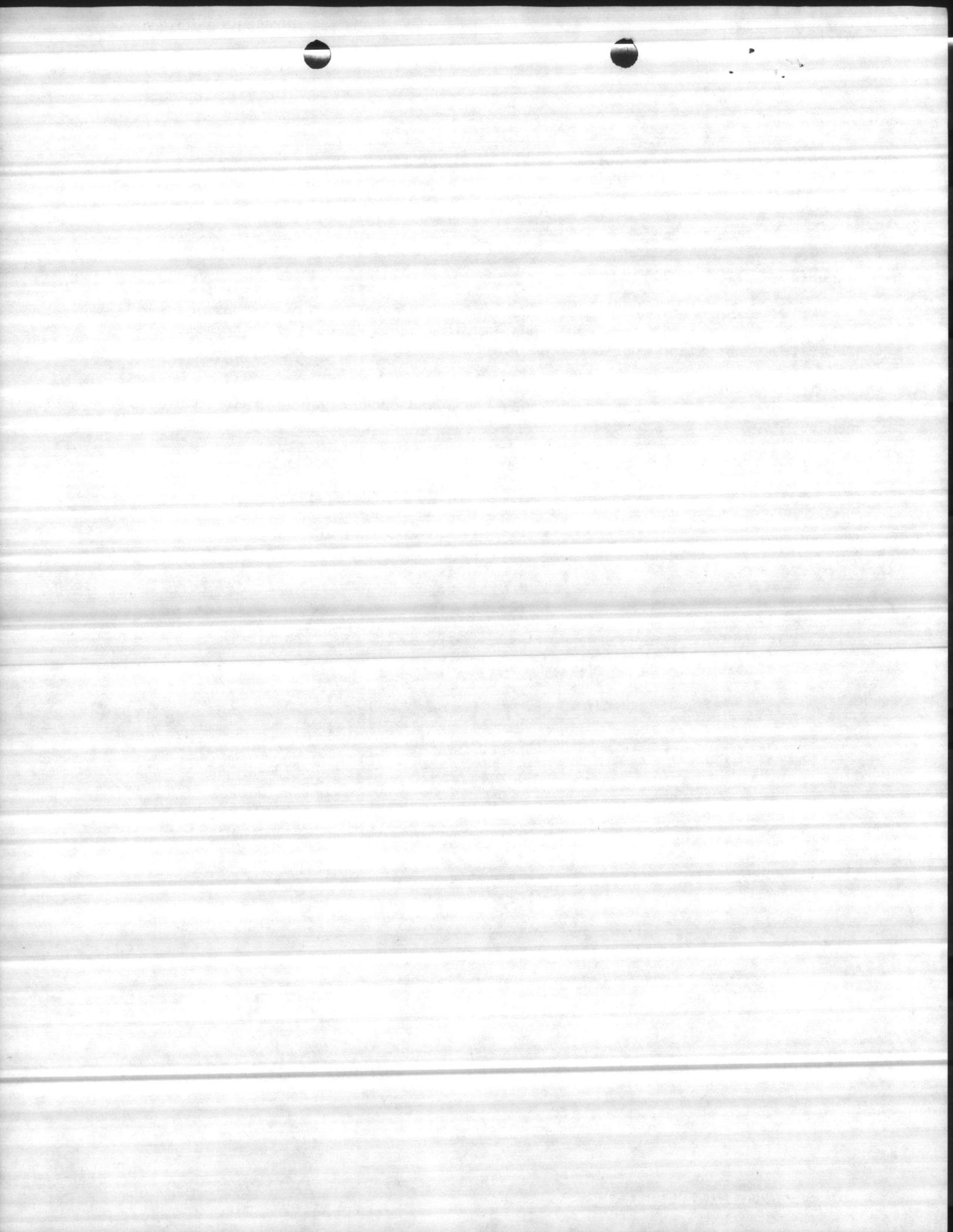
FROM: Water Treatment Operator Foreman

TO: All Operators

SUBJ: FLUSHING EYEWASH STATIONS

1. All eyewash stations will be flushed for 3 minutes weekly on Thursdays. This flushing test will be logged on plant logsheet. A call will be made to Water Treatment Plant Operator Leader after flushing completed, acknowledging same.
2. Those water treatment plants without eyewashes piped with drains or without drains located nearby will use hoses and buckets until drain connection can be made.

B. M. FRAZELLE, II



Memorandum

5100
MAIN

DATE: 2 Oct 86

FROM: Director, Utilities Branch

TO: All Supervisors

SUBJ: FLUSHING OF EYEWASH STATIONS

Encl: (1) COMNAVMEDCOM Washington DC msg 041920Z Sep 86

1. Request that a program be started to comply with the enclosure. The requirement is to flush eyewash stations for at least three minutes once a week. Some method of documentation should be maintained (such as a log book) so that Base Safety can verify compliance. Since the water expended during this test will be considerable, provisions should be made for runoff to prevent unnecessary falls from stepping in puddling water. For example, those stations which are located adjacent to outside walls could be piped to the outside. Otherwise, stations will have to be piped to existing floor drains. Tickets should be requested for needed assistance.

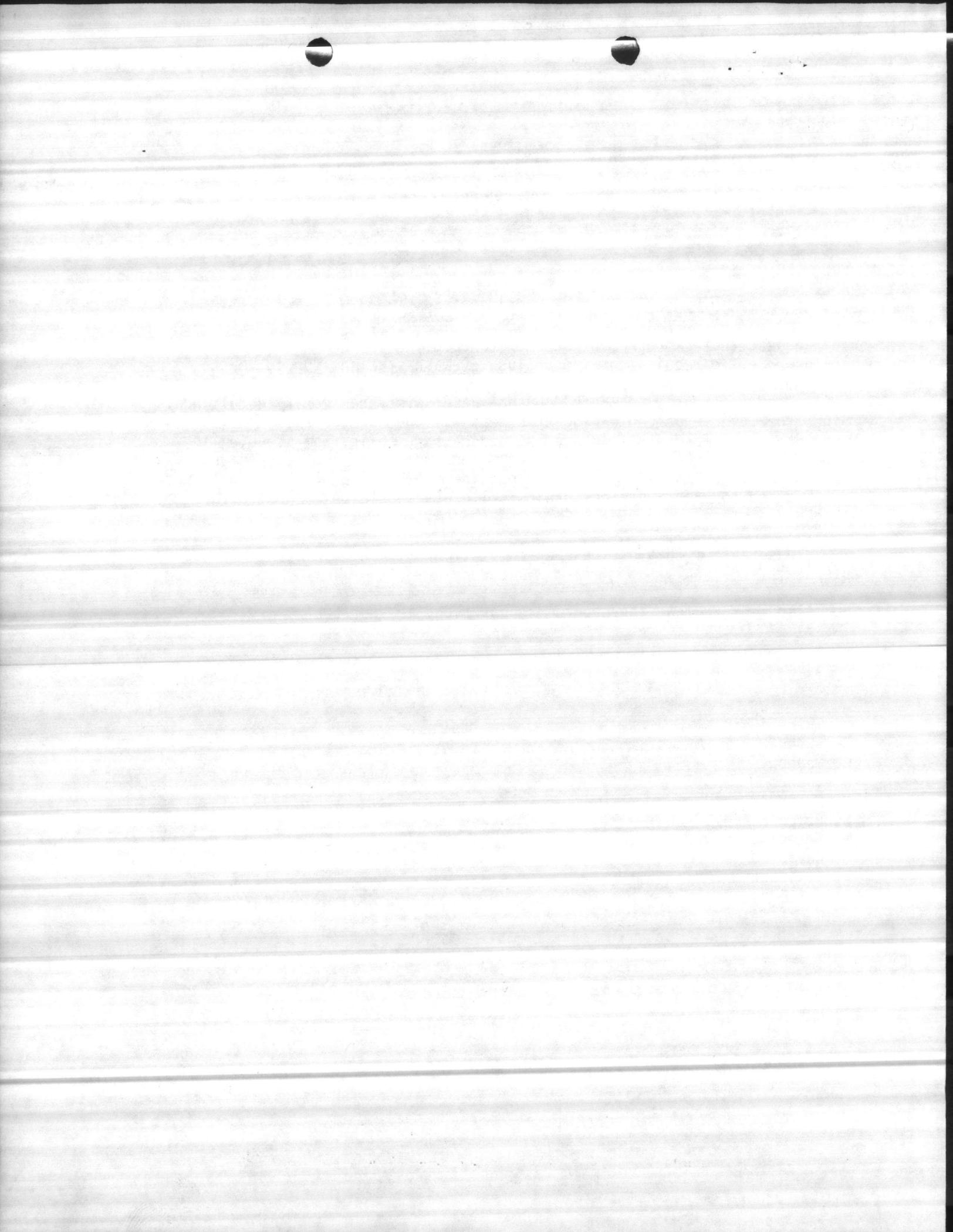
2. Please inform this office upon completion. If any assistance is needed, please let me know.

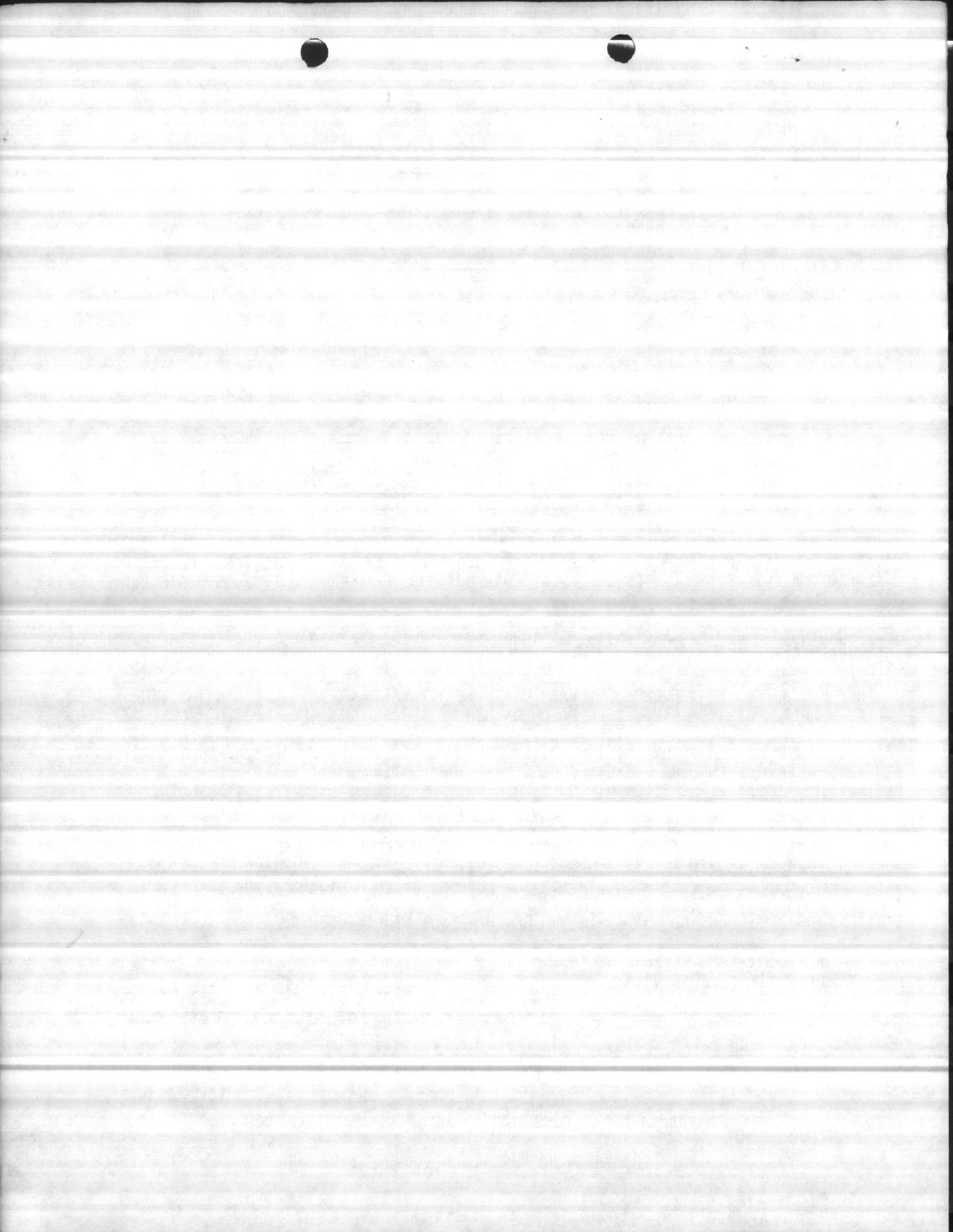
3. Also, ensure that the program is described in your SOP's.

S/ G. S. JOHNSON, JR.

DISTRIBUTION:

K. Shepard
B. Meadows
J.V.Jones
M. Humphrey
W. Price
M. Frazelle
M. Davis
J. Lisiewski
G. Smith





Memorandum

5000

MAIN

DATE: 28 January 1987

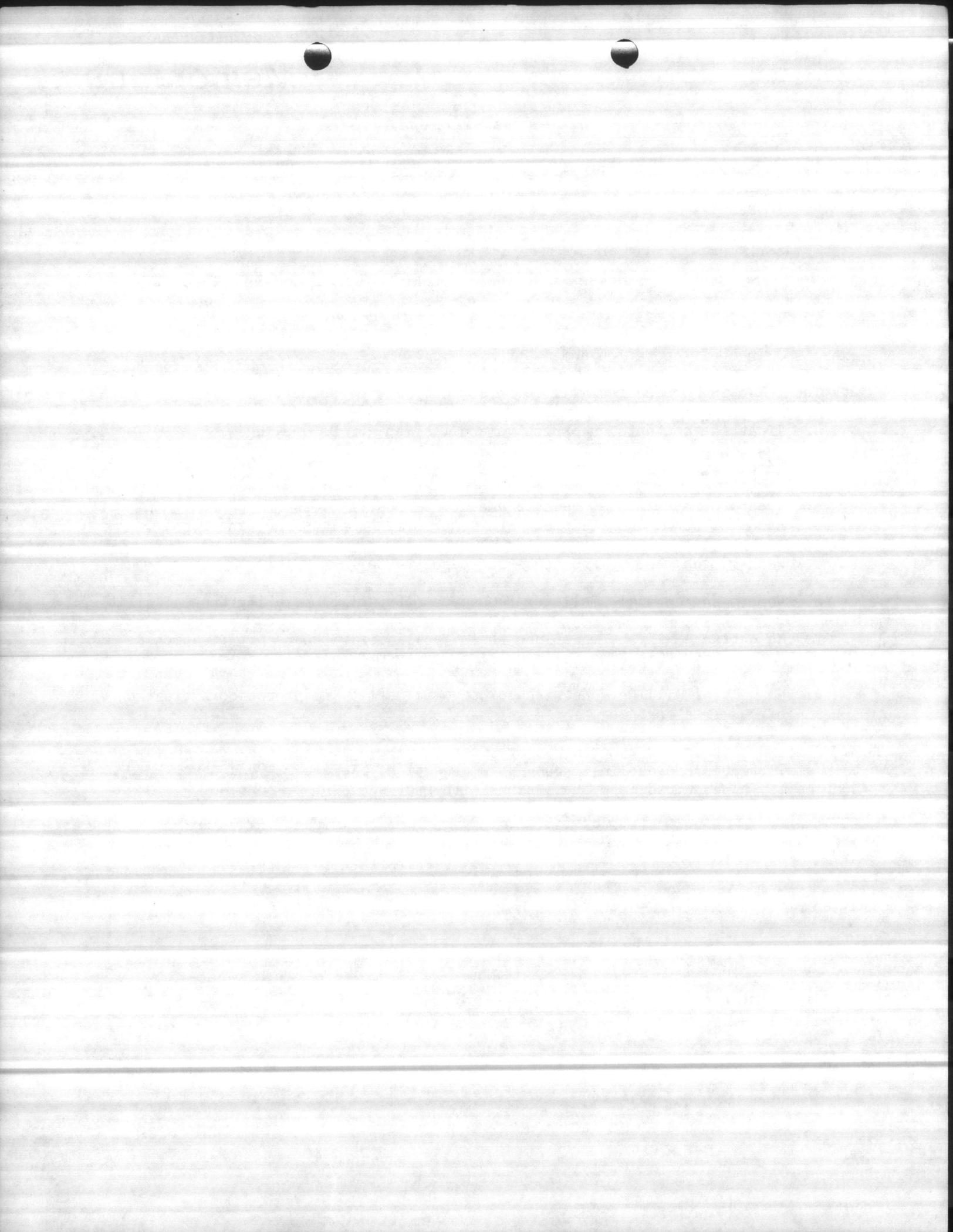
FROM: Utilities Systems General Foreman

TO: All Water/Wastewater Personnel

SUBJ: WATER AND OIL SEPARATORS, WASH RACKS, UNDERGROUND VAULT PITS, MANHOLES, BACKWASH TANKS, ETC.

1. Due to the unknown contents of subject facilities, extreme caution must be exercised in their operation and maintenance.
2. The following procedures will be followed by all personnel.
 - a. Treat the contents as explosive and flammable. No smoking within 50 feet.
 - b. No one will enter or cross safety railings alone. This is a 2 man job.
 - c. Treat the contents as caustic and acid. Wear gloves and goggles when handling tools and equipment while performing maintenance and repair.
 - d. Wash gloves, boots, and tools thoroughly after use.
 - e. Report any unusual smells or fumes you note while operating these facilities.
 - f. No entrance will be made into these facilities without certification as safe by the "Gas Free Engineers" at Safety Office.
 - g. No welding will be done without hot work permit and proper certification of gas free engineer.
3. Some wash racks and other areas are used to purge gasoline tankers and may contain small traces of gasoline. Use extreme caution. Remember - you never know what someone may have dumped into these tanks either by accident or purpose.

B. M. FRAZELLE, II



DATE: 24 September 1985

FROM: Foreman, Water Treatment

TO: All Water Treatment Plant Personnel

SUBJ: Chlorine Gas Mask; use of

1. New Wilson respirators have been issued to all water treatment plants replacing the old canister types. The respirators will be used when changing chlorine cylinders and will be on the employee's face in working order whenever chlorine is changed.
2. If while changing chlorine a leak develops or any other time a leak in chlorine is detected the self contained breathing apparatus (Scott or Survivair) will be utilized to shut off chlorine, repair, etc.
3. These directives are for your protection. The new Wilson respirator is only good up to 10 p.p.m. chlorine and will not sustain life in a heavily concentrated chlorine environment. When a leak develops there is no way to determine what concentration chlorine is present so it is imperative that you wear the self contained breathing apparatus.
4. The Wilson respirator will only be used for changing chlorine. These directives will be strictly adhered to.


BYRON M. FRAZELLE



(1) Establish and maintain an instruction and training program which will provide adequate training in the selection, proper use, care, fit testing and limitations of respirators.

(2) Make, or cause to be made, a biannual visual inspection of respirators/SCBA that are pre-stationed for emergency use and shall record the results and take corrective measures as necessary. Further, operating instructions shall be posted at the site of the emergency-use respirators/SCBA.

(3) Incorporate the information shown in paragraphs 7 and 8 into the Respirator Training Program.

(4) Provide work place surveillance to determine the conditions and the degree of employee exposure.

(5) Request the services/assistance of the Industrial Hygienist, at Industrial Health, Building 65, for air monitoring, asbestos identification, technical assistance involving respirator fit testing and the correct selection of cartridges.

(6) Provide a test atmosphere for wearing of respirators as part of the fit test.

(7) Monitor and review the efforts of the General Foreman and Shop Supervisor program; cause corrective action to be taken where required.

7. Respirator-cleaning, Inspection and Storage

a. Cleaning

(1) Remove cartridges, inhalation flaps.

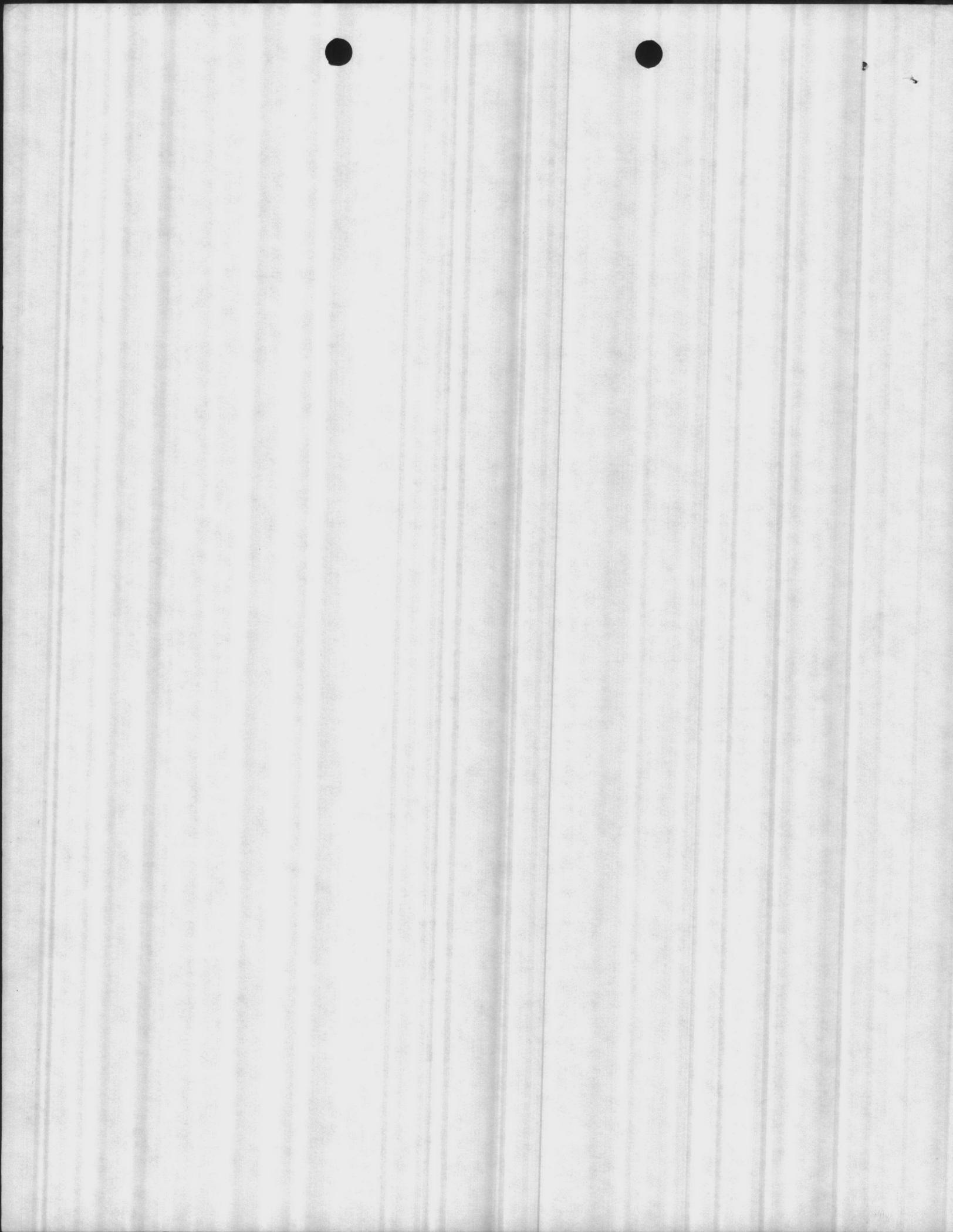
(2) Wash with detergent in warm water with brush, not to exceed 120 degrees Fahrenheit.

(3) Follow with disinfection rinse (immerse for two minutes), when available.

(4) Thoroughly rinse in clean water to remove detergent.

(5) Air dry in clean place; do not use shop air to dry.

(6) Allow to dry by hanging from wire, steel storage cabinet with good air circulation.



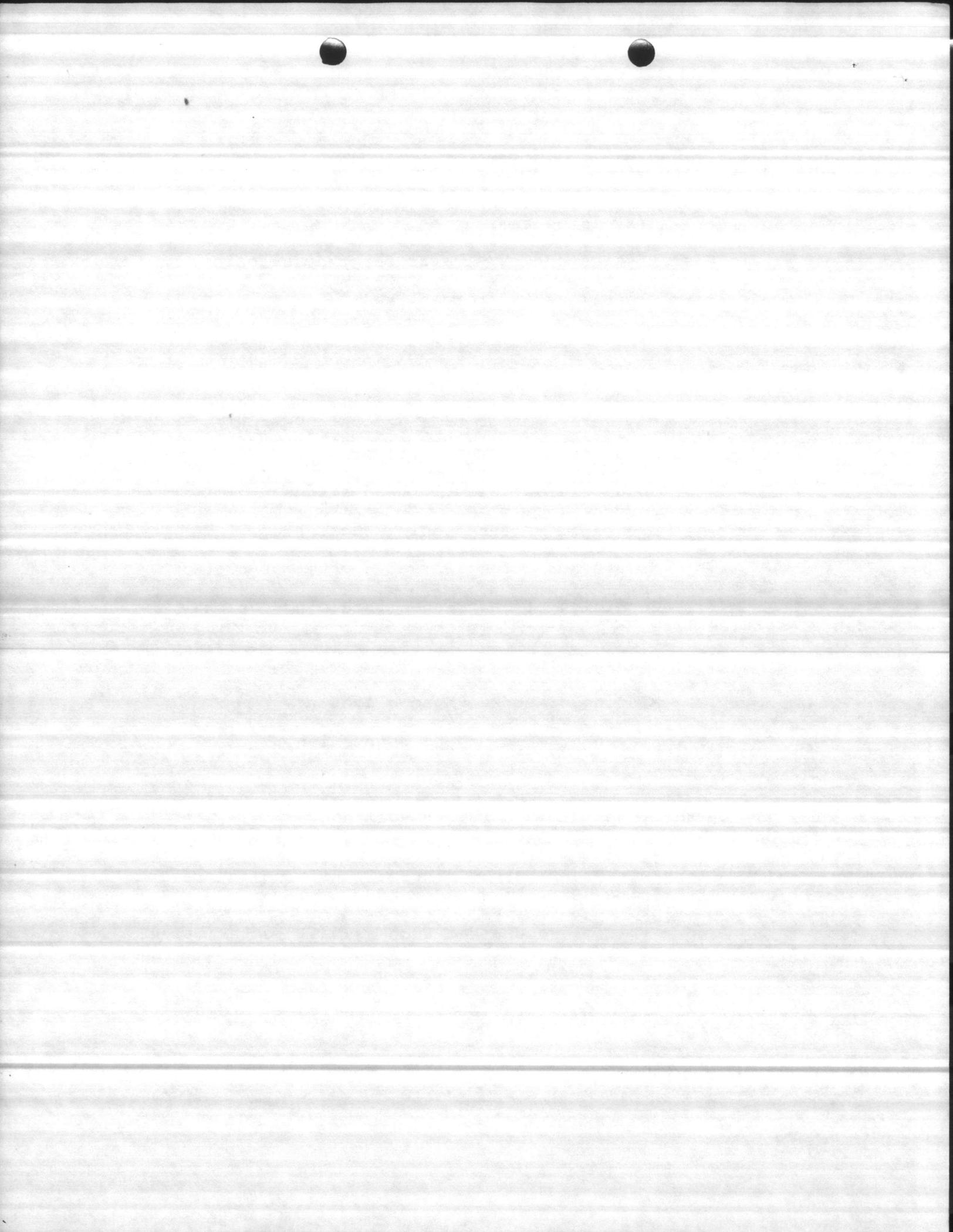
b. Inspection

- (1) Reassemble respirator in area separate from disassembly area to avoid contamination.
- (2) Visually inspect respirator for the following:
 - (a) Cleanliness, detergent residue
 - (b) Cracks, tears, holes
 - (c) Distortion of respirator face-piece
 - (d) Cracked, scratched, loose fitting lenses
 - (e) Head straps broken or torn
 - (f) Loss of elasticity in head straps
 - (g) Broken or malfunctioning buckles
 - (h) Missing or defective valve cover or seat
 - (i) Condition of cartridge (threading, cracks, dents, service life)
 - (j) Cracks or holes in airline hose
 - (k) Missing or broken hose clamps
 - (l) Broken or missing end connection

c. Storage

- (1) Place respirator in a heat-sealed or resealable plastic bag.
- (2) Store with respirator in normal position to prevent distortion or "taking a set".
- (3) Store in rigid container such as wall locker, steel cabinet; not in tool box or maintenance cabinets.
- (4) Protect respirator from dust, sunlight, heat, extreme cold, excessive moisture, damaging chemicals, and/or mechanical damage.

8. Types and Characteristics of Respirators



a. Particulate-removing respirators (mechanical filter respirators): Protection against nonvolatile airborne particles in the forms of dust, fume, spray, and mist. They DO NOT provide protection against vapors, gases, or an oxygen deficiency and they should not be used against particulates that hydrolyze or decompose to release a noxious vapor or gas. They should not be used for protection during shot or sand blasting operations which involve exposure to very high concentrations of abrasive and rapidly airborne particulate.

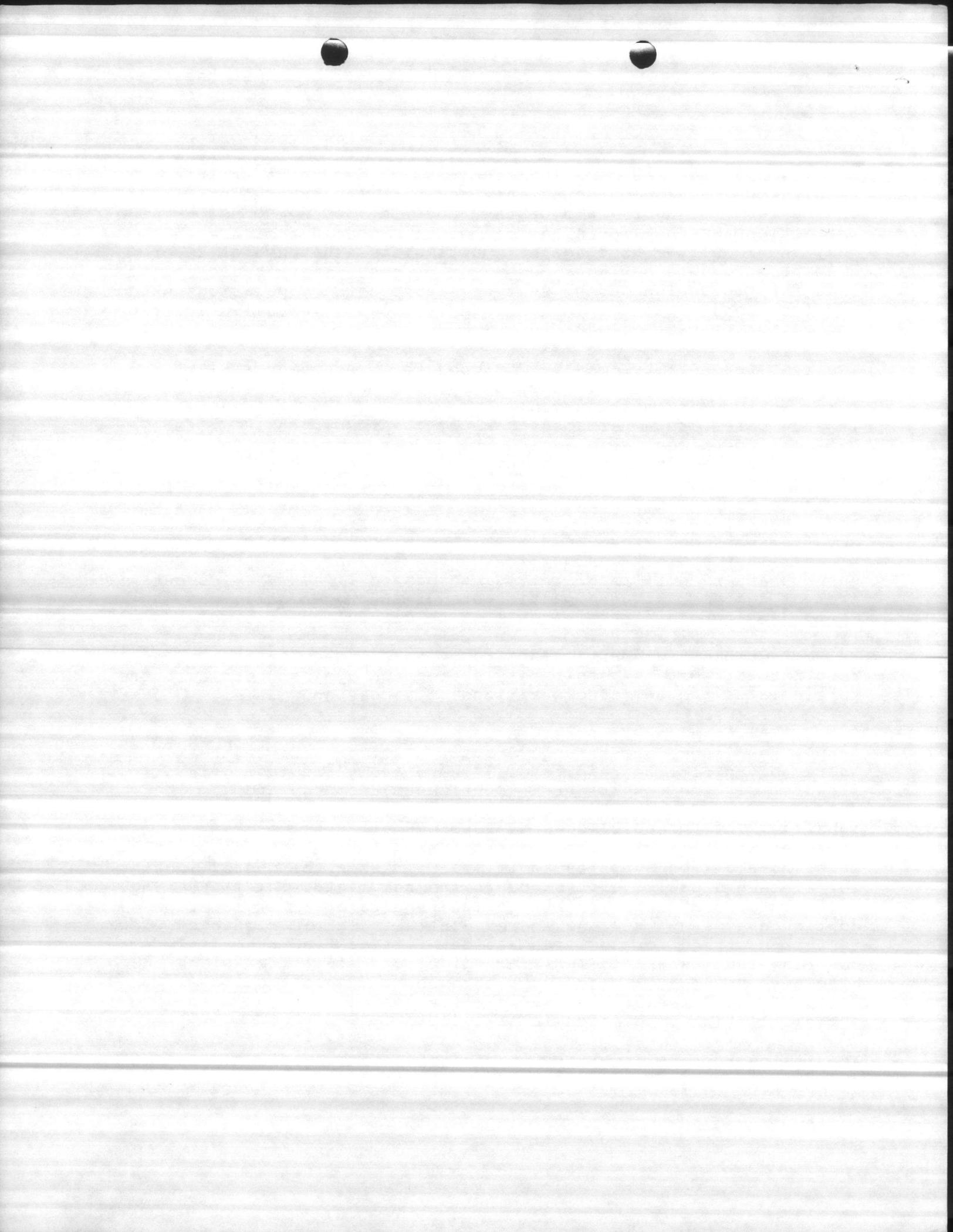
The respirator filter may be designed for protection against one or more than one specific type of airborne particulate - dust, fume, sprays, and mist. Usually the filters are replaceable but in some cases are a permanent part of the respirator. Extreme care must be taken in selecting the proper type of filter for the intended operation.

b. Chemical cartridge respirators: Consist of one or two small cartridge-shaped containers of granular absorbents or catalysts attached to a half-mask face piece or a full face-piece. They protect against low concentrations of vapors or gases that are not immediately dangerous to life. They do not protect against airborne particulate or an oxygen deficiency. Cartridges for this respirator must be carefully selected.

c. Combination particulate removing and chemical cartridge respirators: Offers respiratory protection against both airborne particulates and low concentrations of vapors and gases.

d. Airline respirators: A compressor or tank is used to supply respirable air through a small diameter hose to the wearer of an airline respirator. There are three modes of air flow for airline respirators: continuous, demand, and pressure-demand. The "demand" supplies air only when the wearer inhales. The "pressure-demand" supplies air until a predetermined air pressure is established in the respirator-inlet covering and then supplies additional air when the wearer inhales to maintain a positive pressure in the respirator-inlet covering. The "continuous" supplies air to the respirator-inlet covering continuously even when the wearer exhales. The "continuous" flow type is approved for use with a tight-fitting respirator-inlet covering such as a half-mask face-piece or a full face-piece and also with a loose fitting covering such as a helmet or hood. "Demand" and "pressure demand" are for use only if equipped with a tight fitting respirator-inlet covering.

An airline respirator with a respirator-inlet covering which has a direct mouth or nose connection will not be approved for use.



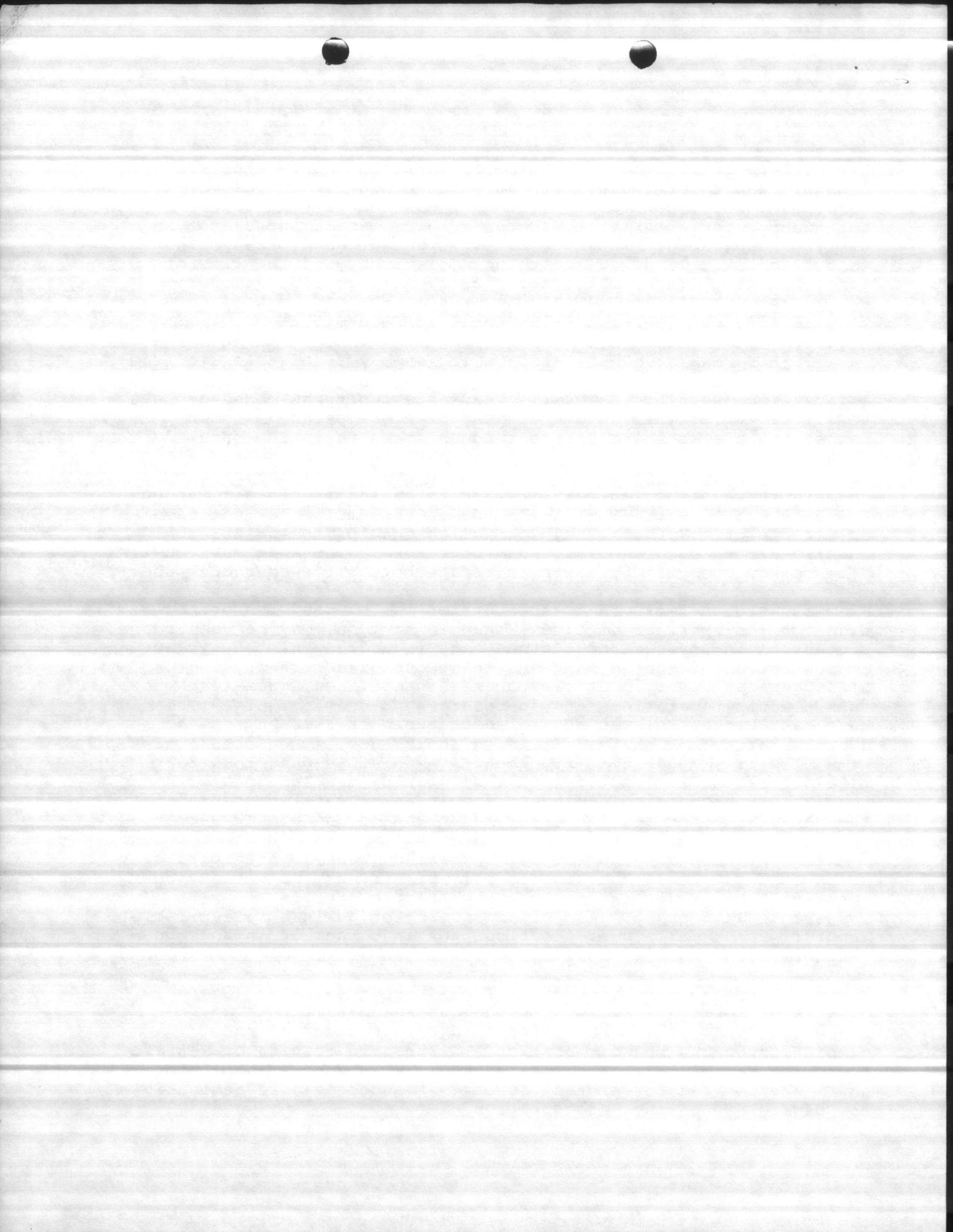
The airline respirator is considered to be the most versatile type of respirator because it can be used against a wide variety of contaminants, both particulate and gaseous but the wearer's dependency upon an external source of air, limits the use of an airline respirator. They are light in weight, comfortable to wear, offer little or no breathing resistance, and the flow of air to the respirator-inlet covering usually provides a cooling and refreshing effect. An airline respirator may be worn for long periods of time without appreciable discomfort.

e. Hose masks: Respirators which supply respirable air from an uncontaminated source through a strong, large-diameter hose to a face-piece worn by the user. There are two types. One employs an air blower, either hand-operated or motor-operated, which pushes the air at low pressure through the hose to the face-piece. The blower is designed to allow free passage of air if the blower is not operating or fails to operate. The user, by normal breathing action, can still breathe respirable air through the hose and blower. The other type of hose mask does not have an air blower. Normal breathing action enables the wearer to inspire air through the large-diameter hose. The hose mask must also be equipped with a 5-minute escape bottle for emergency use.

Hose masks with 5-minute escape bottles may be used for protection for long periods of time. The blower type, may be used for protection in any hazardous atmosphere regardless of the type or concentration of contaminant and in atmospheres with any degree of oxygen deficiency. It can be used in confined spaces such as tank cleaning operations and in underground utility work. The hose mask without blower should not be used in atmospheres immediately harmful or having an oxygen deficiency. When a hose mask with blower is used in an atmosphere immediately dangerous to life or health, at least one trained standby man equipped with respiratory protective equipment should be present in the uncontaminated area for the emergency rescue of the hose mask wearer.

f. Self-contained breathing apparatus (SCBA): A respirator which employs a self-contained supply of air, oxygen, or oxygen-generating material carried by the wearer to provide him with a respirable atmosphere. All offer protection against irrespirable vapors, gases, particulates, or combinations thereof in any concentration and against any degree of oxygen deficiency.

g. Disposable respirators: These respirators are generally used as protection against nuisance dusts in small concentrations. They are designed to be discarded at the completion of the workday or task. Disposable respirator wearers must also be trained in the use thereof. Disposable respirators shall not be used for protection against asbestos or ceramic fibers regardless of the concentration.



9. Selection Chart for Respiratory ProtectionHazard

Atmospheres immediately dangerous to life and health (IDLH) or oxygen-deficient atmospheres.

Atmosphere not IDLH

Respirator

A Positive Pressure Self-Contained Breathing Apparatus (SCBA) or an airline respirator with an escape SCBA tied into the airline system.

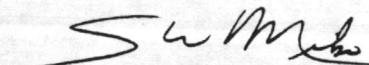
PAPR respirators full face piece or half-mask chemical/HEPA cartridge respirator

10. Issuing Instructions for Respirators and/or Cartridges

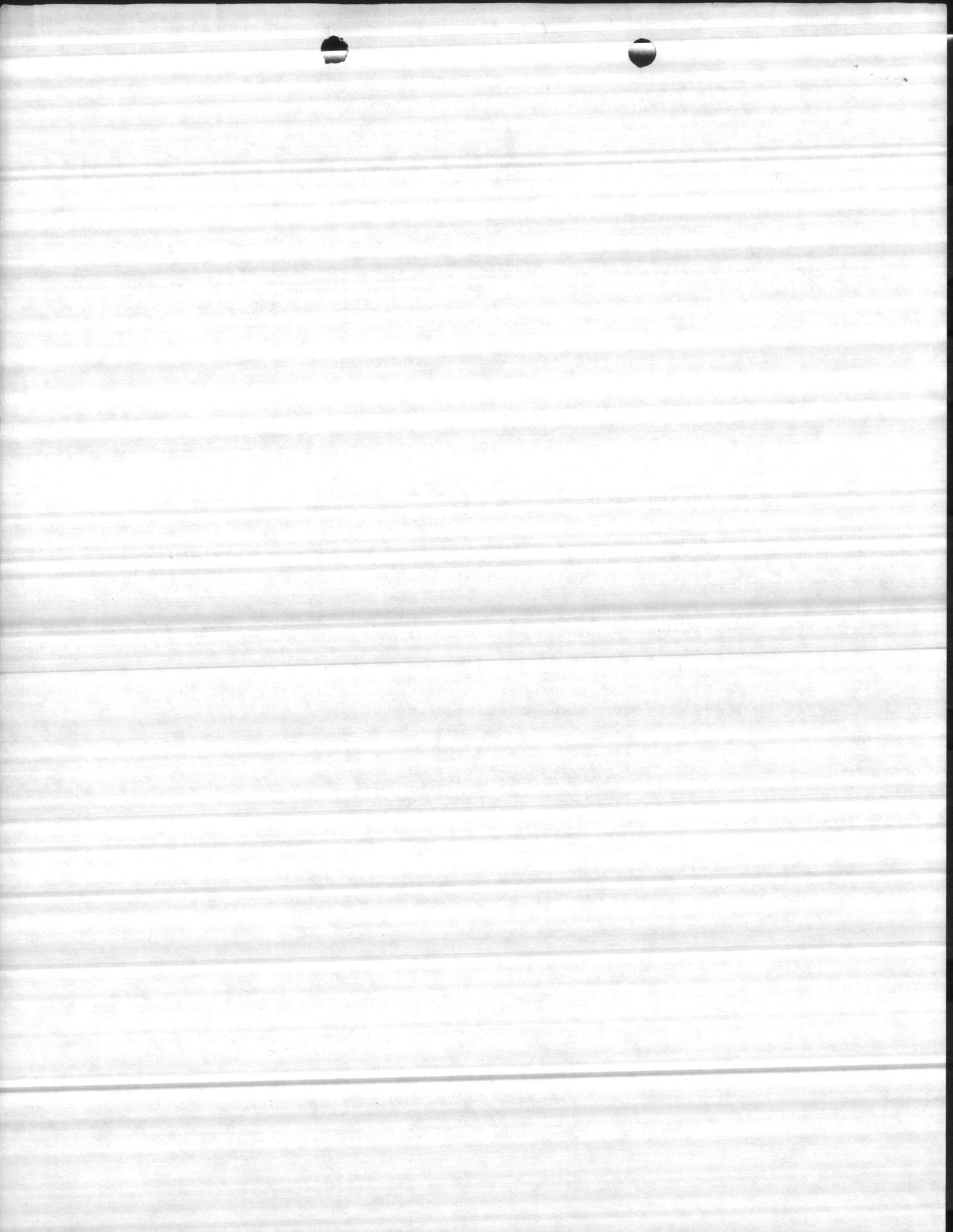
a. Personnel wishing to draw a respirator or cartridge must have in their possession a valid card indicating the make and model of respirator for which the individual has been fit tested.

b. Tool room attendant shall not issue a respirator or cartridges other than that described on the employee's information/physical card.

c. Substitution of respirators or cartridges without the express approval of the Industrial Hygienist is strictly prohibited.


S. W. MIKO

DISTRIBUTION: A



RR-85 Put In SOP

MERCURY SPILL
STANDING OPERATING PROCEDURES

Subject: Standing Operating Procedure - Mercury Spill Cleanup
Purpose: To publish a standard procedure for the cleanup of mercury spills.

1. Responsibility:

a. The Industrial Hygiene Section is responsible for:

- (1) Monitoring the contaminated site before and after cleanup.
- (2) Making recommendations for cleanup.
- (3) Recommending use of protective equipment for area control and personal control measures.
- (4) Providing an industrial mercury vacuum for large spills contact Industrial Hygiene, extension 2707.

b. The Chemist, Utilities Branch is responsible for:

- (1) Ensuring that proper equipment and protective equipment is provided for Steam, Water and Wastewater Sections.
- (2) Ensuring that proper cleanup equipment and protective equipment is utilized by cleanup personnel.
- (3) Coordinating the disposal of mercury obtained from spill with Defense Reutilization Marketing Officer (DRMO) representatives.

c. Instrument Mechanics from steam, water and wastewater are responsible for cleaning up mercury spills in their sections.

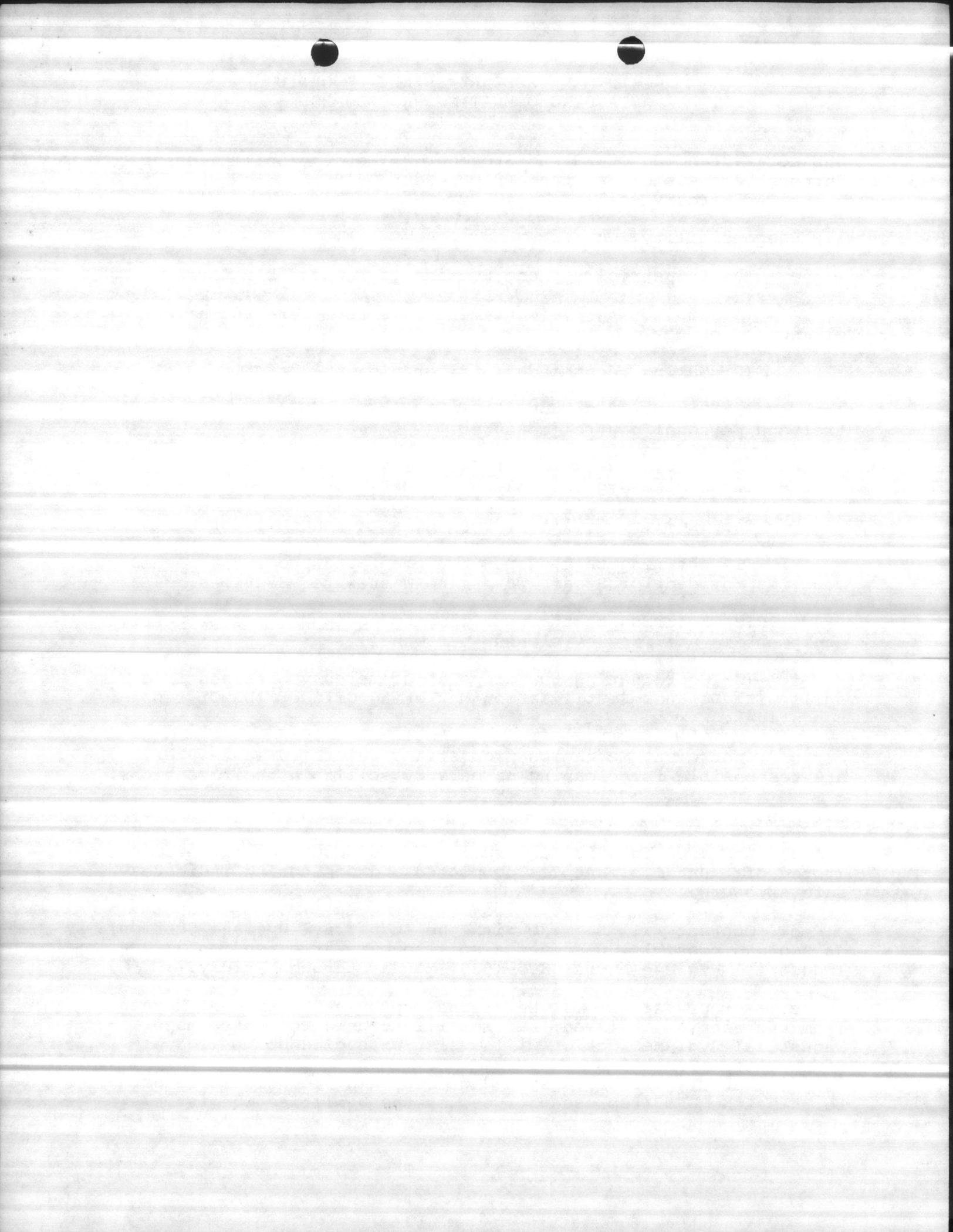
2. General:

a. The area in which the spill occurs should be isolated (roped off) until cleanup is completed and monitoring indicates safe exposure levels.

b. Contact will be made with the Industrial Hygiene Section, as soon as possible, whenever a spill occurs at extension 2707. Industrial Hygiene hours 0800-1600, Monday through Friday.

c. Mercury spill will be cleaned up by an Instrument Mechanic from the section involved. If spill is considered to be major, Industrial Hygiene Section will assist with cleanup.

d. Mercury will be disposed of according to guidelines set forth by the DRMO representatives, by the Utilities Chemist.



SOP for Mercury Spills cont'd

3. Cleanup and Safety Equipment

a. Mercury spill Cleanup Kit including:

- (1) Butyl or latex gloves
- (2) Safety goggles
- (3) Tyvek suit with shoe covers
- (4) Suction device or aspirator fitted with mercury trap
- (5) Scoop bottles
- (6) Plastic bags with ties and labels

b. Respirator for confined area spills:

- (1) Positive pressure self contained breathing apparatus
- (2) Positive pressure supplied air respirator
- (3) Mercury vapor respirator filters (3M Company)

c. Mercury Decontaminant

d. Industrial mercury vacuum cleaner for major spills. This can be obtained from Industrial Hygiene Section, extension 2707.

4. Cleanup Procedure:

a. The area in which the spill occurs should be isolated (roped off) as soon as possible.

b. The spill should be reported to the Industrial Hygiene Section, extension 2707, as soon as possible so monitoring and cleanup procedures can be implemented. Industrial Hygiene's hours are 0800 to 1600, Monday through Friday.

c. All personnel should be cleared from the immediate spill area except for those involved in the cleanup. No smoking, eating, or drinking is allowed in the spill area. Cleanup personnel should wear self contained breathing apparatus or other approved respirator. The choice of respirator will be dependent upon concentration of vapor.

d. Protective gloves, goggles, and clothing should be worn. Tyvek coveralls are satisfactory as whole body protection.

e. No sweeping or blowing of mercury is permitted; gather up as many globules as possible by vacuuming. Globules caught in cracks or recesses may be collected with a suction device fitted with a mercury trap. A magnifying glass will be useful in locating minute globules. A scoop can be used to pick up all but the smallest globules. Scoops which can not be decontaminated should be disposed of as a hazardous waste.

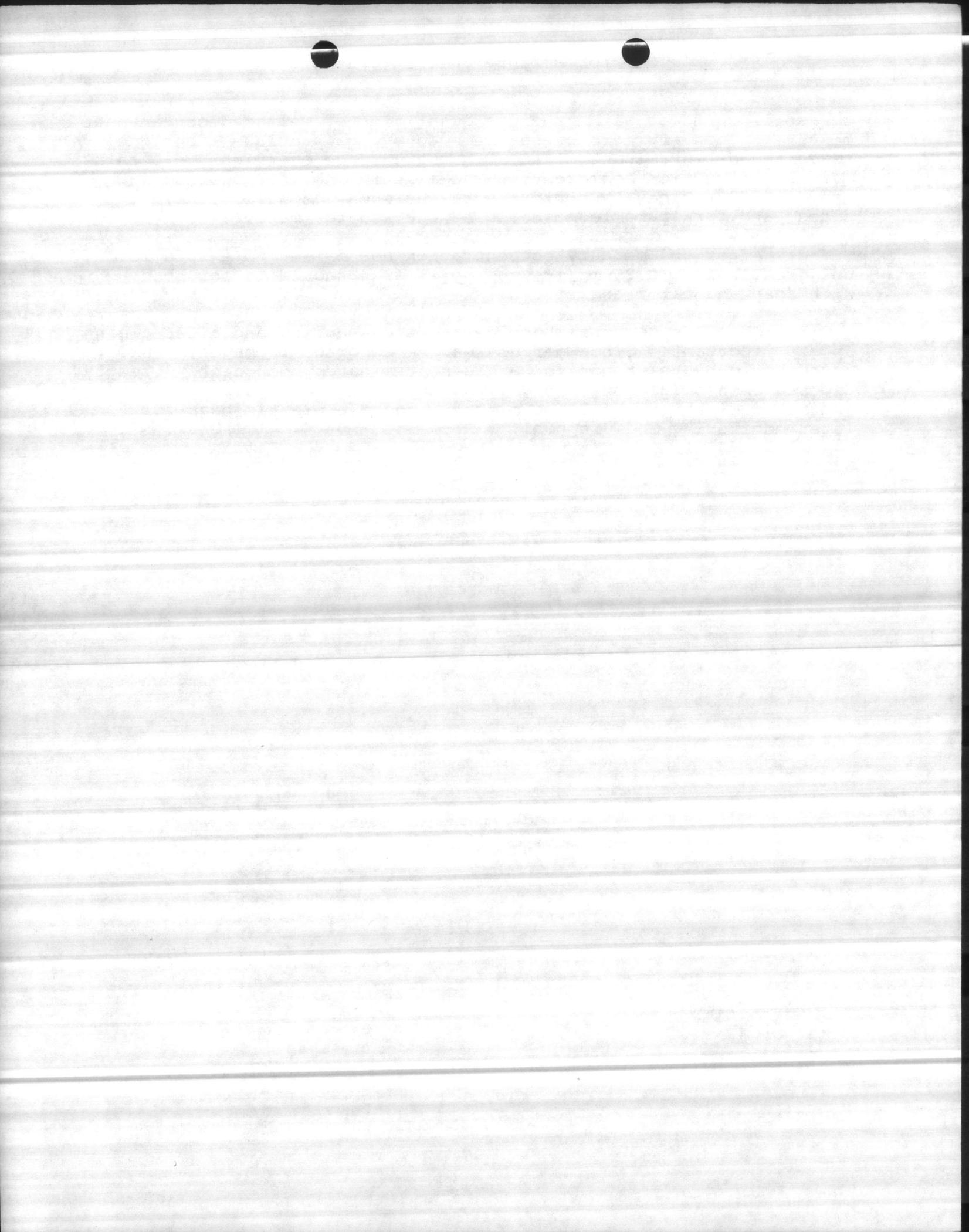
f. After all visible globules have been picked up, cover



the spill surfaces with generous quantities of melted decontaminant mixture to convert mercury not removed by the previous techniques. Leave the decontaminant mixture on the surface overnight to obtain maximum conversion of mercury. The mixture should be worked into cracks and crevices. Vertical surfaces such as walls, cabinet sides, and furniture legs should be checked for mercury.

g. After the mercury concentration has fallen to a safe level, not greater than 0.05 mg/m^3 , the spill area should be scrubbed with soap and water and rinsed.

h. Sensible personal hygiene practices during and after clean-up are important. Since mercury can be absorbed through the skin, care should be taken not to handle contaminated components directly. Exposed skin should be thoroughly washed with soap and water. Contaminated clothing should be placed in double plastic bags for later monitoring and disposal.



July 1969

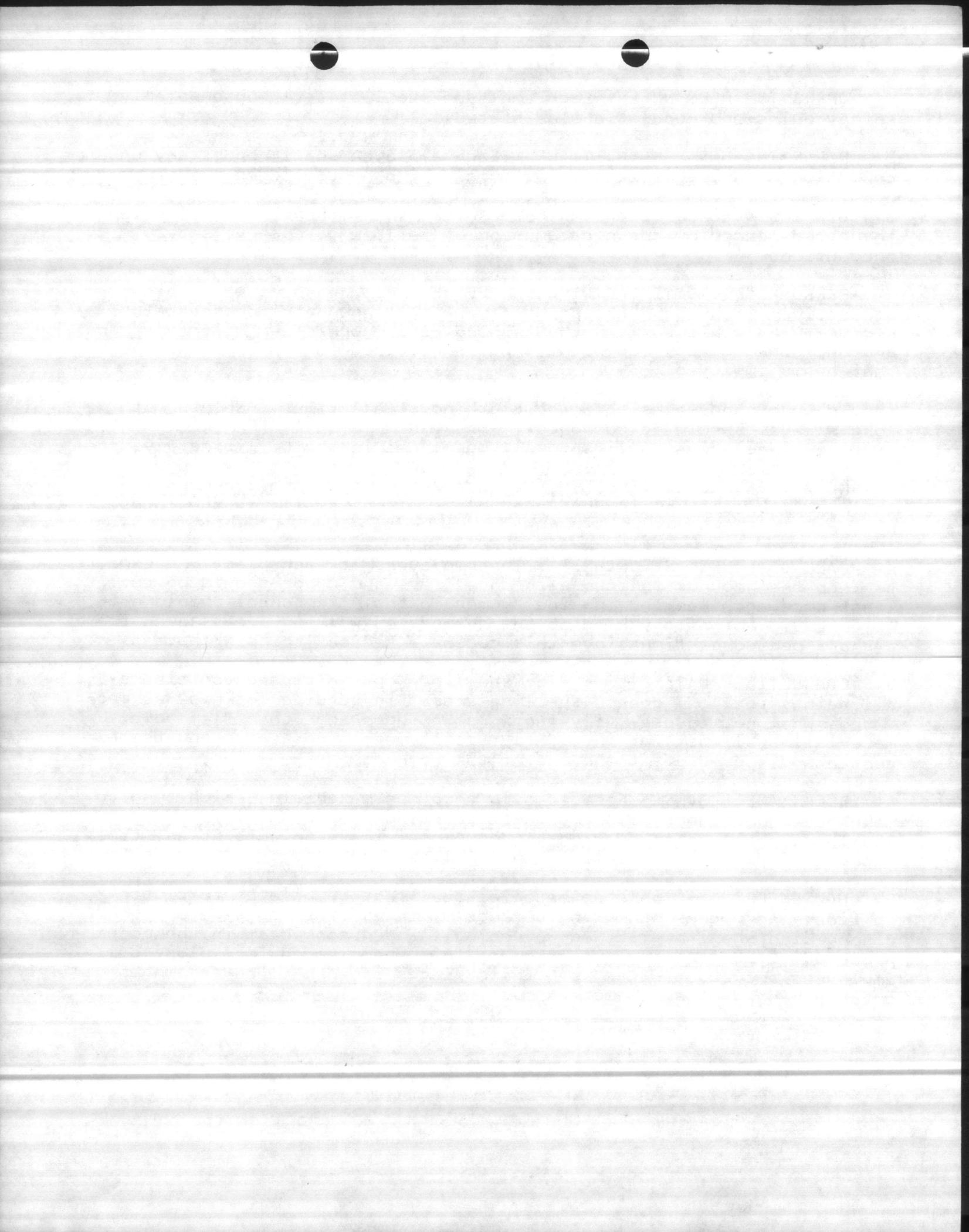
SAFETY REGULATIONS FOR UTILITIES SECTION

1. OPERATING PERSONNEL - Each employee shall strictly observe all safety rules and regulations as stated.
2. REPORTING UNSAFE CONDITIONS - Each employee shall report any unsafe condition or any equipment or material which he considers to be unsafe.
3. WARNING OTHERS - Each employee should warn others whom he believes to be endangered by known hazards or by failure to observe safety precautions.
4. PERSONAL PROTECTIVE EQUIPMENT - Each employee shall wear or use protective clothing or equipment of the type approved for the safe performance of his work; such as, hard hats, goggles, respirators, and any other safety equipment that is required for the area or shop that he is employed.

Employees that are required to work around mechanical equipment should wear good shoes and good clothing at all times. Shirts with long sleeves should be buttoned.

This regulation applies to all personnel in the Utilities Division.
5. REPORT OF INJURY OR ILL HEALTH - All personnel shall report to their supervisors any injury, regardless of how small, in the course of his work.
6. CARE OF LAWNS AND GROUNDS - The employees at each plant are expected to keep the grounds policed each day, grass and weeds should be cut at least once each week during the summer months. Personnel should not leave equipment of any kind on the grounds or walking areas, even for a short period of time since this causes a serious tripping hazard.
7. COMBUSTIBLE MATERIALS - Rags shall be kept in closed containers. All paints, oil and grease shall be stored in outside lockers, as provided, when not in use. Oily rags, waste paper and other flammable materials shall be kept in tightly closed metal containers and their contents disposed of at the end of the work day.
8. DECKS AND FLOORS - Grease, oils or other materials, which tend to make decks or floors slippery shall be cleaned up promptly.

There shall be no running or horse-play in the plants at any time because of slipping, tripping, and collision hazards.
9. HOUSEKEEPING - Tools or material shall not be allowed to clutter up floor and become stumbling hazards. Pieces of scrap pipe or junk of any kind shall be cleaned up promptly and disposed of in the proper place provided for same. All refuse shall be cleared from plant daily. Employees are expected to keep their places of work clean and in an orderly manner at all times.



Memorandum

11014
MAIN

DATE: 31 December 1986

FROM: Base Maintenance Officer

TO: All General Foremen and Foremen

SUBJ: STANDARD OPERATING PROCEDURES FOR REPAIRS TO ELECTRICALLY OPERATED EQUIPMENT

Encl: (1) Occupational Locking and Tagging Guide

1. It is requested that the enclosure be provided and receipted for by each individual mechanic, maintenance worker, or helper who works in occupations that are covered by the OSHA standards for locking and tagging requirements.

2. Training classes on locking and tagging procedures have been scheduled for 13 and 14 January 1987 at Base Safety at 0900. General Foremen will provide a list of employees to the director, Maintenance and Repair Branch by 8 January 1987 of those affected employees who did not attend the training class of 21 October 1986. You are encouraged to utilize your standup safety meetings and quarterly safety meetings to stress the importance of compliance.

3. Provide lockouts, padlocks, tags, etc. to all personnel covered by the OSHA standard reference.

4. All Foremen, General Foremen and Director's will incorporate inspections of equipment during daily checks of jobs in progress to ensure employees are complying with OSHA locking and tagging standards.

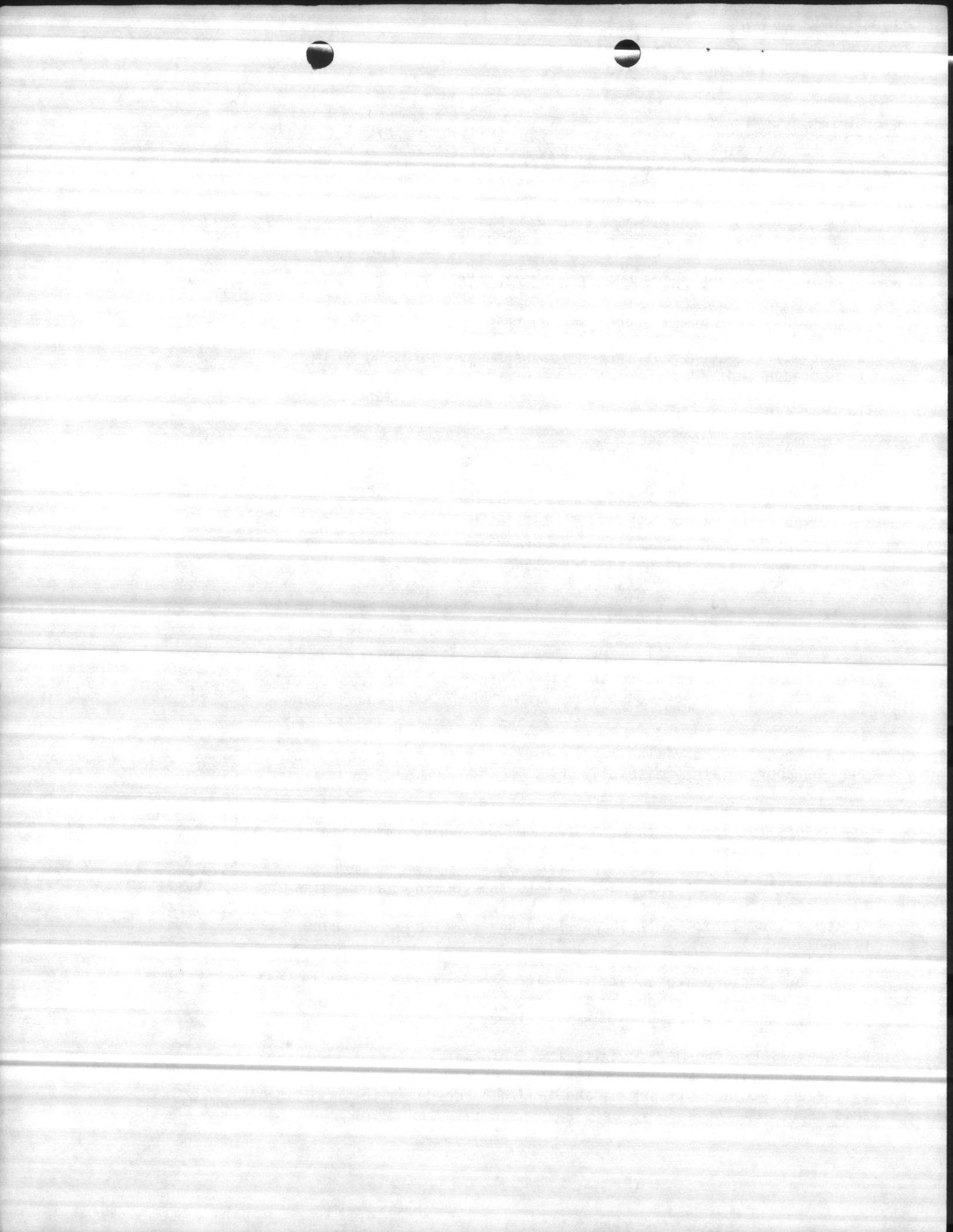
5. Personnel found violating the locking and tagging standards will be appropriately disciplined.

6. When main switches, disconnects, or circuits are found not having provisions for locking them in the open position, immediate repair and/or corrective action will be implemented.

7. Posters alerting shop personnel to the locking and tagging requirements have been provided and will be displayed in conspicuous locations in all shops which have personnel in these occupations.

8. Supervisors are to ensure that affected employees attend the training which is provided by the contractor or facility representative when new equipment is installed.

9. General Foremen will rewrite the performance element relating to OSHA and safety compliance for foreman of occupations affected by the correct use of locking and tagging procedures to include this aspect of the supervisor's responsibility for safety.

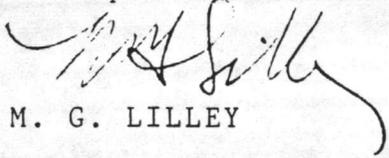


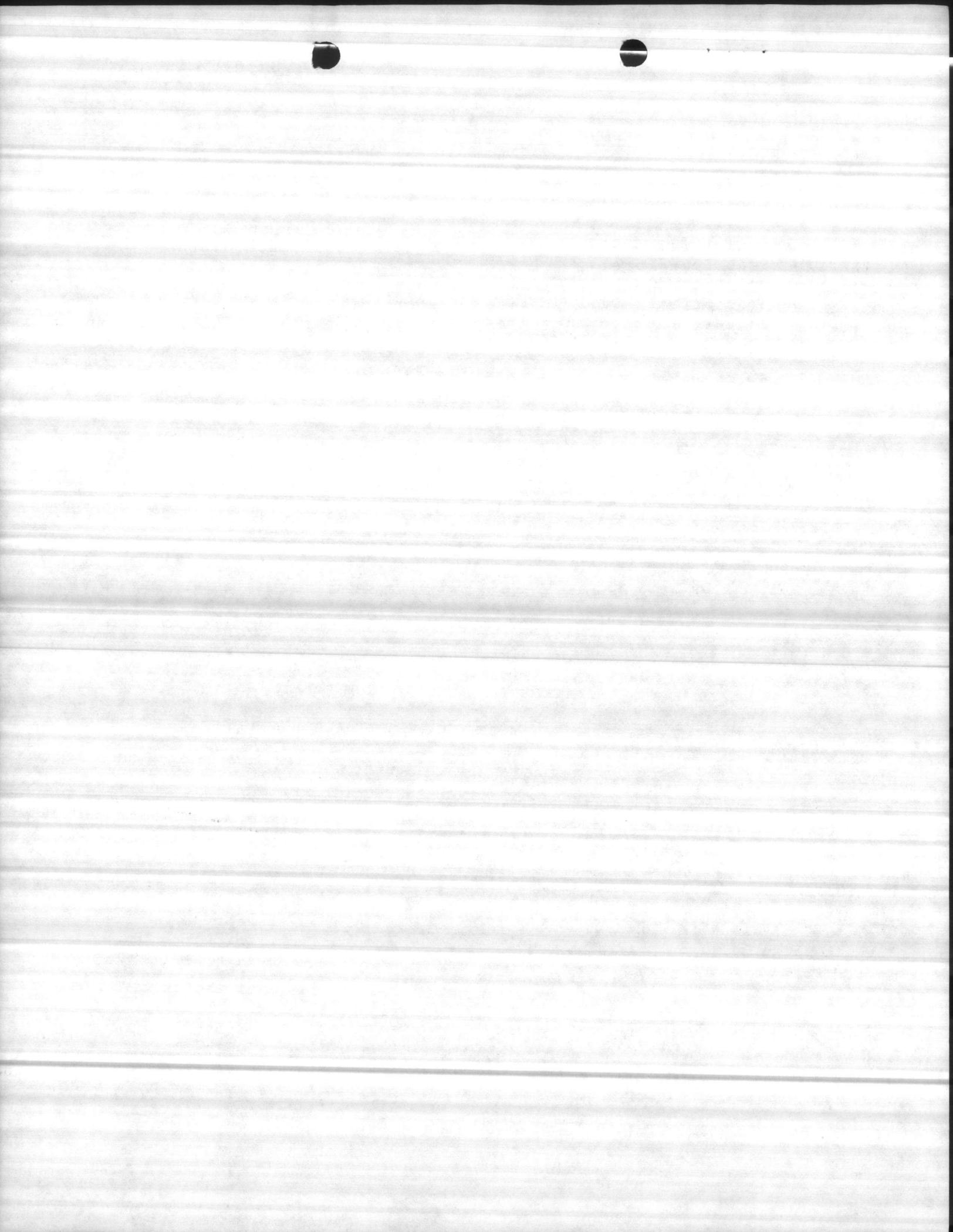
11014
MAIN

Subj: STANDARD OPERATING PROCEDURES FOR REPAIRS TO
ELECTRICALLY OPERATED EQUIPMENT

10. General Foremen are directed to ensure compliance of these instructions immediately.

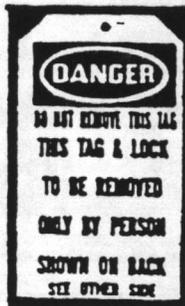
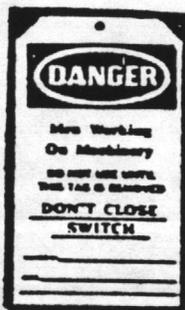
11. General Foremen will provide a report of action taken no later than 30 January 1987 to their respective Director's.


M. G. LILLEY



OCCUPATIONAL LOCKING AND TAGGING GUIDE

ELECTRICAL LOCK-OUTS and LOCK-OUT PADLOCKS



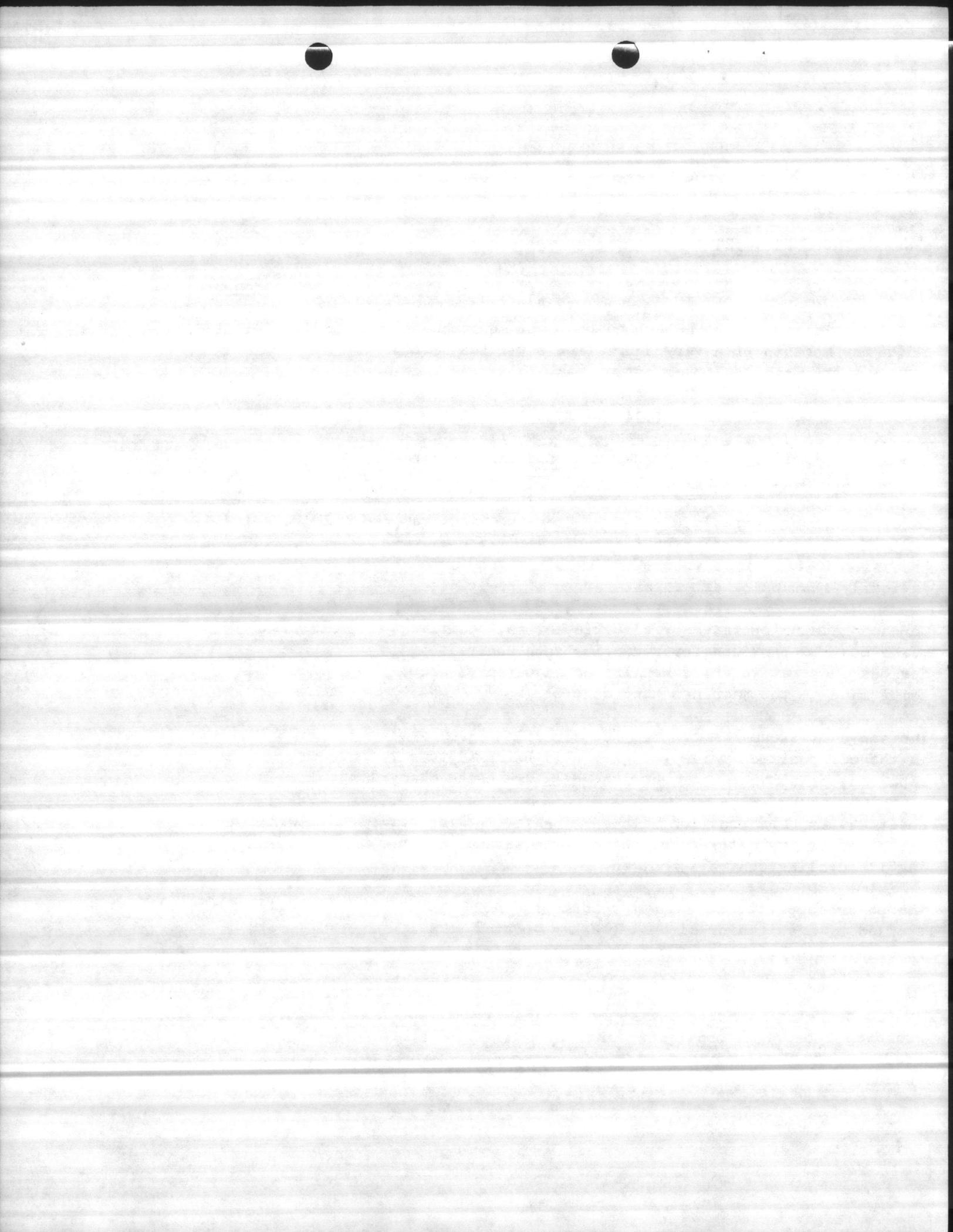
BASE SAFETY OFFICE
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA 28541



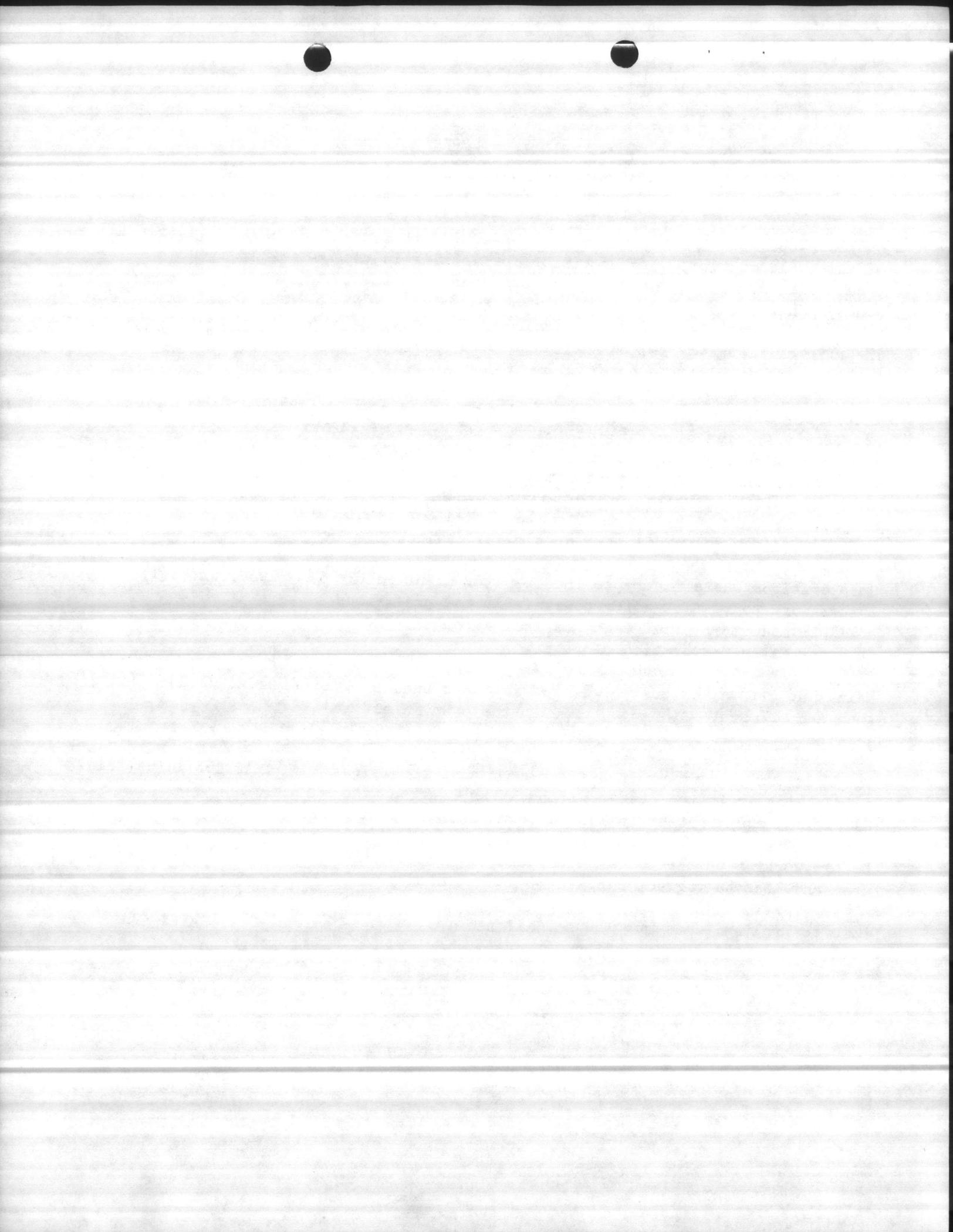
OSHA STANDARD REQUIREMENTS
FOR LOCKING AND TAGGING

GENERAL INDUSTRY - 29 CFR

<u>DESCRIPTION</u>	<u>STANDARD REFERENCE</u>
A "Do Not Start" tag shall be used on power equipment for a few moments or a very short time until the switch in the system can be locked out.	1910.145(f)(1)(i)
A "Do Not Start" tag shall be placed in a conspicuous location shall be in such a manner as to effectively block the starting mechanism, which would cause hazardous conditions if the equipment were energized.	1910.145(f)(3)(iii)
On applications where injury to the operator might result if motors were to restart after power failures, provision shall be made to prevent machines from automatically restarting after restoration of power.	1910.213(b)(3)
On each machine operated by electric motors, positive means must be provided for rendering such controls or devices inoperative while repairs or adjustments are being made to the machines they control.	1910.213(b)(5)
The valve of steam hammers shall be closed and locked in the off position while the hammer is being adjusted, repaired, or serviced, or when the dies are being changed.	1910.218(d)(2)
Upsetters shall be provided with a means for locking out the power at its entry point to the machine and rendering its cycling controls inoperable.	1910.218(h)(2)
The power supply to the runway conductors shall be controlled by a switch or circuit breaker located on a fixed structure, accessible from the floor, and arranged to be locked in the open position.	1910.179(g)(5)(i)
On cab-operated cranes a switch or circuit breaker of the enclosed type, with provision for locking in the open position, shall be provided in the leads from the runway conductors.	1910.179(g)(5)(ii)



<u>DESCRIPTION</u>	<u>STANDARD REFERENCE</u>
On floor-operated cranes, a switch or circuit breaker of the enclosed type, with provision for locking in the open position, shall be provided in the leads from the runway conductors.	1910.179(g)(5)(iii)
The main or emergency switch shall be locked in the open position, if an electric hoist is used.	1910.181(f)(2)(i)(c)
Before any maintenance, inspection, cleaning, adjustment, or servicing of equipment (electrical, mechanical, or other) that requires entrance into or close contact with the machinery or equipment, the main power disconnect, switch or valve, or both, controlling its source of power or flow of material, shall be locked out or blocked off with padlock, blank flange, or similar device.	1910.261(b)(4)
On operations where injury to the operator might result if motors were to restart after power failures, provisions shall be made to prevent machines from automatically restarting after restoration of power.	1910.262(c)(1)
Main shut off valves must be locked in the closed position when men shall enter the oven or when the oven is not in service.	1910.263(1)(3)(iii)(b)
The main switch or circuit breaker shall have provisions for locking it in the open position if any work on the electrical equipment or inside the oven must be performed.	1910.263(1)(8)(iii)
Before working on electrical equipment, switches shall be open and must be tagged, blocked or locked out.	1910.265(c)(12)(v)
Main control switches must be so designed that they can be locked in the open position.	1910.265(c)(26)(v)



OSHA STANDARD REQUIREMENTS
FOR LOCKING AND TAGGING

CONSTRUCTION

STANDARD
REFERENCE

DESCRIPTION

Equipment or circuits that are de-energized shall be rendered inoperative and have tags attached at all points where such equipment or circuits can be energized.

1926.400(g)(1)

Controls that are to be deactivated during the course of work on energized or de-energized equipment or circuits shall be tagged.

1926.400(g)(2)

A device shall be provided on electric motor operated hoists to disconnect all motors from the line upon power failure and not permit any motor to be restarted until the controller handle is brought to the "off" position.

1926.553(a)(3)(i)

Conveyors shall be locked out or otherwise rendered inoperable and tagged out with a "Do Not Operate" tag during repairs and when operation is hazardous to employees performing maintenance work.

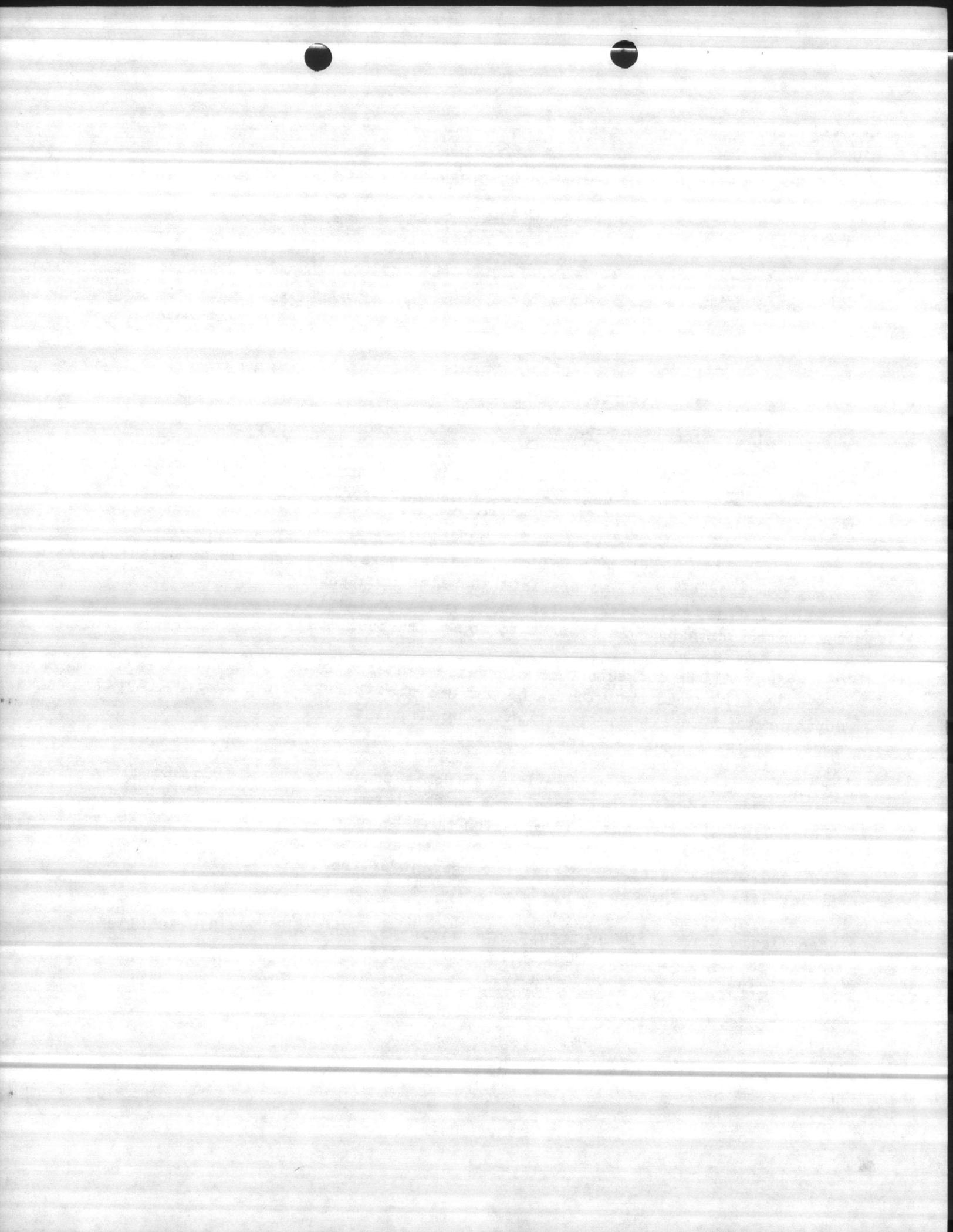
1926.55 (a)(7)
1926.555(a)(7)

In underground operations when firing from a power circuit, a safety switch shall be placed in the permanent firing line at intervals. This switch must be made so it can be locked only in the "off" position and must be provided with a short-circuiting arrangement of the firing lines to the cap circuit.

1926.906(j)

When firing from a power circuit, the firing switch shall be locked in the open or "off" position at all times, except when firing.

1926.906(l)



GENERAL DUTY CLAUSE

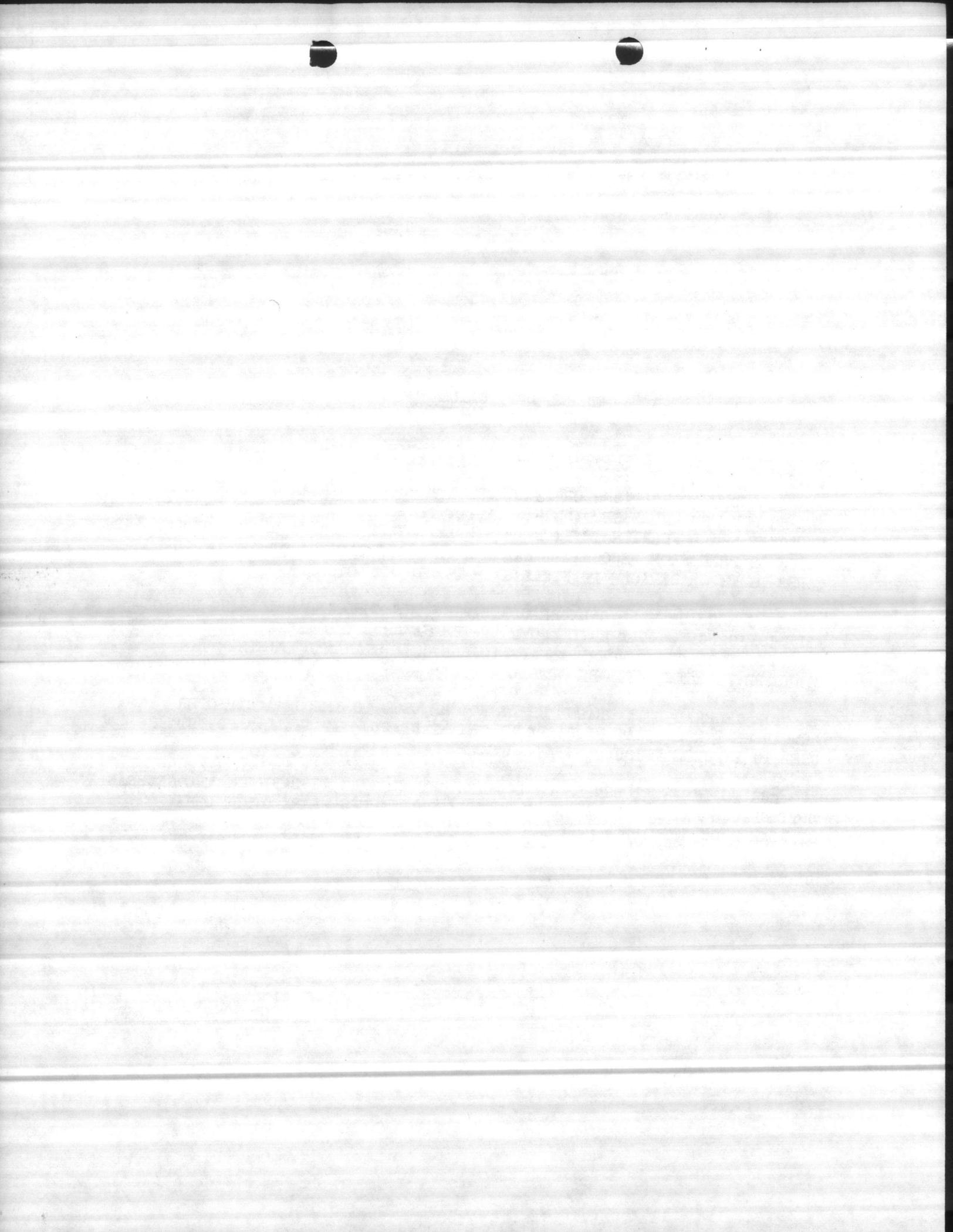
REFERENCE: OSHA PL 91-596, SECTION 5(a)(1)

HAZARDOUS CONDITIONS OR PRACTICES NOT COVERED IN AN OSHA STANDARD MAY BE COVERED UNDER SECTION 5(a)(1) OF THE ACT WHICH STATES: "EACH EMPLOYER SHALL FURNISH TO EACH OF HIS EMPLOYEES A PLACE OF EMPLOYMENT WHICH IS FREE FROM RECOGNIZED HAZARDS THAT ARE CAUSING OR LIKELY TO CAUSE DEATH OR SERIOUS PHYSICAL HARM TO HIS EMPLOYEES."

THIS SECTION WILL ONLY BE CITED WHEN THE EMPLOYER UTILIZING REASONABLE DILIGENCE SHOULD HAVE KNOWN OF THE HAZARD. THE GENERAL DUTY CLAUSE WILL NEVER BE CITED WHERE AN APPLICABLE OSHA STANDARD EXISTS. THE STANDARD VIOLATED WILL BE CITED.

THE GENERAL DUTY CLAUSE SHALL NOT BE USED TO IMPOSE A STRICTER REQUIREMENT THAN THAT REQUIRED BY THE STANDARD. IT SHALL ALSO NOT BE USED TO ENFORCE "SHOULD" STANDARDS.

DUE TO THE SERIOUSNESS OF LOCKING AND TAGGING VIOLATIONS, THE GENERAL DUTY CLAUSE MAY BE CITED UNDER SOME CIRCUMSTANCES WHERE OTHER OSHA STANDARDS DO NOT APPLY.



INTRODUCTION

THE PROBLEM

Companies with effective accident prevention programs have learned that they owe a large portion of their success to good locking and tagging procedures. The need for locking and tagging was learned in most cases through bad experience. Failure to lockout and tag often results in serious employee injuries or fatalities.

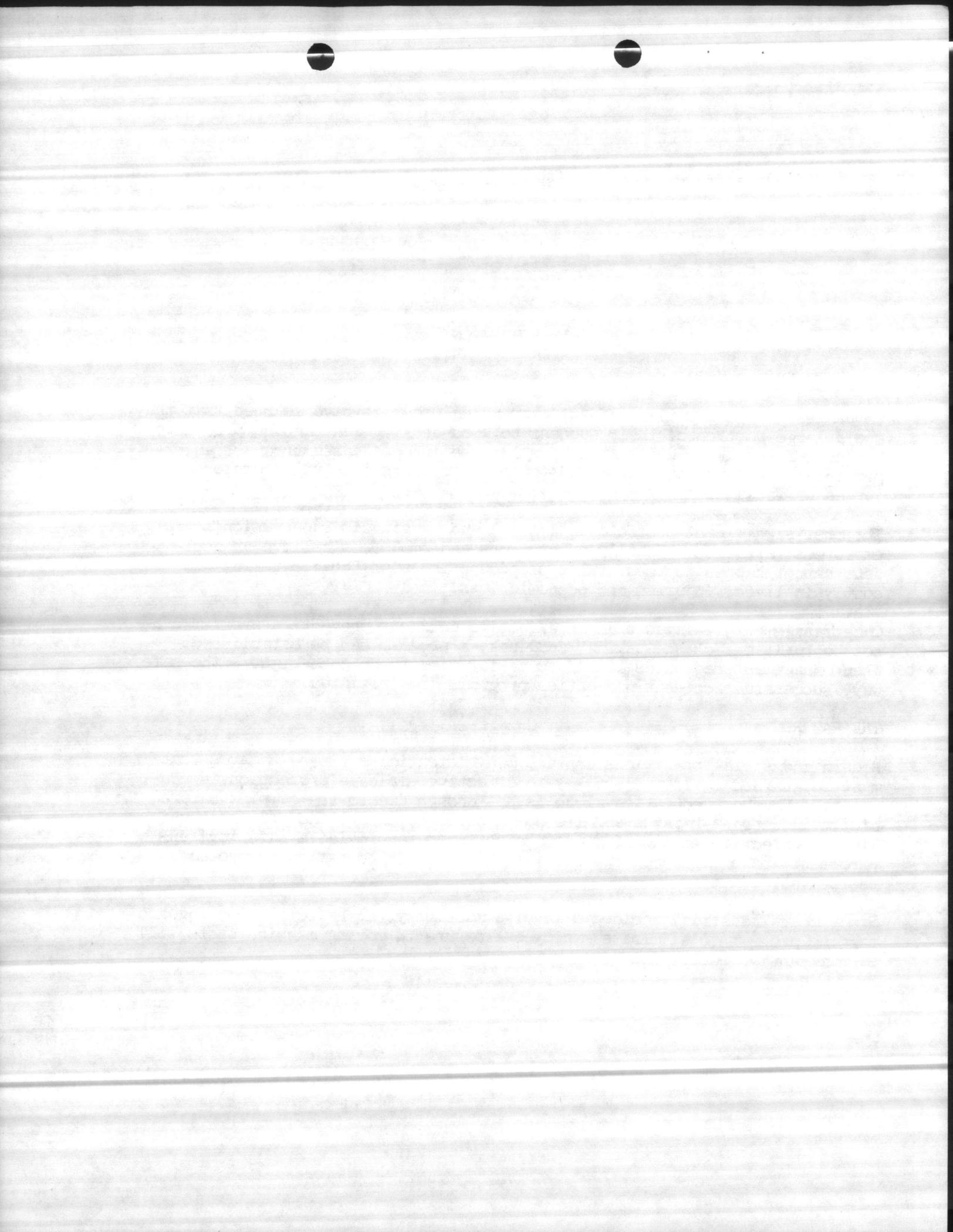
The most significant obstacle to locking and tagging is supervision's and employees' attitude. Usually supervisors and employees believe an accident cannot happen to them. This preoccupation with "chance taking" is costly in lives, injuries and economic loss.

Once management realizes that an effective accident prevention program cannot be built on "chance taking" and luck, a program can be established. When management dedicates itself to taking time to do jobs right - the safe way, successful accident prevention programs are initiated.

THE HAZARDS

Modern industrial operations contain many potential employee hazards that must be guarded against. The key to effective employee protection is education. However, education alone is not enough due to the complex nature of the industrial hazards and the complicated machinery and processes utilized. Effective engineering must be utilized to provide a safe work environment where employees can utilize their safety education to protect themselves.

Since most industrial accidents involve machinery, an effective locking and tagging program to eliminate employee exposure to moving machine parts will significantly reduce accidents.



SUGGESTED
LOCKING AND TAGGING PLAN

OBJECTIVE

The specific purpose of locking and tagging is to prevent employee exposure to the danger of

- Moving Equipment
- Electrical Shock
- Hazardous and Toxic Materials

Type of Exposure

Employees are exposed to moving equipment, electrical shock, and hazardous materials while performing many and varied operations. Locking and tagging must be used to protect employees against each exposure.

Maintenance: Frequently employees are exposed to hazards while performing equipment maintenance, lubrication, and repairs. Each mechanic and electrician must be properly instructed and equipped to deactivate, lock and tag equipment prior to exposing themselves to hazards. Due to the nature of maintenance operations employees are often exposed to the danger of moving equipment or the release of hazardous material.

Electrical: The complicated and technical nature of electrical installations and the diversity of electrical circuits makes an electrical repairman's job hazardous. A very slight mistake by an electrician could mean his life. Effective electrical circuit lockouts and tagging is vital to proper protection for electrical repairmen.

Operating Personnel: Often employers fail to include their operating or manufacturing employees in their locking and tagging procedures. Many operating personnel are routinely exposed to hazards while operating, adjusting, cleaning, and trouble-shooting equipment.

When an operator places his hands, head or any part of his body in a position where he could be caught by moving equipment, if the equipment would operate, locking and tagging is required.

In some cases the maintenance mechanic or electrician would be required to lockout and tag in the same situation where the operator is not. This is obviously an improper procedure where the operating personnel are not provided the same protection as other employees.

Construction: Hazards requiring locking and tagging exist in construction operations as they do in other situations. Construction machinery such as conveyors, elevators, piping systems, as well as tank and vessel entries require locking and tagging.



Construction employees must often "run-in" new machinery and equipment prior to releasing it to the operating group. During such "run ins" employees may be exposed.

ENGINEERING

Every effort must be made by employers to eliminate as much employee exposure as practical. Employee exposure that cannot be eliminated by engineering means must be eliminated by locking and tagging. No employee exposure can be justified if injuries, illnesses or fatalities may result.

Equipment Design

The most practical and economic way to eliminate employee exposure is through effective machinery and process design. Design engineers must include feasible protective measures in their design. Where locking and tagging procedures must be utilized, the design engineer must provide effective, practical means for lockouts.

Guards: Proper use of machine guards will eliminate the need for most locking and tagging. Guards specified by the OSHA standards will achieve this goal. Effective guards are those that prevent employee exposure. When the exposure cannot be guarded against, locking and tagging must be followed.

Electrical Disconnects: The one device most frequently utilized in locking and tagging is the electrical disconnect switch. Proper installation of disconnect switches will provide effective, practical means for locking out.

Mechanical Stops: In some instances electrical switches and guards are not provided to protect employees. In such cases employers must insure that employees are protected by utilizing mechanical stops such as blind flanges, valves, safety bars, chains, etc.

Locking and Tagging Equipment

The employer is responsible for providing employees with the required equipment to effectively lock and tag equipment and processes.

Locks: Each employee that is routinely required to use locks and tags should be issued a personal lock and key. Duplicate keys should not be provided to eliminate the chance of unauthorized lock removal. A good quality lock should be provided with an assigned serial number for each employee.

Tags: "Danger" accident prevention tags described in OSHA Standards 1910.145 should be utilized in locking and tagging equipment. It is important that only "danger" tags be used with locks to insure personnel recognition and effective accident prevention.

Clips (Multiple Lock Hasps): On occasion numerous employees must lockout the same device. To permit enough positions for installing locks, multiple lock hasp clips should be utilized. Usually the hasps are retained by supervision for use by employees as required.



Chains: Lockout of piping systems and valves requires special equipment such as chains. The chains can be wrapped around valve handles and locked to prevent inadvertent movement. Chains should be pre-cut and stored by supervision for use by employees.

Lockout Boxes: When large numbers of locks are required to protect employees, supervision may install the required locks and place the key(s) in a special lockout box. This box has numerous lockout positions for locking the key (s) in the box. Supervision cannot unlock the locks until each employee removes his personal lock from the lockout box.

EDUCATION

Employees and supervision must be properly educated to recognize locking and tagging situations. Safety rules and procedures concerning locking and tagging should be reviewed with new employees and routinely reviewed with old employees.

New Employees

The need for and importance of locking and tagging must be reviewed with all new employees during their initial orientation period. Disciplinary procedures concerning failure to lockout and tag must be thoroughly covered. Situations requiring locking and tagging must be described to new employees so they can recognize potential hazards.

Supervision

Supervision holds the key to maintaining an effective locking and tagging program. They must insure the employees know, understand and follow lockout procedures. Alert supervision can detect and eliminate unsafe practices before they cause accidents and injuries.

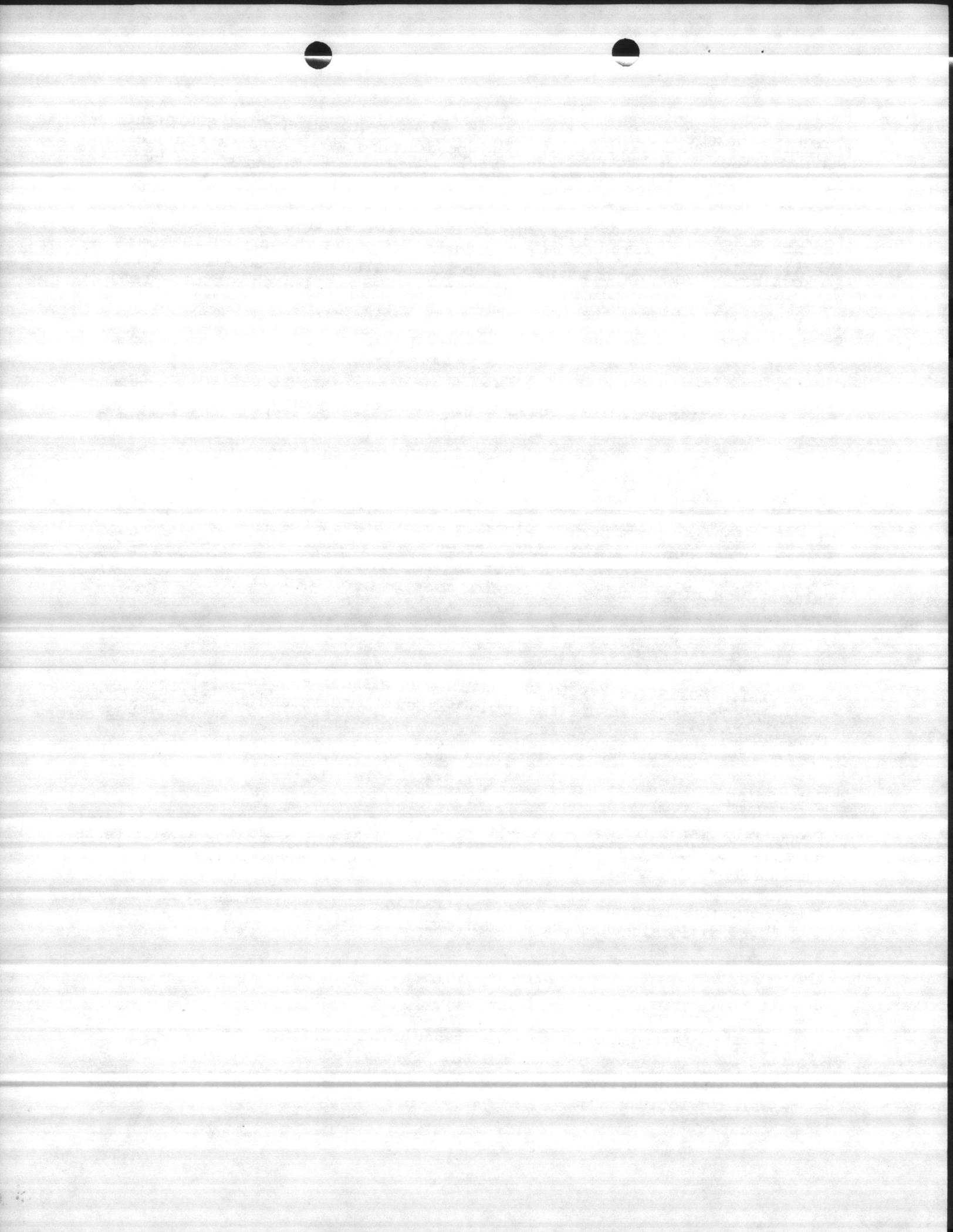
Retraining

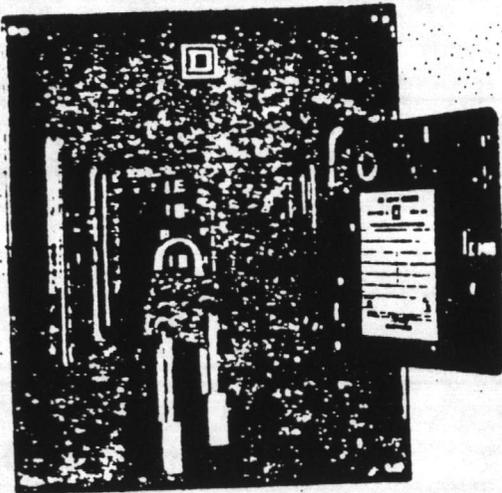
Frequently new employees will lose their respect for potential safety hazards as they gain more experience. To offset this problem, employees must be periodically retrained concerning locking and tagging procedures.

Some companies have prepared special training programs, slide presentations and films on locking and tagging for training and retraining employees.

Hazard Recognition

Unless employees know when to lockout and understand how to lockout, an effective program cannot be established. Special effort must be made by employers to train employees in lockout hazard recognition. Operating procedures should include specific reference to situations requiring lockouts.





LOCKING AND TAGGING PROCEDURE

Written procedures must be provided to insure employer knowledge and understanding. Education and enforcement would be very difficult without written procedures.

Preparation

All employee lockouts must be authorized by supervision or specified in operating procedures. This is necessary to insure proper lockouts for effectively protecting employees.

Supervision: Supervision of the group responsible for operating machinery and processes must authorize lockouts. Since the operating group is most familiar with hazards, they should insure effective deactivation and lockout.

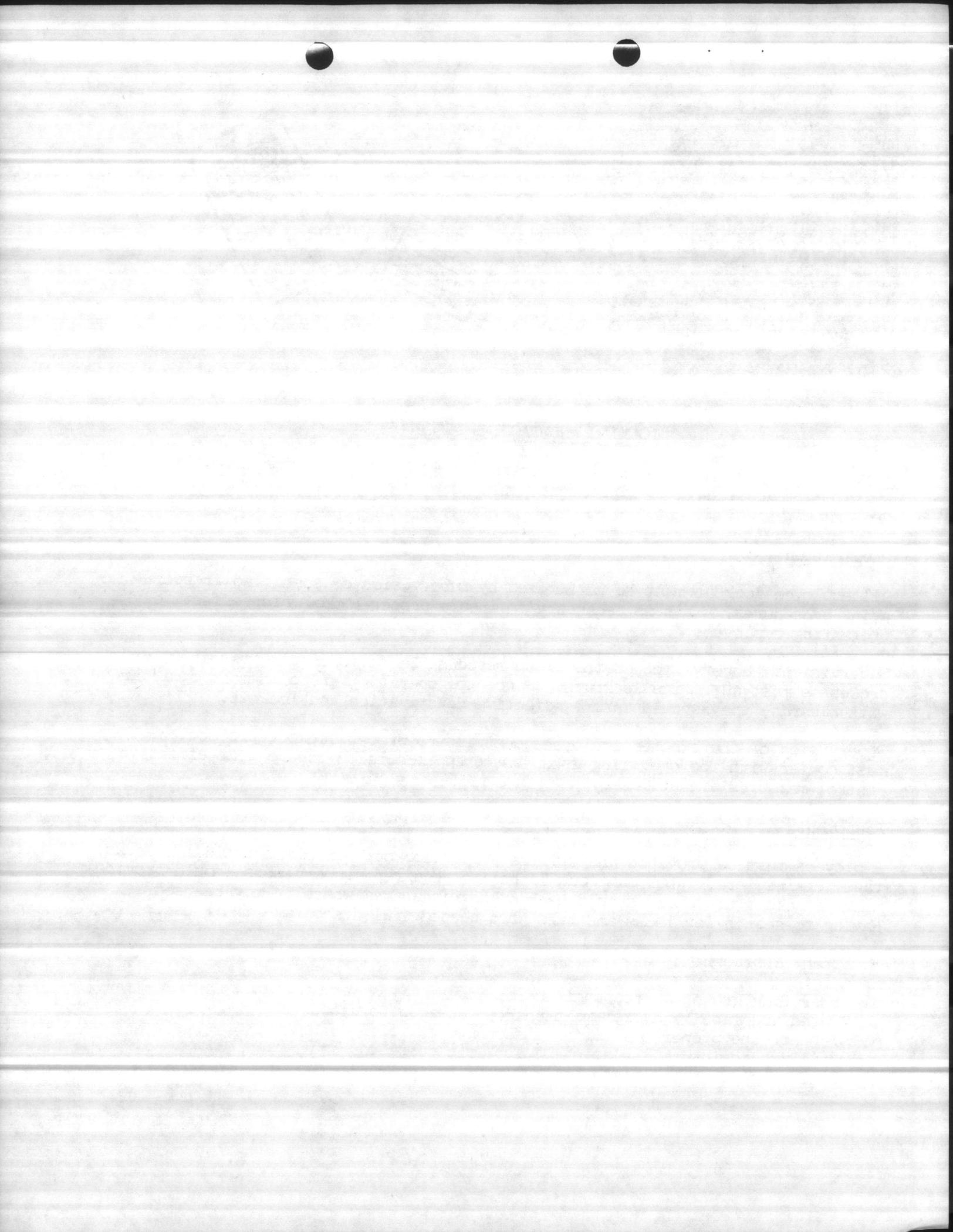
Supervision of the exposed employees must insure proper lockout protection. They must confer with the operating group where applicable to insure that effective control measures are utilized.

Equipment

Employees must be provided and utilize proper lockout equipment including locks, tags, chains, etc. When numerous locks are required, supervisors should provide them. Lockout equipment should be kept near the area where it may be used. Having to search for locks and tags when needed will discourage their use.

Equipment Shutdown

The operating groups are responsible for insuring that equipment is properly deactivated and made ready for maintenance, cleanup, overhaul etc. They must insure that the proper electrical disconnect switches, valves, etc. are utilized to insure isolation. Also, the operating group must insure that toxic and hazardous materials are removed or isolated to prevent employee exposure.



All switches and valves operating machinery must be initially shutdown and locked by the operating group. This will eliminate premature shutdown or startup.

Locking and Tagging

Proper employee protection requires that all power sources and potential exposure from hazardous material be locked out. In some cases the potential hazard may be difficult to identify.

Power Sources

Some sources of power that must be protected against are:

- Electrical Circuits
- Hydraulic Systems
- Pneumatic Systems
- Gravity Systems

Lockout of power sources can be complicated due to the complex nature of modern equipment and processes. In some cases electrical circuits may be fed from more than one source. Primary and secondary circuits are often present.

Equipment having electrical, hydraulic and pneumatic sources of power require detailed lockout procedures to insure all hazards are eliminated.

To aid in identification of lockout equipment that feed from more than one electrical circuit, each circuit should be labelled.

Isolation

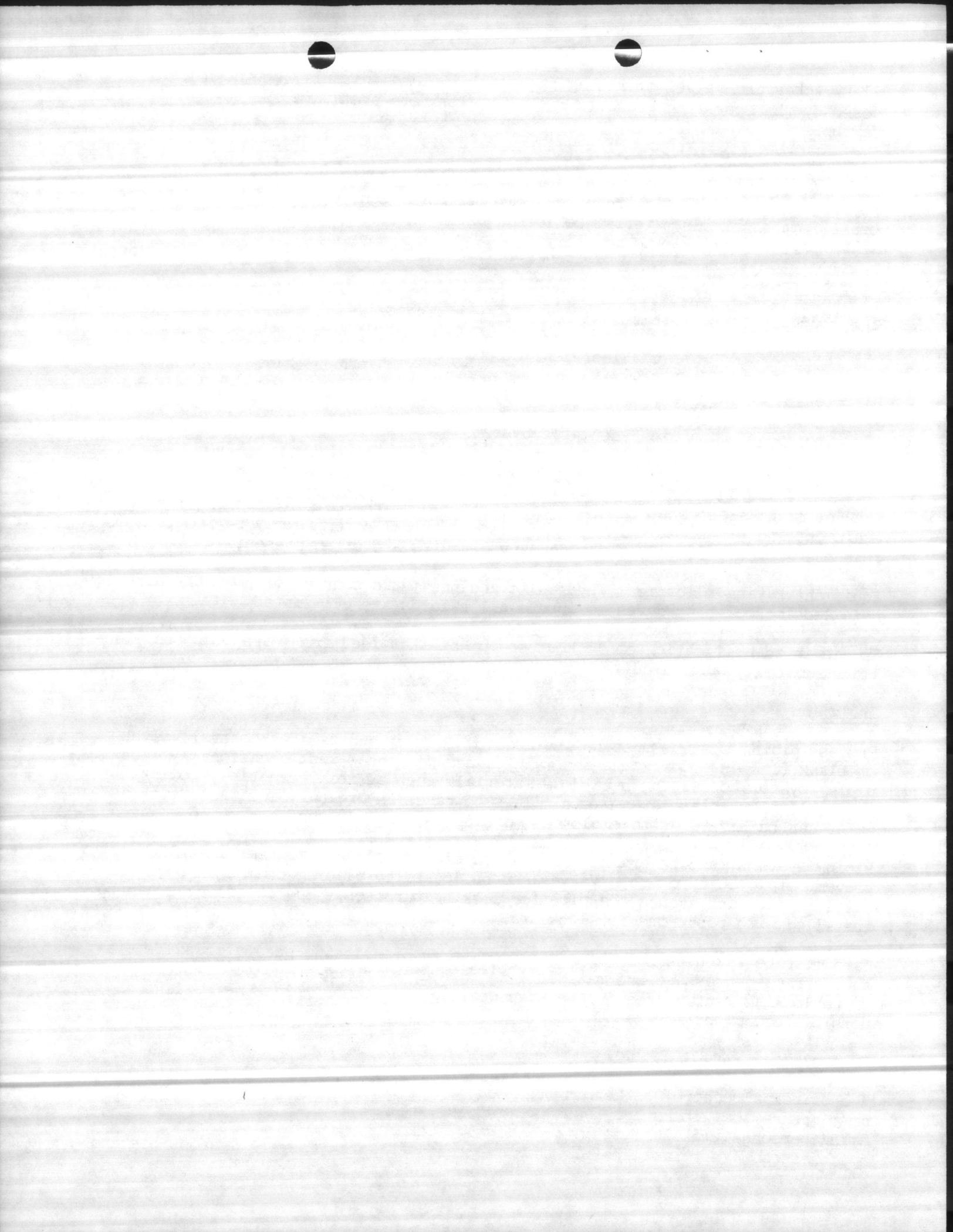
Process piping systems must be isolated by locking and tagging control valves or blank flanges. Operating and maintenance personnel must occasionally open piping systems containing hazardous materials such as acid, caustic, toxic material, flammables, steam, etc. In some cases an ordinary substance such as water can be hazardous to employees working in tanks or confined spaces.

Piping systems must be drained and valves closed or blank flanges installed to prevent employee exposure. Valves can be locked by placing chains through the valve handles and around the pipe for locking purposes. Special flanges can be installed with positions for lockouts.

Care must be taken when locking out process, hydraulic and pneumatic systems to avoid trapped pressure and material. Also hydraulic and pneumatic systems require locking vent valves in the open position to prevent pressure buildup and possible equipment movement.

Control

The principal control of locking and tagging procedures is supervision. They must insure that locks are installed properly by all exposed employees. Operating personnel must assist in identifying lockout positions. Disconnect switches should be installed as near the equipment they operate as possible and not on different levels or in other rooms.



* Testing

Effective lockout requires that controls be tested to insure they are installed properly. This is necessary to eliminate potential problems from locking out the wrong electrical switch or valve.

Start Switches

Electrical start switches operating the equipment being worked on must be activated to insure the power has been locked out. In some cases electrical disconnect switches fail and remain energized although the handle is in the off position and locked out. Also control switches could be labelled incorrectly.

Care must be taken when testing electrical systems to insure all limit switches and interlocks are closed. Open limit switches will nullify the test since energized equipment may not start due to the open limit switches.

Resetting

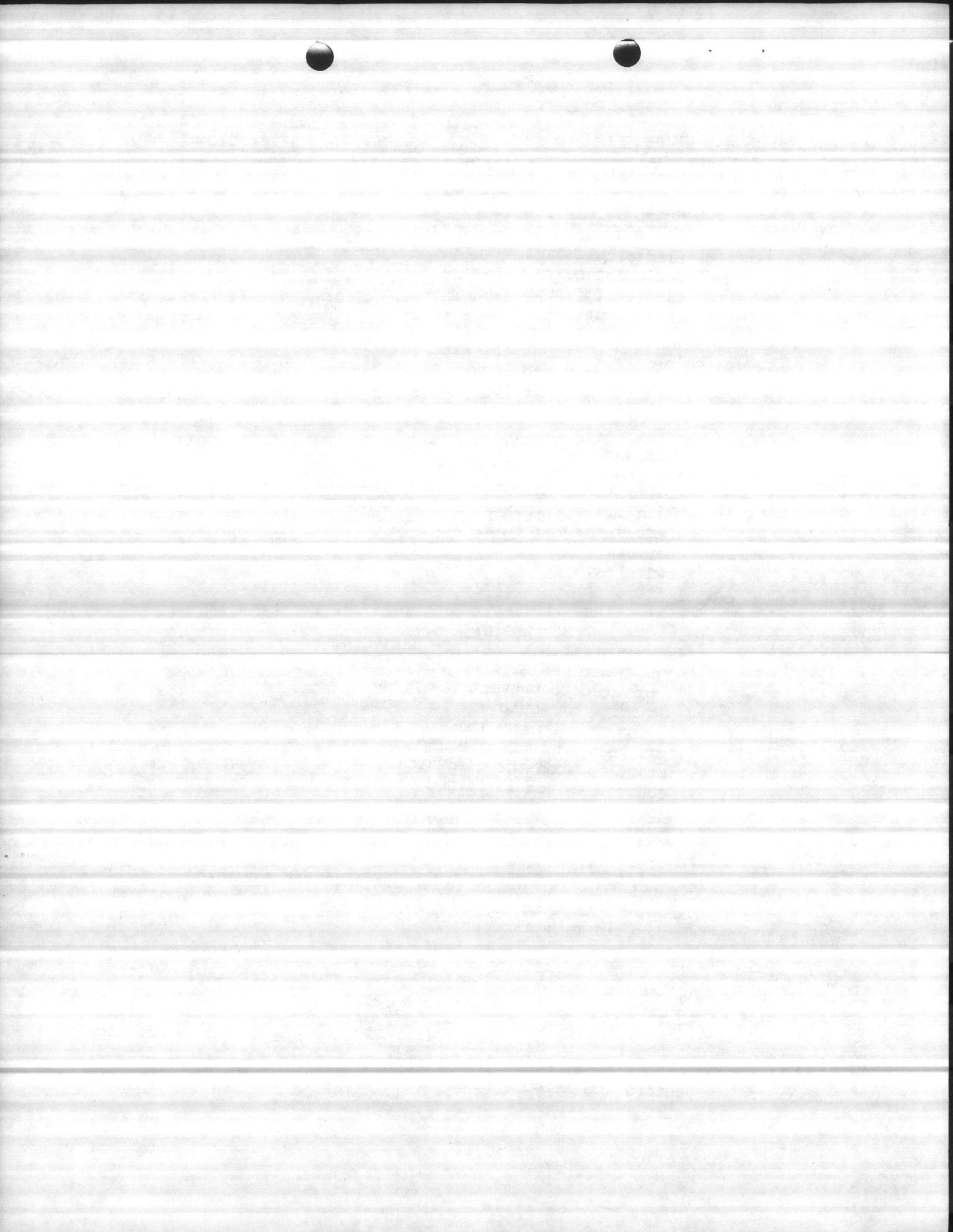
After start switches are activated the reset and stop switches must be activated to prevent the premature starting of equipment following lockouts. Unless the stop switch has been activated, equipment will start up when the electrical disconnect switch is turned on after lock removal.

* Performing Work

Employees working under lockouts must make sure that the equipment they are working on is the same equipment locked out.. Some injuries have occurred when employees locked out or worked on the wrong system.

Care must be taken to not eliminate the lockout protection during repair work. Bypassing lockouts with new piping systems or electrical circuits can create new hazards.

Supervisors must be alert to detect and caution employees who have not locked out the potential hazards. Such employees often include engineers, casual observers, inspectors and in some cases supervisors.



Lock and Tag Removal

Prior to removing locks and tags employees and supervision must verify that the equipment or system locked out is safe to operate. Some companies utilize check sheets listing the lockout positions and required checks prior to reactivating equipment. Supervision has the primary responsibility for final lock removal.

Some items that should be checked are:

- Guards: All guards must be installed.
- Electrical Systems: All exposed electrical wiring must be covered.
- Piping Systems: All open pipes must be closed and properly connected.

Equipment Operation

The responsibility for initial operation of machinery, equipment and process systems belongs to the operating group. Maintenance personnel should not start-up equipment.

Confirmation

Supervision must insure that systems and equipment are safe to operate prior to removal of lock and tags. Confirmation must usually be made by on-site inspections.

Exposure

Checks must be made to insure that no employees are exposed prior to operating equipment.

Operation

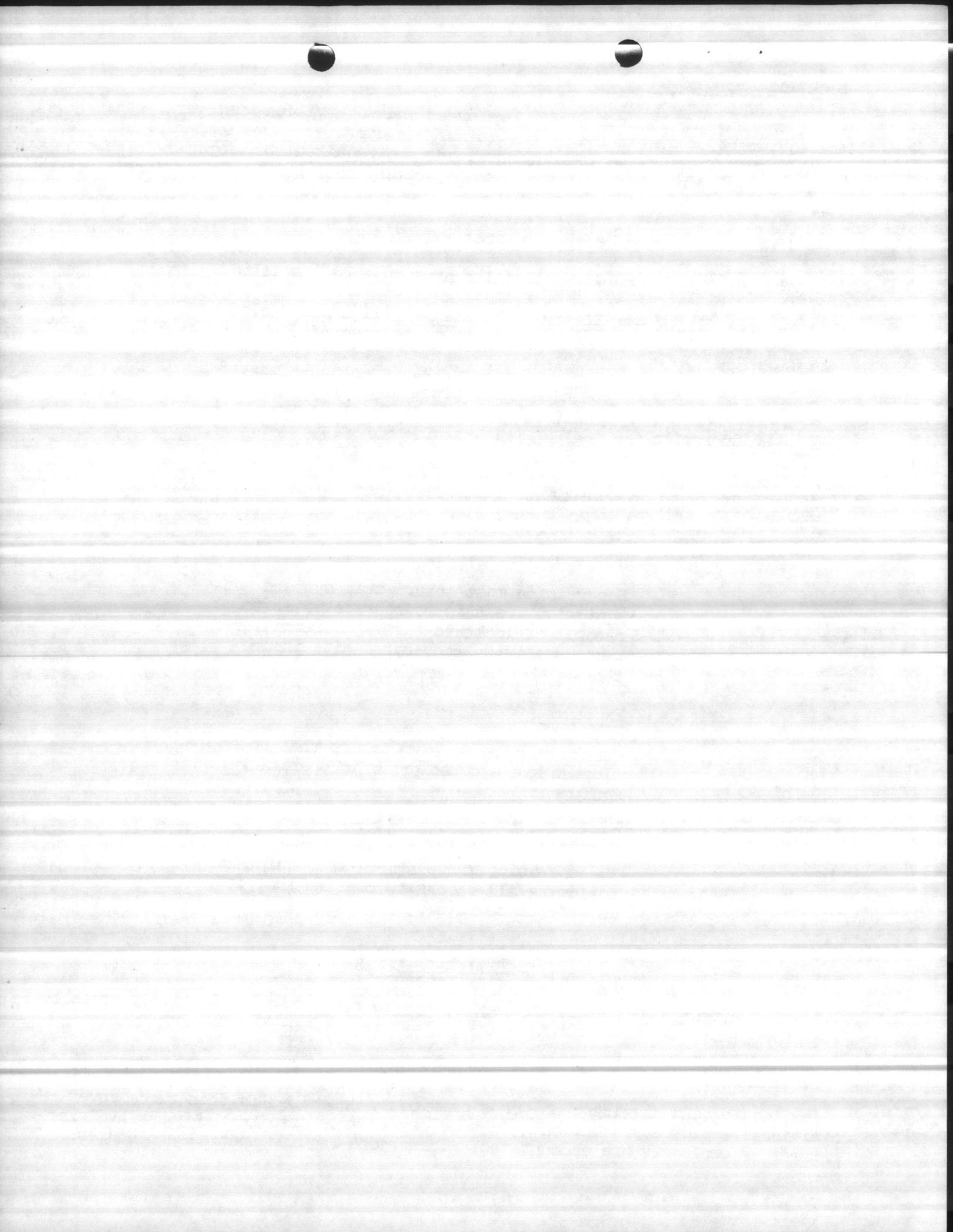
The operating group starts the equipment following all checks to confirm that it is safe to operate.

SPECIAL PROCEDURES

Special locking and tagging procedures may be required to effectively protect employees in some situations.

Unusual Jobs

The locking and tagging procedures previously described in this guide cover individual employee protection. In some cases large complicated jobs involving numerous employees are encountered. These jobs require special procedures.



Overhauls and Shutdowns.

Large overhauls and process shutdowns often involve many crafts and employees. In some cases from fifty to one-hundred locks and tags may be required.

To avoid each employee having to lockout each position, a supervisory lockout system is utilized. A supervisory representative of each group involved will witness the lockout by the operating group. A check sheet will be used.

Following the system lockout, the keys will be placed in a lockout box.

Lockout Box

Lockout Boxes are used to place keys to large scale lockouts in them for effective control. The box has numerous lockout positions on the lid to prevent the keys from being removed while employees are exposed. Each employee places his personal lock and tag on the lockout box, thus controlling the key(s) to many locks.

Fuse Boxes

Some electrical systems can be effectively isolated by pulling fuses and locking and tagging the cover to the fuse box. Routine use of fuse boxes for lockout should necessitate installation of lockout hasps on the fuse box covers.

Retaining Pins

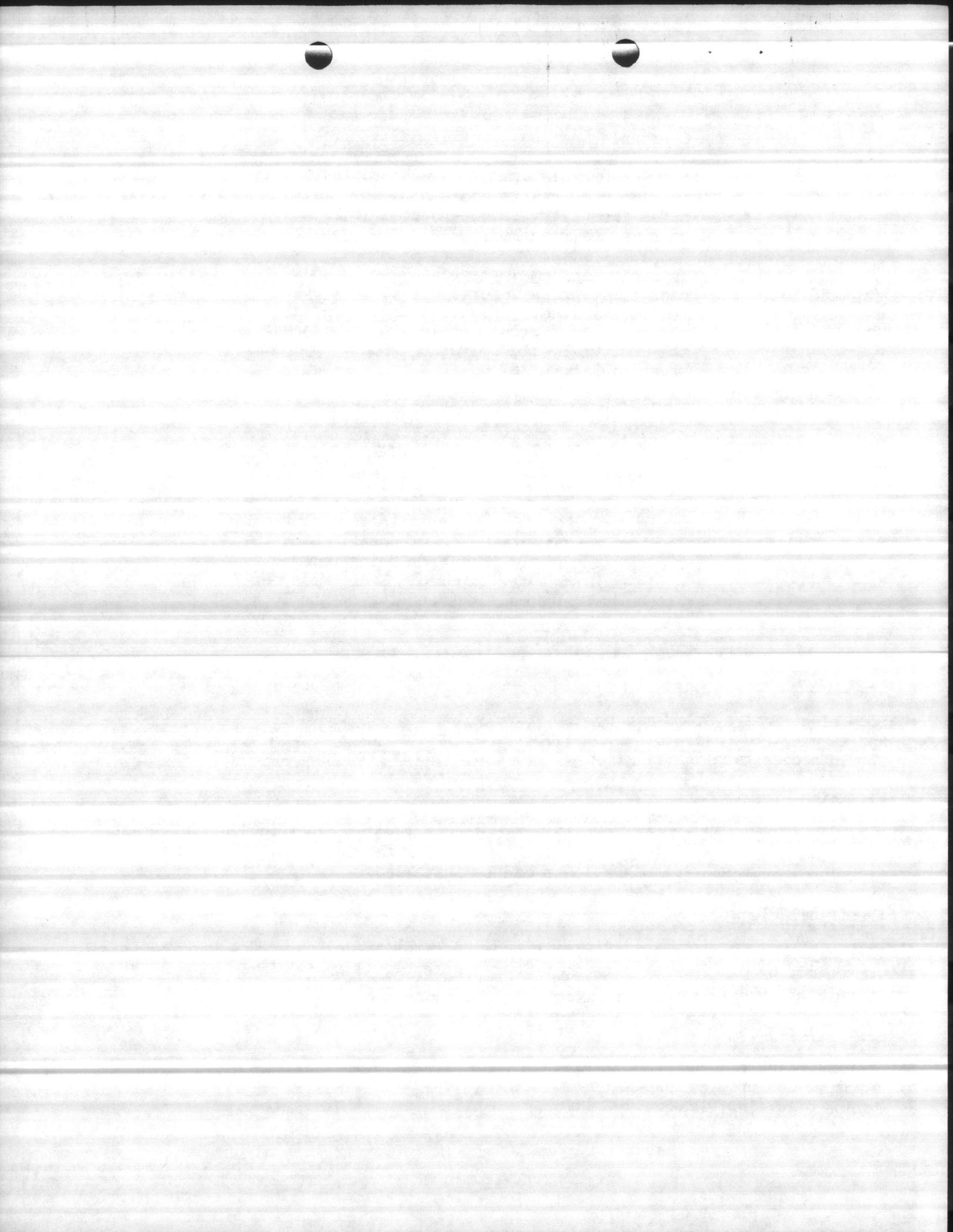
Some mechanical and gravity systems that do not involve electrical circuits must be locked out by installing mechanical stops or retaining pins. The stops and pins must have openings where locks can be installed.

Electrical Plugs

Electrical equipment operated with extension cords and electrical plugs can be locked out by placing the plug in a lock adapter so it cannot be plugged in an receptacle when locked.

Pipe Flanges

Special blank flanges must be installed in piping systems to prevent employee exposure and provide lockout provisions. The flanges have openings for installation of chains, locks and tags.



Keys and Wrenches

Some control systems are difficult to lockout due to lack of features for locking. Small "pet cock" type valves are most difficult to lock. In some cases valve handles or key wrenches can be removed and locked. Special covers or adaptors can be placed over controls for lockouts.

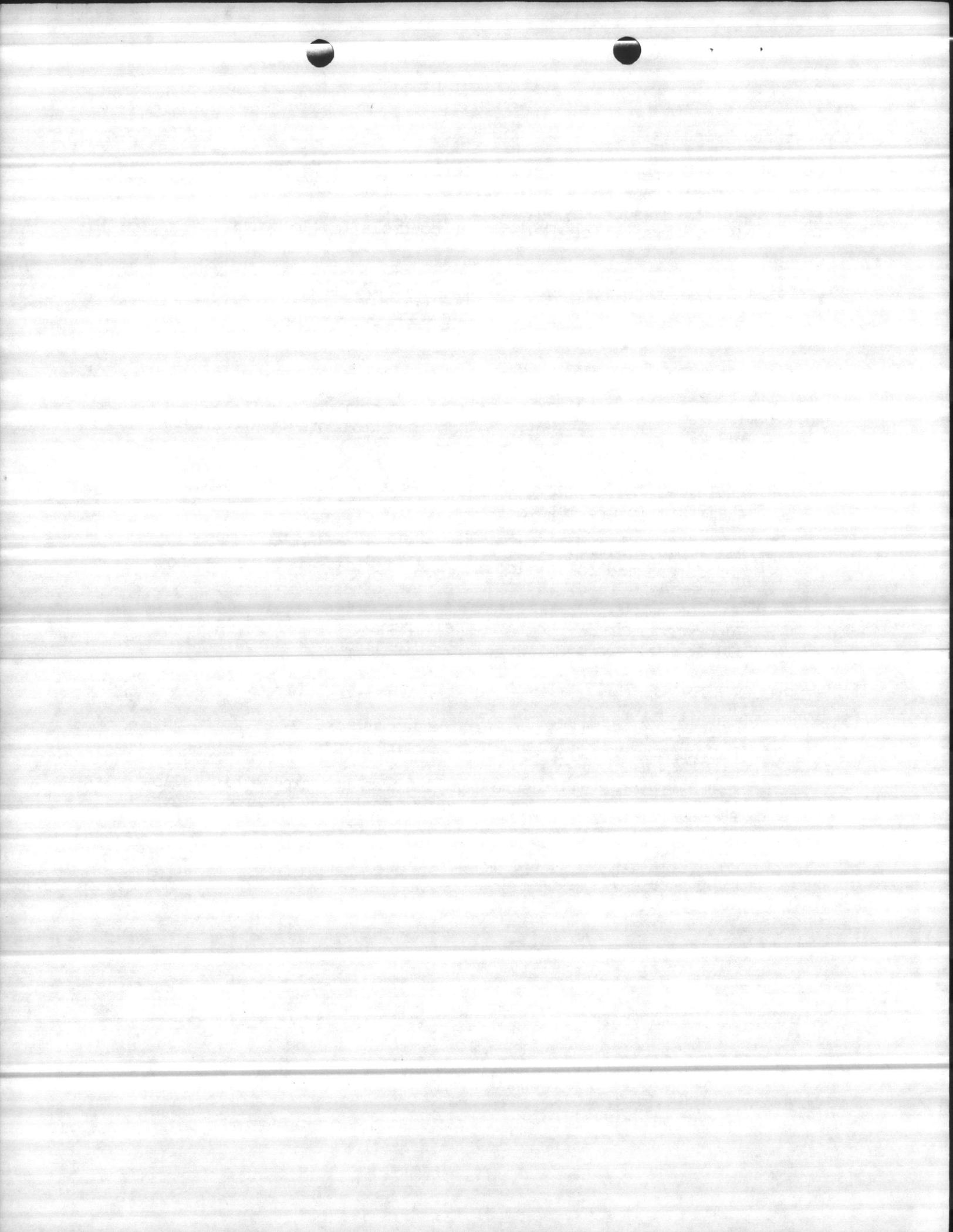
BASIC LOCKING AND TAGGING SAFETY RULES

MANAGEMENT RESPONSIBILITY

- Effective facilities for locking and tagging power sources and process systems must be provided to protect exposed employees from possible injury.
- Employees shall be provided with personal locks and tags for their use in protecting themselves.
- All employees shall be properly trained to insure they know, understand and follow locking and tagging safety rules and procedures.
- Supervisors shall recognize their responsibility to enforce all locking and tagging safety rules and procedures.

EMPLOYEE RESPONSIBILITY

- Each employee shall know, understand and follow established locking and tagging safety rules and procedures.
- Each employee shall insure that he does not expose his fellow employees to the dangers of moving machinery or process systems.



RELEASE, LOCK, TAG, CLEAR, TRY SYSTEM

"EXAMPLE"

I. PURPOSE

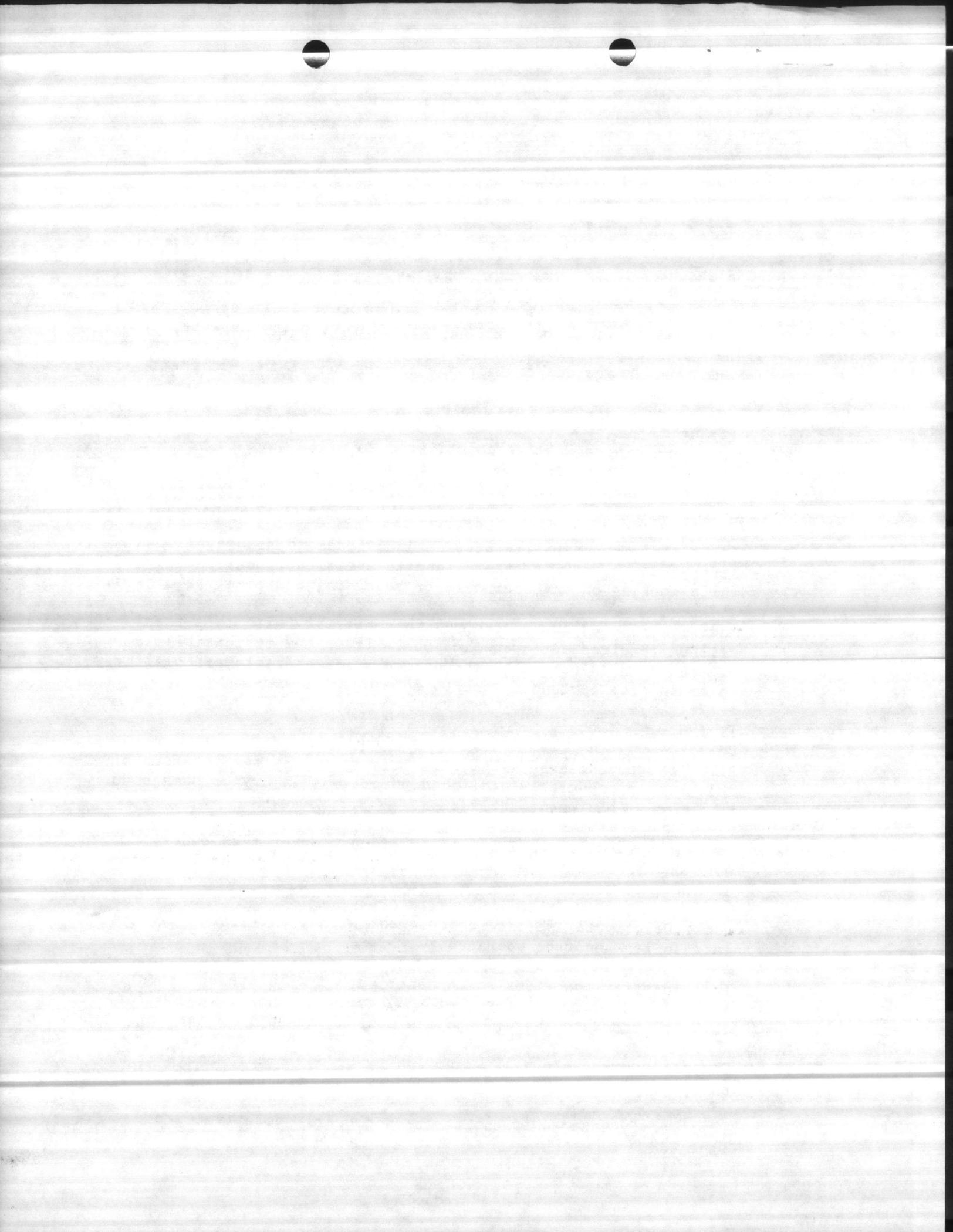
- A. This document provides the rules and procedures to be followed in releasing, locking, tagging, clearing, and trying equipment. The rules are designed to protect people from injury and equipment from damage due to improper activation of the equipment.

II. POLICY

- A. Equipment, which must be deactivated to allow work to be safely carried out, must be secured from improper activation or so isolated that such activation cannot cause injury under foreseeable circumstances.
- B. It is the responsibility of each individual to assure his own safety, the safety of others, and to avoid equipment damage while working on any equipment or releasing equipment to others.
- C. Additional rules and procedures in conformity with this item will be required for specific jobs. It is the responsibility of each area to establish the needed rules and standard practices, to train area personnel, and to obtain compliance.

III. DEFINITIONS

- A. RLTCT System: Release, lock, tag, clear, try System; a group of rules and procedures established to prevent injury or damage due to improper equipment activation.
- B. Release: Authorize individuals or groups (other than owner) to work on deactivated equipment or to turn equipment back to the owner.
- C. Lock: Deactivate and secure equipment with plant-issued safety lock so it cannot be operated.
- D. Tag: Identify the items which deactivate or isolate equipment. A tag identifies the status of the equipment and/or reason for tagging, the date tagged, and the person who applied the tag.
- E. Clear: Insure there will be no injury or equipment damage if equipment is unexpectedly activated while "trying."
- F. Try: Verify that equipment has been properly deactivated or isolated.



Sample Lockout Procedure

The following sample lockout procedure is provided as a guide for the development of a specific lockout procedure. A lockout procedure would be similar in format. Where complexity requires, a more comprehensive procedure shall be developed, documented, and implemented.

LOCKOUT

Lockout procedure for _____

Purpose

This procedure establishes the minimum requirements for lockout of energy sources that could cause injury to personnel. All employees shall comply with the procedure.

Responsibility

The responsibility for seeing that this procedure is followed is binding upon all employees. All employees shall be instructed in the safety significance of the lockout procedure by (designate individual). Each new or transferred affected employee shall be instructed by (designate individuals) in the purpose and use of the lockout procedure.

Preparation for Lockout

Employees authorized to perform lockout shall be certain as to which switch, valve or other energy isolating devices apply to the equipment being locked out. More than one energy source (electrical, mechanical, or others) may be involved. Any questionable identification of sources shall be cleared by the employees with their supervisors. Before lockout commences, job authorization should be obtained.

Sequence of Lockout Procedure

- (1) Notify all affected employees that a lockout is required and the reason therefor.
- (2) If the equipment is operating, shut it down by the normal stopping procedure (depress stop button, open toggle switch, etc).
- (3) Operate the switch, valve, or other energy isolating device so that the energy source(s) (electrical, mechanical, hydraulic, etc) is disconnected or isolated from the equipment. Stored energy, such as that in capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam, or water pressure, etc, must also be dissipated or restrained by methods such as grounding, repositioning, blocking, bleeding-down, etc.
- (4) Lock out the energy isolating devices with an assigned individual lock.
- (5) After ensuring that no personnel are exposed and as a check on having disconnected the energy sources, operate the stop button or other normal operating controls to make certain the equipment will not operate. CAUTION: Return operating controls to neutral position after the test.
- (6) The equipment is now locked out.



231

Restoring Equipment to Service

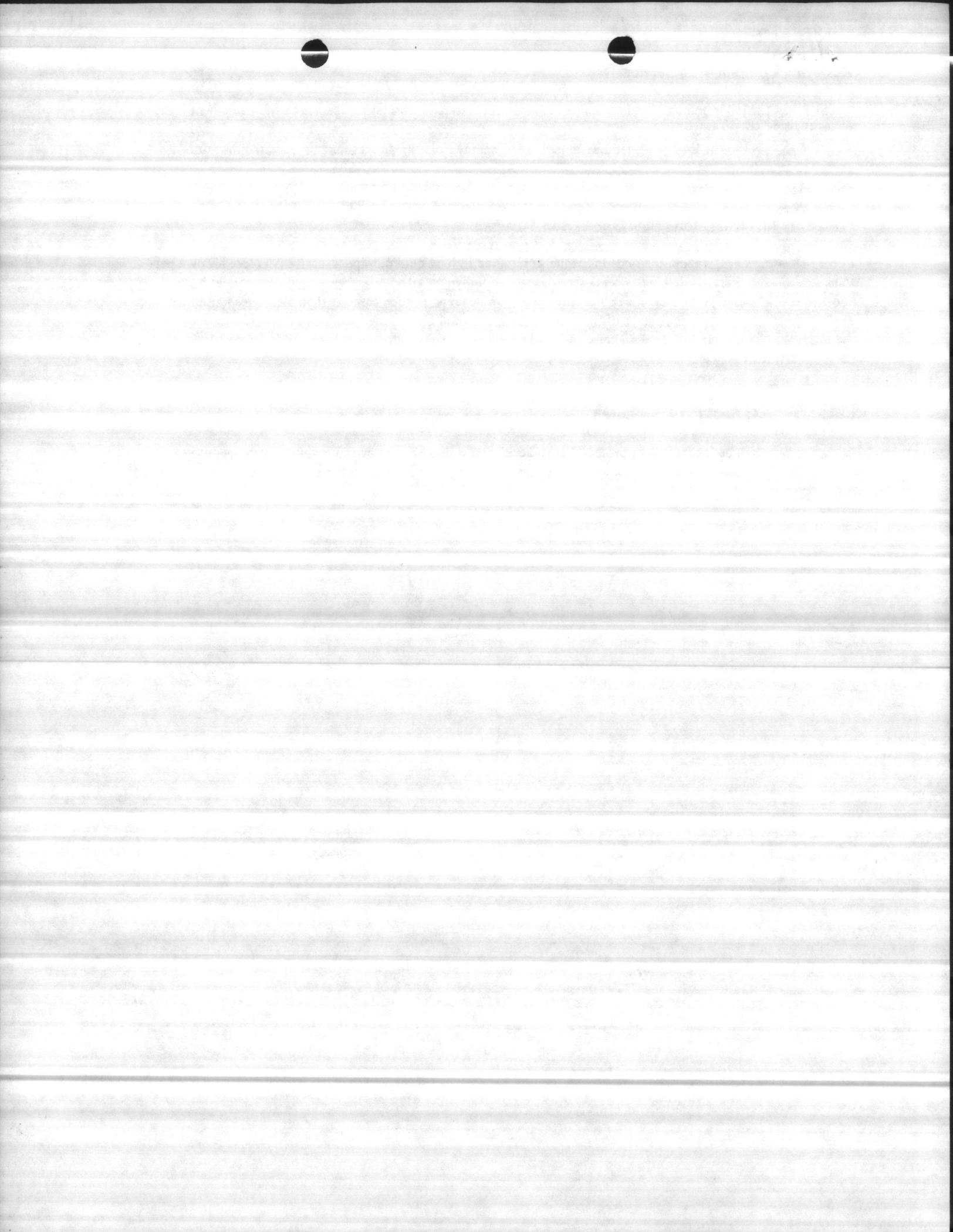
- (1) When the job is complete and equipment is ready for testing or normal service, check the equipment area to see that no one is exposed.
- (2) When equipment is all clear, remove all locks. The energy isolating devices may be operated to restore energy to equipment.

Procedure Involving More Than One Person

In the preceding steps, if more than one individual is required to lock out equipment, each shall place his own personal lock on the energy isolating device(s). One designated individual of a work crew or a supervisor, with the knowledge of the crew, may lock out equipment for the whole crew. In such cases, it shall be the responsibility of the individual to carry out all steps of the lockout procedure and inform the crew when it is safe to work on the equipment. Additionally, the designated individual shall not remove a crew lock until it has been verified that all individuals are clear.

Rules for Using Lockout Procedure

All equipment shall be locked out to protect against accidental or inadvertent operation when such operation could cause injury to personnel. Do not attempt to operate any switch, valve, or other energy isolating device bearing a lock.



SOP for Changing Chlorine

1. Check chlorine presence meter and alarm prior to entering chlorine room.
2. Put gas mask on, checking to insure proper fit, and to see if operating properly. Wilson Respirator is permissible at this point.
3. Turn on exhaust fan, allowing time for complete air change.
4. Enter Chlorine room.
5. Visually inspect chlorinator and read chlorine pressure gauge to insure chlorine is out.
6. Close all cylinder valves.
7. Remove auxiliary valve and yoke assembly from empty cylinder.
8. Install valve nut and cylinder cap on empty cylinder, storing cylinder in proper place securing with safety chains.
9. Remove cap and cylinder nut from full cylinders to be installed.
10. Install valve and yoke assembly properly with lead gasket and tighten, on all cylinders.
11. Open the valve $\frac{1}{4}$ turn on 1 ton cylinders and $\frac{1}{2}$ turn on 150 lb. cylinders.
12. Check all connections for leaks with ammonia solution. If gray smoke appears, there is a leak. If so, cut off cylinder and vacate the chlorine room. When atmosphere clears, repair leaking point and retry. If no smoke appears, open all cylinders $\frac{1}{2}$ turn on valves on 150 lb. cylinders and $\frac{1}{4}$ turn on valves on 1 ton cylinders. (USE SELF CONTAINED BREATHING APPARATUS FOR REPAIRING LEAKS)
13. Recheck with ammonia solution. If no leaks, leave room.
14. Close door.
15. Read chlorine presence meter to make sure atmosphere is clear in chlorine room.
16. Cut off vent fan.
17. Remove chlorine mask.



WARNING: This respirator does not provide adequate protection in an atmosphere Immediately Dangerous to Life or Health, or in an atmosphere in which the contaminant concentration is higher than specified in the Limitations section of the applicable Approval Labels.

3. The service life of this respirator will vary depending on the work environment. When you are using gas or vapor cartridges, you will know the service life is ending when you smell, taste, or sense irritation from the contaminants while wearing the respirator. When you are using a filter or pre-filter with this respirator, the filter or pre-filter should be replaced when breathing becomes difficult.

WARNING: Immediately leave the work area and replace the respirator if:

- breathing becomes difficult,
- dizziness or other distress occurs,
- you sense irritation, smell or taste contaminants in the work area, or
- if the respirator becomes damaged.

4. When not in use, this respirator should be stored in a clean, dry, noncontaminated area.
5. These brief written Instructions cannot substitute for a formal Respirator Training Program. Such training should include an opportunity for you to handle the respirator, learn how to inspect it, have it properly fitted, test its facepiece-to-face seal, wear it in normal air for a long familiarity period, and finally, to wear it in a test atmosphere. The Training Program should also familiarize you with applicable OSHA Standards and the American National Standards Institute (ANSI) Respiratory Protection Standard Z88.2-1980. Copies of these Standards are available from North Safety Equipment.

FITTING INSTRUCTIONS

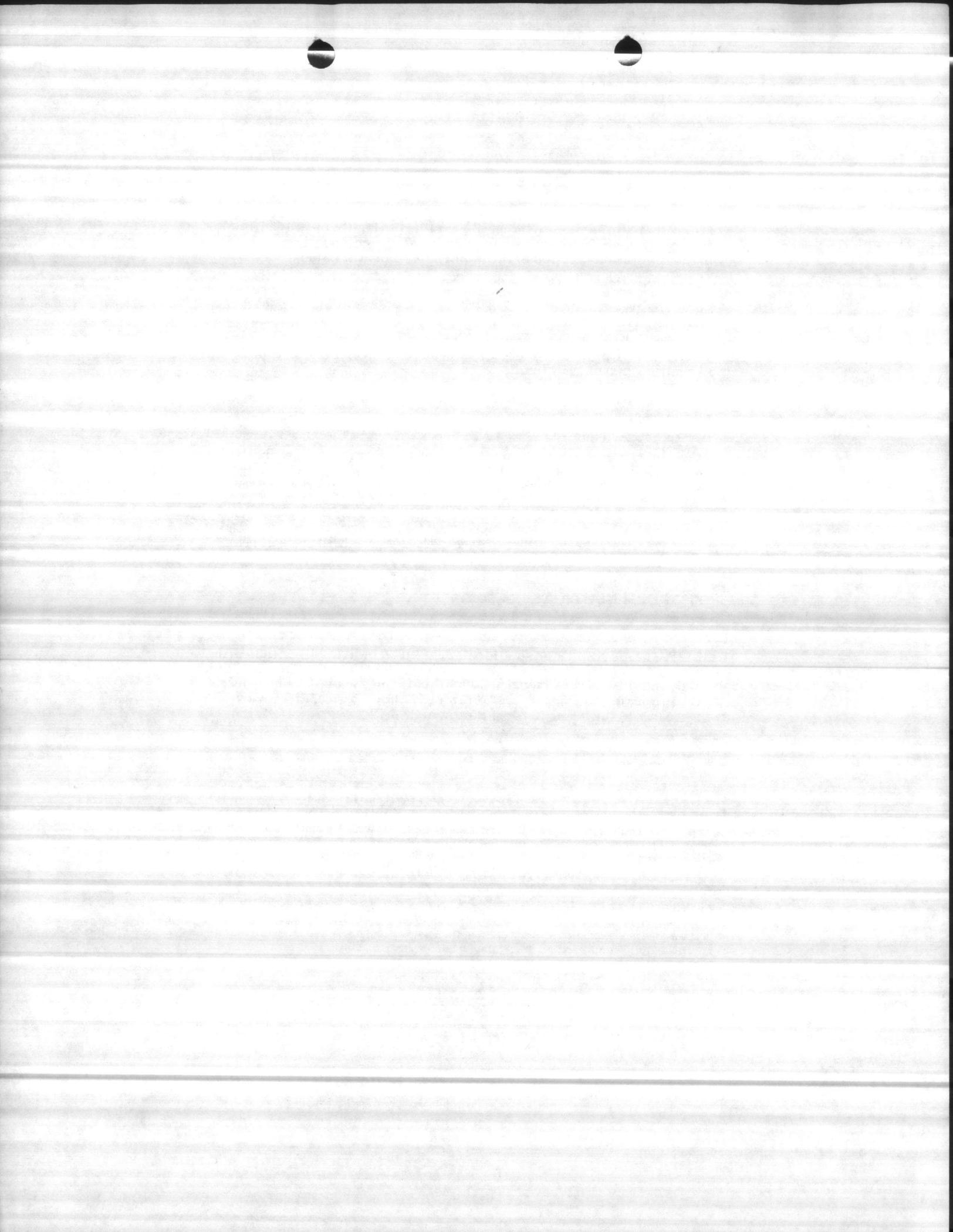
If the respirator does not fit you, it will offer no protection. You must check the fit of this respirator each time you use it, following these Fitting Instructions.

WARNING: This respirator should not be used by individuals with beards, or other facial hair which passes between the sealing flange of the respirator facepiece and the wearer's face. Facial hair may cause leakage or interfere with the proper operation of the respirator exhalation valve, thereby exposing the wearer to the hazardous contaminants.

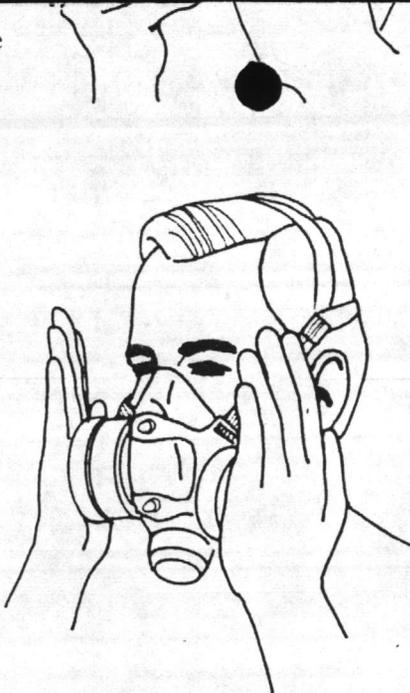
MAINTENANCE, INSPECTION, AND STORAGE

The respirator should be cleaned and sanitized after each day of use. The air-purifying elements must be unscrewed from the respirator prior to the washing and sanitizing of the respirator. The facepiece, elastic straps, inhalation valves, exhalation valve, exhalation valve seat, exhalation valve guard, and inhalation connectors should be washed in a 120-140°F cleaner-sanitizer solution, RINSED THOROUGHLY in 120-140°F water, and then dried at ordinary room temperature in a non-contaminated atmosphere. The previously listed respirator components should be inspected and any worn or deteriorated parts should be discarded and replaced with new parts which are designed for the respirator. It is very important that the exhalation valve system in the facepiece be inspected to insure that it is clean, free of foreign matter, and not damaged or distorted.

The respirator should be placed in its container and stored in a cool, dry and non-contaminated atmosphere to insure that it is protected against dust, chemicals, moisture, excessive heat and physical damage.



a. **NEGATIVE PRESSURE FIT CHECK:**
 To conduct this check, place the palms of the hands over the openings in the N7500-27 fit check/filter canisters (if so equipped) or unscrew the air-purifying elements from the respirator and place the palms of the hands over the inhalation connectors, inhale and hold your breath for about 5 seconds. If the facepiece collapses slightly and no air leaks between the facepiece and the face are detected, a good fit has been obtained. If air leaks are detected, reposition the facepiece on the face and/or readjust the tension of the elastic straps and repeat the negative pressure check until a tight seal is obtained. If the cartridges were removed, once a tight facepiece-to-face seal is obtained, a co-worker or a representative of the Safety or Industrial Hygiene Department must assist the wearer by screwing the air-purifying elements onto the inhalation connectors mounted on the facepiece. (This must be done without removing the facepiece from the face.) Check to be sure that each air-purifying element is tightly sealed against the facepiece.



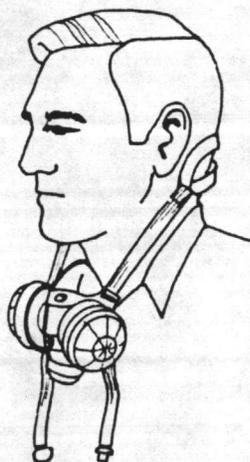
b. **POSITIVE-PRESSURE FIT CHECK:**
 This check is carried out by covering the opening in the exhalation valve guard with the palm of your hand, and simultaneously exhaling. If the facepiece bulges slightly and no air leaks between the facepiece and face are detected, a tight fit has been obtained. If air is detected to be leaking out between the facepiece and the face, reposition the facepiece on the face and/or readjust the tension of the elastic straps to eliminate the leakage. This check must be repeated until a tight seal of the facepiece to the face is obtained.



If you cannot obtain a good seal with your respirator, try a smaller size facepiece, contact an Industrial Hygienist, or a North Safety Equipment Respiratory Protection Product Manager at 401-943-4400 for assistance prior to using this respirator.

11. To "park" the respirator on your chest during a break:
 - a. unhook the bottom strap behind your head, then
 - b. slide the top strap down behind your neck, allowing the respirator to sit on your chest.

To put the respirator back on, put the upper (cradle) strap on first, then hook the bottom strap behind your neck. If the respirator has been "parked" on the chest, make sure prior to putting the respirator on that the sealing flange and interior of the respirator are not dirty.

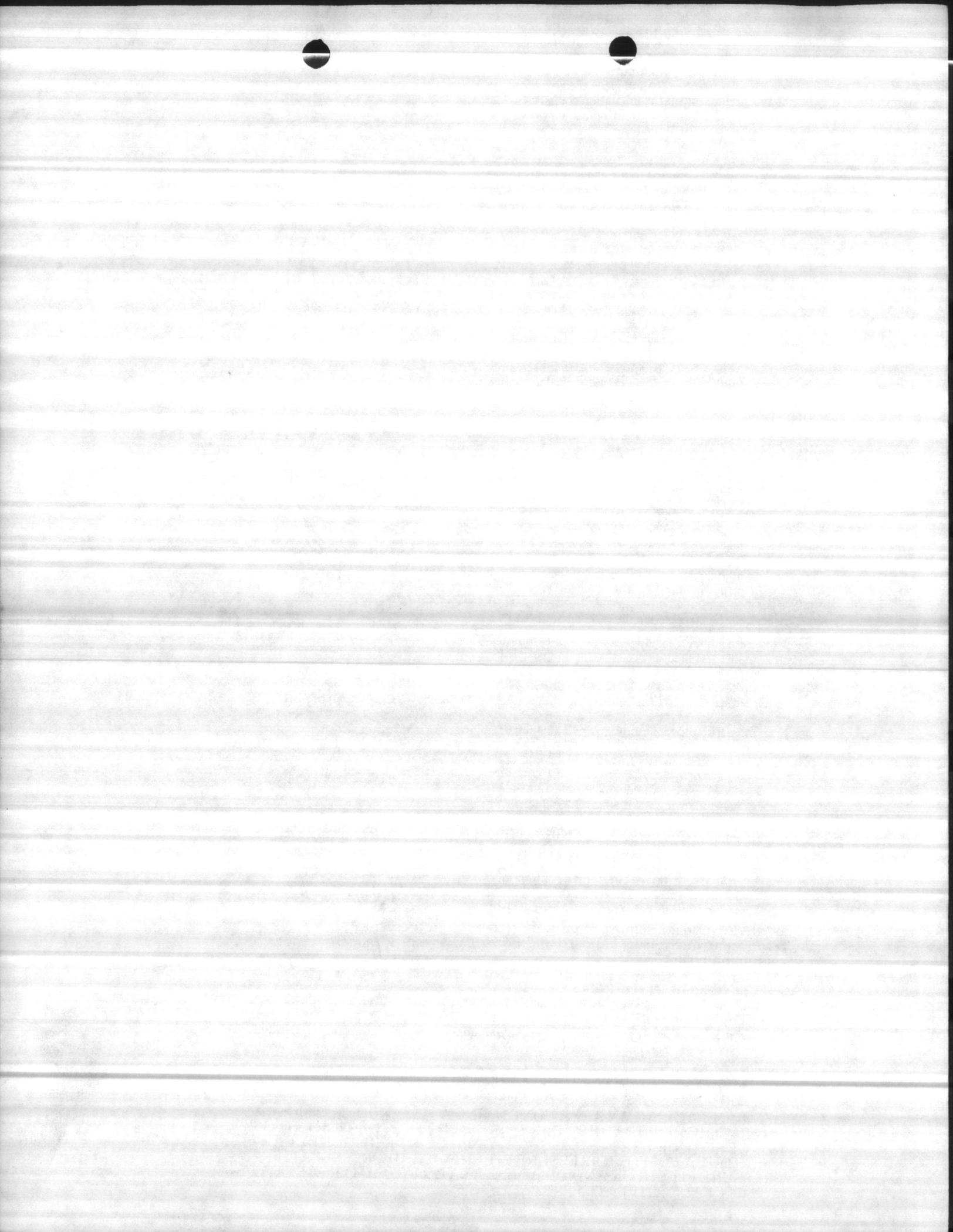


WARNING: Do not remove or park the respirator while you are exposed to contaminated air.

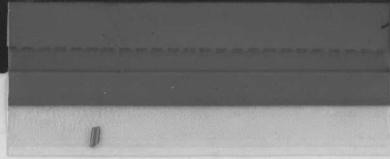
TESTING FOR FIT

A respirator should not be assigned to a person unless the person is given a qualitative or quantitative respirator fitting test and the results of the test indicate the facepiece of the respirator fits properly. Instructions for carrying out qualitative and quantitative respirator fitting tests are given in publications such as the ANSI Z88.2 American National Standard Practices for Respiratory Protection and respirator manuals published by government agencies such as NIOSH, ERDA, and NRC. North Safety Equipment has produced a respirator training film which illustrates qualitative and quantitative fit testing.

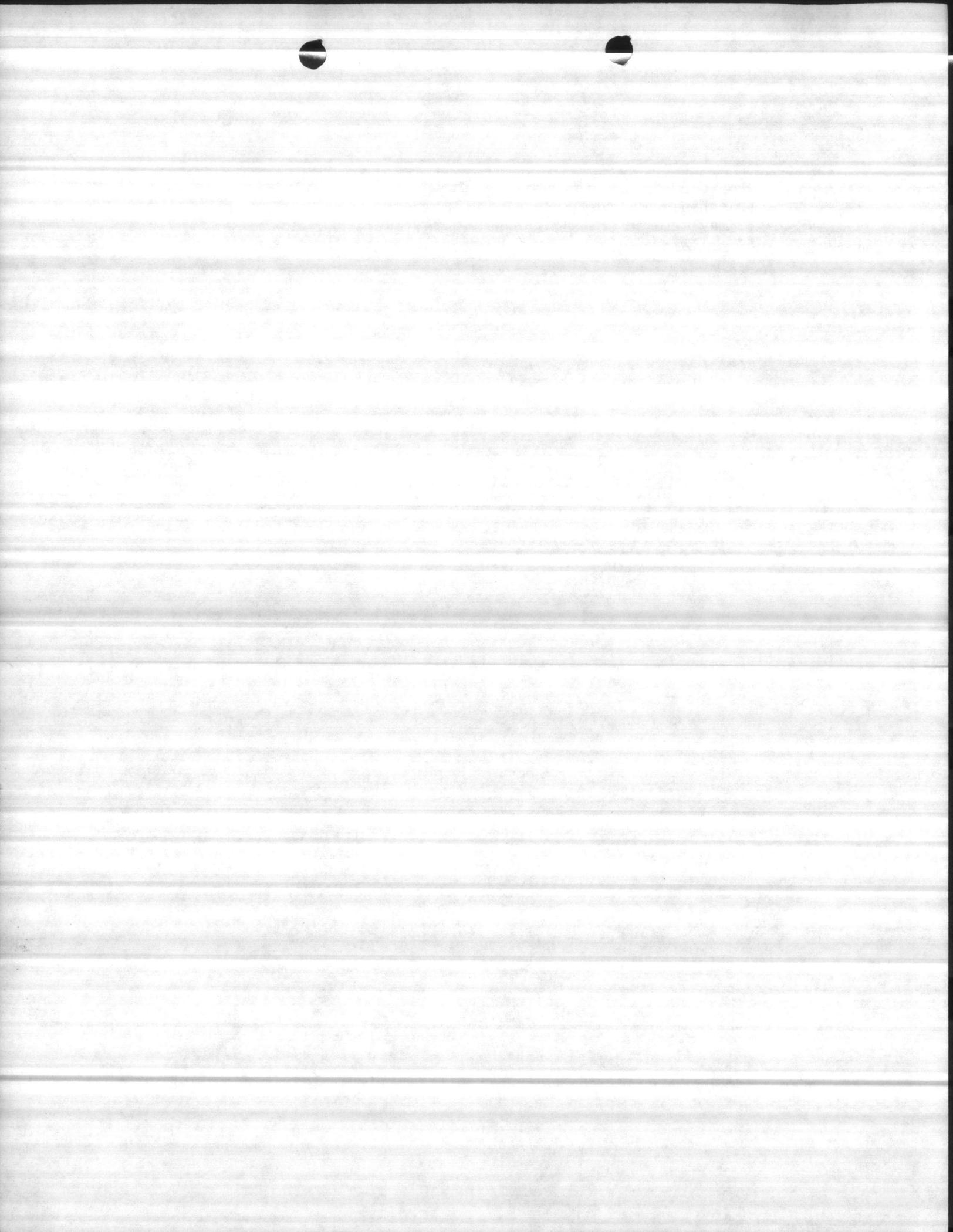
BEFORE ENTERING AN AREA CONTAINING A HAZARDOUS ATMOSPHERE, THE RESPIRATOR WEARER SHOULD TEST THE TIGHTNESS OF THE SEAL OF THE RESPIRATOR FACEPIECE TO THE FACE BY CARRYING OUT A POSITIVE PRESSURE FIT CHECK AND/OR A NEGATIVE PRESSURE FIT CHECK AND/OR A "BANANA OIL" (ISOAMYL ACETATE VAPOR) QUALITATIVE FIT TEST.



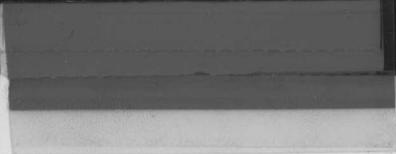
TELEPHONE USE



Plant telephones are for official use only. In the event of emergency
451-5988 may be used to call supervisors at their home.



CHECK IN PROCEDURES



Memorandum

5050
MAIN

DATE: 9 June 1987

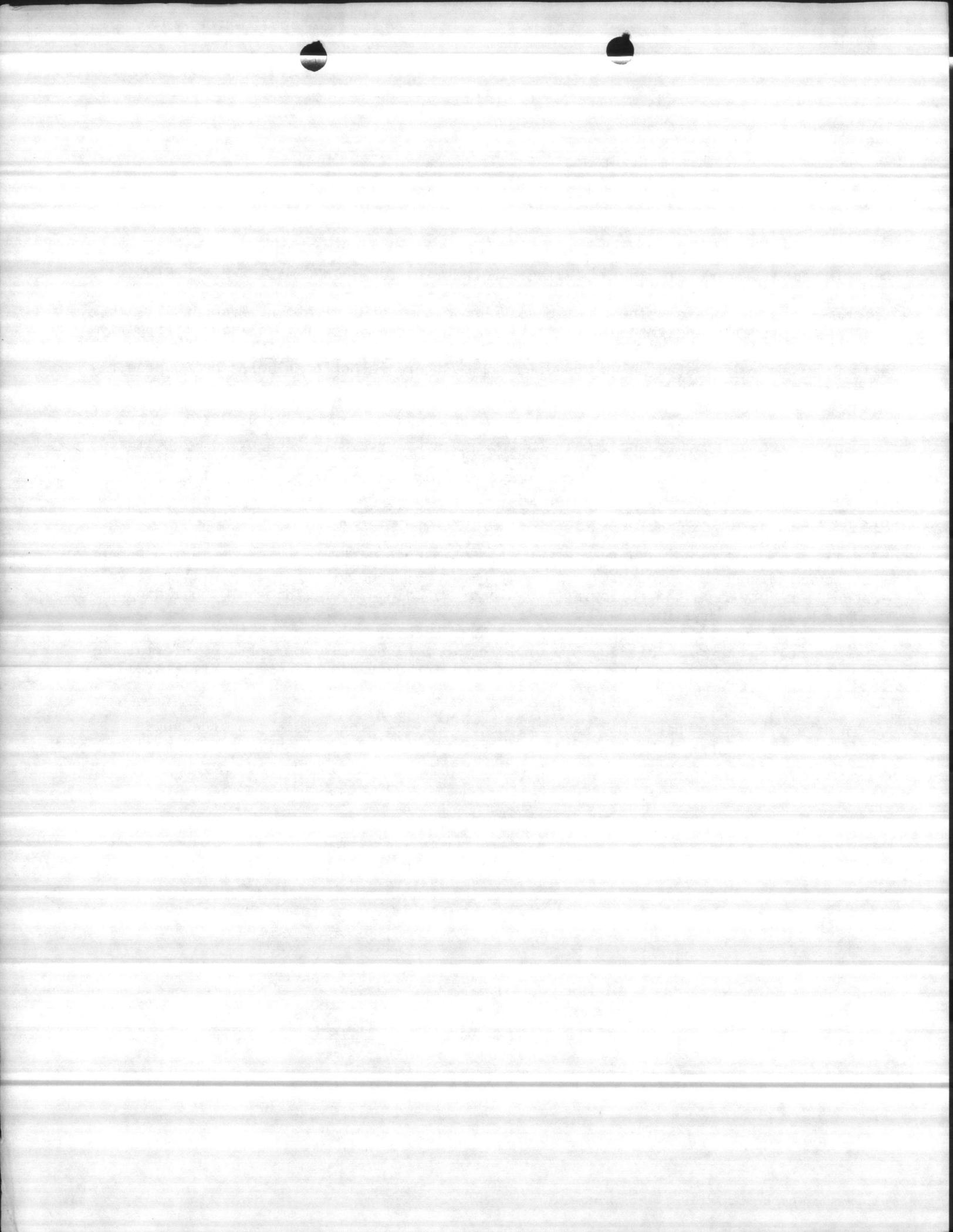
FROM: Foreman, Water Treatment Branch

TO: All Personnel; Water Treatment Branch

SUBJ: BEING RELIEVED ON DUTY AND RELIEVING PERSONNEL ON DUTY: INFORMATION CONCERNING

1. Commencing immediately shift personnel throughout Water Treatment Branch will not leave their properly assigned plants until they have been properly relieved. Properly relieved means they will physically be relieved by the on-coming relief. Telephone calls from the relief stating go ahead I will be there is not considered being properly relieved.
2. If at the end of your shift you have no relief you will call Building 670 stating same to the Leader on duty and remain on the job until you have been properly relieved; or unless you receive word to leave from Supervisory Personnel. If you leave without being properly relieved or without word from Supervisory Personnel, Disciplinary Action may be taken for "Leaving Job to Which Assigned on Navy Premises at any Time During Working Hours Without Proper Permission".
3. Calling personnel on duty from other plants such as Montford Point or Onslow Beach is not considered being properly relieved. Personnel reporting for duty will relieve personnel on duty from the following locations: Building 20, Building 670, Building RR-85, Building MCAS 110, Building BB-190.
4. Personnel on duty at Building 670 will log in log book all appropriate information concerning personnel being late or not reporting for duty and call me or Mr. Frazelle as conditions necessitate.
5. If at any time any personnel have any doubts or questions concerning the above stated information do not hesitate to have the Leader on duty at Building 670 call me or Mr. Frazelle for instructions.

STANLEY L. MILLER



3 February 1983

MEMORANDUM

From: Foreman, Water Treatment Plant

To: Water Treatment Plant Personnel

Subj: Call-in Procedures for all on Duty Water Treatment Plant Personnel

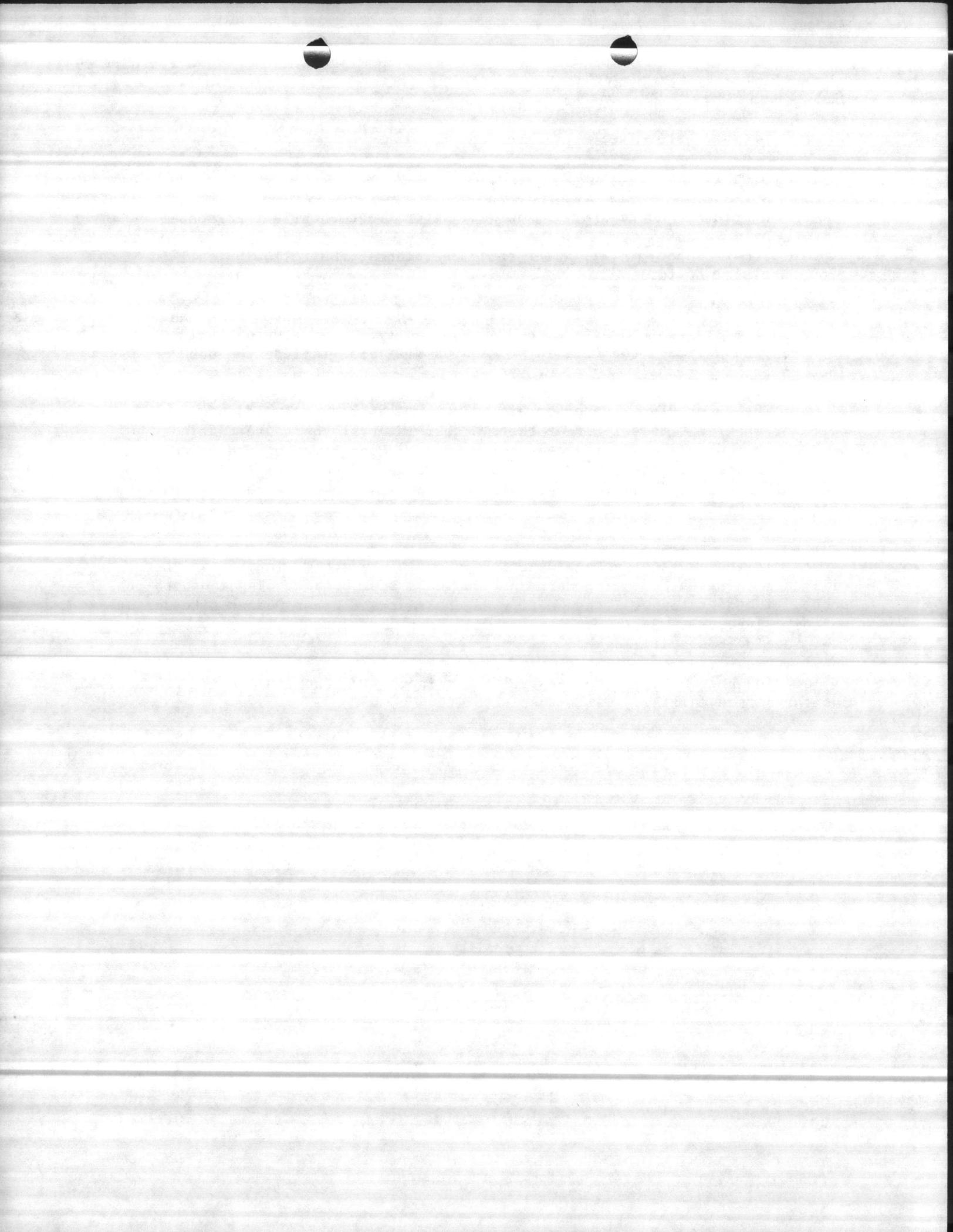
1. To promote safety in all water treatment plants, the following call-in procedure will be followed:

a. All on-duty personnel will call the Holcomb Blvd. Water Treatment Plant, phone 5988 every two hours from 1600 to 0800 daily, Monday through Friday. Weekends and Holidays the call in procedures will also include the 0800 to 1600 shift.

b. The Water Plant Leader or his helper will immediately contact any operator who fails to call in at the two hour interval to insure that no accident has occurred. If the operator cannot be contacted by phone, the helper on duty will be dispatched and will, upon arrival at the unreporting plant, phone Bldg. 670 and report his findings. If no helper is available to be dispatched, the Leader will call the Provost Marshall's Office, Phone #2555, and ask to have someone check on the unreported operator.

c. In the event of an accident involving injury, the Holcomb Blvd. Leader will call the Base Medical Department, and have an ambulance dispatched to the scene. The operator will then notify Water Treatment Plant Operator Leader at Holcomb Blvd. 670. Serious accidents will be reported to Supervisory Personnel, i.e., employ hospitalized, etc.

d. The Holcomb Blvd. Leader will enter in the log the time calls are received and the person calling. Calls must be brief.



Memorandum

5050

MAIN

DATE: 9 July 1987

FROM: Foreman, Water Treatment

TO: All Water Treatment Personnel

SUBJ: PERSONNEL NOT REPORTING FOR WORK

The following procedures will be adhered to when a call is received from personnel not coming to work. The Water Treatment Plant Operator Leader will check schedule and see if anyone is extra, for the shift that is vacant by personnel calling, if so inform operator of change in location of work. DO NOT CHANGE SHIFT HOURS. If there is no one extra you will pay overtime for the following plants:

Hadnot Point - All Operators

Holcomb Blvd. - All Operators & Leaders

MCAS - All Operators

CHB - All Operators

RR - All Operators

Holcomb Blvd. Wells Personnel: If no one is extra the Holcomb Blvd. operator can look after pool & cut well off & on. Checking of wells can be accomplished the next day.

0800 - 1600

1600 - 2400

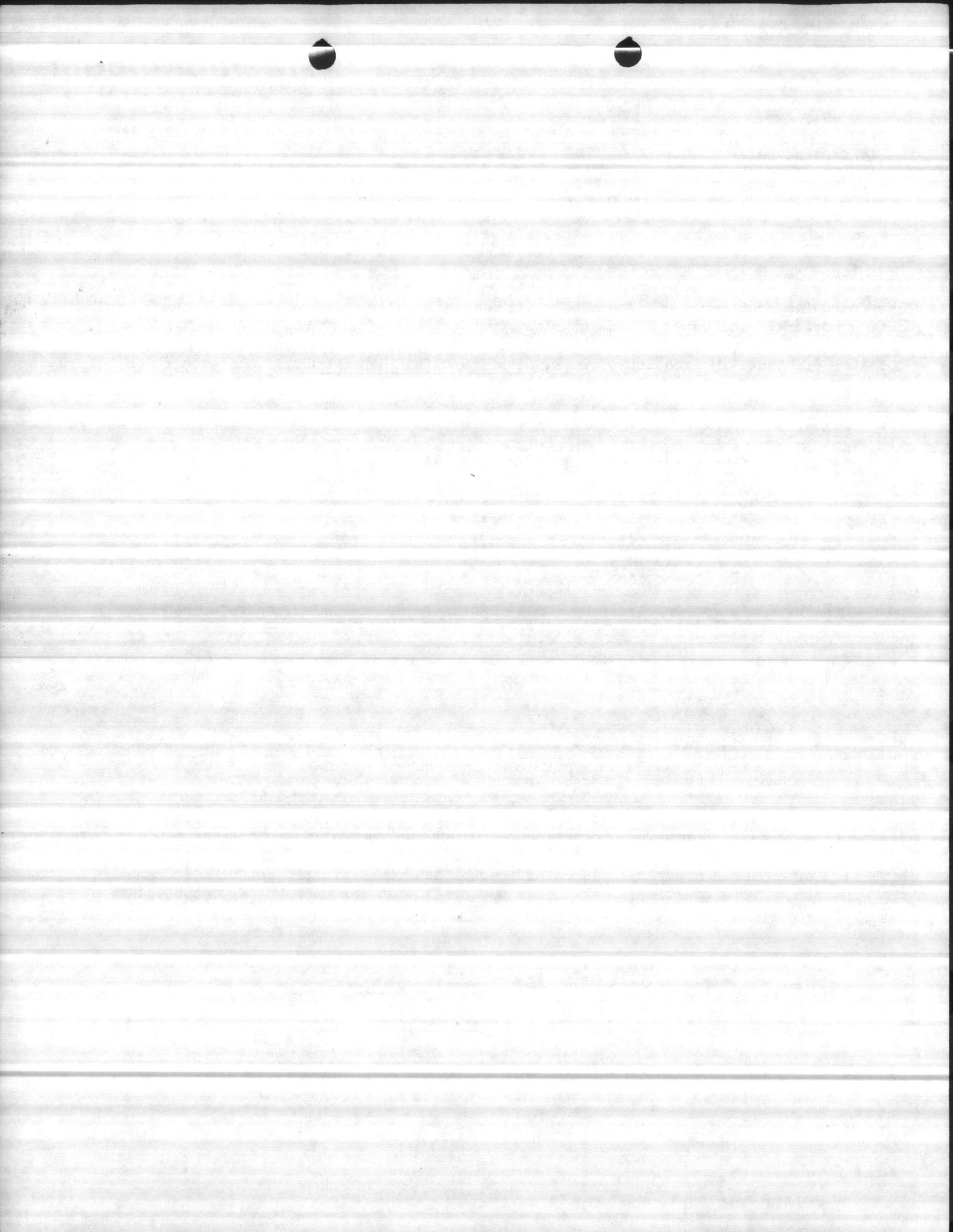
MCAS Wells Personnel - 0800 - 1600 : Operator WG-7 is required during summer months while pools are open.

Leaders

If conditions arise which you have any question call Mr. Frazelle or myself for instructions. All information and action taken will be logged in log book at 670.

NOTE: If for any reason employee is out for more than one shift try not to have same person to work overtime. Call other personnel that can operate the vacant plant and ask would they like overtime.

STANLEY L. MILLER



LEAVE

ANNUAL AND SICK LEAVE

(RULES GOVERNING REQUESTING AND USE OF)

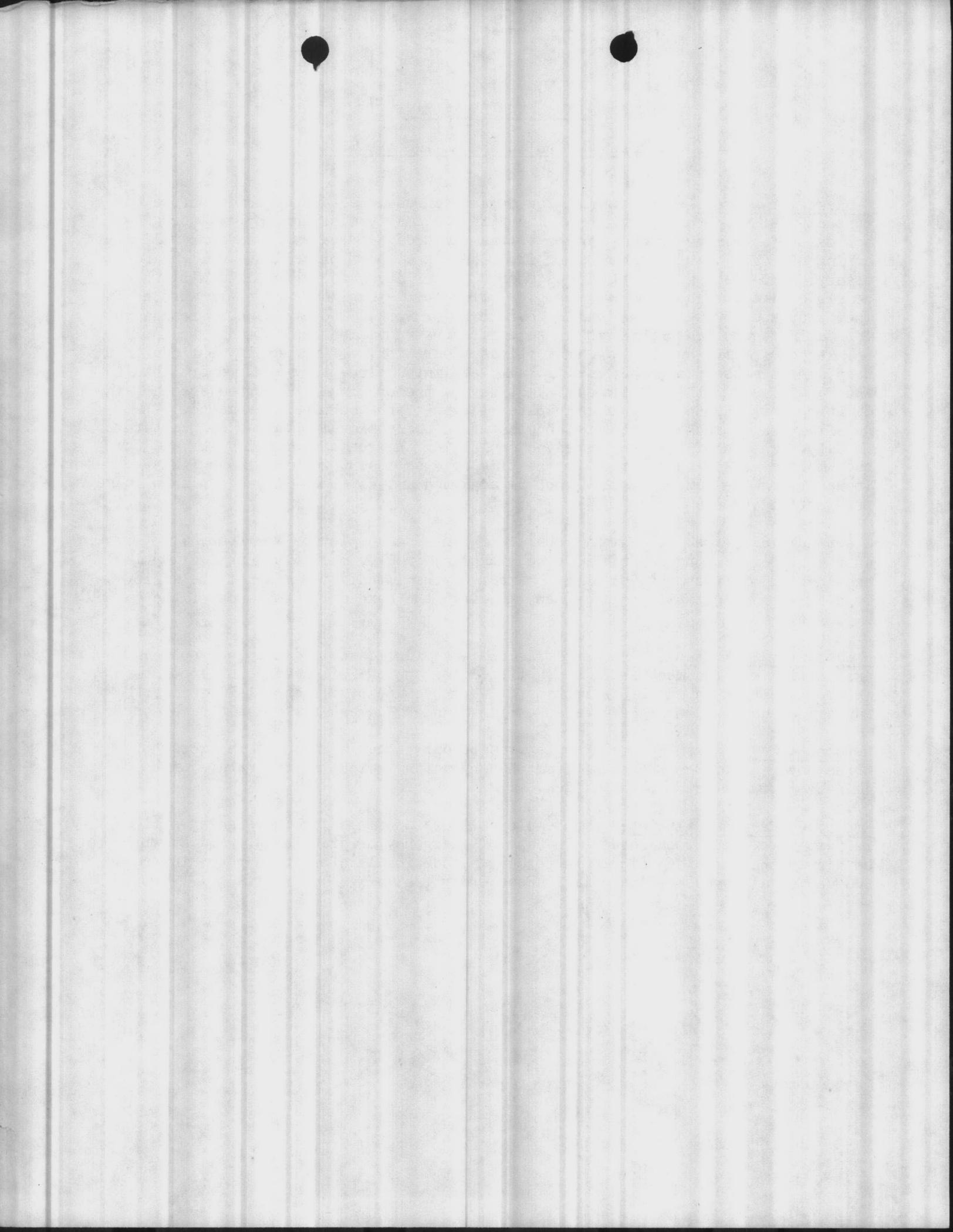
Request for Annual Leave: Annual leave must be requested and approved before the absence begins. The supervisor will notify the employee of the approval or disapproval of the leave request prior to the first day of leave. Occasions will arise during of duty hours, when absence from the job without prior leave will be necessary. Employees working in areas where 24-hour coverage is required will when possible give at least two hours notice prior to the beginning of their work shift when they know they will be unable to report for work. The employee is responsible for making every reasonable effort to ensure that notification is made, to include the reason for the absence and the estimated duration. If the employee finds that they will be absent beyond the originally estimated time, they will report this to the supervisor, not later than the last day of the originally reported absence, indicating the reasons for and anticipated length of the continuing absence. The notification of such absence must be justified and approval obtained upon return to duty. When notice is not received explaining the reason for being absent, the the employee shall be reported on the time card as absent without leave (AWL). The entry on the time card shall not be adjusted unless the employee can show cause for justification.

Granting Sick Leave: Sick leave shall be granted to employees when they are unable to perform their duties due to sickness, injury, medical, dental or optical examination or treatment, or when a member of the immediate family of the employee is sick with a contagious disease and requires the care and attendance of the employee.

Request for Sick Leave: Request for sick leave for medical, dental, or optical examination or treatment shall be submitted for approval in advance of appointment. An employee that is unable to report for work because of illness shall notify the Supervisor using same procedures as outlined under Request for Annual Leave above.

Return to Duty: When an employee returns to duty after an absence in excess of three days, a written statement from the physician indicating the nature of the illness is required to be submitted.

Employees Responsibilities: Each employee is responsible for the signing of leave request before going on leave. In case of emergency or sick leave, request will be signed the first day of return to duty. Additional information governing request and use of all types of leave is in Base Order 12630.1F.



HAND TOOL REQUIREMENTS

BASE MAINTENANCE DEPARTMENT
Utilities Division
Marine Corps Base
Camp Lejeune, North Carolina 28542

MAIN/BRW/rn
10 Mar 1976

From: Director, Utilities Division
To: All Operators

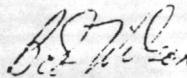
Subj: Handtools; requirements for

Ref: (a) BO 12594.2B
(b) CMMI

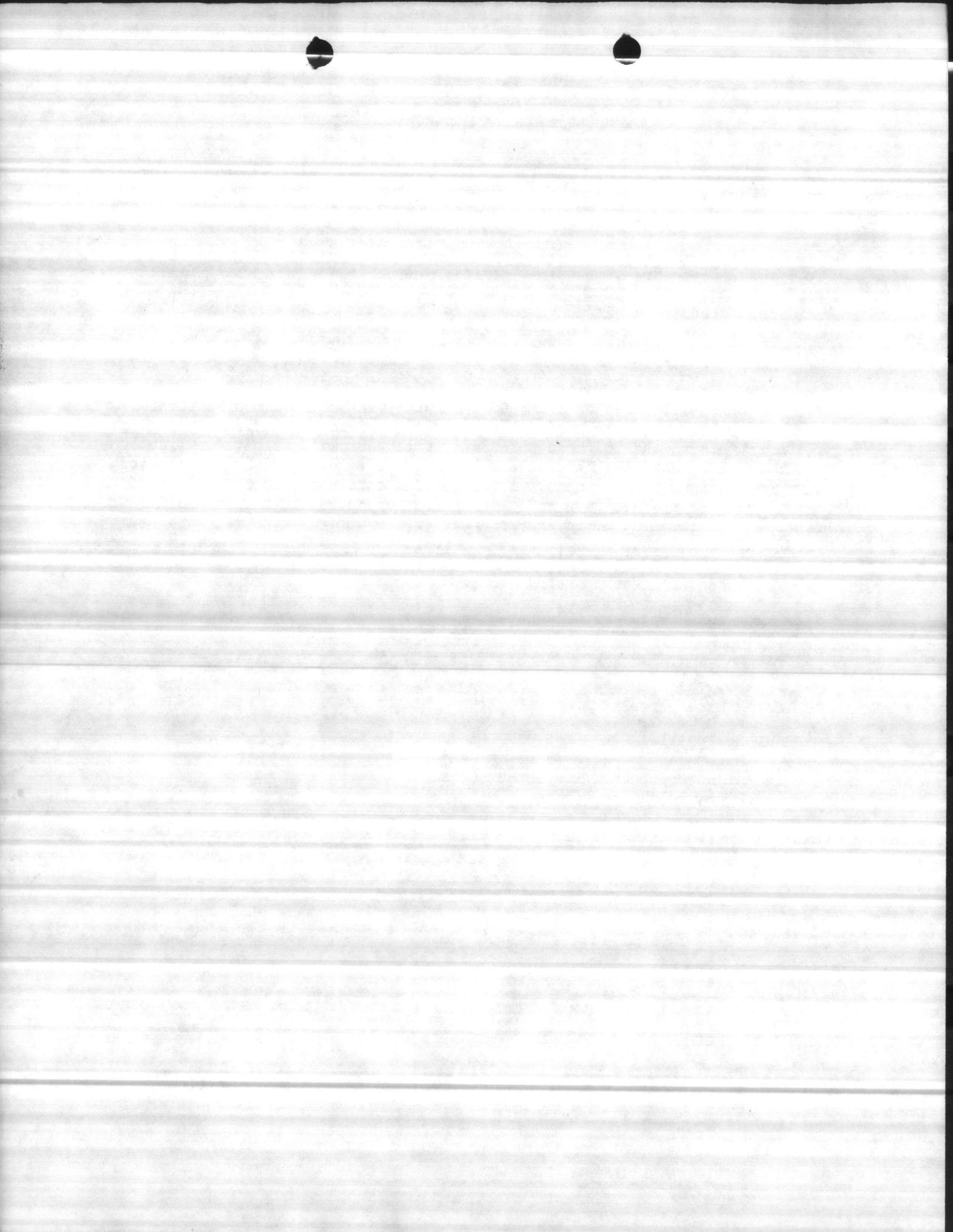
1. All personnel hired or promoted to journeymen are required to furnish the basic tools of their trade as required by references (a) and (b). Upon permanent assignment to these positions, employees will be given a list of tools required and will be expected to have a sufficient number to perform the common tasks of the trade. After initial assignment to the position, a period of forty-five days will be granted for operators to acquire the necessary tools. The Civilian Personnel Office will be supplied with copies of such lists.

2. Tools required for operators are:

Sockets 3/8" to 1" 1/2" Drive (1 set)
Open end wrenches 3/8" to 1" (1 set)
Box end wrenches 3/8" to 1" (1 set)
Channel lock pliers (1 ea)
Wrench, adjustable 8" (1 ea)
Wrench, adjustable 10" (1 ea)
Set phillip screw drivers (1 ea)
Set square screw drivers (1 ea)
Allen wrenches 1/16" to 1/4" (1 set)
Pipe wrench 12" (1 ea)


BOB WILSON

Copy to:
CivPersOff



IMPORTANT SAFETY INSTRUCTIONS SAVE THESE INSTRUCTIONS

- This document contains important safety and operating instructions.
- Before using battery charger, read all instructions and cautionary markings on (1) battery charger, (2) battery, and (3) radio using battery.

WARNING

To reduce risk of injury, charge only Motorola nickel-cadmium type rechargeable batteries listed. Other types of batteries may burst, causing personal injury and damage.

- Do not expose charger to rain or snow.
- Use of an attachment not recommended or sold by Motorola may result in a risk of fire, electric shock, or injury to persons.
- To reduce risk of damage to electric plug and cord, pull by plug rather than cord when disconnecting charger.
- Make sure cord is located so that it will not be stepped on, tripped over, or otherwise subjected to damage or stress.

 Motorola, SABER, and Handie-Talkie are trademarks of Motorola Inc.

© 1989 by Motorola Inc., Portable Products Division
8000 W. Sunrise Blvd., Ft. Lauderdale, FL 33322-9934
Printed in U.S.A. 12/89. All Rights Reserved.



MOTOROLA INC.

68P81067C20-O

- An extension cord should not be used unless absolutely necessary. Use of improper extension cord could result in a risk of fire and electric shock. If extension cord must be used, make sure:
 - (1) That pins on plug of extension cord are same number, size, and shape as those on plug of charger;
 - (2) That extension cord is properly wired and in good electrical condition; and
 - (3) The cord size is 18AWG for lengths up to 100ft., and 16AWG for lengths up to 150ft.
- Do not operate charger with damaged cord or plug - replace them immediately.
- Do not operate charger if it has received a sharp blow, been dropped, or otherwise damaged in any way; take it to a qualified serviceman.
- Do not disassemble charger; take it to a qualified serviceman when service or repair is required. Incorrect reassembly may result in a risk of electric shock or fire.
- To reduce risk of electric shock, unplug charger from outlet before attempting any maintenance or cleaning. Turning off controls will not reduce this risk.

**SABER SINGLE-UNIT RAPID-CHARGE
BATTERY CHARGER KIT INFORMATION**

Kit Number			
Charger Type	120 Volts	220 Volts	Charge Time
Single-Unit Rapid	NTN4734X	NTN4786X	1 Hour

BATTERIES

Battery Number	Capacity
NTN4537X, NTN4592X	Light
NTN4538X, NTN4593X, NTN4657X, NTN4671X, NTN5155X	Medium
NTN4595X, NTN4596X, NTN4992X	High

"X" refers to revision level (e.g. A, B, etc.) and does not affect instructions on reverse side of this card.

IN CASE OF TROUBLE

There are no user serviceable parts in the charger. If the charger fails to operate, contact your local Motorola Service Shop (MSS) for repairs.

Before requesting service, refer to the following table for possible remedies.

WARNING
USE ONLY MOTOROLA NICKEL-CADMIUM BATTERIES WITH THIS CHARGER.

Condition (Refer to Figure 1 for LED location)	Remedy
Red Charging LED does not light	<ul style="list-style-type: none">• Check battery and charger contacts for dirt, grease, or foreign material. Wipe with a soft cloth.
Orange LED flashes	<ul style="list-style-type: none">• Try reseating battery.• If a light-capacity battery with a radio attached is being charged and the radio is turned on, turn the radio off, then reseat the battery.• Check battery and charger contacts for dirt, grease, or foreign material. Wipe with a soft cloth.• Try another battery. If problem goes away, the problem is with the first battery.
Yellow Stand-By LED lights	<ul style="list-style-type: none">• Battery is either too hot or too cold to be rapid charged.
No LEDs light	<ul style="list-style-type: none">• Make sure charger is plugged in.• Check to see if charger has a fuse.• Check to see if fuse is blown.

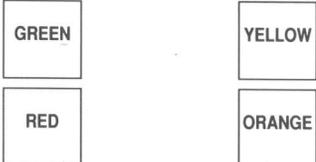


Figure 1. Front Panel LED Locations

**SABER SINGLE-UNIT RAPID-CHARGE
BATTERY CHARGER
OPERATING INSTRUCTIONS**

After a period of use, a battery normally requires approximately one hour of rapid charging. The radio should be turned off while attached to a battery being recharged. Place the charger in operation as follows:

- a. Connect the ac cord to the battery charger.
- b. Connect the ac cord to the proper ac receptacle. The battery charger performs a self test, which is evidenced first by all four LEDs in the display simultaneously turning on and off, and then by each of the four LEDs in sequence (yellow, orange, red, green) turning on and off.
- c. Insert the battery, with or without the radio attached, into the charger compartment, and seat it firmly to assure that proper contact has been made. Again, each of the LEDs turns on and off, then the red **Charging** LED turns on to indicate that the battery is being rapid charged.

NOTE

(1) If the yellow **Stand-By** LED illuminates instead of the red LED, the battery is either too hot or too cold to be rapid-charged. The charger waits for the battery's temperature to fall within the temperature window and then begins charging.

(2) If the orange LED flashes, a problem exists with the battery.
TRY RESEATING THE BATTERY.

- d. Allow approximately one hour for batteries to charge.

NOTE

When a rapid-charge battery reaches full charge, the red **Charging** LED turns off and the green **Complete** LED turns on.

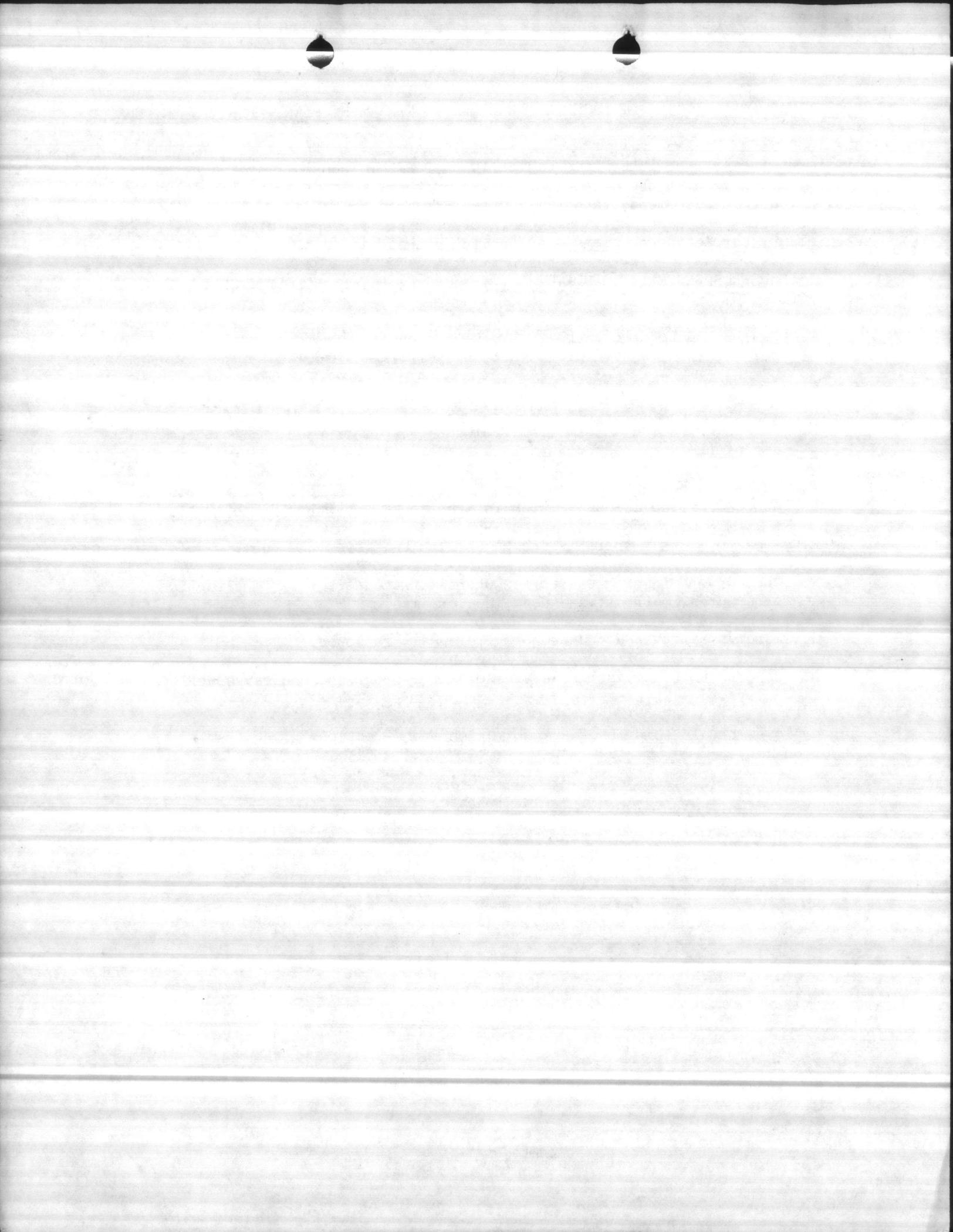
CLARIFICATION OF DUTIES OF WATER AND WASTEWATER TREATMENT PLANT OPERATOR LEADERS

The Leaders are tasked with the responsibility of the smooth operation of the treatment facilities. They have basically the same responsibility and authority the Foremen have with the exception, they cannot grant leave, give disciplinary action (but can recommend), and fill out performance appraisals. This authority does not eliminate each individual operator from their responsibility of operating each plant, correcting problems, and notifying the Leaders of problems arising, etc.

LEADERS RESPONSIBILITY AND AUTHORITY INCLUDE, BUT IS NOT LIMITED TO, THE FOLLOWING:

- A. Passing on to others the instructions received from supervisors, getting work started, assigning tasks to be performed, etc.
- B. Seeing to it that needed supplies are provided.
- C. Obtaining needed information from supervisors on problems that come up during the work period.
- D. Maintains current knowledge and answers questions of other workers on procedures, policies, written instructions, and other directives.
- E. Sees to it that there is enough work to keep everyone busy.
- F. Checks work in progress to see whether the supervisors' instructions procedures, methods, and deadlines are met.
- G. Assures safety and housekeeping rules are followed.
- H. Reports to Supervisor on status of work, progress, and causes of work delays.

Each employee should abide by the information and directions given them by the Leader on duty.



OR RATING ACTION	POSITION OR JOB TITLE	SCHED. OR SERV.	SERIES	GRADE/PAY LEVEL /FORMULA	CLASSIFIERS INITIALS	CLASSIFICATION OR RATING OFFICIAL (Signature, Title and Date)
	1. THIRD ACTION					
	2. SECOND ACTION					
	3. FIRST ACTION					
	Water Treatment Plant Operator Belner	WG	5429	5		W. R. MARTIN By direction 1/20/77
4. RECOMMENDED						5. NAME OF EMPLOYEE

POSITION OR JOB LOCATION	
6. ACTIVITY - NAME AND LOCATION	9. (3rd)
Marine Corps Base, Camp Lejeune, NC	Water Treatment Branch
7. ORGANIZATIONAL SUBDIVISIONS (1st)	10. (4th)
Base Maintenance Department	
8. (2nd)	11. ORGANIZATIONAL TITLE OF POSITION OR JOB (If any)
Utilities Division	

12. EMPLOYEES NOW PERFORMING DUTIES (Ungraded jobs only)			
(No.)	(Title)	(No.)	(Title)

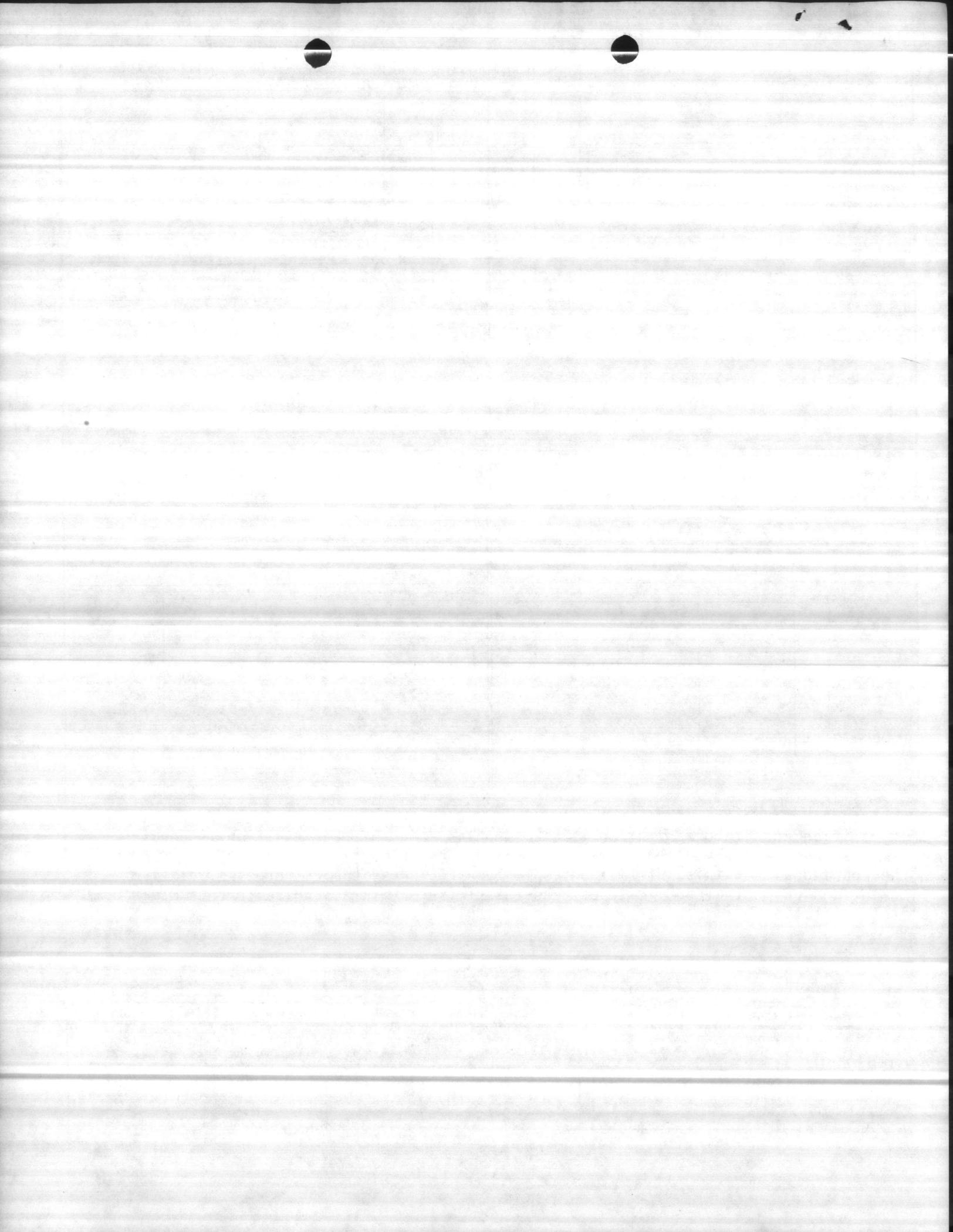
REASON FOR SUBMISSION			CERTIFICATIONS:	
<input type="checkbox"/> 13. DUTIES AND RESPONSIBILITIES NOT ELSEWHERE DESCRIBED - COMPLETE DESCRIPTION ATTACHED.			The description of the duties and responsibilities of this position or job is complete and accurate.	
14. ATTACHED AMENDMENT NO.	POS. OR JOB #	CLASS. OR RATING	19. SIGNATURE (Employee)	DATE
TO-				
15. IDENTICAL TO-			20. SIGNATURE AND TITLE (Immediate supervisor)	DATE
			Byrd M. Loyall II WATER TREAT. PLT. OPER. FOREMAN W/S-40 (Position No., Classification or Rank)	1-17-77
16. ATTACHED STATEMENT OF DIFFERENCE TO-			21. SIGNATURE AND TITLE (Person authorized to establish position or job)	DATE
17. REPLACES-				
18. OTHER (Specify)				
Recertification				

REMARKS
I certify that this is an accurate statement of the major duties and responsibilities of this position and its organizational relationships, and that the position is necessary to carry out government functions for which I am responsible. This certification is made on the knowledge that this information is to be used for statutory purposes relating to appointment and payment of public funds, and that false or misleading statements may constitute violations of such statutes or their implementing regulations.

Byrd M. Loyall II 1-17-77
(Signature & Date - Immediate Supervisor) (Signature & Date - Department Head)

A classification of this position may be appealed by the incumbent at any time. Appeals from classification actions which result in demotion or reduction in compensation must be timely in order for retroactivity to apply. Consult your classifier or appropriate activity instruction for procedures. Civil Service Commission classification standards and Department of the Navy classification guides are available for review in the Wage and Classification Office.

CLASSIFICATION OR RATING				
RECERTIFICATION:				



POSITION OR JOB DESCRIPTION

NAVY (See action) 5107 (Rev. 10-67) (Reverse)

Regular 42-70
 JD NO.

POSITION OR JOB TITLE	BONES OR SERV.	SERIES	GRADE/PAY LEVEL (FOUR-DIGIT)	CLASSIFIERS INITIALS	CLASSIFICATION OR RATING OFFICIAL (Signature, Title and Date)
Water Treatment Plant Operator Helper	WG	5409	05	M	U. R. MARTIN By direction 8-6-70

POSITION OR JOB LOCATION	
6. ACTIVITY - NAME AND LOCATION Marine Corps Base, Camp Lejeune, N.C.	9. (3rd) Water Treatment Branch
7. ORGANIZATIONAL SUBDIVISIONS (1st) Base Maintenance Department	10. (4th)
8. (2nd) Utilities Division	11. ORGANIZATIONAL TITLE OF POSITION OR JOB (If any)

12. EMPLOYEES NOW PERFORMING DUTIES (Ungraded jobs only)			
(No.)	(Title)	(No.)	(Title)
2	Helper Water Plant Operator		

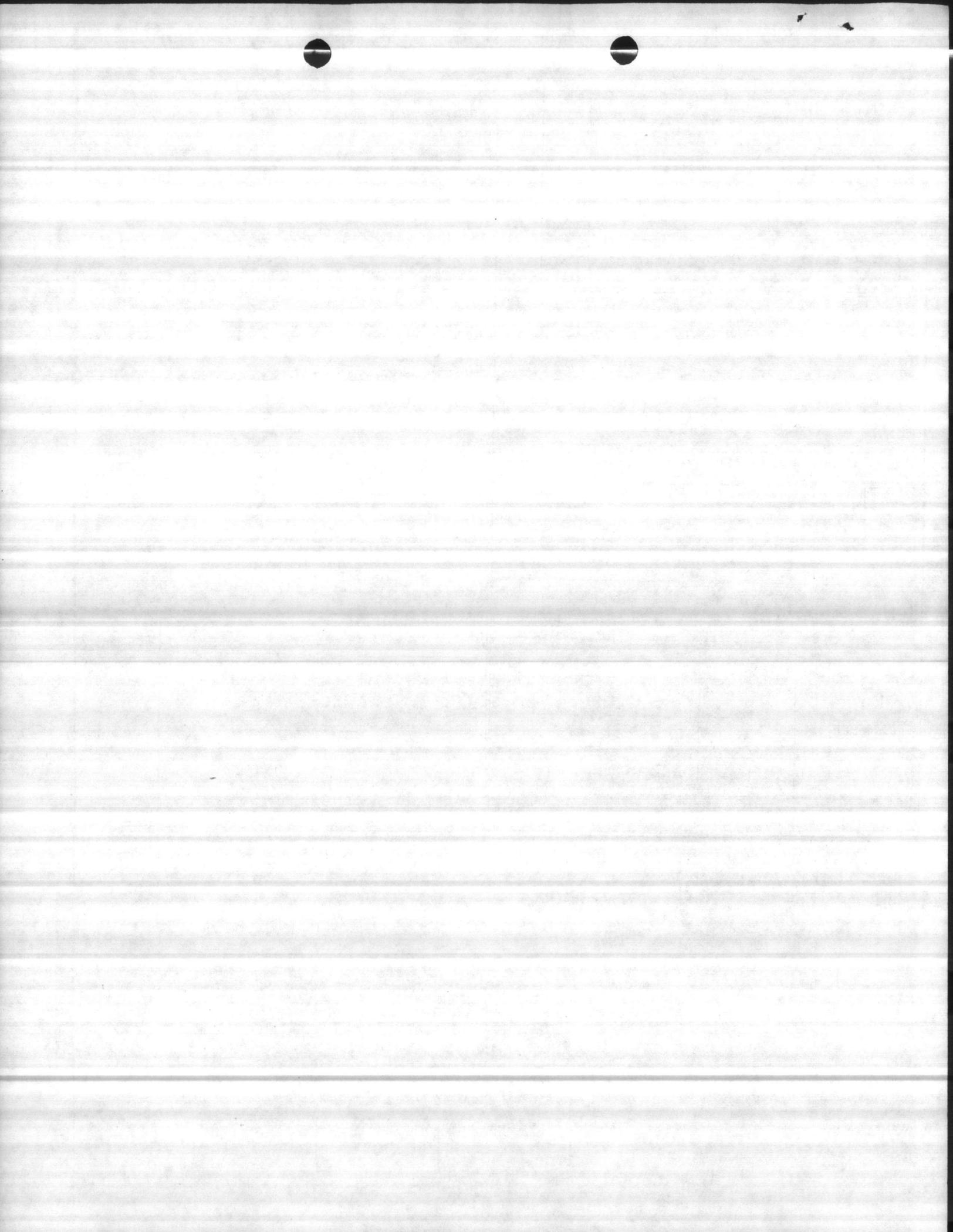
REASON FOR SUBMISSION		
<input type="checkbox"/> 13. DUTIES AND RESPONSIBILITIES NOT ELSEWHERE DESCRIBED - COMPLETE DESCRIPTION ATTACHED.		
14. ATTACHED AMENDMENT NO.	POS. OR JOB #	CLASS. OR RATING
TO-		
15. IDENTICAL TO-		
16. ATTACHED STATEMENT OF DIFFERENCE TO-		
17. REPLACES-	JD No. 5	Helper, Water Plant Operator
18. OTHER (Specify)		

CERTIFICATIONS:	
The description of the duties and responsibilities of this position or job is complete and accurate.	
19. SIGNATURE (Employee)	DATE
20. SIGNATURE AND TITLE (Immediate supervisor)	DATE
WILLARD R. PRICE Foreman CLJ Water Plant Opr (Position No., Classification or Rank)	
21. SIGNATURE AND TITLE (Person authorized to establish position or job)	DATE
JOE EVERETT Personnel Manager, GS-17	

REMARKS
 Classification May Be Appealed At Any Time. Standards Are Available IARO For Your Review.

The classification of this position may be appealed by the incumbent at any time. Appeals from classification actions which result in demotion or reduction in compensation must be timely in order for retroactivity to apply. Consult your classifier or appropriate activity instruction for procedures. Civil Service Commission classification standards and Department of the Navy classification guides are available for review in the Page and Classification Office.

22. CLASSIFICATION OR RATING RECOMMENDATION				
---	--	--	--	--



1. Job Summary

Assists Water Plant Operator in operation of water treatment plants by opening and closing valves, starting and stopping pumps, and motors. Cleans equipment, makes lime slurry and takes samples for alkalinity tests of water.

2. Typical Work Performed

Checks well pumps for proper operation each day, oil pumps and electric motors. Takes drawdown and static on wells. Operates emergency gasoline motors, cleans building equipment and grounds, keeping a daily record of wells and equipment.

Lifts bags of lime and carries them to mixing tank where the lime is emptied into water in the tank. Starts agitators which keeps the lime suspended in the water. Lime slurry is fed at pre-determined rate by chemical feedwater pumps into the water supply as it enters the spirators. Under supervision of operator will disassemble, clean and reassemble these pumps as they become clogged with the slurry. Cleans and lubricates the plant equipment periodically. Checks operation of plant equipment frequently and reports any malfunctioning to operator.

Takes periodic readings of various meters and gauges which indicate water pressure, amount of water treated, and takes samples for the tests run such as alkalinity, pH, and chlorine residual tests. Unloads and stores supplies, as directed.

3. Factor Statements

a. Knowledge and Skill:

Required to know location and have a working knowledge of the equipment in plants, such as, various types of pumps, chlorinators, lime slurry mixing tanks, spirators, sand and gravel filters, etc. Must be able to take readings of various meters and gauges and record same, know how to regulate the amount of water drawn into system, where and how it is stored and how it is pumped into the distribution system. Usually follows standard procedures in the operation of specialized machinery.

b. Responsibility:

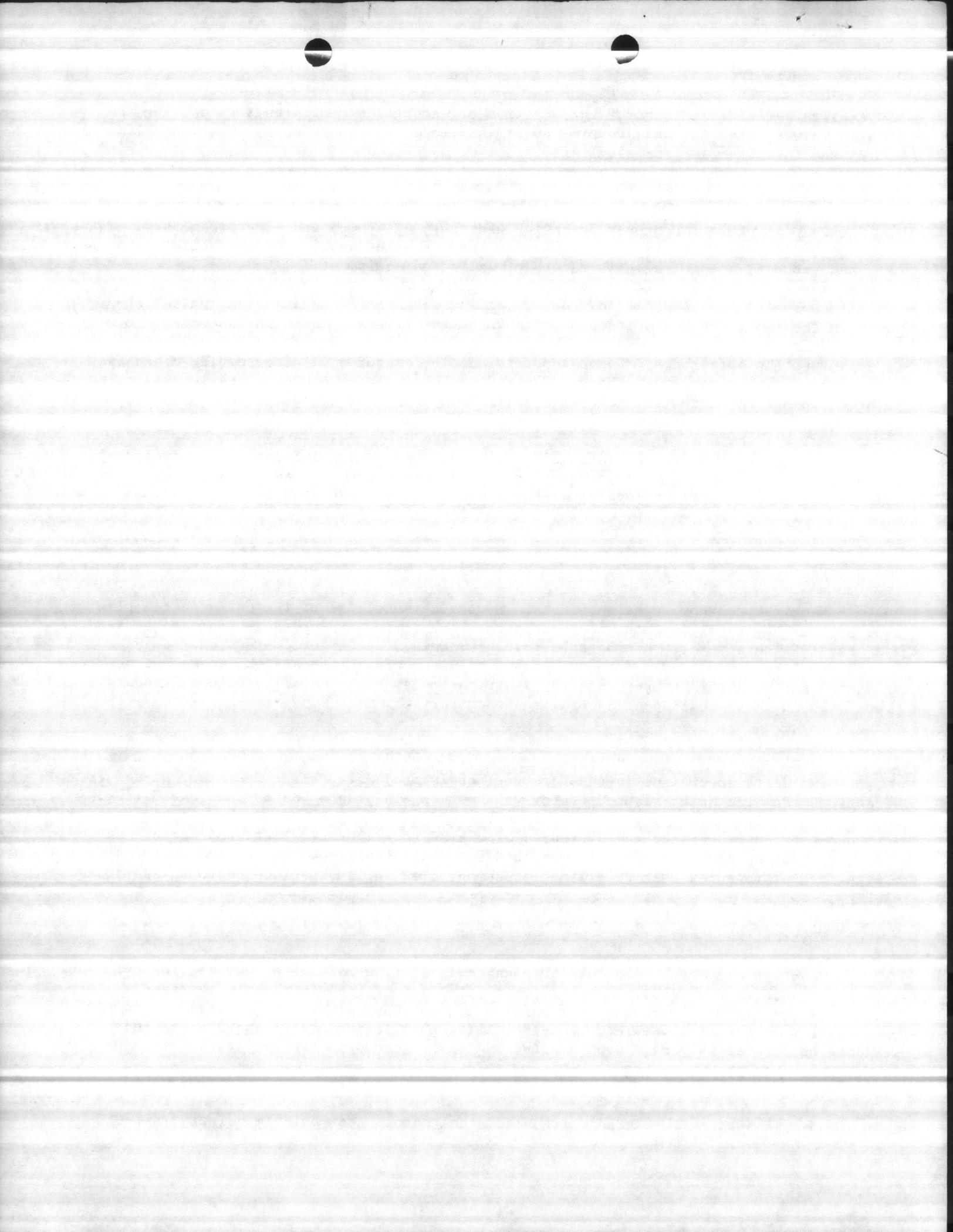
Immediate supervisor is the Foreman (Leadingman) Water Plant Operator. Receives directions from the Water Plant Operator when working in plants and follows established schedule of checking all gauges and equipment throughout the shift. Work is subject to spot check by duty operator and by review of charts and reports. Tests and measurements made are in accordance with established guides. Keeps equipment checked and performs preventive maintenance, such as oiling, greasing, cleaning and replacement of gaskets and packing.

c. Physical Demands:

Heaviest weights handled are 50 pound bags of lime and 250 pound chlorine cylinders with assistance as required. Lime bags are lifted and carried to the mixing tank, a distance of approximately 10 feet. Bags must be lifted about 4 feet to be emptied into the tank. The work requires walking, stooping, lifting, climbing stairs and ladders and standing on concrete floors. Good hearing and color perception is required.

d. Hazards:

Work is subject to contact with electrical motors and moving machinery, noise



and vibrations. Subject to cuts, bruises, and possible broken bones when climbing and working around equipment and machinery. Exposed to presence of gases such as chlorine and carbon monoxide.

c. Working Conditions:

Work is indoors and outdoors with considerable exposure to lime dust. Works in all types of weather conditions, day or night and weekends.

4. Explanatory Statement

Must have a government drivers permit. Must also possess a valid North Carolina Operator's permit.



PERFORMANCE STANDARD

Water Treatment Plant Operator Helper WG-5409-5

1. Duty - Assists Water Treatment Plant Operator.

Performance Standard - (a) Assists Water Plant Operator in general operation of water treatment plant facilities, such as pumps, motors, filters, water softeners, chlorinators, and chemical pumps.
(b) Assists in water treatment by manipulating valves, cleaning equipment and making lime slurry. Draws off catalyst, cleans floors and grounds and does general housekeeping. Paints equipment and sections of interior in water plant. All work performed must meet designed efficiency 90 to 95% of time.

2. Duty - Assists operator in preventive maintenance and minor repair.

Performance Standard - (a) Assists in performing preventive maintenance; oiling and greasing, and cleaning equipment.
(b) Assists in making minor repair to pumps and other equipment. All work performed must meet designed efficiency 90 to 95% of time.

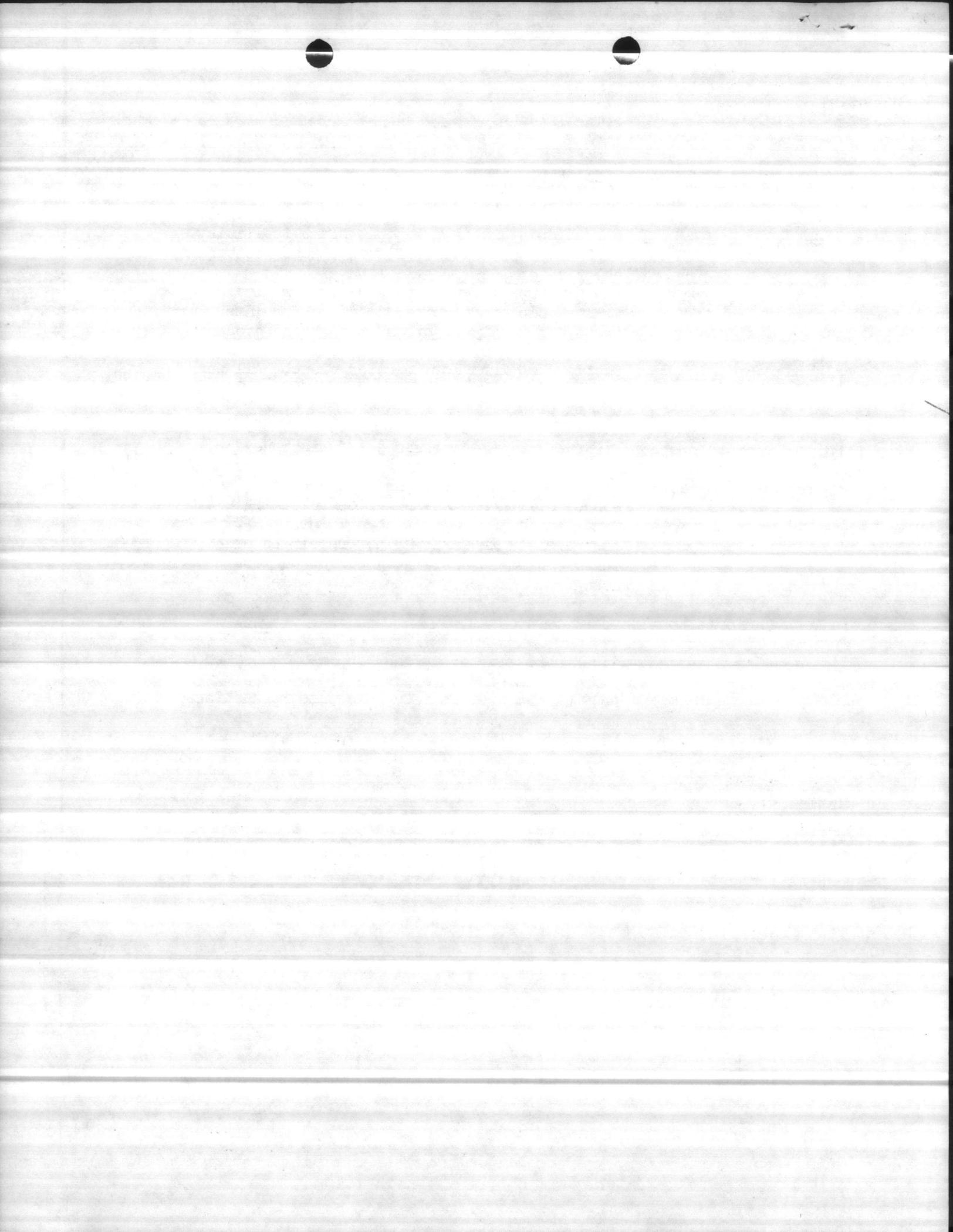
3. Duty - Conforms to plant safety program.

Performance Standard - (a) Wears gloves, aprons, and respirator to add and mix lime and fluoride.
(b) Observes all safety rules and regulations, attends safety meetings, develops good safety habits so that plant safety record approaches 100%.

ADAPTABILITY: Duties are to be performed without regard to age, race, sex, color, religion, national origin, lawful political affiliation, physical handicap or marital status. Must be dependable, observe rules and regulations, relate to fellow workers, show initiative and be resourceful. Displays an interest in work assignments and be effective in organizing his own work.

BYRON M. FRAZELLE, II *Byron M. Frazelle*
4/9/79

APPROVED BY: *Oliver S. Frazelle*
Classification Div., EPO
Date 4/18/79



POSITION DESCRIPTION (Please Read Instructions on the Back)

1. Agency Position No.

70-80

2. Reason for Submission

Redescription
 Reestablishment

3. Service

New
 Other

Dept'l

Field

4. Employing Office Location

Camp Lejeune, N.C.

5. Duty Station

7. Fair Labor Standards Act

Exempt Nonexempt

8. Employment/Financial Stmt Required

Yes No

9. Subject to IA Action

Yes No

10. Position Status

Competitive
 Excepted (Specify)

11. Position is

Supervisory
 Managerial
 Neither

12. Sensitivity

Critical
 Noncritical
 Nonsensitive

13. Competitive Level Code

14. Agency Use

15. Classified/Graded by

Official Title of Position

Pay Plan Occupational Code Grade Initials Date

a. Civil Service Commission

b. Department, Agency, or Establishment

c. Bureau

d. Field Office

Water Plant Operator

WG

5409

7

BB DEC 0 8 1980

e. Recommended by Supervisor or Initiating Office

16. Organizational Title of Position (if different from official title)

17. Name of Employee (if vacancy, specify)

18. Department, Agency, or Establishment

Marine Corps Base, Camp Lejeune, N.C.

c. Third Subdivision

Water Treatment Branch

a. First Subdivision

Base Maintenance Department

d. Fourth Subdivision

b. Second Subdivision

Utilities Division

e. Fifth Subdivision

19. Employee Review. This is an accurate description of the major duties and responsibilities of my position.

Signature of Employee (optional)

20. Supervisory Certification. I certify that this is an accurate statement of the major duties and responsibilities of this position and its organizational relationships, and that the position is necessary to carry out Government functions for which I am responsible. This certification is made with the knowledge

that this information is to be used for statutory purposes relating to appointment and payment of public funds, and that false or misleading statements may constitute violations of such statutes or their implementing regulations.

a. Typed Name and Title of Immediate Supervisor

B. M. FRAZELLE II WtrTrmtPltOperFore

b. Typed Name and Title of Higher-Level Supervisor or Manager (optional)

B. W. ELSTON Maintenance Manager

Signature

Date

11-13-80

Signature

Date

11/19/80

21. Classification/Job Grading Certification. I certify that this position has been classified/graded as required by Title 5, U. S. Code, in conformance with standards published by the Civil Service Commission or, if no published standards apply directly, consistently with the most applicable published standards.

22. Standards Used in Classifying/Grading Position

FLSA: Exempt CFI
 Nonexempt SPC
 Unit Status UE BOC

Typed Name and Title of Official Taking Action

OLEVE S. DOWNING, Acting Classification Supt.

Information for Employees. The standards, and information on their application, are available in the personnel office. The classification of the position may be reviewed and corrected by the agency or the Civil Service Commission. Information on classification/job grading appeals, and complaints on exemption from FLSA, is available from the personnel office or the Commission.

Signature

Date

DEC 0 8 1980

23. Position Review

Initials Date Initials Date Initials Date Initials Date Initials Date

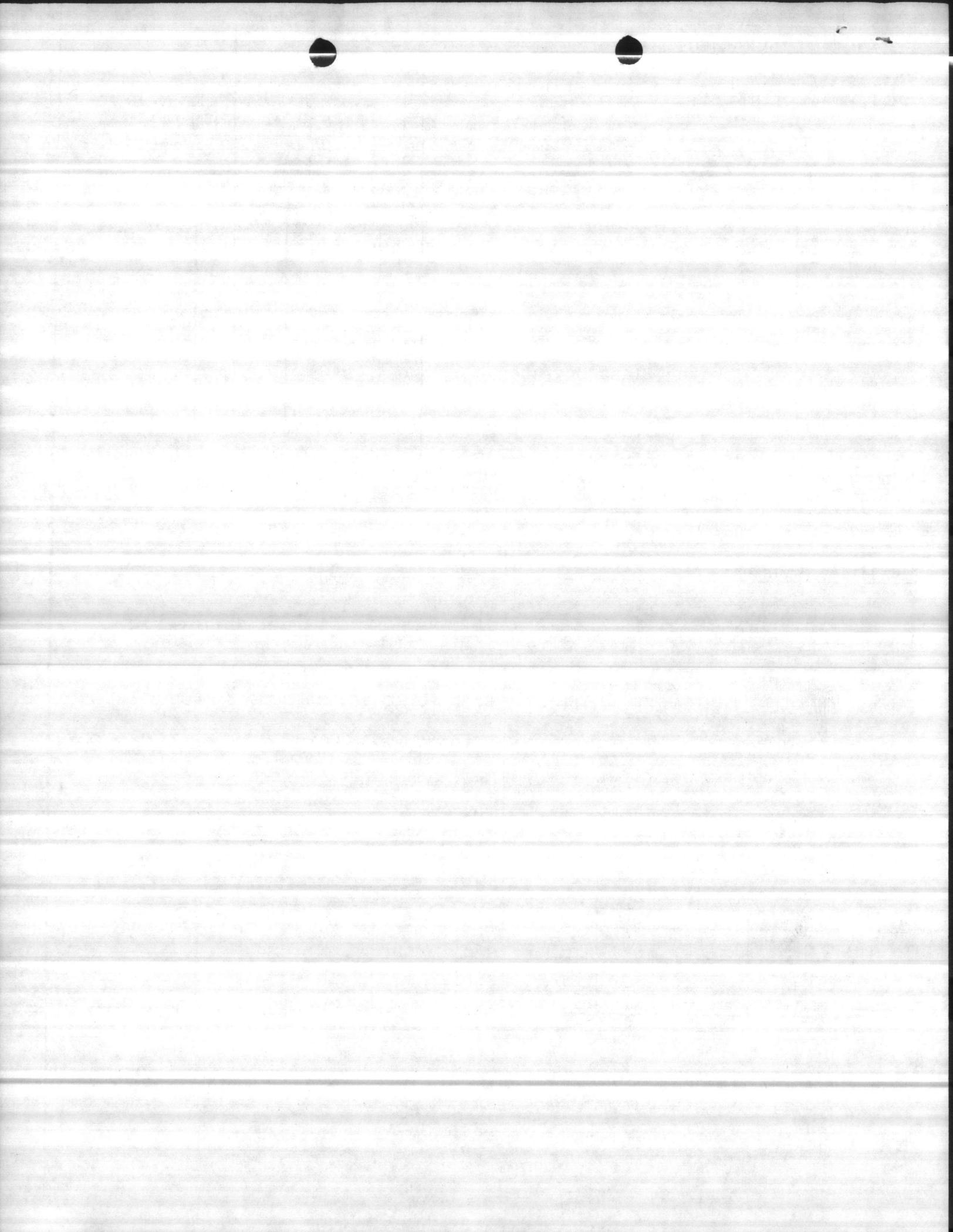
a. Employee (optional)

b. Supervisor

c. Classifier

24. Remarks

25. Description of Major Duties and Responsibilities (see attached)



I. Introduction: The position is located in the Water Treatment Branch, Utilities Division, Base Maintenance Department, Marine Corps Base, Camp Lejeune, N.C. The purpose of this job is to operate pumps such as raw water, chemical, and high lift, chlorinators, emergency gasoline motors, and associated equipment. Assists Water Plant Operator WG-10 in operation of water treatment plants by manipulating valves, cleaning equipment, making lime slurry, starting and stopping pumps and taking, running and recording chemical analysis of water. Also collects chemical and bacterial samples of water throughout distribution system for analysis by laboratory personnel.

II. Major Duties. Incumbent runs tests to determine pH, chlorine residual, hardness, alkalinity and chloride. Operates plant and pumping equipment to maintain proper residuals, flows and pressures. Equipment includes chlorinators; booster pumps to maintain correct flow and pressures and chemical pumps to induce correct chemicals into water. Backwashes filters approximately every 300 hours adding aluminum sulfate for coagulation and copper sulfate for algae control. Keeps daily logs on operation of equipment, chemical usage, and tests taken.

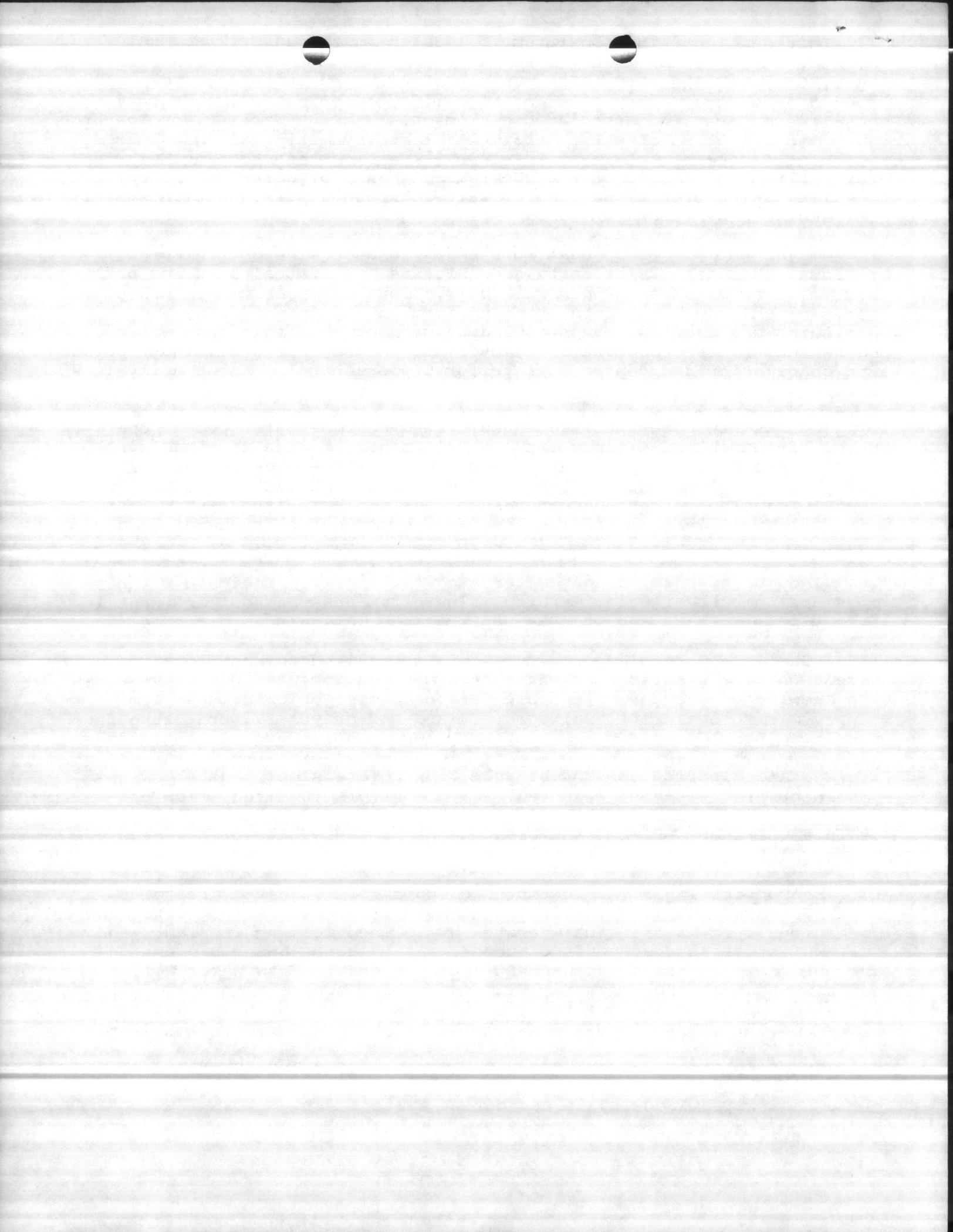
Checks raw water wells and associated equipment for proper operation. Incumbent oils pumps and electric motors, takes pumping levels, static levels and pumping rates on wells, operates backpressure valves, emergency gasoline engines, performs preventative maintenance on equipment, cleans buildings and grounds and assists water treatment plant operator WG-10 in transporting lime from storage tank to feeding equipment.

Incumbent reads various meters and gauges which indicate water pressure, amount of water treated, flow rates and records pertinent information. Unloads and stores supplies and chemicals as directed.

III. Skills and Knowledge. Incumbent is required to know location and have a working knowledge of water treatment equipment. Must have working knowledge in order to operate various pumps, chlorinators, lime slurry mixing equipment, spiractors, sand and gravel filters, take correct readings of various flow meters, gauges and records information on logs. Incumbent must know how water is drawn into system for treatment, storage and distribution and be able to regulate same. Must know how to manipulate switches, gate valves and controls to direct flow of water to proper location. Must possess a valid state and USMC Motor Vehicle Operator's Permit and be a high school graduate or have equivalent CED.

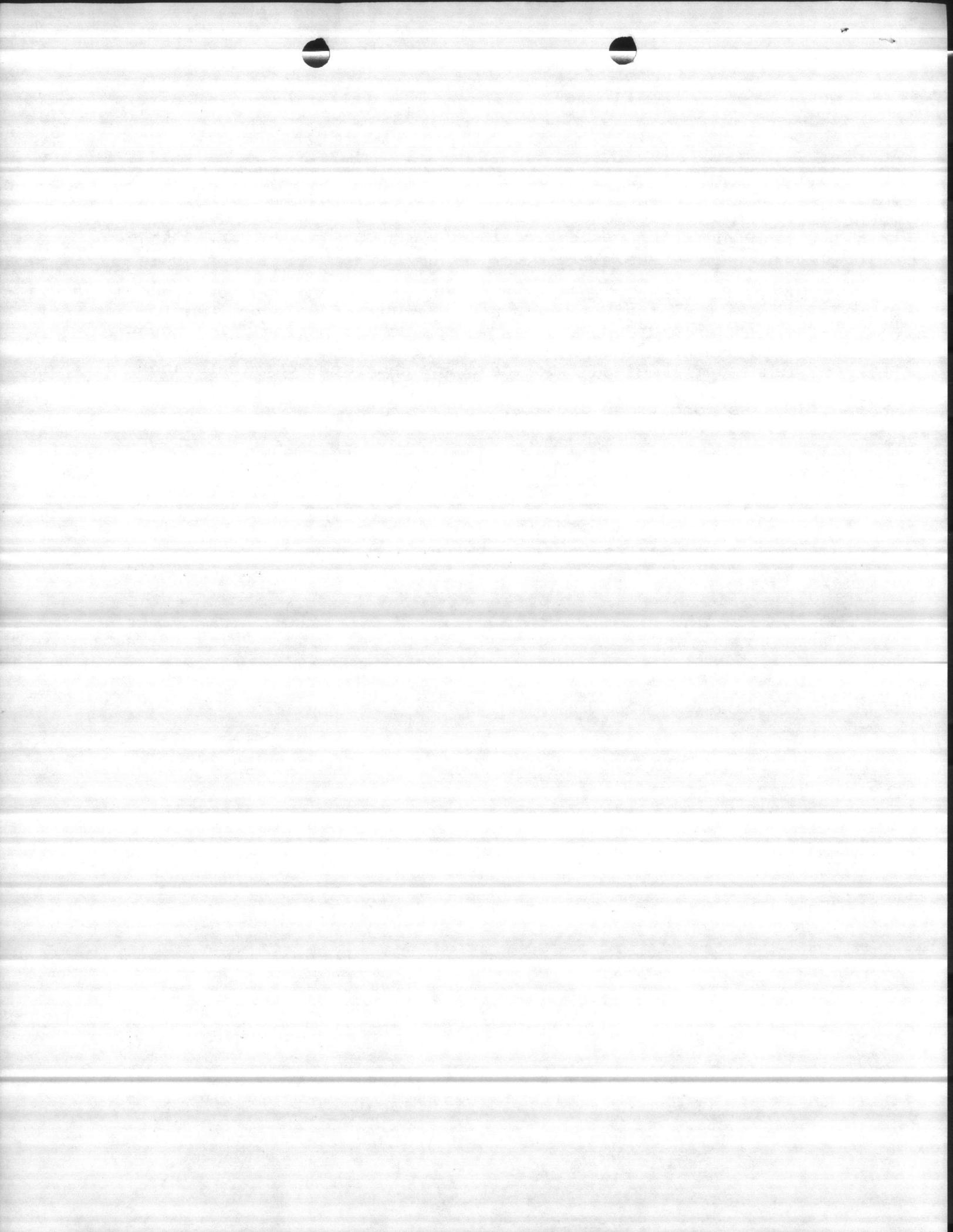
IV. Responsibility. The incumbent's supervisor is Water Treatment Plant Operator, WS-10. The incumbent normally receives instruction and directions from Water Plant Operator WG-10 when working in plants and follows established schedule of checking all gauges and equipment on assigned shift. Works independently when operating raw water well pumps with assistance of Water Plant Operator on unusual problems. Tests and measurements are made in accordance with established guidelines and directives.

V. Physical Effort. Incumbent handles with assistance chemical bags and cylinders weighing up to 250 pounds. Must be physically able to climb stairways, ladders, in and out of filters, spiractors, reservoirs,



manholes, pits, etc., both below and above ground. Work requires normal vision and color perception in reading charts, gauges, meters, color comparison and analysis.

VI. Working Conditions. Incumbent works indoors and outdoors and will be exposed to cold, rain, and other inclement weather. Must constantly work around damp and wet equipment and piping. Incumbent is exposed to danger of moving equipment, electrical conductors, chlorine fumes and lime and fluoride dust, hazardous chemicals and reagents. Must work in hazardous noise areas. Works nights, weekends, and holidays as conditions dictate.



PERFORMANCE STANDARD

Water Treatment Plant Operator WG-7

1. Duty - Operates water treatment pumping equipment and assists in water plant operation.

Performance Standard -

- (a) Operates various circulating pumps, raw water pumps, filters, chlorinators, chemical pumps, and auxiliary motors.
- (b) Assists in operation of water treatment plants by manipulating valves, cleaning equipment, making lime slurry, running chemical analysis.
- (c) Reads and records meter, chart, gauge and chemical analysis readings.
- (d) Collects chemical and bacterial water samples for analysis.
- (e) Adjusts equipment to insure that operational procedures meet designed efficiency 90-95% of time.

2. Duty - Performs preventive maintenance and minor repairs.

Performance Standard -

- (a) Performs preventive maintenance; oiling, greasing, and cleaning equipment.
- (b) Makes minor repair to pumps, water treatment plant equipment, and auxiliaries.
- (c) Replaces gaskets and packing.
- (d) All work performed must meet the designed efficiency 90-95% of time.

3. Duty - Conforms to plant safety program.

Performance Standard -

- (a) Attends weekly and monthly safety meeting.
- (b) Observes all current safety rules and regulations which develop good safety habits so safety record reaches 98%.

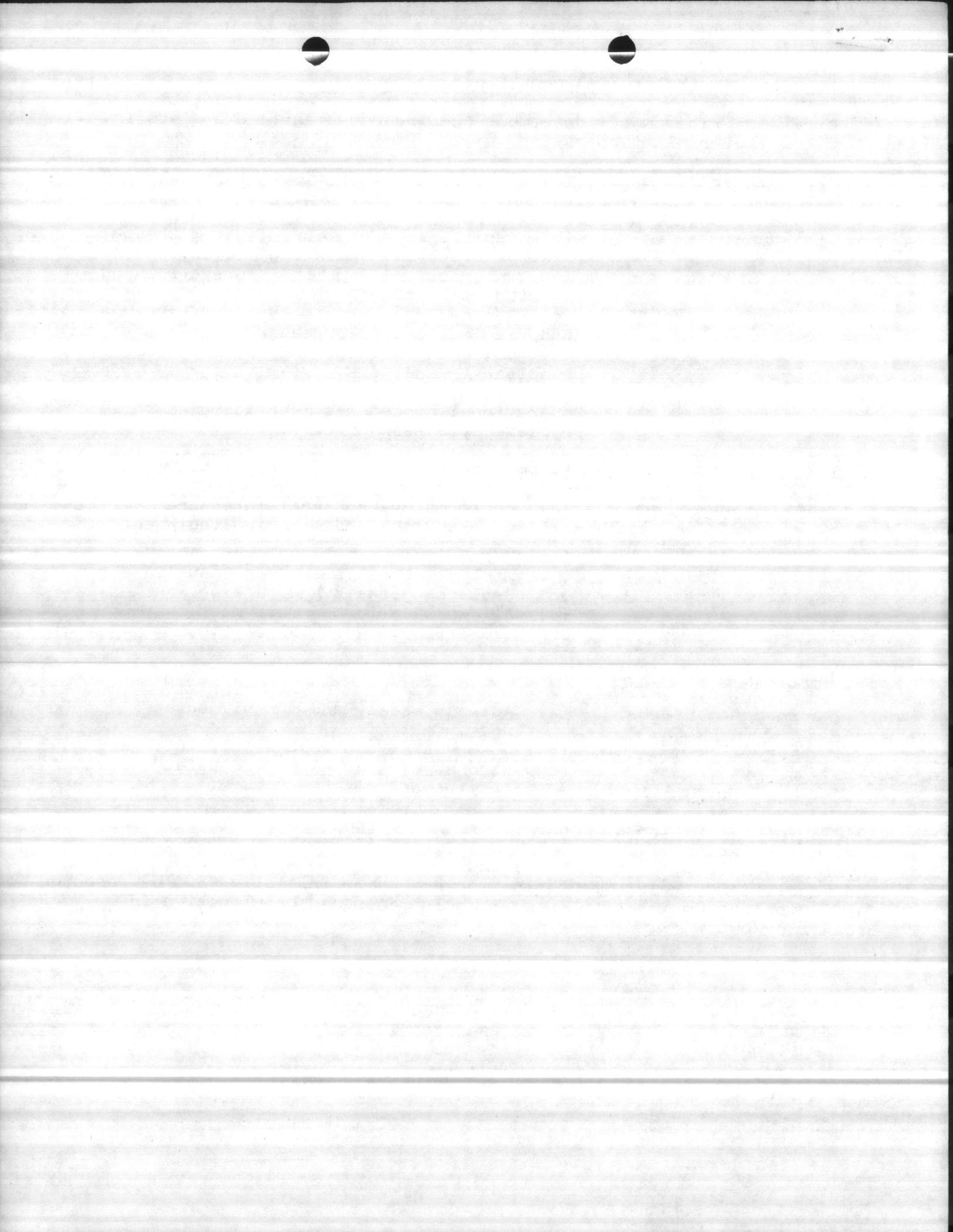
ADAPTABILITY: Duties are to be performed without regard to age, race, sex, color, religion, national origin, lawful political affiliation, physical handicap, or marital status. Must be dependable, observe rules and regulations, relate to fellow workers, show initiative and be resourceful. Displays an interest in work assignments and be effective in organizing own work.

BYRON M. FRAZELLE II

APPROVED BY: 

Classification: IV, CPO

Date: 12/10/80



Branch Copy
96-82

POSITION DESCRIPTION (See Instructions on the Back)

1. Agency Position No.

2. Reason for Submission

Redescription
 Reestablishment
Explanation (Show any positions replaced)

3. Service
 New
 Dept'l
 Field
 Other

4. Employing Office Location
Camp Lejeune, N.C.

5. Duty Station

6. CSC Certification No.

7. Fair Labor Standards Act
 Exempt Nonexempt

8. Employment/Financial Stmt Required
 Yes No

9. Subject to IA Action
 Yes No

10. Position Status
 Competitive
 Excepted (Specify)

11. Position is
 Supervisory
 Managerial
 Neither

12. Sensitivity
 Critical
 Noncritical
 Nonsensitive

13. Competitive Level Code

14. Agency Use

15. Classified/Graded by	Official Title of Position	Pay Plan	Occupational Code	Grade	Initials	Date
a. Civil Service Commission						
b. Department, Agency, or Establishment						
c. Bureau						
d. Field Office	Water Treatment Plant Operator	WG	5409	9	MS	10/27/82
e. Recommended by Supervisor or Initiating Office	Water Plant Operator					

16. Organizational Title of Position (if different from official title) 17. Name of Employee (if vacancy, specify)

18. Department, Agency, or Establishment
Marine Corps Base, Camp Lejeune, NC

a. First Subdivision
Base Maintenance Division

b. Second Subdivision
Utilities Branch

c. Third Subdivision
Water Treatment Section

d. Fourth Subdivision

e. Fifth Subdivision

19. Employee Review This is an accurate description of the major duties and responsibilities of my position. Signature of Employee (optional)

20. Supervisory Certification. I certify that this is an accurate statement of the major duties and responsibilities of this position and its organizational relationships, and that the position is necessary to carry out Government functions for which I am responsible. This certification is made with the knowledge that this information is to be used for statutory purposes relating to appointment and payment of public funds, and that false or misleading statements may constitute violations of such statutes or their implementing regulations.

a. Typed Name and Title of Immediate Supervisor
M. FRAZELLE, Water TreatPltOperFrmn
Signature: [Signature] Date: 9-13-82

b. Typed Name and Title of Higher-Level Supervisor or Manager (optional)
B. W. ELSTON, Maintenance Manager
Signature: [Signature] Date: 9-16-82

21. Classification/Grading Certification. I certify that this position has been classified/graded as required by Title 5, U.S. Code in conformance with standards published by the Civil Service Commission or, if no published standards apply directly, consistently with the most applicable published standards.

22. Standards Used in Classifying/Grading Position
FLSA: Exempt Nonexempt
Unit Status CFI SPC BOC

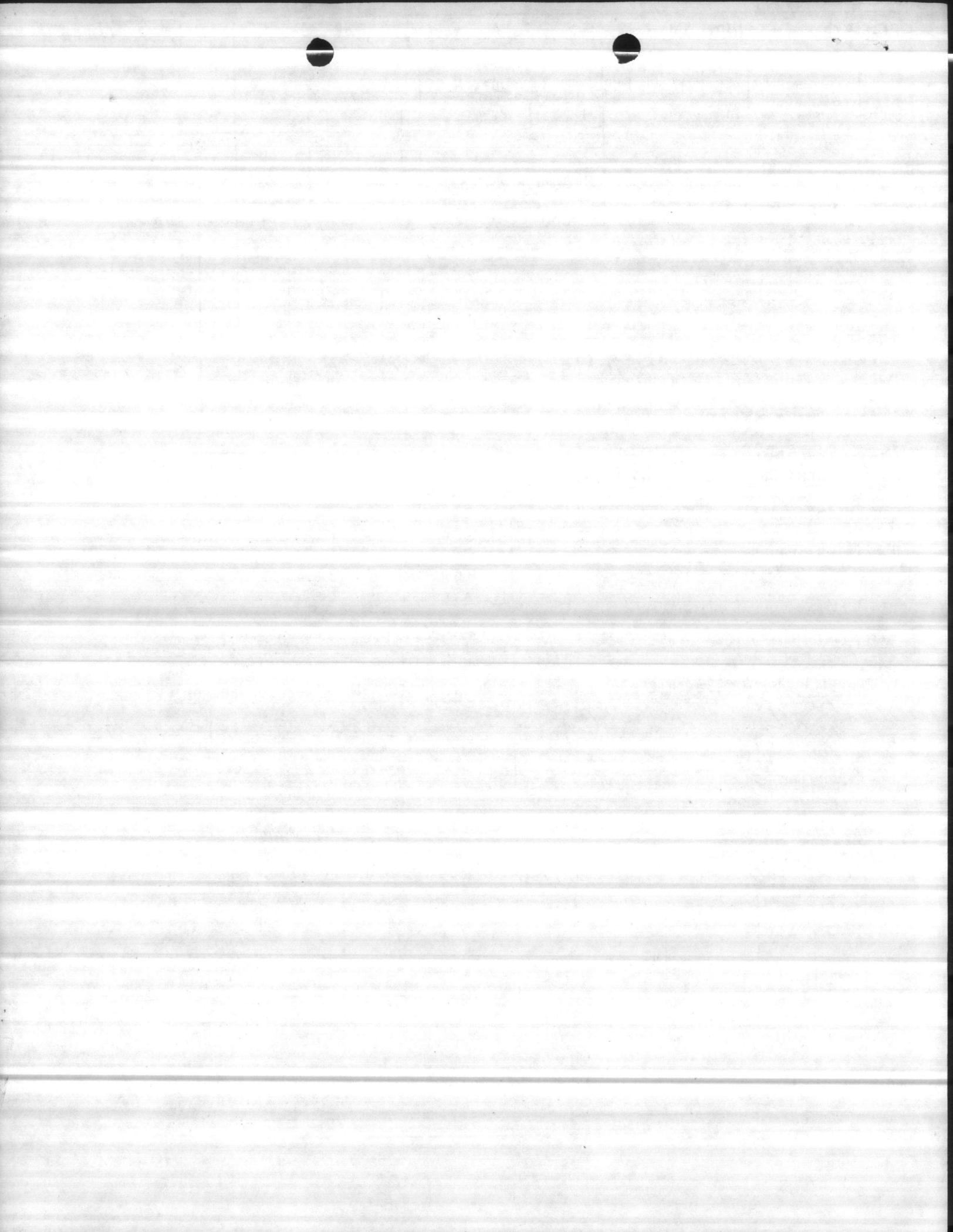
Typed Name and Title of Official Taking Action
W. R. MARTIN
Classification Superintendent
Signature: [Signature] Date: 10/27/82

Information for Employees The standards, and information on their application, are available in the personnel office. The classification of the position may be reviewed and corrected by the agency or the Civil Service Commission. Information on classification, job grading, appeals, and complaints on exemption from FLSA, is available from the personnel office or the Commission.

23. Position Review	Initials	Date								
a. Employee (optional)										
b. Supervisor										
c. Classifier										

24. Remarks

25. Description of Major Duties and Responsibilities (see attached)



I. Introduction. This position is located in the Water Treatment Section, Utilities Branch, Base Maintenance Division. The purpose of this position is to control and operate any of eight separate water treatment plants located throughout the Camp Lejeune complex. Plants range in capacity from 250,000 to 5,000,000 gallons per day. Treatment processes vary and include both precipitation and ion exchange type treatment for reducing hardness from approximately 250 ppm to 60 ppm. Water treatment also includes the injection of the correct chemical quantities such as chloride, fluoride, lime, soda ash, and carbon dioxide for correct bacteria kill, hardness control, pH control, turbidity, and taste and odor control. Operates electric and gasoline pumps varying in size from 50 to 7,500 gallons per minute, chemical pumps, gravity and pressure type filters, zeolite softeners, spiractors, aerators, chlorinators (both gas and liquid) with and without automatic analyzers, for pumping, treating and purifying water for all domestic and industrial purposes. Guidelines are established by higher authority with operator controlling flow and chemical feed rates to conform to state and federal standards. Performs preventative maintenance on all plant equipment.

II. Major Duties.

A. Reads, interprets, observes flow meters, charts, gauges, telemeters; correcting flows by starting, stopping, and adjusting pumps to meet demand. Records all pertinent data on log sheets. Collects, runs, and records chemical analyses on raw, treated, and delivered water using burets, pipettes, comparators, pH and fluoride meters and titrators. Uses toxic and hazardous chemical reagents in determining proper treatment. From data obtained, regulates purifying systems and equipment for proper treatment to maintain established standards on water quality. Regulates softeners, spiractors, filters, including rapid sand, anthrafilt, pressure, aerators, recarbonators, chemical feeders (both automatic and manual) in changing chemical and bacteriological quality of water, insuring that it meets and/or exceeds established guidelines.

B. Operates emergency pumping equipment such as auxiliary gasoline engines and generators at intervals to determine operating efficiency, and as required, during emergencies.

C. Performs preventative maintenance on all equipment, such as painting, checking bearings, changing oil, greasing, adjusting and changing packing, and assisting in minor and major repair and overhaul of equipment. Records all pertinent data. Cleans plant equipment, plant buildings and grounds, mows grass and performs other housekeeping tasks as required. Follows all safety requirements as prescribed by supervisors including handling, mixing, storage and use of hazardous chemicals, gases, and reagents. Insures personnel working under his direction follows same.

III. Skill and Knowledge. Incumbent must have thorough knowledge of the location, purpose and operating techniques of all equipment, including pumps, filters, softeners, chemical feeders, spiractors, aerators, and recarbonators with the associated piping and valves. Equipment and valves are located above and below ground. Incumbent must have knowledge and skill required to read and interpret blueprints for location and use of valves and piping. Must be able to read and interpret equipment maintenance and operating instructions. Must have a thorough knowledge of chemicals used in water treatment including use, chemical reactions, etc. Must have a knowledge of mathematics and chemistry

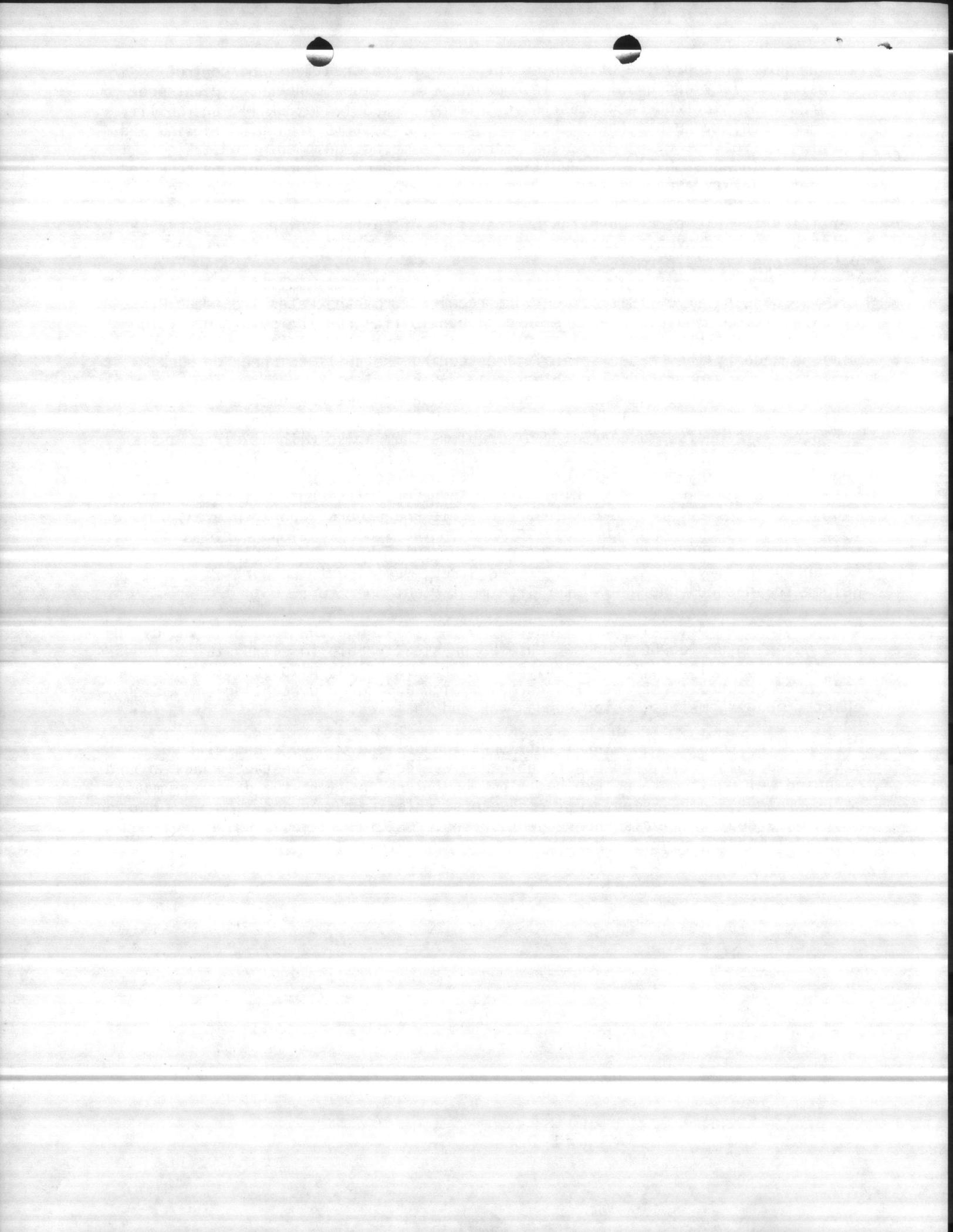


and be able to apply the principles involved in the treatment and control of water quality and quantity. In emergency situations concerning plant procedures, the plant operator must have sufficient knowledge, skill, and ability to immediately make necessary changes in control systems including closing and opening valves, starting pumps and emergency pumping equipment, and making all necessary changes in flow in addition to taking necessary precautions required to meet quantity and quality requirements. Must always be safety conscious in order to prevent injury to personnel or damage plant equipment. Must be certified for Class "C" Operator by the state of North Carolina. Must have a valid state motor vehicle operator's license and qualify for a government motor vehicle operator's permit.

IV. Responsibility. Instructions are received from the Water Treatment Plant Operator Leader who has been assigned responsibility for the smooth operation of the shift. These instructions may be either oral or written. Phone contact will be made by the Leader several times during the shift to check on work process and any operational problems that arise during the shift. The Leader is available to provide guidance concerning unusual or extreme emergency situations that exceed those normally encountered by a Water Treatment Plant Operator. The operator is expected to correct most problems that arise without direct assistance from the Leader. Inspection and review of records including pumps, filters, and softeners, in addition to plant operational records, will be made by supervisor. Incumbent will be working alone; therefore close observation to instructions are necessary to prevent injury to self and others, and to prevent damage to plant equipment. Must be able to make on the spot decisions during critical situations and use good judgment as problems arise by either taking corrective action and notifying the Leader. As required, may direct the work of one WG-5 Helper/Trainee and one WG-7 Water Treatment Plant Operators.

V. Physical Effort. Incumbent handles with assistance chemical bags and cylinders weighing up to 250 pounds. Must be physically able to climb stairs, ladders, in and out of filters, spiractors, reservoirs, manholes, pits, etc., both below and above ground. Work requires normal vision and color perception in reading charts, gauges, meters, color comparison and analyses.

VI. Working Conditions. Incumbent works indoors and outdoors and will be exposed to cold, rain, and other inclement weather. Must constantly work around damp and wet equipment and piping. Incumbent is exposed to the danger of moving parts, motors, pumps, electrical conductors, chlorine fumes and lime and fluoride dust, hazardous chemicals and reagents. Must work in hazardous noise areas. Incumbent works irregular shifts.



PERFORMANCE STANDARDS

Water Treatment Plant Operator,

Critical Element No. 1. Operates water treatment plant to which assigned.

Highly Satisfactory Standard. Operates assorted metering, treatment, and pumping equipment so that operation procedures are carried out with no more than 1 occurrence of improper operation of of each 21 shifts worked. Maintains predetermined plant capacity and reservoir levels 96% of the time. Makes changes in treating equipment, using laboratory tests ran to insure water quality meets established guidelines with only 1 variance out of 21 shifts worked. Exceptions will only be granted for problems arising not due to operator error.

Marginal Standard. Operates assorted metering, treatment, and pumping equipment so that operational procedures are carried out with no more than 3 occurrences of improper operation out of each 21 shifts worked. Maintains predetermined plant capacity and reservoir levels 90% of the time. Makes changes in treating equipment, using laboratory tests ran to insure water quality meets established guidelines with only 4 variances out of 21 shifts worked. Exceptions will only be granted for problems arising not due to operator error.

Critical Element No. 2. Performs laboratory analyses.

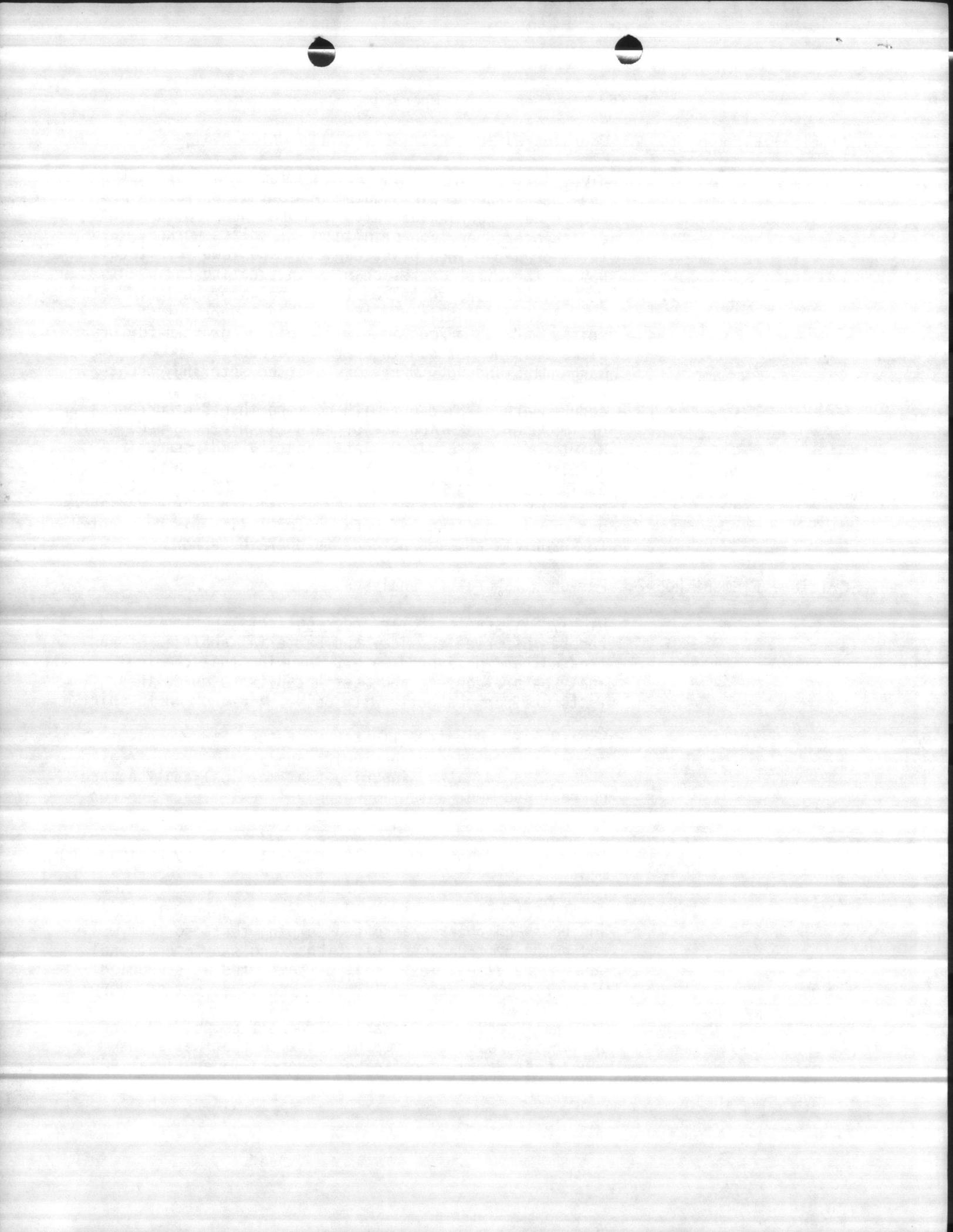
Highly Satisfactory Standard. Collects, performs, and records assorted chemical and bacterial analyses of raw, treated, and delivered water, insuring that chemical analyses are correct and meet established guidelines. Tests are run correctly with only 1 variance in 10 shifts worked.

Marginal Standard. Collects, performs, and records assorted chemical and bacterial analyses of raw, treated, and delivered water, insuring that chemical analyses are correct and meet established guidelines. Tests are run correctly with only 4 variances in 10 shifts worked.

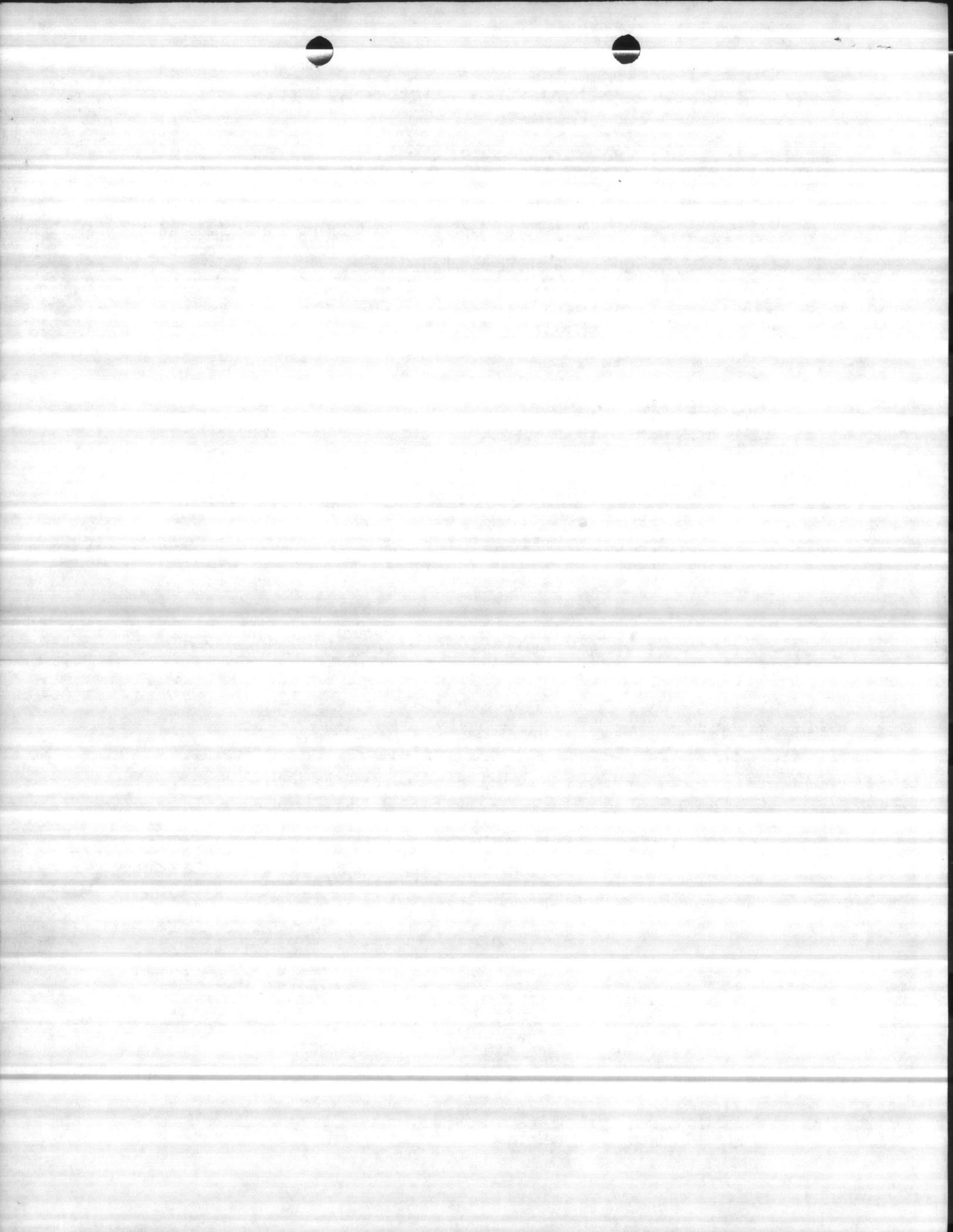
Critical Element No. 3. Operates deep well pumps when required by duty assignment.

Highly Satisfactory Standard. Operates deep well pumps, and runs and records assorted pumping tests so that wells and pumps meet designed efficiency and stay operational 96% of the time. Tests will be completed as scheduled with only 1 instance of incorrect analyses out of every 26 shifts worked.

Marginal Standard. Operates deep well pumps, and runs and records assorted pumping tests so that wells and pumps meet designed efficiency and stay operational 90%



of the time. Tests will be completed as scheduled with only 3 instances of incorrect analyses out of every 26 shifts worked.



DESTRUCTIVE WEATHER
PLAN



UNITED STATES MARINE CORPS
BASE MAINTENANCE DIVISION
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA 28542-5000

M. Frazelle

BLA 20

IN REPLY REFER TO:

3400

FEB 11 1991

From: Base Maintenance Officer

Subj: STANDING OPERATING PROCEDURES FOR DESTRUCTIVE WEATHER/
DISASTER PREPAREDNESS

Ref: (a) BO P3440.6
(b) BO 3302.1

Encl: (1) SOP For Destructive Weather/Disaster Preparedness

1. Attached is the Base Maintenance Division Standing Operating Procedures for Destructive Weather/Disaster Preparedness. This SOP supplements the Marine Corps Base Disaster Preparedness Manual (reference [a]) by providing specific instructions and guidance regarding support requirements to be accomplished by this Division. Substantive information contained in reference (a) has been restated in the SOP to preclude repetitive reference to the Base Order. However, branch heads and supervisors should review the reference.

2. This SOP also provides supporting guidance and information relating to terrorist threat actions outlined by reference (b).

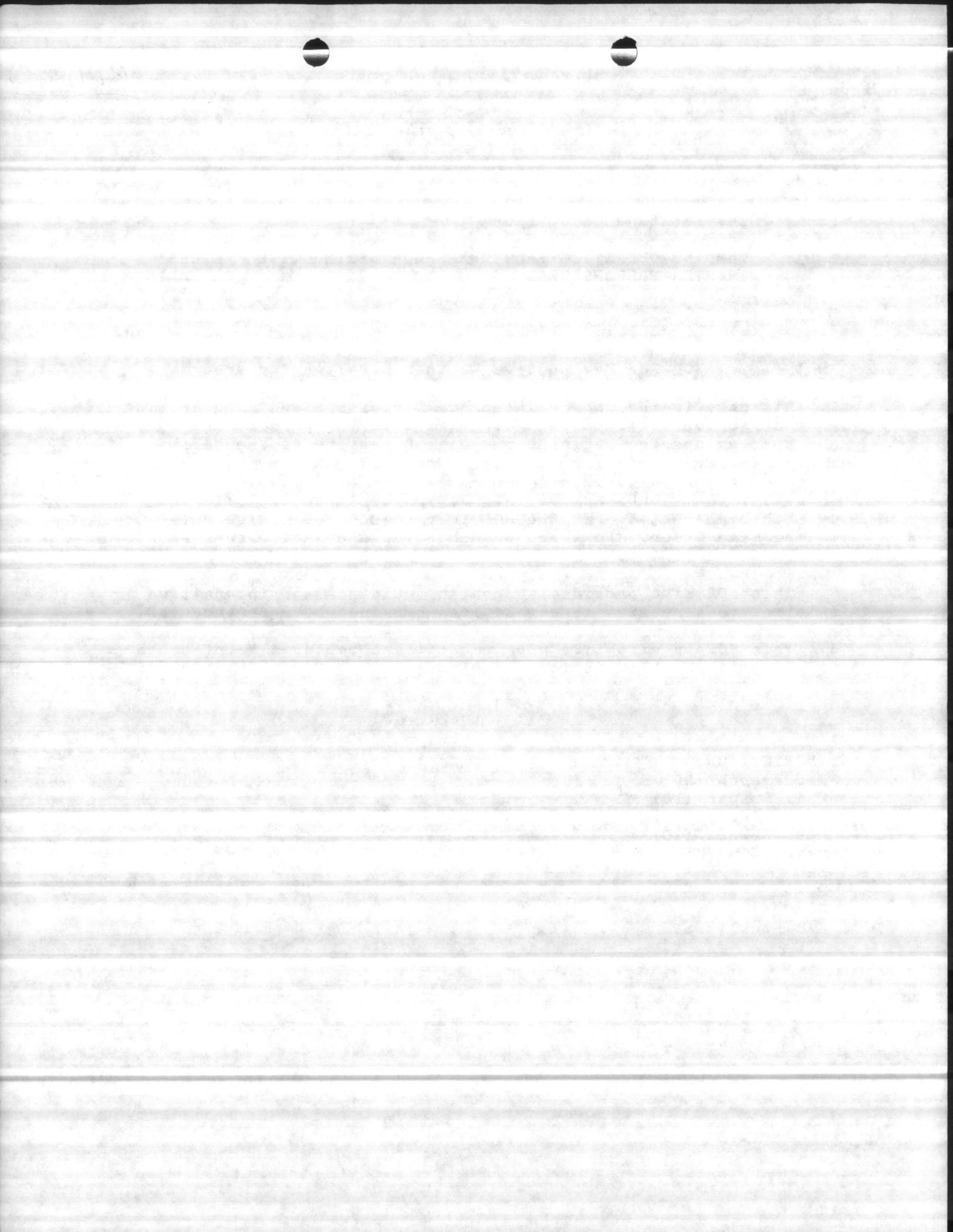
3. This SOP is effective upon receipt and replaces Maintenance Order P3141.1H which is to be destroyed.

C.R. Rivenbark

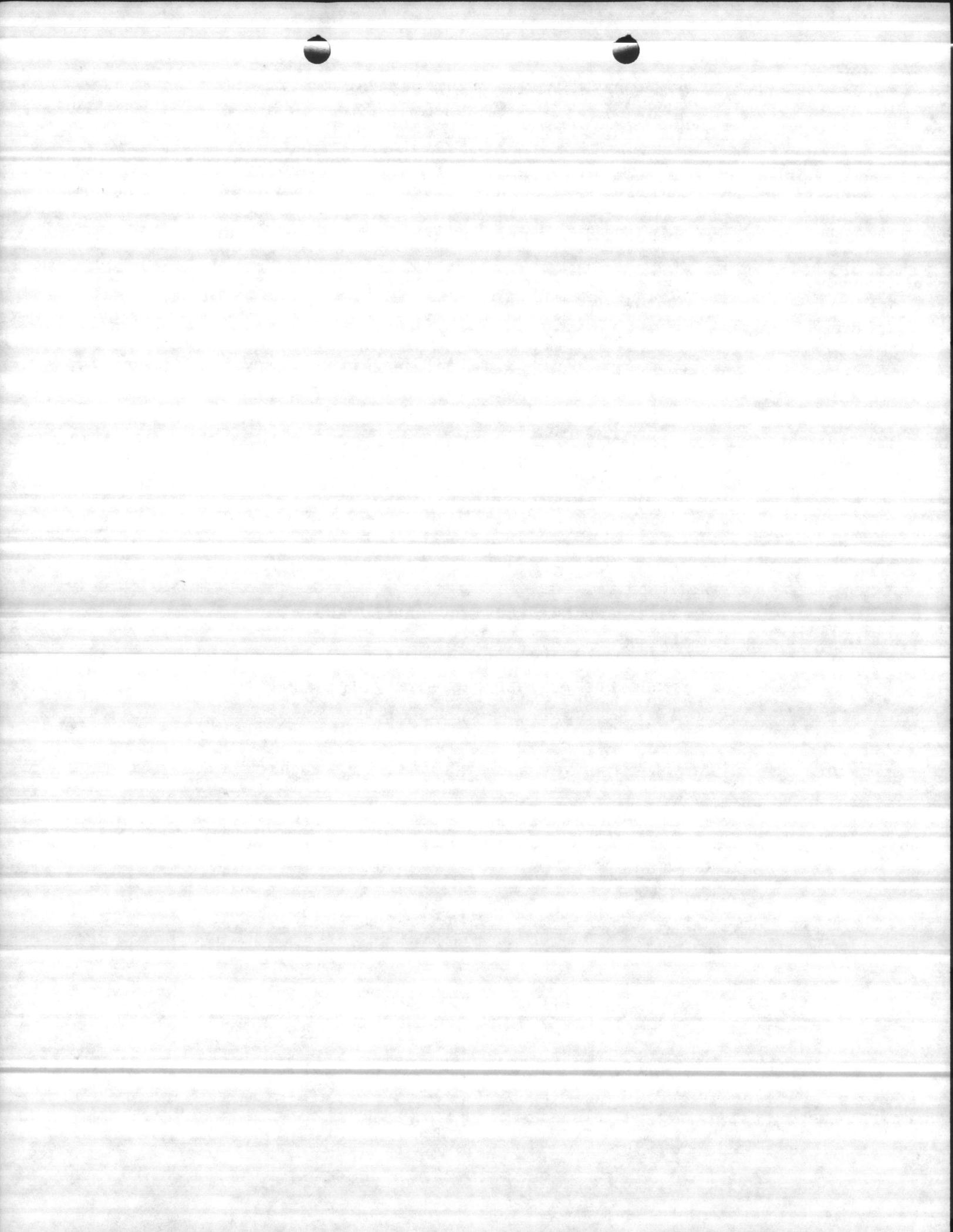
C. R. RIVENBARK

DISTRIBUTION:

M&R Branch (20)
Util Branch (10)
Admin Branch (5)
Opns Branch (10)
Maint NCO (3)
BMO
DBMO
DCRC (7)
A/C Facilities



BASE MAINTENANCE DIVISION
STANDING OPERATING PROCEDURES
FOR
DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS



BASE MAINTENANCE DIVISION

SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

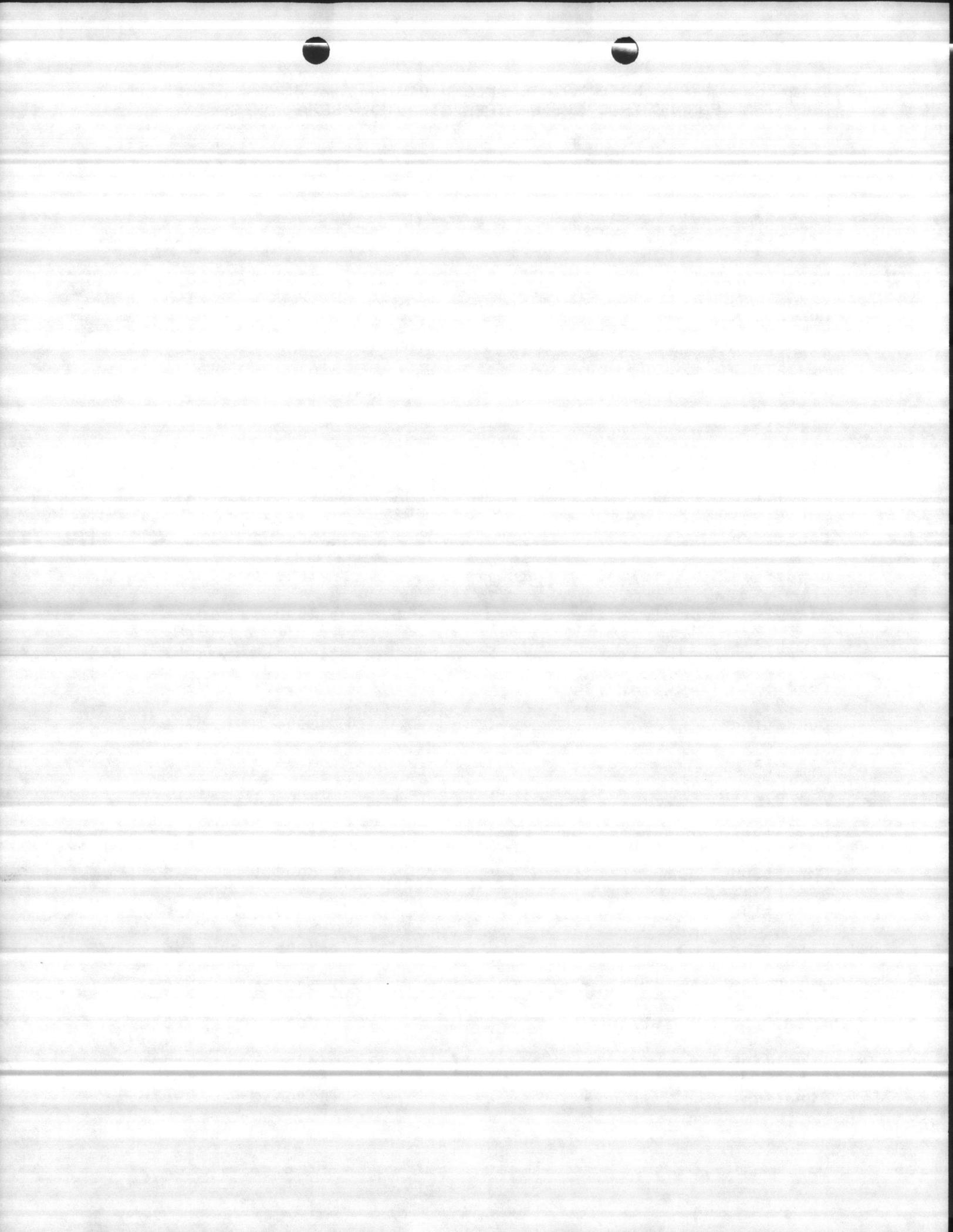
TABLE OF CONTENTS

	<u>Paragraph</u>	<u>Page</u>
SECTION I		
DEFINITIONS OF STORM/DESTRUCTIVE WEATHER CONDITIONS		
GENERAL	1000	1-1
STORM SYSTEMS	1001	1-1
Local Storm Systems	1001.1	1-1
Local Storm Conditions	1001.2	1-1
DESTRUCTIVE WEATHER CONDITIONS	1002	1-2
Major Storm Systems	1002.1	1-2
Major Storm Conditions	1002.2	1-2
Snowstorm and Icestorm Conditions	1002.3	1-3
SECTION II		
OPERATING PROCEDURES - OPERATIONS BRANCH		
GENERAL	2000	2-1
PROCEDURES	2001	2-1
Condition IV	2001.1	2-1
Condition III	2001.2	2-1
Condition II	2001.3	2-2
All Clear	2001.4	2-2
SECTION III		
OPERATING PROCEDURES - UTILITIES BRANCH		
GENERAL	3000	3-1
GENERAL INSTRUCTIONS - ALL PLANTS	3001	3-1
Condition IV	3001.1	3-1
Condition III	3001.2	3-1
Condition II	3001.3	3-1



**BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS**

	<u>Paragraph</u>	<u>Page</u>
Condition I	3001.4	3-1
All Clear	3001.5	3-2
WATER TREATMENT	3002	3-2
Condition III	3002.1	3-2
Condition II	3002.2	3-2
Condition I	3002.3	3-2
All Clear	3002.4	3-2
STEAM GENERATION	3003	3-3
Condition III	3003.1	3-3
Condition II	3003.2	3-3
Condition I	3003.3	3-3
All Clear	3003.4	3-4
STEAM DISTRIBUTION	3004	3-4
Condition III	3004.1	3-4
Condition II	3004.2	3-4
Condition I	3004.3	3-5
All Clear	3004.4	3-5
SEWAGE TREATMENT	3005	3-5
Condition III	3005.1	3-5
Condition II	3005.2	3-5
Condition I	3005.3	3-5
All Clear	3005.4	3-5
ELECTRICAL DISTRIBUTION	3006	3-6
Condition III	3006.1	3-6
Condition II	3006.2	3-6



**BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS**

	<u>Paragraph</u>	<u>Page</u>
Condition I	3006.3	3-6
All Clear	3006.4	3-7
OUTSIDE PLUMBING	3007	3-7
Condition III	3007.1	3-7
Condition II	3007.2	3-7
Condition I	3007.3	3-7
All Clear	3007.4	3-7

**SECTION IV
OPERATING PROCEDURES - M & R BRANCH**

GENERAL	4000	4-1
PROCEDURES	4001	4-1
Condition IV	4001.1	4-1
Condition III	4001.2	4-1
Condition II	4001.3	4-2
Condition I	4001.4	4-3
All Clear	4001.5	4-3

**SECTION V
OPERATING PROCEDURES - ADMINISTRATIVE BRANCH**

GENERAL	5000	5-1
PROCEDURES	5001	5-1
Condition III	5001.1	5-1
Condition II	5001.2	5-1
PERSONNEL REQUIREMENTS	5002	5-1
EQUIPMENT REQUIREMENTS	5003	5-2



**BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS**

	<u>Paragraph</u>	<u>Page</u>
SECTION VI		
SPECIAL INSTRUCTIONS - NIGHT FOREMAN/DUTY NCO		
GENERAL	6000	6-1
SPECIAL INSTRUCTIONS	6001	6-1
Condition IV	6001.1	6-1
Condition III	6001.2	6-1
Condition II	6001.3	6-2
NOTIFICATION OF THREAT CONDITIONS	6002	6-2
Threat Conditions	6002.1	6-2
Actions	6002.2	6-3

SECTION VII		
OPERATION OF THE DAMAGE CONTROL AND RECOVERY CENTER		
GENERAL	7000	7-1
RESPONSIBILITY	7001	7-1
STAFFING	7002	7-1
LOCATION	7003	7-1
PROCEDURES	7004	7-1
Condition II	7004.1	7-1
Condition I	7004.2	7-2

APPENDIX:

- | | |
|----------|--|
| A | REPORTS |
| B | ASSIGNMENT OF ESSENTIAL PERSONNEL |
| C | COMMUNICATIONS |
| D | EMERGENCY POWER PLAN |
| E | SNOW REMOVAL PLAN |
| F | THREAT CONDITIONS |

BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

SECTION I
DEFINITIONS OF STORM/DESTRUCTIVE WEATHER CONDITIONS

1000. GENERAL

1. Storms are a potential and continuous threat to Marine Corps Base property and facilities. Adequate and timely warning, coupled with prompt and effective actions by Base Maintenance personnel will minimize loss of life and damage to the installation resulting from destructive weather conditions.

1001. STORM SYSTEMS

1. Local Storm Systems. Storms of this category generally affect localized areas and are usually short in duration.

a. Local wind warnings. A local wind warning is issued when potentially hazardous winds - between 20 to 33 knots - are anticipated. Recreational activities may warrant special precaution.

b. Small craft warnings. A term used by the U. S. Navy and the U. S. Weather Bureau to describe wind speeds of 18 to 33 knots over coastal areas and inland waters only. As the name implies, this warning is intended to alert operators of small craft to take appropriate precautions to avoid damage to craft or injury to personnel.

c. Gale warnings. Winds are steady and of sufficient force to cause heavy turbulence and high seas. Winds are between 34 and 47 knots. This is primarily for marine interest.

d. Storm warnings. Storms made up of low pressure systems other than tropical origin, with winds of 48 knots or greater.

e. Thunderstorms. Thunderstorms are small scale storms invariably produced by cumulonimbus clouds accompanied by lightning and thunder. These storms may develop within sight and not have a destructive appearance until shortly before passing overhead. Often, hail is associated with thunderstorms. Thunderstorms may produce high winds with gusts greater than 40 knots. Lightning strikes are common in addition to torrential rainfall and low visibility.

f. Tornadoes. A tornado is defined as a violently rotating column of air generally spawned from thunderstorm clouds and touching the ground. Maximum winds created by tornadoes may exceed 130 knots. (Note: Winds associated with tornadoes have been estimated to be 100 knots to more than 250 knots.)

2. Local Storm Conditions. Storm condition settings for localized destructive weather.



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

- a. Local Storm Warning Condition II.
 - (1) Localized storm conditions are expected within six hours.
 - (2) Warn all personnel concerned.
 - (3) Take precautionary measures which will permit the unit to be secured on short notice as warranted by severity or type of storm.
 - (4) Secure or properly stow all loose gear.

- b. Local Storm Warning Condition I.
 - (1) Localized storm conditions are imminent or in progress.
 - (2) Local Storm Warning Condition I may be upgraded to a major storm condition warning if the situation dictates.

1002. DESTRUCTIVE WEATHER CONDITIONS.

1. Major Storm Systems. Storms of this type generally affect a wide area and have a life expectancy of days rather than hours.

a. Tropical Depression. Weather associated with a tropical cyclone system with wind speeds up to 33 knots (38 mph).

b. Tropical Storm. Weather associated with a tropical cyclone system with wind speeds between 34-63 knots (39-72 mph).

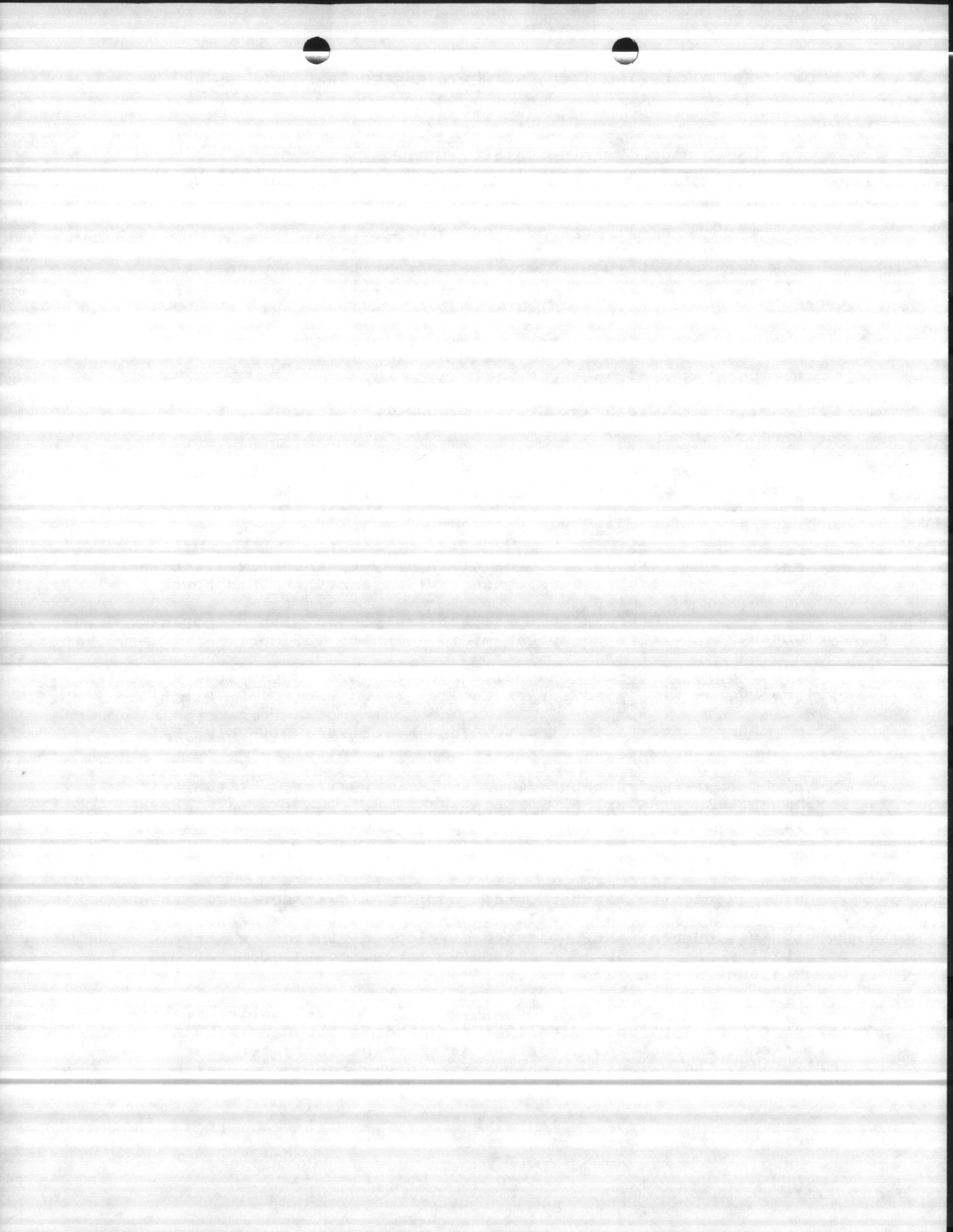
c. Hurricane. A tropical cyclone associated with high winds, 64 knots (74 mph) or greater and torrential rain.

d. Snowstorm. A snow fall with an accumulation of two or more inches of snow which may be preceded by freezing rain and/or sleet.

2. Major Storm Conditions.

a. Destructive Weather Condition IV. A destructive weather system of the type specifically identified in the warning has formed and, current and projected development indicates the possibility that winds of destructive force, could occur at MCB Camp Lejeune within 72 hours.

b. Destructive Weather Condition III. A destructive weather system of the type specifically identified in the warning has formed and, current and projected development indicates the possibility that winds of destructive force, could occur at MCB



**BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS**

Camp Lejeune within 48 hours.

c. Destructive Weather Condition II. A destructive weather system of the type specifically identified in the warning has formed and, current and projected development indicates the possibility that winds of destructive force, could occur at MCB Camp Lejeune within 24 hours.

d. Destructive Weather Condition I. A destructive weather system of the type specifically identified in the warning has formed and, current and projected development indicates the possibility that winds of destructive force, could occur at MCB Camp Lejeune within 12 hours.

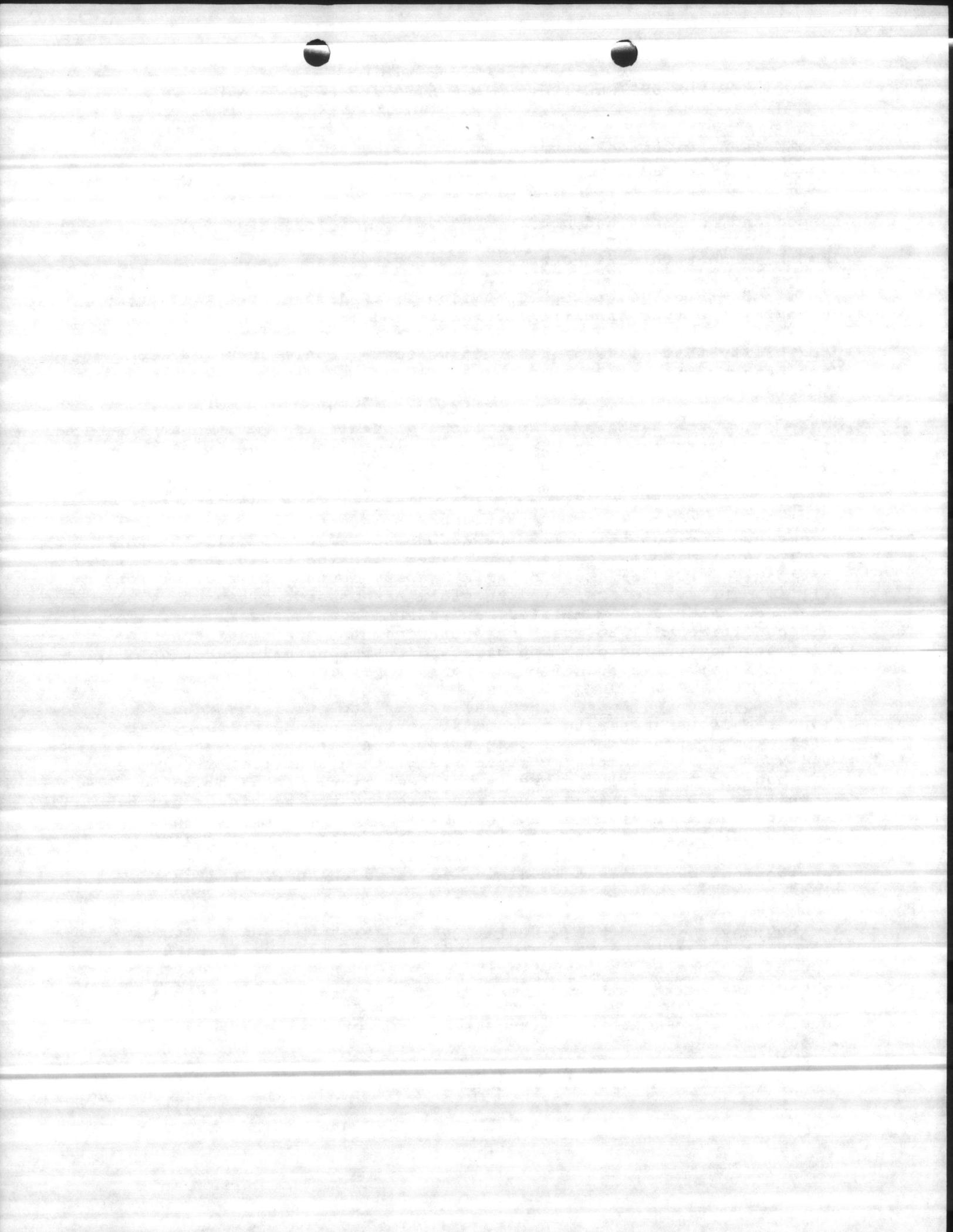
e. Destructive Weather Condition IE (EMERGENCY). Because a destructive weather system specifically identified in the warning is passing over the area, destructive winds, including gusts, of 48 knots (55 mph) or greater are in progress.

f. Destructive Condition V (All Clear). This condition of readiness is automatically established between 1 June and 30 November. The potential for the occurrence of destructive weather is elevated; but, no specific system with the potential to threaten the MCB Camp Lejeune area has developed. This condition will also be set to indicate the storm has passed, clean-up operations should be completed, and resume normal operations. This condition will be used to secure from the threat of a storm which has not passed over the Base and resume normal operations while maintaining seasonal conditions of readiness.

g. Cautionary Note. Tropical storms and hurricane conditions are issued separately and distinctly from one another based solely upon current and forecast storm intensity as measured by wind speed. For example, Destructive Weather Condition II may be set when the tropical cyclone is Tropical Storm strength (34 to 63 knots). The estimated winds annotated on the warning would be based on the current intensity of the Tropical Storm. It should be noted that an intense maturing tropical storm may very easily intensify to hurricane strength. Therefore, precautions taken for tropical systems should always be based on hurricane force winds..

3. Snowstorm and Icestorm Conditions. Snowstorms and icestorms present a threat of damage and the disruption of normal operations. Because of the peculiarity of snowstorms and/or icestorm development in this area, a separate and distinct set of storm conditions apply to snowstorms and icestorms. The following conditions of readiness for snowstorms and/or icestorms are prescribed.

a. Snowstorm/Icestorm Condition IV. Secure from snowstorm



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

and/or icestorm condition. Threat of storm has passed. Resume normal operations.

b. Snowstorm/Icestorm Condition III. Heavy snowstorm or icestorm is anticipated within 24 hours.

c. Snowstorm/Icestorm Condition II. Heavy snowstorm or icestorm is anticipated within 12 hours.

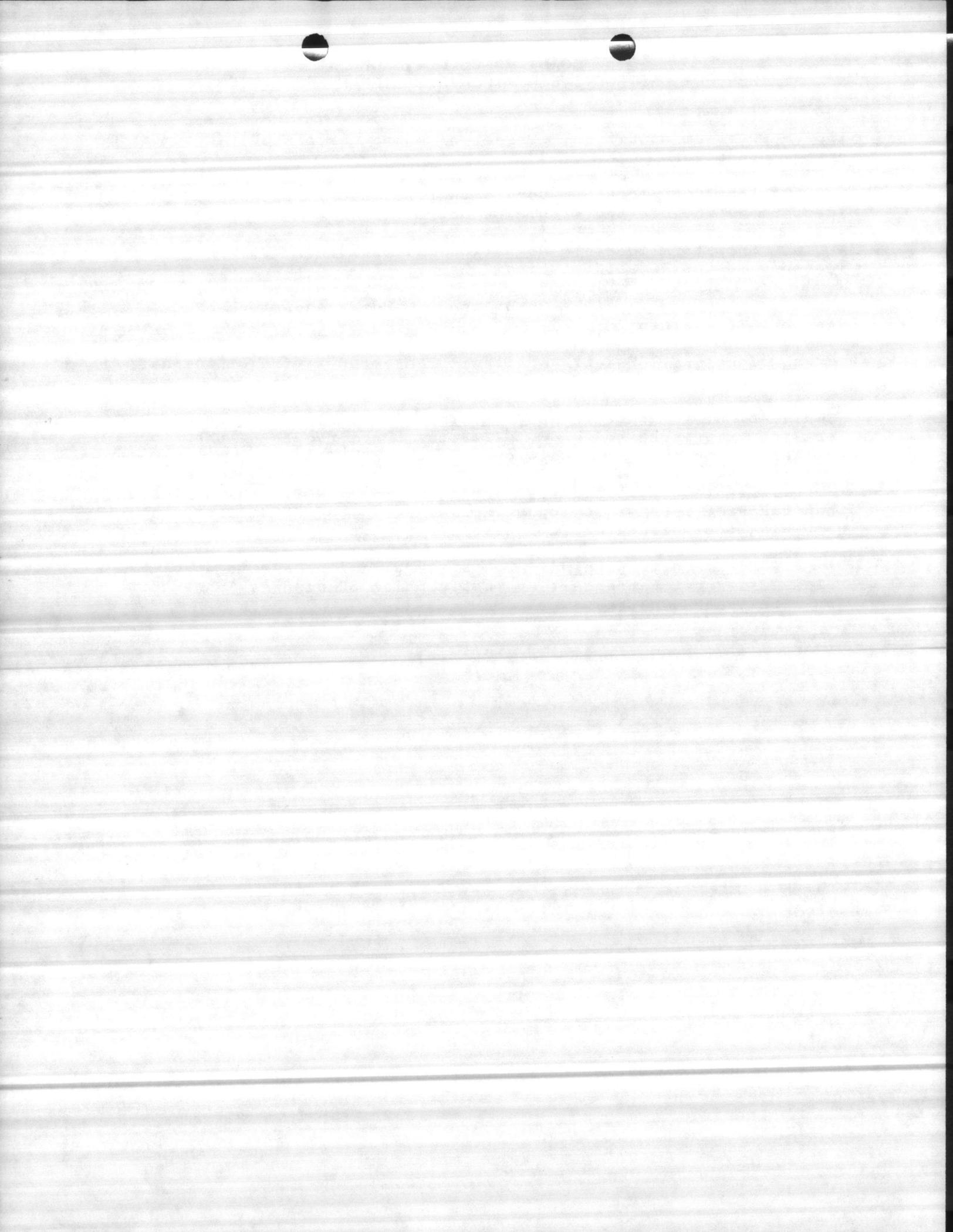
d. Snowstorm/Icestorm Condition I. Heavy snowstorm or icestorm is imminent.

e. Icestorm. Freezing rain with an accumulation of one-half of an inch or more of ice.

f. Light to Moderate Snow Warnings. The accumulation of less than two inches of snow is forecast, not requiring the setting of a snowstorm condition.

g. Light to Moderate Ice Warning. The accumulation of less than one-half inch of ice upon exposed surfaces is forecast, not requiring the setting of an icestorm condition.

h. Hard Freeze Warning. Temperature is forecast to drop below 20 degrees Fahrenheit or remain below 32 degrees Fahrenheit for more than 24 hours.



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

SECTION II
OPERATING PROCEDURES - OPERATIONS BRANCH

2000. GENERAL. To meet the threat of destructive weather, snow storm or disaster, the following instructions will govern the actions of personnel in the Operations Branch.

2001. PROCEDURES.

1. Condition IV.

a. Review all pertinent orders and directives.

b. Liaison with the Assistant Chief of Staff, Facilities regarding the availability of personnel and engineer equipment support from II MEF, 2nd MarDiv, 2nd FSSG, 6th MEB, 22d MAW and 2d SRI.

c. Review essential personnel requirements contained in Appendix B and update as required.

d. Ensure that equipment required to man the Disaster Control and Recovery Center (DCRC) are on hand.

2. Condition III.

a. Test all DCRC communications systems. See Appendix C.

b. Prepare and issue specific job orders for destructive weather or snow preparation in the following areas:

(1) Housing (obtain from the Family Housing Division a list of vacant quarters to be secured).

(2) General preparation of all other areas.

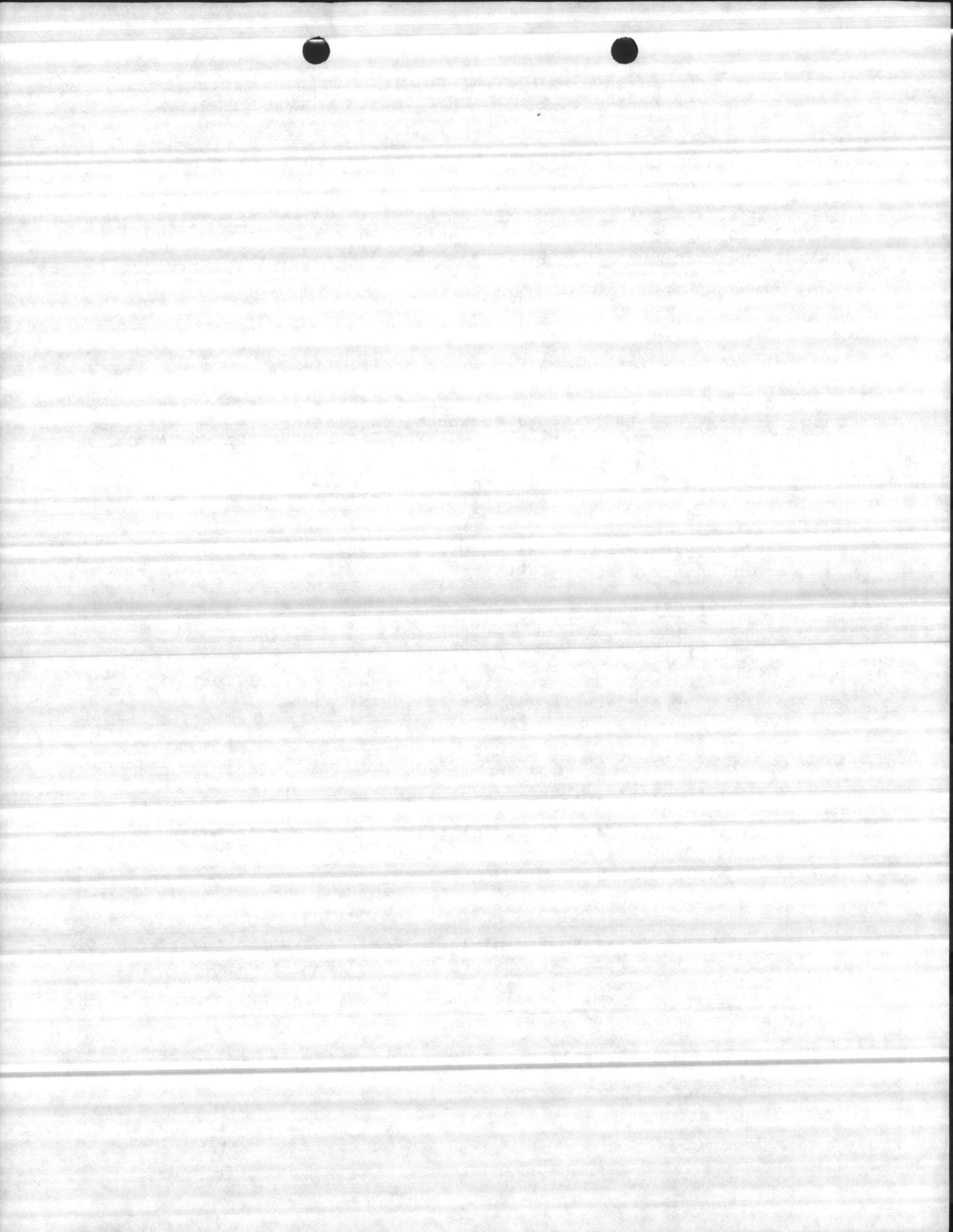
c. Identify and assign essential personnel requirements necessary to activate and man the Damage Control and Recovery Center.

d. Have fuel cards available for use.

e. Position military and civilian fuel trucks and one refueler at the Base Fuel Farm for refueling engineer equipment.

f. Obtain one mobile radio from Environmental Management Division for use in the DCRC.

g. Prepare to establish the DCRC upon order of the AC/S Facilities or upon notification of Condition II.



BASE MAINTENANCE DIVISION /
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

h. Coordinate the placement of emergency generators per Appendix D.

i. Coordinate with the AC/S Facilities as to base and tenant commands' engineer equipment and operator assets to include the designation of an equipment staging area.

j. Ensure temporary billeting is available nearby for supporting personnel.

3. Condition II. Activate the Damage Control and Recovery Center. Procedures are contained in Section VII.

4. All Clear.

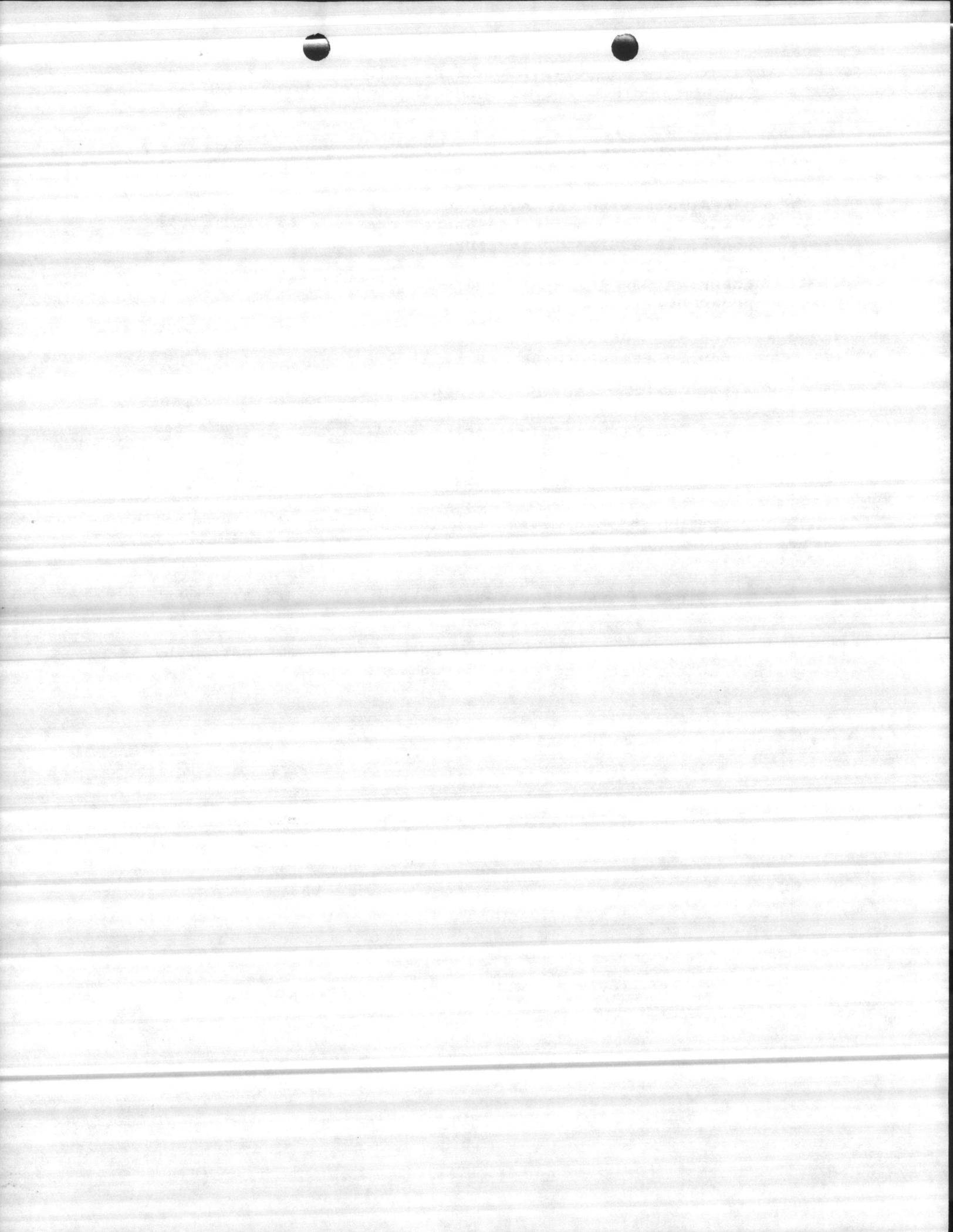
a. Coordinate the preparation of damage reports and after action reports. See Appendix A.

b. Secure the DCRC upon direction of the AC/S Facilities.

c. Planning and Estimating Section make reports. Inspection of areas to determine extent of damage and provide estimated cost.

d. Issue necessary job orders/tickets for restoration and repair.

e. Direct and coordinate clean up and recovery operations for maintenance forces and area commanders.



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

SECTION III
OPERATING PROCEDURES - UTILITIES BRANCH

3000. GENERAL. In the event of destructive weather or heavy snowfall, the instructions noted below will govern the actions of personnel in the Utilities Branch.

3001. GENERAL INSTRUCTIONS - ALL PLANTS.

1. Condition IV. Continue routine operations.

2. Condition III.

a. Check all plant doors and windows for proper fastenings. Store all movable property inside the plants. Tie down any materials which cannot be moved inside.

b. Review call back lists of essential personnel as noted in Appendix B and update as required. Forward updated lists to the Operations Officer, Operations Branch.

c. Coordinate requirements for 4-wheel drive vehicle with the Maintenance and Repair Branch.

3. Condition II.

a. Establish communication with the Damage Control and Recovery Center (DCRC) and report personnel on duty and plant status.

b. Initiate call back of essential personnel. Retain all personnel going off shift.

c. At the onset of heavy rainfall, dispatch four men, each in separate vehicles, to observe all steam tunnels and determine whether or not the storm sewers are properly discharging the flood water. Essential personnel designated by proper authority stand by at assigned duty stations per Appendix B of this SOP.

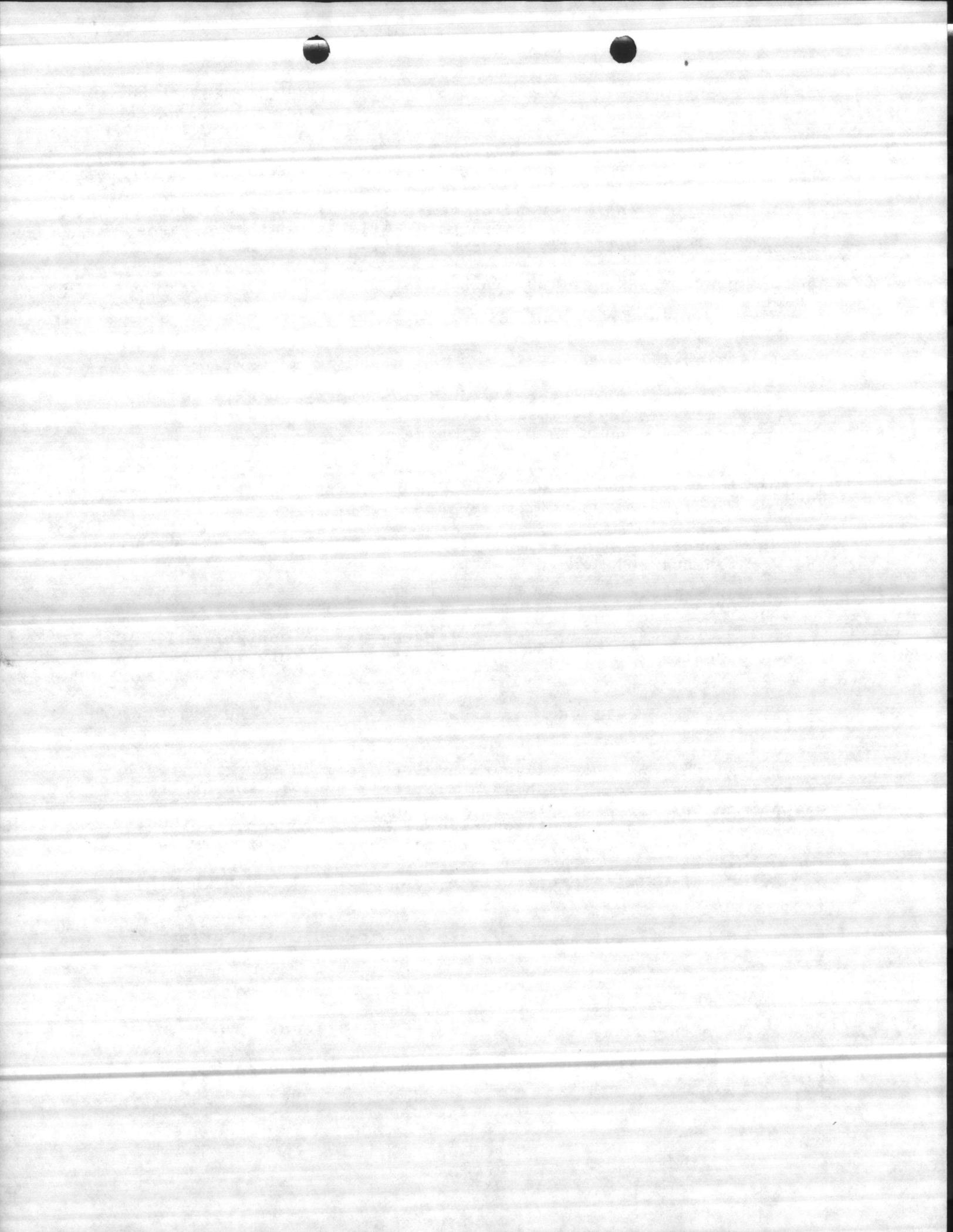
d. Continue with preparations not completed under Condition III.

e. Notify immediate supervisor and the DCRC when preparations are complete.

4. Condition I.

a. Remain on the job until properly relieved.

b. Remain within plant or station unless outside travel is necessary.



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

c. Make every effort which can be safely made to protect the plant and plant property.

5. All Clear. Clean up plant debris, check for plant damage and be prepared to assist supervisors in preparing damage estimates.

3002. WATER TREATMENT.

1. Condition III.

a. Make provisions for emergency rations and cots for fourteen personnel for one day. Procure and distribute fuel for auxiliary motors for a period of approximately 36 hours of operation.

b. Prepare Onslow Beach water tank and water plant to withstand storm conditions and evaluate area --- preparation to include closing the main distribution valve at the water tank (destructive weather only).

c. Fill fuel tanks on all vehicles and welding machines.

d. Securing of the Onslow Beach water plant will be coordinated with the Steam Generation General Foreman or Operations Foreman.

2. Condition II.

a. Check all auxiliary motors under load and make required repairs.

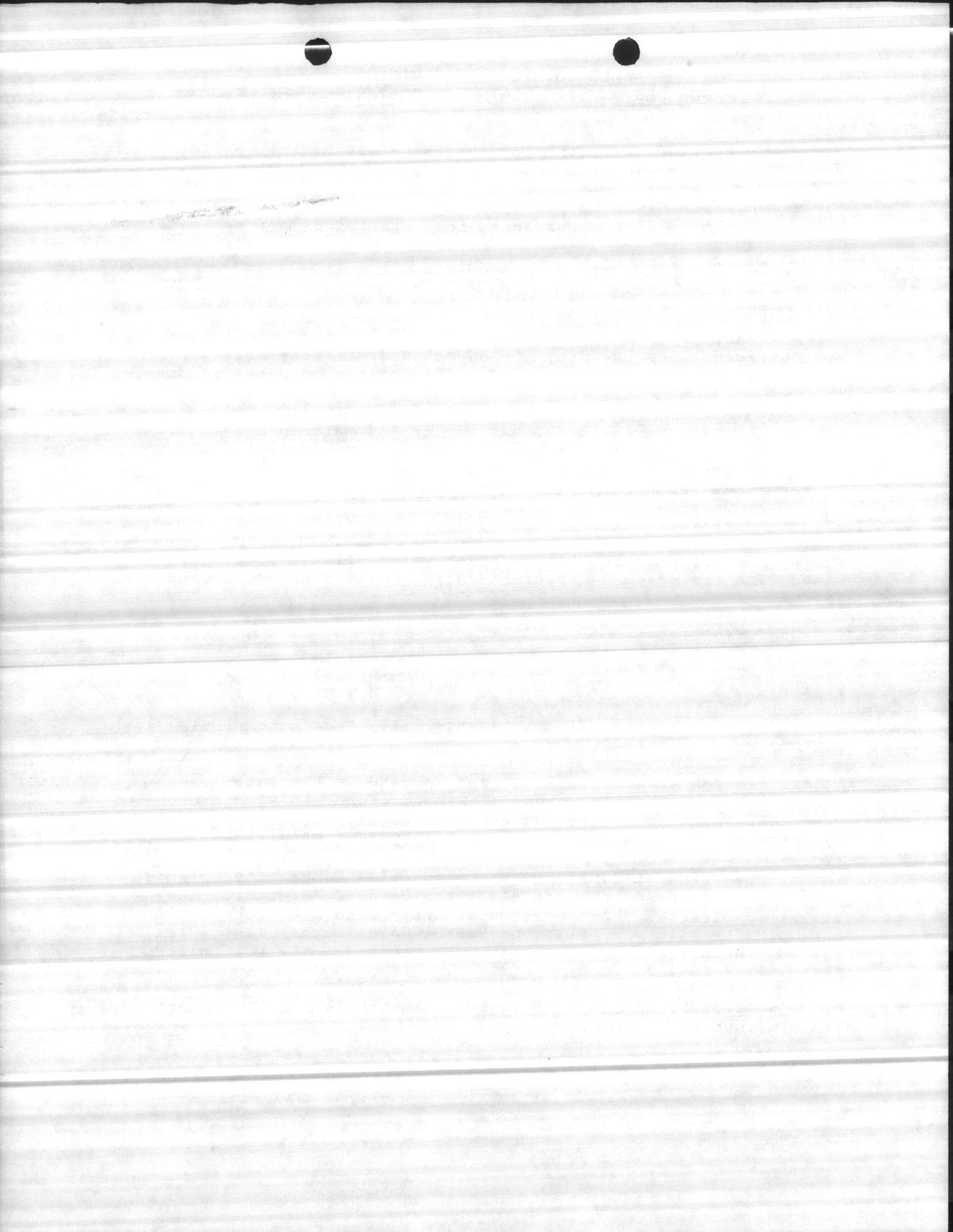
b. Raise and maintain storage facility levels to provide for maximum water storage.

c. Prepare the Rifle Range and Courthouse Bay water tanks and water plants to withstand storm conditions and evacuate the area. Preparation to include closing the main distribution valves upon direction of the Utilities Systems General Foreman.

d. Securing of Courthouse Bay and Rifle Range water plants will be coordinated with the Utilities General Foreman or the Utilities Director. After securing the plants, the Courthouse Bay operator will report to the Hadnot Point water plant, Bldg 20, and the Rifle Range operator will report to the MCAS water plant, Bldg AS-110.

3. Condition I. Upon power failure, switch to auxiliary motors and continue to operate.

4. All Clear.



**BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS**

- a. Continue operating auxiliary pumps until power is resumed, then switch to electrical operation.
- b. Prepare auxiliary motors for future use.

3003. STEAM GENERATION.

1. Condition III.

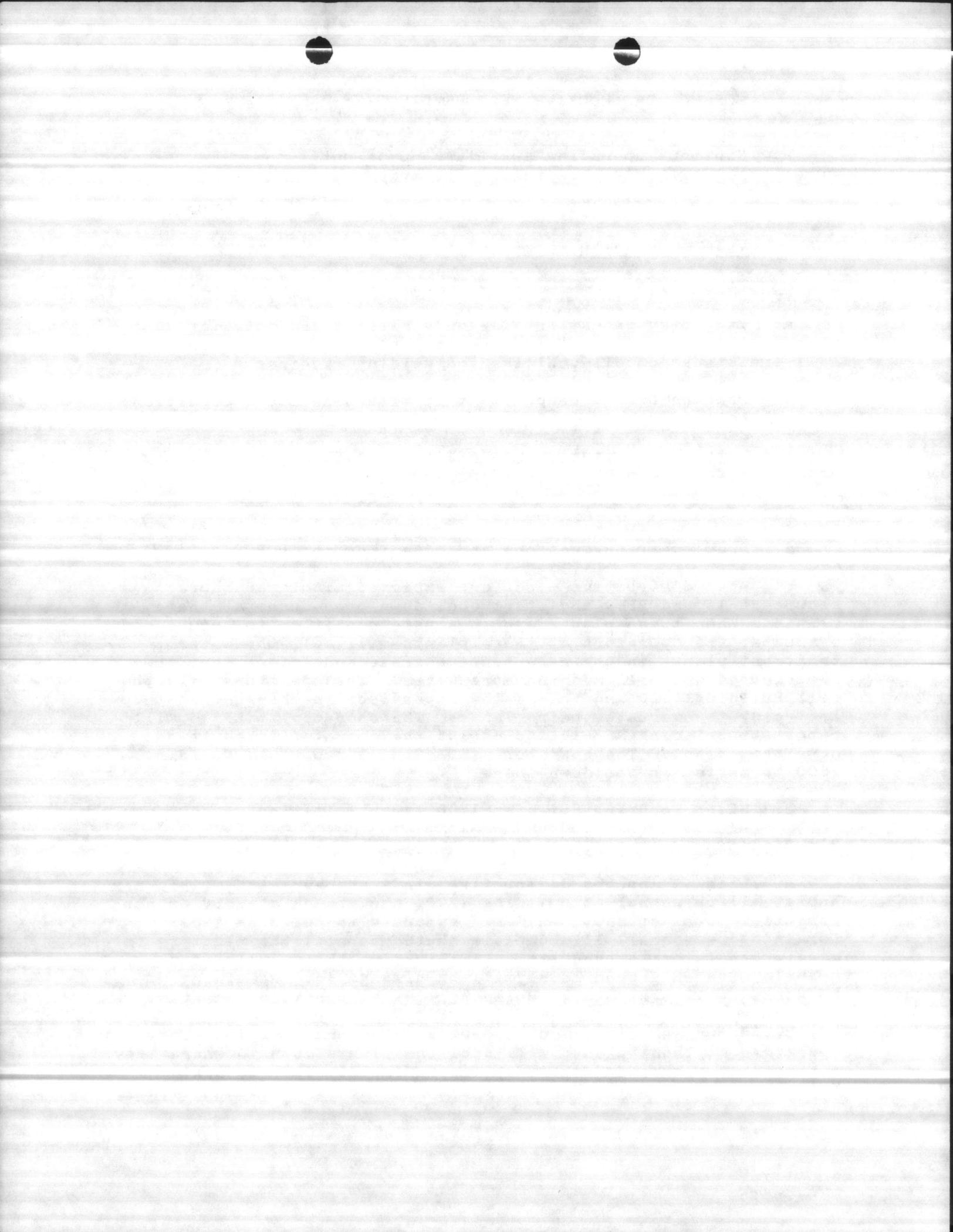
- a. Make provisions for emergency rations and cots for 20 personnel for one day. Raise fuel storage levels to maximum. Fill fuel tanks on all vehicles and welding machines.
- b. Prepare Onslow Beach plant to withstand storm conditions and evacuate.
- c. Notify Utilities Branch office if header valves to any area have to be closed in Building 1700.

2. Condition II.

- a. Draw emergency rations and cots from the DCRC.
- b. When destructive winds are expected within 18 hours, secure RR-15 and BB-9 and start cool down procedures at these plants. When these plants are in a safe condition to secure and evacuate, the operators at these plants will call the water treatment plants in their respective areas and inform them they are secured and will need no more water. The operators will then call Building 1700 and inform the supervisor in charge that they are ready to evacuate their plants. The operator at RR-15 will report to Building AS-4151 to assist the operator in shutting down that plant. The operator of BB-9 will report to Building 1700 to assist in shutdown there.
- c. Start securing Building 1700 in anticipation of shutdown.

3. Condition I.

- a. When it appears destructive winds are expected within six hours, all personnel at Building 1700, who are on standby or not essential to plant shutdown, will evacuate to Building 1202. Remaining personnel will complete shutdown until the plant is in a safe condition to evacuate. At this time the plant's main transformers on ground level will be disengaged. Remaining personnel will evacuate to Building 1202 as conditions warrant.
- b. Secure AS-4151, G-650, M-625, M-230 and PP-2615. The operators at these plants will cool the plants down to where they are safe to secure and evacuate (approximately four to six hours). Operators will notify the supervisor at Building 1700



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

when these preparations have been completed and they are ready to evacuate the plants. The operators at AS-4151 and G-650 will report to the MCAS water treatment plant, Bldg AS-110 and remain there until "All Clear" is announced. The operator at M-625 will report to the Camp Johnson sewage plant and remain there until "All Clear" is announced. The operator at PP-2615 will report to Building 1700.

4. All Clear.

a. On order only, resume firing when electrical service, either main power supply or emergency generator power, is available.

b. Prepare all plant equipment for regular continuous operation.

c. Assess damage and prepare after action reports as required by Appendix A.

3004. STEAM DISTRIBUTION.

1. Condition III.

a. Make provisions for emergency rations and cots for eight personnel for one day.

b. Fuel up all vehicles, compressors, welders and pumps. Obtain spare parts for pumps.

c. Check the following designated hurricane equipment for serviceability and availability.

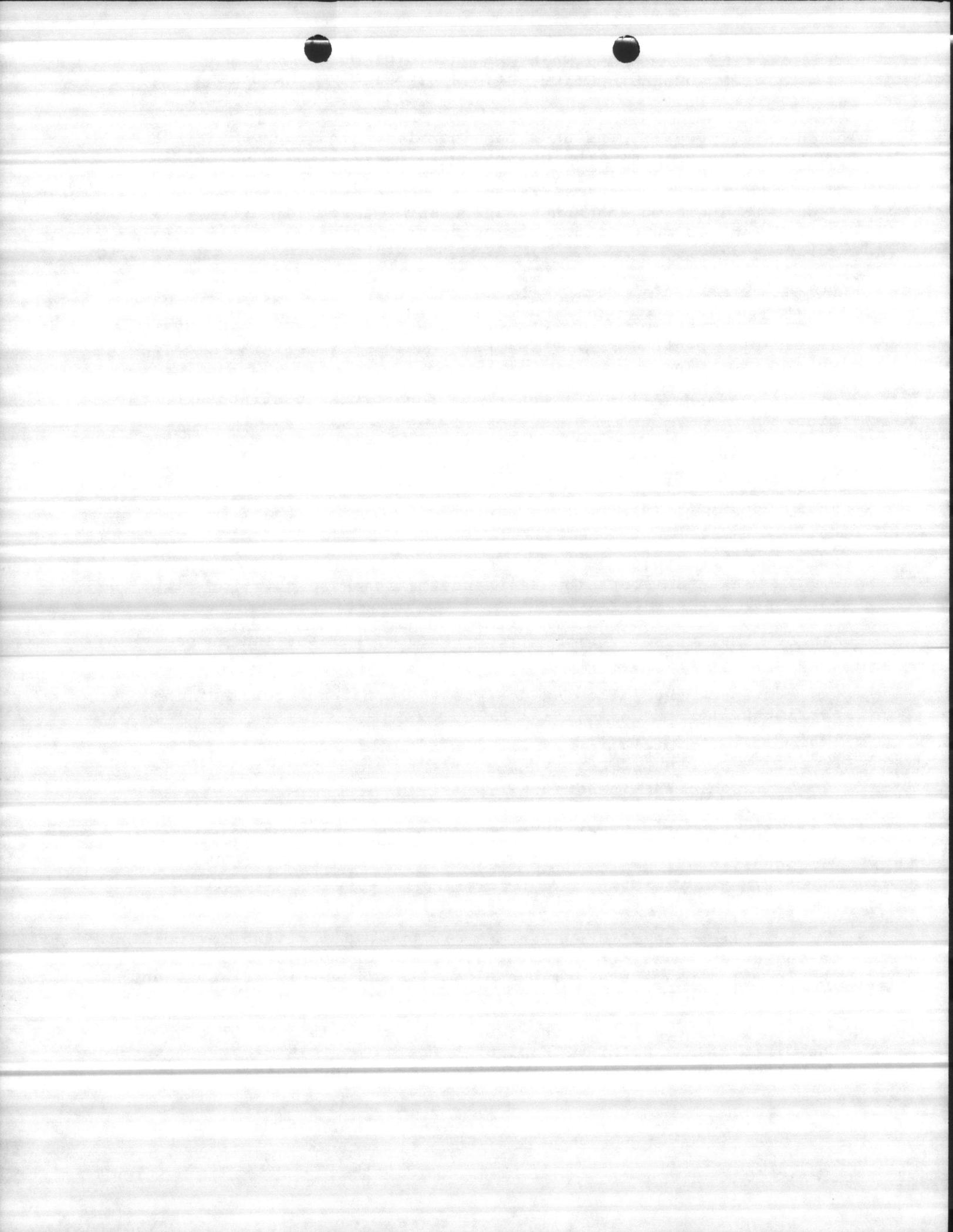
- 2 ea - Marlow "Mud Hog" pumps
- 2 ea - Chrysler 6" pumps
- 2 ea - Westinghouse air pumps
- 1 ea - Gas driven generator with floodlights
- 1 ea - Air compressor

2. Condition II.

a. Draw emergency rations and cots from the DCRC.

b. Place one 6" Chrysler pump in operation at the low point in the steam tunnel at Building 1. Place one 6" Chrysler pump at the low point in the steam tunnel at the corner of West Road and Elm Street.

c. If it becomes apparent that the water level will touch the pipes at any point within one hour, on approval from the Base Maintenance Officer, the duty supervisor in the Steam Distribu-



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

tion Unit will dispatch a crew to shut off the main steam valve at the Central Heating Plant that isolates that line. Prior to cutting of the steam, the DCRC will be notified.

d. Provide assistance in securing buildings and facilities at Onslow Beach as requested by the Area Commander or Base Special Services Officer.

e. Be prepared to react to broken or frozen steam condensate lines during snow conditions.

3. Condition I.

a. Operate pumps in the steam distribution tunnels and perform emergency work as directed.

b. Maintain mobile communications with the DCRC. Be prepared to evacuate to secure areas when directed.

4. All Clear. Assess damage and report to the DCRC.

3005. SEWAGE TREATMENT.

1. Condition III.

a. Make provisions for emergency rations and cots for 15 personnel for one day. Procure and distribute fuel for auxiliary motors for a period of approximately 36 hours of operation.

b. Check and prepare all lift stations for hurricane conditions. Prepare Onslow Beach facilities to run on generator power and evacuate.

2. Condition II.

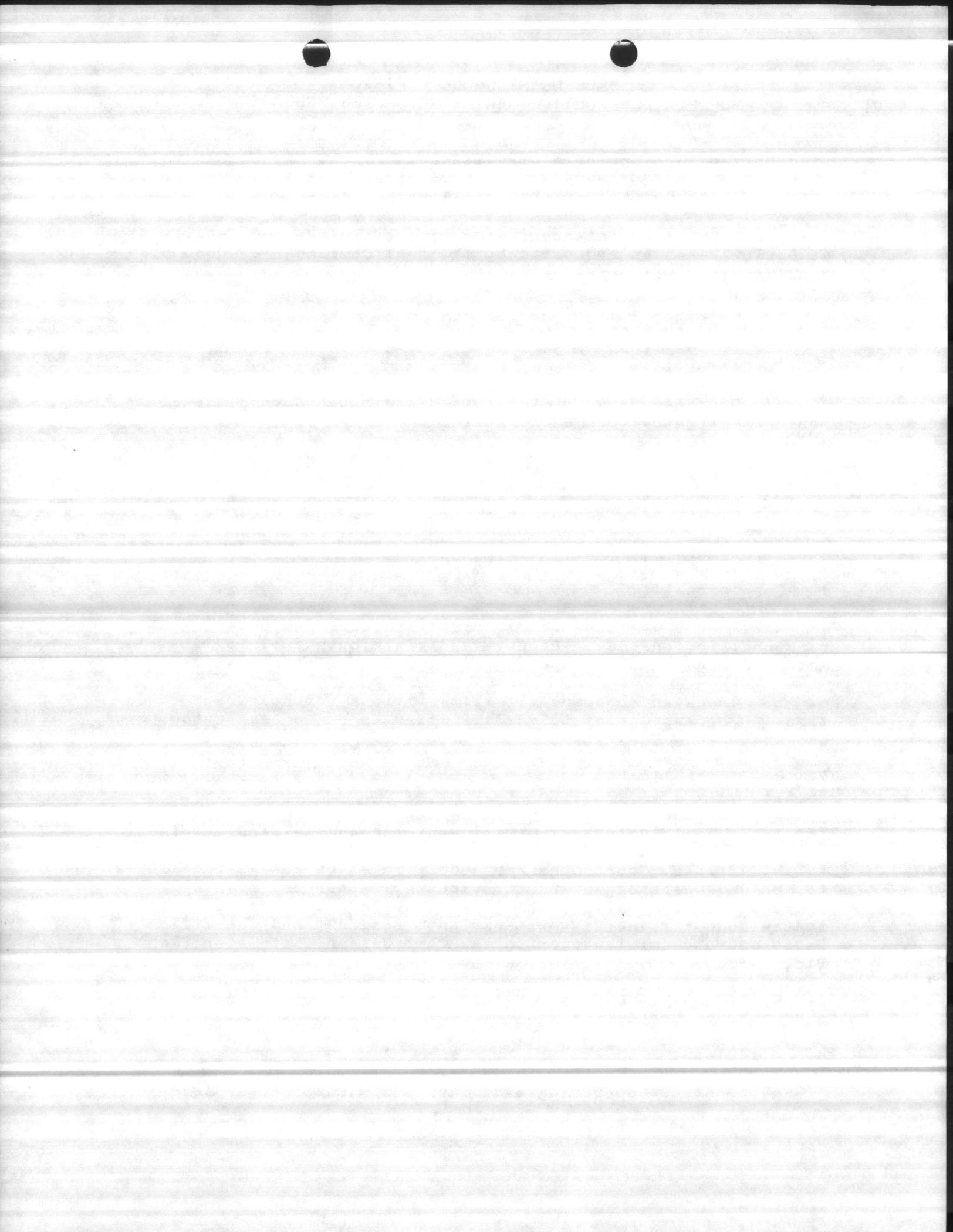
a. Check all auxiliary motors under load and make required repairs. Fill fuel tanks on all vehicles and welding machines.

b. Prepare Courthouse Bay and Rifle Range sewage facilities to run on generator power and evacuate. After the plants are prepared for evacuation, the Courthouse Bay operator will report to the Hadnot Point Wastewater Plant, Bldg 22, and the Rifle Range operator will report to the Camp Geiger Wastewater Plant, Bldg TC-563.

3. Condition I. Upon power failure, switch to auxiliary motors and continue to operate.

4. All Clear.

a. Continue operating auxiliary pumps until power is re-



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

sumed; then switch to electrical operation.

- b. Prepare auxiliary motors for future use.

3006. ELECTRICAL DISTRIBUTION (HV).

1. Condition III.

- a. Make provisions for emergency rations and cots for 10 personnel for one day.

- b. Fuel up all trucks and stock vehicles with material as required.

- c. Secure foul weather gear as required.

- d. Assist Shop 51 with emergency generator hookups as required.

2. Condition II.

- a. Draw emergency rations and cots from the DCRC.

- b. Assist Shop 51 with additional generator hookups as required.

- c. Set up floodlight trailer and generator at Building 1202.

- d. Establish and maintain communications with the DCRC.

- e. Secure power to Onslow Beach upon approval of the Base Maintenance Officer.

- f. During snowstorm/icestorm conditions, park one bucket truck and one line truck inside the building.

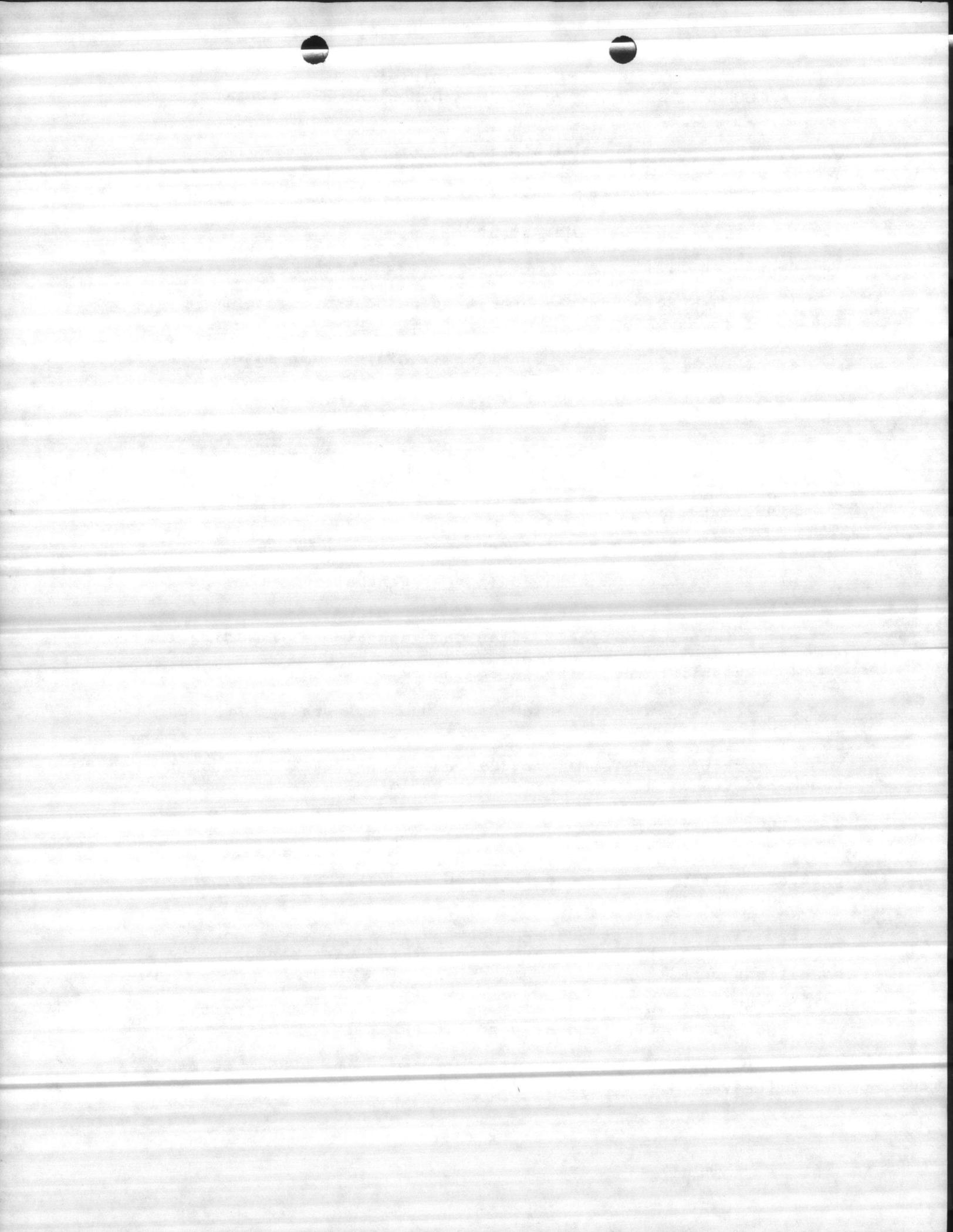
3. Condition I.

- a. Report to the immediate supervisor and the DCRC the completion of preparations and location of designated duty personnel.

- b. Make repairs to damaged power lines. Cut off power to broken lines which would start fires or endanger personnel as conditions permit.

- c. Provide emergency maintenance and essential services as directed by the DCRC, and as conditions permit.

- b. Maintain mobile communications with the DCRC. Be prepared to evacuate to secure areas when directed.



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

4. All Clear.

- a. Continue repairs to damaged power lines.
- b. Assess damage and provide input to the Utilities Director.

3007. OUTSIDE PLUMBING.

1. Condition III.

a. Make provisions for emergency rations and cots for nine personnel for one day.

b. Fill fuel tanks on all vehicles including backhoe and obtain spare gas for pumps, generators, etc.

2. Condition II.

a. Draw emergency rations from the DCRC.

b. Establish and maintain communications with the DCRC.

c. At the onset of heavy rainfall, check sewer mains for stoppage and clear as necessary. Check for leaking water mains and repair as necessary.

3. Condition I.

a. Provide emergency maintenance and essential services as required.

b. Be prepared to react to broken or frozen water and sewer mains.

c. Maintain mobile communications with the DCRC. Be prepared to evacuate to secure areas when directed.

4. All Clear.

a. Continue cleanup operations.

b. Assess damage and provide input to the Utilities Director.



**BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS**

**SECTION IV
OPERATING PROCEDURES - MAINTENANCE & REPAIR BRANCH**

4000. GENERAL. To meet the threat of destructive weather, snowstorm or disaster, the following instructions will govern the activities of personnel in the Maintenance & Repair Branch.

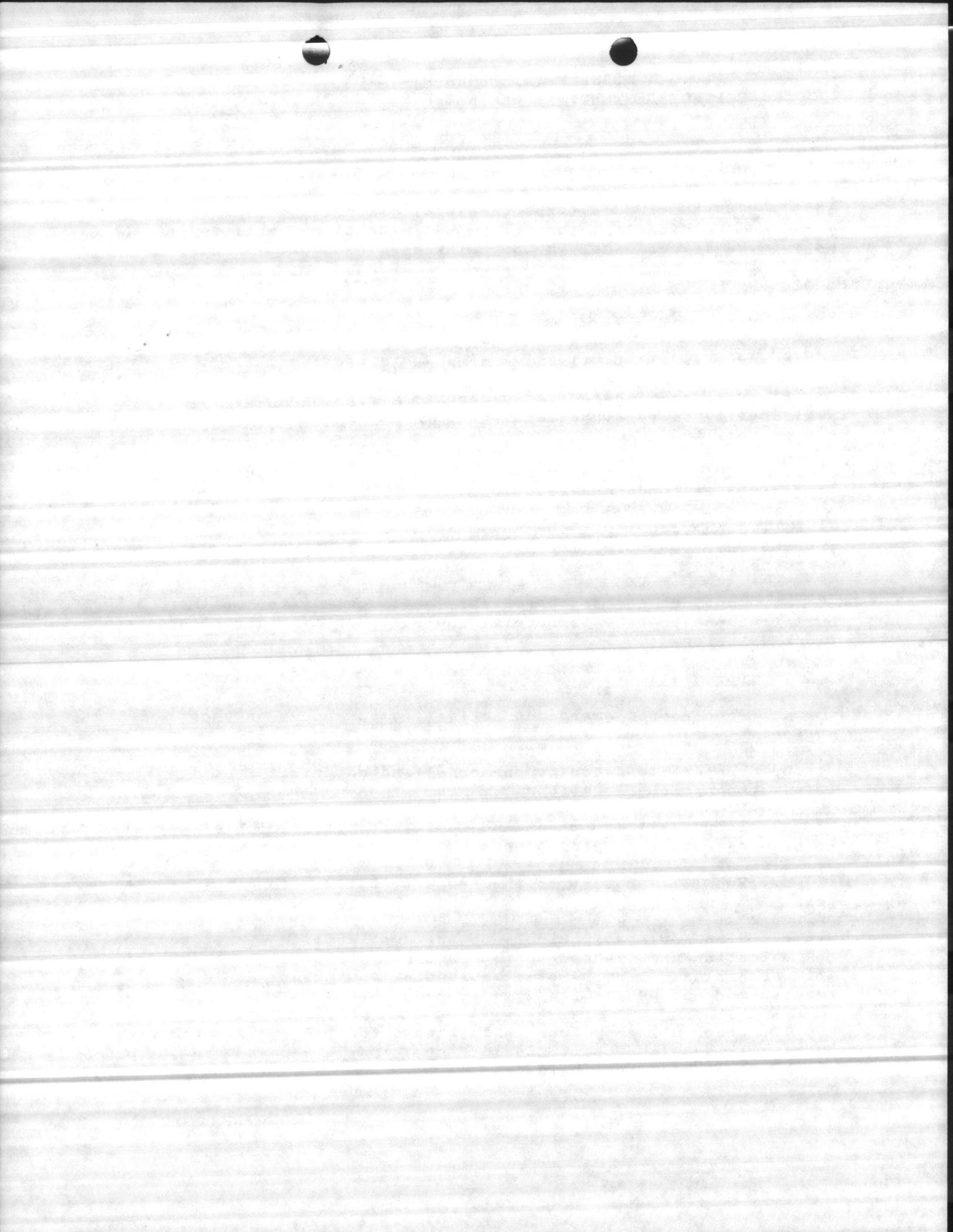
4001. PROCEDURES.

1. Condition IV.

- a. Review all pertinent orders and directives.
- b. Liaison with section supervisors regarding the status and availability of personnel and equipment to meet each section's responsibility.
- c. Review essential personnel requirements contained in Appendix B and update as required.
- d. Supervisors will be advised in order to plan any initial precautionary measures for protection of buildings, equipment and personnel.
- e. Continue normal operations, anticipate later weather bulletins and prepare to receive instructions as weather conditions deteriorate.

2. Condition III.

- a. Prepare non-emergency activities to secure on short notice.
- b. Prepare to evacuate personnel and materials from low lying or dangerous locations.
- c. Secure all equipment and loose materials which are likely to be dangerous as flying debris.
- d. Submit a request to the Property Officer for foul weather gear.
- e. Plan for and inquire into the availability of needed communication and transportation requirements to include 4-wheel drive vehicles. Snow removal or sanding equipment should be readied for use as required.
- f. Check all shop doors and windows for proper fastenings. Store all movable property inside the shops, tie down objects which cannot be moved inside.



**BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS**

g. Coordinate with immediate supervisor to prepare contingency lists of duty personnel to man the Disaster Control and Recovery Center (DCRC) Teams. Lists will be consolidated by the Director, Maintenance & Repair Branch and provided to the Operations Officer, Operations Branch for use in the DCRC. See Appendix B for essential personnel requirements.

h. Complete plans for initiation of actions required for Condition II and I on short notice. Notify immediate supervisor when preparations are complete.

i. Complete preliminary preparations to provide emergency power for essential services outlined in Appendix D.

j. For snowstorm/icestorm operations, stage sanding trucks, graders and sand as outlined in Appendix E.

k. Provide radios for snow vehicles.

l. Continue normal operations unless otherwise directed.

m. Fuel vehicles and have fuel cards available for use.

3. Condition II.

a. Assist in activating the DCRC. Procedures are contained in Section VII.

b. Evacuate personnel from dangerous locations and secure non-emergency activities when directed by the DCRC.

c. Draw emergency rations and foul weather gear from the Base Maintenance Property officer.

d. Essential personnel designated by proper authority stand-by at assigned duty stations. (During non-duty hours, coordinate with the DCRC or Night Duty Foreman/NCO to ensure recall of designated essential personnel.)

e. Notify immediate supervisors when all precautionary measures have been taken.

f. Provide, deliver and install emergency generators for destructive weather and as required for snow conditions per Appendix D.

g. Provide assistance in securing buildings and facilities at Onslow Beach as requested by the Beach Area Commander or Base Special Services Officer.

h. Be prepared to react to frozen or broken water lines.



**BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS**

during snow situations.

4. Condition I.

a. Report to immediate supervisors the completion of preparations and the location of designated duty personnel.

b. Provide emergency maintenance and essential services as required.

c. Report personnel injuries to immediate supervisor as soon as possible.

d. Report damages as they occur to the DCRC, telephone numbers 5202, 3001, 1580 or 5809.

e. Attempt to keep damage from elements to a minimum.

f. As weather permits, survey the damage, make repairs, remove trees from buildings, block off washouts, provide transportation for anyone needing medical attention.

g. Dispatch emergency generator mechanic from the DCRC in Building 1202 as needed to maintain auxiliary power.

h. Shut down all large air conditioning units to prevent damage from power outages.

i. All personnel retained or called in will be checked in and out by the Emergency Service Night Supervisor to ensure accurate overtime records.

5. All Clear. All sections will be informed when the 'All Clear' condition is declared --- at that time:

a. Clean up debris, inspect for damages and initiate recovery actions as requested.

b. Return excess emergency rations and foul weather gear to the Property Officer.

c. Report hazardous damaged areas and take precautions to prevent injury or further property damage.

d. Return emergency equipment to its proper storage areas when it is no longer needed in damaged areas.

e. Complete actions necessary to return equipment, areas and facilities to their normal pre-hurricane operating condition.

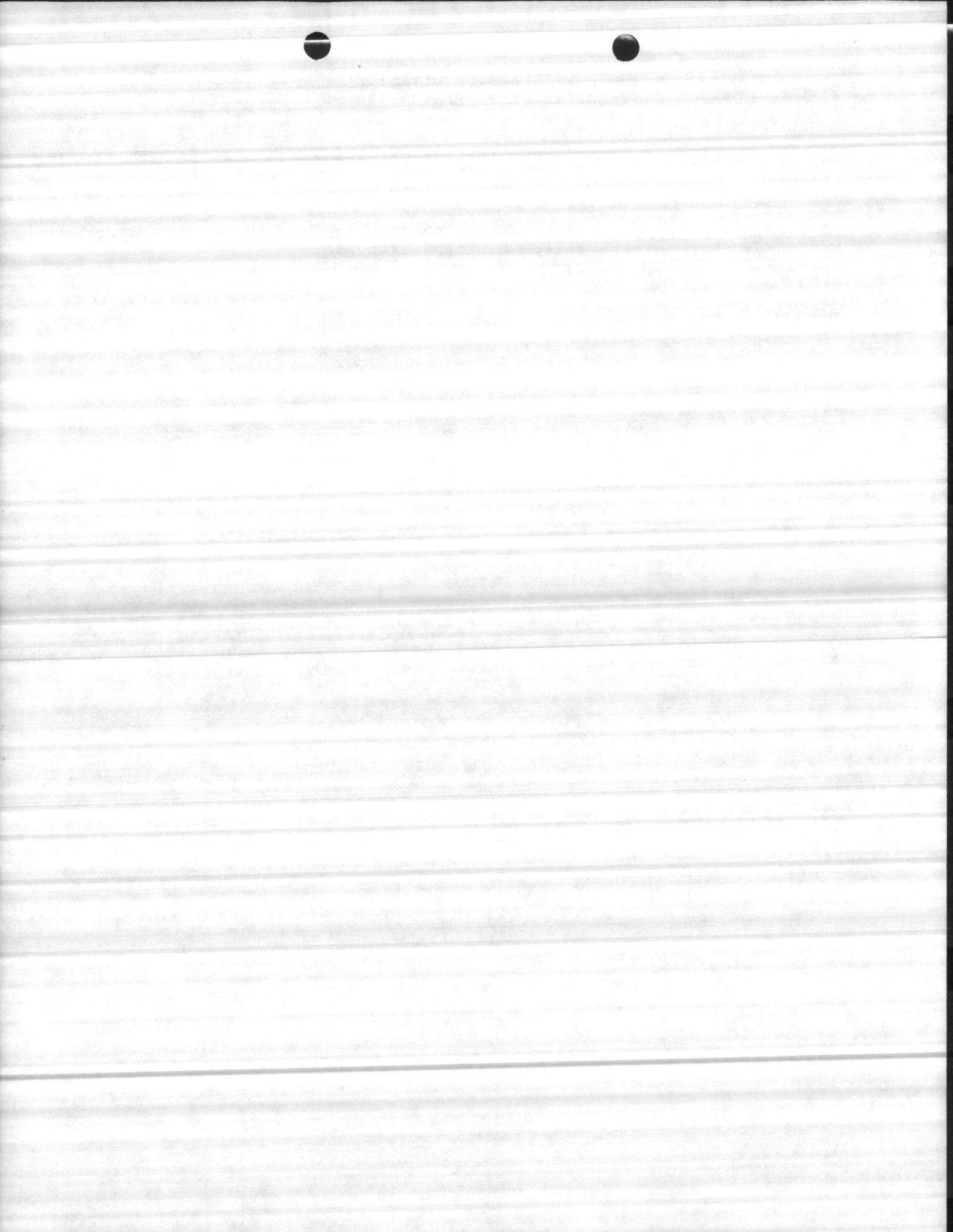
f. Resume normal operations.



**BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS**

g. Provide required input for the preparation of damage and after-action reports to the Director, Operations Branch. See Appendix A.

*Note: Emergency generators installed by Base Maintenance for the first storm of the season can remain in place until after the storm season has passed.



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

SECTION V
OPERATING PROCEDURES - ADMINISTRATIVE BRANCH

5000. GENERAL. To provide specific instructions to personnel of the Administrative Branch in the event of destructive weather or disaster operations.

5001. PROCEDURES.

1. Condition III.

a. Ensure emergency supplies and equipment noted in paragraph 5003 below are available and in operating condition.

b. Review contracted organizational LP gas requirements and ensure orders/deliveries are accomplished.

c. Identify call back/essential personnel to fill the personnel requirements noted in paragraph 5002 below. Provide the listing to the Operations Branch.

2. Condition II.

a. Essential personnel identified in 5002.1 below are to report to the Damage Control and Recovery Center (DCRC).

b. Issue available supplies, equipment and emergency rations as needed.

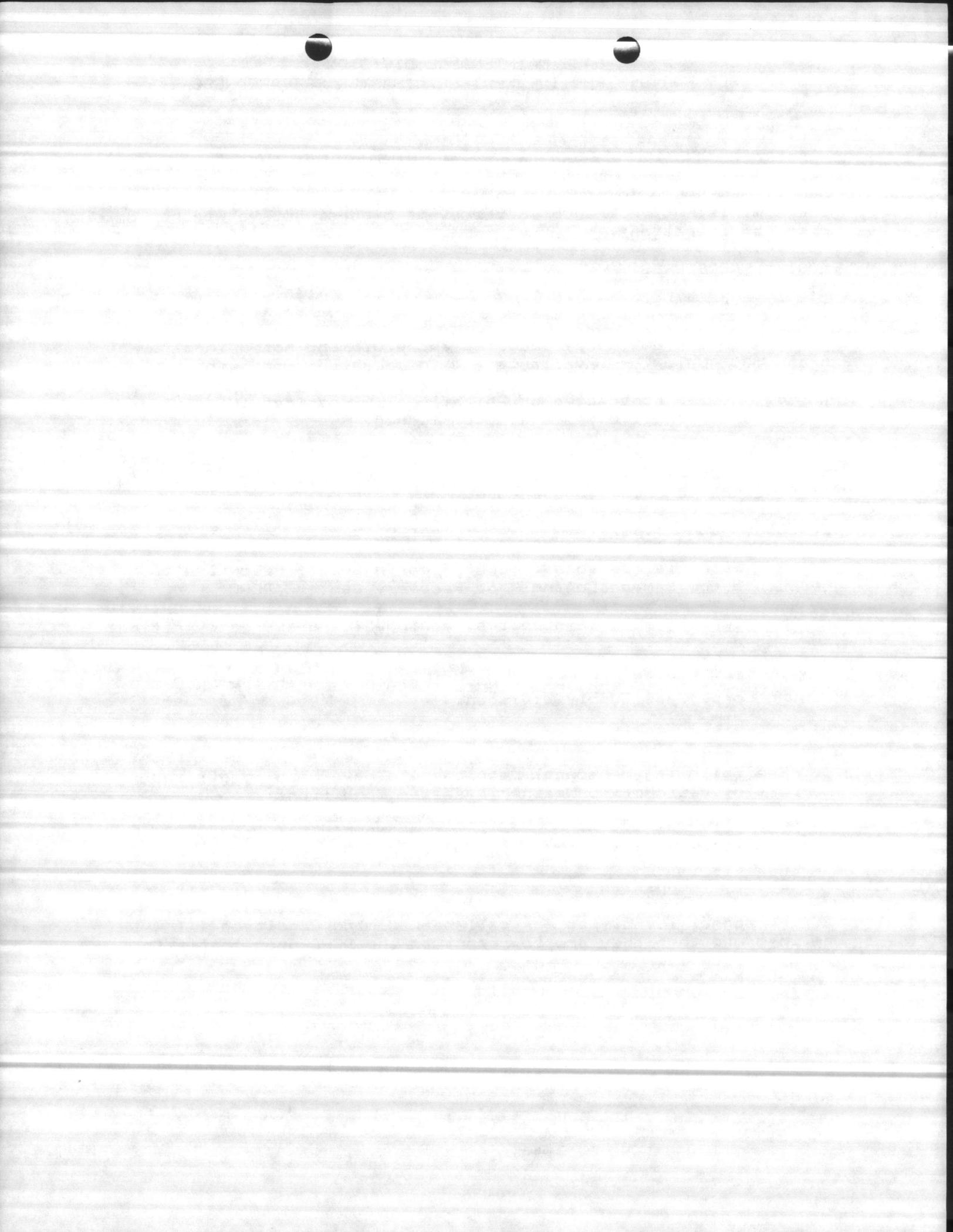
c. Provide appropriate supply liaison between the DCRC and Marine Corps Base Supply Division.

5002. PERSONNEL REQUIREMENTS.

1. The following personnel requirements have been identified in support of Destructive Weather/Disaster Conditions:

<u>TITLE</u>	<u>Number Required</u>	
	<u>Des Weather</u>	<u>Snowstorm</u>
Supply Technician	1	1

2. Personnel identified for call back during Condition III will be informed that they are to report to the DCRC upon initiation of Condition II.

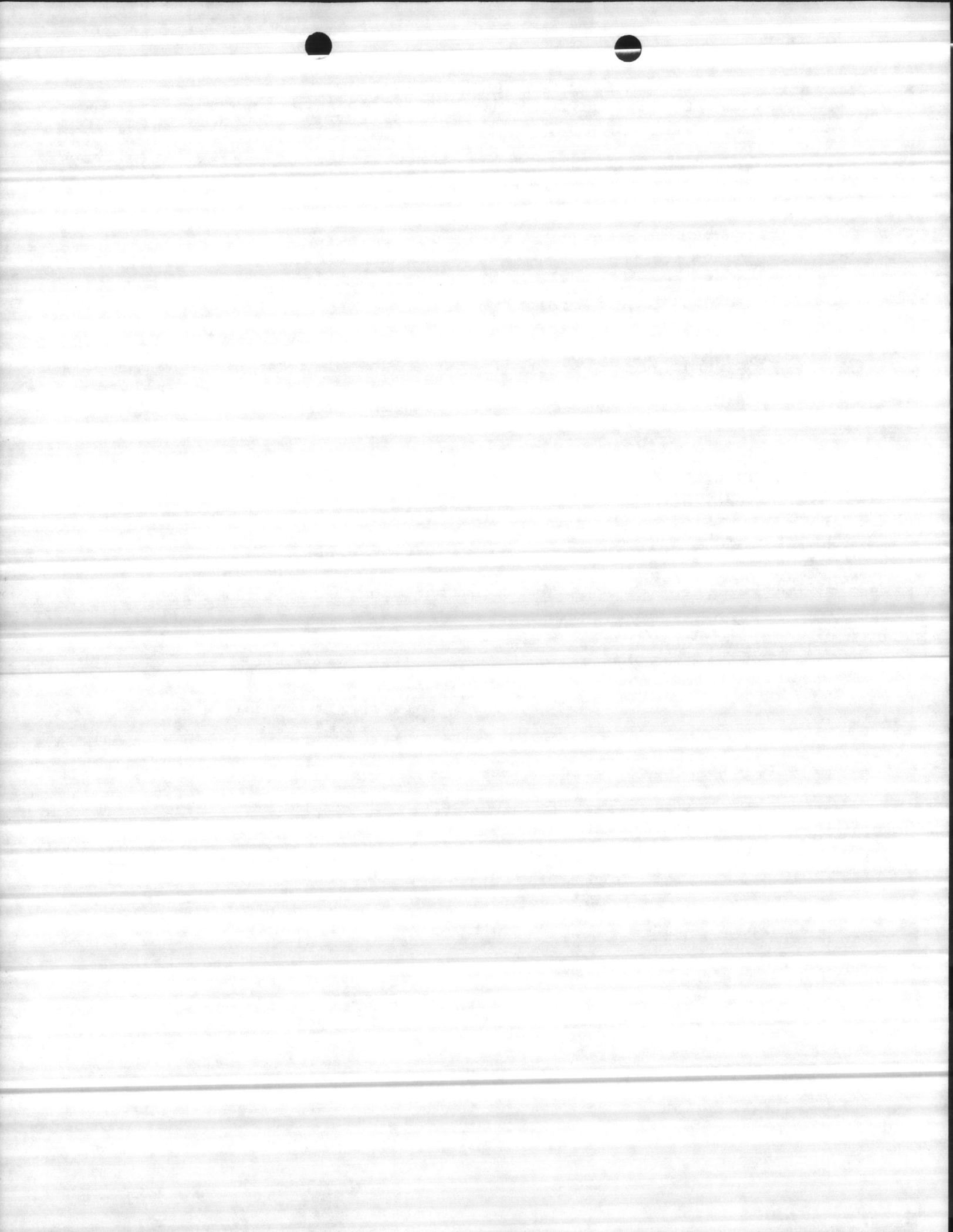


BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

5003. EQUIPMENT REQUIREMENTS.

<u>TYPE</u>	<u>QUANTITY</u>
Foul weather gear	25 sets
Boots	25 pair
Rope	3,000 feet
Shovels	24
* Posthole diggers	4
Gas lanterns	2
Electric lanterns	24
Flashlights	30
Cots	25
* Axes	18
* Nails (16p)	50 lbs
* Swing blades	12
* Hammers	12
Flashlight batteries	As required
Salt (from DSSC)	150 bags
Electric lantern batteries	As required
Hard hats	12
Emergency rations	25 cases

* Not required for Snowstorm/Icestorm Conditions.



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

SECTION VI
SPECIAL INSTRUCTIONS FOR THE NIGHT FOREMAN/DUTY NCO

6000. GENERAL. The following instructions are provided to the Night Maintenance Foreman or Duty NCO when Destructive Weather or Snowstorm Conditions are announced during non-duty hours. Additionally, paragraph 6002 below outlines procedures to be followed when the Staff OD or EOC announce Threat Conditions (THREATCONS) in response to possible terrorist threat actions.

6001. SPECIAL INSTRUCTIONS. Telephonic notification will be accomplished as noted below. A roster of key personnel and their telephone numbers is contained in TAB A of Appendix B.

1. Destructive Weather Condition IV. Notify the following personnel and advise them that Condition IV has been announced:

Base Maintenance Officer
Deputy Base Maintenance Officer
Director, Operations Branch
Director, M&R Branch
Director, Utilities Branch
Director, Admin Branch

2. Destructive Weather or Snowstorm Condition III.

a. Notify the same personnel identified in paragraph 2 above plus the following personnel and advise them that Condition III has been announced:

Operations Officer
General Foreman, Emer Svcs Section
General Foreman, Specific Trades Section
General Foreman, General Svcs Section
General Foreman, MCAS
Night Steam Plant Foreman, Bldg 1700
Night Water/Sewage Foreman, Bldg 670
Emergency Generator Team

b. Be prepared to notify appropriate repair teams and electrical distribution on-call personnel as noted in TAB B to Appendix B or as directed by Branch Heads or General Foremen.

c. Retain any on-duty maintenance personnel to assist in destructive weather/snowstorm preparation procedures.

d. Respond to any communications checks on the Omni (red telephone) and/or the Disaster Recovery Net. See Appendix C of this SOP.



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

e. Monitor progress of emergency generator positioning as outlined in Appendix D of this SOP.

3. Destructive Weather or Snowstorm Condition II.

a. Notify the same personnel identified in paragraphs 1 and 2 above plus the following personnel and advise them that Condition II has been announced:

Maintenance NCO
Maintenance Foreman, French Creek
Maintenance Foreman, Courthouse Bay
Maintenance Foreman, Tarawa Terrace
Maintenance Foreman, Camp Johnson
Maintenance Foreman, Hospital Point
Maintenance Foreman, Paradise Point
Maintenance Foreman, Industrial/Central Area
Maintenance Foreman, Division Area
Damage Control and Recovery (DCRC) Team

b. At Condition II, Base Maintenance is required to activate the Damage Control and Recovery Center (DCRC). Pending arrival of the DCRC team members, the Night Foreman/Duty NCO may have to establish the DCRC. Available personnel assets will determine the extent to which the DCRC can respond to directions from the Emergency Operations Center (Bldg 1). As a minimum duty personnel should:

(1) Log in the time the DCRC was activated.

(2) Answer any telephone calls as "Damage Control and Recovery Center".

(3) Log in any incoming telephone or radio requirements denoting any action taken.

c. Log in arriving essential or call back personnel to ensure employees receive proper overtime credit.

d. Initiate call back of essential personnel noted in TAB C to Appendix B.

6002. NOTIFICATION OF THREAT CONDITIONS (THREATCONS).

1. Threat Conditions. A listing of threat conditions is contained on Appendix F of this SOP.



**BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS**

2. Actions.

a. Upon notification by the Staff OD or the EOC of any Threat Condition immediately advise the BMO or DBMO and the Utilities Shift Foreman of the Threat Condition that was announced.

b. Advise night shift personnel to be vigilant and to report any suspicious actions.

c. It is especially important that night shift personnel be advised if THREATCON CHARLIE or DELTA are announced as military police personnel will be in a heightened security status and may be authorized the use of deadly force. As a result our personnel could come under scrutiny while conducting repairs or inspecting utility systems. Under these conditions the Night Foreman/Duty NCO will advise the PMO of the location of maintenance/utility personnel.



**BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS**

**SECTION VII
OPERATION OF THE DISASTER CONTROL AND RECOVERY CENTER**

7000. GENERAL. The following guidance is provided for the operation of the Damage Control and Recovery Center (DCRC). Effective coordination between elements of the Base Maintenance Division, the DCRC and the Emergency Operations Center (EOC) is essential to ensure smooth operation.

7001. RESPONSIBILITY. The Operations Officer, Operations Branch will act as the Operations Officer of the DCRC and have responsibility for its activation and operation. The Center will be responsible for coordinating the following special teams: rescue, wrecking, shoring and demolition, snow removal, and emergency utilities.

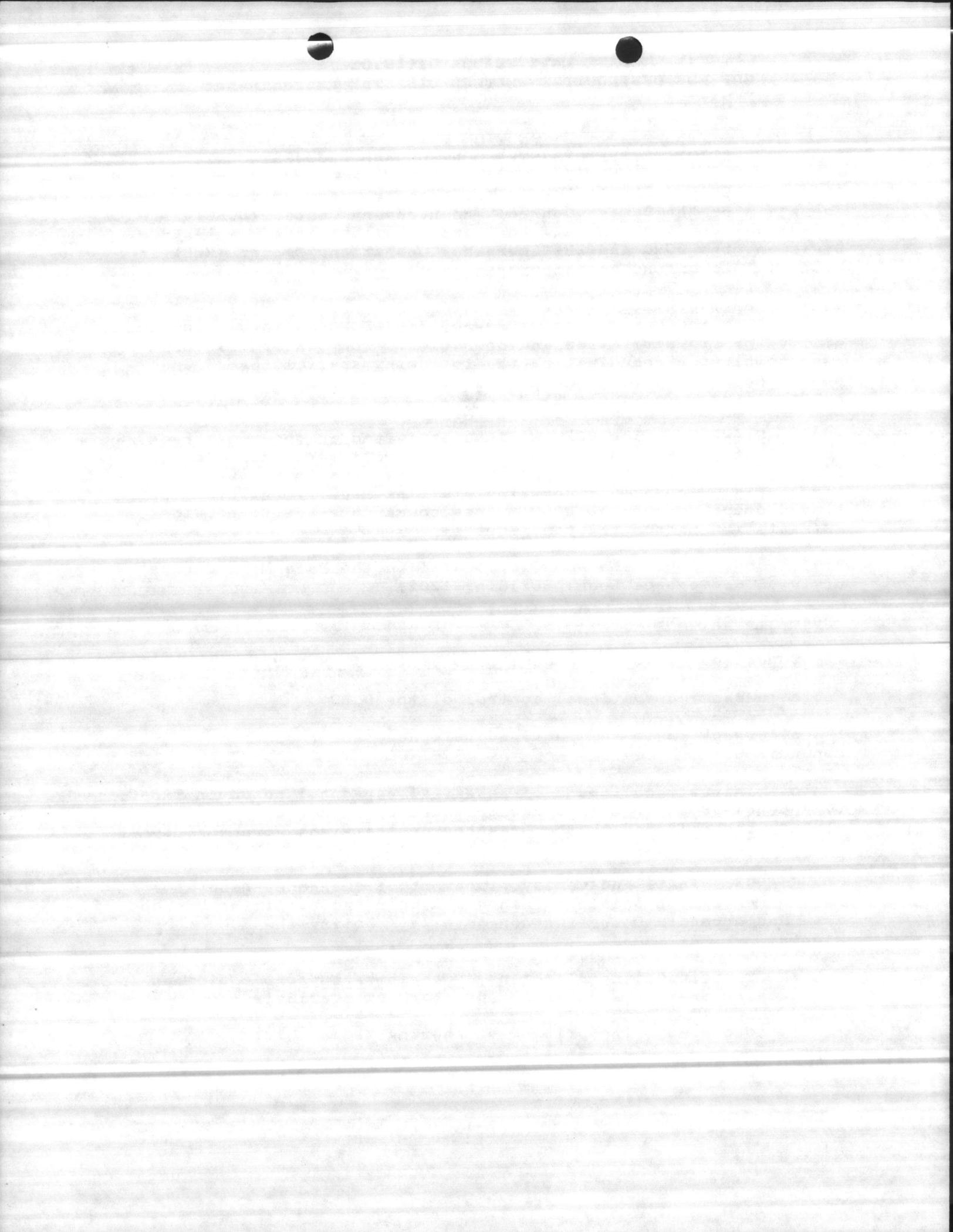
7002. STAFFING. The DCRC will be activated on order of the AC/S Facilities or upon notification of Destructive Weather Condition II/Snowstorm Condition II and must be prepared to operate on a 24 hour basis. Appendix B contains staffing requirements for continued operation of the DCRC. Area commanders are to provide augmentation personnel upon request.

7003. LOCATION. The DCRC is located in the Base Maintenance Division Conference Room, Building 1202.

7004. PROCEDURES.

1. Condition II (or upon direction of the AC/S Facilities).

- a. Assume operational control of the DCRC.
- b. Check in to all required telephone and radio nets. See Appendix C.
- c. Initiate call back of essential personnel noted in TAB C to Appendix B or from listings provided by branch heads, if not already accomplished by the Branches or the Night Foreman/Duty NCO.
- d. Coordinate and verify placement of emergency generator requirements with the Maintenance & Repair and Utilities Branches. See Appendix D for further details. Notify the EOC of status.
- e. Coordinate the placement of engineer support equipment in the staging area. Maintain an inventory of available equipment.
- f. Coordinate the efforts of shoring teams, etc.



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

g. During snow conditions, direct snow removal equipment to begin snow clearing of designated areas and sand/salt spreading operations on key bridges as required. See Appendix E.

2. Condition I.

a. Release non-essential personnel (during working hours) only after receipt of Frost Call from AC/S Facilities and after receiving concurrence of the Base Maintenance Officer.

b. Initiate call back of essential personnel (during non-working hours) to be recalled during Condition I. See TAB D to Appendix B.

c. Coordinate the efforts of shoring and utilities teams as appropriate. Weather permitting: survey damage, make emergency repairs, remove trees from buildings and main street arteries, block off washouts, and provide emergency transportation as required.

d. Evacuate Base Maintenance personnel from dangerous locations and secure all non-emergency activities.

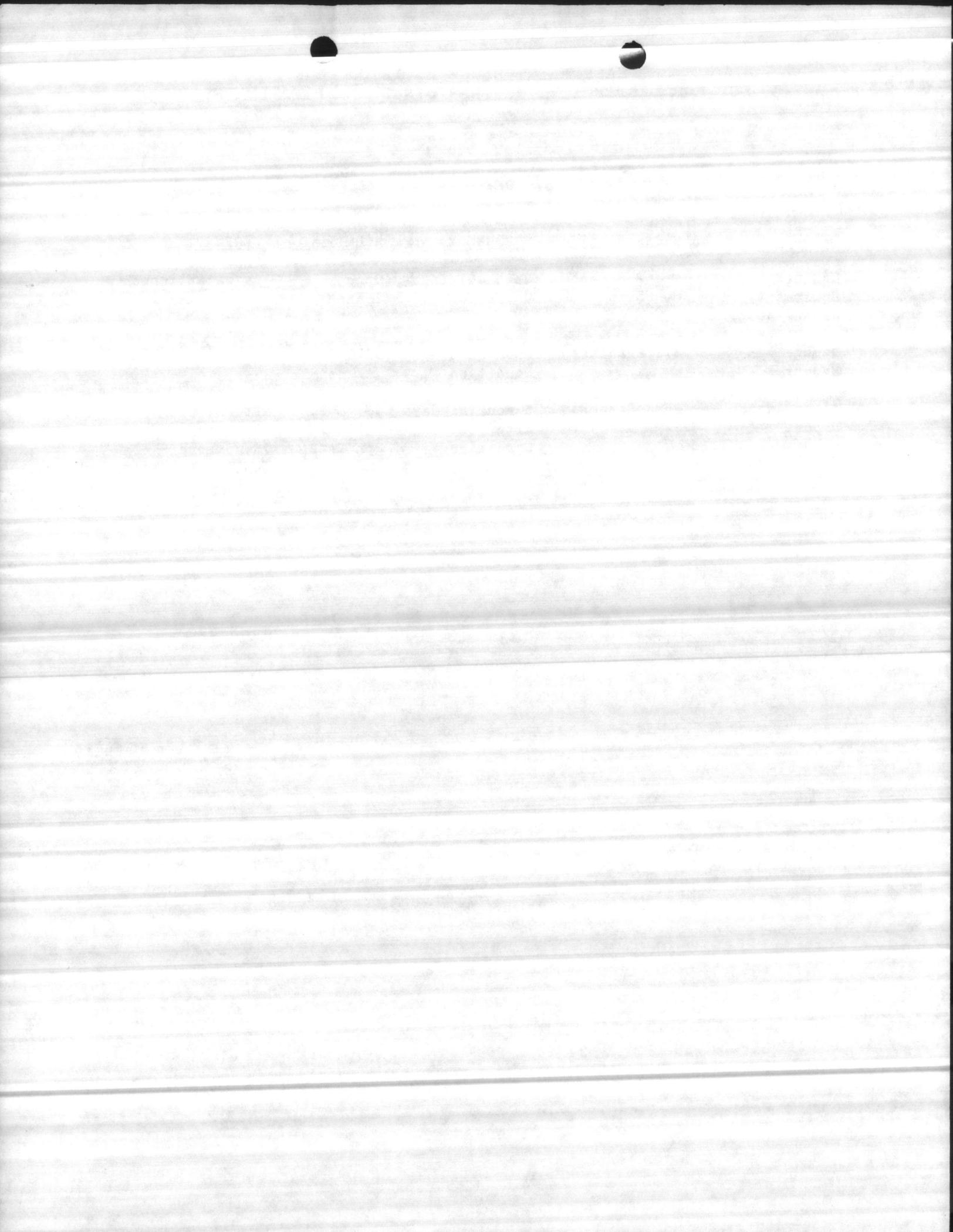


**BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS**

APPENDIX A

REPORTS

<u>REPORTS</u>	<u>RESPONSIBILITY</u>	<u>FREQUENCY</u>	<u>SUBMIT TO</u>	<u>FORMAT</u>
Engineer Equipment Status Report	M & R Branch/ Gen Svcs	Upon setting Condition IV	Opns Branch	As established
Damage Report	All Branches	Upon setting Condition V	DCRC	As established
After Action Report	Opns Branch	5 working days after setting Condition V	CG, MCB (Attn AC/S Opn/Trng)	Item/Topic Discussion Recommend - action format



**BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS**

APPENDIX B

ASSIGNMENT OF ESSENTIAL PERSONNEL

A. GENERAL. Procedures for the assignment of essential personnel are established to ensure personnel staffing sufficient to:

1. Maintain essential operations.
2. Institute preventive measures to minimize damage to structures and facilities.
3. Perform post-storm recovery operations.
4. A directory of key personnel is attached as TAB A which will be updated as necessary.

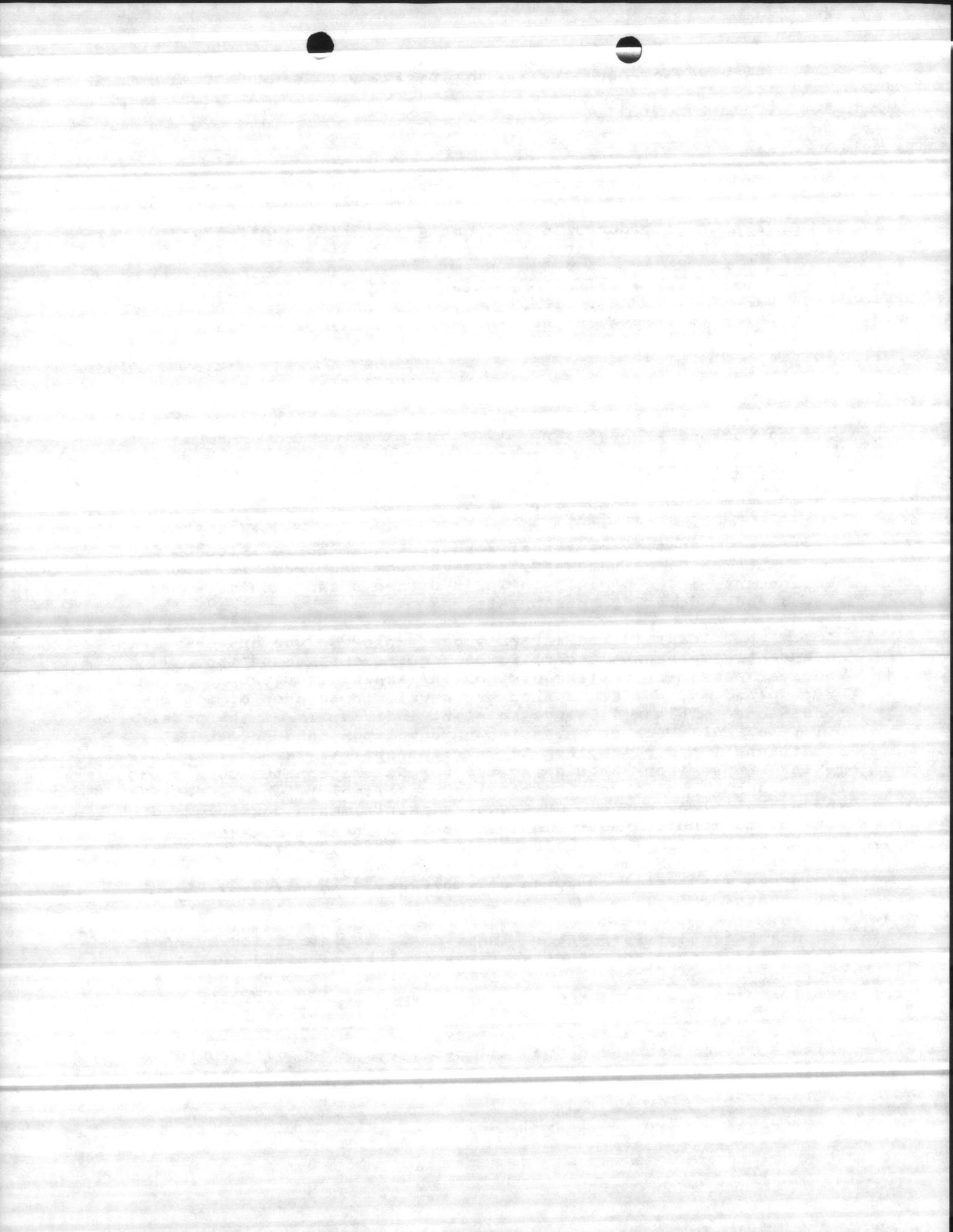
B. RESPONSIBILITIES.

1. Branch Heads/Supervisors.

a. Identify personnel resources/team composition by trade area that are necessary to meet team requirements. Current requirements are contained in TAB's B thru D and should be reviewed and updated as appropriate.

b. Identify and inform those employees who are designated essential personnel to fill the requirements noted above. Whenever possible, rosters designating essential personnel should be prepared and posted in shop areas well in advance of storm conditions. This will serve to alert individuals of the possibility of call back or retention on base upon announcement of Condition II and allow them to make appropriate personal arrangements. Supervisors should include several alternates to account for personnel on leave or otherwise unavailable. When identifying essential personnel, supervisors should, when possible and subject to mission requirements, consider unusual personal hardships of their employees and make suitable adjustments on a case by case basis. Examples of such situations are single parent employees with small children or employees with wives at near-term pregnancy.

2. Essential Personnel. Individuals so identified by their foreman or supervisor whose services will be required during emergency operations will report to or remain in work spaces as set forth in this SOP or as directed by special instructions passed during emergency operations. It is important for individuals identified as essential to recognize the importance and criticality of responding to call back. In almost all instances staffing represents minimal requirements and the failure of one



**BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS**

or more personnel to respond cannot only jeopardize continued operation of essential services but may endanger fellow team members or base residents dependent upon their presence.

C. SPECIAL INSTRUCTIONS.

1. Recall Guidelines. Recall of essential personnel should be accomplished as soon as possible after announcement of the appropriate storm condition. Recall of personnel during the latter stages of Condition I should be exercised with caution.

2. Upon notification, employees will be given a reasonable amount of time to report to work. Employees should be prepared to work based upon the condition, nature, and anticipated duration of the emergency. Employees who experience personal problems while on the job or upon notification to report to work will discuss the problem with the supervisor for resolution.

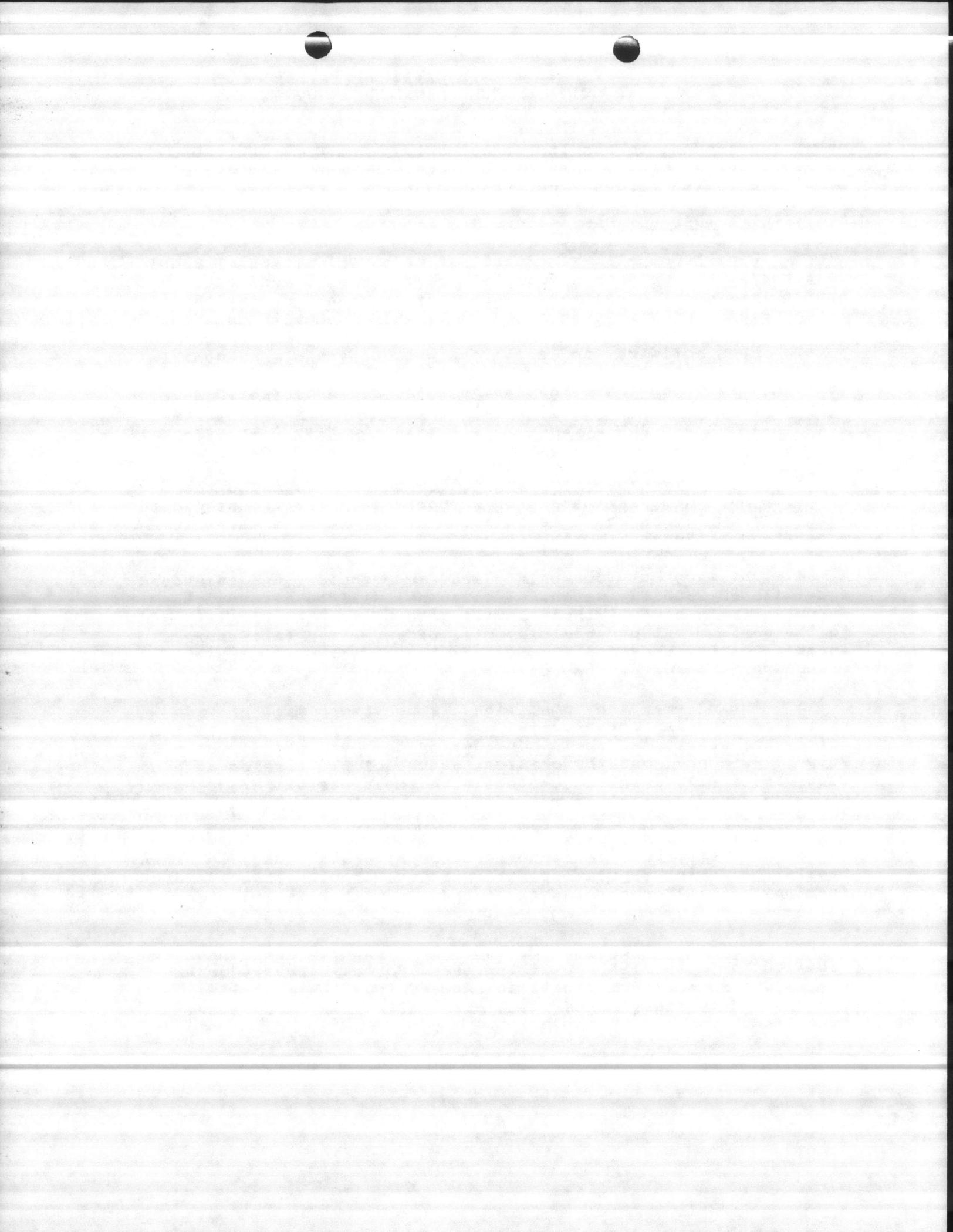
3. Should the emergency extend for several days and the Activity Head decides that other support personnel are needed to work, the employees shall be notified as to when and where to report and, if possible, the approximate duration of such duty.

4. While on duty during declared emergencies, and in accordance with BO 2305.5J, essential personnel will be afforded the opportunity to contact their families to ensure their safety and to the maximum extent possible, will be permitted to answer incoming calls, provided the use of phones will not interfere with disaster recovery operations.

5. During emergency conditions, supervisors will provide employees adequate opportunity to rest to ensure their health and safety are maintained while considering the availability of other support personnel and the critical nature of the mission at hand. Supervisors will maintain contact with employees either by communication devices or other methods as the employees perform their duties.

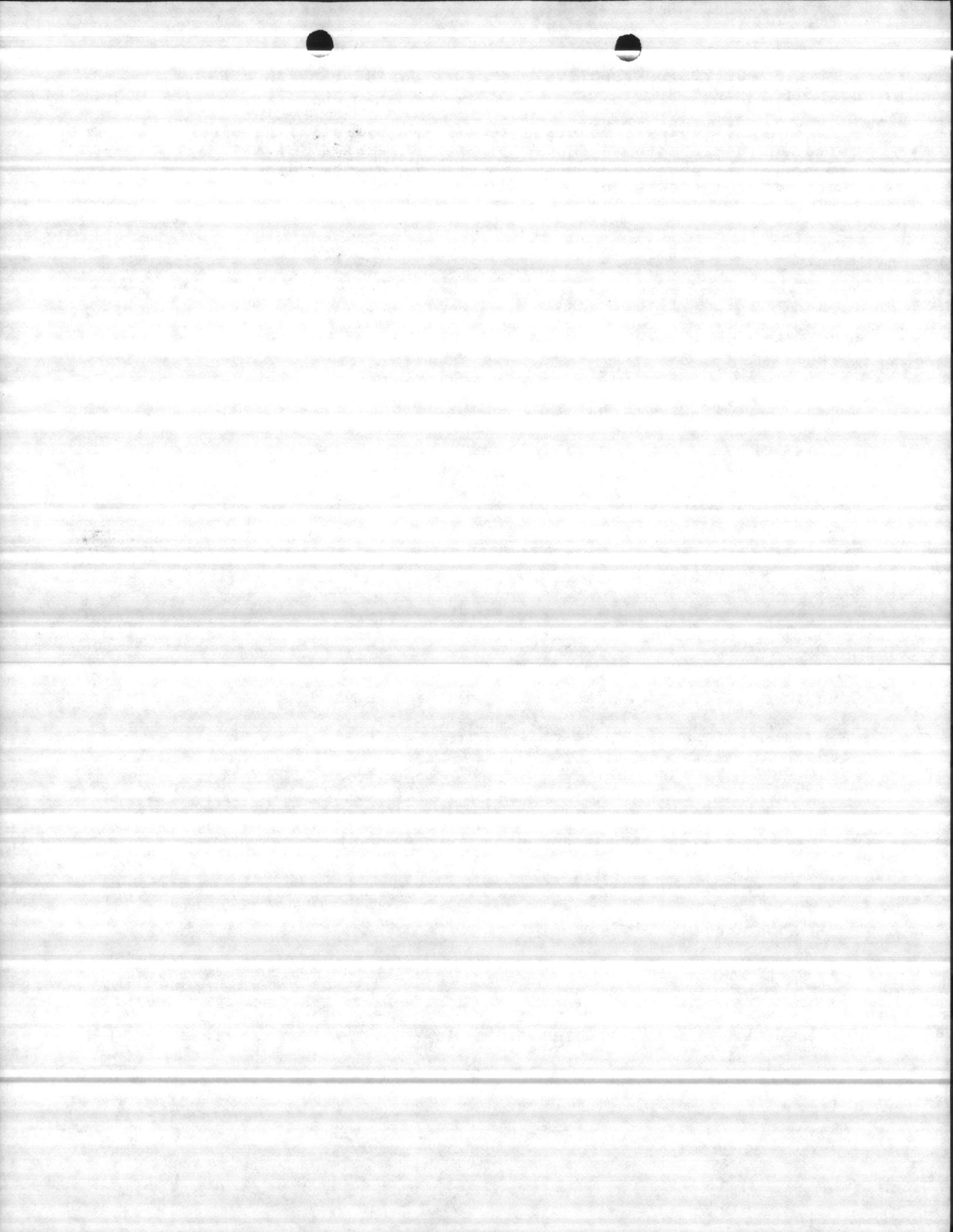
6. If practical, employees will be afforded access to dining facilities during regular operating hours. Employees are exempt from paying meal surcharges in accordance with Base Bulletin 10110.

7. During emergency situations when essential personnel are recalled for duty with any of the Armed Forces Reserves or National Guard units, they will be excused from their civilian essential duty assignments until such active duty orders are cancelled.



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

8. Any employee required to perform essential services during a declared emergency will be compensated for all work performed in accordance with the Fair Labor Standards Act and Title 5 of the U. S. Code.



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

TAB A (Directory of Key Personnel) to APPENDIX B (Assignment of
Essential Personnel)

BASE MAINTENANCE DIVISION

DIRECTORY

OF

KEY PERSONNEL

11 December 1990

12000
MAIN

BASE MAINTENANCE DIVISION

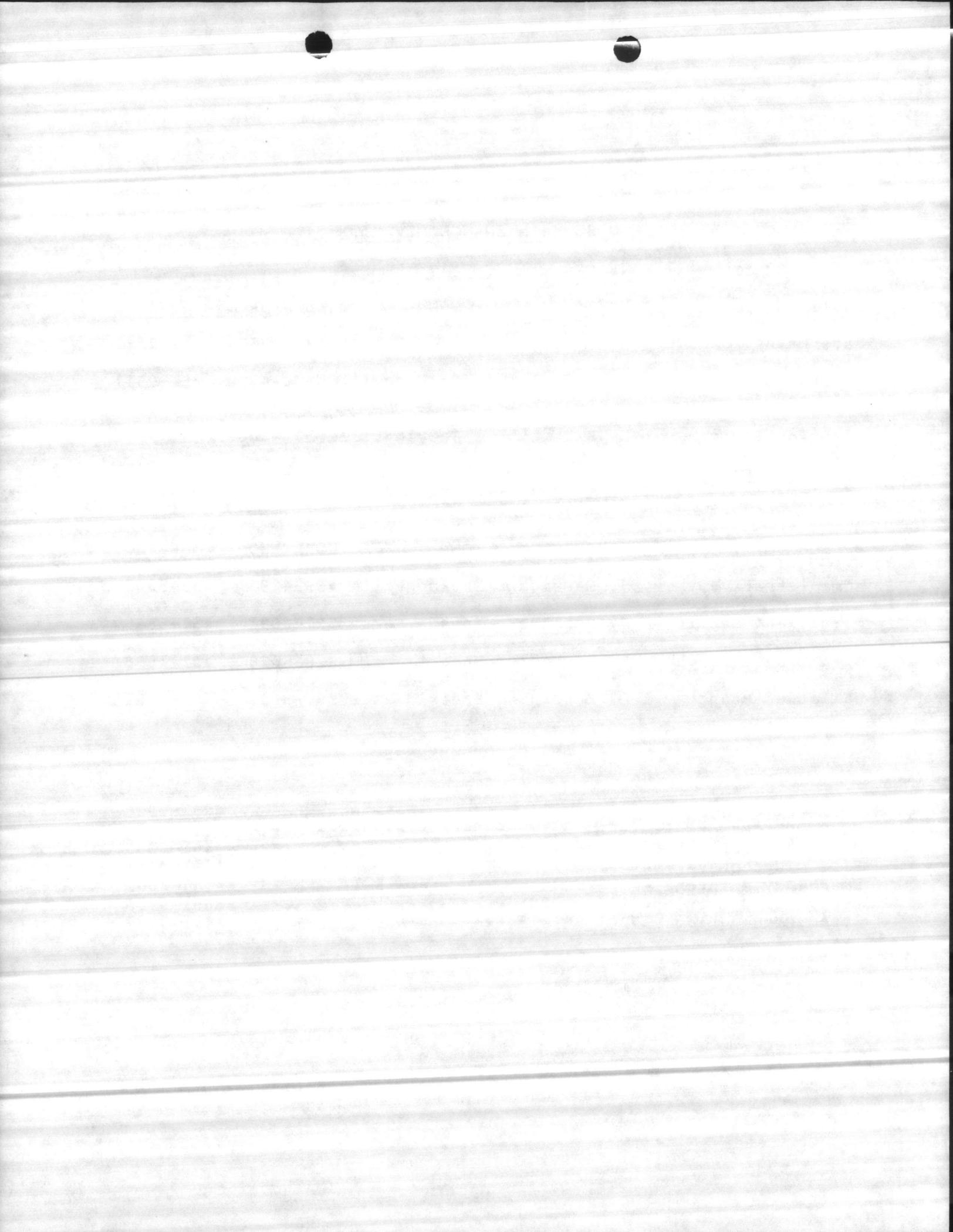
<u>POSITION</u>	<u>NAME</u>	<u>TOWN</u>	<u>HOME PHONE</u>	<u>WORK PHONE</u>
Base Maint. Officer	C.R. Rivenbark	Camp Lejeune	353-7634	451-2511
Assist. Base Maint. Officer	R.E. Scales	Jacksonville	455-6328	451-2511
Division Secretary	D. Kiley	Jacksonville	577-4006	451-2511

BRANCH DIRECTORS

<u>BRANCH</u>	<u>NAME</u>	<u>TOWN</u>	<u>HOME PHONE</u>	<u>WORK PHONE</u>
Administrative	S. Marsicano	Jacksonville	455-4093	451-5307
Maint. and Repair	J. Sellers	Sneads Ferry	327-4091	451-5855
Operations Branch	E. Winberry	Hubert	326-5028	451-1580
Utilities Branch	C. Baker	Emerald Isle	354-3652	451-5161

EMERGENCY NUMBERS

Duty Officer, MCB-----	451-2528
Duty Officer, MCAS-----	455-6111
Provost Marshal-----	451-2555
Fire Dispatcher-----	451-3004
Emergency Maintenance-----	451-3001
Heavy Equip Section (Bldg. 738)-----	451-5909
Steam Plant (Bldg. 1700)-----	451-3627



ADMINISTRATIVE BRANCH

<u>SECTION</u>	<u>NAME</u>	<u>TOWN</u>	<u>HOME PHONE</u>	<u>WORK PHONE</u>
Personnel	P. Millush	Camp Lejeune	353-9426	451-3722
Finance & Acct	F. Brown	Chinquapin	324-5283	451-5122
Supply	N. Rochelle	Jacksonville	455-9758	451-5300
Mechanization	J. Moran	Jacksonville	353-1975	451-5307
Ind. Hygienist	J. Waldrop	Castle Hayne	919-675-0617	451-3046
Branch Secretary	K. Hollings	Jacksonville	577-8072	451-3722

OPERATIONS BRANCH

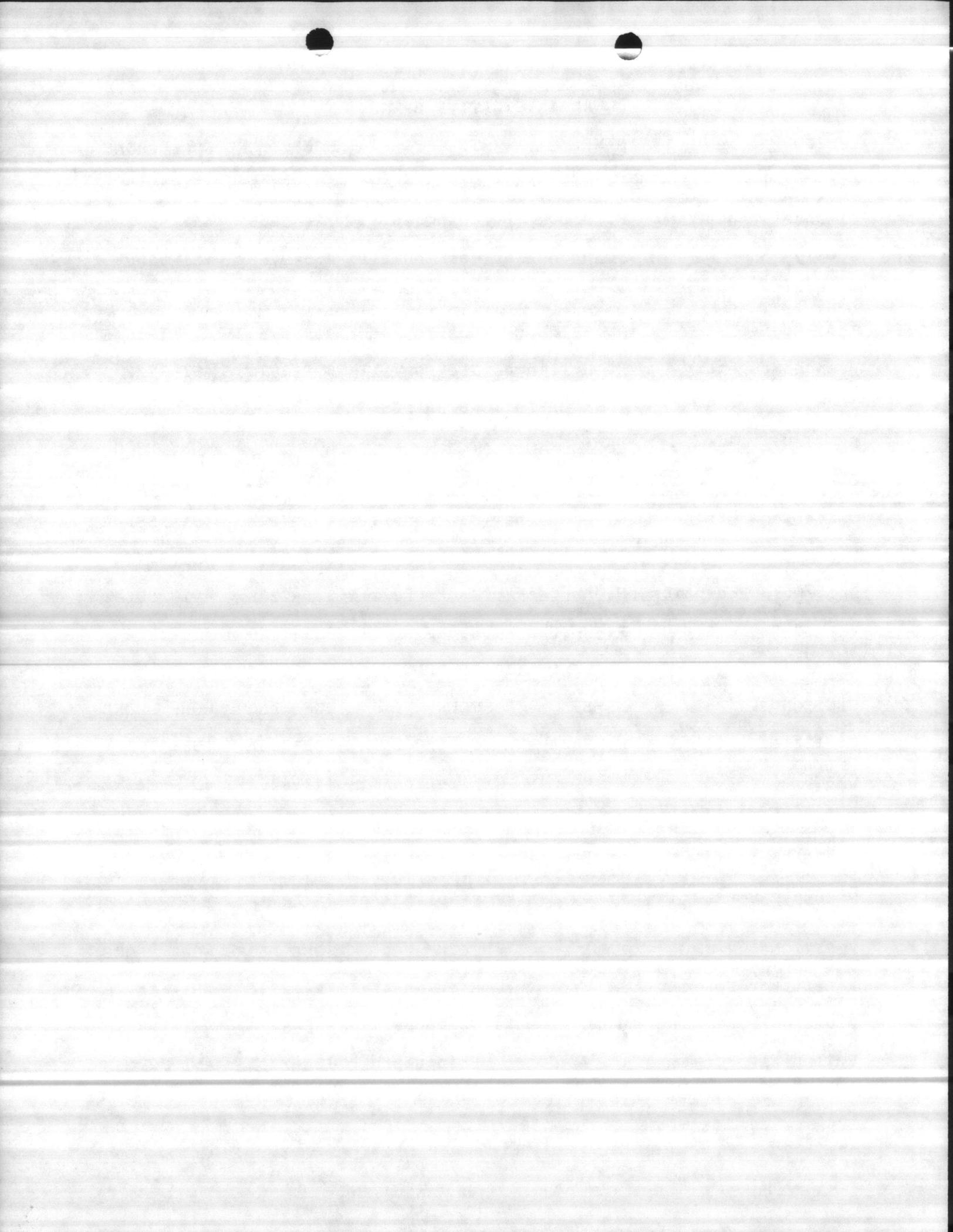
<u>SECTION</u>	<u>NAME</u>	<u>TOWN</u>	<u>HOME PHONE</u>	<u>WORK PHONE</u>
Operations Director	E. Winberry	Hubert	326-5028	451-1580
Operations Officer	M. O'Mahoney	Jacksonville	455-4023	451-1580
P & E Section	C. Strain	Kinston	527-5943	451-5794
Prog/Work Reception	H. Manheim	Jacksonville	346-2228	451-2590
Branch Secretary	P. Hoernig	Jacksonville	353-7149	451-1580

UTILITIES BRANCH

<u>SECTION</u>	<u>NAME</u>	<u>TOWN</u>	<u>HOME PHONE</u>	<u>WORK PHONE</u>
Utilities	D. Southerland	Chinquapin	298-3654	451-5161
UMACS	K. Foskey	Trenton	448-6061	451-5642
Steam Generation	K. Shepard	Richlands	285-4225	451-3627
Water/Sewage Treat.	M. Frazelle	Jacksonville	353-7595	451-5988
Branch Secretary	R. H. Norris	Jacksonville	347-3818	451-5161

Supervisory Personnel

<u>POSITION</u>	<u>NAME</u>	<u>TOWN</u>	<u>HOME PHONE</u>	<u>WORK PHONE</u>
Pipefitter Foreman	A. Brinton	Richlands	324-2281	451-5147
Plumbing Foreman	J. Lisiewski	Jacksonville	353-9576	451-1081
Boiler Plt Foreman	J. V. Jones	Chinquapin	324-2211	451-3276



UTILITIES BRANCH (continued)

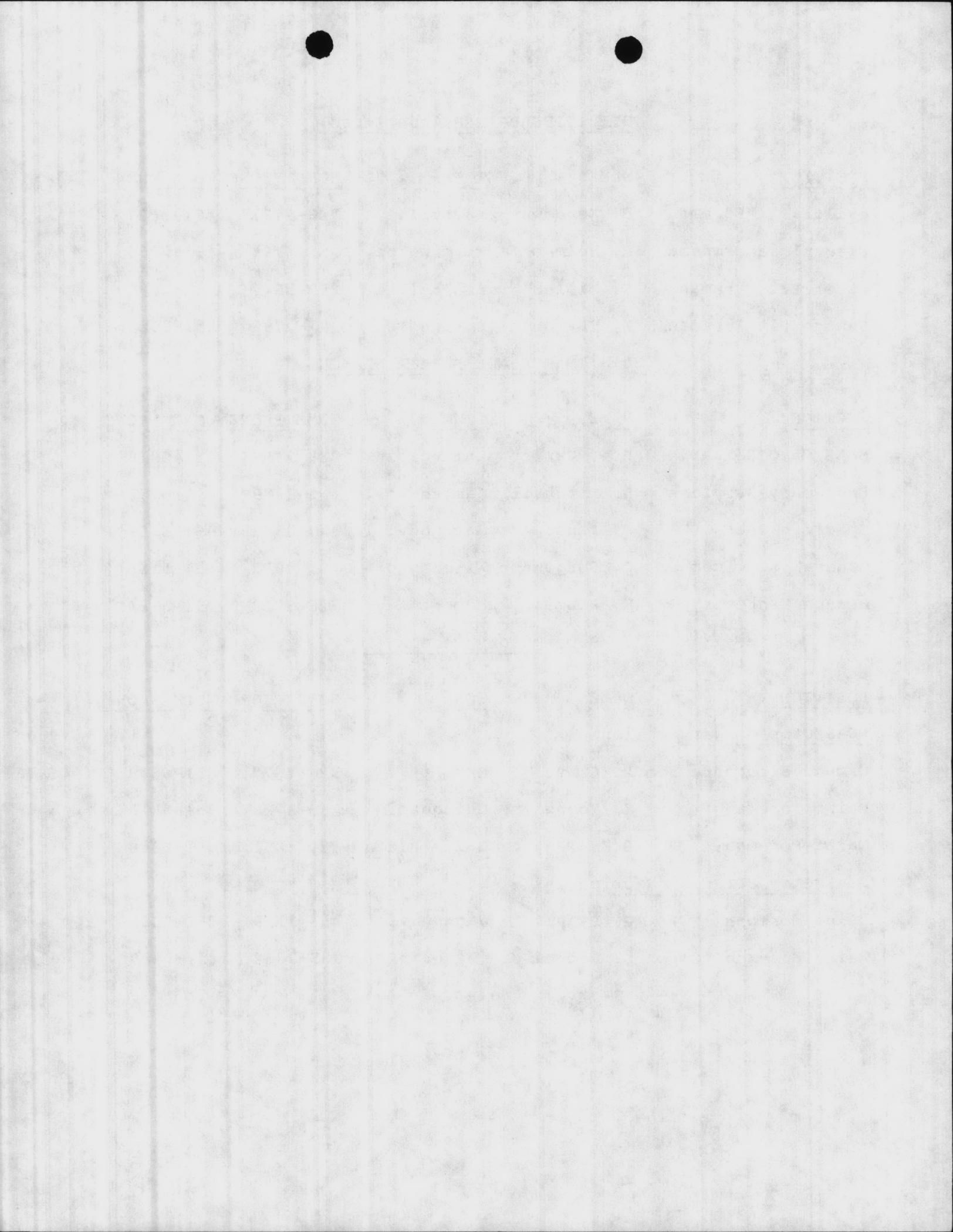
<u>POSITION</u>	<u>NAME</u>	<u>TOWN</u>	<u>HOME PHONE</u>	<u>WORK PHONE</u>
Boiler Plt Foreman	B. Meadows	Maysville	743-7971	451-3627
Electrician Foreman	M. Holmes	Wilmington	395-0794	451-2790
Water Plt Foreman	S. Miller	Beulaville	298-3847	451-1081
Sewage Plt Foreman	M. Davis	Sneads Ferry	327-3796	451-2069

MAINTENANCE AND REPAIR BRANCH

<u>SECTION</u>	<u>NAME</u>	<u>TOWN</u>	<u>HOME PHONE</u>	<u>WORK PHONE</u>
MCAS/Camp Geiger	R.W. Lanier	Chinquapin	285-2598	451-6818
Emergency Services	L. Mitchell	Jacksonville	455-3899	451-5773
Specific Jobs	F. Lane	Jacksonville	347-3371	451-5256
General Services	D. Gurganus	Wilmington	799-0632	451-5158
Branch Secretary	K. Winberry	Hubert	326-5028	451-5184

Supervisory Personnel

<u>POSITION</u>	<u>NAME</u>	<u>TOWN</u>	<u>HOME PHONE</u>	<u>WORK PHONE</u>
<u>MCAS/Camp Geiger Section</u>				
Ground Structure Frm	M. Gray	Hubert	326-4677	451-6543
Maint Foreman	J. Young	Chinquapin	285-3728	451-6818
Maint Foreman	E.E. Padgett	Holly Ridge	329-5951	451-6818
<u>Emergency Services Section</u>				
Maint Foreman (TT)	G. Lynn	Jacksonville	455-1159	451-5080
Maint Foreman (CJ)	L. Batchelor	Chinquapin	285-7462	451-0969



MAINTENANCE AND REPAIR BRANCH (continued)

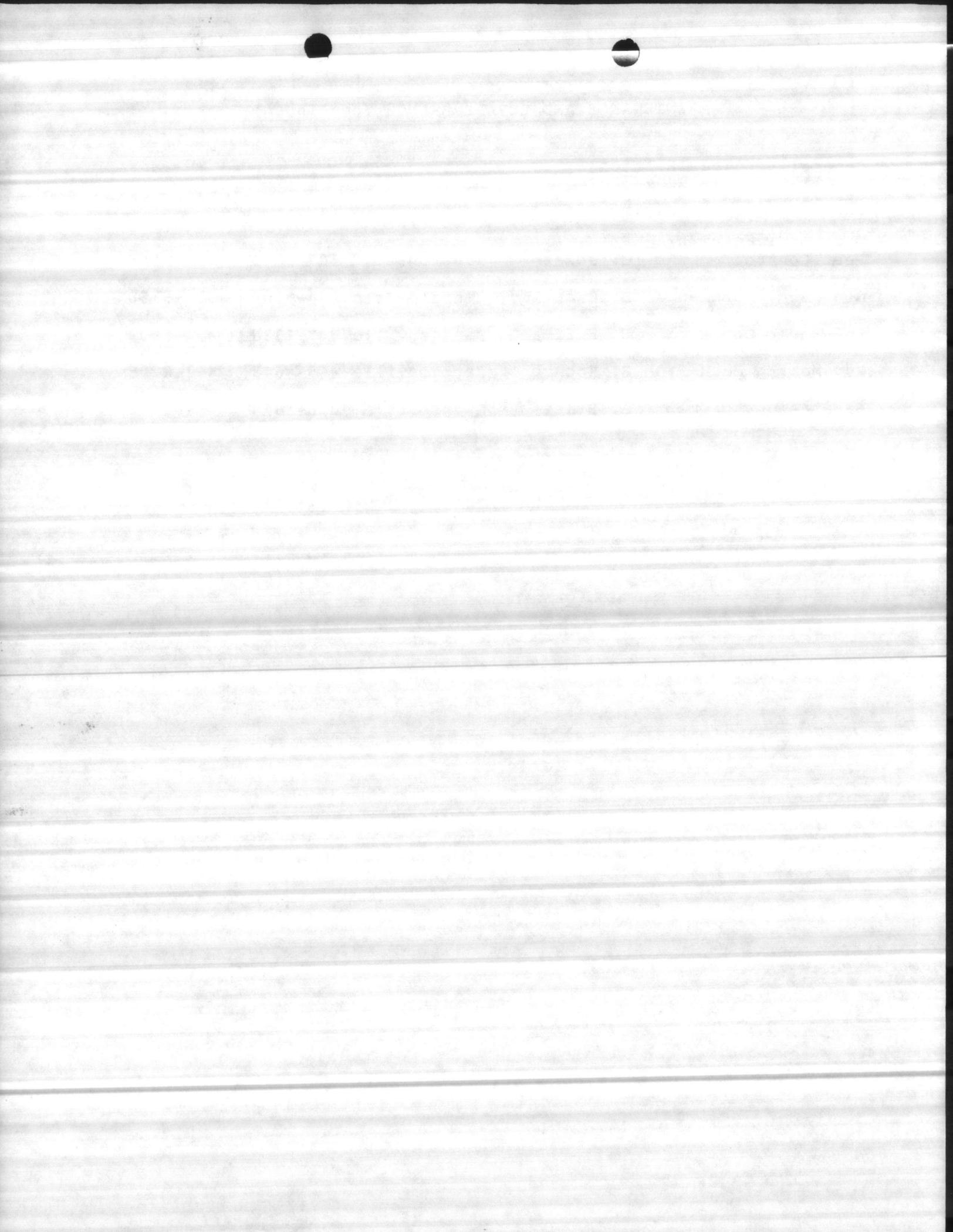
<u>POSITION</u>	<u>NAME</u>	<u>TOWN</u>	<u>HOME PHONE</u>	<u>WORK PHONE</u>
<u>Emergency Services Section (continued)</u>				
Elect Foreman (PP)	W.E. Bender	Swansboro	326-4348	451-2781
Maint Foreman (HP)	R. Wooten	Jacksonville	324-5030	451-8184
Maint Foreman (CHB)	R. F. Lainer	Chinguapin	285-4756	451-7552
Maint Foreman (FC)	E.E. Dudley	Maysville	743-6441	451-1438
Maint Foreman (D)	J. Spencer	Jacksonville	346-4636	451-2737
<u>Specific Jobs Section</u>				
A/C MechForeman(C/I)	C.N. Smith	Sneads Ferry	327-3440	451-3235
Carpenter Foreman	R.B. Medlin	Jacksonville	346-8572	451-2090
Carpenter Foreman	C.A. Autry	Jacksonville	346-6020	451-3561
Maint Foreman	T. Parker	Jacksonville	347-4711	451-1689
Locksmith	J. Hendricks	Jacksonville	346-3068	451-1689
Locksmith	K.R. Barbee	Richlands	324-4127	451-1689
Locksmith	D.R. Autry	Jacksonville	347-4889	451-1689
Plasterer/Mason Frmn	J.F.Privett	Swansboro	326-4438	451-1775
Electrician Foreman	L.E. Morton	Jacksonville	455-0488	451-5256
Metalwrkg Shop Frmn	J.C. Bynum	Richlands	324-5718	451-5110
<u>Night Crew</u>				
Maint Foreman-Night	B.R. Smith	Morehead Cty	354-3400	451-2333
Maint Foreman-Night	T.W.Yopp	Jacksonville	346-4761	451-2333



MAINTENANCE AND REPAIR BRANCH (continued)

General Services Section

<u>POSITION</u>	<u>NAME</u>	<u>TOWN</u>	<u>HOME PHONE</u>	<u>WORK PHONE</u>
Grd. Str. Foreman/ Pest Control	C. Jones	Kinston	527-3041	451-5158
Grd. Str. Foreman	B. Brantley	Emerald Isle	354-5202	451-5158
Eng Equip Optr Frm	R. Huffman	Jacksonville	347-1336	451-5909
Hvy Mob Eq Mech Frmn	S. Koonce	Jacksonville	455-4643	451-2295
Sanitation Foreman	G. Price	Swansboro	326-1614	451-2636



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

TAB B (Condition III Call Back) to APPENDIX B (Assignment of Essential Personnel)

TEAM: Maintenance and Repair Generator Team

DUTIES: Position portable generators in accordance with Appendix D.

WHEN CALLED: Condition III.

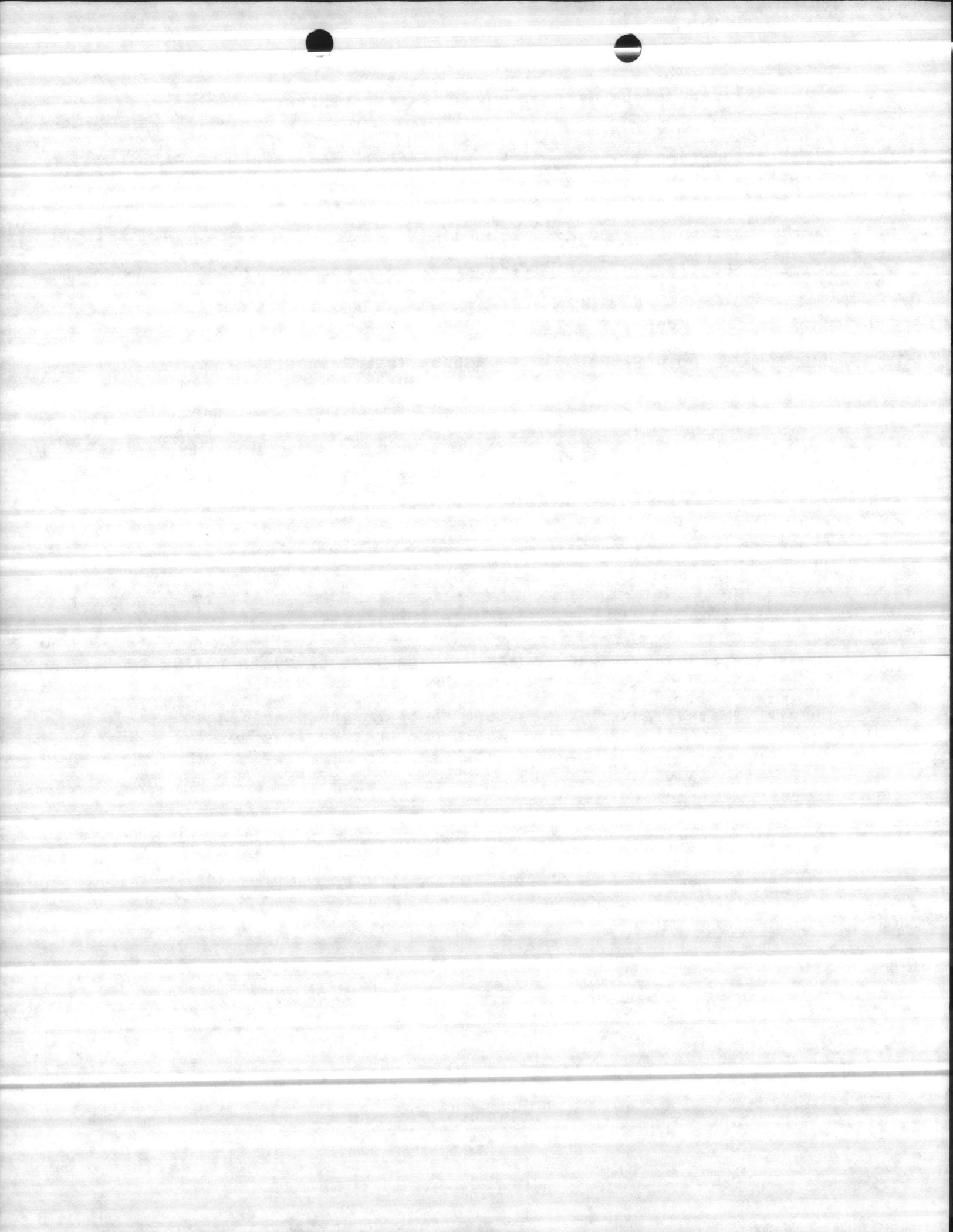
CALLED BY: Duty Hours - Appropriate Branch
Non-duty Hours - Night Foreman/NCO

COMPOSITION:

<u>Title</u>	<u>Required for</u>			<u>Name</u>	<u>Tele</u>
	<u>Des</u>	<u>W</u>	<u>Snow</u>		
Elec Equip Mech WG-10	X		X	41	-----
Electrician WG-10	X		X	.	-----
Electrician WG-10	X		X	.	-----
Elec Worker WG-08	X		X	.	-----
-----	--		--	-----	-----
-----	--		--	-----	-----

EQUIPMENT REQUIREMENTS: Trucks with trailer hitches, tools, radio/beeper.

SPECIAL INSTRUCTIONS: Generators to be moved to assigned locations and connected into double throw switches.



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

TAB B (Condition III Call Back) to APPENDIX B (Assignment of Essential Personnel)

TEAM: Road/Bridge Sanding Team I (MCB)

DUTIES: Sand bridges and overpasses as required.

WHEN CALLED: Condition III. (See Special Instructions.

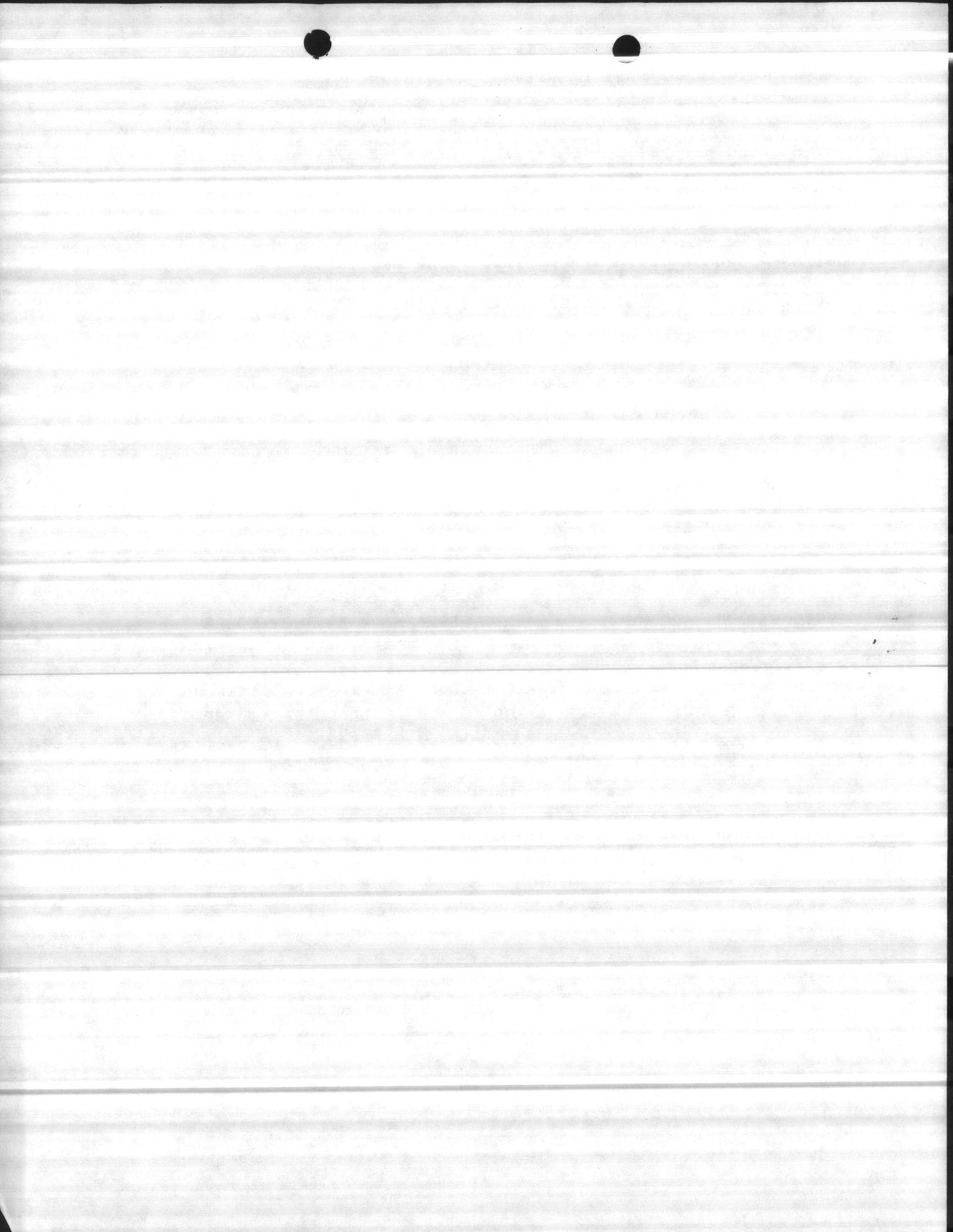
CALLED BY: Duty Hours - Appropriate Branch
Non-duty Hours - Night Foreman/NCO

COMPOSITION:

<u>Title</u>	<u>Required for</u>			<u>Name</u>	<u>Tele</u>
	<u>Des</u>	<u>W</u>	<u>Snow</u>		
Motor Veh Operator			X	71	-----
Motor Veh Operator			X	.	-----
Heavy Equip Operator			X	72	-----
-----	--	--		-----	-----
-----	--	--		-----	-----

EQUIPMENT REQUIREMENTS: Two dump truck with sand spindles
One Front End Loader.

SPECIAL INSTRUCTIONS: Trucks to be staged at Bldg 1114 or 738..
Essential personnel to be recalled during
Condition II. Sand to be picked up at
Bldg 45 prior to staging.



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

TAB B (Condition III Call Back) to APPENDIX B (Assignment of Essential Personnel)

TEAM: Road Sanding Team II (MCAS)

DUTIES: Sand bridges and overpasses as required.

WHEN CALLED: Condition III.

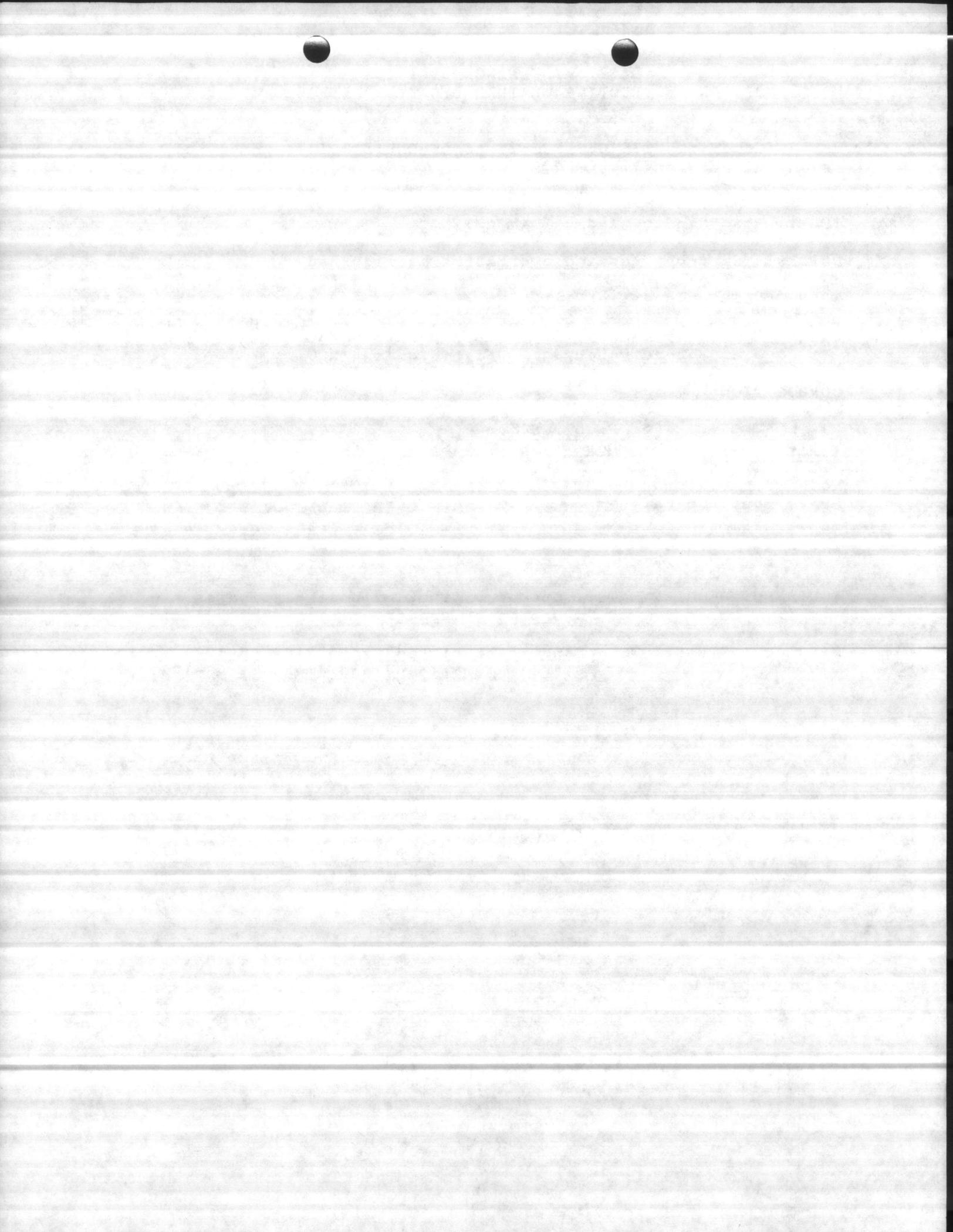
CALLED BY: Duty Hours - Appropriate Branch
Non-duty Hours - Night Foreman/NCO

COMPOSITION:

<u>Title</u>	<u>Required for</u>		<u>Shop</u>	<u>Name</u>	<u>Tele</u>
	<u>Des W</u>	<u>Snow</u>			
Motor Veh Operator		X	32	-----	----
Heavy Equip Operator		X	.	-----	----
-----	--	--	-----	-----	-----
-----	--	--	-----	-----	-----

EQUIPMENT REQUIREMENTS: One dump truck with sand spindles
One Motor grader.

SPECIAL INSTRUCTIONS: Sand to be picked up at Bldg AS-122.
Stage material and equipment at AS-122.



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

TAB C (Condition II Call Back) to APPENDIX B (Assignment of Essential Personnel)

TEAM: Damage Control and Recovery Center (DCRC) Team

DUTIES: Man the Damage Control and Recovery Center.

WHEN CALLED: Condition II or upon direction of the AC/S Facilities.

CALLED BY: Duty Hours - Appropriate Branch
Non-duty Hours - Night Foreman/NCO

COMPOSITION:

Title	Required for		Shop	Name	Tele
	Des	W Snow			
Opns Officer	X	X	Opns	-----	-----
Maint NCOIC	X	X	.	-----	-----
Duty NCO	X	X	.	-----	-----
Duty NCO	X	X	.	-----	-----
Planner/Estimator	X		.	-----	-----
Inspector	X		.	-----	-----
Supply Technician	X	X	Admin	-----	-----
Senior Supv, M&R	X	X	M&R	-----	-----
Senior Supv, Util	X	X	Util	-----	-----
-----	--	--	-----	-----	-----
-----	--	--	-----	-----	-----

EQUIPMENT REQUIREMENTS: See Section VII.

SPECIAL INSTRUCTIONS: See Section VII.



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

TAB C (Condition II Call Back) to APPENDIX B (Assignment of Essential Personnel)

TEAM: Emergency Generator Team (MCAS/Geiger)

DUTIES: Hook up and test emergency generators.
Secure loose gear.

WHEN CALLED: Condition II.

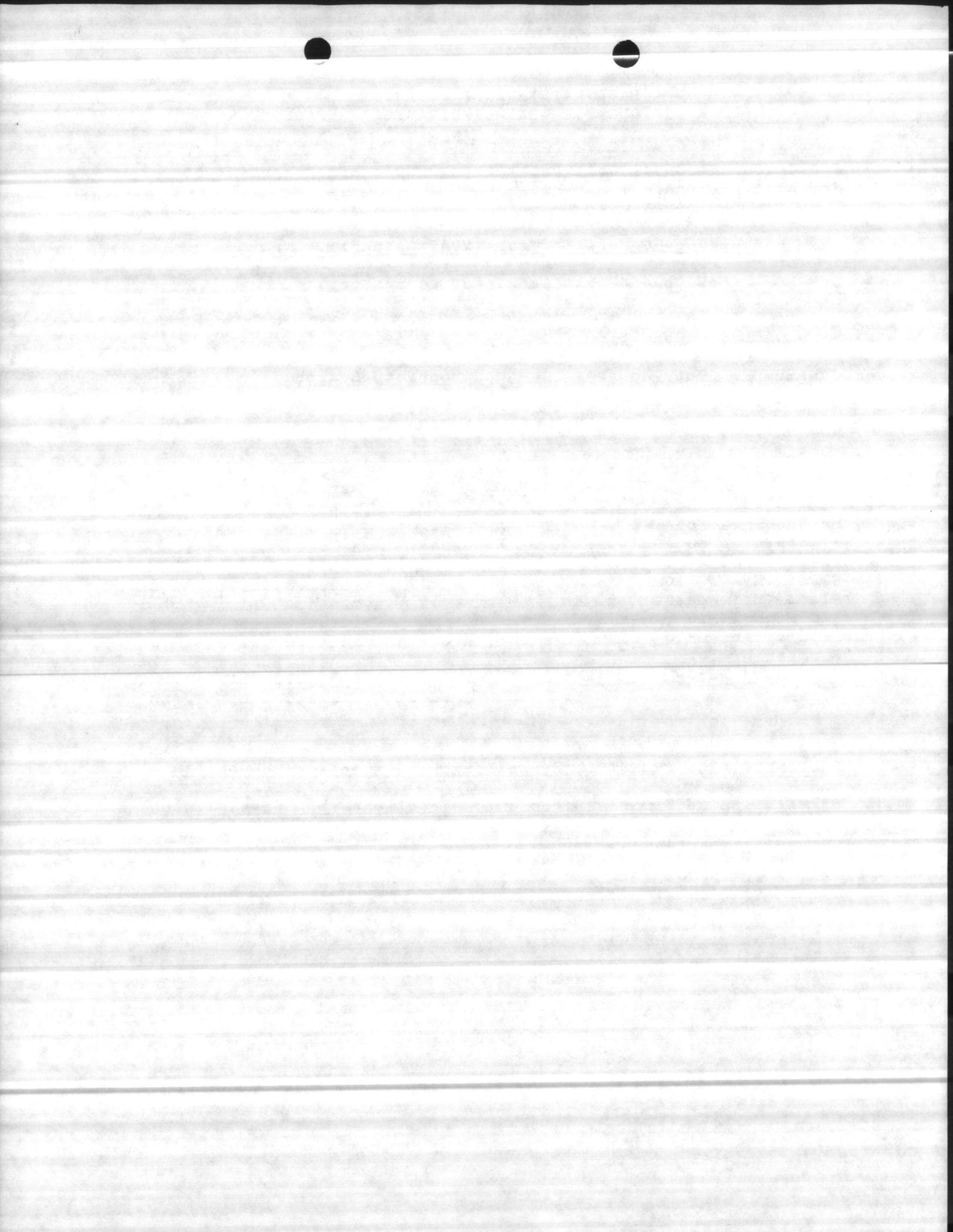
CALLED BY: Duty Hours - Appropriate Branch
Non-duty Hours - Night Foreman/NCO

COMPOSITION:

<u>Title</u>	<u>Required for</u>		<u>Shop</u>	<u>Name</u>	<u>Tele</u>
	<u>Des</u>	<u>W</u>			
Maintenance Foreman	X		X	32	-----
Electrician WG-10	X		X	.	-----
Electrician WG-10	X		X	.	-----
Elect (HV) WG-10	X		X	.	-----
Elect (HV) WG-10	X		X	.	-----
A/C Mech WG-10	X		X	.	-----
Pipefitter WG-10	X		X	.	-----
Plumber WG-10	X		X	.	-----
Carpenter WG-09	X		X	.	-----
-----	--		--	-----	-----
-----	--		--	-----	-----

EQUIPMENT REQUIREMENTS: Bucket truck, 4-wheel drive vehicle.

SPECIAL INSTRUCTIONS: Respond to directions from Base Maintenance (DCRC) and MCAS (DWOC).



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

TAB C (Condition II Call Back) to APPENDIX B (Assignment of Essential Personnel)

TEAM: Maintenance & Repair Generator Team

DUTIES: Complete connections on generators at facilities with double throw switches.

WHEN CALLED: Condition II.

CALLED BY: Duty Hours - Appropriate Branch
Non-duty Hours - Night Foreman/NCO or DCRC

COMPOSITION:

<u>Title</u>	<u>Required for</u>			<u>Shop</u>	<u>Name</u>	<u>Tele</u>
	<u>Des</u>	<u>W</u>	<u>Snow</u>			
Elect Equip Mech WG-10	X		X	41	-----	-----
Electrician WG-10	X		X	41	-----	-----
Electrician Wkr WG-8	X		X	41	-----	-----
Electrician Wkr WG-8	X		X	41	-----	-----
-----	--		--	-----	-----	-----
-----	--		--	-----	-----	-----

EQUIPMENT REQUIREMENTS: Trucks w/trailer hitches, tools, radio.

SPECIAL INSTRUCTIONS: Report to or remain in work spaces as directed and receive instructions passed down during emergency operations. Draw emergency rations and foul weather gear from the DCRC. Gas all vehicles..



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

TAB C (Condition II Call Back) to APPENDIX B (Assignment of Essential Personnel)

TEAM: Maintenance & Repair Destructive Weather Team

DUTIES: Respond to emergencies as directed.

WHEN CALLED: Condition II.

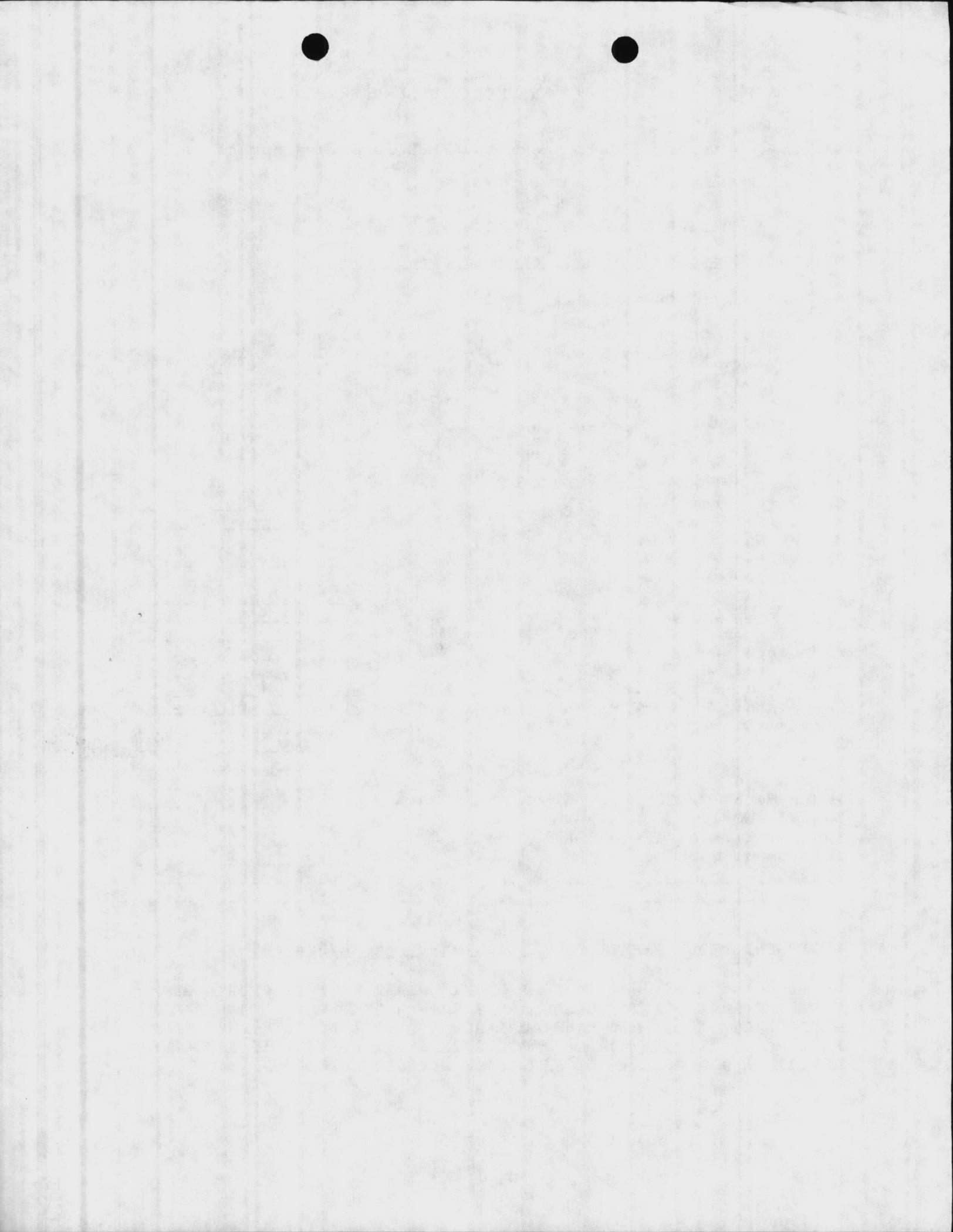
CALLED BY: Duty Hours - Appropriate Branch
Non-duty Hours - Night Foreman/NCO or DCRC

COMPOSITION:

<u>Title</u>	<u>Required for</u>		<u>Shop</u>	<u>Name</u>	<u>Tele</u>
	<u>Des</u>	<u>W</u>	<u>Snow</u>		
A/C Mech Frmn WS-10	X		X	53	-----
Carpenter Frmn WS-9/10	X		X	41	-----
Electrical Frmn WS-10	X		X	41	-----
Galley Eq Mech WG-9	X		X	53	-----
Pipefitter WG-8/10	X		X	M&R	-----
Pipefitter WG-8/10	X		X	M&R	-----
Plumber WG-9	X		X	M&R	-----
Plumber WG-9	X		X	M&R	-----
Plumber WG-9	X		X	M&R	-----
Plumber WG-9	X		X	M&R	-----
Carp/Maint Wkr WG-8/9	X		X	M&R	-----
Carp/Maint Wkr WG-8/9	X		X	M&R	-----
Carp/Maint Wkr WG-8/9	X		X	M&R	-----
Carp/Maint Wkr WG-8/9	X		X	M&R	-----
HVAC WG-10	X		X	53	-----
HVAC WG-10	X		X	53	-----
HVAC WG-10	X		X	53	-----
Indus Mech (Gas) WG-10	X		X	53	-----
Welder WG-10	X		X	63	-----
Instrument Mech WG-10	X		X	53	-----
Instrument Mech WG-10	X		X	53	-----
-----	--		--	-----	-----
-----	--		--	-----	-----

EQUIPMENT REQUIREMENTS: Trucks, tools, radio/beeper.

SPECIAL INSTRUCTIONS: Report to or remain in work spaces as directed and receive instructions passed down during emergency operations. Draw emergency rations and foul weather gear from the DCRC. Gas all vehicles and provide assistance in securing buildings and facilities at Onslow Beach as directed..



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

TAB C (Condition II Call Back) to APPENDIX B (Assignment of Essential Personnel)

TEAM: Maintenance & Repair Destructive Weather Team (TT Area)

DUTIES: Respond to emergencies as directed.

WHEN CALLED: Condition II.

CALLED BY: Duty Hours - Appropriate Branch
Non-duty Hours - Night Foreman/NCO or DCRC

COMPOSITION:

<u>Title</u>	<u>Required for</u>			<u>Name</u>	<u>Tele</u>
	<u>Des</u>	<u>W</u>	<u>Snow</u>		
Maint Foreman WS-10	X	X	33	-----	-----
Plumber WG-9	X	X	33	-----	-----
Plumber WG-9	X	X	33	-----	-----
Carpenter WG-7/9	X	X	33	-----	-----
Carpenter WG-7/9	X	X	33	-----	-----
A/C Equip Mech WG-8	X	X	33	-----	-----
A/C Equip Mech WG-8	X	X	33	-----	-----
Electrician WG-8/10	X	X	33	-----	-----
Electrician WG-8/10	X	X	33	-----	-----
-----	--	--	----	-----	-----
-----	--	--	----	-----	-----

EQUIPMENT REQUIREMENTS: Trucks, tools, radio/beeper.

SPECIAL INSTRUCTIONS: Report to or remain in work spaces as directed and receive instructions passed down during emergency operations. Draw emergency rations and foul weather gear from the DCRC. Gas all vehicles and provide assistance in securing buildings and facilities in Tarawa Terrace area as directed..



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

TAB C (Condition II Call Back) to APPENDIX B (Assignment of Essential Personnel)

TEAM: Electrical Distribution Repair Team #1

DUTIES: Repair damaged powerlines needed to restore emergency electrical power to bldgs. Cut off power to broken lines which would start fires or endanger personnel

WHEN CALLED: Condition II.

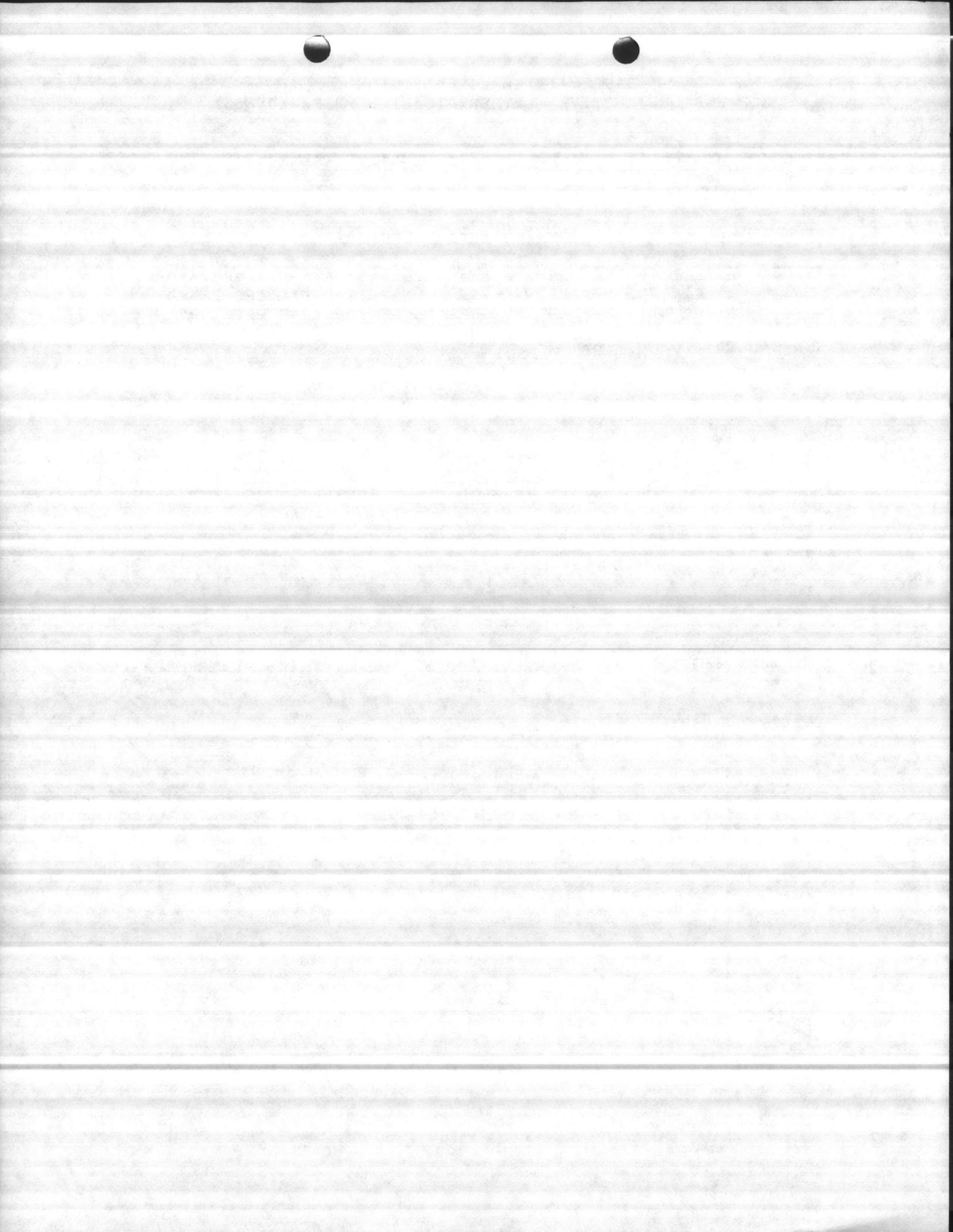
CALLED BY: Duty Hours - Appropriate Branch
Non-duty Hours - Utilities Foreman or DCRC

COMPOSITION:

<u>Title</u>	<u>Required for</u>			<u>Name</u>	<u>Tele</u>
	<u>Des</u>	<u>W</u>	<u>Snow</u>		
Elect (HV) Frmn	X		X	82	-----
Electrician (HV)	X		X	82	-----
Electrician (HV)	X		X	82	-----
-----	--		--	-----	-----
-----	--		--	-----	-----

EQUIPMENT REQUIREMENTS: Bucket Truck, tools, safety equipment.

SPECIAL INSTRUCTIONS:



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

TAB C (Condition II Call Back) to APPENDIX B (Assignment of Essential Personnel)

TEAM: Electrical Distribution Repair Team #2

DUTIES: Repair damaged powerlines needed to restore emergency electrical power to bldgs. Cut off power to broken lines which would start fires or endanger personnel

WHEN CALLED: Condition II.

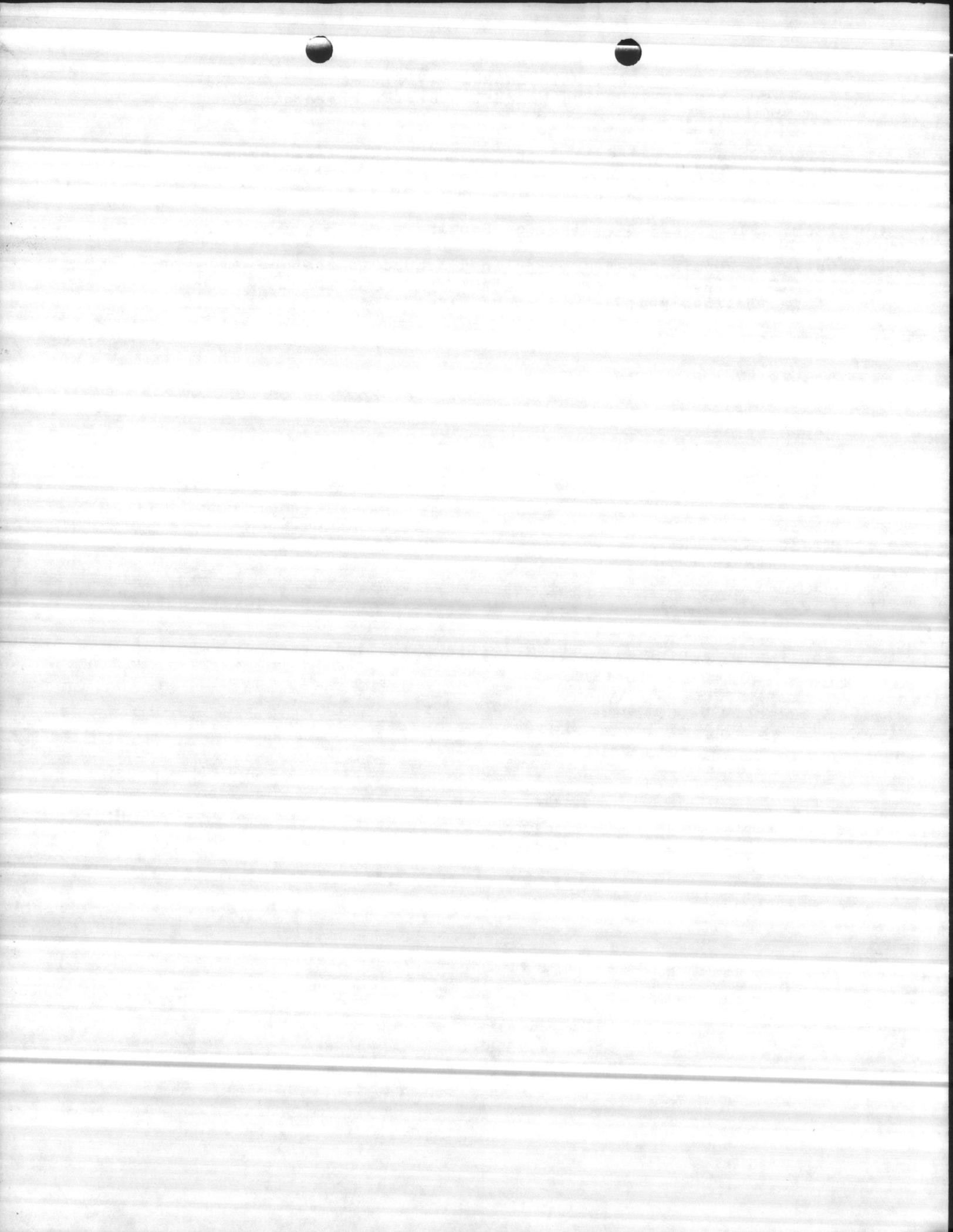
CALLED BY: Duty Hours - Appropriate Branch
Non-duty Hours - Utilities Foreman or DCRC

COMPOSITION:

<u>Title</u>	<u>Required for</u>		<u>Shop</u>	<u>Name</u>	<u>Tele</u>
	<u>Des</u>	<u>W</u>			
Electrician (HV)	X		82	-----	-----
Electrician (HV)	X		82	-----	-----
Electrician (HV)	X		82	-----	-----
-----	--	--	-----	-----	-----
-----	--	--	-----	-----	-----

EQUIPMENT REQUIREMENTS: Bucket Truck, tools, safety equipment.

SPECIAL INSTRUCTIONS:



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

TAB C (Condition II Call Back) to APPENDIX B (Assignment of Essential Personnel)

TEAM: Roads and Grounds Team (MCAS/Geiger)

DUTIES: Move/Secure materials, etc.

WHEN CALLED: Condition II.

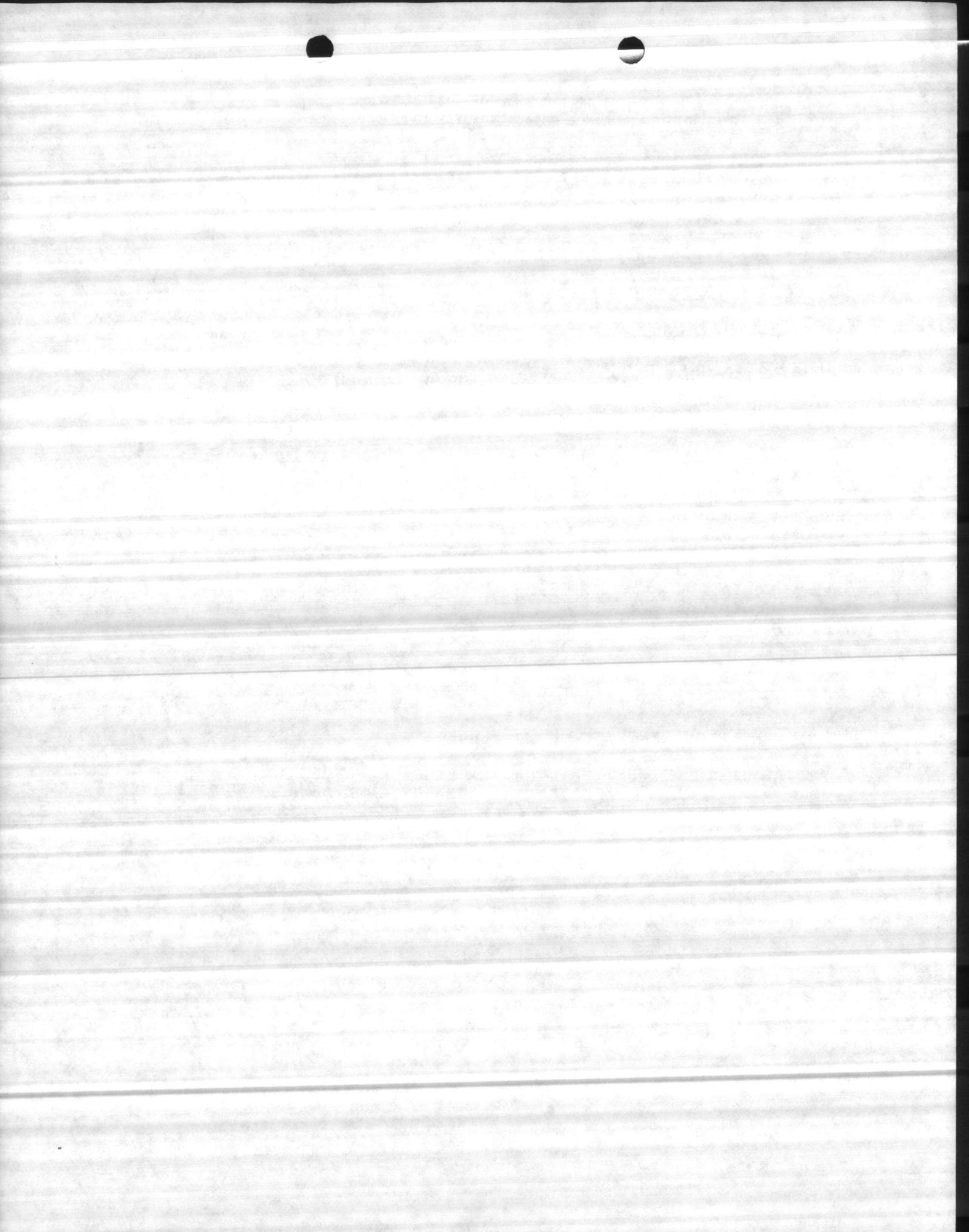
CALLED BY: Duty Hours - Appropriate Branch
Non-duty Hours - Night Foreman/NCO

COMPOSITION:

<u>Title</u>	<u>Required for</u>			<u>Name</u>	<u>Tele</u>
	<u>Des</u>	<u>W</u>	<u>Snow</u>		
Gds Struc Foreman	X		X	32	-----
Motor Veh Operator	X		X	.	-----
Motor Veh Operator	X			.	-----
Motor Veh Operator	X			.	-----
Heavy Equip Operator	X			.	-----
Heavy Equip Operator	X			.	-----
Laborer	X			.	-----
Laborer	X			.	-----
-----	--		--	-----	-----
-----	--		--	-----	-----

EQUIPMENT REQUIREMENTS: Dump trucks

SPECIAL INSTRUCTIONS: Remove all hanging signs. Move loose material inside. During snow conditions. have plow and spreader installed on truck.



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

TAB C (Condition II Call Back) to APPENDIX B (Assignment of Essential Personnel)

TEAM: Disaster Control Team (Steam Generation)

DUTIES: Perform emergency actions as outlined in Section III.

WHEN CALLED: Condition II.

CALLED BY: Duty Hours - Appropriate Branch
Non-duty Hours - Utilities Foreman

COMPOSITION:

<u>Title</u>	<u>Required for</u>			<u>Shop</u>	<u>Name</u>	<u>Tele</u>
	<u>Des</u>	<u>W</u>	<u>Snow</u>			
Boiler Plt Oper Frmn	X		X	81	-----	-----
Boiler Plt Eq Mech Frmn	X		X	.	-----	-----
Instrument Mech	X		X	.	-----	-----
Boiler Mechanic	X		X	.	-----	-----
Boiler Mechanic	X		X	.	-----	-----
Boiler Mechanic	X		X	.	-----	-----
Boiler Mechanic	X		X	.	-----	-----
-----	--	--	--	-----	-----	-----
-----	--	--	--	-----	-----	-----

EQUIPMENT REQUIREMENTS:

SPECIAL INSTRUCTIONS: See Section III of the Destructive .
Weather/Disaster Preparedness SOP..



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

TAB C (Condition II Call Back) to APPENDIX B (Assignment of Essential Personnel)

TEAM: Disaster Control Team (Steam Distribution)

DUTIES: Perform emergency actions as outlined in Section III.

WHEN CALLED: Condition II.

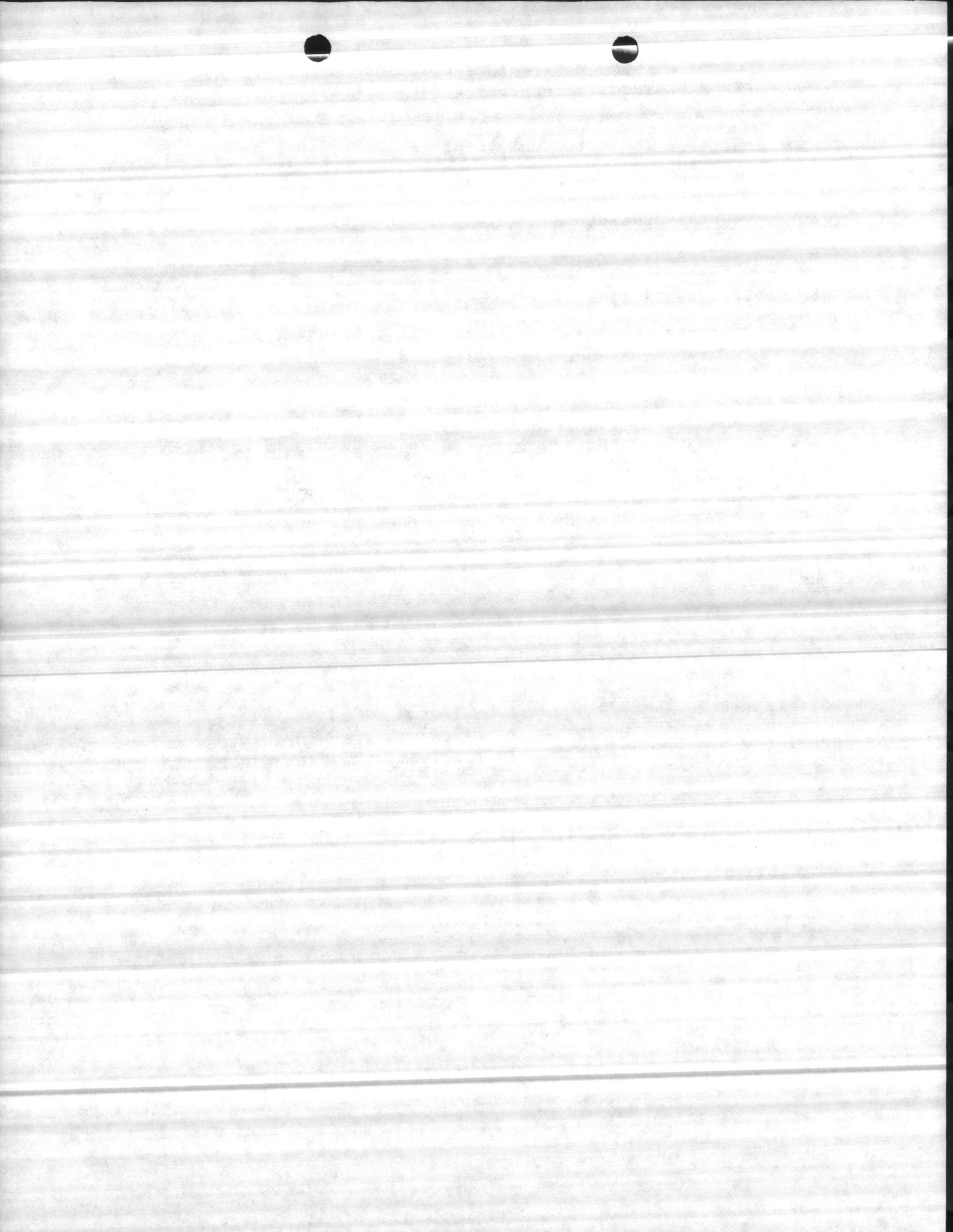
CALLED BY: Duty Hours - Appropriate Branch
Non-duty Hours - Utilities Foreman

COMPOSITION:

Title	Required for			Shop	Name	Tele
	Des	W	Snow			
Steam Dist Foreman	X		X	81	-----	-----
Pipefitter	X		X	.	-----	-----
Pipefitter	X		X	.	-----	-----
Pipefitter	X		X	.	-----	-----
Pipefitter	X		X	.	-----	-----
Pipefitter	X		X	.	-----	-----
Pipefitter	X		X	.	-----	-----
Welder	X		X	.	-----	-----
-----	--		--	-----	-----	-----
-----	--		--	-----	-----	-----

EQUIPMENT REQUIREMENTS:

SPECIAL INSTRUCTIONS: See Section III of the Destructive .
Weather/Disaster Preparedness SOP..



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

TAB C (Condition II Call Back) to APPENDIX B (Assignment of Essential Personnel)

TEAM: Disaster Control Team (Water Treatment)

DUTIES: Perform emergency actions as outlined in Section III.

WHEN CALLED: Condition II.

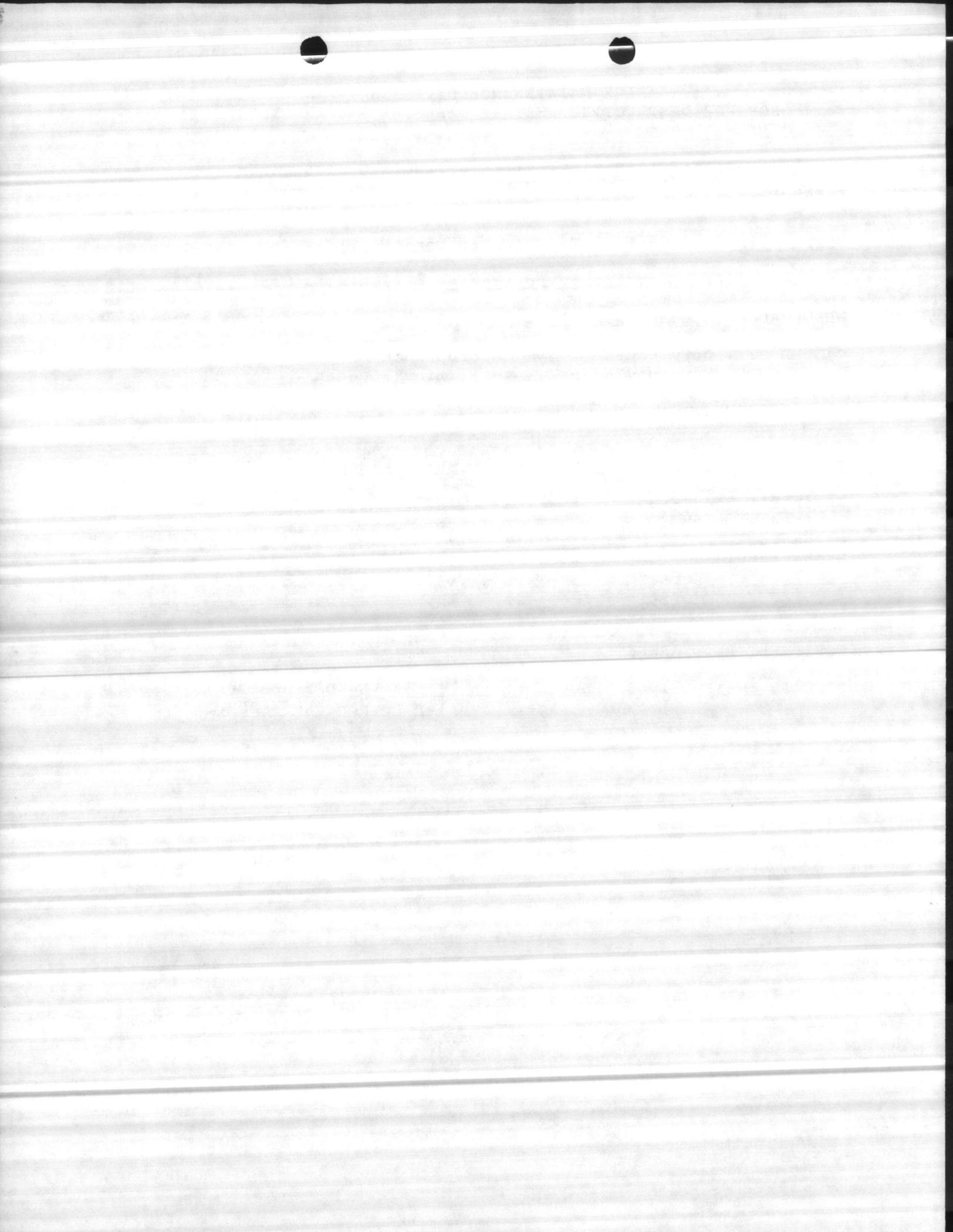
CALLED BY: Duty Hours - Appropriate Branch
Non-duty Hours - Utilities Foreman

COMPOSITION:

<u>Title</u>	<u>Required for</u>			<u>Shop</u>	<u>Name</u>	<u>Tele</u>
	<u>Des</u>	<u>W</u>	<u>Snow</u>			
Water Plt Oper Frmn	X		X	83	-----	----
Instrument Mech	X		X	.	-----	----
Mechanic	X		X	.	-----	----
Mechanic	X		X	.	-----	----
-----	--	--	--	----	-----	----
-----	--	--	--	----	-----	----

EQUIPMENT REQUIREMENTS:

SPECIAL INSTRUCTIONS: See Section III of the Destructive .
Weather/Disaster Preparedness SOP..



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

TAB C (Condition II Call Back) to APPENDIX B (Assignment of Essential Personnel)

TEAM: Disaster Control Team (Sewage Treatment)

DUTIES: Perform emergency actions as outlined in Section III.

WHEN CALLED: Condition II.

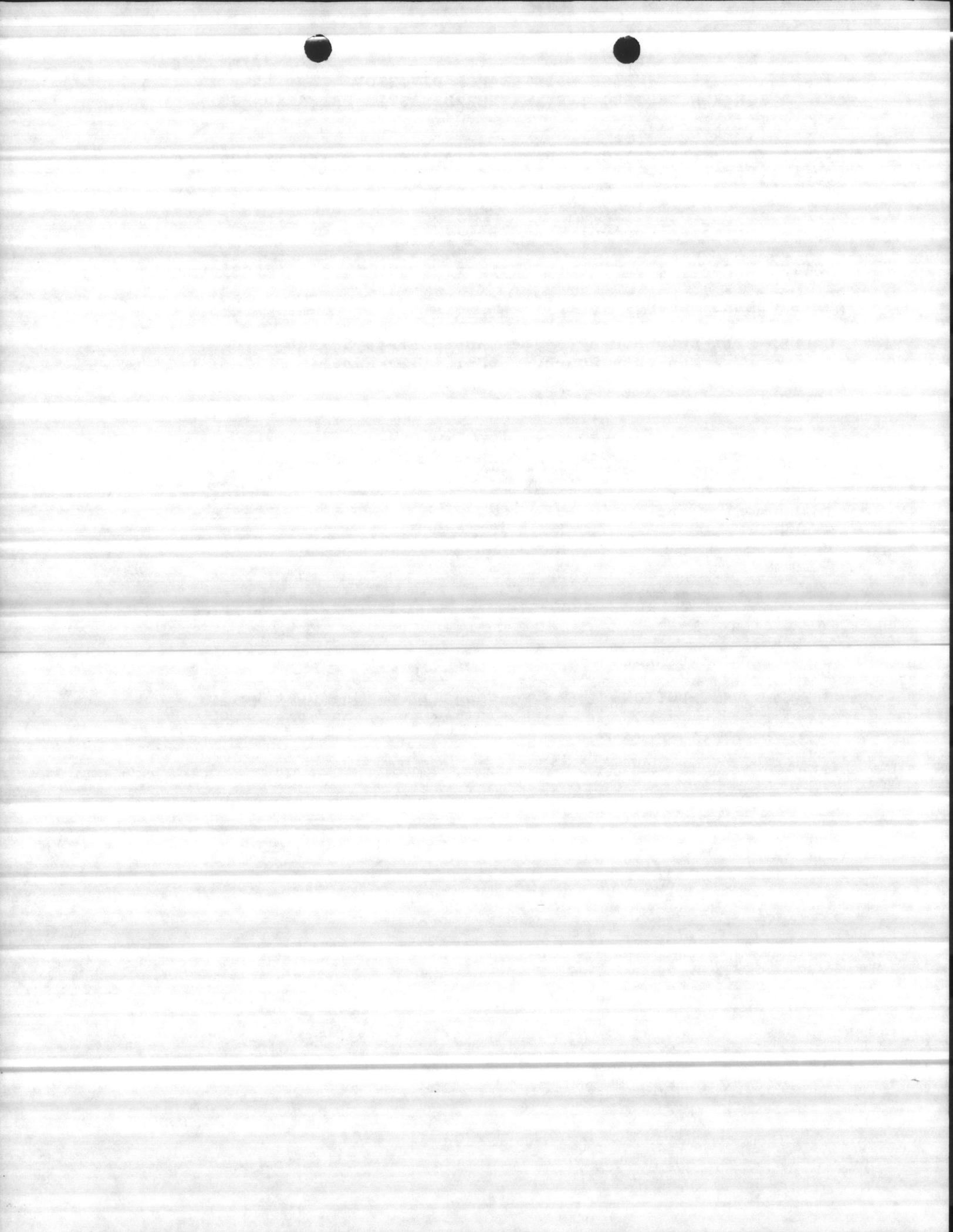
CALLED BY: Duty Hours - Appropriate Branch
Non-duty Hours - Utilities Foreman

COMPOSITION:

<u>Title</u>	<u>Required for</u>			<u>Shop</u>	<u>Name</u>	<u>Tele</u>
	<u>Des</u>	<u>W</u>	<u>Snow</u>			
Sewage Plt Oper Frmn	X		X	84	-----	-----
Instrument Mech	X		X	.	-----	-----
Mechanic	X		X	.	-----	-----
Mechanic	X		X	.	-----	-----
Welder	X		X	.	-----	-----
-----	--		--	-----	-----	-----
-----	--		--	-----	-----	-----

EQUIPMENT REQUIREMENTS:

SPECIAL INSTRUCTIONS: See Section III of the Destructive .
Weather/Disaster Preparedness SOP..



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

TAB C (Condition II Call Back) to APPENDIX B (Assignment of Essential Personnel)

TEAM: Disaster Control Team (Electric Distribution)

DUTIES: Perform emergency actions as outlined in Section III.

WHEN CALLED: Condition II.

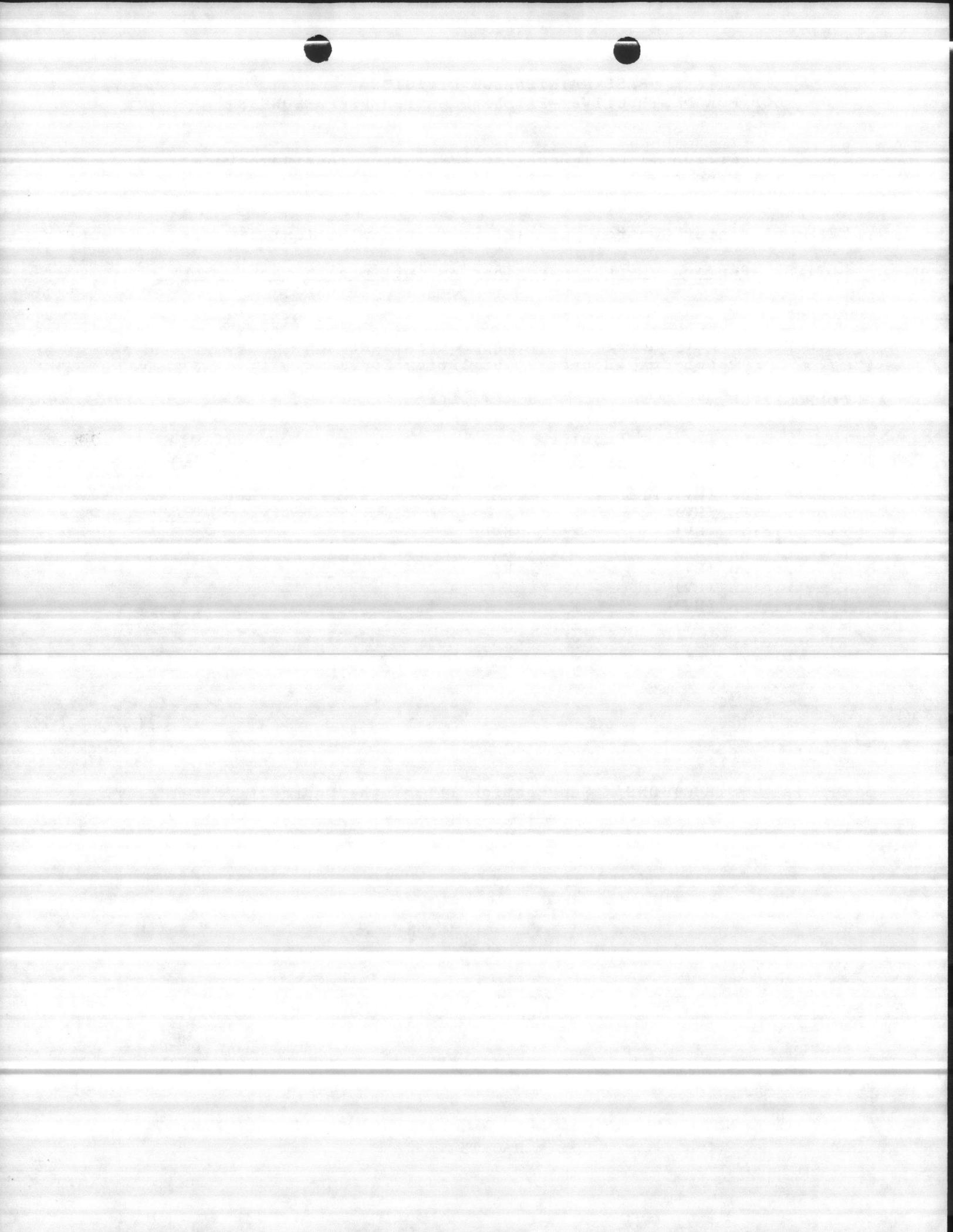
CALLED BY: Duty Hours - Appropriate Branch
Non-duty Hours - Utilities Foreman

COMPOSITION:

<u>Title</u>		<u>Required for</u>			<u>Name</u>	<u>Tele</u>
		<u>Des</u>	<u>W</u>	<u>Snow</u>		
Electrician (HV) Frmn		X		X	82	-----
Electrician (HV)		X		X	.	-----
Electrician (HV)		X		X	.	-----
Electrician (HV)		X		X	.	-----
Electrician (HV)		X		X	.	-----
Electrician (HV)		X		X	.	-----
Electrician (HV)		X		X	.	-----
Electrician (HV)		X		X	.	-----
Electrician (HV)		X		X	.	-----
-----		--		--	-----	-----
-----		--		--	-----	-----

EQUIPMENT REQUIREMENTS:

SPECIAL INSTRUCTIONS: See Section III of the Destructive Weather/Disaster Preparedness SOP.



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

TAB C (Condition II Call Back) to APPENDIX B (Assignment of Essential Personnel)

TEAM: Disaster Control Team (Outside Plumbing)

DUTIES: Perform emergency actions as outlined in Section III.

WHEN CALLED: Condition II.

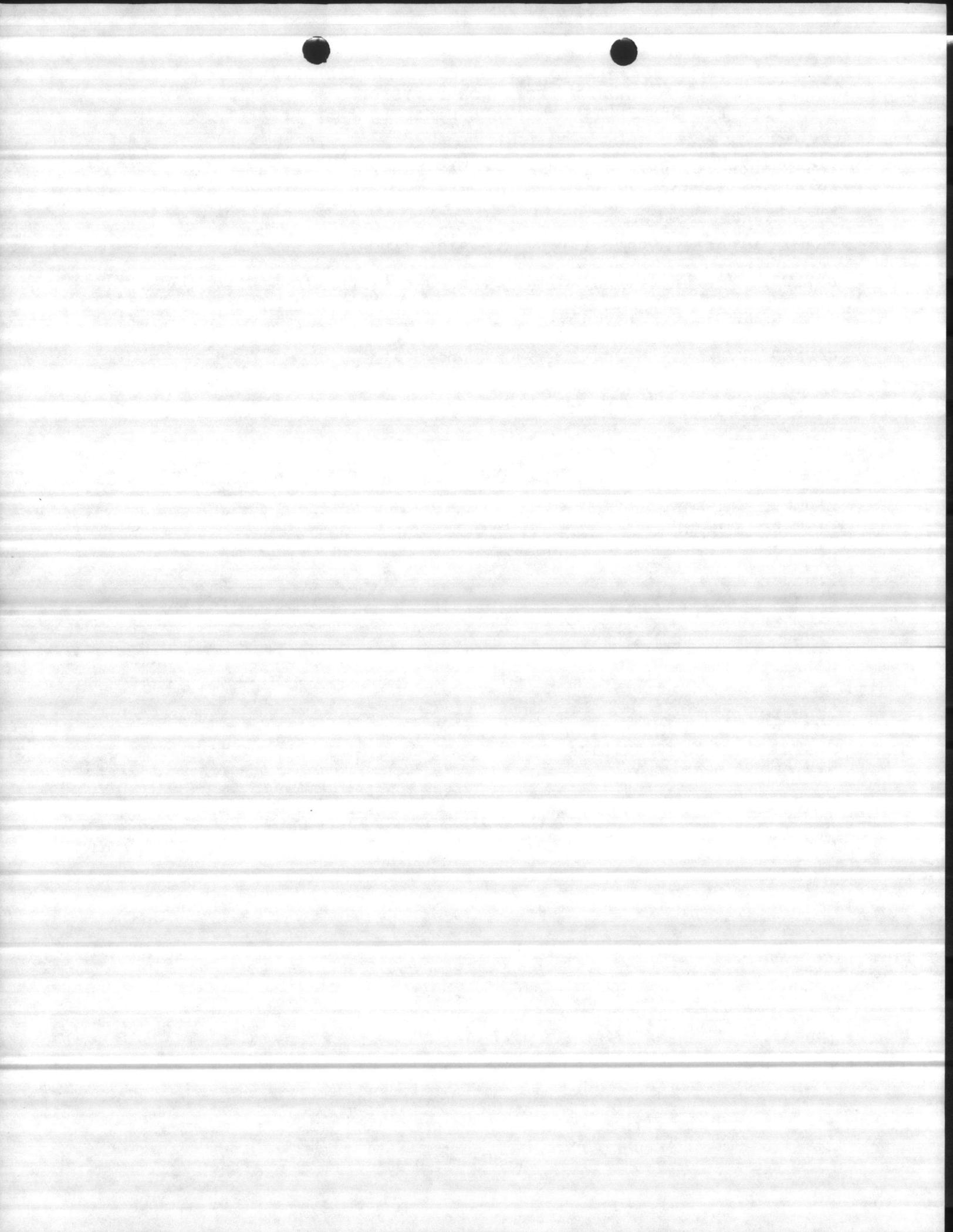
CALLED BY: Duty Hours - Appropriate Branch
Non-duty Hours - Utilities Foreman

COMPOSITION:

<u>Title</u>	<u>Required for</u>			<u>Shop</u>	<u>Name</u>	<u>Tele</u>
	<u>Des</u>	<u>W</u>	<u>Snow</u>			
Plumber Foreman	X		X	86	-----	-----
Plumber	X		X	.	-----	-----
Plumber	X		X	.	-----	-----
Plumber			X	.	-----	-----
Plumber Wkr	X		X	.	-----	-----
Plumber Wkr	X		X	.	-----	-----
Plumber Helper	X		X	.	-----	-----
Plumber Helper	X		X	.	-----	-----
Plumber Helper	X		X	.	-----	-----
Laborer	X		X	.	-----	-----
-----	--		--	-----	-----	-----
-----	--		--	-----	-----	-----

EQUIPMENT REQUIREMENTS:

SPECIAL INSTRUCTIONS: See Section III of the Destructive .
Weather/Disaster Preparedness SOP..



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

TAB C (Condition II Call Back) to APPENDIX B (Assignment of Essential Personnel)

TEAM: Snow Plow Team 1 (Marine Corps Base)

DUTIES: Prepare to plow priority streets and parking areas as directed.

WHEN CALLED: Condition II.

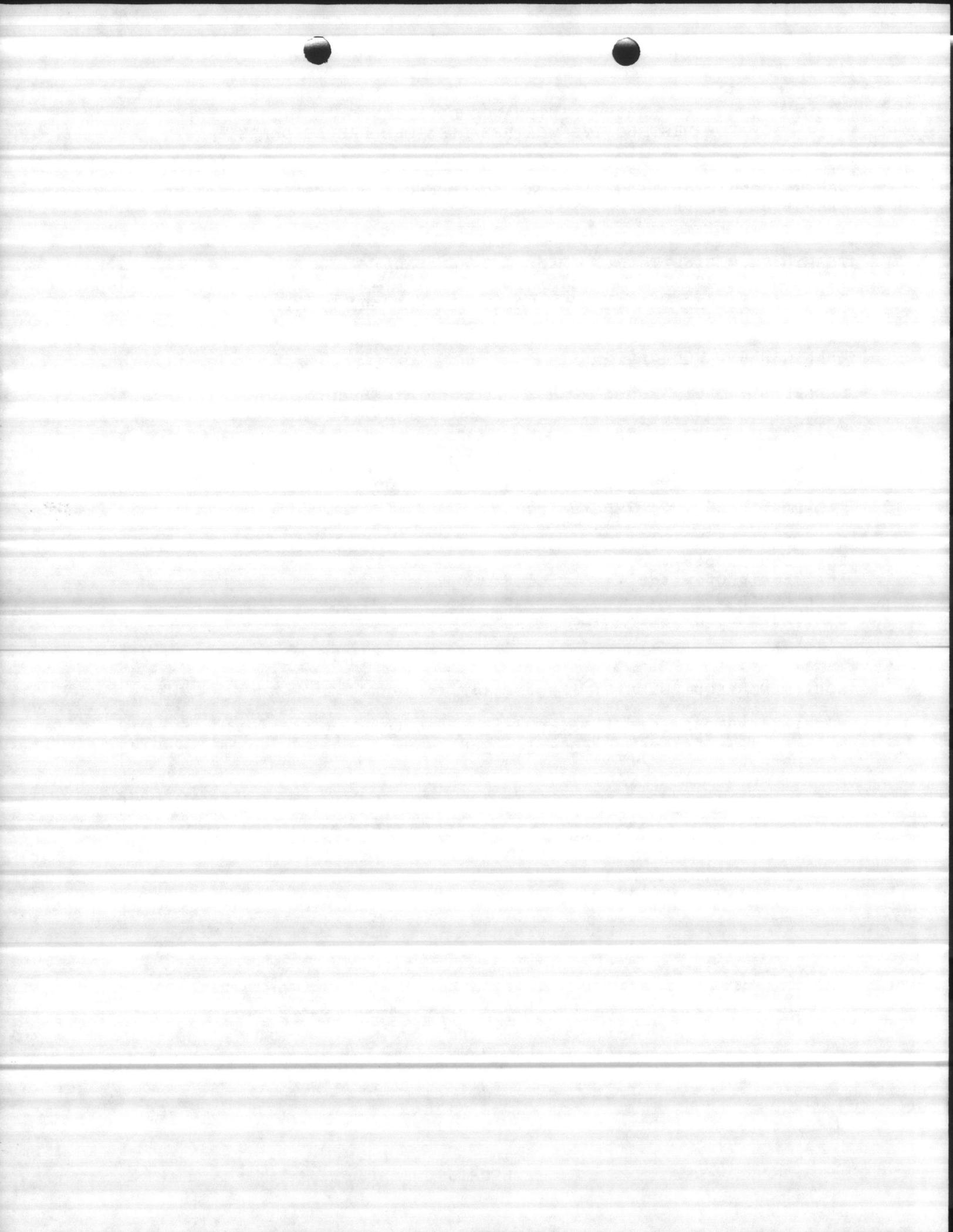
CALLED BY: Duty Hours - Appropriate Branch
Non-duty Hours - Night Foreman/NCO

COMPOSITION:

<u>Title</u>	<u>Required for</u>			<u>Name</u>	<u>Tele</u>
	<u>Des</u>	<u>W</u>	<u>Snow</u>		
Engr Equip Operator			X	72	-----
Engr Equip Operator			X	.	-----
Engr Equip Operator			X	.	-----
Engr Equip Operator			X	.	-----
-----	--	--		-----	-----
-----	--	--		-----	-----

EQUIPMENT REQUIREMENTS: Four motor graders.

SPECIAL INSTRUCTIONS: Motor graders to be staged at Bldg 45 and Bldg 738.



**BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS**

TAB D (Condition I Call Back) to APPENDIX B (Assignment of Essential Personnel)

TEAM: Damage Control and Recovery Center (DCRC) Augmentation Team

DUTIES: Man the Damage Control and Recovery Center.

WHEN CALLED: Condition I.

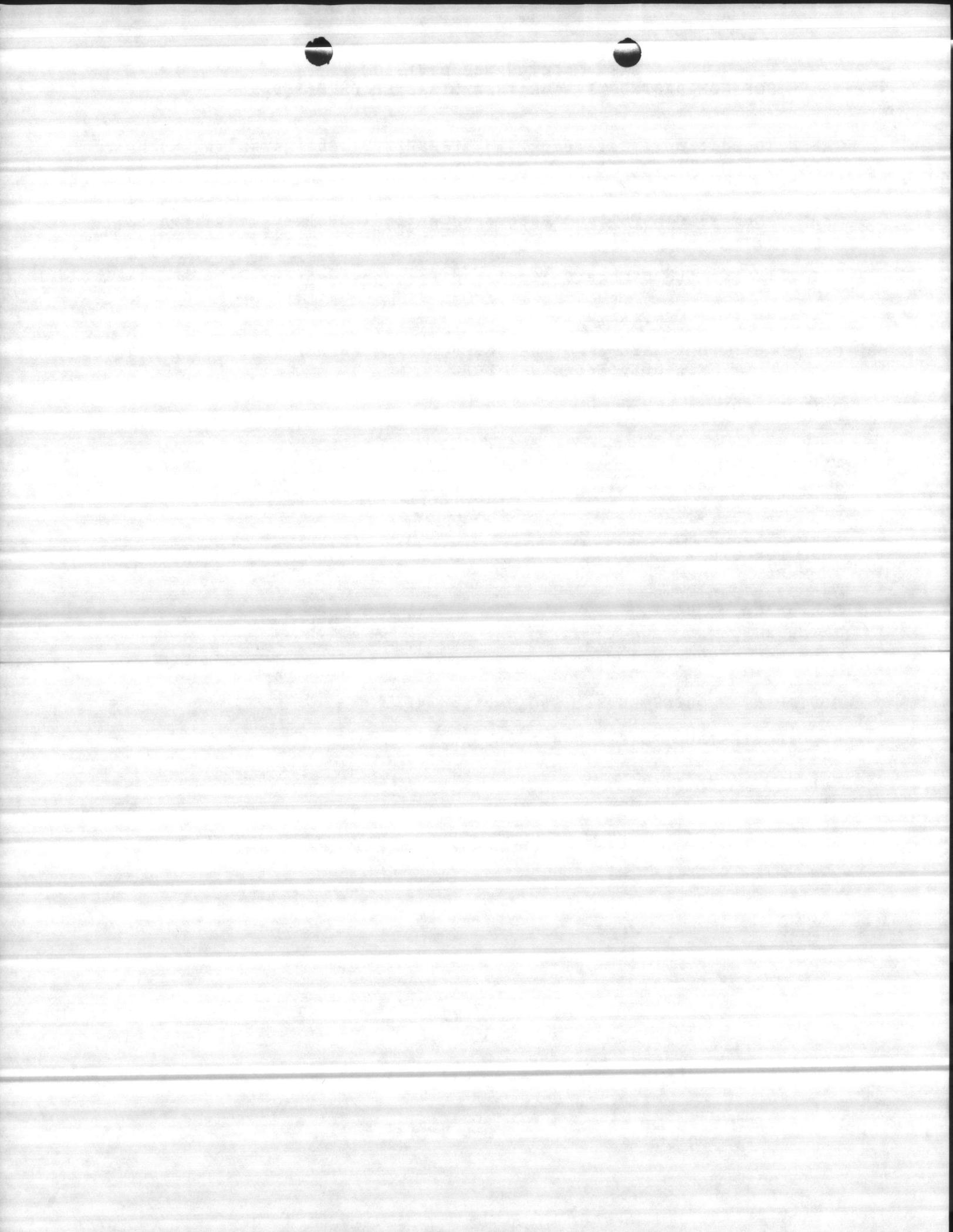
CALLED BY: Duty Hours - Appropriate Branch
Non-duty Hours - DCRC

COMPOSITION:

<u>Title</u>	<u>Required for</u>			<u>Shop</u>	<u>Name</u>	<u>Tele</u>
	<u>Des</u>	<u>W</u>	<u>Snow</u>			
Supv P&E		X		Opns	-----	-----
Planner/Estimator		X		.	-----	-----
Inspection Frmn		X		.	-----	-----
Work Rec Clerk		X	X	.	-----	-----
Work Rec Clerk		X	X	.	-----	-----
Gen Svcs Gen Frmn		X	X	M&R	-----	-----
Senior Supv, Util		X	X	Util	-----	-----
-----	---	---	---	-----	-----	-----
-----	---	---	---	-----	-----	-----

EQUIPMENT REQUIREMENTS: See Section VII.

SPECIAL INSTRUCTIONS: See Section VII.



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

TAB D (Condition I Call Back) to APPENDIX B (Assignment of Essential Personnel)

TEAM: Maintenance & Repair Generator Team

DUTIES: Respond to emergencies as directed by the DCRC.

WHEN CALLED: Condition I.

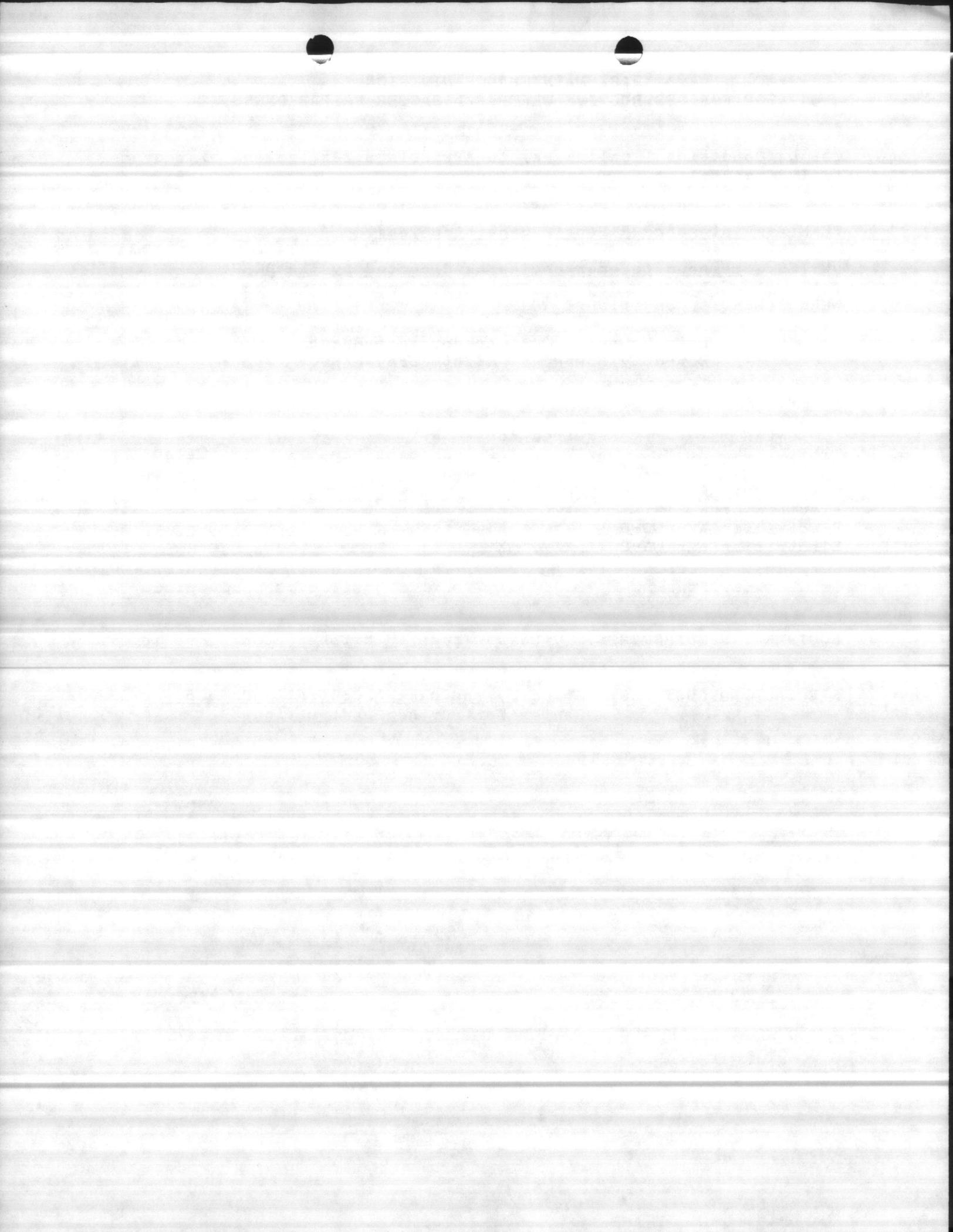
CALLED BY: Duty Hours - Appropriate Branch
Non-duty Hours - Night Foreman/NCO

COMPOSITION:

<u>Title</u>	<u>Required for</u>			<u>Shop</u>	<u>Name</u>	<u>Tele</u>
	<u>Des</u>	<u>W</u>	<u>Snow</u>			
Elect Equip Mech WG-10	X		X	41	-----	-----
Electrician WG-10	X		X	41	-----	-----
Electrician Wkr WG-8	X		X	41	-----	-----
Electrician Wkr WG-8	X		X	41	-----	-----
-----	--		--	-----	-----	-----
-----	--		--	-----	-----	-----

EQUIPMENT REQUIREMENTS: Trucks w/trailer hitches, tools, radio.

SPECIAL INSTRUCTIONS: Stand by the Damage Control and Recovery Center for further instructions.



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

TAB D (Condition I Call Back) to APPENDIX B (Assignment of Essential Personnel)

TEAM: Maintenance & Repair Destructive Weather Team (TT Area)

DUTIES: Respond to emergencies as directed and shut down all large air conditioning units.

WHEN CALLED: Condition I.

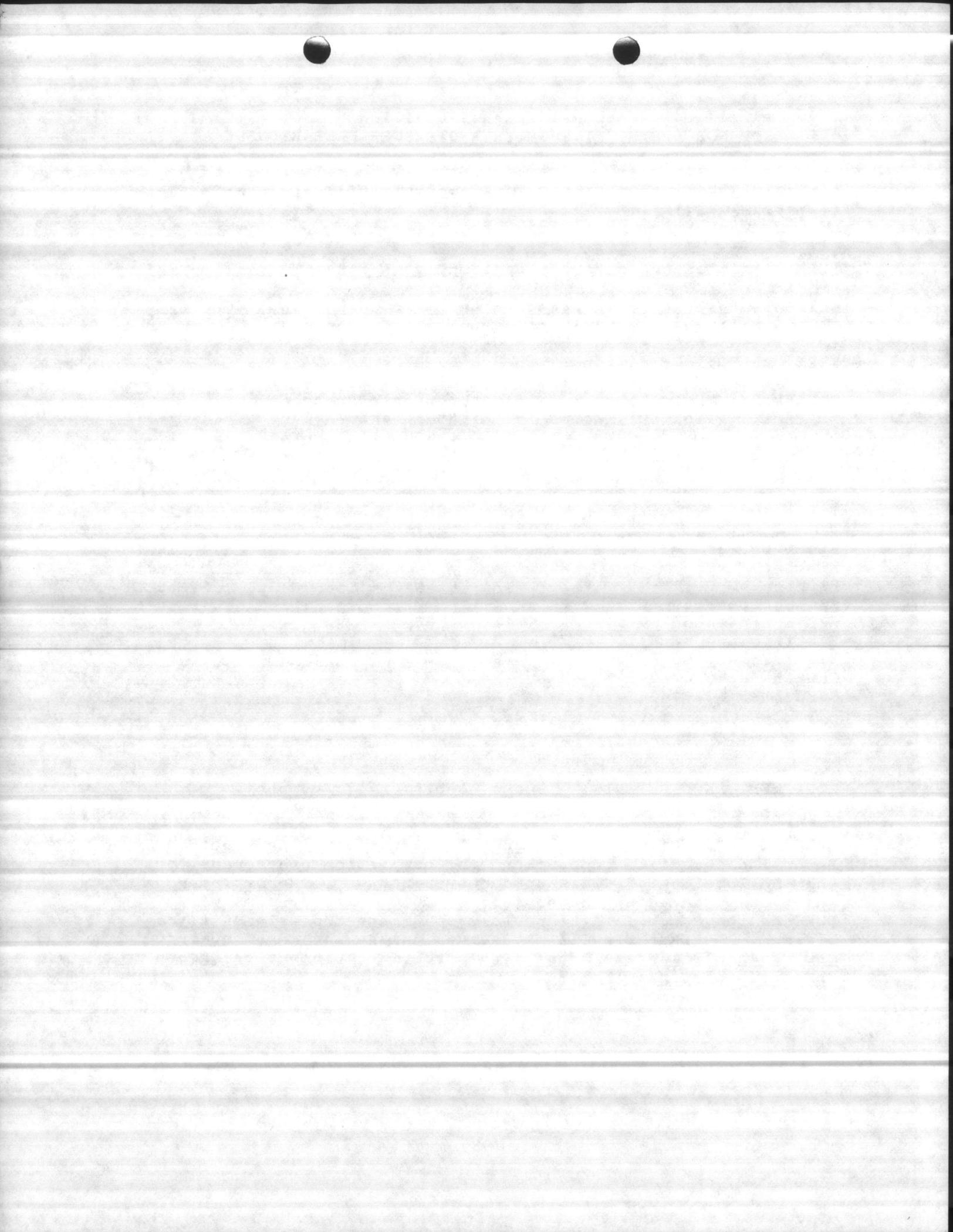
CALLED BY: Duty Hours - Appropriate Branch
Non-duty Hours - Night Foreman/NCO or DCRC

COMPOSITION:

<u>Title</u>	<u>Required for</u>			<u>Shop</u>	<u>Name</u>	<u>Tele</u>
	<u>Des</u>	<u>W</u>	<u>Snow</u>			
Elect Eq Mech WG-10	X	X	X	33	-----	-----
Plumber WG-9	X	X	X	33	-----	-----
Plumber WG-9	X	X	X	33	-----	-----
A/C Equip Mech WG-8	X	X	X	33	-----	-----
A/C Equip Mech WG-8	X	X	X	33	-----	-----
Electrician WG-8/10	X	X	X	33	-----	-----
Electrician WG-8/10	X	X	X	33	-----	-----
Carpenter WG-07/09	X	X	X	33	-----	-----
Carpenter WG-07/09	X	X	X	33	-----	-----
-----	---	---	---	-----	-----	-----
-----	---	---	---	-----	-----	-----

EQUIPMENT REQUIREMENTS: Trucks, tools, radio/beeper.

SPECIAL INSTRUCTIONS: Call additional personnel as required. Report to immediate supervisor, the completion of preparations and the location of designated duty personnel. Report personal injuries to immediate supervisor or DCRC. Report damages to the DCRC as they occur. Attempt to keep damage from elements to a minimum. Weather permitting, survey damage and make repairs. Shut down all large A/C units to preclude equipment breakdown in the event of single phase..



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

TAB D (Condition I Call Back) to APPENDIX B (Assignment of Essential Personnel)

TEAM: Maintenance & Repair Destructive Weather Team

DUTIES: Provide emergency maintenance services and shut down all large air conditioning units.

WHEN CALLED: Condition I.

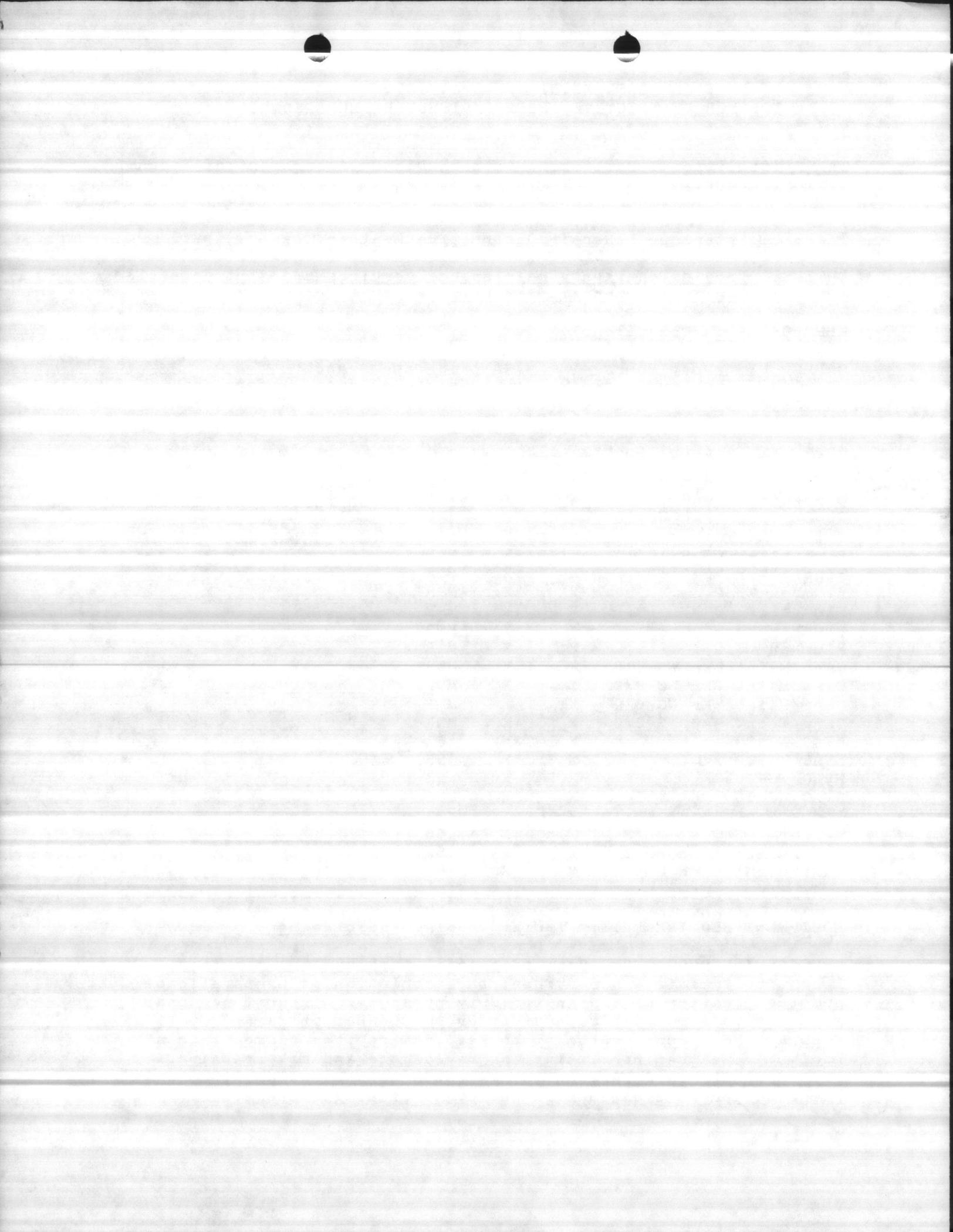
CALLED BY: Duty Hours - Appropriate Branch
Non-duty Hours - Night Foreman/NCO or DCRC

COMPOSITION:

Title	Required for			Name	Tele
	Des	W	Snow		
A/C Mech Frmn WS-10	X		X	53	-----
Carpenter Frmn WS-9/10	X		X	41	-----
Electrical Frmn WS-10	X		X	41	-----
Galley Eq Mech WG-9	X		X	53	-----
Pipefitter WG-8/10	X		X	M&R	-----
Pipefitter WG-8/10	X		X	M&R	-----
Plumber WG-9	X		X	M&R	-----
Plumber WG-9	X		X	M&R	-----
Plumber WG-9	X		X	M&R	-----
Plumber WG-9	X		X	M&R	-----
Carp/Maint Wkr WG-8/9	X		X	M&R	-----
Carp/Maint Wkr WG-8/9	X		X	M&R	-----
Carp/Maint Wkr WG-8/9	X		X	M&R	-----
Carp/Maint Wkr WG-8/9	X		X	M&R	-----
HVAC WG-10	X		X	53	-----
HVAC WG-10	X		X	53	-----
HVAC WG-10	X		X	53	-----
HVAC WG-10	X		X	53	-----
Indus Mech (Gas) WG-10	X		X	53	-----
Welder WG-10	X		X	63	-----
Instrument Mech WG-10	X		X	53	-----
Instrument Mech WG-10	X		X	53	-----
-----	---		---	-----	-----

EQUIPMENT REQUIREMENTS: Trucks, tools, radio/beeper.

SPECIAL INSTRUCTIONS: Call additional personnel as required. Report to immediate supervisor, the completion of preparations and the location of designated duty personnel. Report personal injuries to immediate supervisor or DCRC. Report damages to the DCRC as they occur. Attempt to keep damage from elements to a minimum. Weather permitting, survey damage and make repairs. Shut down all large A/C units, except H-type barracks, to preclude equipment breakdown in the event of single phase.



**BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS**

TAB D (Condition I Call Back) to APPENDIX B (Assignment of Essential Personnel)

TEAM: Roads and Grounds Team (MCAS/Geiger)

DUTIES: Keep designated roads open and storm drains clear of debris. Spread deicing compound at entrances to bldgs.

WHEN CALLED: Condition I.

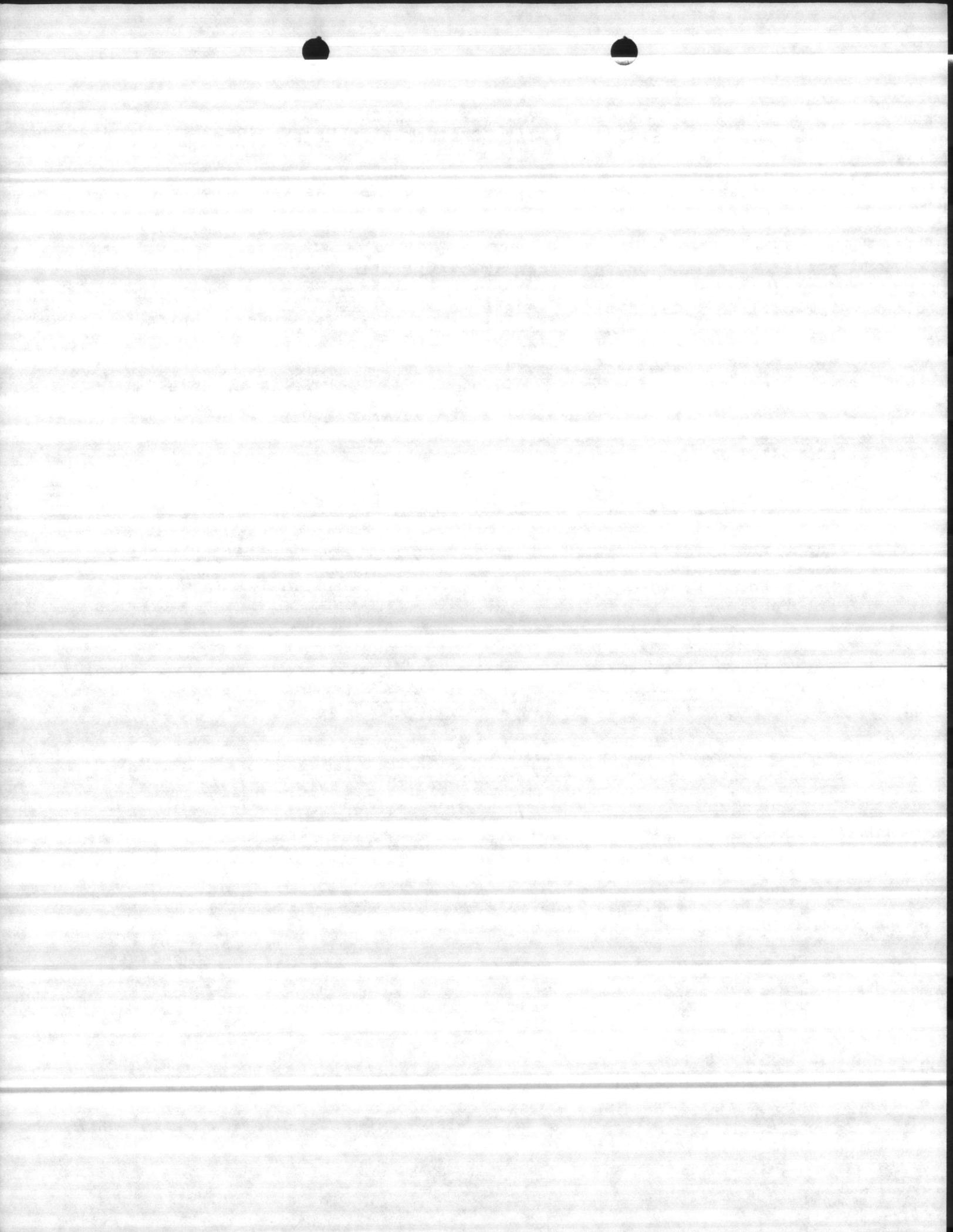
CALLED BY: Duty Hours - Appropriate Branch
Non-duty Hours - Night Foreman/NCO or DCRC

COMPOSITION:

<u>Title</u>	<u>Required for</u>			<u>Shop</u>	<u>Name</u>	<u>Tele</u>
	<u>Des</u>	<u>W</u>	<u>Snow</u>			
Gds Struc Foreman	X		X	32	-----	-----
Motor Veh Operator	X		X	.	-----	-----
Heavy Equip Operator	X		X	.	-----	-----
Laborer	X		X	.	-----	-----
-----	--		--	-----	-----	-----
-----	--		--	-----	-----	-----

EQUIPMENT REQUIREMENTS: Dump truck, 4-wheel drive pickup, motor grader.

SPECIAL INSTRUCTIONS: Sand should be dry for spreading..
Snow removal per Appendix E.



**BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS**

TAB D (Condition I Call Back) to APPENDIX B (Assignment of Essential Personnel)

TEAM: Destructive Weather Team (MCAS/Geiger)

DUTIES: Perform emergency repairs as required

WHEN CALLED: Condition I.

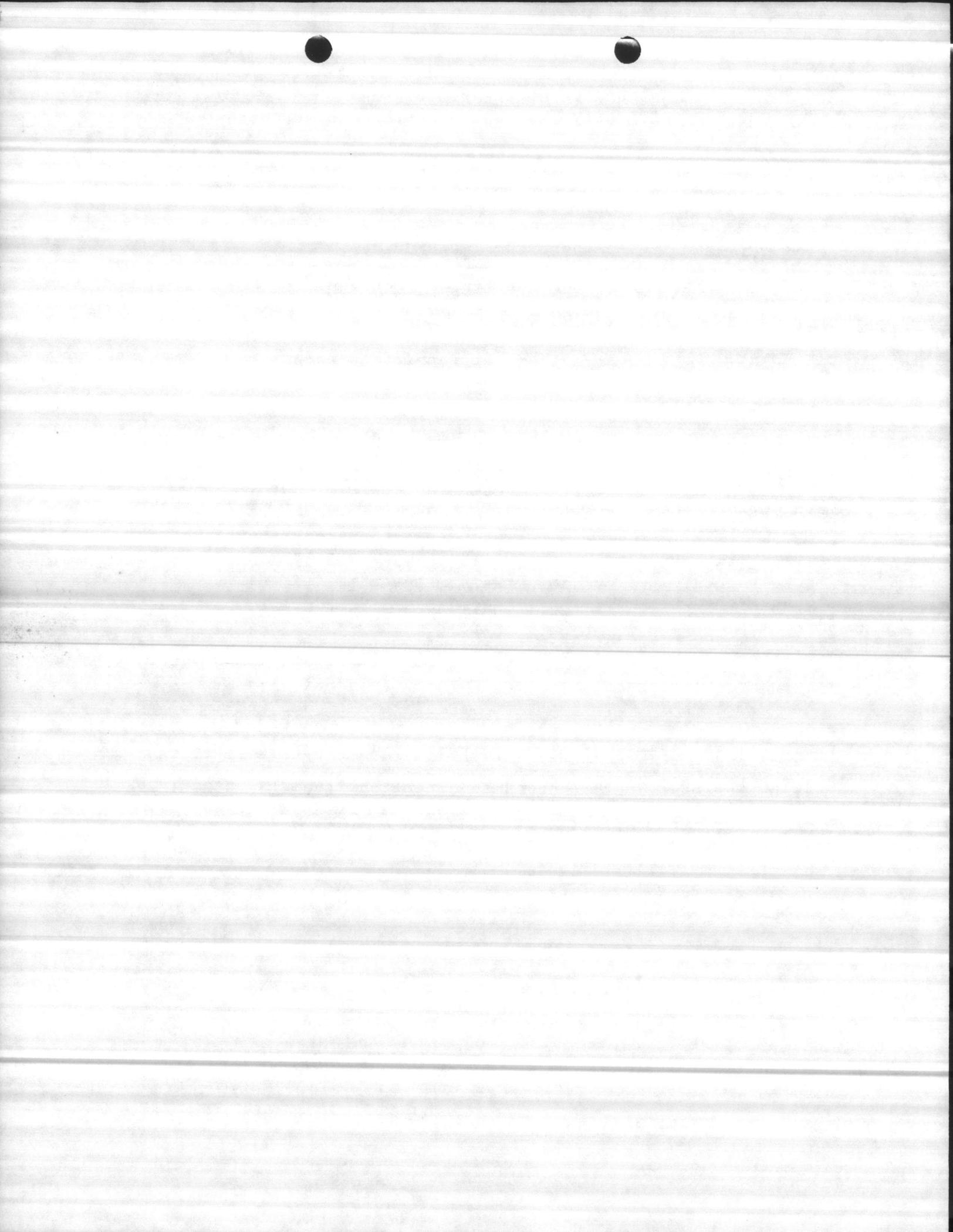
CALLED BY: Duty Hours - Appropriate Branch
Non-duty Hours - Night Foreman/NCO or DCRC

COMPOSITION:

<u>Title</u>	<u>Required for</u>			<u>Name</u>	<u>Tele</u>
	<u>Des</u>	<u>W</u>	<u>Snow</u>		
Maint Gen Foreman	X	X	32	-----	-----
Maint Foreman	X	X	.	-----	-----
Electrician	X	X	.	-----	-----
Electrician (HV)	X	X	.	-----	-----
A/C Eq Mechanic	X	X	.	-----	-----
A/C Eq Mechanic	X	X	.	-----	-----
Pipefitter	X	X	.	-----	-----
Plumber	X	X	.	-----	-----
Carpenter	X	X	.	-----	-----
-----	---	---	-----	-----	-----
-----	---	---	-----	-----	-----

EQUIPMENT REQUIREMENTS: Bucket truck, 4-wheel drive vehicle.

SPECIAL INSTRUCTIONS: Respond to directions from the DCRC (Base Maintenance and the DWOC (MCAS)).



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

TAB D (Condition I Call Back) to APPENDIX B (Assignment of Essential Personnel)

TEAM: Disaster Control Team (Utility Operations)

DUTIES: Perform emergency actions as outlined in Section III.

WHEN CALLED: Condition I.

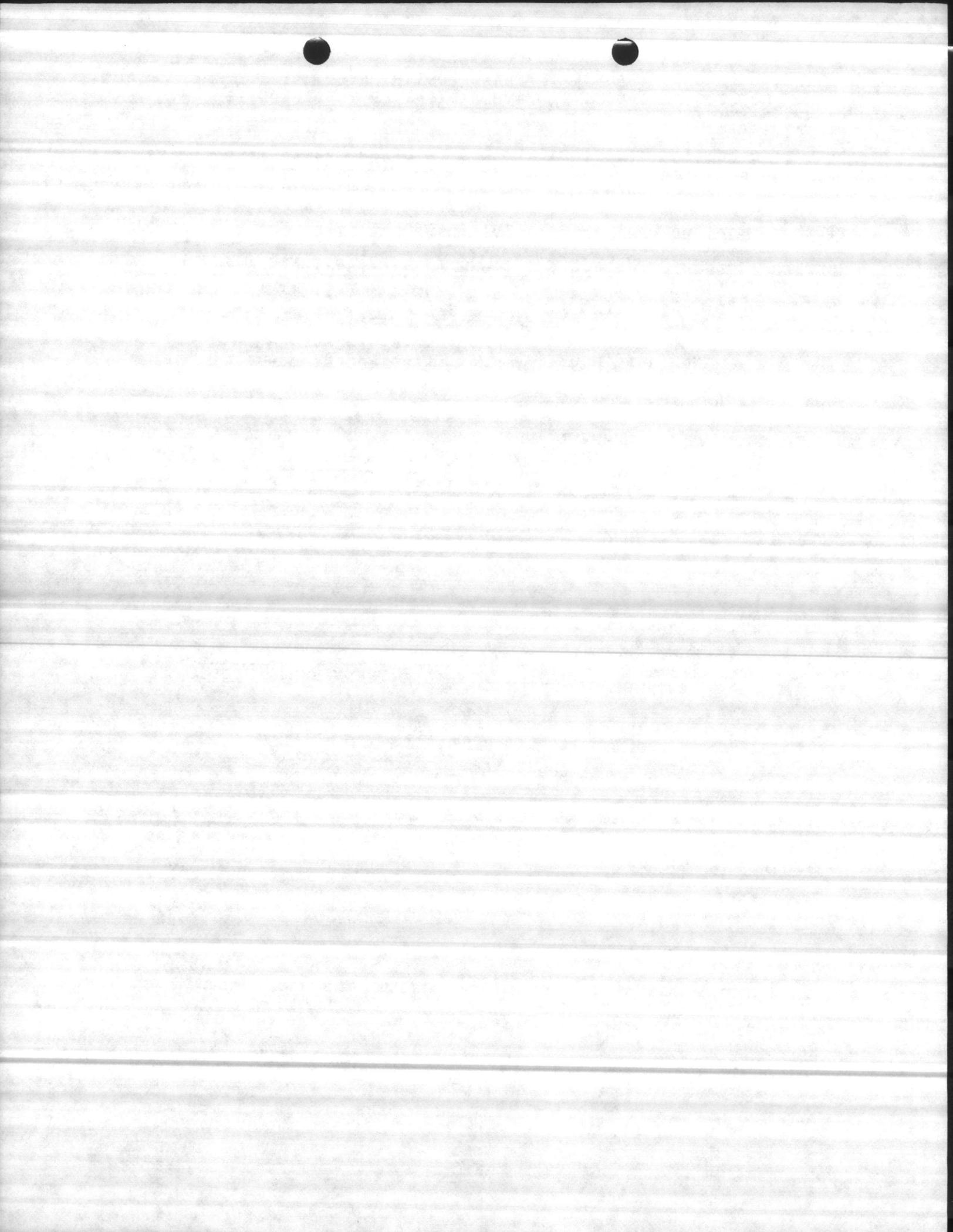
CALLED BY: Duty Hours - Appropriate Branch
Non-duty Hours - Utilities Foreman

COMPOSITION:

<u>Title</u>	<u>Required for</u>			<u>Shop</u>	<u>Name</u>	<u>Tele</u>
	<u>Des</u>	<u>W</u>	<u>Snow</u>			
Asst Utilities Director	X		X	Util	-----	----
Boiler Plt Op Gen Frmn	X		X	81	-----	----
Water/Wastewater Gen F	X		X	83	-----	----
-----	--		--	----	-----	----
-----	--		--	----	-----	----

EQUIPMENT REQUIREMENTS:

SPECIAL INSTRUCTIONS: See Section III of the Destructive Weather/Disaster Preparedness SOP.



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

APPENDIX C

COMMUNICATIONS

A. PURPOSE. To provide adequate communications in support of destructive weather/disaster operations.

B. COMMUNICATIONS MEANS. Routine communications sources (telephone and commercial radio) normally utilized within the Base Maintenance Division will be available. Additionally, the Damage Control and Recovery Center (DCRC) may be augmented with tactical military radio equipment as deemed necessary.

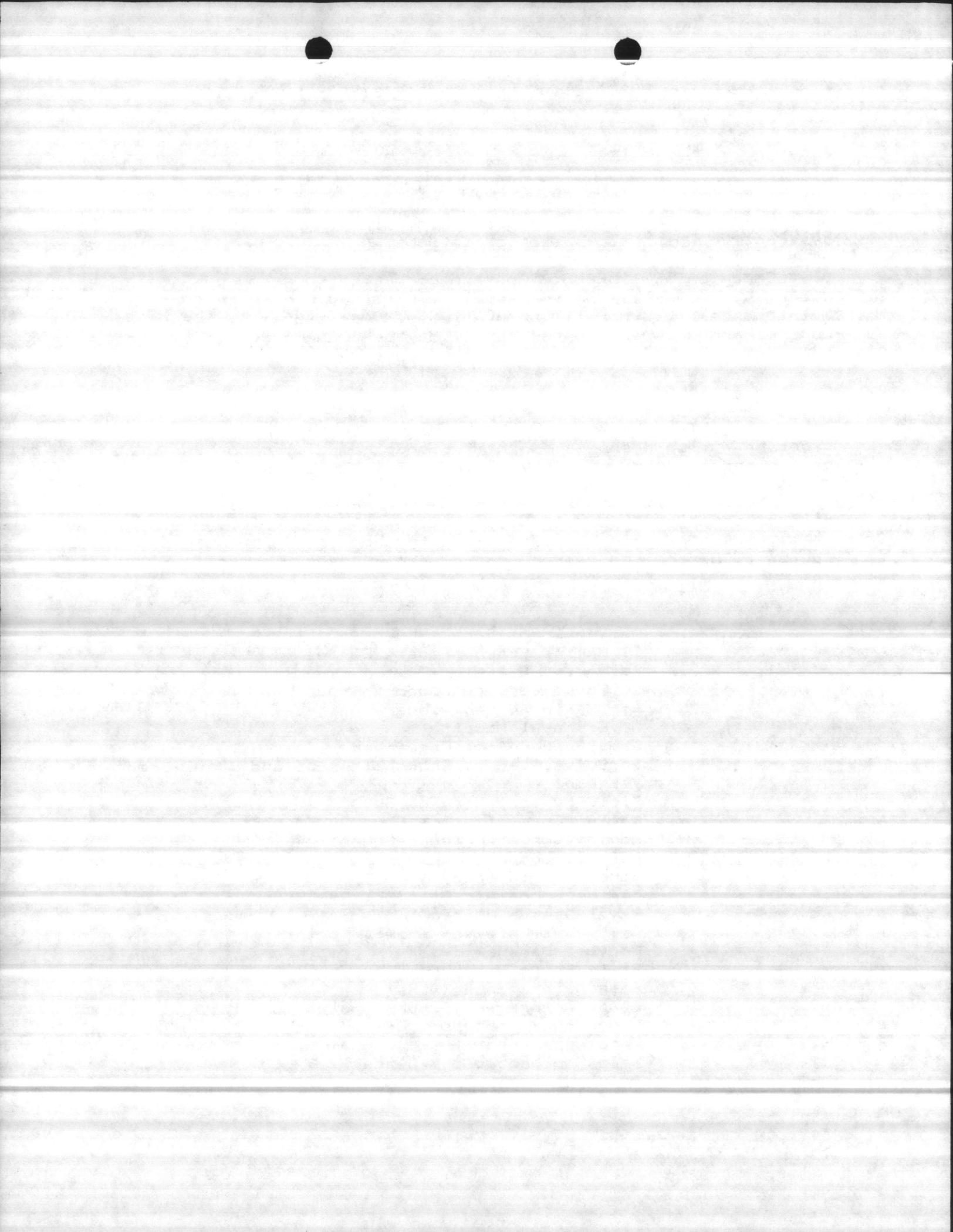
1. Telephone.

a. Telephone service will be the primary means of communication during emergencies until disrupted. Telephone use will be limited to emergency type matters as much as possible.

b. Omni-Command Group Conference Phone Circuit (red command phone). This telephone provides the capability of instant telephone communications from the Emergency Operations Center (ECC) and the Damage Control and Recovery Center.

(1) Stations on this circuit are:

Marine Corps Base (EOC)
II Marine Expeditionary Force
2d Marine Division
2d Force Service Support Group
6th Marine Expeditionary Brigade
U. S. Naval Hospital
Camp Geiger Area Commander
2d Surveillance, Reconnaissance and Intelligence
Group
Field Medical Service School
Marine Corps Service Support Schools
Marine Corps Engineer School
Reserve Support Unit
School of Infantry
Marine Corps Air Station, New River
Naval Dental Clinic
Assistant Chief of Staff, Logistics
Provost Marshal
Rifle Range Detachment
Base Maintenance (DCRC)
Headquarters and Support Battalion, MCB
Base Motor Transport Office
Fire Department
Base Communications Center



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

(2) Operating Procedures. When the EOC activates the circuit, all stations will ring continuously until answered. The following will be announced from the EOC: "This is a group conference call; do not hang up; message to follow". Once all stations have answered, the message will be broadcast. Upon completion of the message, the EOC will call the names of each station individually. If station called has copied the message and understands it thoroughly, it will signify by announcing the station operator's initials. Then and only then will the station hang up.

2. Radio.

a. Disaster Recovery Net.

(1) Purpose. Units providing emergency services during a disaster situation monitor this net and receive prioritized taskings from the EOC, and also provide communications with civilian disaster relief services in case telephone systems were to fail.

(2) Call Signs/Stations (Frequency 38.05 MHZ).

<u>Call Sign</u>	<u>Station</u>
Strait Jacket	MCB EOC (Net Control)
Stand Fat	Base Communications
Stoneybrook	Onslow County Civil Defense
Febula	Provost Marshal
Lotion	Fire Department
Boatswain	Base Maintenance (DCRC)

(3) All stations will establish this net when directed or upon setting Condition II.

b. Maintenance Operations Net.

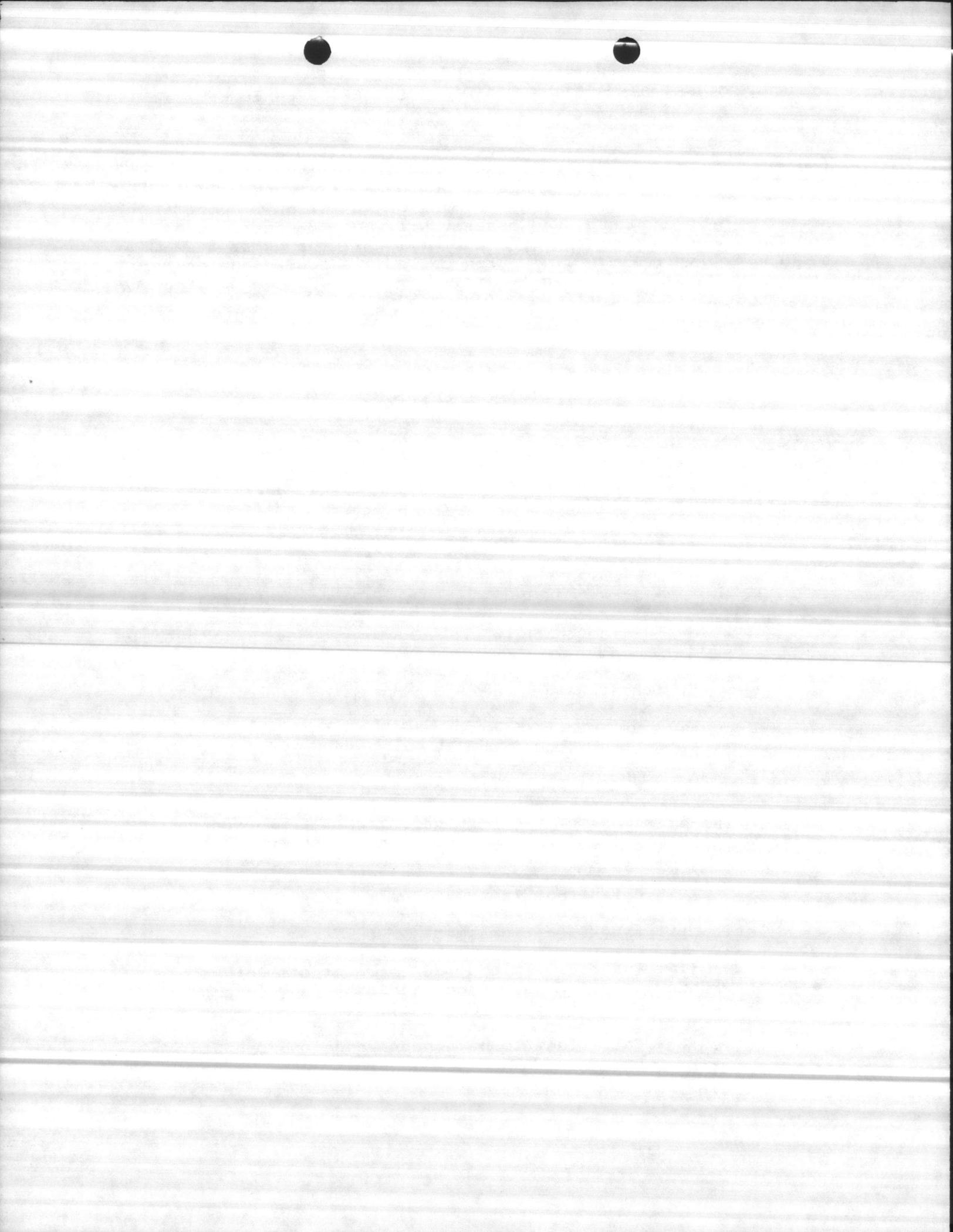
(1) Purpose. To provide internal communications to sections of the Maintenance and Repair Branch and other augmented support elements having access to this frequency.

(2) Call Signs to be announced as appropriate.

c. Utilities Operations Net.

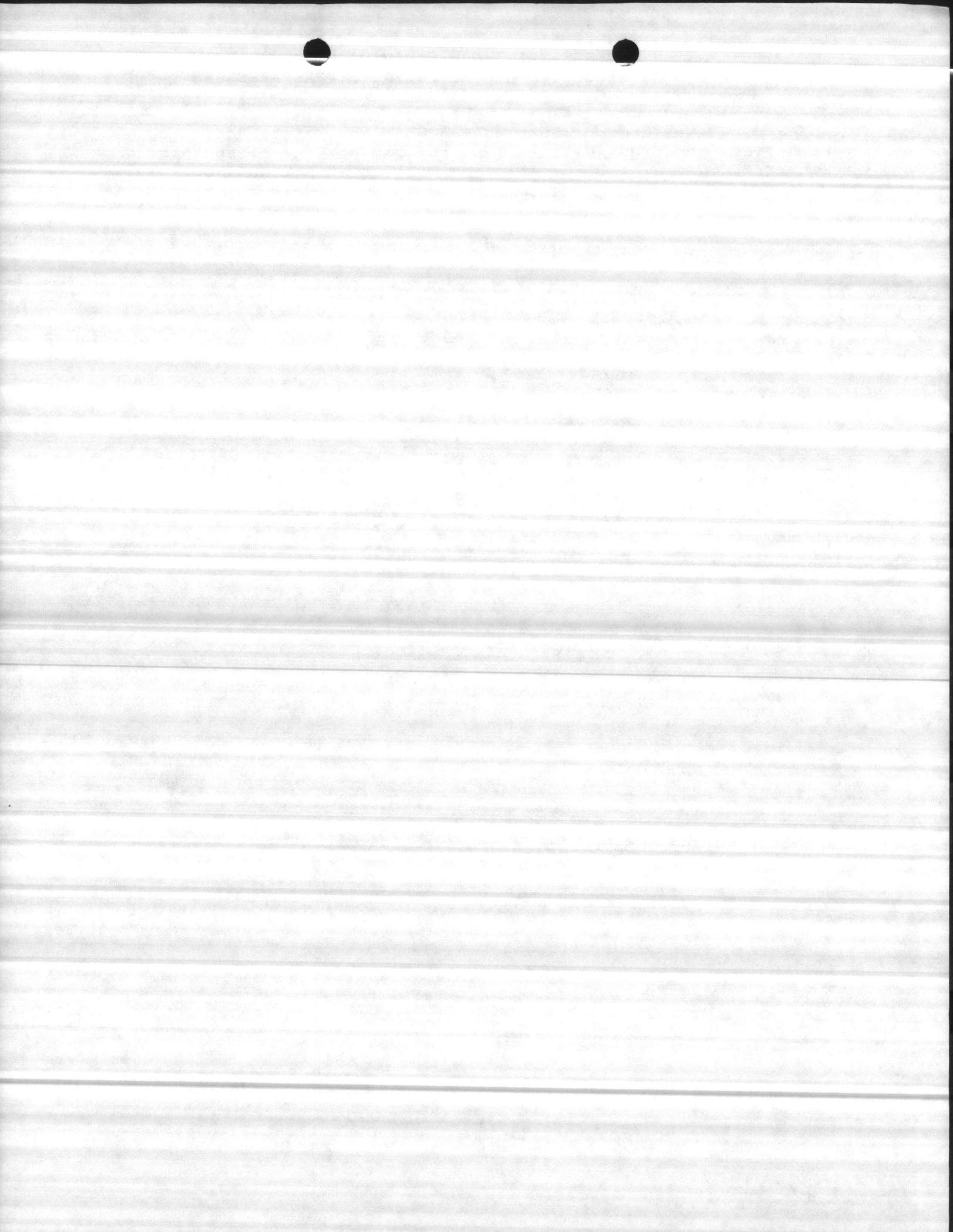
(1) Purpose. To provide internal communications to sections within the Utilities Branch and other augmented support elements having access to this frequency.

(2) Call Signs to be announced as appropriate.



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

d. Net Control Station for both the Maintenance and Utilities Operations Nets will be the Damage Control and Recovery Center (DCRC). The DCRC call sign will be DAMAGE CONTROL.



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

APPENDIX D

EMERGENCY POWER PLAN

A. GENERAL.

1. During disaster or destructive weather that causes interruption of commercial power, essential electrical service to maintain command and control, operation of emergency shelters, communications, essential feeding, fire protection, other essential services and utilities operations will be provided, where possible, by generator.

2. Those facilities for which emergency power cannot be provided by local sources will receive priority maintenance to restore lost power in the event of a commercial power failure. Accordingly, all necessary precautions should be taken to preserve refrigerated or frozen foods and to provide emergency messing.

3. Generator assets organic to Marine Corps Base are insufficient to provide all requirements for emergency electrical service during destructive weather or disaster. Consequently, augmentation from tenant units is required. A complete listing of generator assets provided by other activities is contained in Appendix D to the Marine Corps Base Disaster Preparedness Manual.

4. Activities having buildings that requires an emergency generator as found in TAB A of this Appendix should have identified the exact spot where the generator connects to the electrical panel and marked its location. This should allow for easy identification by maintenance personnel who hook up and service the generators. It is recommended, however, that newly assigned generator operators/repairmen become familiar with these locations prior to the storm season.

B. PURPOSE. To provide guidance and procedures to be followed upon implementation of the Emergency Power Plan.

C. CONCEPT.

1. Upon notification of Destructive Weather Condition IV generator assets required to support the Emergency Power Plan should be staged and tested to ensure availability and serviceability.

2. Upon setting Destructive Weather Condition III, or as directed by the Emergency Operations Center (EOC), generators will be moved to their assigned locations.

3. Upon setting Destructive Weather Condition II, or as



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

directed by the EOC, operators will assume their positions and remain until notified to stand down by the Damage Control and Recovery Center (DCRC) or the EOC. NOTE: operators of Base Maintenance supplied generators will be staged and dispatched from the DCRC located in Bldg 1202. Essential personnel requirements to support the Emergency Power Plan are identified in Appendix B.

D. DESIGNATED FACILITIES.

1. Only facilities listed in TAB A are authorized emergency power service by portable generators. Under no circumstances will tenant activities hook up T/E generator assets to facilities or electrical distribution systems without the expressed approval of the DCRC and, if approved, the work will be accomplished only by qualified Base Maintenance personnel.

2. Activities responsible for facilities listed in TAB A are required to arrange for billeting and messing of the portable generator operators if they are required to remain at that location.

E. RESPONSIBILITIES.

1. Director, Maintenance and Repair Branch.

a. Destructive Weather Condition IV.

(1) Ensure that generator assets noted in TAB A are staged and tested for availability and serviceability.

(2) Ensure that permanently installed generators noted in TAB B which have BMO (M&R) operator responsibility are in operating condition.

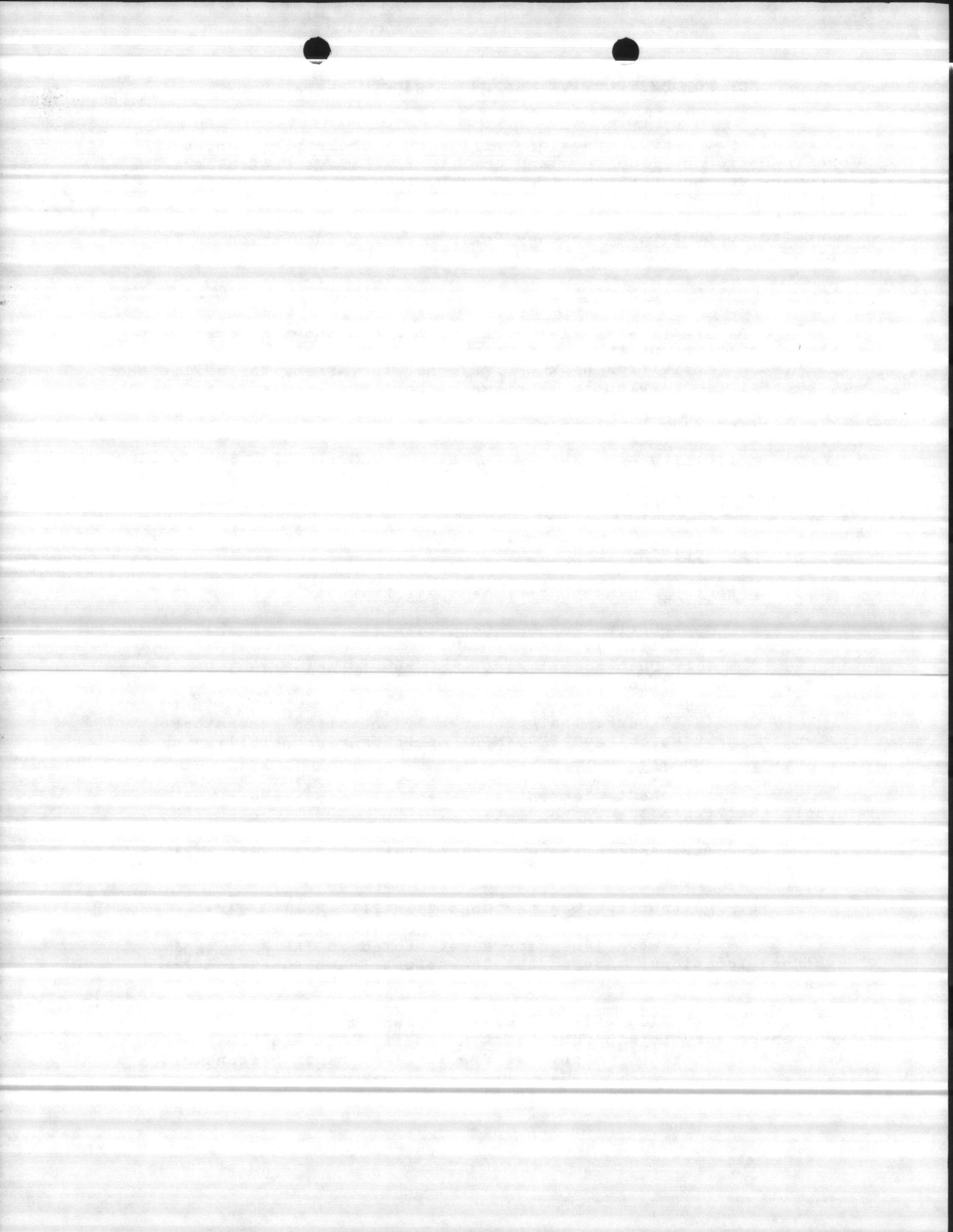
(3) Review essential personnel requirements and update the listing as appropriate.

(4) Advise the Operations Branch of generator status.

b. Destructive Weather Condition III.

(1) Move generator assets noted in TAB A to their assigned locations. Advise the Operations Branch upon completion.

(2) Identify and assign essential personnel requirements necessary to man generators noted in TAB A and those generators noted in TAB B which have BMO (M&R) operator responsibility.



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

c. Destructive Weather Condition II.

(1) Notify operators to report to the DCRC for further instructions. Where possible, provide operators with mobile radio communications.

(2) Operators assigned to generator sites are to advise the DCRC of any refueling requirements.

3. Director, Operations Branch.

a. Destructive Weather Condition IV.

(1) Liaison with Maintenance & Repair Branch to ascertain the status of generators and personnel.

(2) Liaison with the Assistant Chief of Staff, Facilities and provide information on the status of generators.

(3) Coordinate the availability of refueling support with the AC/S Logistics.

b. Destructive Weather Condition III. Advise the AC/S Facilities when all generator assets identified in TAB A have been positioned.

c. Destructive Weather Condition II (As DCRC).

(1) Coordinate the serviceability and maintenance of generators at emergency locations utilizing generator personnel provided by the Maintenance & Repair Branch.

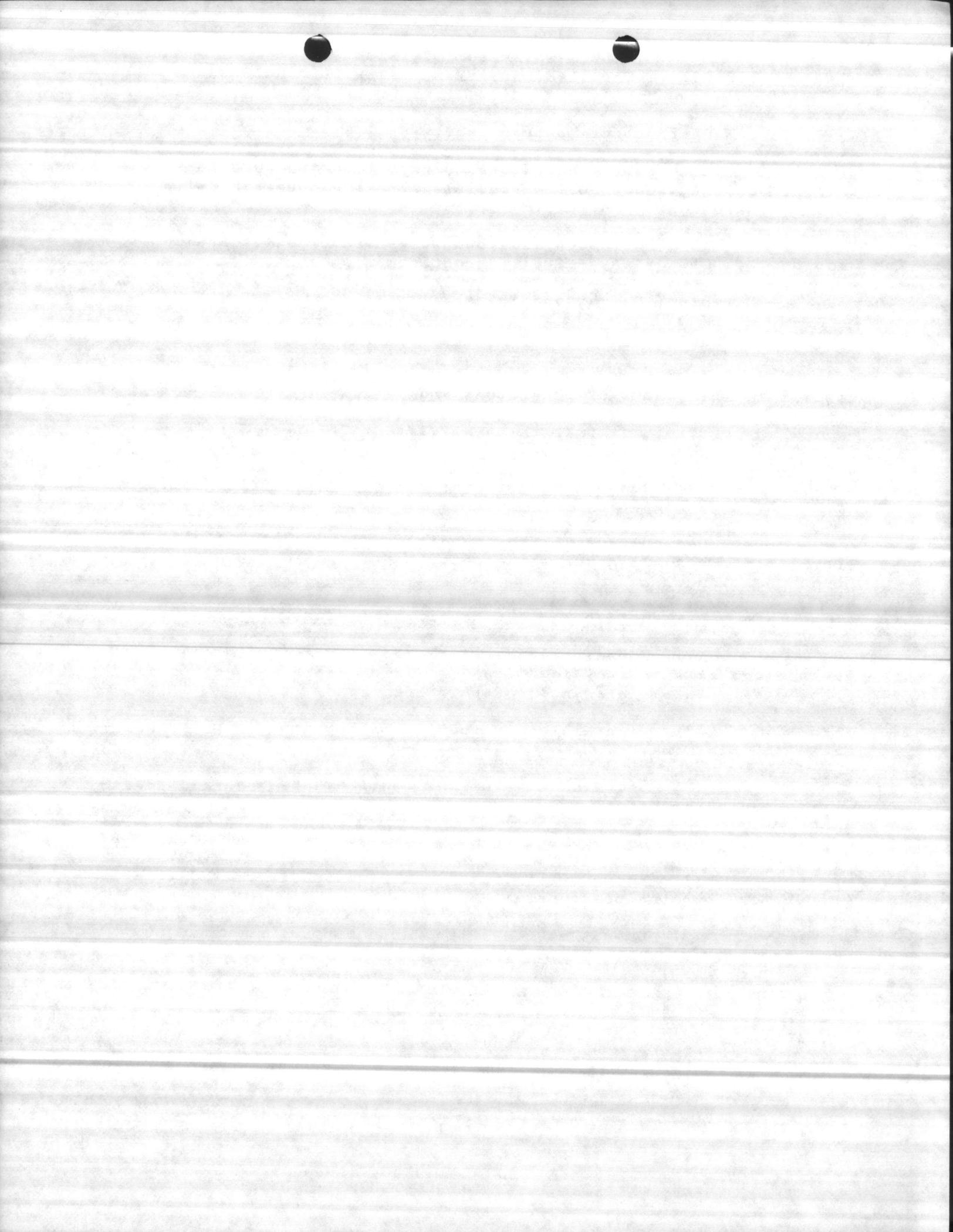
(2) Maintain communication with generator personnel at site locations.

(3) Coordinate refueling requirements when requested by generator operators.

d. Destructive Weather Condition V.

(1) Ensure "All Clear" notification is passed to all generator operator personnel.

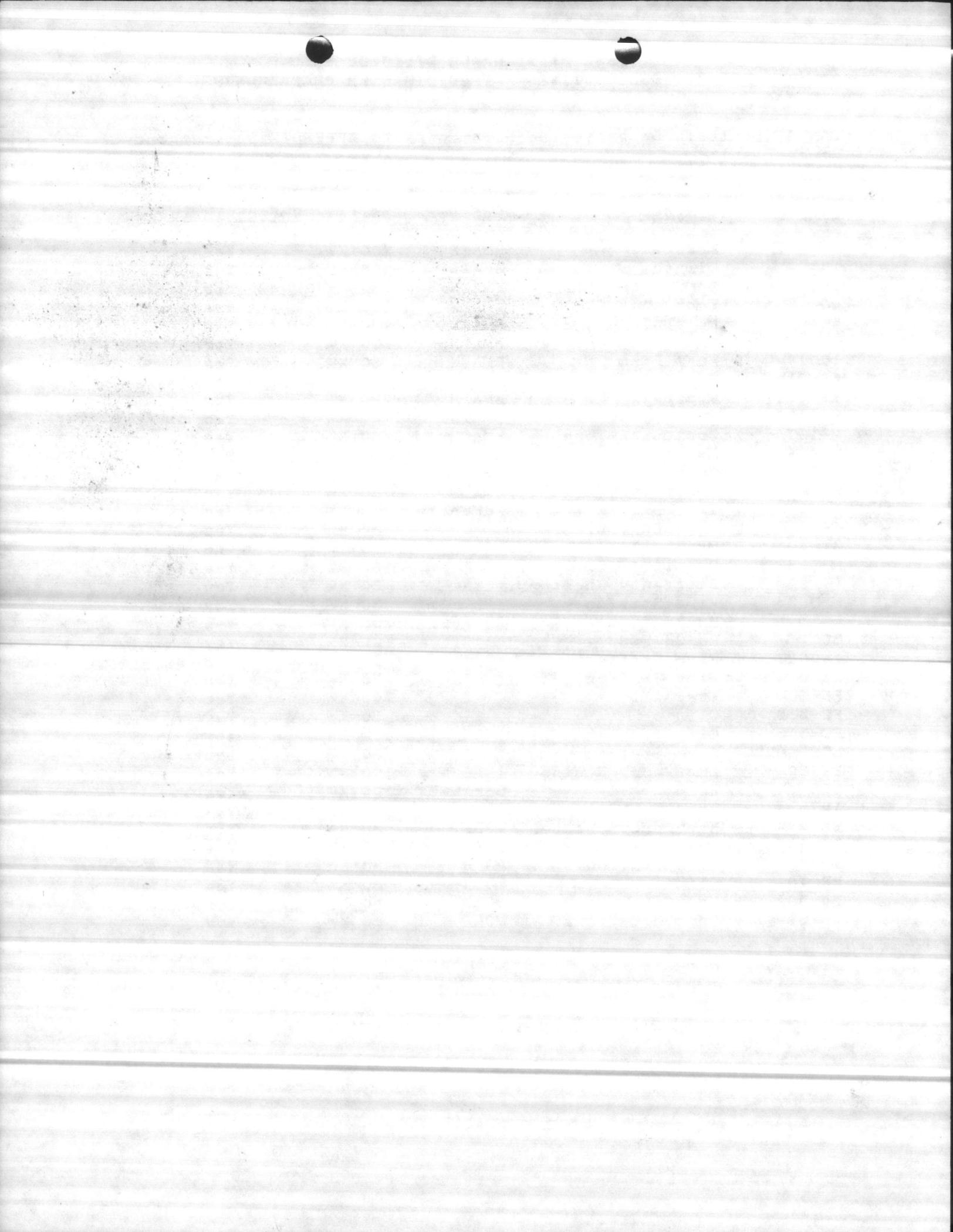
(2) Coordinate any stand down support required by operators to secure equipment.



BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

TAB A (Portable Generator Requirements) to APPENDIX D (Emergency Power Plan).

<u>Building</u>	<u>Use</u>	<u>Supplier</u>	<u>Size</u>	<u>Emergency Power Switch Installed</u>
9	Messhall	BMAIN	200 KW	Yes
15	Clinic	BMAIN	200 KW	Yes
24	Communications	BMAIN	60 KW	Yes
40	Emergency Shelter	BMAIN	150 KW	Yes
521	Messhall	BMAIN	200 KW	Yes
797-9	Emergency Shelter	BMAIN	100 KW	Yes
1002	Fuel Farm	BMAIN	30 KW	Yes
AS-414	Commissary	BMAIN	200 KW	Yes
AS-4012	Messhall	BMAIN	200 KW	Yes
FC-300	Headquarters	BMAIN	60 KW	Yes
M-167	Communications	BMAIN	60 KW	Yes
M-424	Messhall	BMAIN	60 KW	Yes
PT-5	Communications	BMAIN	60 KW	Yes
SH-8	Security	BMAIN	60 KW	Yes
54	TSD	2dMarDiv	60 KW	Yes
417	Hq 2dEngrBn	.	30 KW	Yes
G-640	Messhall	.	200 KW	No
M-128	Clinic	.	100 KW	Yes
M-129	Emergency Shelter	.	30 KW	Yes
M-303	Fire Station	.	30 KW	Yes
59	Hq 2d FSSG	2d FSSG	100 KW	Yes
60	Hq 2d FSSG	.	100 KW	Yes
1400	Fire Station	.	30 KW	Yes
2600	Fire Station	.	30 KW	Yes
FC-303	Messhall	.	200 KW	Yes
FC-312	Clinic	.	30 KW	Yes
FC-313	Clinic	.	100 KW	Yes
LCH-4022	Fire Station	.	30 KW	Yes
TT-60	Emergency Shelter	.	100 KW	Yes
125	Hq 6th MEB	6th MEB	100 KW	Yes
127	Hq 6th MEB	.	100 KW	Yes
BB-2	Emergency Shelter	MCES	30 KW	Yes
BB-7	Messhall	MCES	2-100 KW	Yes
BB-8	Fire Station	MCES	30 KW	Yes
BB-10	Clinic	MCES	30 KW	Yes
BB-28	Hq MCES	MCES	60 KW	Yes
BB-69	Communications	MCES	60 KW	Yes



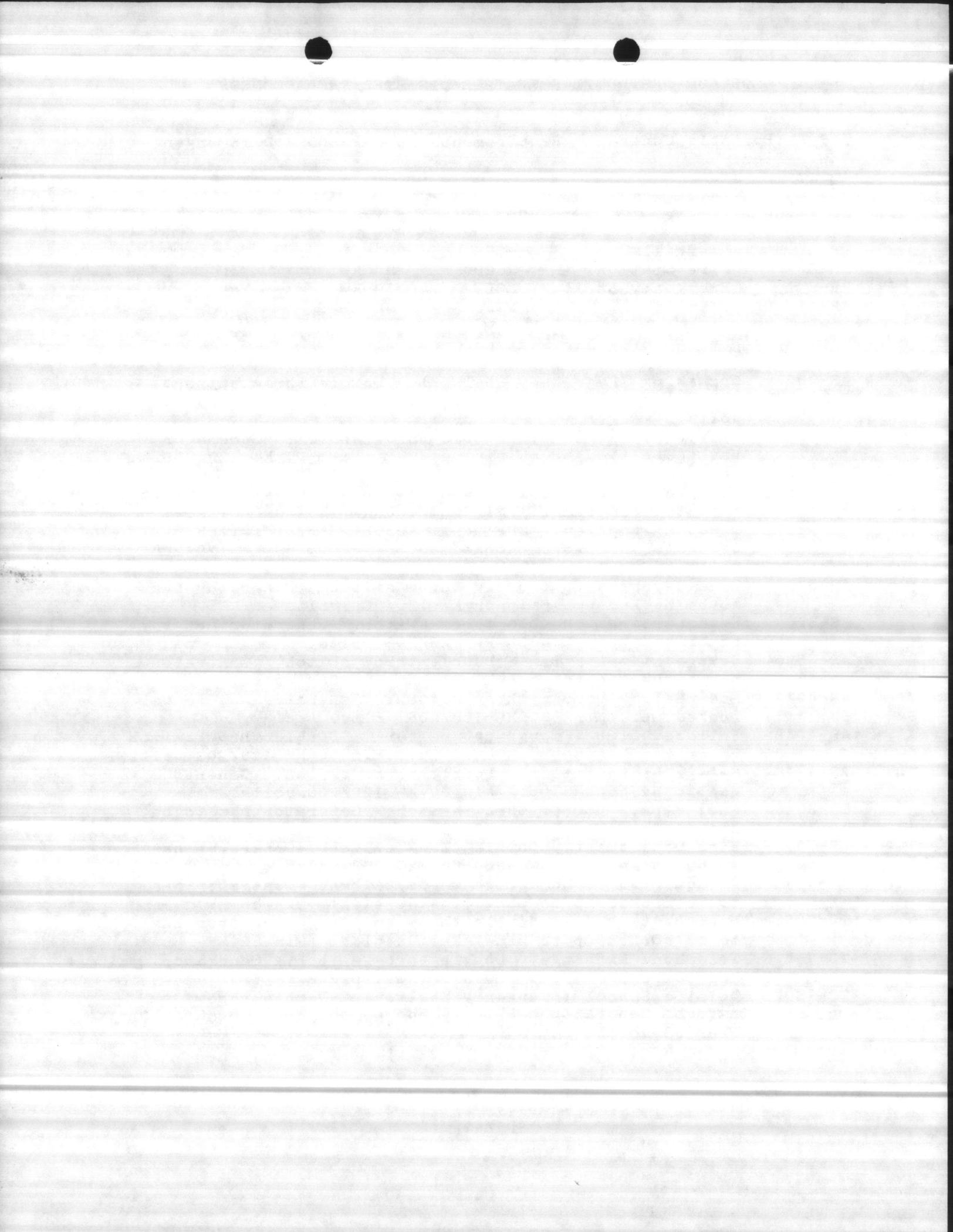
BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

TAB A (Portable Generator Requirements) to APPENDIX D (Emergency Power Plan).

<u>Building</u>	<u>Use</u>	<u>Supplier</u>	<u>Size</u>	<u>Emergency Power Switch Installed</u>
RR-3	Messhall	MCES	200 KW	Yes
RR-6	Fire Station	MCES	30 KW	Yes
RR-8	Emergency Shelter	MCES	30 KW	Yes
RR-11	Clinic	MCES	30 KW	Yes

Marine Corps Air Station/Camp Geiger

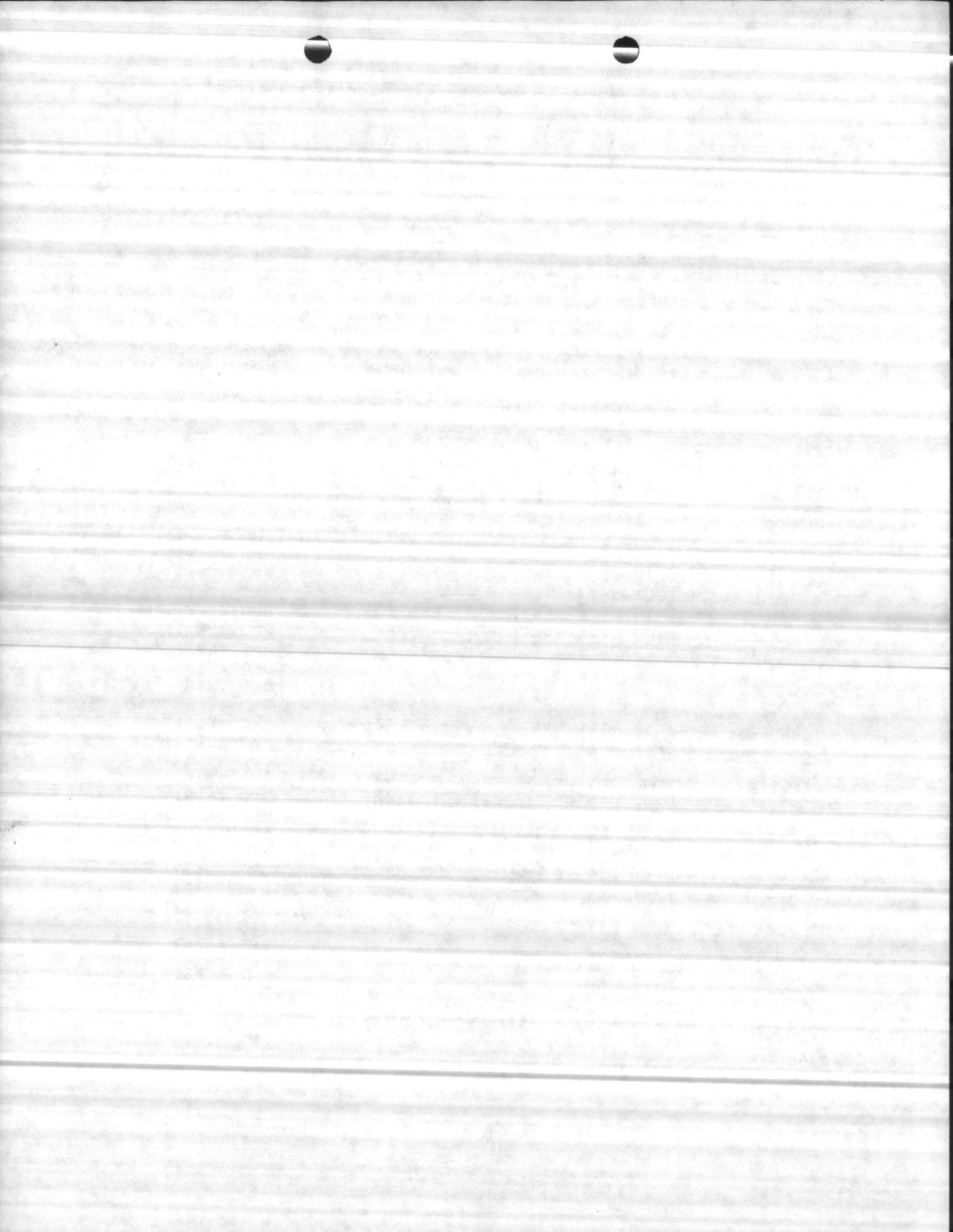
AS-202	Gymnasium (Emergency Shelter).	Double throw switch. Generator has to be hooked up.	Minimum 30 KW 120/208 volts.
AS-224	Telephone Exchange.	Double throw switch. Generator has to be tied to main panel.	Minimum 60 KW 120/208 volts.
AS-226	Mess Hall.	No double throw switch. Generator has to be tied to main panel.	Minimum 100 KW 120/208 volts.
AS-240	Theater (Emergency Shelter).	Double throw switch. Generator has to be hooked up.	Minimum 60 KW 120/208 volts.
AS-502	Fire Department.	Double throw switch. Generator has to be hooked up.	Min 60 KW 120/208 volts
AS-820	Headquarters.	Double throw switch. Generator has to be hooked up.	Min 30 KW 120/208 volts.
AS-3526	Sewage Lift Station.	Double throw switch. Generator has to be hooked up.	Min 10 KW 120/208 volts.
AS-4012	Mess Hall.	Double throw switch. Generator has to be hooked up.	Min 150 KW 120/208 volts.
AS-4038	Enlisted Club (Emergency Shelter).	Double throw switch. Generator has to be hooked up.	Min 60 KW 120/208 volts
AS-4147	Sewage Lift Station.	Double throw switch. Generator has to be hooked up.	Min 30 KW 120/208 volts.
TC-364	Fuel Farm.	Double throw switch. Generator has to be hooked up.	Min 30 KW 120/208 volts.
TC-701	Fire Department.	Double throw switch. Generator has to be hooked up.	Min 60 KW 120/208 volts.
TC-704	Headquarters.	No double throw switch. Generator has to be hooked up to panel inside bldg.	Min 30 KW.
TC-705	Headquarters.	No double throw switch. Generator has to be hooked up to panel inside bldg.	Min 30 KW.
TC-755	Telephone Exchange.	Double throw switch. Generator has to be hooked up.	Min 60 KW 120/208 volts.
TC-1500	Delalio School (Emergency Shelter).	Double throw switch. Generator has to be hooked up.	Min 60 KW 120/208 volts.



**BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS**

TAB B (Facilities with Permanently Installed Generators) to
APPENDIX D (Emergency Power Plan).

<u>Building</u>	<u>Facility Use</u>	<u>Generator</u>	<u>Operator Responsibility</u>
1	Base Headquarters	100 KW	BMO (M&R)
2 (353)	Headquarters (Generator in Bldg 353)	200 KW	BMO (M&R)
20	Water Trmt Plt	175 KW(480V)	BMO (Util)
20	Water Trmt Plt	175 KW(240V)	BMO (Util)
22	Sewage Plant	400 KW	BMO (Util)
1202	Base Maintenance	60 KW	BMO (Util)
1700	Boiler Plant	30 KW	BMO (Util)
1761	Sewage Lift Station	15 KW	BMO (Util)
1776	Sewage Lift Station	45 KW	BMO (Util)
1948	Sewage Lift Station	15 KW	BMO (Util)
2100	Sewage Lift Station	45 KW	BMO (Util)
2633	Sewage Lift Station	15 KW	BMO (Util)
AS-110	Water Trmt Plant	300 KW	BMO (Util)
AS-122	Provost Marshal	10 KW	BMO (M&R)
AS-131	Well House		BMO (Util)
AS-190	Well House		BMO (Util)
AS-191	Well House		BMO (Util)
AS-203	Well House		BMO (Util)
AS-238	Sewage Lift Station	30 KW	BMO (Util)
AS-239	Sewage Lift Station	30 KW	BMO (Util)
AS-302	Branch Clinic	30 KW	BMO (M&R)
AS-414	Commissary		BMO (M&R)
AS-427	RATCF		BMO (M&R)
AS-504	Taxiway Lights	150 KW	BMO (M&R)
AS-607	Sewage Lift Station	30 KW	BMO (Util)
AS-629	Sewage Lift Station	45 KW	BMO (Util)
AS-711	Homer Site		BMO (M&R)
AS-804	Communications	75 KW	BMO (M&R)
AS-822	Communications	100 KW	BMO (M&R)
AS-839	Radar Site		BMO (M&R)
AS-840	Operations		BMO (M&R)
AS-843	Operations	30 KW	BMO (M&R)
AS-867	Sewage Lift Station	30 KW	BMO (Util)
AS-903	Transmitter		BMO (M&R)
AS-1001	Sewage Lift Station	15 KW	BMO (Util)
AS-2008	Sewage Lift Station	15 KW	BMO (Util)
AS-3000	TACAN Bldg		BMO (M&R)
AS-3538	Communications		BMO (M&R)
AS-3601	Radar Site		BMO (M&R)
AS-3620	Runway Lights		BMO (M&R)
AS-4143	Sewage Lift Station	45 KW	BMO (Util)
AS-4151	Boiler Plant	310 KW	BMO (Util)
G-770	Dispensary		BMO (M&R)

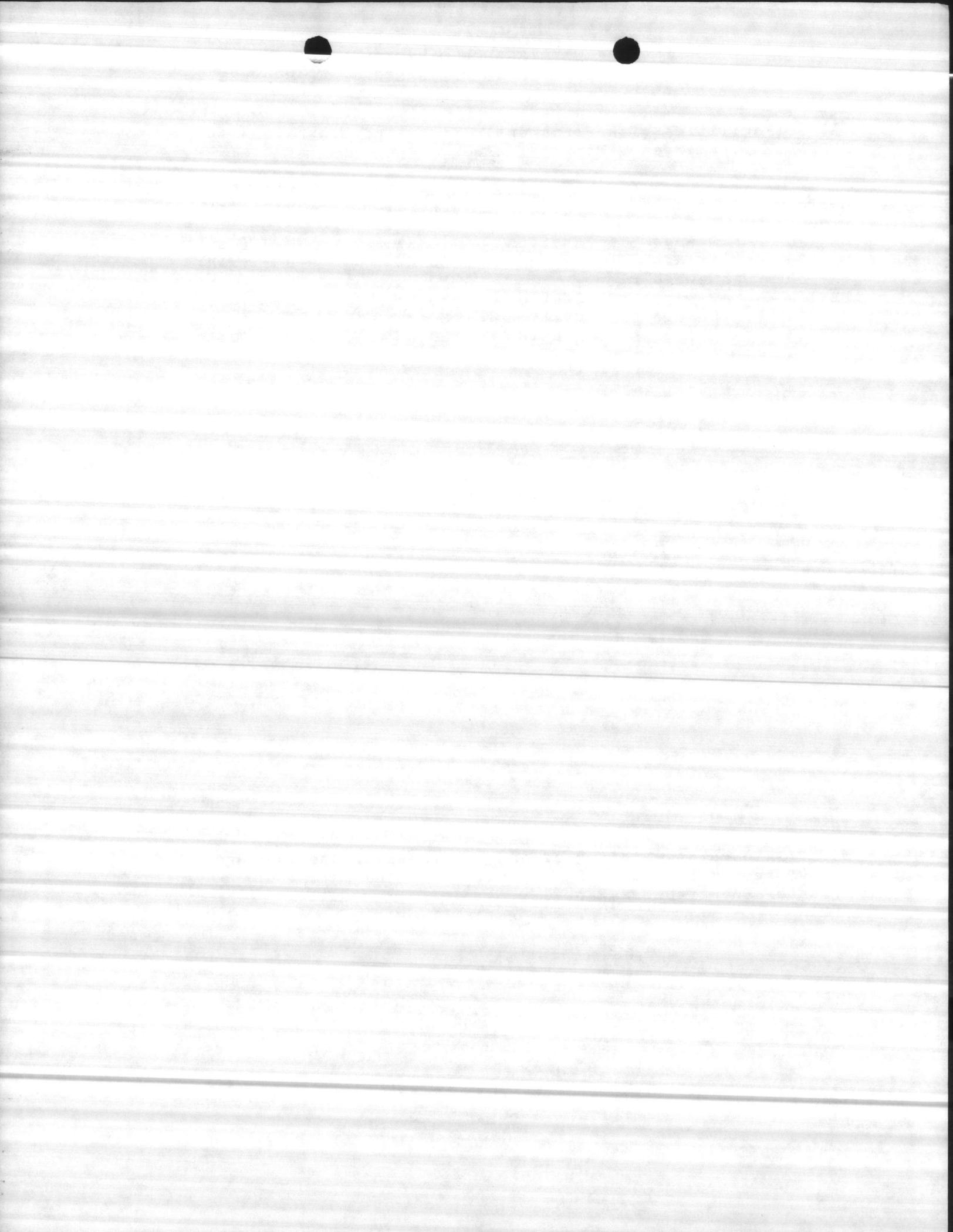


BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS

TAB B (Facilities with Permanently Installed Generators) to
APPENDIX D (Emergency Power Plan).

<u>Building</u>	<u>Facility Use</u>	<u>Generator</u>	<u>Operator Responsibility</u>
BA-116	Sewage Lift Station	7.6 KW	BMO (Util)
BA-129	Bridge	60 KW	BMO (M&R)
BA-160	Sewage Plant	30 KW	BMO (Util)
BB-1	Sewage Lift Station	30 KW	BMO (Util)
BB-204	Sewage Lift Station	30 KW	BMO (Util)
FC-203	Sewage Lift Station	30 KW	BMO (Util)

NOTE: A complete listing of generator assets provided by other activities is contained in Appendix D to the Marine Corps Base Disaster Preparedness Manual.



**BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS**

APPENDIX E

SNOW REMOVAL PLAN

A. GENERAL. Snowstorms and ice storms present a threat of damage and the disruption of normal operations. Because of the peculiarity of snowstorm/ice storm development in this area supplemental guidance/special instructions are provided in this Appendix.

B. SNOW CONDITION DEFINITIONS. Definitions of the various snow conditions are contained in paragraph 1002.3 of this SOP.

C. PURPOSE. To provide supplemental guidance and procedures to be followed upon implementation of Snowstorm Condition III or lower.

D. RESPONSIBILITIES.

1. Director, Maintenance and Repair Branch.

a. Snowstorm Condition IV. Review status of snow removal equipment and material, and ensure its availability.

b. Snowstorm Condition III.

(1) Identify essential personnel and prepare rosters of snow plow, grader, and scoop loader operators subject to recall. Ensure that the Night Foreman/Duty NCO have updated rosters.

(2) Stage two trucks loaded with sand and equipped with sand spindles at Building 1114 and 738 (pick up sand at Building 45).

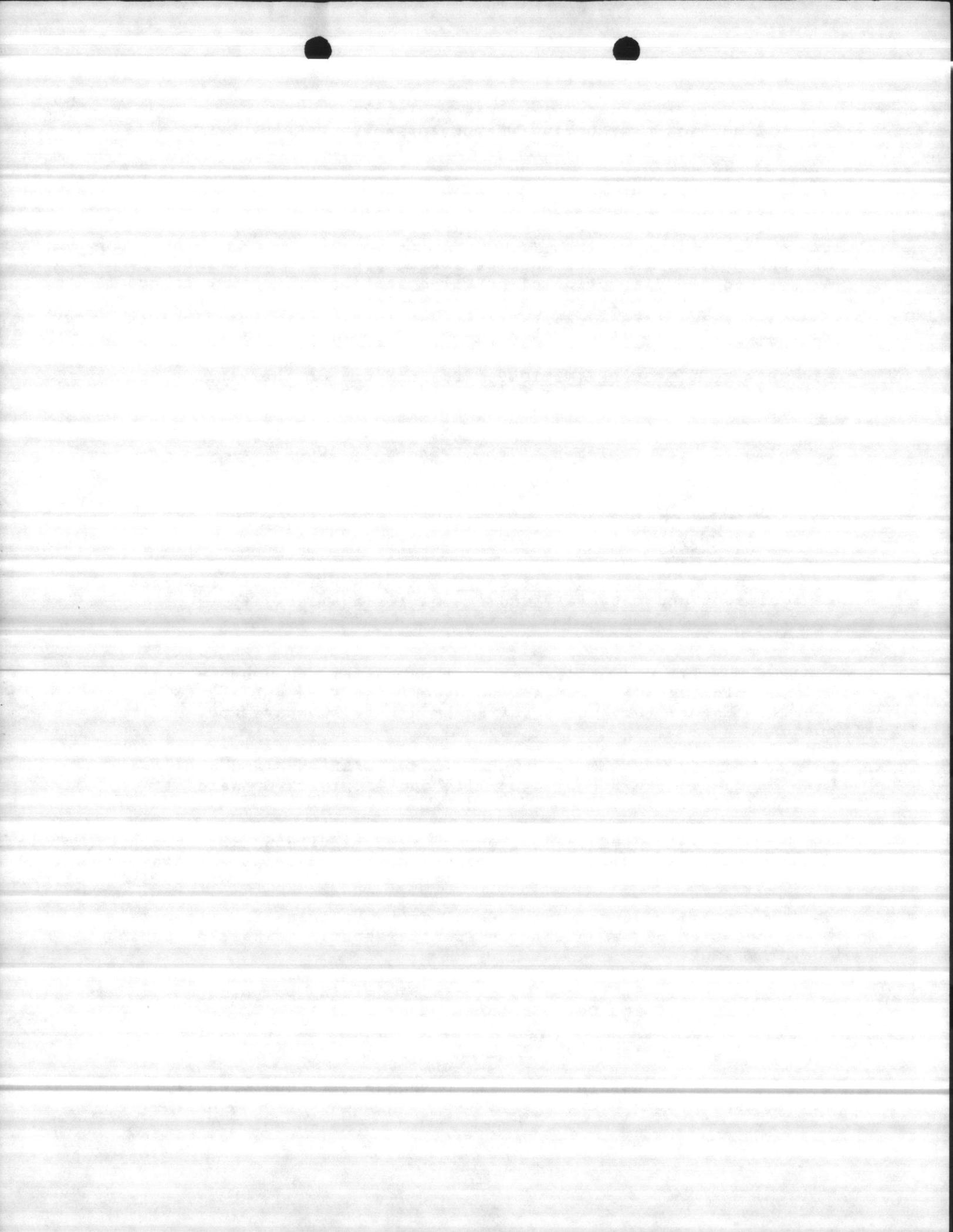
(3) Stage two motor graders at Building 45, two motor graders at Building 738 and one motor grader at Building AS-121.

(4) Stage five 4-wheel drive vehicles for rescue/transportation of essential civilian personnel, as needed, behind Building 1202.

(5) Stage two 50lb bags of deicing compound at Building 1202 (Night Duty Equipment area).

c. Snowstorm Condition II.

(1) Retain essential personnel if Condition II is called during duty hours. Initiate call back during non-duty hours.



**BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS**

(2) Ensure that one mobile radio and sufficient maps and instructions are issued to each driver for snow removal priority.

(3) If there is any significant accumulation of snow during Condition II and, when directed by the DCRC, commence snow clearing operations.

(4) When directed by the DCRC, commence sanding operations of the bridges and overpasses noted in paragraph E.1. below.

(5) Based on snow conditions during Condition II, spread deicing compound around main entry ways of the major command headquarters buildings.

(6) Accomplish any other actions as directed by the DCRC.

d. Snowstorm Condition I.

(1) When directed by the DCRC, commence snow removal operations. Snow plow operators are to notify the DCRC by radio immediately upon the clearing of a priority route.

(2) When directed by the DCRC, commence sanding operations of the bridges and overpasses noted in paragraph E.1. below.

(3) As required, spread deicing compound around main entry ways of the major command headquarters buildings.

(4) Secure from operations if conditions pose significant hazard to operators.

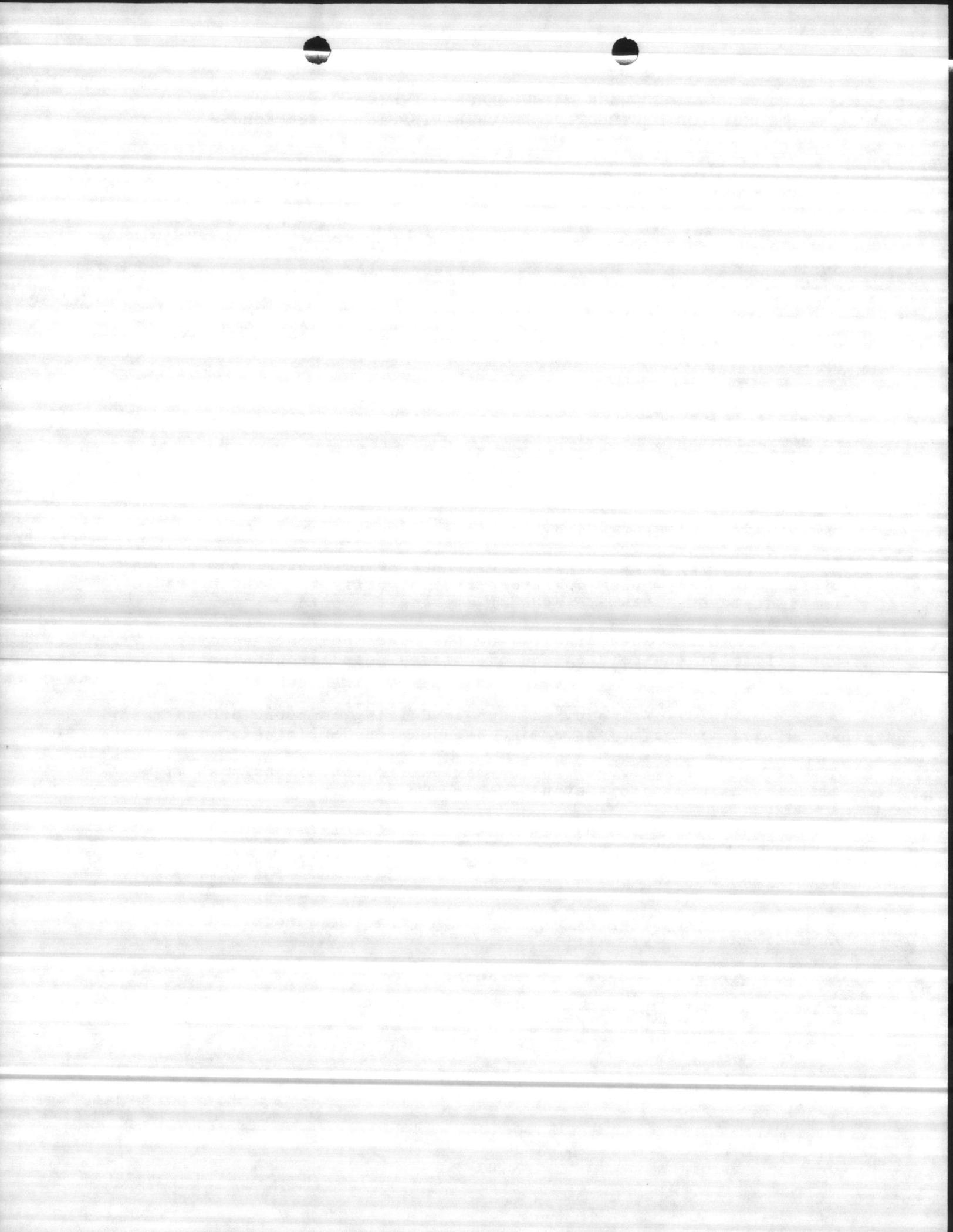
e. Snowstorm Condition IV (All Clear).

(1) Continue snow clearing and sanding operations as required.

(2) Prepare after action reports as required in Appendix A.

2. Director, Operations Branch.

a. Snowstorm Condition III.



**BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS**

(1) Coordinate with the AC/S Facilities and the units noted below for availability of engineer support equipment.

<u>Unit</u>	<u>Telephone</u>	<u>Item</u>
Marine Corps Engr School	7521, 7570	Graders
2nd Engr, S-4	3704, 3940	Graders, Dump trucks
8th Engr, S-4	1693, 1697	Graders, Dump trucks

(2) Ensure that sufficient hand-held radios are available for issue to snow removal augmentation personnel.

b. Snowstorm Condition II (as DCRC).

(1) Coordinate call back of essential personnel if Branch Heads/Night Foreman has not already done so.

(2) Request PMO assistance in providing up-to-date road conditions.

(3) Direct snow removal equipment to begin snow clearing of designated areas and sand spreading operations on key bridges if snow accumulation during Condition II warrants it.

c. Snowstorm Condition I.

(1) Direct snow removal equipment to begin snow clearing of designated areas and sand spreading operations on key bridges.

(2) Maintain radio communications with equipment operators to ensure up-to-date road clearing status.

(3) Coordinate recovery of personnel in stranded vehicles as required.

(4) Direct operators to secure from operations if conditions pose significant hazard to operators.

d. Snowstorm Condition IV.

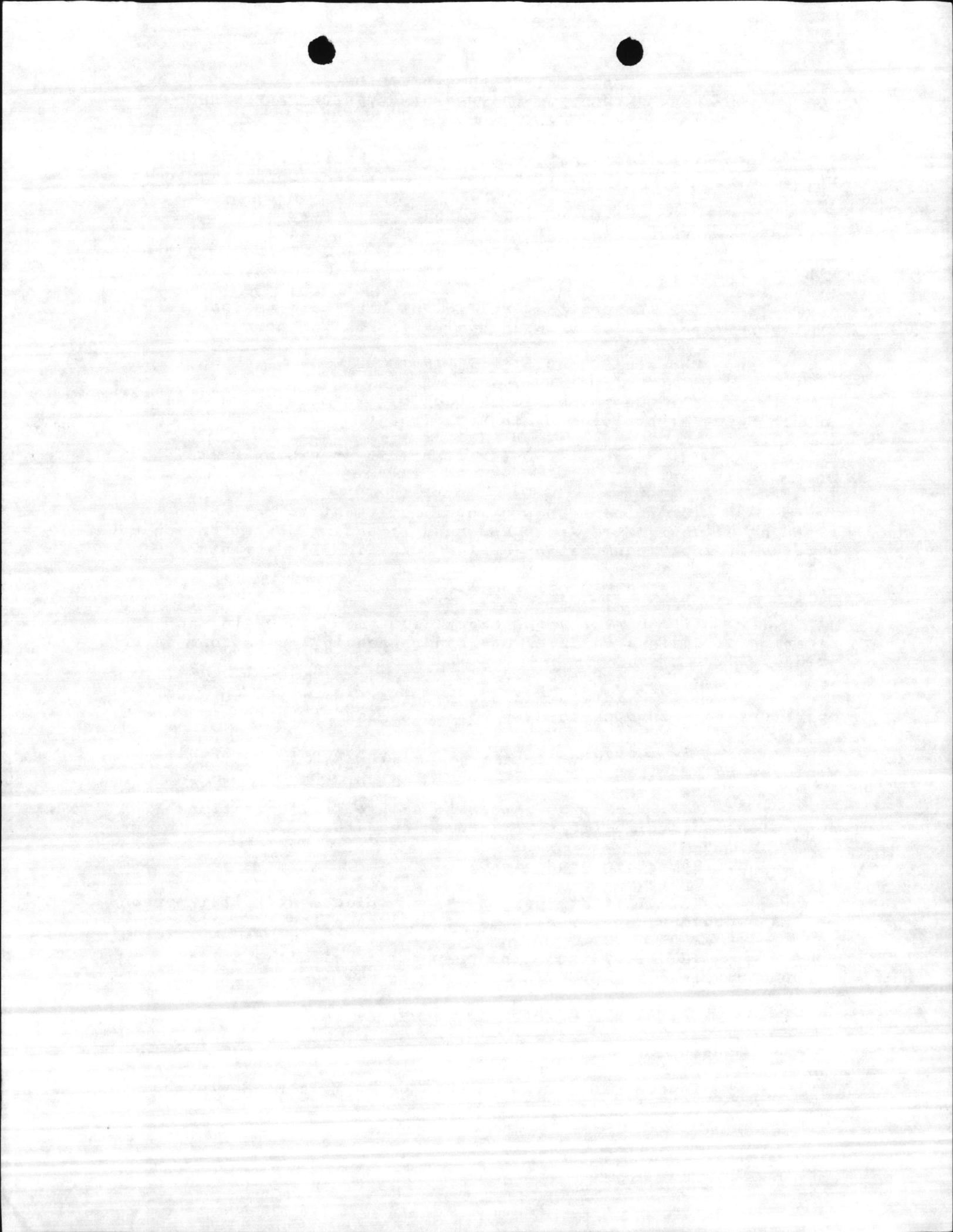
(1) Initiate call back of replacement relief personnel as necessary, and as highway conditions allow.

(2) Coordinate the preparation of after action reports required by Appendix A.

E. PRIORITY AREAS FOR SANDING AND SNOW REMOVAL.

1. Sanding.

a. Inbound and outbound bridges on Holcomb Boulevard.



**BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS**

- b. U. S. Naval Hospital ramp.
- c. Spring Creek bridge and Wallace Creek bridge on Seth Williams Boulevard.
- d. Onslow Beach bridge on Beach Road.
- e. Freeman's Creek bridge on Highway NC 172.
- f. Main Gates as follows:
 - (1) Main Gate located on Holcomb Boulevard.
 - (2) Sneads Ferry gate located on Highway NC 172.
 - (3) Triangle Outpost Gate located on Highway 172.
 - (4) Main Gate, Camp Johnson located on Lejeune Boulevard.
 - (5) Main Gate, Camp Geiger located on Highway 17.
 - (6) Main Gate, MCAS located on Curtis Road.
 - (7) Main Gate at the Rifle Range.

1. Snow Removal (Marine Corps Base).

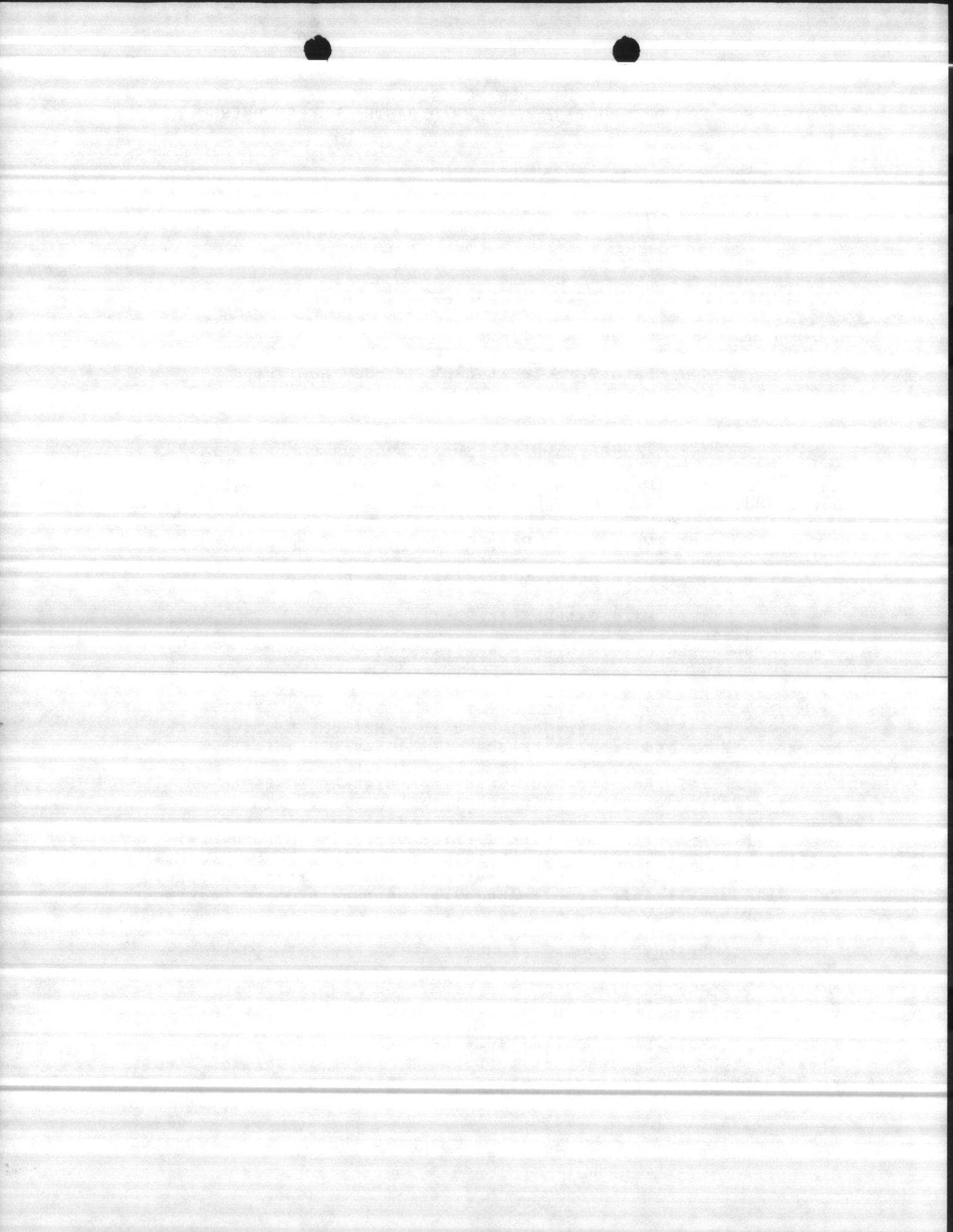
a. Priority 1A.

- (1) Brewster Boulevard from Holcomb Boulevard to Emergency Room and front entrance of the Naval Hospital.
- (2) Holcomb Boulevard from Highway NC 24 to Building 2 (incoming and outgoing lanes).

b. Priority 1B. Main Traffic Circle to Autumn Oval, continue to Brewster to Stone Street, down Stone Street to Main Service Road. Turn around and retrace route to Virginia Dare. Take left on Virginia Dare, make a loop around PMO and back to Main Service Road.

c. Priority 1C.

- (1) Julian C. Smith Road from Hospital Point to the Sewage Treatment Plant.
- (2) Birch Street from Holcomb Boulevard to East Street; right on East Street to Dogwood; right on Dogwood Street to Holcomb Boulevard; turn around and retrace route.



**BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS**

d. Priority 2A.

- (1) Building 1 parking lot.
- (2) Building 2 parking lot.
- (3) Sneads Ferry Road from Holcomb Boulevard to Main Service Road.
- (4) Butler Drive from Building LCH-4014 to Highway NC 24 West (Midway Park).
- (5) Butler Drive from Building LCH-4014 to Highway NC 24 East (Midway Park).

e. Priority 2B.

- (1) Tarawa Boulevard from Highway 24 entrance of TT-1 to Highway 24 entrance of TT-2.
- (2) Bougainville Drive from Tarawa Terrace Boulevard to Tarawa Terrace Boulevard.
- (3) West Peleliu Drive to East Peleliu Drive.

f. Priority 2C.

- (1) Knox Road from Highway NC 24 to Florence Road.
- (2) Florence and Boston Roads from Knox Road.
- (3) Montford Landing Road to Harlem Drive.
- (4) Harlem Drive from Montford Landing Road to Rochester Drive.
- (5) Rochester Drive from Harlem Drive to Montford Landing Road.

g. Priority 3.

- (1) Sneads Ferry Road from Main Service Road to Beach Road.
- (2) Beach Road from Sneads Ferry Road to Second Reconnaissance Battalion.
- (3) Marines Road from Sneads Ferry Road to Court-house Bay.



**BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS**

(4) Lyman Road from Sneads Ferry Road to Triangle Outpost Gate.

(5) Highway 172 from Triangle Outpost Gate to Sneads Ferry Gate.

(6) Range Road from Dixon/Sneads Ferry Road to Rifle Range, Building RR-38.

3. Snow Removal (MCAS).

a. Priority 1.

(1) Curtis Road from Main Gate to Building AS-843 (includes access to AS-840).

(2) Foster Boulevard from Geiger Main Gate up Seventh Street to "F" Street (clear access to dining facility, G-640 and the dispensary, G-770).

(3) Sixth Street from "F" Street to Camp Geiger Main Gate.

(4) Intersection of "A" Street and Sixth Street, down "A" Street to Curtis Road.

(5) White Street from Curtis Road to Schmidt Street, down Schmidt Street to Building AS-4030.

(6) Intersection of Schmidt and White Streets down White Street to Building AS-4108.

(7) Campbell Street from White Street to McAvoy Street.

(8) Campbell Street to Building AS-504 (clear an access from the west end of the hanger to an emergency helipad (150'x150') approximately 200 feet from the hanger.

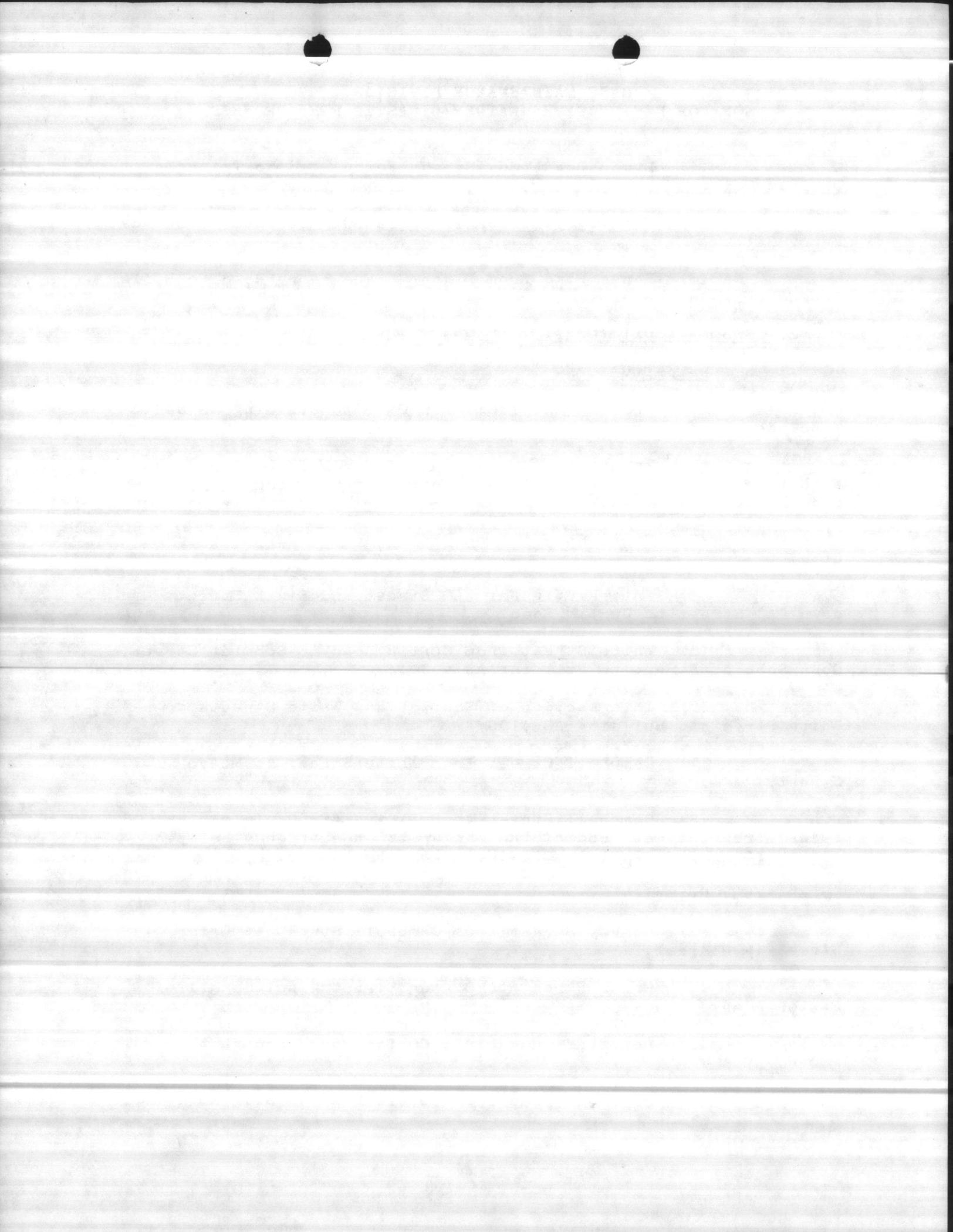
b. Priority 2.

(1) McAvoy Street from Campbell Street to Grier Street (MOQ area).

(2) Grier Street to Baxter Street (include all of Baxter Road).

(3) Longstaff Road from Curtis Road through the MOQ's.

(4) Flounder Road from Curtis Road to Bldg AS-705.



**BASE MAINTENANCE DIVISION
SOP FOR DESTRUCTIVE WEATHER/DISASTER PREPAREDNESS**

APPENDIX F

THREAT CONDITIONS

A. PURPOSE. These threat conditions describe progressive levels of terrorist threats to Camp Lejeune. Responsibility for promulgation of threat levels rests solely with the Commanding General and is based upon recommendations from the Physical Security Council and other security intelligence sources.

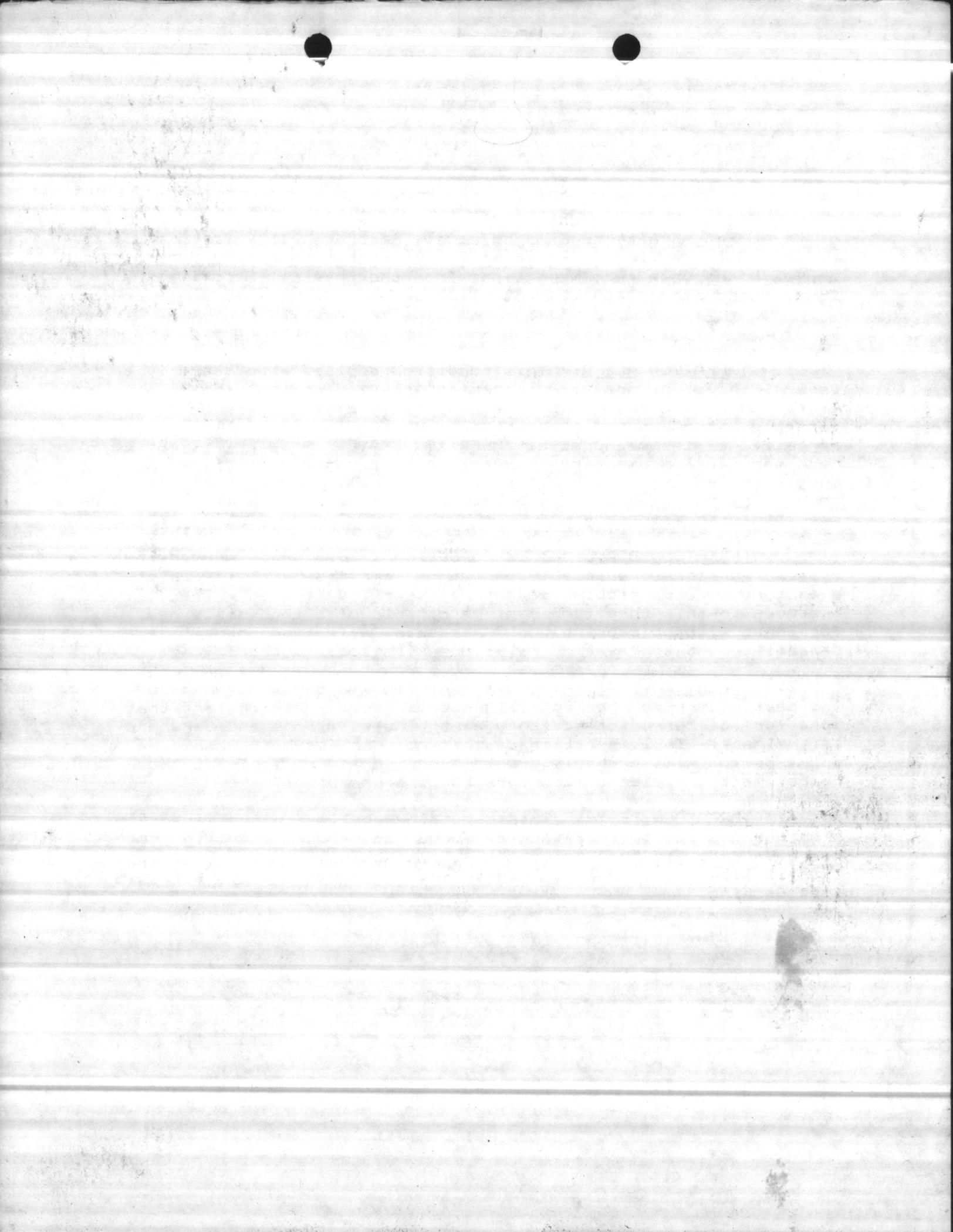
B. THREAT CONDITIONS.

1. THREATCON ALPHA: This condition applies when there is a general threat of possible terrorist activity against installations and personnel, the nature and extent of which are unpredictable, and when the circumstances do not justify full implementation of the measures of THREATCON BRAVO. However, it may be necessary to implement certain selected measures from higher threatcons as a result of intelligence received or as a deterrent. The measures in this threatcon must be capable of being maintained indefinitely.

2. THREATCON BRAVO: This condition is declared when an increased and more predictable threat of terrorist activity exists, even though no particular target has been indentified. The measures in this threatcon must be capable of being maintained for weeks without causing undue hardship, affecting operational capability and aggravating relations with local authorities.

3. THREATCON CHARLIE: This condition is declared when an incident occurs or when intelligence is received indicating that some form of terrorist action against installations and personnel is imminent. Implementation of this measure for more than a short period will probably create hardship and will affect the peacetime activities of the unit and its personnel.

4. THREATCON DELTA: This condition applies in the immediate area where a terrorist attack has occurred or when intelligence has been received that terrorist action against a specific location is likely. Normally, this threatcon is declared as a localized warning.



DEPARTMENT OF THE NAVY
Memorandum

12000
MAIN

DATE: 26 April 1989
FROM: Utility Systems Operator General Foreman
TO: All Water and Wastewater Treatment Personnel
SUBJ: RE-ORGANIZATION

1. The recent re-organization in the Water and Wastewater Treatment Section has apparently created numerous rumors and innuendos. In an attempt to squelch these unfounded rumors, the following is provided:

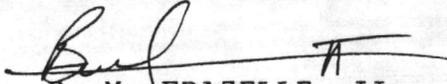
- a. The Water and Wastewater Treatment Plant Leaders were promoted to Foreman through attrition duties. The action was done legally and above board. This was accomplished to provide on-shift personnel with direct supervision, a more accurate and fair performance appraisal, someone to grant and approve leave, solve problems, and in those rare occasions take disciplinary action.
- b. The reorganization to combine maintenance and operators under one separate foreman is planned for a one year trial basis. Mr. Miller will remain a WS-10, and be titled Utility Systems Maintenance Foreman. Mr. Davis will be a WS-11 and be titled a Utility Systems Operator Foreman.
- c. To my knowledge, there are no plan or plans being conceived or contemplated to reduce any operator personnel grades. This would require a reclassification and a full scale Reduction in Force throughout the Section and possibly Base Maintenance. Specifically, Water Treatment personnel are graded at the WG-9 level due to operating filtration plants. In order to get down-graded, new job grading standards would have to be issued by the Office of Personnel Management in Washington, D. C.

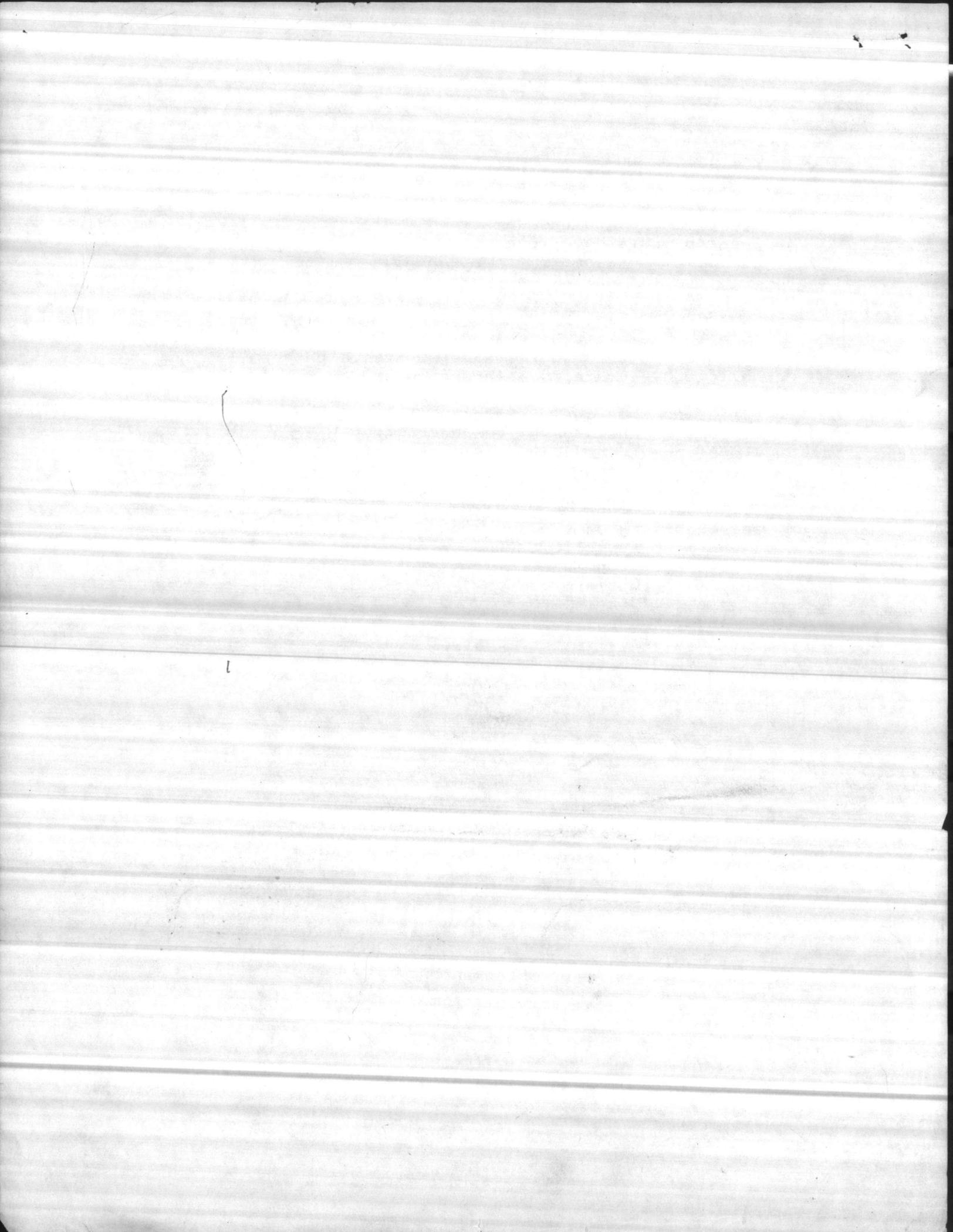
d. I am presently a WS-13, have been and anticipate continuing to be. For me to get a promotion, in this present position, a transfer of an additional 80 to 100 personnel to the Water and Wastewater Treatment Section would have to occur. I know of no plans to effect this transfer of personnel.

e. The changes which have occurred over the past months have been done with one idea in mind; to make the Water and Wastewater Treatment Section the best in the Federal Government. I personally believe by combining maintenance and operations under one Foreman we are on the right road to achieving this goal. Unfortunately most personnel, to some extent, resent change. You can be assured I continue to have the best interests of our section and all employees at heart.

f. My door continues to remain open to discuss any questions or problems you may have. As always I continue to solicit your help and support, and I will also continue to work closely with the union in all appropriate matters.

2. If any personnel have additional questions, comments, problems, etc., please contact your immediate supervisor or myself. I am positive by working together, (management, the union, and all employees) we can become the very best organization possible.


B. M. FRAZELLE, II



Memorandum

5000
MAIN

DATE: 8 March 1990
FROM: Utility Systems General Operator Foreman
TO: All Supervisors

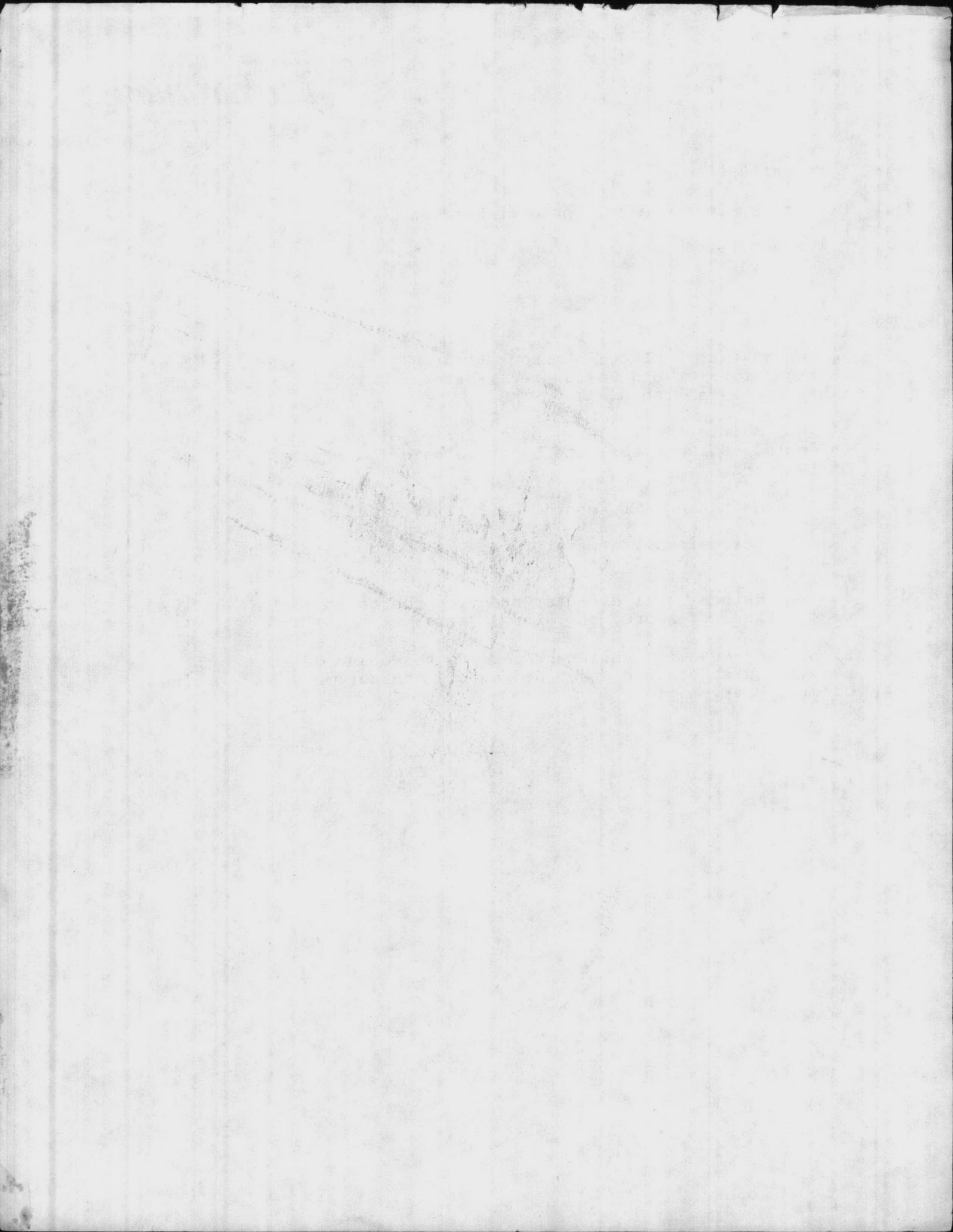
SUBJ: RECORDS

1. We have accumulated numerous records, logs, charts, etc. throughout Water and Wastewater Treatment. The following guidelines are established.

- a. Maintain all plant, pump station or pool operating logs to include all chemical and bacteriological analyses for a period of 100 years.
- b. Maintain daily/monthly well/lift station logs for 3 years.
- c. Maintain all generator logs, air compressor logs for 3 years.
- d. Maintain all circular or strip charts to include daily/weekly flow, pressure, etc. for 3 years.

2. If any questions arise concerning the above or logs or other records which you are undecided about, contact me prior to discarding same.


B. M. FRAZELLE, II



Memorandum

11345

MAIN

DATE: 29 Mar 89

FROM: Director, Utilities Branch

TO: Sewage Treatment Unit Employees (Shop 84)

SUBJ: INVESTIGATION OF FALSE ALLEGATIONS OF RAW SEWAGE DISCHARGE
AT CAMP JOHNSON SEWAGE TREATMENT PLANT

1. The recent broadcast of false allegations by the news media regarding a large sewage bypass at the Camp Johnson Sewage Treatment Plant has resulted in a detrimental impact on the public perception of the competency and ethics of the employees in the Sewage Treatment Unit. The Command's environmental program has been undermined as well by the unnecessary and incorrect statements made by "Charlie." It appears that the informant purposely provided false information to the news media in order to attract publicity and embarrass supervision and the Base. In answering the allegations, productive man-hours have been lost, the State had to react unnecessarily, the Command was placed in an awkward defensive position, and Base operating funds have been squandered.

2. An in-depth investigation will be conducted by an investigator from outside Base Maintenance Division. The purpose of the investigation is to independently examine the events that took place at the Camp Johnson Sewage Treatment Plant on 15 March 1990, identify the person or persons involved with making false statements to the news media, and provide recommendation for resolution and appropriate disciplinary action, if any. The full cooperation of every Sewage Treatment Unit employee is expected.

3. Employees are reminded that the Joint Public Affairs Office is the designated spokesman for events that occur on the Base and should be utilized through the supervisory chain. Contact with the news media while in a duty status is strictly prohibited and warrants adverse action unless that contact has been coordinated with the Joint Public Affairs Office. If confidentiality is desired, the Waste, Fraud, and Abuse Hotline may be utilized. Some events on Base warrant reporting to the public, but the reports need to be accurate and provided through Joint Public Affairs Office. The news media is not required to determine the authenticity of their sources and may not understand the impact on the Base from inaccurate reports.

C. H. Baker
C. H. BAKER

9-6-89

609 on 1040
628 off 1050
632 off 1150
640 on 1140
642 off 1020
662 on 1110

2750

1649.28

1320.00



HP-20

HAZARDOUS CHEMICAL WARNING LABEL

1. CHEMICAL / COMMON NAME COATING - AEROSOL	2. HAZARD CODE
--	----------------

3. NSN / LSN 8030-00-938-1947	4. PART NUMBER 706
----------------------------------	-----------------------

5. ITEM NAME
P.D.R.P.

6. HAZARDS (X all that apply)	(1) Acute (Immediate)				(2) Chronic (Delayed)
	NONE	SLIGHT	MODERATE	SEVERE	
a. HEALTH		X			X
b. CONTACT				X	[REDACTED]
c. FIRE	X				
d. REACTIVITY	X				

7. SPECIFIC HAZARDS AND PRECAUTIONS (Including Target Organ Effects)

Effects of Overexposure: IN A CONFINED AREA VAPORS IN HIGH CONCENTRATION ARE ANESTHETIC. IRRITANT TO SKIN AND UPPER RESPIRATORY SYSTEM. OVER-EXPOSURE MAY RESULT IN LIGHT-HEADEDNESS, STAGGERING GAIT, GIDDINESS AND POSSIBLE NAUSEA. CONTAINS PETROLEUM DISTILLATES-HARMFUL OF FATAL IF SWALLOWED

-- Chronic: REPORTS HAVE ASSOCIATED REPEATED AND PROLONGED OVEREXPOSURE TO SOLVENTS WITH PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE, ALSO KIDNEY AND LIVER DAMAGE.

(See MSDS for further information)

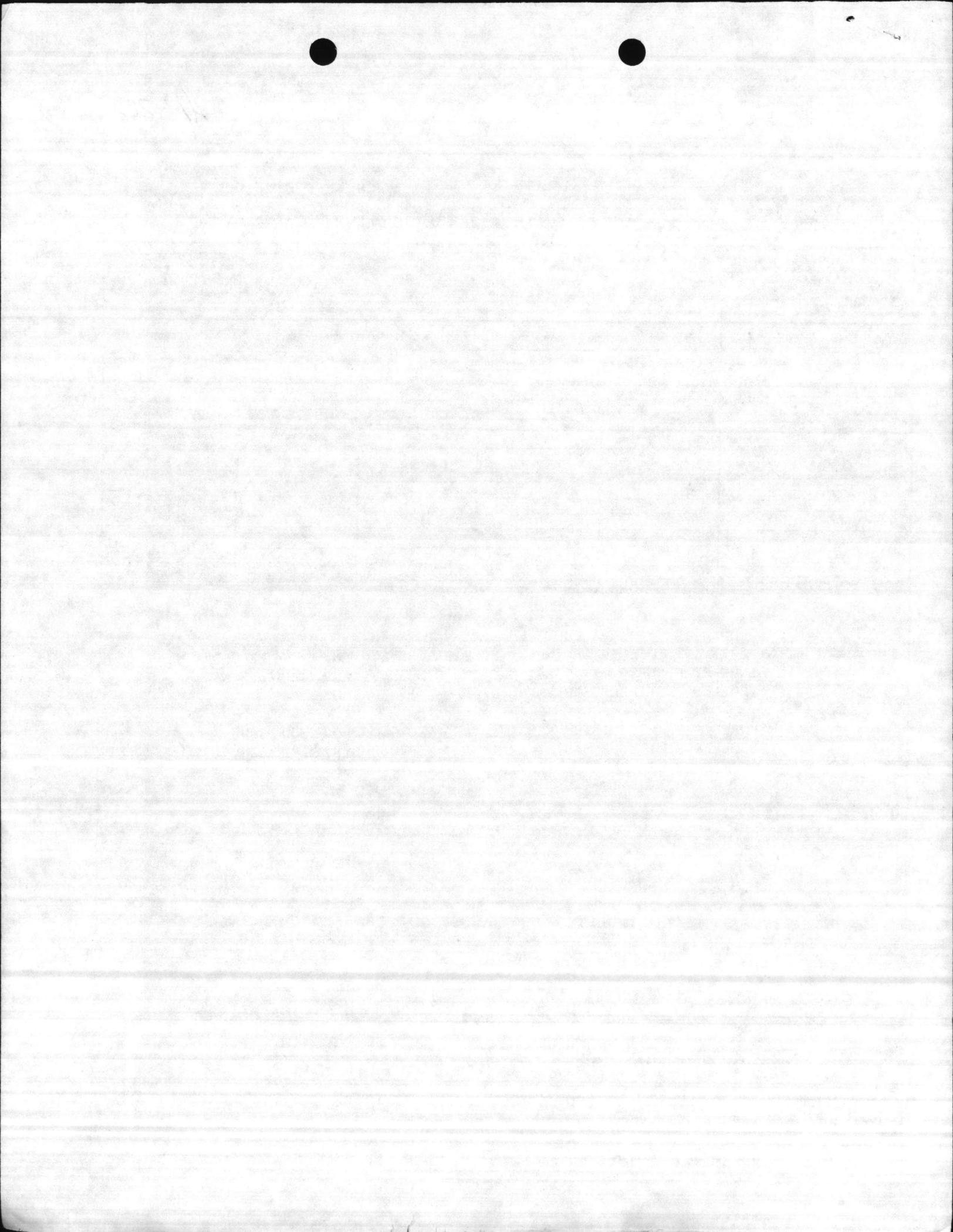
8. PROTECT (X all that apply)	X	a. EYES	X	b. SKIN	X	c. RESPIRATORY
-------------------------------	---	---------	---	---------	---	----------------

9. CONTACT a. COMPANY NAME
SPRAYON PRODUCTS

b. ADDRESS (Street, P.O. Box, City, State, Zip Code, and Country)
26300 FARGO AVE.- BEDFORD HTS, OH 44146 U.S.A.

c. EMERGENCY TELEPHONE NUMBER (Include Area Code) (216)292-7400 ext 275

10. PROCUREMENT YEAR FOR HAZARDOUS CHEMICAL



SUBMITTED BY: Sprayon Products
(Name of Bidder)

Fed. Std. No. 313

MATERIAL SAFETY DATA SHEET

Form Approved
OMB No. 44-R1387

TYPE OF DATA SHEET
 NEW REVISED

(If REVISED, Section No. _____)

SECTION I - GENERAL INFORMATION

MANUFACTURER'S NAME SPRAYON PRODUCTS- A DIVISION OF SHERWIN WILLIAMS		FSCM/CAGE 20047633	CONTRACT NUMBER OR ORDER NUMBER GS-10F-51899	
MANUFACTURER'S ADDRESS (Number, Street, City, State, and ZIP Code) 26300 FARGO AVE BEDFORD HEIGHTS, OH 44146		PART NUMBER, PRODUCT AND/OR TRADE NAME corrosion preventive compound		
NATIONAL STOCK NUMBER, ACTIVITY CONTROL NUMBER, OR LOCAL STOCK NUMBER 8030-00-938-1947		HAZARDOUS MATERIAL <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	SPECIFICATION MIL-C-81309	
TYPE, GRADE AND/OR CLASS TYPE II CLASS 2		HRC LICENSE NUMBER	EPA REGISTRATION NUMBER N/AP	
CHEMICAL NAME AND SYNONYMS COATING-AEROSOL		CHEMICAL FAMILY	FORMULA 50714	
TYPED OR PRINTED NAME OF COMPANY POINT OF CONTACT SPRAYON PROD. SOLON, OH		SIGNATURE DOUG RAYMOND	EMERGENCY TELEPHONE NUMBER 216-292-7400	DATE 11/19

SECTION II - COMPOSITION

NIOSH NUMBER	CHEMICAL NAME (Ingredients)	%	TLV
UNKNOWN	* BARIUM COMPOUNDS	20	N/E
64741-73-7	SOLTROL 220	25	400
76-13-1	* FREON TF-113	45	1000
124-38-9	CARBON DIOXIDE	5	5000

SECTION III - PHYSICAL PROPERTIES

BOILING POINT (°F & °C)	PROPELLANT BELOW 0° F	CRITICAL TEMP (°F & °C)	N/AP	SOLUBILITY IN WATER	N/AP
SPECIFIC GRAVITY (H ₂ O = 1)	N/AP	VISCOSITY	-	AUTOIGNITION TEMP (°F & °C)	-
EVAPORATION RATE (= 1)	FASTER THAN ETHER	VAPOR PRESSURE (MM HG)	N/AP	CRITICAL PRESSURE	-
DECOMPOSITION TEMP (°F & °C)	-	PERCENT VOLATILE BY VOLUME (%)	75%	CORROSION RATE (Temp = (Material Ref =)	-
VAPOR DENSITY (Air = 1)	HEAVIER THAN AIR	pH	N/AP	APPEARANCE AND ODOR	-
FREEZING (Melting) POINT (°F & °C)	N/AP	MAGNETISM (Milligauss)	-	AEROSOL	

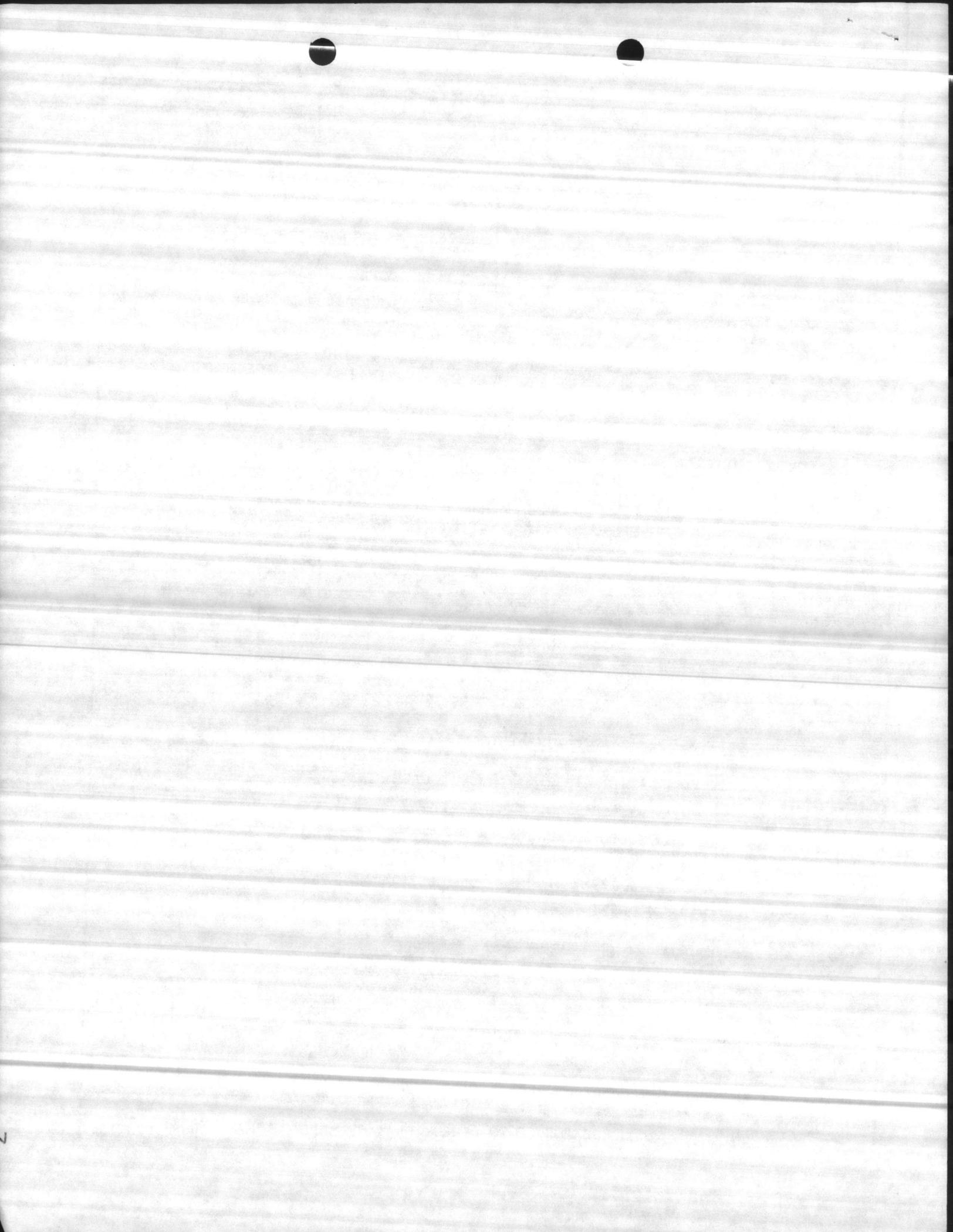
SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method Used)	FLAMMABLE (Explosive) LIMITS	
NONE	LEL	UEL
	-	-

EXTINGUISHING MEDIA
NOT APPLICABLE

SPECIAL FIRE-FIGHTING PROCEDURES AND EQUIPMENT
WATER MAY BE USED TO KEEP FIRE EXPOSED CONTAINERS COOL.

UNUSUAL FIRE AND EXPLOSION HAZARDS
KEEP AT ROOM TEMPERATURE ASEXPOSURE TO DIRECT HEAT OF SUNLIGHT MAY CAUSE BURSTING.



SECTION V - HEALTH HAZARD DATA

EFFECTS OF ACUTE AND CHRONIC OVEREXPOSURE In a confined area, vapors in high concentration are anesthetic. Irritant to skin & upper respiratory system. Overexposure may result in light headedness, staggering gait, giddiness & possible nausea.

EMERGENCY AND FIRST AID PROCEDURES Harmful of fatal if swallowed. Reports have associated repeated & prolonged overexposure to solvents with permanent brain & nervous system damage also kidney & liver damage. Breathing: Remove patient to fresh air. Skin: Wash with soap & water. Eyes: Flush with water for at least 15 minutes. Swallowing: Call physician immediately. Do NOT induce vomiting.

SECTION VI - REACTIVITY DATA

STABILITY
 UNSTABLE
 STABLE
CONDITIONS TO AVOID (Stability)
 DO NOT STORE ABOVE 120° F

INCOMPATIBILITY (Materials to avoid)
 NONE

HAZARDOUS DECOMPOSITION PRODUCTS BY OPEN FLAME: NONFLAMMABLE- HOWEVER IF SPRAYED INTO OPEN FLAME, FUMES MAY CONTAIN TOXIC FUMES OF CHLORIDES, FLUORIDES, HYDROGEN CHLORIDE, & PHOSGENE GAS.

HAZARDOUS POLYMERIZATION **CONDITIONS TO AVOID (Polymerization)**
 MAY OCCUR
 WILL NOT OCCUR

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
 VENTILATE AREA-ESPECIALLY IN LOW AREAS WHERE VAPORS WILL COLLECT.
 AVOID BREATHING VAPORS & REMOVE WITH INERT ABSORBENT.

WASTE HANDLING AND DISPOSAL METHOD
 DO NOT INCINERATE-DISPOSE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS REGARDING POLLUTION

NEUTRALIZING AGENT
 PRODUCT IS NUETRAL

SECTION VIII - OCCUPATIONAL PROTECTIVE MEASURES

RESPIRATORY PROTECTION (Specify type) AVOID BREATHING OF SPRAY OR MIST; OR WEAR A PROPERLY FITTED RESPIRATOR APPROVED FOR PROTECTION AGAINST MATERIALS IN PRODUCT

VENTILATION (Specify type) LOCAL EXHAUST IN PATTERN & VOLUME TO KEEP TLV OF HAZARDOUS INGREDIENTS IN PRODUCT BELOW ACCEPTABLE LIMIT.

PROTECTIVE GLOVES (Specify type) For prolonged contact as recommended by glove supplier	EYE PROTECTION (Specify type) For prolonged use: glasses with unperforated sideshields.	OTHER PERSONAL PROTECTIVE EQUIPMENT (Specify type) NONE
--	--	---

SECTION IX - SPECIAL PRECAUTIONS

HANDLING AND STORAGE PRECAUTIONS
 DO NOT STORE ABOVE 120° F. KEEP AT ROOM TEMPERATURE AS EXPOSURE TO DIRECT SUNLIGHT OR HEAT MAY CAUSE BURSTING.

OTHER PRECAUTIONS
 KEEP AWAY FROM CHILDREN. DO NOT PUNCTURE OR INCINERATE.
 DO NOT SPRAY NEAR FIRE OF OPEN FLAME.

SECTION X - TRANSPORTATION

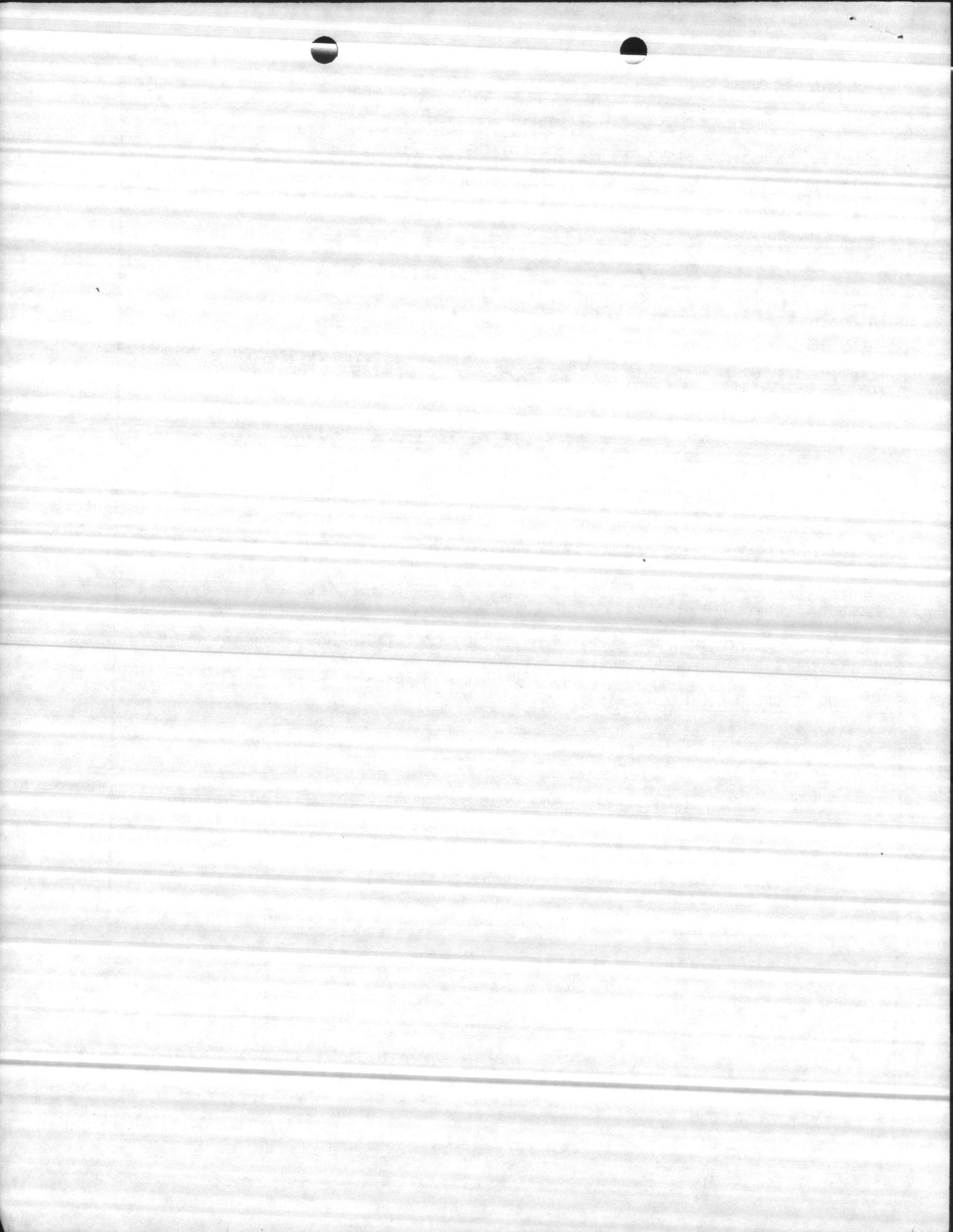
APPLICABLE REGULATIONS
 49 CFR IMCO TARIFF 60 IATA MILITARY AIR (AFR 71-4)

SHIPPING NAME COMPRESSED GAS	ID NUMBER UN1950	REPORT QTY N/AP
--	----------------------------	---------------------------

HAZARD CLASS 2	LABELS
--------------------------	---------------

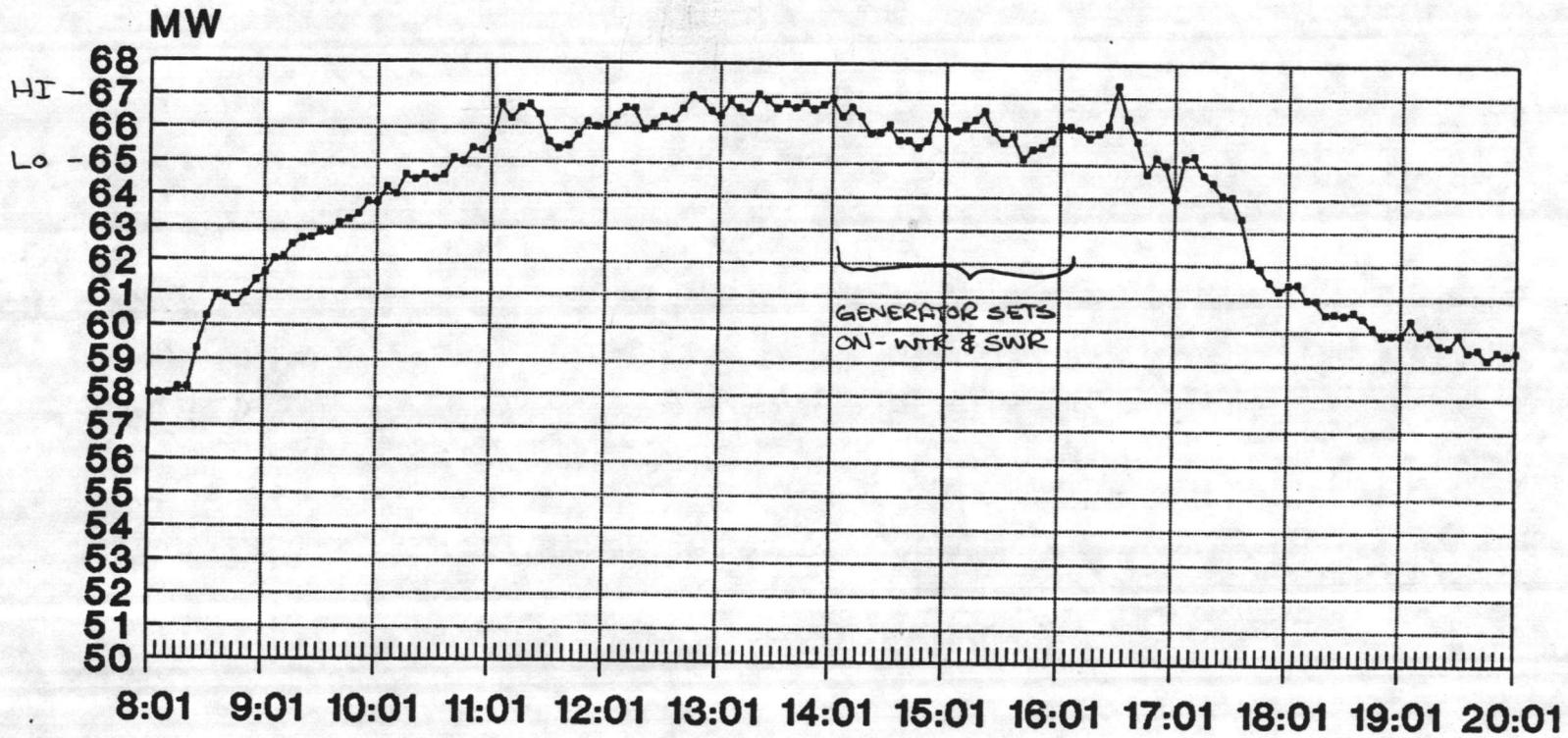
UNIT CONTAINER	DOT SPSC CONTAINER	DOT EXEMPT/DOD CCH	LIMITED QTY
-----------------------	---------------------------	---------------------------	--------------------

AEROSOL PROPELLANT(S) CARBON DIOXIDE	NET EXPL WT
--	--------------------

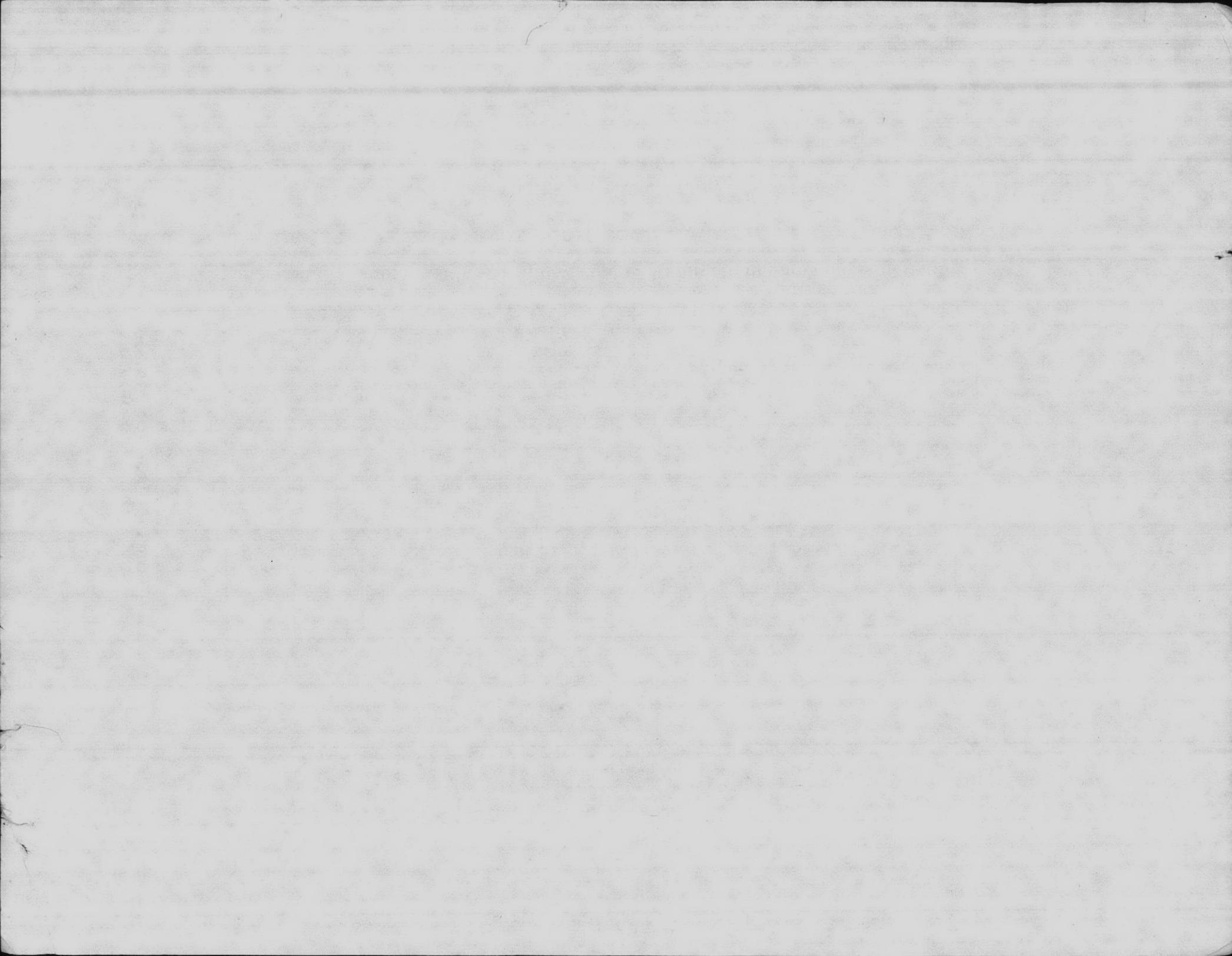


DEMAND PROFILE

23 JUL 91

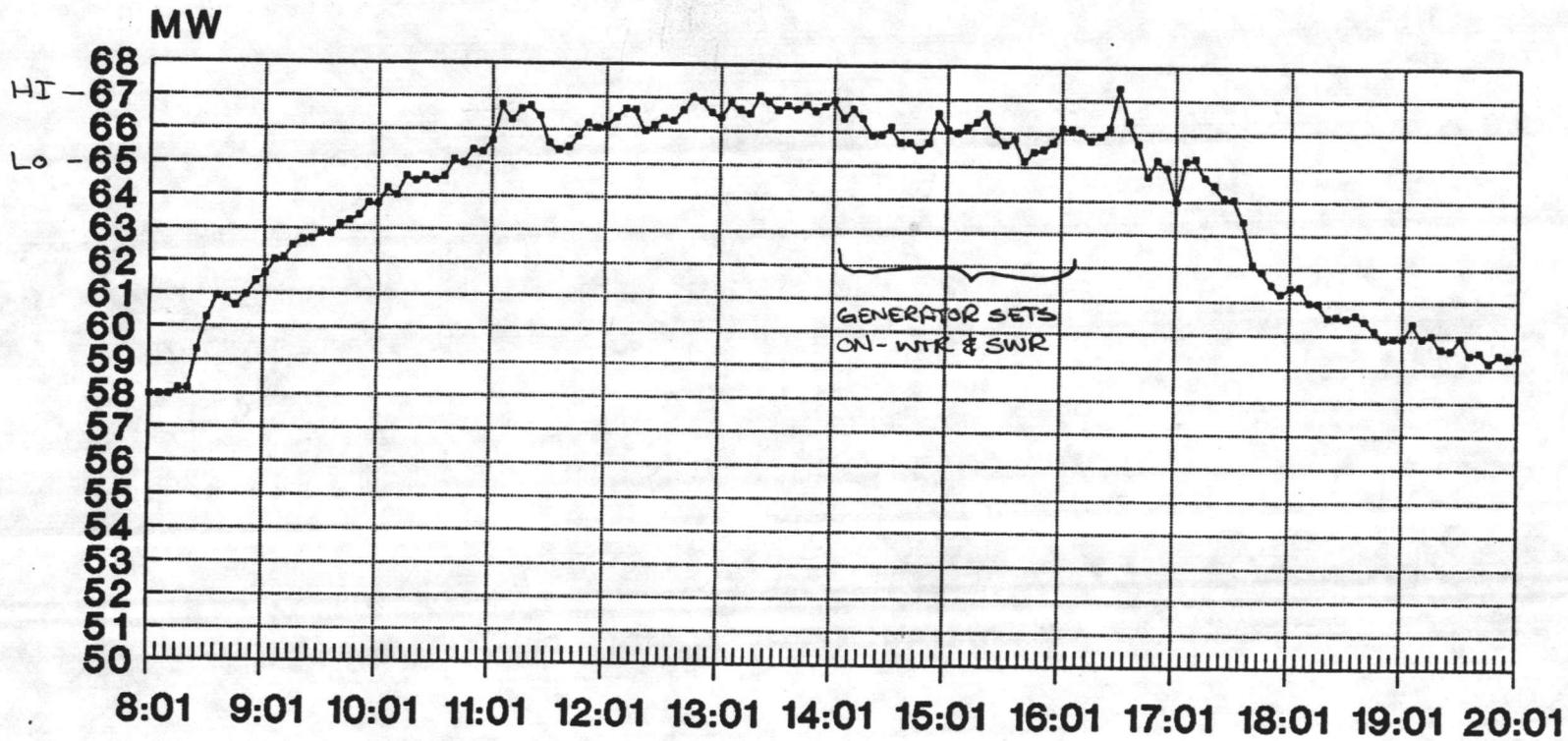


— Totalized Demand

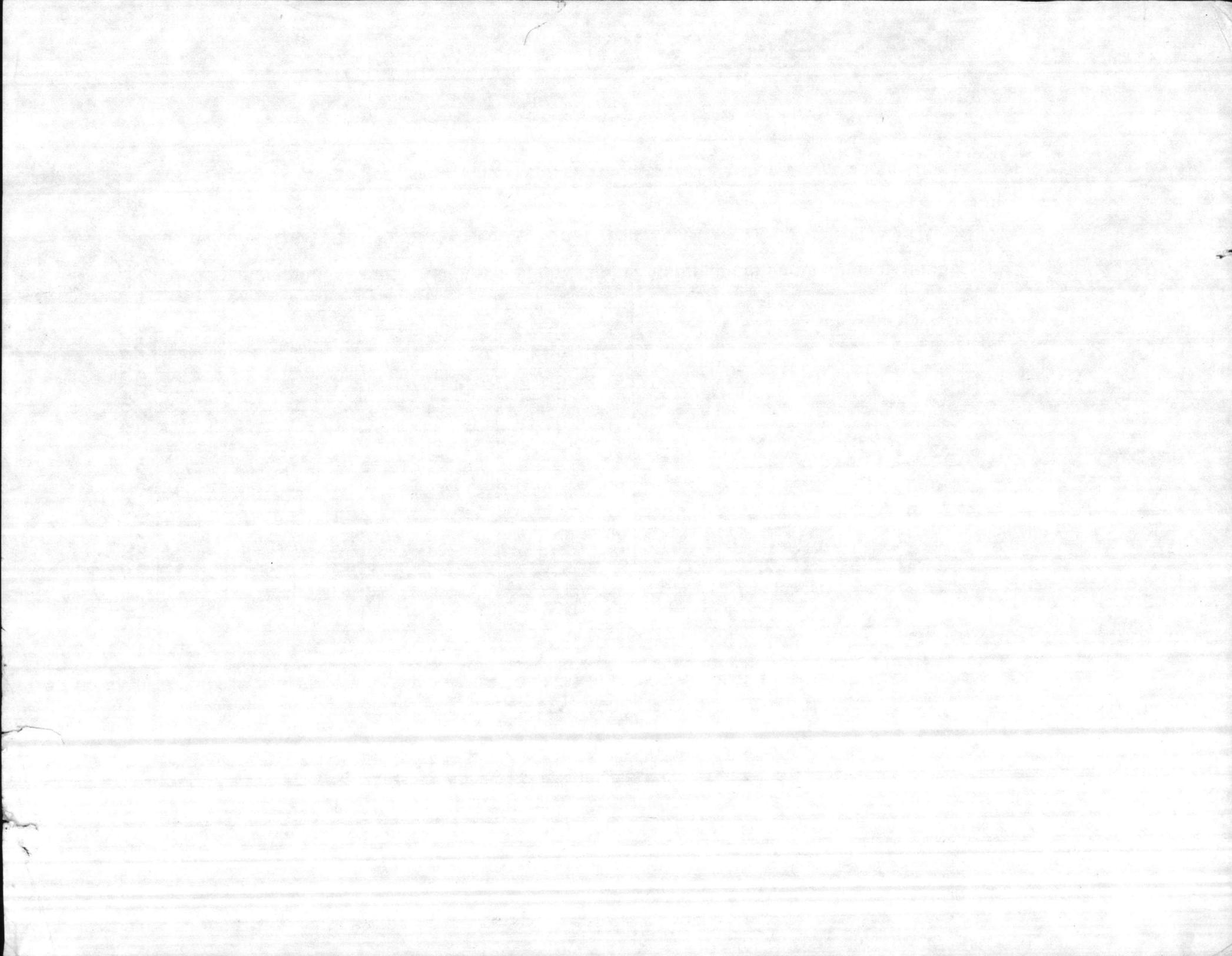


DEMAND PROFILE

23 JUL 91



— Totalized Demand



c. Attach a bus, keeping as far away from conductor as possible and below if practicable, being sure that all workers keep clear of the grounded cables and clamps until the grounding is completed.

d. To remove protective grounds, detach the grounded cables from each conductor, keeping as far away as possible and being sure that all workers keep clear of the grounded cables and clamps until all conductor clamps have been removed.

e. Remove ground from the station grounding system.

14. General Grounding

a. Protective grounding of conductors making up under ground cables cannot always be done at the point of work. In such cases, the grounds shall be attached at the nearest location where the conductors can be reached, in accordance with protective grounding instructions for stations or overhead lines.

b. When grounding truck chasis, pulling equipment or other related devices, first consideration should be made for attaching the grounding lead to the common neutral. If this is impractical, an existing anchor rod or screw ground rod fully inserted into earth shall be used.

202. STATIONARY BOILERS, MECHANICAL EQUIPMENT, COMPONENTS, AND DISTRIBUTION LINES

1. Tagout Required Prior to Entry into Steam Drums, Mud Drums, or Other Water Side Enclosures

a. Steam and feed lines connecting to the headers under pressure shall be isolated by a stop valve and a blank with open tell-tale valve in between, or by two stop valves with tell-tale valve opened in between.

b. The below listed valves shall be closed, chain locked, and tagged "DO NOT OPEN":

- (1) Boiler steam line non-return valve.
- (2) Boiler steam line stop valve.
- (3) Continuous blow valve.
- (4) Chemical line valve.
- (5) Super heater vent valve.
- (6) Soot blower steam line drum valve.
- (7) Soot blower steam line stop valve.

Material Safety Data Sheet

Hydrated Lime
 QUICK IDENTIFIER (in Plain Common Name)

Manufacturer's Name: EASTERN RIDGE LIME CO., L.P.
 Address: Star Route, Ripplemead, VA 24150
 Emergency Telephone No: (703) 626-7186
 Other Information Cells: Same as above
 Signature of Person Responsible for Preparation: *[Signature]*
 Date Prepared: July 16, 1992

SECTION 1 - IDENTITY

Common Name: (used on label) (Trade Name & Synonyms): Hydrated Lime; Hydrate
 Chemical Name: Calcium Hydroxide
 Formula: Ca(OH)₂
 CAS No: 1305-62-0
 Chemical Family: Alkaline Earth Metallic Hydrox

SECTION 2 - HAZARDOUS INGREDIENTS

Principal Hazardous Component(s) (chemical & common name(s))	APPROX. % by weight	Threshold Limit Value (mg/m ³)
Calcium Oxide	72.55	5mg/M ³
Silicon Dioxide	.95	5mg/M ³
Carbon Dioxide	.45	9000mg/M ³
Trace Elements (total)	2.49	N/A
Chemically Combined Water	23.56	N/A

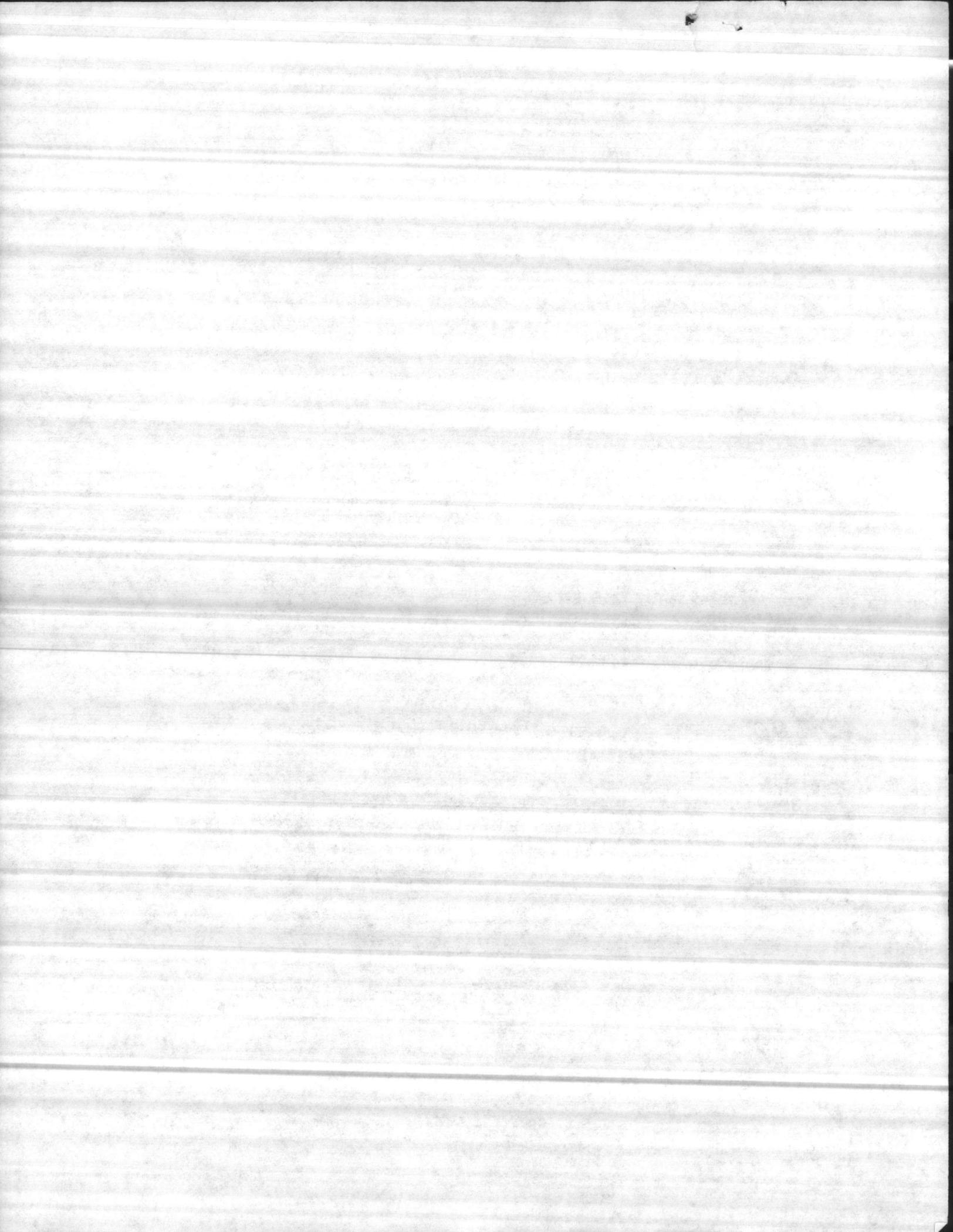
SECTION 3 - PHYSICAL & CHEMICAL CHARACTERISTICS (Fire & Explosion Data)

Boiling Point: Decomposes to CaO @ 1076 deg. F
 Specific Gravity (H₂O=1): 2.2-2.4
 Vapor Pressure (mm Hg): N/A
 Percent Volatile by Volume (N): Non-Volatile
 Vapor Density (Air = 1): N/A
 Evaporation Rate (N): N/A
 Solubility in Water: 0.18g/100g @ Room temp.
 Reactivity to Water: Non-Reactive
 Appearance and Odor: White to off-white powder; faint musty, earthy odor

Flash Point: N/A
 Flammable Limits (in Air % by Volume): Lower: N/A, Upper: N/A
 Extinguisher Media: Non-combustible
 Auto-ignition Temperature: N/A

Special Fire Fighting Procedures: Possible violent reaction with acid-based extinguishing media used to suppress nearby combustible materials

Usual Fire and Explosion Hazards: At temp. above 1076 deg. F may decompose to CaO and react violently and exothermically with water



SECTION 4 - PHYSICAL HAZARDS

Stability Unstable Conditions Stable To Avoid

Incompatibility Materials to Avoid: Acids & water in uncontrolled mixing

Hazardous Decomposition Products N/A

Hazardous Polymerization May Occur Will Not Occur Conditions to Avoid N/A

SECTION 5 - HEALTH HAZARDS

Threshold Limit Value 5mg/M³

Signs and Symptoms of Exposure 1. Acute Overexposure N/A

2. Chronic Overexposure N/A

Medical Conditions Generally Aggravated by Exposure N/A

Chemical Listed as Carcinogen or Potential Carcinogen No National Toxicology Program Yes No I.A.R.C. Monographs Yes No OSHA Yes No

OSHA Permissible Exposure Limit N/A ACGIH Threshold Limit Value 5mg/M³ Other Exposure Limit Used N/A

Emergency and First Aid Procedures

1. Inhalation Remove victim to fresh air. Consult physician if respiratory distress continues

2. Eyes Flush with water, including under eyelids for 15 minutes; Consult physician

3. Skin Flush with water. Consult physician if redness or irritation persists

4. Ingestion Dilute w/2 8 oz. glasses of milk or water; neutralize w/dilute vinegar or citrus juices and consult physician

SECTION 6 - SPECIAL PROTECTION INFORMATION

Respiratory Protection (Specify Type) Approved dust mask-disposable type adequate for limited exposure

Ventilation Normal Local Exhaust Mechanical Special Other Ventilates to maintain concentration below TLV

Protective Gloves Gauntlet-type Eye Protection Tight fitting goggles

Other Protective Clothing or Equipment Long sleeved shirt, high-top shoes or boots recommended

SECTION 7 - SPECIAL PRECAUTIONS AND SPILL/LEAK PROCEDURES

Precautions to be Taken in Handling and Storage Protect bagged Ca(OH)₂ from moisture; do not store near acids; provide waterproof bins or tanks for bulk material

Other Precautions N/A

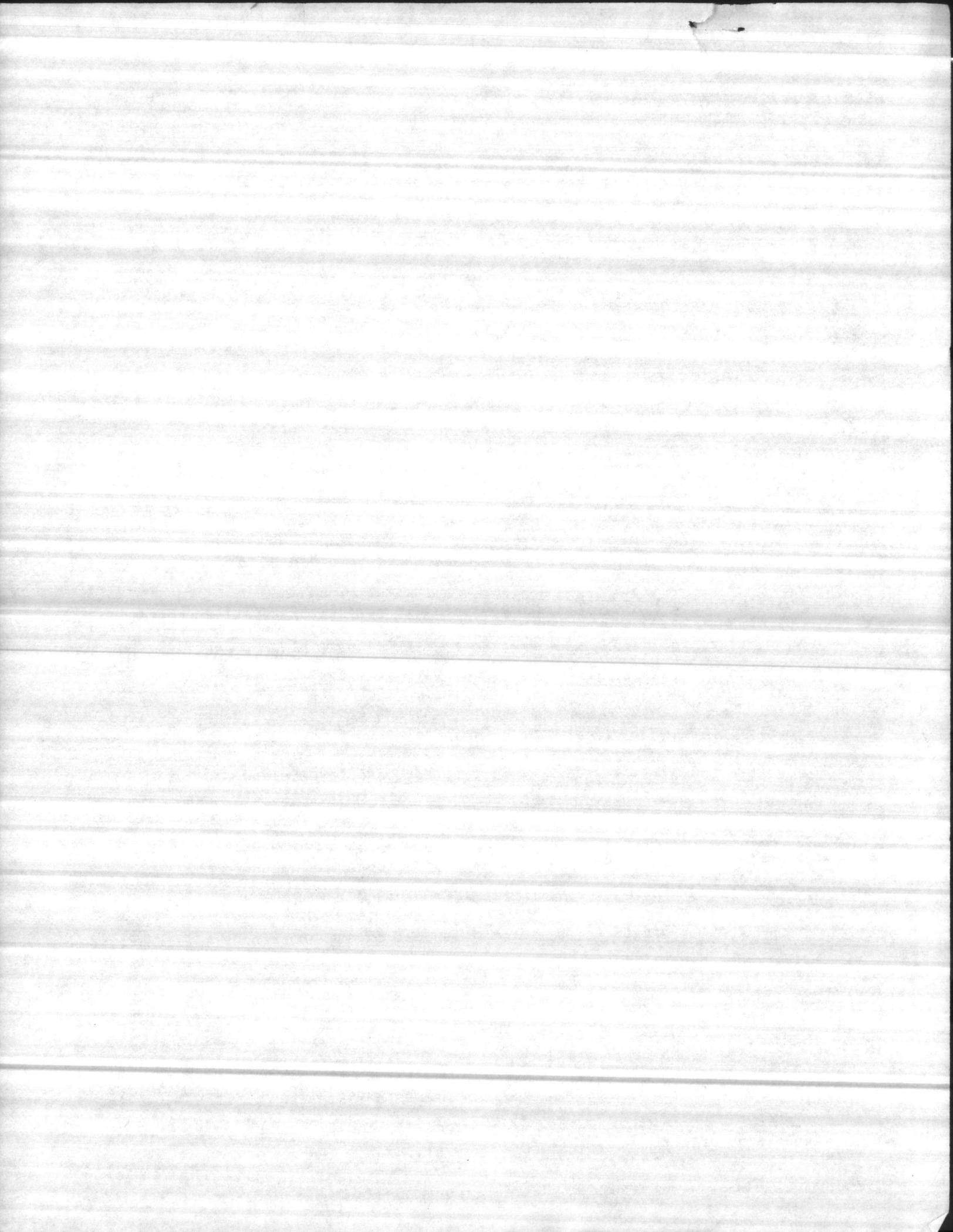
Steps to be Taken in Case Material is Released or Spilled Scoop or shovel into bags or buckets, sweep - minimizing dust vacuum

Waste Disposal Methods if possible; small remaining quantities may be water-flushed to stormdrains

Uncontaminated material may be used on lawns, gardens and fields to beneficial effect

IMPORTANT

Do not leave any blank spaces. If required information is unavailable, unknown, or does not apply, so indicate.



JOB DESCRIPTIONS

