

UNITED STATES GOVERNMENT

Memorandum

TO : Files

DATE: July 16, 1962

FROM :

Robert L. Layfield
Robert L. Layfield

SUBJECT: CONTEMPORARY METALS CORPORATION - DOCKET NO. 40-6811
TELECON WITH BILL DEVINE - PRODUCTION

DLR:RLL

Mr. Devine called me on July 12 in reference to licensing action concerning the subject Corporation for processing uranium ore residues presently stored at the St. Louis airport site. His primary concern was the residues which would remain from the separation process. Apparently there is some concern over the possibility of Contemporary Metal pulling out and leaving the residues. (Integrity?)

I informed Mr. Devine that we intended to license Contemporary if their procedures were adequate. This would include checking their assay procedures of the residues for radioactive content. Also, I informed him that if the residues were less than 0.05%, it was no longer considered as source material and need not be treated as such.

8606120039 860527
PDR FOIA
BARNES86-117 PDR

A/100

RECORD OF TELEPHONE CONVERSATION

DATE 7/30/62

DOCKET 40-6811

COMPANY Contemporary Metals Corp.

PERSON Clemens Roarke

SUMMARY OF CALL:

Requested (Mr Roarke) status of latest info submitted by him. Told him that I would call tomorrow.

EL

3-2011 Room 402

Standard Form 63
Nov. 1961 Edition
63-104

MEMORANDUM OF CALL

Date	Time
7-31	4:25

TO- Mr. Layfield

☒ YOU WERE CALLED BY Mr. Roark ☐ YOU WERE VISITED BY-

Mr. Roark

TELEPHONE:	Number or code	Extension

<input checked="" type="checkbox"/> PLEASE CALL	<input type="checkbox"/> WAITING TO SEE YOU
<input type="checkbox"/> WILL CALL AGAIN	<input type="checkbox"/> WISHES AN APPOINTMENT
<input type="checkbox"/> RETURNING YOUR CALL	
<input type="checkbox"/> IS REFERRED TO YOU BY:	

LEFT THIS MESSAGE: _____

Operator 41 - FA 3-2011

Room, New. Rm 402

Area code 702

Received By- Bobbie



CONTEMPORARY
METALS
CORPORATION

1939 S SAN GABRIEL BLVD SAN GABRIEL CALIF
PHONE ATLANTIC 61249

DOCKET NO. 40-6811

L&R File CORX

DATE: 28 AUGUST 1962

TO: MR. DONALD A. NUSSBAUMER, CHIEF
SOURCE AND SPECIAL NUCLEAR MATERIALS BRANCH
DIVISION OF LICENSING AND REGULATION
UNITED STATES ATOMIC ENERGY COMMISSION
WASHINGTON 25, D. C.

FROM: CONTEMPORARY METALS CORPORATION
620 NORTH BENTON WAY
LOS ANGELES 26, CALIFORNIA

REFERENCE: DLRI:RL
40-6811

THE FOLLOWING SUPPLEMENTAL INFORMATION IS IN ANSWER TO YOUR LETTER DATED AUGUST 6, 1962, TO ASSIST YOU IN REVIEW OF OUR REQUEST FOR AN AEC SOURCE MATERIAL LICENSE DATED MAY 17, 1962.

I BELIEVE THAT YOU WILL FIND ALL OF YOUR REQUESTED INFORMATION COVERED IN DETAIL IN THE FOLLOWING PAGES OR ON ENCLOSED REVISED BLUE PRINT, "SCHEMATIC PLAN FOR CONTEMPORARY METALS CORP., RESIDUE PROCESSING PLANT" DATED MAY 28, 1962, REVISED AUGUST 17, 1962.

MR. ROARK HAS TOLD ME THAT MR. R. L. LAYFIELD, FROM YOUR OFFICE WILL BE IN THE AEC ST. LOUIS AREA OFFICE ON THURSDAY THE 31ST OF AUGUST, SO I WILL PLAN TO BE THERE AT THE SAME TIME IN CASE HE HAS ANY FURTHER QUESTIONS OR ENCLOSED MATERIAL REQUIRES ANY REVISION.

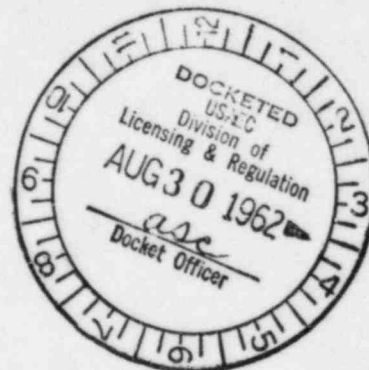
VERY TRULY YOURS,

Gene Loose
GENE LOOSE, VICE-PRESIDENT
CONTEMPORARY METALS CORPORATION

GL/BR

ENC: BLUE PRINT

~~NUCLEAR-CHICAGO CATALOG SHEETS~~
COPY: MR. R. L. LAYFIELD, % MR. OSTERWALD
MR. C. M. ROARK, RENO, NEVADA



MONITORING REFERENCES

AREA	MONITORING EQUIPMENT	FREQUENCY & COMMENT
1 PHASE 1 & 2. AIRPORT SITE, LOADING AREA, AIRPORT SITE TO HAZELWOOD -- BERKELEY, MISSOURI.	PORTABLE SURVEY INSTRUMENTS. PHASE 1. RADIATION SURVEY. MODEL 2514 HIGH & MEDIUM RANGE "CUTIE-PIE". SURVEY METER FOR GAMMA & BETA RADIATION. MODEL PC43 RIGID EXTENSION ARM (6'). MODEL 2672 ALPHA SURVEY METER. MODEL 1629 ALARM RATEMETER. MODEL P15 GM PROBE. MODEL D50 GM DETECTOR. MONTHLY FILM-BADGE SERVICE (GAMMA). MODEL NC402 GAMMA DOSIMETERS (SELF-READING). MODEL NC403 CHARGER.	1). MONITOR ORIGINAL STOCKPILE AT AREA SCHEDULED FOR NEXT LOAD- ING TO DETECT ANY VOLUMES OF RADIOACTIVE MATERIAL IN EXCESS OF 5 MR. 2). MONITOR TRUCK BODY AND CAB FOR RA LEVEL BEFORE LEAVING AIR- PORT SITE TO PROTECT DRIVER & PREVENT TRANSPORTATION OF ANY CONCENTRATIONS THRU PUBLIC STREETS IN EXCESS OF 5 MR DURING PHASE 2. 3). PERSONNEL MONITORING EQUIP- MENT TO BE USED BY ALL PERSONS OPERATING DRAG LINE OR LOADING EQUIPMENT, AND TRUCK DRIVERS. 4). IF AT ANY TIME DURING LOADING OPERATION THE STOCKPILE MATERIAL SHOULD BECOME DRY ENOUGH TO GEN- ERATE ANY DUST THE PERSONNEL WORKING IN THE AREA SHALL WEAR RESPIRATORS. 5). ALARM RATEMETER TO BE POSI- TIONED AT DRAG LINE OPERATOR'S FEET AND SET TO ALARM AT 2.5 MR. 6). ALL PERSONNEL WORKING IN EXCESS OF 20 HR/WK IN STOCKPILE AREA TO HAVE QUARTERLY BIOASSAY.
2 PHASE 3. STOCKPILE OF RESIDUE SOUTH OF CRANE YARD.	PHASE 3 & 4 RADIATION SURVEY. MODEL 2514 HIGH & MEDIUM RANGE "CUTIE-PIE" SURVEY METER. MODEL PC43 RIGID EXTENSION ARM (6'). MODEL 2651 LOW RANGE SURVEY METER FOR GAMMA RADIATION. MODEL 2672 ALPHA SURVEY METER. MODEL 1629 ALARM RATEMETER. MODEL P15 GM PROBE. MODEL D50 GM DETECTOR. <i>wish to delete</i>	1). PERSONNEL MONITORING EQUIP- MENT TO BE USED BY ALL PERSONS OPERATING DRAG LINE OR LOADING EQUIPMENT. 2). IF AT ANY TIME DURING LOADING OPERATION THE STOCKPILE MATERIAL SHOULD BECOME DRY ENOUGH TO GEN- ERATE ANY DUST THE PERSONNEL WORKING IN THE AREA SHALL WEAR RESPIRATORS. 3). ALARM RATEMETER TO BE POSI- TIONED AT DRAG LINE OPERATOR'S FEET AND SET TO ALARM AT 2.5 MR. 4). ALL PERSONNEL WORKING IN EXCESS OF 20 HR/WK IN STOCKPILE AREA TO HAVE QUARTERLY BIOASSAY.
3 PHASE 4. REJECT CONVEYOR MONITOR SYSTEM.	PHASE 4 MONITORING SYSTEMS. REJECT CONVEYOR MONITOR SYSTEM. MODEL 1629 ALARM RATEMETER. MODEL P15 GM PROBE. MODEL D50 GM DETECTOR.	1). 3 DETECTORS LOCATED AT CON- VEYOR BELT AND CONNECTED TO AUTO- MATIC ALARM RATEMETER. ONE DE- TECTOR CENTERED ABOVE BELT AND ONE DETECTOR AT 60° TO THE RIGHT AND ONE 60° TO THE LEFT OF CENTER

AREA

MONITORING EQUIPMENT

FREQUENCY & COMMENT

4

PHASE 4.

PLANT FEED MONITOR.
MODEL 1629 ALARM RATEMETER.
MODEL R1000A CHART RECORDER.
MODEL DS200 SCINTILLATION
DETECTOR (2" CRYSTAL).
MODEL J55A NOSEPIECE

DETECTOR. THIS SYSTEM WILL PRO-
VIDE A CONTINUOUS MONITORING AND
ALARM SYSTEM TO PREVENT THE DIS-
CHARGE OF ANY RA MATERIAL ABOVE
.5 MR TO REJECT STOCKPILE.

1). THE PLANT FEED SYSTEM WILL
BE ENCLOSED TO THE MIXING TANK
AND WILL NOT CARRY MATERIAL THAT
WILL REGISTER IN EXCESS OF 2.5
MR MAXIMUM. AT THIS POINT ALL
OF THE MATERIAL COMING INTO THE
PLANT WILL BE CONTINUOUSLY MONI-
TORED IN COMBINATION WITH AUTO-
MATIC ALARM RATEMETER AND CHART
RECORDER TO PROVIDE A PERMANENT
RECORD OF ALL MATERIAL ENTERING
THE FLOW IN THE PLANT. CAREFUL
GAMMA MONITORING.

5

VENTED COVERED
TANKS.

MODEL 1629 ALARM RATEMETER.
MODEL P15 GM PROBE.
MODEL D50 GM DETECTOR.
PC-33 EXTENSION CABLE AND
APPROPRIATE RANGE CHAMBER.

1). ALL OF THESE TANKS TO BE
COVERED AND VENTED TO "HOLD-UP"
TANK A. HOLD-UP TANK A OUTPUT
WILL BE CONNECTED THRU PUMP AND
PIPE TO PLANT FEED AT AREA 4.
THE OUTPUT WILL BE CONTINUOUSLY
AND AUTOMATICALLY MONITORED WITH
AUTOMATIC ALARM RATEMETER, SET
TO ALARM AT 2.5 MR. IF OUTPUT
REACHES 2.5 MR OUTPUT WILL BE
SHUT OFF AND HOLD-UP MATERIAL
DILUTED DOWN TO 2.5 MR OR LESS
BEFORE OPENING TO RECYCLE TO
AREA 4.

6

7

8

9

2). USE EXTENSION CABLE AND CHAM-
BER ATTACHED TO "CUTIE-PIE" AND
DROP THRU TEST PIPE TO CHECK RA
LEVEL IN HOLD-UP TANK.

10

RAFFINATE
CYCLE
PREGNANT SOLU-
TION.

MODEL 1629 ALARM RATEMETER.
MODEL P15 GM PROBE.
MODEL D50 GM DETECTOR.

1). THE RA OF THE PREGNANT SOLU-
TION AT THIS POINT SHOULD BE NIL
AND THE CONTINUOUS AUTOMATIC MONI-
TORING WILL BE SET FOR 2 TIMES
BACKGROUND.

2). IF PREGNANT SOLUTION EXCEEDS
2 TIMES NORMAL BACKGROUND THE
SOLUTION WILL BE BY-PASSED TO A
SMALLER STANDBY FILTER AND SOLU-
TION WILL NOT BE PERMITTED TO GO
BEYOND AREA 10 MONITORING POINT
UNTIL SOLUTION DROPS TO 2 TIMES
NORMAL BACKGROUND OR LESS. (IT
SHOULD BE NOTED THAT NORMAL BACK-
GROUND MIGHT RISE IN ST. LOUIS

MONITORING EQUIPMENT*

FREQUENCY & COMMENT

AREA

RAFFINATE CYCLE
PREGNANT SOLUTION CONT'D.

11 $UO_2(OH)_2$ ROOM

MODEL 1629 ALARM RATEMETER.
MODEL P15 GM PROBE.
MODEL D50 GM DETECTOR.
"STAPLEX" AIR SAMPLER UNIT.
(STAPLEX CO., AIR SAMPLER
DIVISION, 783 5TH AVENUE,
BROOKLYN 32, NEW YORK).

12 BARIUM SULPHATE
CYCLE, BASIC
SOLUTION DISCHARGE.

MODEL 1629 ALARM RATEMETER.
MODEL P15 GM PROBE.
MODEL D50 GM DETECTOR.

AREA DUE TO ATMOSPHERIC TESTING
IN OTHER AREAS, THEREFORE THE
ALARM SYSTEM WILL BE CALIBRATED
TO CORRECT FOR ANY SIGNIFICANT
INCREASE IN BACKGROUND ABOVE
NORMAL).

3). THE SLURRY WILL BE TRANSPORTED BY MEANS OF AN ENCLOSED SCREW-CONVEYOR TO THE COVERED ACID LEACHING TANK. RA LEVEL IN SYSTEM BEYOND LARGE FILTER AT AREA 10 TO FILTER AHEAD OF AREA 11, SHOULD NOT EXCEED 1.25 MR.

1). $UO_2(OH)_2$ FROM DRUM FILTER BY ENCLOSED SCREW CONVEYOR TO SEMI-AUTOMATIC BAGGING MACHINE INTO POLY-ETHYLENE HEAT SEALED BAGS INTO STEEL DRUMS. THIS ROOM PARTITIONED FROM REST OF PLANT WITH MECHANICAL VENTILATOR OF SUFFICIENT CAPACITY TO PROVIDE NEGATIVE PRESSURES AT DISCHARGE END OF BAG MACHINE. ALARM RATEMETER SET TO ALARM AT 75 MR AND SHUT FEED SYSTEM DOWN AT 100 MR. ROOM TO BE POSTED "HIGH RADIATION AREA". ANYONE ENTERING RESTRICTED AREA TO WEAR FILM BADGE, RESPIRATOR AND PROTECTIVE COATING.
2). MECHANICAL VENT TO BE CONTINUOUSLY AND AUTOMATICALLY MONITORED WITH AUTOMATIC ALARM RATEMETER. VENT TO ALSO BE MONITORED WITH AIR SAMPLER UNITS AND PAPERS ANALYZED IN LABORATORY ONCE DURING EACH 8 HOUR SHIFT, 2 HOURS AFTER START OF SHIFT. RA OF AIR PASSING THRU VENT AND FILTER NOT TO EXCEED 7×10^{-11} MICRO CURIES PER MILLI-LITRE.

1). URANIUM THORIUM CONTENT IN THIS SOLUTION NOT TO EXCEED .01%. SET ALARM RATEMETER TO ALARM AT 2 TIMES BACKGROUND TO SHUT OFF FEED PUMP TO DRUM FILTER AUTOMATICALLY. (IT SHOULD BE NOTED THAT NORMAL BACKGROUND MIGHT RISE

AREA

MONITORING EQUIPMENT*

FREQUENCY & COMMENT

BARIUM SULPHATE
CYCLE, BASIC
SOLUTION DISCHARGE
CONT'D.

IN ST. LOUIS AREA DUE TO ATMOSPHERIC TESTING IN OTHER AREAS, THEREFORE THE ALARM SYSTEM WILL BE CALIBRATED TO CORRECT FOR ANY SIGNIFICANT INCREASE IN BACKGROUND ABOVE NORMAL).

13

OFFICE AREA

OFFICE AREA MONITOR,
MODEL 1629 ALARM RATEMETER,
MODEL P11 PROBE,
MODEL 054 GM DETECTOR,=
"STAPLEX" AIR SAMPLER UNIT.

1). MONITORING SYSTEM IN OFFICE AREA WOULD APPEAR TO BE SUPERFLUOUS DUE TO PHYSICAL SEPARATION BETWEEN PLANT AND OFFICE BUT AUTOMATIC ALARM RATEMETER AND DETECTOR WILL ALSO BE PROVIDED IN THIS AREA AT THE COLD AIR RETURN DUCT IN THE AIR CONDITIONING UNIT.

2). AIR SAMPLING TO FOLLOW PROCEDURE DESCRIBED FOR AREA 11
FREQUENCY & COMMENT 2).

LABORATORY RADIATION ASSAYS FOR ALPHA ANALYSIS OF AIR SAMPLER FILTER PAPER AND GAMMA ANALYSIS OF SOLUTION WILL BE CONDUCTED IN THE CMC PLANT LABORATORY USING THE FOLLOWING EQUIPMENT.

MODEL 202 DECADE SCALER FOR PROPORTIONAL COUNTING,
MODEL 043 GAS FLOW DETECTOR (2").
MODEL M5 PROPORTIONAL SEMI-AUTOMATIC SAMPLE CHANGER,
MODEL 3037 LEAD SHIELD,
MODEL CY843 ADAPTER RING,
MODEL VK3 REGULATOR VALVE,
MODEL GP-100 PROPORTIONAL COUNTING GAS,
MODEL 8764 PREAMPLIFIER,
MODEL 6022 SAMPLE PANS,
MODEL 05202 SCINTILLATION WELL COUNTER,
MODEL 1810 RADIATION ANALYZER,
MODEL RT2 CESIUM CALIBRATION SOURCE,
MODEL TT2 TEST TUBES.

PERSONNEL MONITORING EQUIPMENT TO BE USED BY ALL PERSONS ENTERING RESTRICTED AREAS.

MONTHLY FILM BADGE SERVICE (GAMMA).
MODEL NC402 GAMMA DOSIMETERS (SELF READING).
MODEL NC403 CHARGER.

GENERAL NOTES:

*ALL MONITORING EQUIPMENT MODEL NAMES AND NUMBERS REFER TO EQUIPMENT MANUFACTURED AND DISTRIBUTED BY NUCLEAR-CHICAGO CORPORATION, 333 EAST HOWARD AVENUE AT NUCLEAR DRIVE, DES PLAINES, ILLINOIS, UNLESS OTHERWISE NOTED.

- B. HEALTH PHYSICS SHALL BE REQUESTED TO MONITOR AND APPROVE THE DISCHARGE OR REMOVAL OF RADIOACTIVE LIQUIDS OR GASES FROM HOLD-UP TANKS.
- C. ST. LOUIS TESTING LABORATORIES SHALL BE REQUESTED TO MONITOR ALL MARKETABLE RADIOACTIVE MATERIAL PRIOR TO REMOVAL FROM THE PROCESSING SITE.

VI SHIPMENT OF RADIOACTIVE MATERIAL

- A. RADIOACTIVE OR CONTAMINATED MATERIAL SHALL NOT BE GIVEN TO AN OUTSIDE VENDOR UNLESS APPROVED BY HEALTH PHYSICS.
- B. HEALTH PHYSICS SHALL BE REQUESTED TO MONITOR AND APPROVE ALL SHIPMENTS OF RADIOACTIVE OR CONTAMINATED MATERIAL.
- C. SHIPPING CONTAINERS WHICH HAVE BEEN USED FOR THE SHIPMENT OF RADIOACTIVE MATERIAL SHALL BE MONITORED INTERNALLY AND EXTERNALLY FOR RADIOACTIVE CONTAMINATION FOLLOWING REMOVAL OF THE RADIOACTIVE MATERIAL.

VII DECONTAMINATION

- A. DECONTAMINATION IS THE RESPONSIBILITY OF THE OPERATING GROUP. SUCH DECONTAMINATION SHALL BE PROMPTLY EFFECTED UPON NOTIFICATION BY HEALTH PHYSICS.
- B. PERSONAL DECONTAMINATION SHALL BE PERFORMED IN A MANNER SPECIFIED BY HEALTH PHYSICS.

VIII PROTECTIVE EQUIPMENT AND DETECTION INSTRUMENTS

- A. ALL RADIATION PROTECTION EQUIPMENT AND RADIATION DETECTION INSTRUMENTATION USED TO PROTECT AGAINST RADIOLOGICAL HAZARDS SHALL BE SPECIFIED OR APPROVED BY HEALTH PHYSICS PRIOR TO PROCUREMENT OR UTILIZATION.
- B. RADIATION DETECTION INSTRUMENTATION USED FOR RADIATION PROTECTION SHALL BE CALIBRATED TO STANDARDS SPECIFIED BY HEALTH PHYSICS.
- C. EMPLOYEES SHALL NOT USE RADIATION DETECTION INSTRUMENTATION FOR RADIATION PROTECTION PURPOSES UNLESS THEY HAVE BEEN THOROUGHLY INDOCTRINATED BY HEALTH PHYSICS IN THE USE OF SUCH INSTRUMENTATION AND IN THE INTERPRETATION AND APPLICATION OF MONITORING RESULTS.
- D. RADIATION PROTECTION EQUIPMENT AND RADIATION DETECTION INSTRUMENTATION SHALL NOT BE USED FOR OTHER THAN THEIR INTENDED PURPOSE WITHOUT THE EXPRESS APPROVAL OF HEALTH PHYSICS.
- E. PERSONNEL MONITORING INSTRUMENTS, SUCH AS FILM BADGES AND DOSIMETERS, SHALL BE WORN ON THE WRIST OR CHEST UNLESS OTHERWISE SPECIFIED BY HEALTH PHYSICS.
- F. LOSS OF OR DAMAGE TO PERSONNEL MONITORING INSTRUMENTS SHALL BE REPORTED IMMEDIATELY TO HEALTH PHYSICS.
- G. NO EMPLOYEE SHALL CAUSE OR ATTEMPT TO CAUSE AN ABNORMAL INDICATION ON ANY PERSONNEL MONITORING INSTRUMENT.
- H. EMPLOYEES SHALL PROMPTLY RETURN FILM BADGES TO APPROPRIATE BADGE RACK AT THE END OF EACH PERIOD, NORMALLY FOUR WEEKS FOR EVALUATION.

IX RADIATION EXPOSURES

- A. NO EMPLOYEE SHALL KNOWINGLY EXPOSE HIMSELF OR OTHERS TO RADIOACTIVITY

BY HEALTH PHYSICS AT LEAST TWENTY-FOUR HOURS PRIOR TO WORK INITIATION. TAGGED AREA ENTRY PERMIT IS REQUIRED FOR ALL CONTRACTOR OPERATIONS IN TAGGED AREAS.

H. DOORS TO TAGGED AREAS SHALL REMAIN CLOSED.

III USE OF RADIOACTIVE MATERIAL

- A. RADIOACTIVE MATERIAL SHALL NOT BE USED IN AN OPERATION UNLESS APPROVED BY HEALTH PHYSICS.
- B. RUBBER OR OTHER APPROVED GLOVES SHALL BE WORN WHEN HANDLING RADIOACTIVE OR CONTAMINATED MATERIALS.
- C. PROTECTIVE EQUIPMENT, AS SPECIFIED BY HEALTH PHYSICS, SHALL BE WORN IN ALL RADIOLOGICAL OPERATIONS.
- D. OPERATIONS THAT MIGHT LEAD TO THE INGESTION OF RADIOACTIVE MATERIAL (E.G., PIPETTING BY MOUTH) ARE PROHIBITED.
- E. ALL RADIOLOGICAL OPERATIONS CONDUCTED DURING NORMAL OFF-SHIFT HOURS SHALL RECEIVE PRIOR REVIEW BY HEALTH PHYSICS.
- F. RADIOLOGICAL OPERATIONS INVOLVING FIRE, SAFETY OR NON-RADIOACTIVE TOXIC MATERIAL HAZARDS SHALL BE REVIEWED BY HEALTH PHYSICS.
- G. THE DESIGN, CONSTRUCTION OR MODIFICATION OF ALL EXPERIMENTS, EQUIPMENT, OR FACILITIES INVOLVING RADIOACTIVITY OR RADIATION PRODUCING DEVICES SHALL BE REVIEWED BY HEALTH PHYSICS.
- H. ADEQUATE CONTAINMENT PRECAUTIONS SHALL BE APPLIED WHERE RADIOACTIVE MATERIALS ARE POURED, HEATED, OR PLACED UNDER PRESSURE OR VACUUM.
- I. THE CUTTING, ABRADING, WELDING, ETC., OF RADIOACTIVE OR CONTAMINATED MATERIAL SHALL NORMALLY BE PERFORMED IN PROPERLY VENTILATED AND FILTERED ENCLOSURES APPROVED BY HEALTH PHYSICS.
- J. OPERATIONS UTILIZING RADIOACTIVE GASES, LIQUIDS OR FINELY DIVIDED RADIOACTIVE SOLIDS SHALL NORMALLY BE PERFORMED IN PROPERLY VENTILATED AND FILTERED ENCLOSURES APPROVED BY HEALTH PHYSICS.
- K. RADIOACTIVE WASTE GASES AND VAPORS SHALL BE COLLECTED IN SUITABLE CONTAINERS FOR DISPOSAL UNLESS PROVISIONS ARE MADE FOR ATMOSPHERIC RELEASE THROUGH STACKS APPROVED AND MONITORED BY HEALTH PHYSICS.

IV CONTAINMENT OF RADIOACTIVE MATERIAL

- A. ALL RADIOACTIVE OR CONTAMINATED MATERIAL NOT IN IMMEDIATE USE SHALL BE STORED IN ADEQUATELY SHIELDED AND LABELLED CONTAINERS.
- B. ALL GLASS OR OTHER FRAGILE CONTAINERS FOR RADIOACTIVE OR CONTAMINATED MATERIAL SHALL BE SURROUNDED BY AN ADEQUATE SECONDARY CONTAINER.
- C. ALL CONTAINERS OF RADIOACTIVE OR CONTAMINATED MATERIAL SHALL BE APPROPRIATELY LABELLED.
- D. RADIOACTIVE MATERIAL SHALL NORMALLY BE STORED ONLY IN TAGGED AREAS OR THOSE AREAS AND RECEPTACLES APPROVED BY HEALTH PHYSICS.

V DISPOSAL OF RADIOACTIVE MATERIAL

- A. RADIOACTIVE MATERIAL, REGARDLESS OF THE QUANTITY, SHALL NOT BE PLACED IN "COLD" SINKS OR OTHER DRAINS.

I GENERAL

- A. HORCEPLAY WITH RADIOACTIVITY OR RADIATION PRODUCING DEVICES IS EXPRESSLY PROHIBITED.
- B. ALL OUTSIDE CORRESPONDENCE RELATIVE TO THE RADIOLOGICAL SAFETY PROGRAM AT CONTEMPORARY METALS CORPORATION IS THE RESPONSIBILITY OF HEALTH PHYSICS. SUCH CORRESPONDENCE BY OTHER EMPLOYEES IS PROHIBITED UNLESS APPROVED BY HEALTH PHYSICS SUPERVISION.
- C. "RADIATION" AND "CONTAMINATION" SIGNS, TAGS, LABELS, ETC., SHALL BE POSTED AND REMOVED ONLY BY OR AT THE DIRECTION OF HEALTH PHYSICS.
- D. LABORATORIES AND/OR PROCESS AREAS SHALL BE MAINTAINED IN AN ORDERLY MANNER REFLECTING GOOD HOUSEKEEPING PRACTICES.
- E. A LOG BOOK OF ALL TESTS, SAMPLINGS AND ANALYSIS READINGS AND ASSAYS TAKEN BY HEALTH PHYSICS PERSONNEL ON ALL SHIFTS TO BE MAINTAINED IN LABORATORY OFFICE TWENTY FOUR HOURS A DAY AND READILY AVAILABLE TO ALL AUTHORIZED PLANT OR INSPECTING PERSONNEL.
- F. ANY UNUSUAL PHENOMENA NOTED OR ANY HEALTH OR SAFETY WORK NOT COMPLETED ON ANY ONE SHIFT SHALL BE PASSED ON IN WRITING TO THE HEALTH PHYSICS PERSONNEL ON THE SUCCEEDING SHIFT AND IF DEEMED ADVISABLE ALSO TO SUCCEEDING SHIFT PLANT FOREMAN AND A COPY OR ORIGINAL OF ANY SUCH COMMUNICATION ALSO FILED IN THE LABORATORY OFFICE. ANY AND ALL COPIES TO BE SIGNED BY PERSON ORIGINATING AND RECEIVING THE COMMUNICATION.
- G. ALL HEALTH PHYSICS RECORDS TO BE KEPT FOR A PERIOD OF AT LEAST FIVE YEARS AND AT THE EXPIRATION OF SUCH FIVE YEAR PERIOD MAY BE DISPOSED OF ONLY AFTER THE RECEIPT OF A RESOLUTION AUTHORIZING DISPOSAL BY THE BOARD OF DIRECTORS OF CONTEMPORARY METALS CORPORATION.
- H. MARKETABLE PRODUCT QUALITY CONTROL WILL BE MAINTAINED UNDER A CONTRACT WITH THE ST. LOUIS TESTING LABORATORIES.

II TAGGED AREAS

- A. SMOKING, EATING, DRINKING, STORAGE OF EDIBLES AND APPLICATION OF COSMETICS ARE PROHIBITED IN TAGGED AREAS.
- B. PERSONNEL MONITORING INSTRUMENTS (FILM BADGES AND/OR DOSIMETERS) SHALL BE WORN AT ALL TIMES IN TAGGED AREAS.
- C. PERSONS HAVING OPEN (IMPROPERLY PROTECTED) CUTS OR SKIN BREAKS ARE PROHIBITED FROM ENTERING TAGGED AREAS.
- D. ALL RADIOACTIVE MATERIAL ENTERING OR LEAVING A TAGGED AREA SHALL BE MONITORED FIRST BY HEALTH PHYSICS.
- E. ANYTHING LEAVING A TAGGED AREA SHALL BE MONITORED FIRST BY HEALTH PHYSICS.
- F. ANYTHING BEING RETURNED FROM A TAGGED AREA TO A STOCK ROOM OR TOOL CRIB SHALL BE MONITORED FIRST BY HEALTH PHYSICS.
- G. ALL OUTSIDE CONTRACTOR OPERATIONS IN TAGGED AREAS SHALL BE REVIEWED

4. IN ADDITION OTHER LOCAL RADIATION PROTECTION REGULATIONS (E.G., STATE, COUNTY, CITY, POSTAL) MAY SOMETIMES BE APPLICABLE TO CMC OPERATIONS. HEALTH PHYSICS WILL INFORM PLANT MANAGEMENT OF THESE REGULATIONS AS THEY MAY APPLY TO SPECIFIC OPERATIONS.

IN EXCESS OF THAT PERMITTED BY APPLICABLE REGULATIONS.

- B. PERSONAL RADIATION EXPOSURES, MEASURED BY FILM BADGES OR DOSIMETERS, SHALL BE REPORTED TO AND DISCUSSED WITH ONLY THE EXPOSED EMPLOYEE, HIS SUPERVISION AND APPROPRIATE MEMBERS OF HEALTH PHYSICS, MEDICAL AND MANAGEMENT.
- C. CMG WILL EMPLOY NUCLEAR-CHICAGO MONTHLY FILM-BADGE SERVICE WHICH INCLUDES REPORTS SHOWING MOST RECENT RESULTS, ACCUMULATIVE RESULTS FOR CALENDAR QUARTERS AND FOR THE YEAR TO DATE INCLUDING THE MAINTENANCE OF REQUIRED GOVERNMENT RECORDS.

X INCIDENTS AND INJURIES

- A. ANY INJURY, NO MATTER HOW SMALL, RECEIVED WHILE WORKING IN A TAGGED AREA SHALL BE REPORTED IMMEDIATELY TO MEDICAL.
- B. ALL INCIDENTS (SPILLS, EXPLOSIONS, FIRES, ETC.) INVOLVING RADIOACTIVITY SHALL BE REPORTED IMMEDIATELY TO THE HEALTH PHYSICS OFFICE AND TO THE SHIFT PLANT FOREMAN.
- C. ALL INCIDENTS SUSPECTED OR KNOWN TO HAVE CAUSED THE INTERNAL DEPOSITION OF RADIOACTIVE MATERIAL SHALL BE REPORTED IMMEDIATELY TO HEALTH PHYSICS OFFICE WHO WILL IMMEDIATELY ARRANGE FOR THE TRANSPORTATION OF ANYONE SO INGESTING TO THE NEAREST MEDICAL CENTER CAPABLE OF HANDLING SUCH CASES. THE DIRECTOR OF HEALTH PHYSICS SHALL MAINTAIN AT ALL TIMES IN THE HEALTH PHYSICS OFFICE A LISTING OF SUCH MEDICAL CENTERS AVAILABLE FOR USE AFTER THOROUGHLY INVESTIGATING THE EXPERIENCE AND ABILITY OF SUCH CENTERS TO HANDLE CASES OF THIS NATURE.

XI RULES, REGULATIONS AND PROCEDURES

- A. THE PROVISIONS OF THE PLANT SAFETY PRACTICES AND PROCEDURES PERTINENT TO RADIOLOGICAL SAFETY CONSTITUTE SUPPLEMENTAL HEALTH PHYSICS RULES REQUIRING COMPLIANCE BY ALL EMPLOYEES.
- B. PROCEDURES ESTABLISHED BY HEALTH PHYSICS SHALL BE FOLLOWED BY ALL EMPLOYEES.
- C. ALL PROVISIONS OF THE FOLLOWING FEDERAL, STATE AND LOCAL REGULATIONS ON RADIATION PROTECTION CONSTITUTE HEALTH PHYSICS RULES. SUPERVISION ARE EXPECTED TO KEEP THEMSELVES AND EMPLOYEES INFORMED OF THE APPLICABLE PORTIONS OF SUCH REGULATIONS.
 - 1. ATOMIC ENERGY COMMISSION (AEC), CHAPTER 0500, "HEALTH AND SAFETY" APPLIES TO ALL AEC CONTRACT OPERATIONS.
 - 2. CODE OF FEDERAL REGULATIONS, TITLE 10, PART 20, "STANDARDS FOR PROTECTION AGAINST RADIATION" APPLIES TO ALL AEC LICENSEE OPERATIONS.
 - 3. CODE OF FEDERAL REGULATIONS, TITLE 49, PART 71 - 78, "EXPLOSIVES AND OTHER DANGEROUS ARTICLES" APPLIES TO THE SHIPMENT OF RADIOACTIVE MATERIALS FROM CMG INSTALLATIONS.

- D. CMC SHALL CARRY WORKMEN'S COMPENSATION INSURANCE AND PREPARE ANY STATEMENTS REQUIRED BY ANY GOVERNING BODY HAVING JURISDICTION.
- E. CMC SHALL CARRY PUBLIC LIABILITY INSURANCE COVERING ALL PHASES OF THE OPERATION (EXCEPTING THOSE AREAS COVERED BY INSURANCE OF ANY SUB-CONTRACTOR).

XII HEALTH PHYSICS PERSONNEL QUALIFICATIONS

- A. DIRECTOR: SHALL BE RESPONSIBLE TO MANAGEMENT FOR EXECUTION, MAINTENANCE AND SUPPLEMENT OF ENTIRE HEALTH DIVISION. CONDUCTING SURVEYS, ROUTINE MONITORING, INCIDENT INSPECTIONS, MAINTENANCE OF MONITORING EQUIPMENT AND LABORATORY, TRAINING OF PERSONNEL IN HEALTH PHYSICS AND POSTING OF NOTICES, MAINTENANCE OF REQUIRED HEALTH RECORDS, ETC.
- B. THE DIRECTOR SHALL HOLD A BACHELOR OF SCIENCE DEGREE IN ONE OF THE LIFE SCIENCES, OR EQUAL, SHALL HAVE HAD A MINIMUM OF FIVE YEARS EXPERIENCE IN INDUSTRIAL HEALTH AND OR SAFETY WORK OR EQUAL, AND SHALL HAVE HAD A MINIMUM OF TWO YEARS OF EXPERIENCE IN A PLANT HANDLING THIS TYPE OF MATERIAL AS A PRIME CONTRACTOR TO THE AEC OR EQUAL.
- C. THE DIRECTOR SHALL BE RESPONSIBLE FOR THE DIRECT SUPERVISION OF HEALTH PHYSICS PERSONNEL IN PLANT AND LABORATORY DURING ALL SHIFTS FOR EVERY DAY THAT PLANT OPERATES.
- D. THE DIRECTOR SHALL BE RESPONSIBLE FOR PASSING ON THE TRAINING AND EXPERIENCE QUALIFICATIONS OF ALL HEALTH PHYSICS PERSONNEL AND SHALL PREPARE WRITTEN REPORTS ON SUCH QUALIFICATIONS FOR PLANT MANAGER'S APPROVAL PRIOR TO HIRING OF ANY PERSONNEL.

① 1. SURVEY STOCKPILE TO DETERMINE RA LEVELS THROUGHOUT BY OBTAINING READINGS OVER ENTIRE SURFACE AND THE TAKING OF CORE SAMPLES AT THE 1/4, 1/2, 3/4 AND FULL DEPTH OF PILE. (THIS MAY BE OMITTED IF SUCH A SURVEY HAS BEEN MADE AND IS AVAILABLE FOR EVALUATION).

2. DRAG LINE TO BE USED IN ALL MOVING OF MATERIAL TO CONTINUOUS BELT BUCKET LOADING PIT. OPERATOR TO BE IN REMOTE POSITION WHERE RA LEVEL WILL BE MAINTAINED AT 2 1/2 MR OR LESS.

3. ALL TRUCK LOADS TO BE CONTINUOUSLY MONITORED DURING LOADING OPERATION. IF RADIATION LEVEL REACHES 4 MR/HR OUTSIDE THE TRUCK BODY OR INSIDE THE CAB PRIOR TO BEING LOADED TO MAXIMUM CAPACITY LOADING OF TRUCK WILL CEASE AND TRUCK WILL PROCEED WITH PARTIAL LOAD.

4. IF ANY AREAS OF UNEXPECTED HIGH CONCENTRATIONS ARE ENCOUNTERED PERSONNEL IN CHARGE OF LOADING OPERATION MAY PROCEED AS DESCRIBED IN (3) ABOVE OR LOAD INTO SPECIALLY SHIELDED CONTAINERS FOR TRANSPORTATION. RA LEVEL OUTSIDE CONTAINERS NOT TO EXCEED 4 MR/HR.

5. LOADING AREA AND TRUCKS SHALL BE POSTED AS A "RADIATION AREA" WITH SIGNS BEARING SYMBOL AND WORDS AS DESCRIBED IN TITLE 10 ATOMIC ENERGY PART 20. § 20.203.

② 1. DRAG LINE TO BE USED IN ALL MOVING OF MATERIAL TO CONTINUOUS BELT BUCKET LOADING PIT. OPERATOR TO BE IN REMOTE POSITION WHERE RA LEVEL WILL BE MAINTAINED AT 2 1/2 MR OR LESS.

2. LOADING AREA SHALL BE POSTED AS A "RADIATION AREA" WITH SIGNS BEARING SYMBOL AND WORDS AS DESCRIBED IN TITLE 10 ATOMIC ENERGY PART 20. § 20.203.

③ 1. "HOLD-UP" TANK "A" 300 GAL. CAPACITY TO BE USED FOR CONTINUOUS COLLECTION OF ANY GASES THAT MIGHT BE EMITTED FROM COVERED AND VENTED TANKS IN AREAS 5, 6, 7, 8 AND 9. THIS ENCLOSED SYSTEM PREVENTS THE ESCAPE OF ANY DUSTS, FUMES, MISTS, VAPORS OR GASES INTO THE ATMOSPHERE OR PLANT AREA. IF ANY SUCH MATERIALS SHOULD COLLECT IN THE HOLD-UP TANK AND CREATE A RA CONDITION SUCH CONDITION WILL BE DETECTED AS THE RESULT OF WEEKLY MONITORING AND THE RA MATERIAL WILL BE DILUTED TO 2.5 MR OR LESS AND RETURNED TO PLANT FEED CYCLE AT AREA 4. (SEE TYPICAL CROSS SECTION "X-X".)

④ 1. "HOLD-UP" TANK "B", 20,000 GAL. CAPACITY TO BE USED FOR EMERGENCY STORAGE IN CASE OF AN "INCIDENT" AT ANY AREA SHOWN ON SCHEMATICS PLAN SHEET 1, AT POINTS MARKED "TO TANK "B". ALL OF THESE POINTS WILL BE CONNECTED WITH A PUMPING SYSTEM THRU A PIPELINE TO BOTH LIQUIDS OR SLURRIES TO HOLD-UP TANK WHERE THESE MATERIALS CAN BE MONITORED AND SAFELY STORED WHILE PRODUCTION SYSTEM IS EXAMINED TO DETERMINE AND CORRECT CAUSE OF INCIDENT. AFTER PRODUCTION SYSTEM IS REPAIRED OR READJUSTED AND ON STREAM THE MATERIAL IN HOLD-UP TANK CAN BE DILUTED AND REDUCED 2.5 MR OR LESS AND RETURNED TO PLANT FEED CYCLE AT AREA 4. (SEE TYPICAL CROSS SECTION "X-X").

⑤ 1. "HOLD-UP" TANK "C" OF 500 GAL. CAPACITY TO BE CONNECTED TO PERSONNEL DECONTAMINATION SHOWERS. RA LEVEL OF LIQUID IN TANK CAN THEN BE MONITORED AND IF NECESSARY DILUTED AND REDUCED TO 2.5 MR OR LESS AND RETURNED TO PLANT FEED CYCLE AT AREA 4.

2. PERSONNEL DECONTAMINATION SHOWERS SHALL BE PROVIDED AT THE HAZELWOOD PLANT AND THE AIRPORT SITE. TANK AT AIRPORT SITE TO LEACH INTO GROUND. ANY

PROCEDURE REFERENCES CONT'D.

PERSONNEL FOUND TO BE CONTAMINATED EXTERNALLY SHALL WASH IN A MANNER NOT TO SPREAD INITIALLY LOCALIZED MATERIAL OR ASSIST THE CONTAMINANT IN ENTERING THE BODY (EXCESSIVE SCRUBBING WHICH ABRASIS THE SKIN). TURCO HAND CLEANER (TURCO PRODUCTS, INC., LOS ANGELES) WILL BE USED IN THE DECONTAMINATION WASHING OF THE BODY.

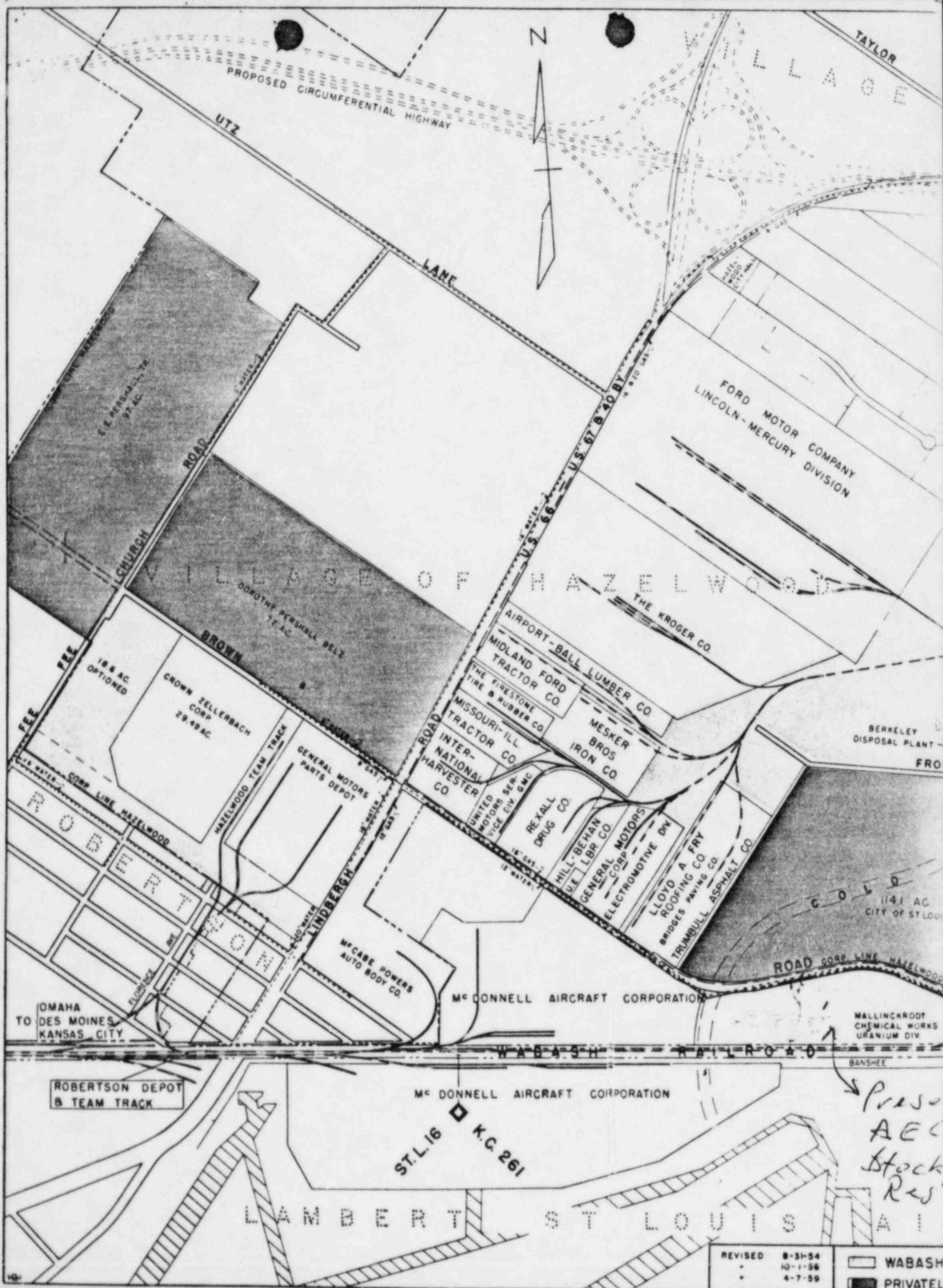
6. 1. HEALTH PHYSICS PERSONNEL TO MAKE DAILY "SWIPE" TESTS AT STRATEGIC POINTS ON MACHINERY, FLOORS AND WALLS THROUGHOUT THE PLANT WHERE DESIGNATED BY HEALTH PHYSICS DEPARTMENT, TO DETERMINE IF ANY AREAS HAVE BEEN CONTAMINATED AS THE RESULT OF ANY AIR BORNE MATERIAL OR UNDILUTED LEAKS IN THE CLOSED PRODUCTION SYSTEM.
2. IF RESPIRATORS HAVE BEEN USED IN EITHER OF THE LOADING AREAS OR ANYWHERE ELSE IN THE PLANT AS THE RESULT OF ANY UNUSUAL OR EMERGENCY CONDITION, "HOSE SWIPES" SHALL BE TAKEN TO DETERMINE THE EFFECTIVENESS OF RESPIRATORY PROTECTION. ALL SWIPES TO BE MEASURED IN CMC LABORATORY.
7. 1. 4 GENERAL AIR SAMPLING UNITS (STAPLEX) TO BE PLACED THROUGHOUT THE PLANT AT POINTS RECOMMENDED BY HEALTH PHYSICS. FILTER PAPERS TO BE EVALUATED IN CMC LABORATORY ONCE EVERY 8 HOURS.
2. GRAVITY VENTILATORS IN ROOF OF PLANT TO BE REPLACED WITH MECHANICAL VENTILATORS AND FITTED WITH 100% ABSOLUTE FILTERS.
8. 1. ALL CONTAINERS IN WHICH RADIOACTIVE MATERIALS ARE SHIPPED OR STORED SHALL BE LABELED ACCORDING TO TITLE 10 - ATOMIC ENERGY - CHAPTER 1 - AEC PART 20 § 20.203.
9. 1. LOCAL FIRE CODES TO BE OBSERVED IN PLANT CONSTRUCTION AND OPERATION.
10. 1. ALL MATERIALS SELECTED FOR PROCESSING EQUIPMENT TO SAFELY CONTAIN CORROSIVE MATERIALS IN SYSTEM TO PREVENT LEAKAGE OR SPILLAGE.
11. 1. PROCESSING AREA OF PLANT TO BE CONSPICUOUSLY POSTED AS A "RADIATION AREA".
12. 1. PERSONNEL SHALL BE INSTRUCTED AND NOTICES TO EMPLOYEES POSTED AS PROVIDED FOR IN TITLE 10 CHAPTER 1 AEC PART 20 § 20.206.

[illegible]

OWNED INDUSTRIAL PROPERTY
OWNED INDUSTRIAL PROPERTY

WABASH RAILROAD COMPANY
SKELETON INDUSTRIAL MAP OF
HAZELWOOD - BERKELEY - AIRPORT
AREA

ST. LOUIS COUNTY, MISSOURI
SCALE 1"=1000' AUGUST 22, 1953



40-6811



NATIONAL TANK AND BOILER CO.

A SUBSIDIARY OF ST. LOUIS STEEL CASTING INC.
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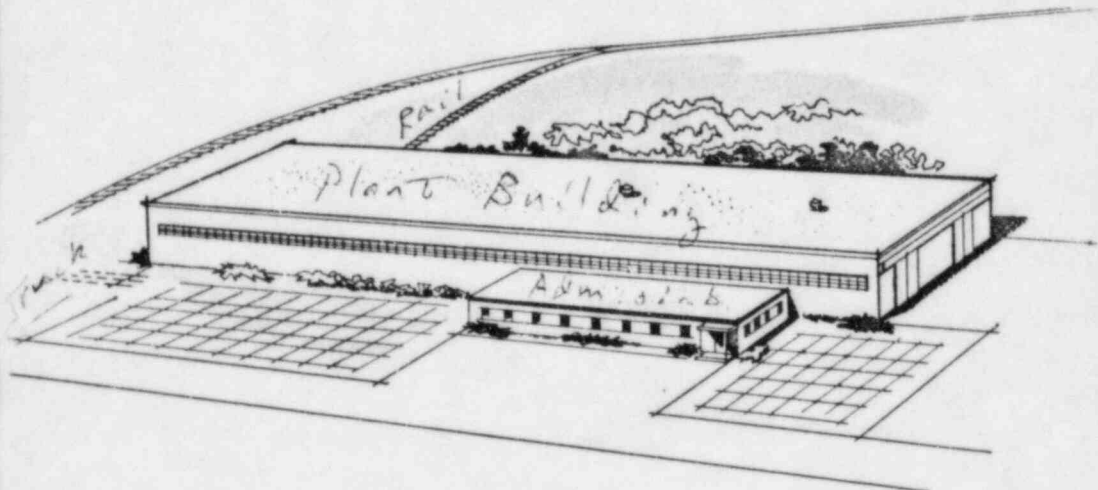
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HAZELWOOD, MISSOURI

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See inside for complete information





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of St. Louis is a growing metal fabrication organization.

Right from the start, in 1951, customers recognized and appreciated the singular NT&B creative attitude toward their equipment needs. This realistic but *confidently positive approach* has helped solve some mighty tough and rather unusual equipment problems.

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ENGINEERING:

The heart of NT&B's attitude of "it *can* be done" is the fine engineering staff. They engineer-in greater quality, more operating flexibility at a lower cost because they *know* their business and your equipment needs.

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PLANT & OFFICES:

35,000 sq. ft. manufacturing area plus 4,000 sq. ft. engineering, service and administration offices.

6½ acre industrial site in Hazelwood-Berkeley area.

Easily accessible by truck—just off Highway 66.

Wabash Railroad lines serving the plant.

Conveniently near Lambert-St. Louis Municipal Airport.

FLOORS:

Concrete.

CRANE CAPACITY:

Overhead cranes with 2 to 10 ton individual capacities.

CRANE HEIGHT:

25 ft. working height under cranes.

METALS FABRICATED:

Aluminum, Hastelloy, Inconel, Monel, Nickel, Stainless Steel, Clads of all types, Carbon Steel.

CARBON STEEL:

⅛" thru 2".

ALLOY AND STAINLESS:

⅛" thru 1½".

CODES:

A.S.M.E., A.P.I.-A.S.M.E., Underwriters.

INSPECTION AGENCY:

Lumberman's Mutual Casualty Company.

Facility
to be leased by
or purchased by
Lumberman's Mutual
Corp.

Corporation
2077 S. San Gabriel Blvd
San Gabriel, Calif.
(Clement M. Fark)
TO:
I&R (Lowenstein)

DATE OF DOCUMENT

3-4-62

DATE RECEIVED

3-7-62

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4551

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DESCRIPTION: (Must Be Unclassified)

Ltr req AEC regulations for processing
of residue stockpiles at St. Louis, Mo.
and trans cy off

REFERRED TO

DATE

RECEIVED BY

DATE

Russbauer

5-7

ENCLOSURES:

Bid and 4-12-62 Awarding of bid to
CM C. (1 cy each rec'd)

REMARKS: