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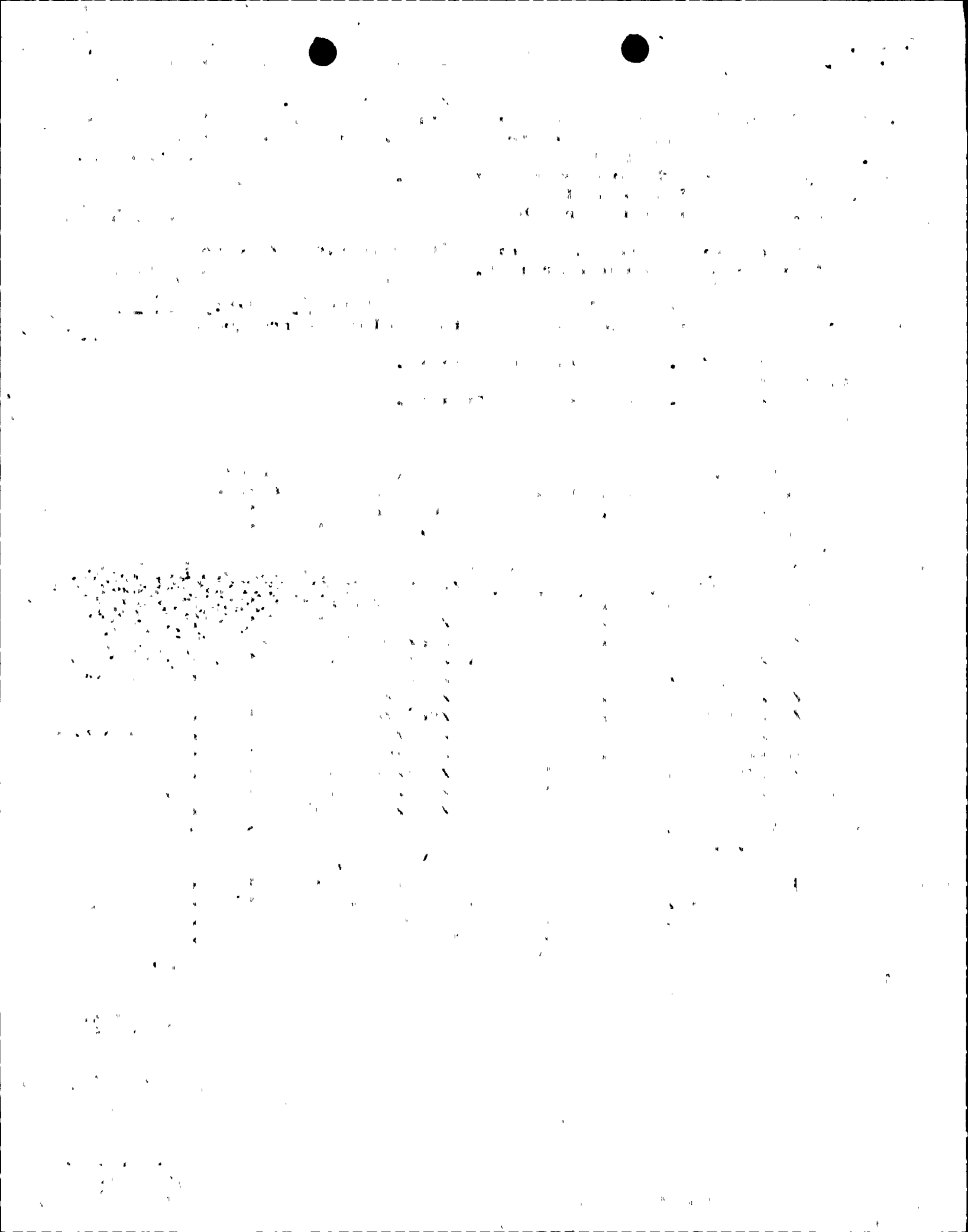
ACCESSION NBR: 8408070342 DOC. DATE: 84/08/02 NOTARIZED: NO DOCKET #
 FACIL: 50-387 Susquehanna Steam Electric Station, Unit 1, Pennsylv 05000387
 50-388 Susquehanna Steam Electric Station, Unit 2, Pennsylv 05000388
 AUTH. NAME AUTHOR AFFILIATION
 CURTIS, N.W. Pennsylvania Power & Light Co.
 RECIP. NAME RECIPIENT AFFILIATION
 SCHWENCER, A. Licensing Branch 2

SUBJECT: Forwards viewgraphs used during 840719 meeting w/NRC re fifth diesel generator project.

DISTRIBUTION CODE: B001S COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 19
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NOTES: 1cy NMSS/FCAF/PM. LPDR 2cys Transcripts. 05000387
 OL: 07/17/82
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 OL: 03/23/84

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	NRR LB2 LA	1 0	PERCH, R 01	1 1
INTERNAL:	ADM-LFMB	1 0	ELD/HDS4	1 0
	IE FILE	1 1	IE/DEPER/EPB 36	3 3
	IE/DEPER/IRB 35	1 1	IE/DQASIP/QAB21	1 1
	NRR/DE/AEAB	1 0	NRR/DE/CEB 11	1 1
	NRR/DE/EHEB	1 1	NRR/DE/EOB 13	2 2
	NRR/DE/GB 28	2 2	NRR/DE/MEB 18	1 1
	NRR/DE/MTEB 17	1 1	NRR/DE/SAB 24	1 1
	NRR/DE/SGEB 25	1 1	NRR/DHFS/HFEB40	1 1
	NRR/DHFS/LQB 32	1 1	NRR/DHFS/PSRB	1 1
	NRR/DL/SSPB	1 0	NRR/DSI/AEB 26	1 1
	NRR/DSI/ASB	1 1	NRR/DSI/CPB 10	1 1
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	NRR/DSI/RAB 22	1 1	NRR/DSI/RSB 23	1 1
	REG FILE 04	1 1	RGN1	3 3
	RM/DDAMI/MIB	1 0		
EXTERNAL:	ACRS 41	6 6	BNL (AMDTS ONLY)	1 1
	DMB/DSS (AMDTS)	1 1	FEMA-REP DIV 39	1 1
	LPDR 03	2 2	NRC PDR 02	1 1
	NSIC 05	1 1	NTIS	1 1
NOTES:		3 3		





Pennsylvania Power & Light Company

Two North Ninth Street • Allentown, PA 18101 • 215 / 770-5151

Norman W. Curtis
Vice President-Engineering & Construction-Nuclear
215/770-7501

AUG 02 1984

Director of Nuclear Reactor Regulation
Attention: Mr. A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, DC 20555

SUSQUEHANNA STEAM ELECTRIC STATION
MEETING ON FIFTH DIESEL
ER 101058 FILE -01
PLA-2264

Dear Mr. Schwencer:

As requested attached are copies of the slides used by Pennsylvania Power & Light Company during the July 19, 1984 meeting with your staff on the fifth diesel generator project at Susquehanna SES.

Very truly yours,

N. W. Curtis
Vice President-Engineering & Construction-Nuclear

Attachments

cc: R. L. Perch NRC

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AGENDA

INTRODUCTION

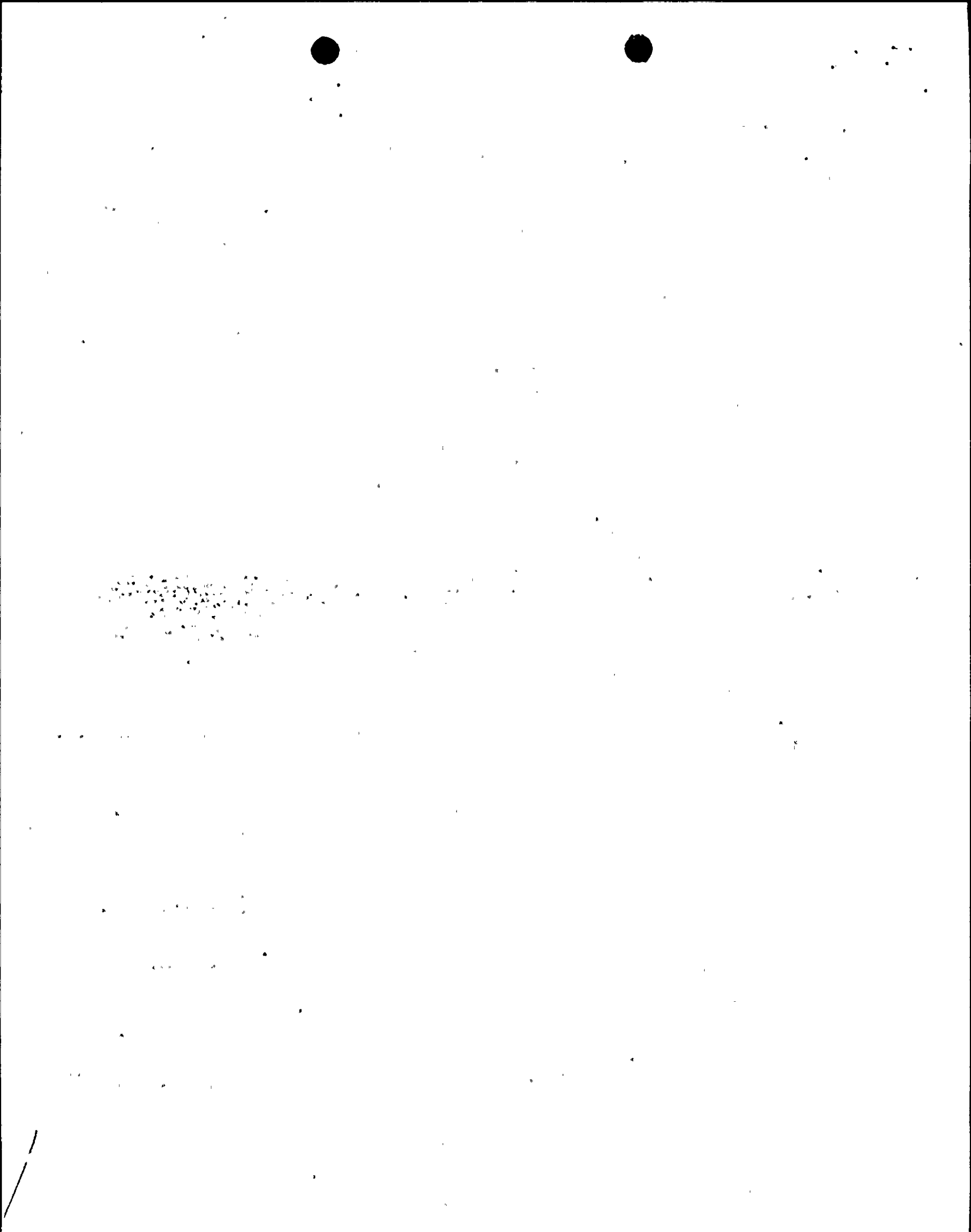
DESIGN OVERVIEW

OPERATING PHILOSOPHY

TECHNICAL SPECIFICATION CHANGES

TECHNICAL SPECIFICATIONS - PERMANENT CHANGES

- 3.3.7.9 Fire Detection Instrumentation
- 3.7.6.2 Spray and Sprinkler Systems
- 3.7.6.5 Fire Hose Stations
- 3.8.1.1 AC Sources - Operating
- 3.8.1.2 AC Sources - Shutdown
- 3.8.2.1 DC Sources - Operating
- 3.8.2.2 DC Sources - Shutdown
- 3.8.3.1 Distribution - Operating
- 3.8.3.2 Distribution - Shutdown
- 3.8.4.2 Motor Operated Valves Thermal Overload Protection

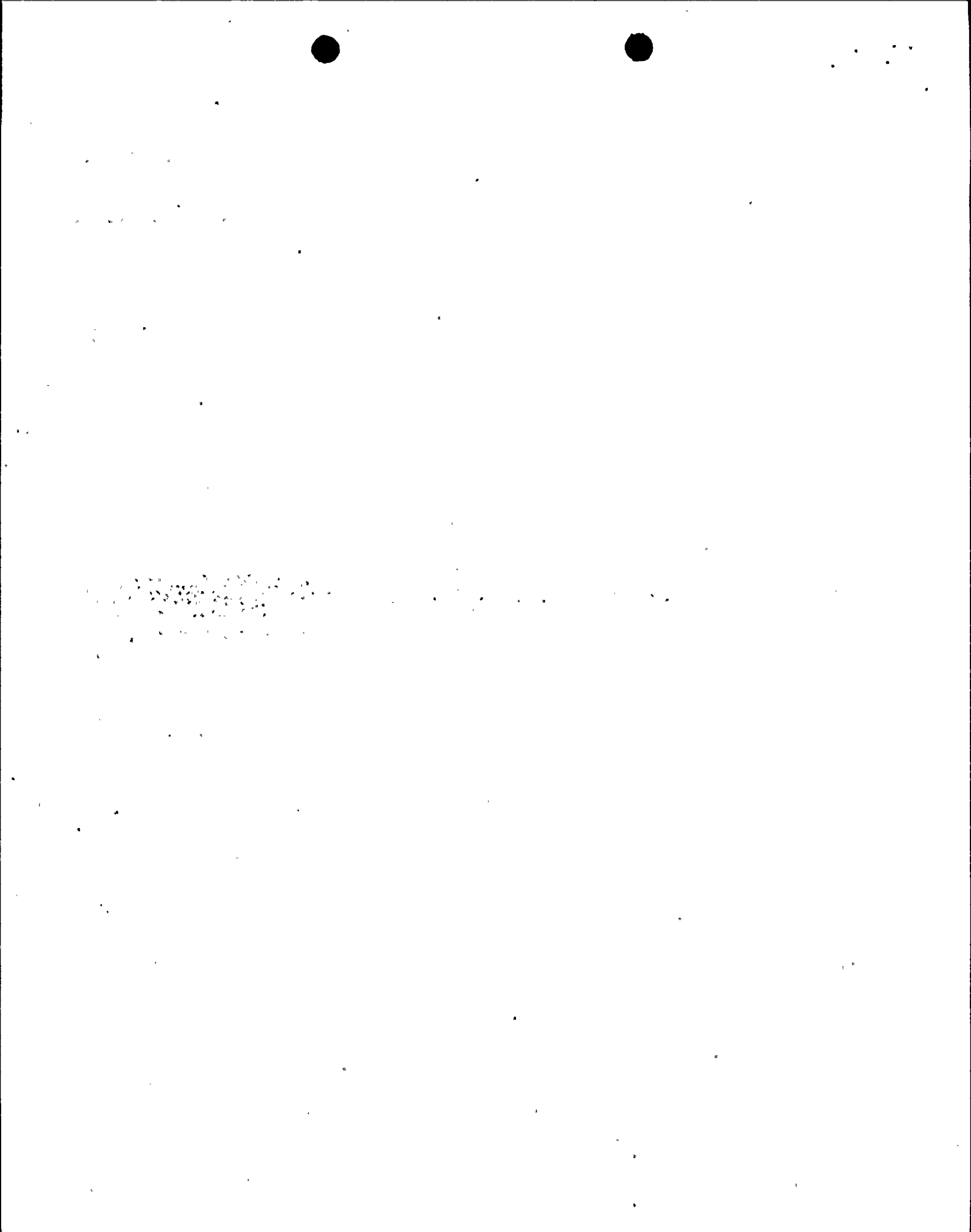


TECHNICAL SPECIFICATIONS - TEMPORARY LCO EXTENSION

3.8.1.1 AC Sources - Operating - Actions a and b

- o Need for change

- o Justification



PROJECT OVERVIEW

- o PURPOSE OF THE ADDITIONAL D/G "E"
- o PROCUREMENT OF THE D/G "E"
- o DESIGN OF D/G "E" FACILITY
 - o BUILDING
 - o TIE-INS
 - o MAJOR SYSTEMS
 - o 4KV AND CONTROLS - DOUBLE BREAK
 - o ESW SYSTEM
 - o FUEL OIL SYSTEM
 - o TEST FACILITY
 - o TRANSFERRING DIESEL GENERATOR
- o CONSTRUCTION OF D/G "E" FACILITY
 - o BUILDING - PART 1
 - o TIE-INS - PART 2



DIESEL GENERATOR

	<u>EXISTING D/G</u>	<u>5TH D/G</u>
DIESEL MANUFACTURER	COOPER-BESSEMER	COOPER-BESSEMER
TYPE	KSV-16-T	KSV-20-T
BHP	6135	6972
SPEED	600 RPM	600 RPM
GENERATOR MANUFACTURE	ELECTRIC PRODUCTS	ELECTRIC PRODUCTS
RATED	4000 KW	5000 KW
VOLTAGE	4160 VAC	4160 VAC
FUEL OIL DAY TANK CAPACITY	550 GAL.	650 GAL.
FUEL OIL STORAGE TANK CAPACITY	50,000 GAL.	80,000 GAL.



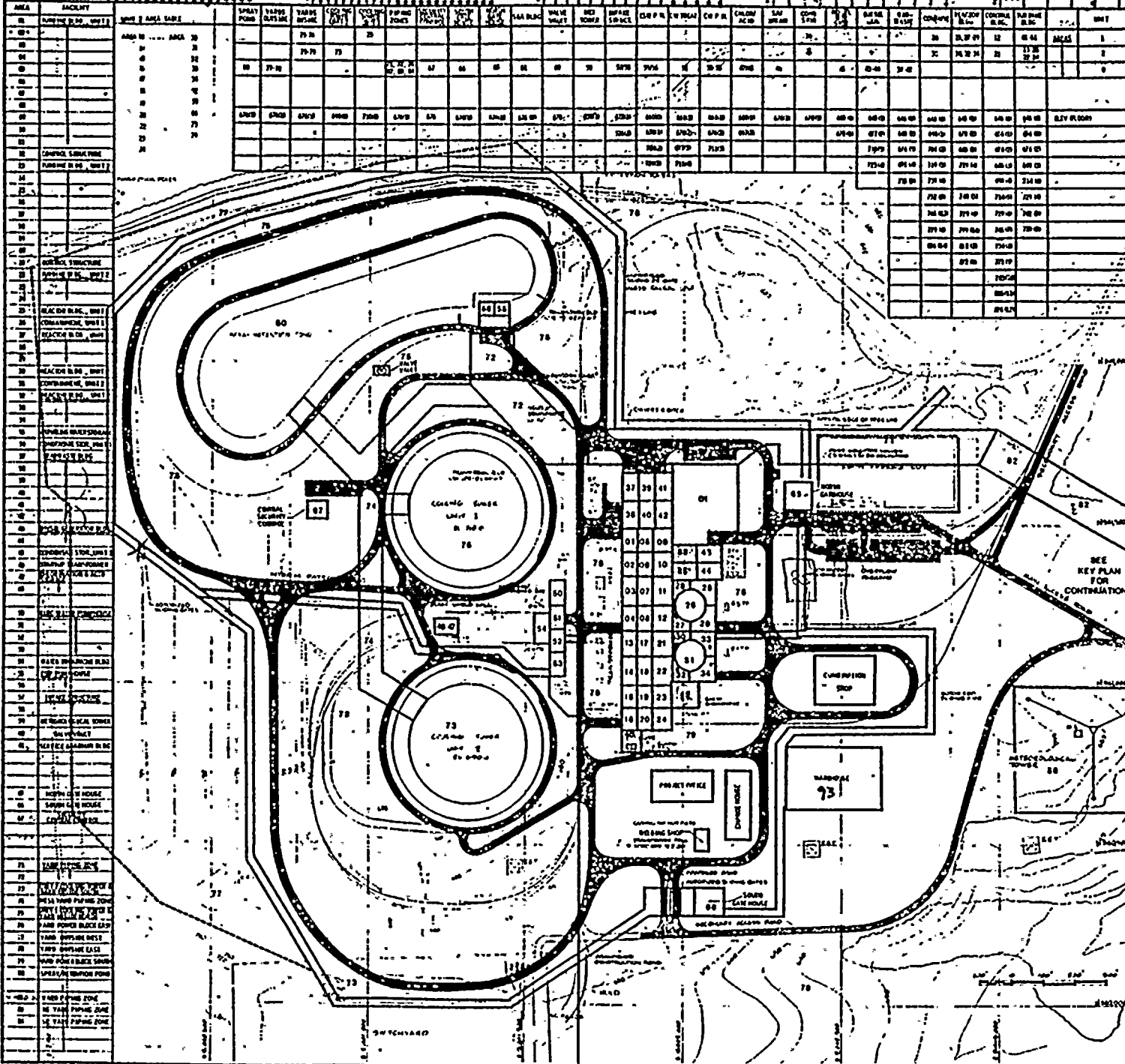
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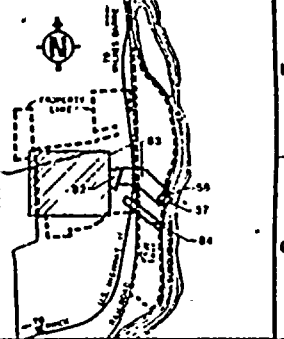
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AREA	FACILITY	TYPE	NO.	COORDINATES	...
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KEY PLAN
SCALE 1:2000

— AREA BOUNDARY SECURITY PERIMETER FENCING
 — AREA 80 BOUNDARY IS AS INSIDE EDGE OF PERIMETER FENCING
 — SECURITY PERIMETER FENCING
 — IMPROVEMENT SECURITY FENCING
 - - - - - EXISTING FENCE
 - - - - - PARKING EXISTING
 - - - - - ROADS

SEE KEY PLAN FOR CONTRADICTION

NOTES

1. AREAS & DIMENSIONS SHOWN ON THIS DRAWING ARE FOR USE IN ALL PROJECT DRAWINGS. FOR SPECIFIC LOCATIONS OF COMPONENTS LISTED IN THE PROJECT DRAWINGS, REFER TO THE APPROPRIATE ENGINEERING DRAWINGS.
2. THIS DRAWING IS TO BE CONSIDERED WITH DRAWING NO. 1-1.
3. CONSOLE BUILT BY OTHERS:
 - A. AREA 80 AREAS 01 TO 75, AND THE WATER TOWER
 - B. AREA 80 AREAS 76 TO 100
 - C. CHANGE'S CONSTRUCTION NO. 10, 100 TO 105
 - D. BUILT BY 2, 2-1/2 INCH REINFORCEMENT
4. NOT OF AREA SECURITY PERIMETER FENCING AND IMPROVEMENT SECURITY FENCING. SEE DRAWING NO. 1-1.
5. CHANGE KEY PLAN AREA FOR SERVICE AND ADMIN BLDG PLAN NO. 100

PENNSYLVANIA POWER & LIGHT COMPANY

SECURITY & CONTROL SYSTEMS TASK FORCE
AREA KEY PLAN

DATE	4836	REV	1
DRAWN BY	...	CHECKED BY	...
SCALE	AS SHOWN	PROJECT NO.	...
SHEET NO.		...	



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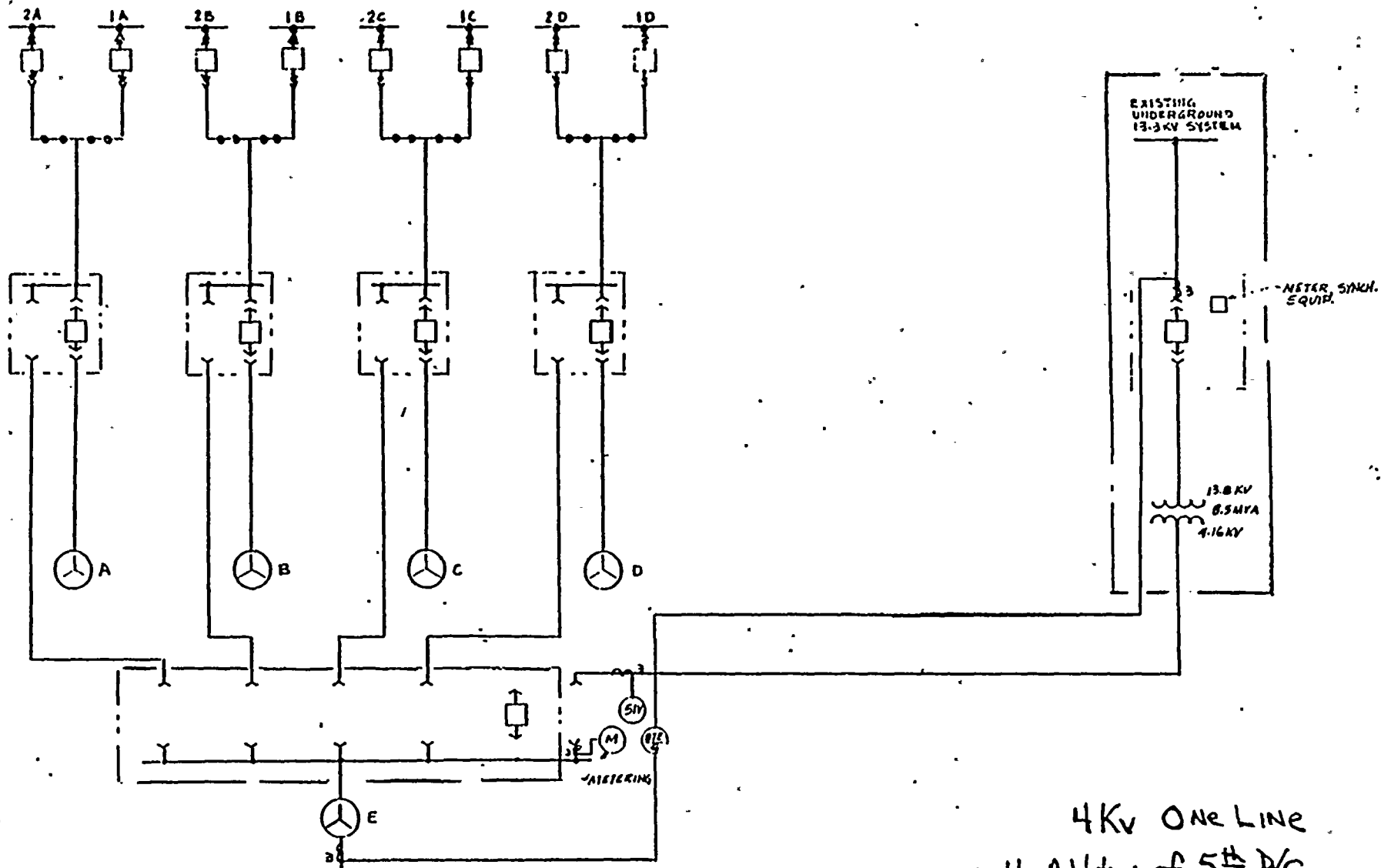
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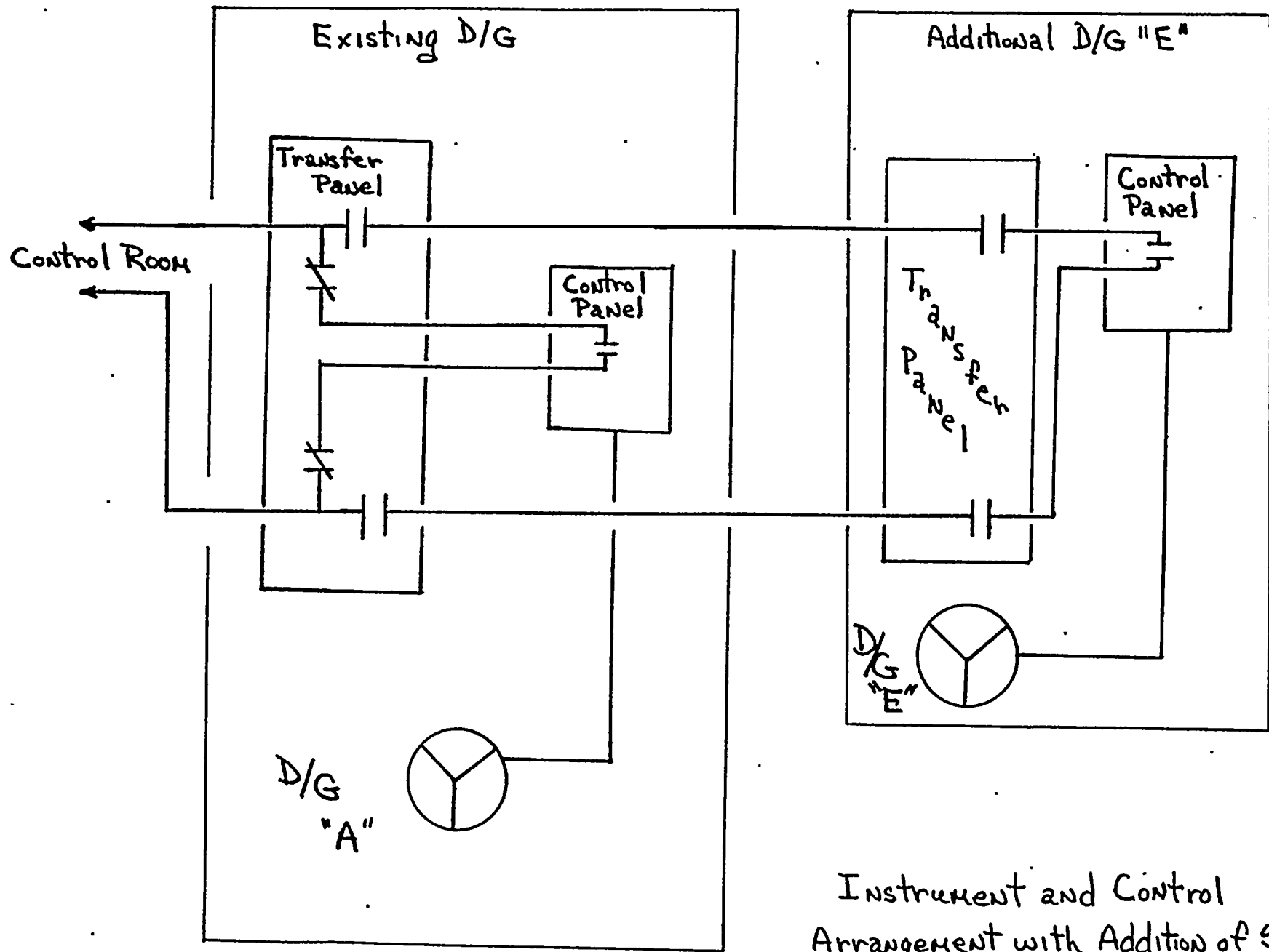
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4Kv One Line
with Addition of 5th D/G



1945



Instrument and Control Arrangement with Addition of 5th D/G



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DIESEL TESTING

° INITIAL SETUP

- COLD CHECKS
- AUXILIARY SYSTEM SETUP
- INITIAL ROLL, LOW SPEED TEST
- TEST AND SETUP AT RATED SPEED

° PREOPERATIONAL TESTS WITHOUT PLANT 1-E BUSSES

- LOADING TESTS
- 24 HOUR LOAD TEST
- 69 START TEST

° STARTUP TESTING TO PLANT

- TEST OF TRANSFER
- TEST TO 1-E BUSSES



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START UP TESTING D/G TO 1E-BUS (R.G. 1.108)

- ° LOSS OF AC, AUTOMATIC START, ATTAIN VOLTAGE AND FREQUENCY WITHIN ACCEPTABLE LIMITS.
- ° DESIGN-ACCIDENT-LOADING SEQUENCE TO DESIGN-LOAD REQUIREMENTS WITH VOLTAGE AND FREQUENCY WITHIN LIMITS.
- ° LOAD SHEDDING, LOSS OF LARGEST SINGLE LOAD, COMPLETE LOSS OF LOAD VOLTAGE WITHIN LIMITS, OVERSPEED LIMITS NOT EXCEEDED.
- ° DIESEL HOT, LOSS OF AC, AUTOMATIC START, ATTAIN VOLTAGE AND FREQUENCY WITHIN ACCEPTABLE LIMITS, DESIGN-ACCIDENT-LOADING SEQUENCE TO DESIGN-LOAD REQUIREMENTS WITH VOLTAGE AND FREQUENCY WITHIN LIMITS.
- ° SYNCHRONIZE DIESEL GENERATOR UNIT WITH OFFSITE POWER WHILE THE UNIT IS CONNECTED TO THE EMERGENCY LOAD, TRANSFER THIS LOAD TO THE OFFSITE POWER, ISOLATE THE DIESEL GENERATOR UNIT, RESTORE TO STANDBY STATUS.
- ° SUPPLY EMERGENCY POWER WITHIN REQUIRED TIME DURING PERIODIC TESTING.

OPERATIONAL CONSIDERATIONS

- ° DIESEL "E" IS AN INSTALLED SPARE
- ° SUPPORT SYSTEMS MAINTAINED IN STANDBY READINESS
- ° DIESEL "E" TESTED PERIODICALLY FOR RELIABILITY
- ° 18 MONTH SURVEILLANCE MAINTAINED CURRENT TO EXPEDITE PLACING IN SERVICE AFTER TRANSFER
- ° 18 MONTH SURVEILLANCES DONE WITH EXISTING DIESELS



11/11/11

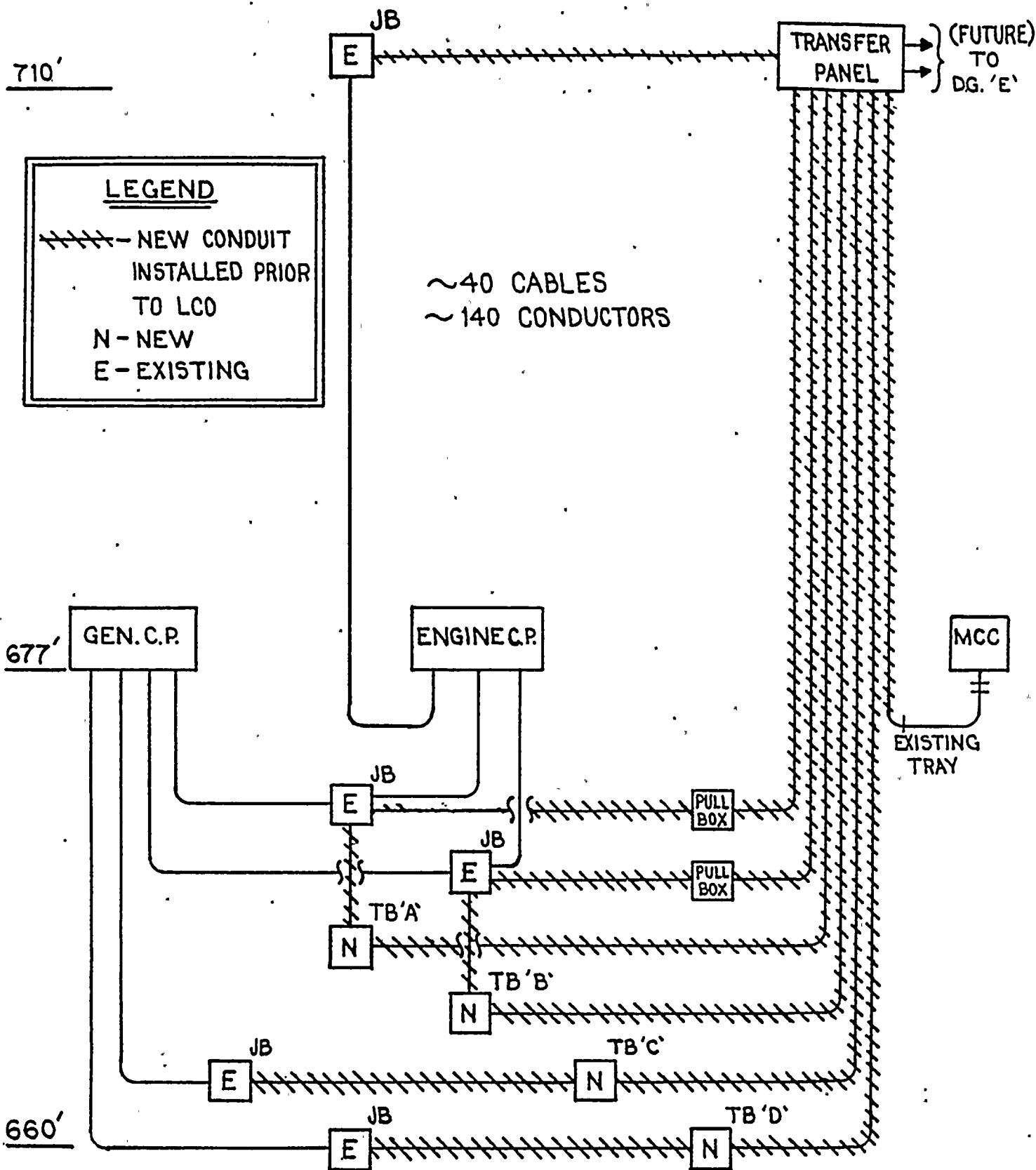
TRANSFER TO DIESEL "E"

- REMOVE EXISTING DIESEL GENERATOR FROM SERVICE.
- TRANSFER COOLING WATER.
- TRANSFER BREAKERS AND CONTROL TRANSFER SWITCHES.
- TEST DIESEL GENERATOR "E" INCLUDING ONE HOUR RUN IF REQUIRED.
- TRANSFER WILL BE CONTROLLED BY PROCEDURE AND CHECKLIST
- PHYSICAL TRANSFER EXCLUDING TESTING CAN BE ACCOMPLISHED WITHIN ONE HOUR.

TRANSFER FROM DIESEL "E"

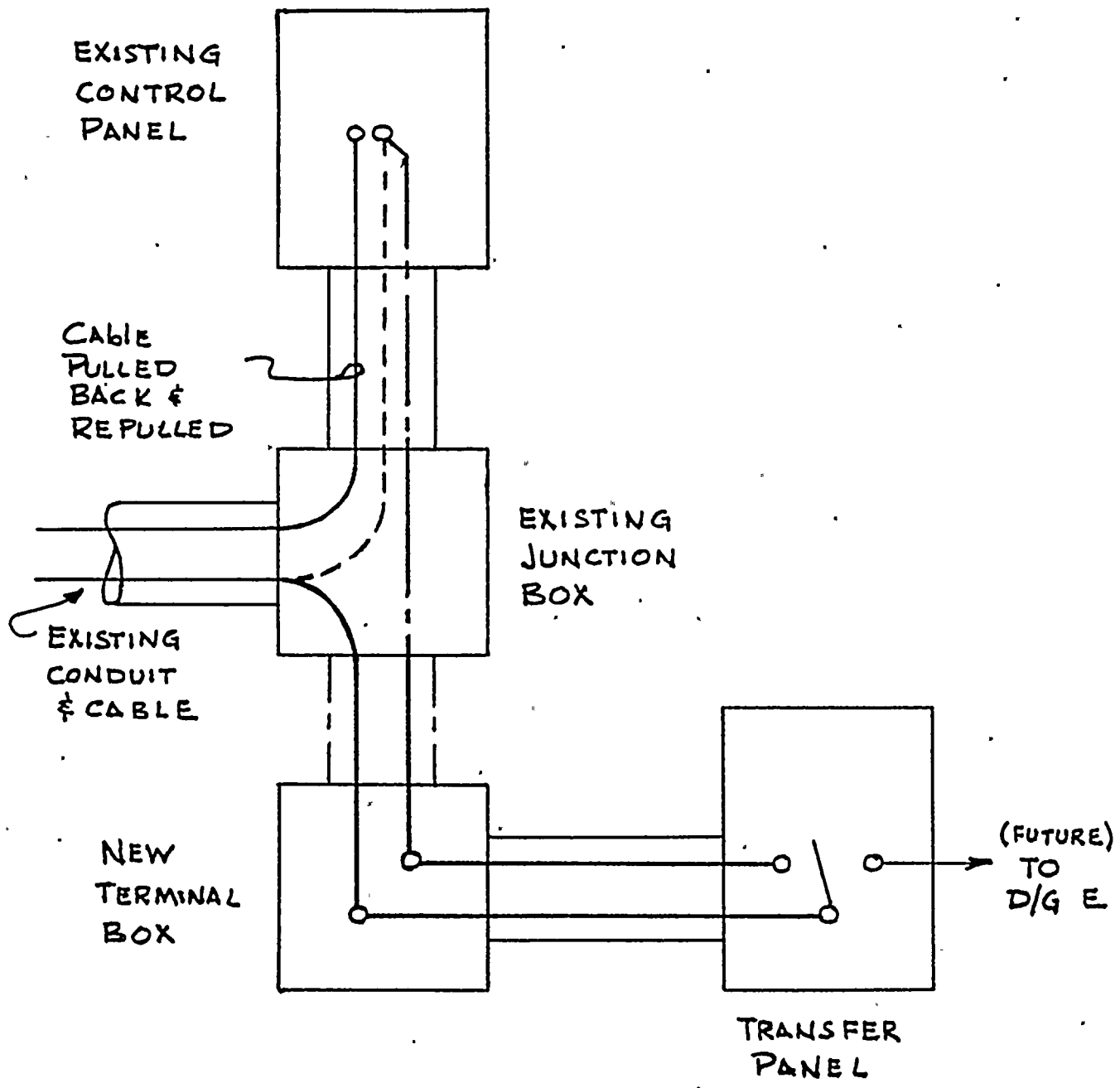
- SIMILAR SEQUENCE AS ABOVE.
- TESTING OF EXISTING DIESEL DONE AFTER TRANSFER.

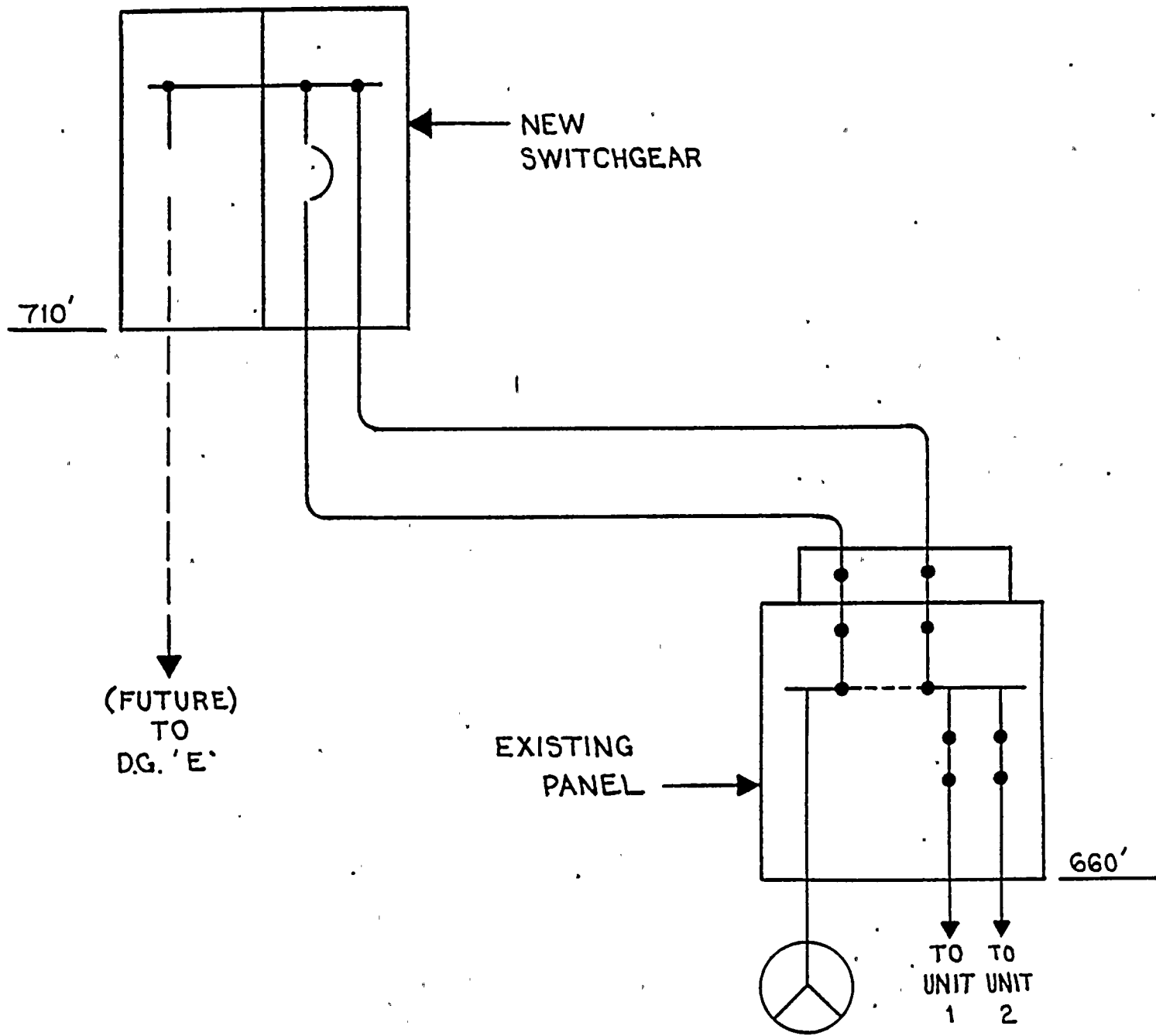




ADDITIONAL DIESEL GENERATOR
CONTROL 'LCO' WORK



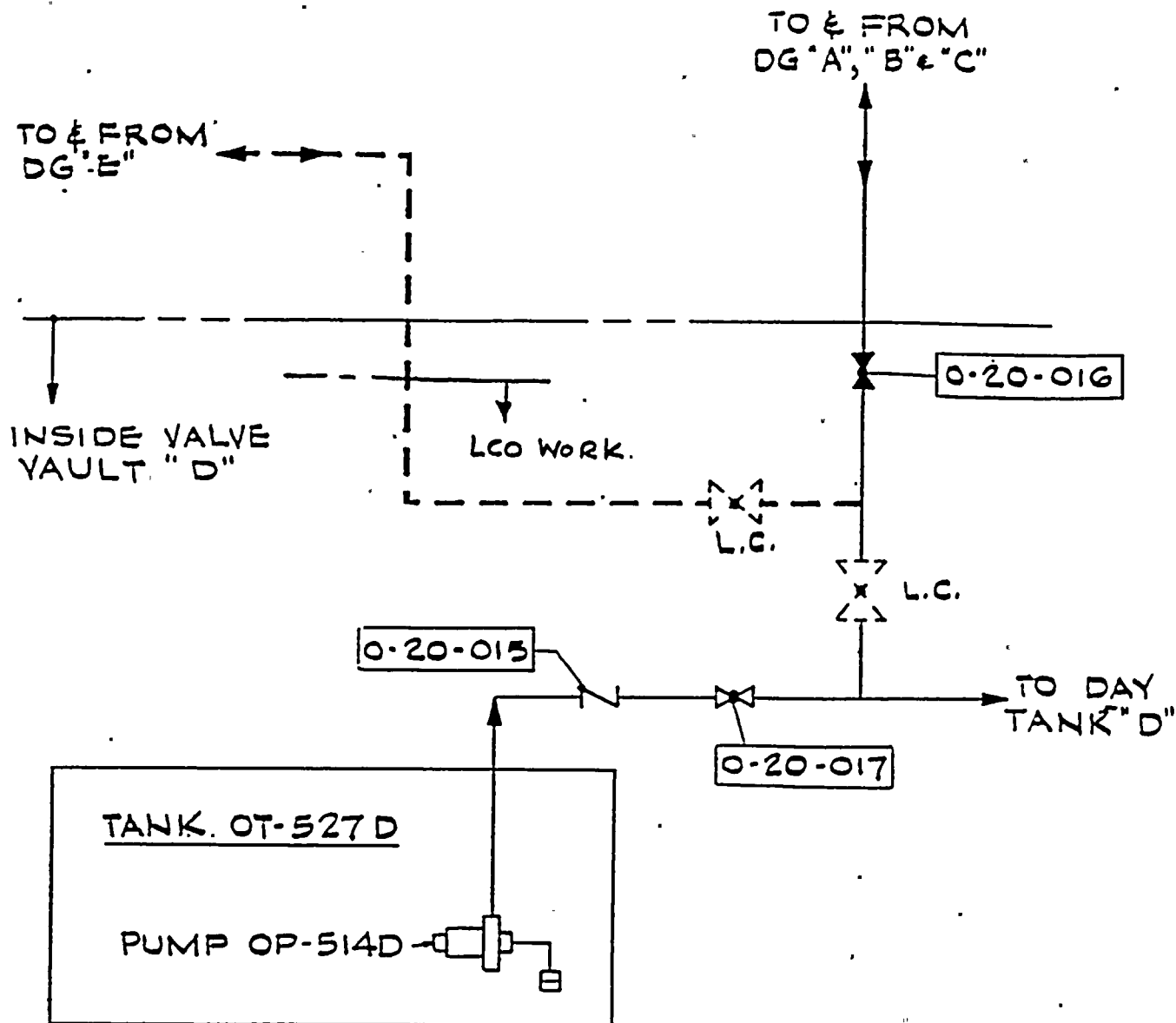




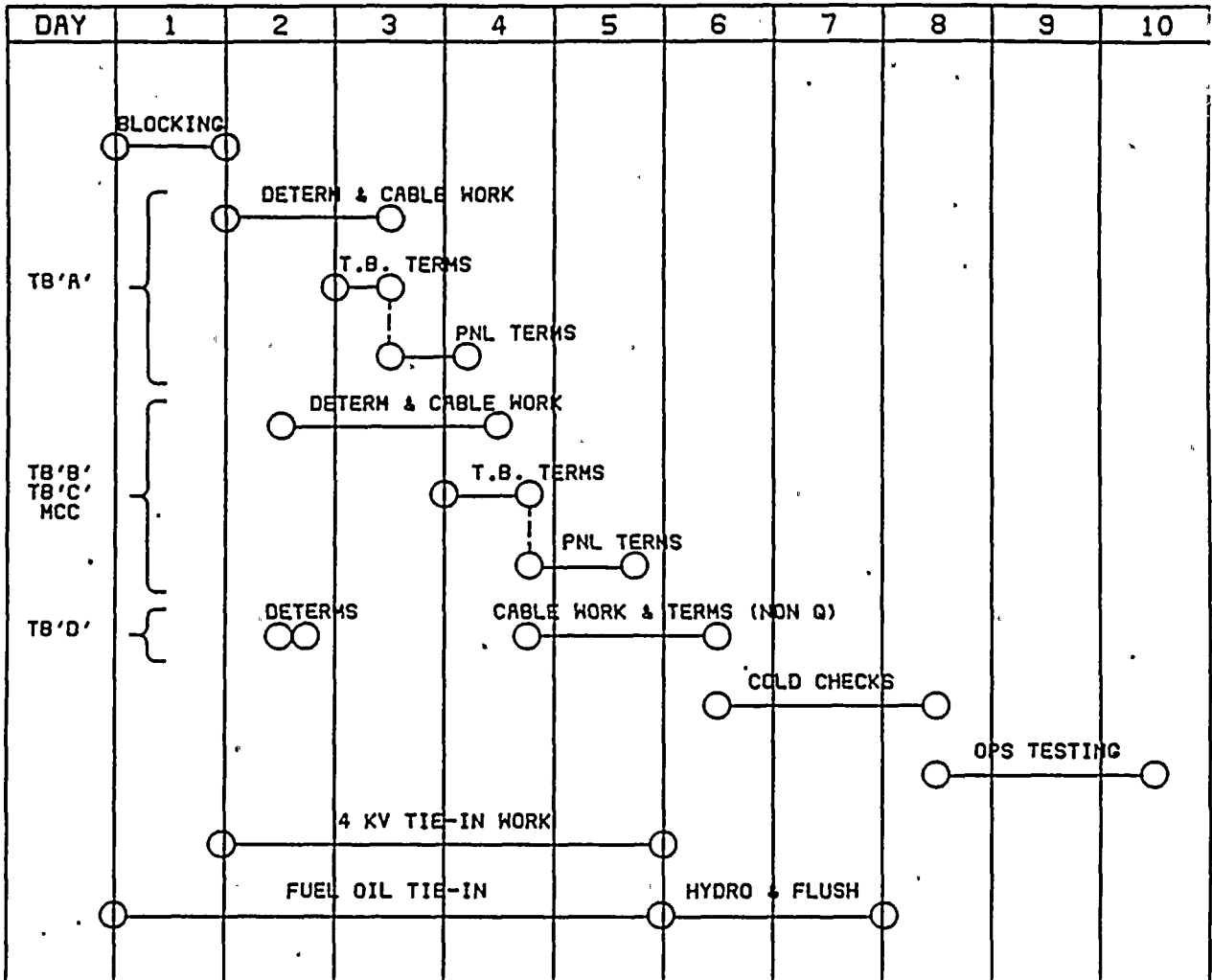
ADDITIONAL DIESEL GENERATOR
4KV 'LCO' WORK



1950



VALVE 0-20-216 TO BE LOCKED OPEN FOLLOWING COMPLETION OF THIS PMR



WORK DAY ----- 2 TWELVE SHIFTS
 CONDUIT ----- INSTALLED PRIOR TO L.C.O.
 TRANSFER PNL - WORK COMPLETED PRIOR TO L.C.O.
 TERM BOXES --- INSTALLED PRIOR TO L.C.O.

L.C.O. WORK
 FOR TIE-IN
 OF "E" DIESEL