

FIRST ANGLE PROJECTION (ALL DIMENSIONS ARE IN MM)

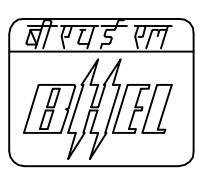
REV	DATE	ALTERED	REV	DATE	ALTERED	
		CHECKED			CHECKED	
					JOB NO. 245	

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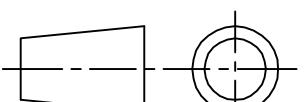
ANDHRA PRADESH POWER GENERATION COMPANY LTD.
BHOOPALAPALLI THERMAL POWER PROJECT
(1X500 MW)

CONSULTANT: DESEIN PRIVATE LIMITED. NEW DELHI.



BHARAT HEAVY ELECTRICALS LIMITED
PROJECTS ENGINEERING MANAGEMENT, NEW DELHI

DEPT.	CODE
M	20



SCALE
NTS

WEIGHT(KG)
-

REF TO ASSY DRG.
-

ITEM
-

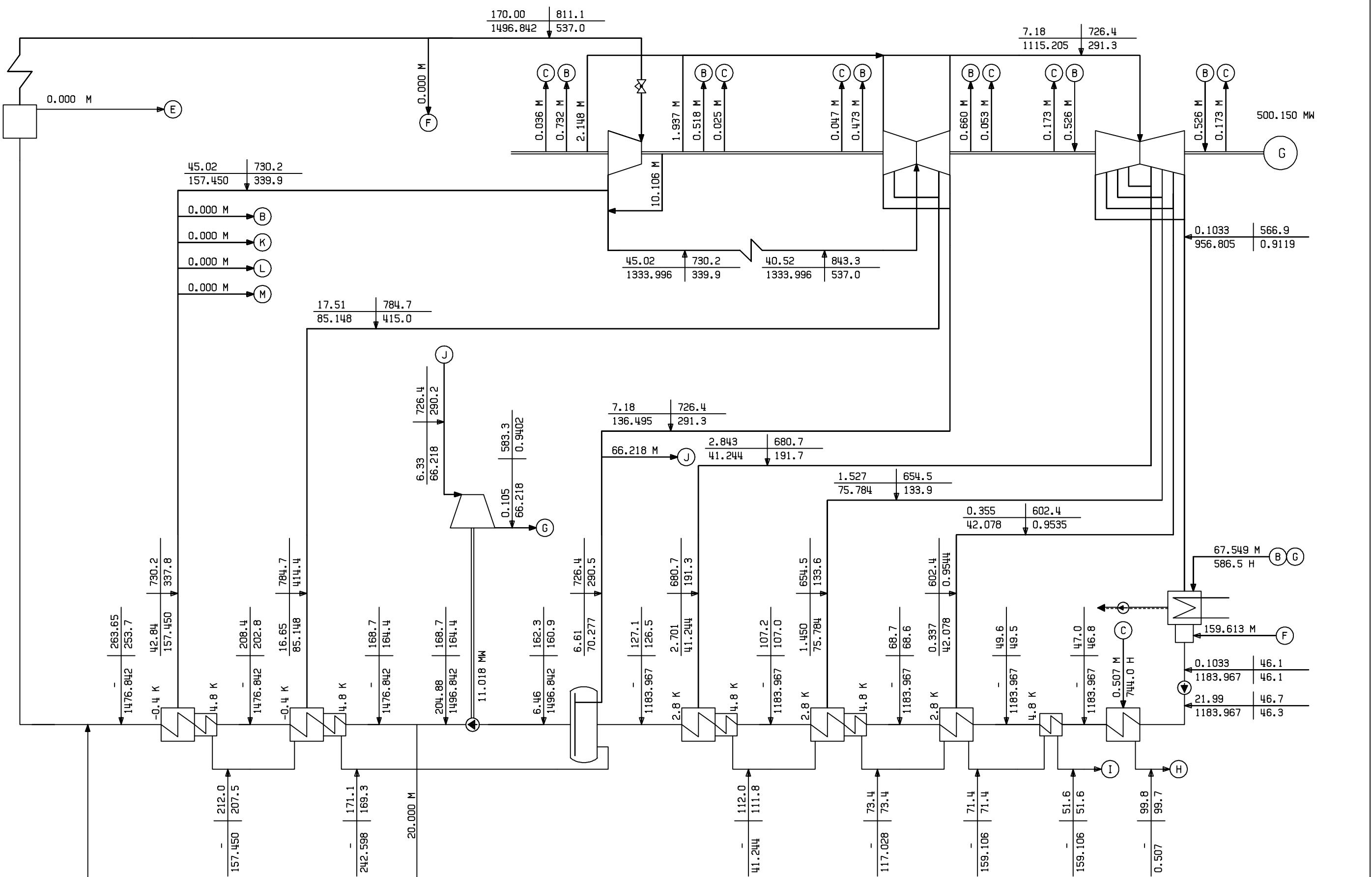
HEAT BALANCE DIAGRAMS

	NAME	SIGN	DATE
PREP.	AVS		
CHECKED	AKR		
APPD.	IJS		

DEPT.						CARD CODE -	DRAWING NOS.		REV 00	
SIGN							PE-DC-245-100-N151			
DATE							TO PE-DC-245-100-N165			
	N.A.						NO. OF SHEETS	15		

LIST OF HEAT BALANCE DIAGRAMS

SL No.	DOCUMENT TITLE	DRAWING No.
1	500 MW 0%MU 33 °C COOLING WATER TEMP.	PE-DC-245-100-N151
2	400 MW 0%MU 33 °C COOLING WATER TEMP.	PE-DC-245-100-N152
3	400 MW 0%MU 33 °C COOLING WATER TEMP. SLIDING PRESSURE OPERATION	PE-DC-245-100-N153
4	300 MW 0%MU 33 °C COOLING WATER TEMP.	PE-DC-245-100-N154
5	300 MW 0%MU 33 °C COOLING WATER TEMP. SLIDING PRESSURE OPERATION	PE-DC-245-100-N155
6	200 MW 0%MU 33 °C COOLING WATER TEMP.	PE-DC-245-100-N156
7	200 MW 0%MU 33 °C COOLING WATER TEMP. SLIDING PRESSURE OPERATION	PE-DC-245-100-N157
8	500 MW 3%MU 33 °C COOLING WATER TEMP.	PE-DC-245-100-N158
9	500 MW 3%MU 35 °C COOLING WATER TEMP.	PE-DC-245-100-N159
10	VWO 3%MU 33 °C COOLING WATER TEMP.	PE-DC-245-100-N160
11	VWO 0%MU 33 °C COOLING WATER TEMP.	PE-DC-245-100-N161
12	500 MW 3%MU 33 °C COOLING WATER TEMP. BOTH HP HEATERS OUT OF SERVICE	PE-DC-245-100-N162
13	500 MW 0%MU 33 °C COOLING WATER TEMP. BOTH HP HEATERS OUT OF SERVICE	PE-DC-245-100-N163
14	500 MW 3%MU 33 °C COOLING WATER TEMP. ONE STRING OF HP HEATERS OUT OF SERVICE	PE-DC-245-100-N164
15	500 MW 0%MU 33 °C COOLING WATER TEMP. ONE STRING OF HP HEATERS OUT OF SERVICE	PE-DC-245-100-N165



**ANDHRA PRADESH POWER GENERATION COMPANY LTD.
BHOOPALAPALLI THERMAL POWER PROJECT
(1X500 MW)**

AT	KCAL/KG
T/H	°C (X)

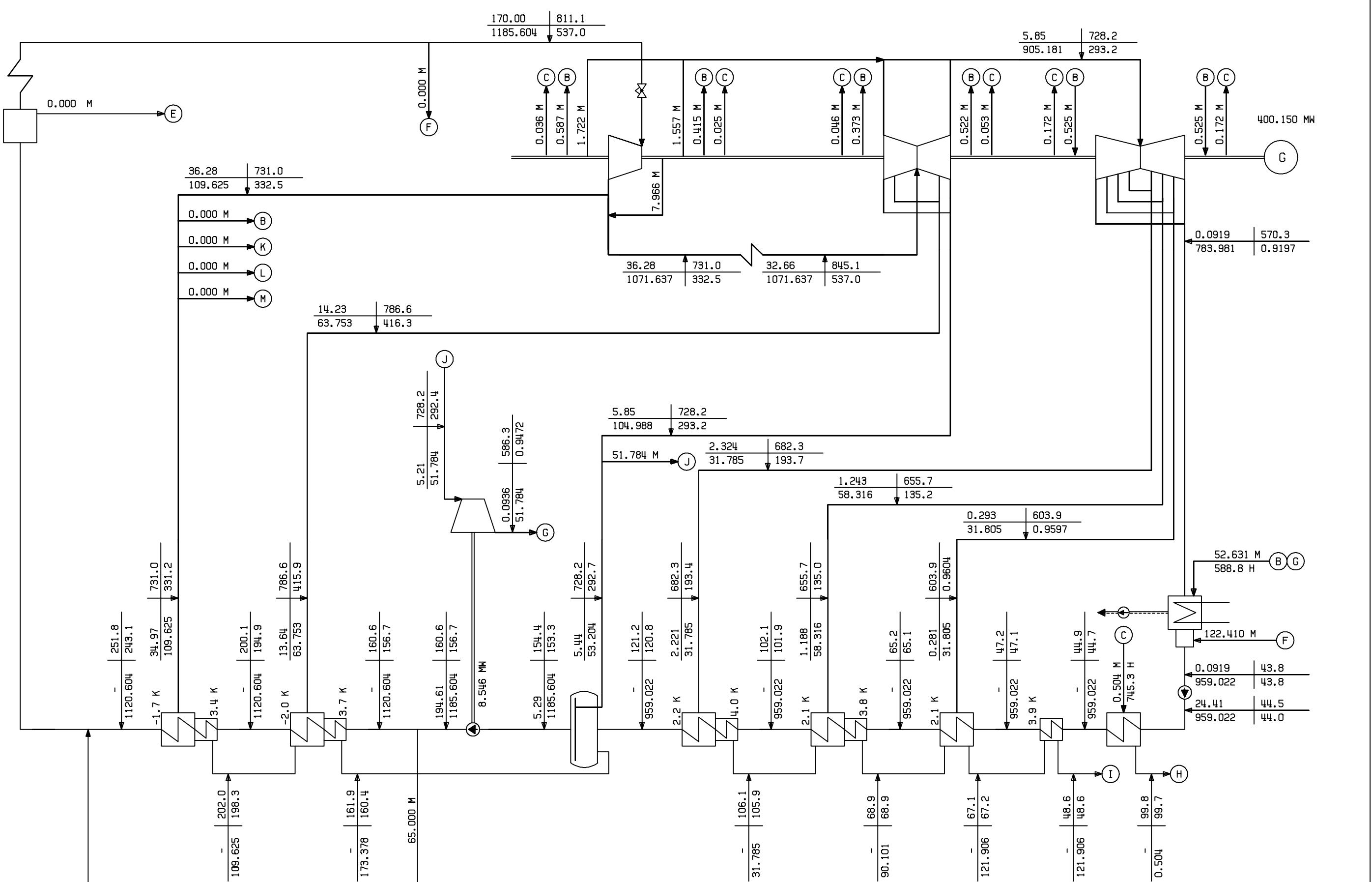
M... MASS FLOW.... T/H
H... ENTHALPY.... KCAL/KG

PREP	100	100
	100	100
	100	100
	100	100
CHKD		
APPD		
DATE	21/11/05	DRG NO PE - DC - 245 - 100-N151 REV 00

BHARAT HEAVY ELECTRICALS LTD
PROJECT ENGINEERING MANAGEMENT
NEW DELHI

500MW 0%MU 33 DEG C CW TEMP.

JOB NO 245



ANDHRA PRADESH POWER GENERATION COMPANY LTD.
BHOOPALAPALLI THERMAL POWER PROJECT
(1X500 MW)

AT	KCAL/KG
T/H	°C (X)

M... MASS FLOW.... T/H

H... ENTHALPY.... KCAL/KG



BHARAT HEAVY ELECTRICALS LTD
PROJECT ENGINEERING MANAGEMENT
NEW DELHI

400MW 0%MU 33 DEG C CW TEMP.

PREP

CHKD

APPD

DATE

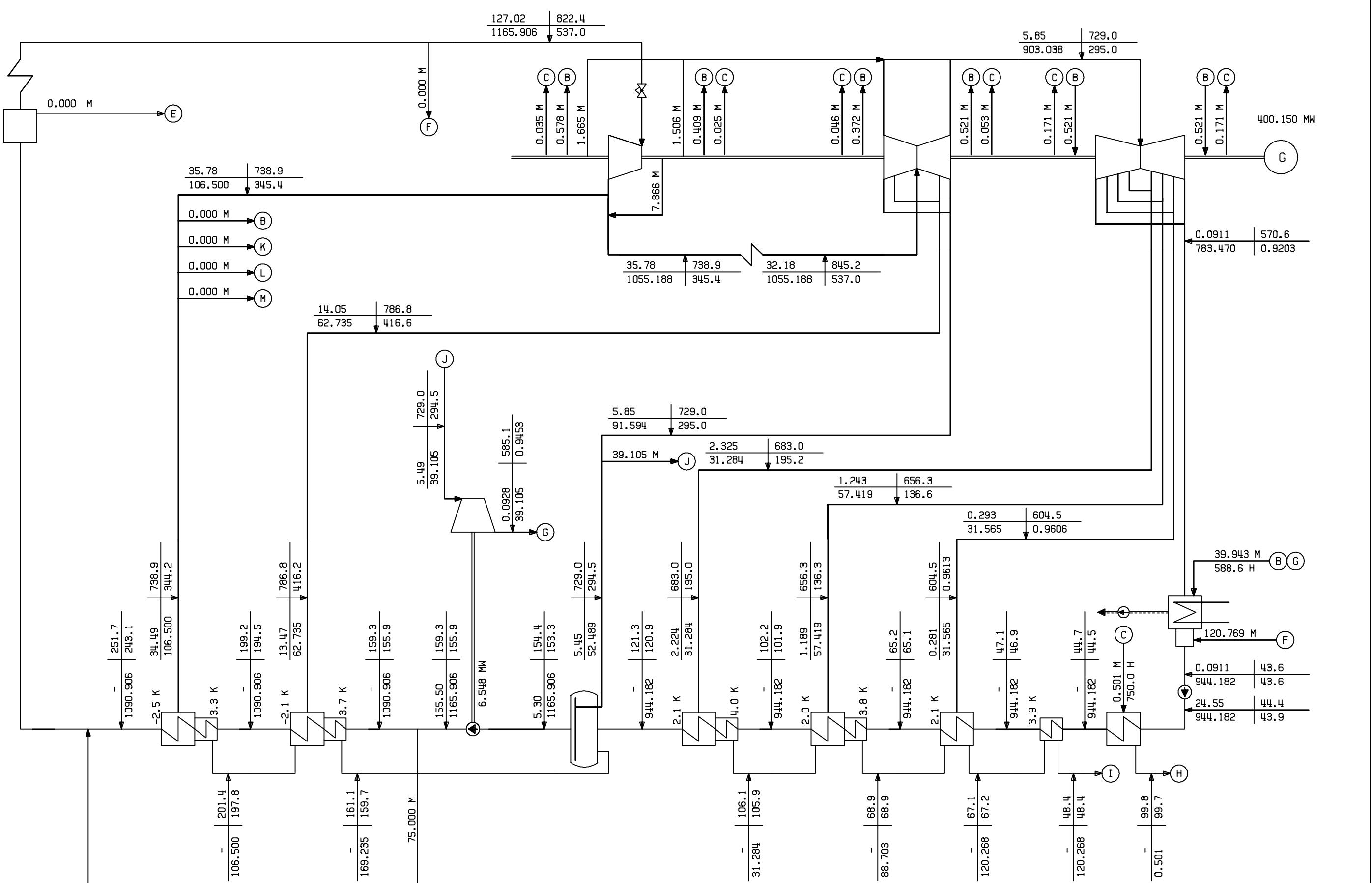
JOB NO

245

21/11/05

DRG NO

PE - DC - 245 - 100-N152 REV 00

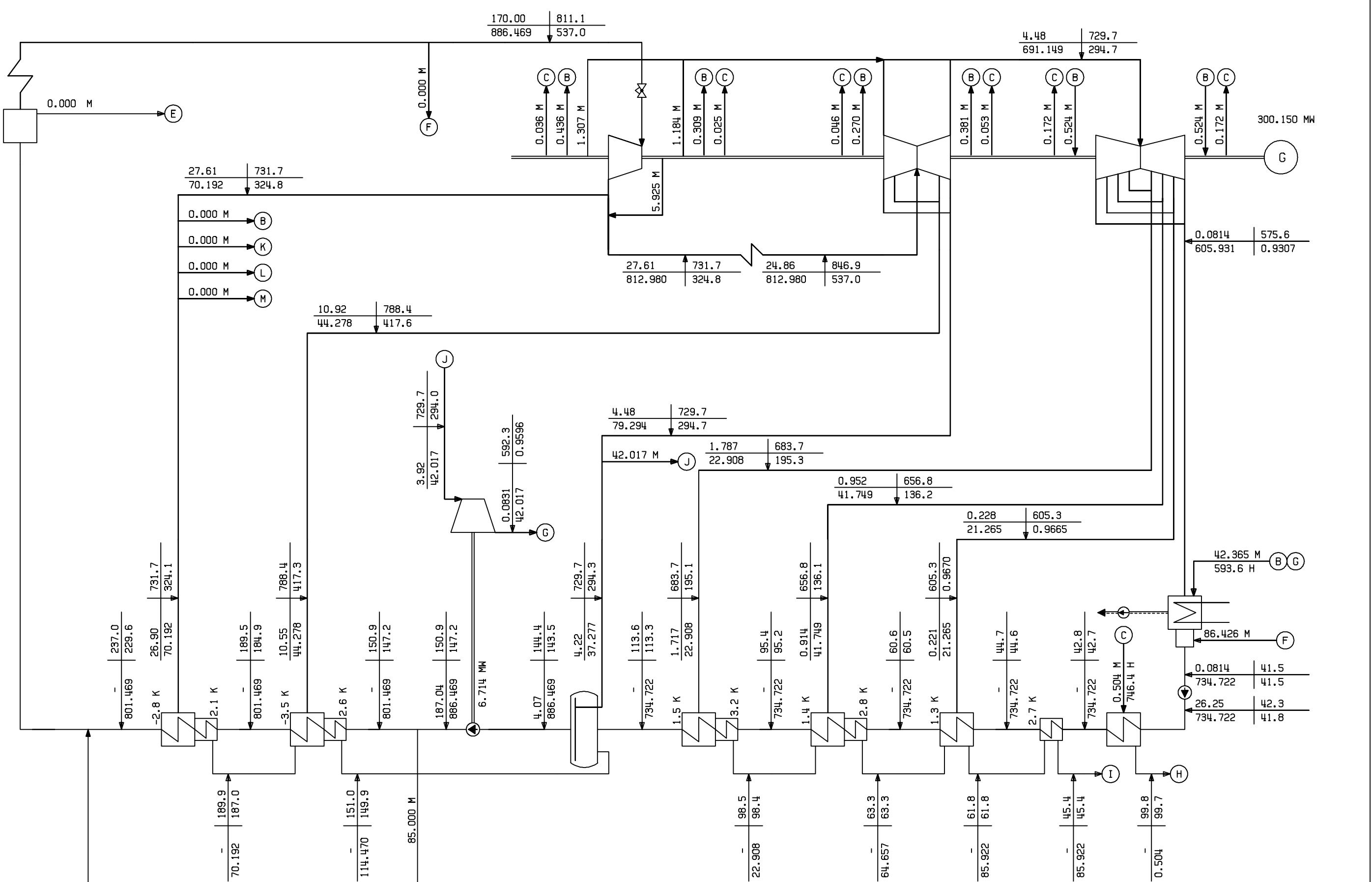


ANDHRA PRADESH POWER GENERATION COMPANY LTD.
BHOOPALAPALLI THERMAL POWER PROJECT
(1X500 MW)

AT	KCAL/KG
T/H	°C (X)

M... MASS FLOW.... T/H
H... ENTHALPY.... KCAL/KG

	BHARAT HEAVY ELECTRICALS LTD PROJECT ENGINEERING MANAGEMENT NEW DELHI
PREP	400MW 0%MU 33 DEG C CW TEMP.
CHKD	SLIDING PRESSURE OPERATION.
APPD	JOB NO 245
DATE	21/11/05 DRG NO PE - DC - 245 - 100-N153 REV 00

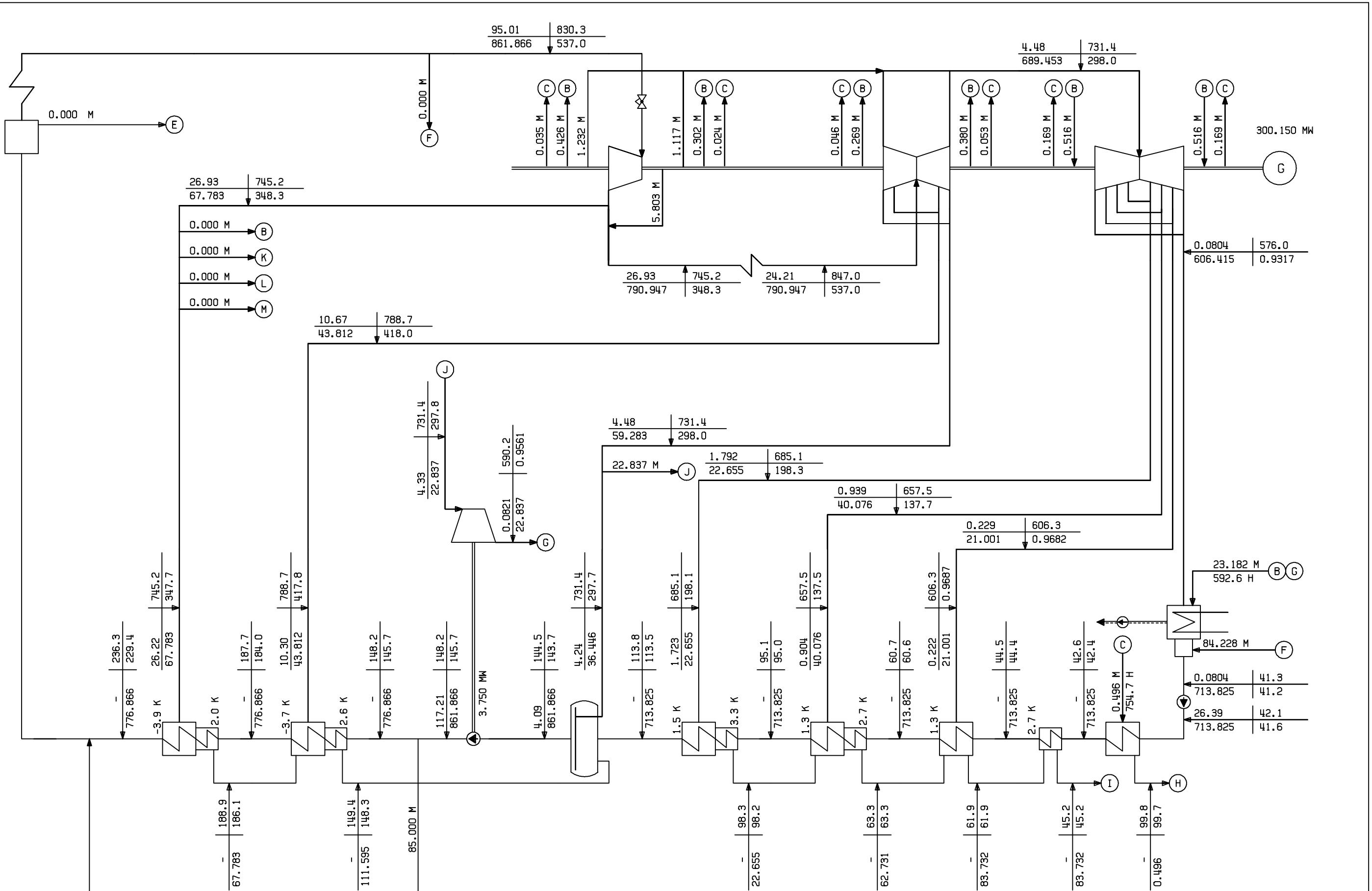


ANDHRA PRADESH POWER GENERATION COMPANY LTD.
BHOOPALAPALLI THERMAL POWER PROJECT
(1X500 MW)

AT	KCAL/KG
T/H	°C (X)

M... MASS FLOW.... T/H
H... ENTHALPY.... KCAL/KG

 PREP CHKD APPD DATE	BHARAT HEAVY ELECTRICALS LTD PROJECT ENGINEERING MANAGEMENT NEW DELHI
	300MW 0%MU 33 DEG C CW TEMP.
	JOB NO 245
	DRG NO PE - DC - 245 - 100-N154 REV 00

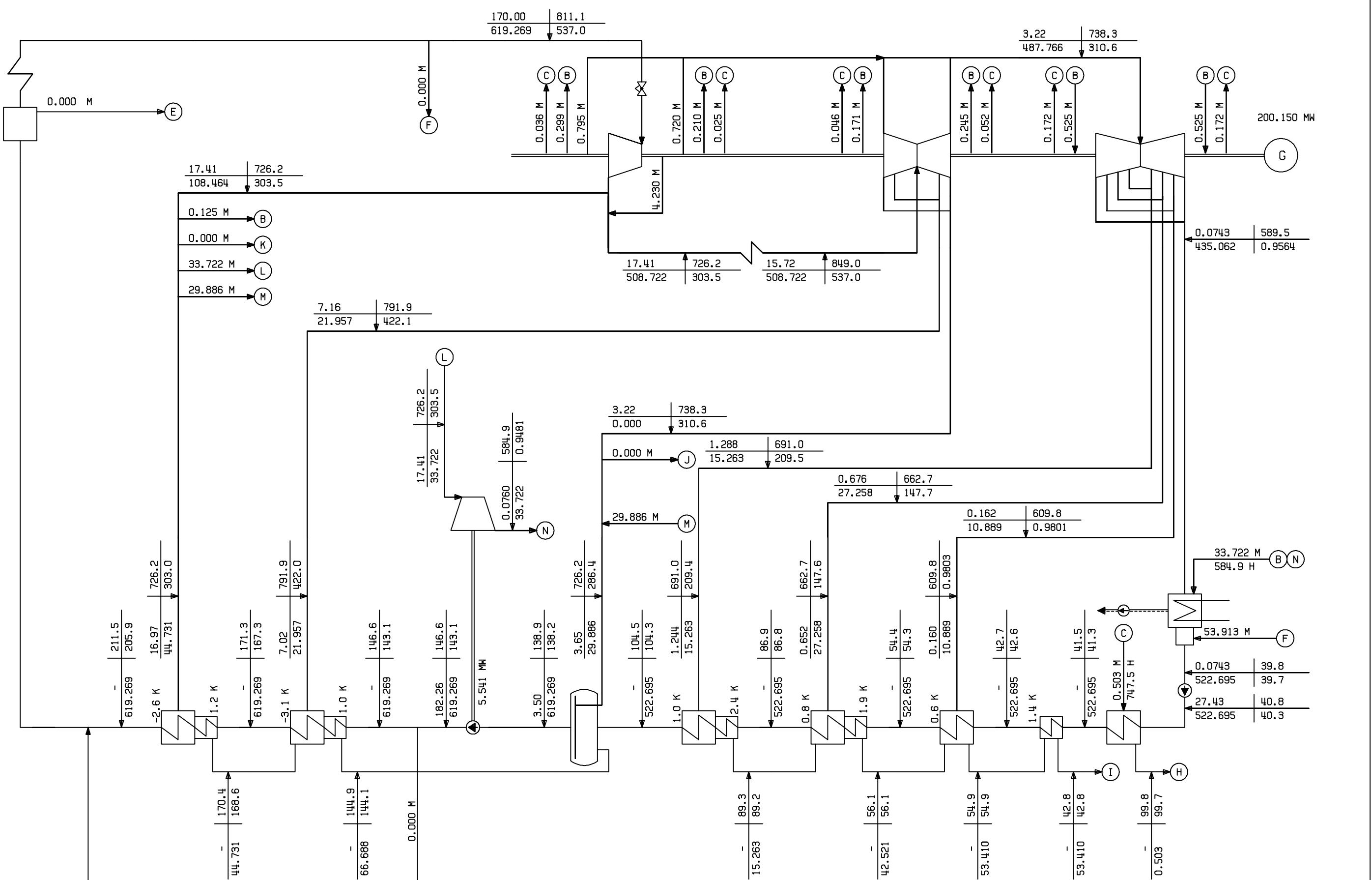


ANDHRA PRADESH POWER GENERATION COMPANY LTD.
BHOOPALAPALLI THERMAL POWER PROJECT
(1X500 MW)

AT	KCAL/KG
T/H	°C (X)

M... MASS FLOW.... T/H
H... ENTHALPY.... KCAL/KG

	BHARAT HEAVY ELECTRICALS LTD PROJECT ENGINEERING MANAGEMENT NEW DELHI
	300MW 0%MU 33 DEG C CW TEMP. SLIDING PRESSURE OPERATION.
	JOB NO 245
	DATE 21/11/05 DRG NO PE - DC - 245 - 100-N155 REV 00



ANDHRA PRADESH POWER GENERATION COMPANY LTD.
BHOOPALAPALLI THERMAL POWER PROJECT
(1X500 MW)

AT	KCAL/KG
T/H	°C (X)

M... MASS FLOW.... T/H
H... ENTHALPY.... KCAL/KG

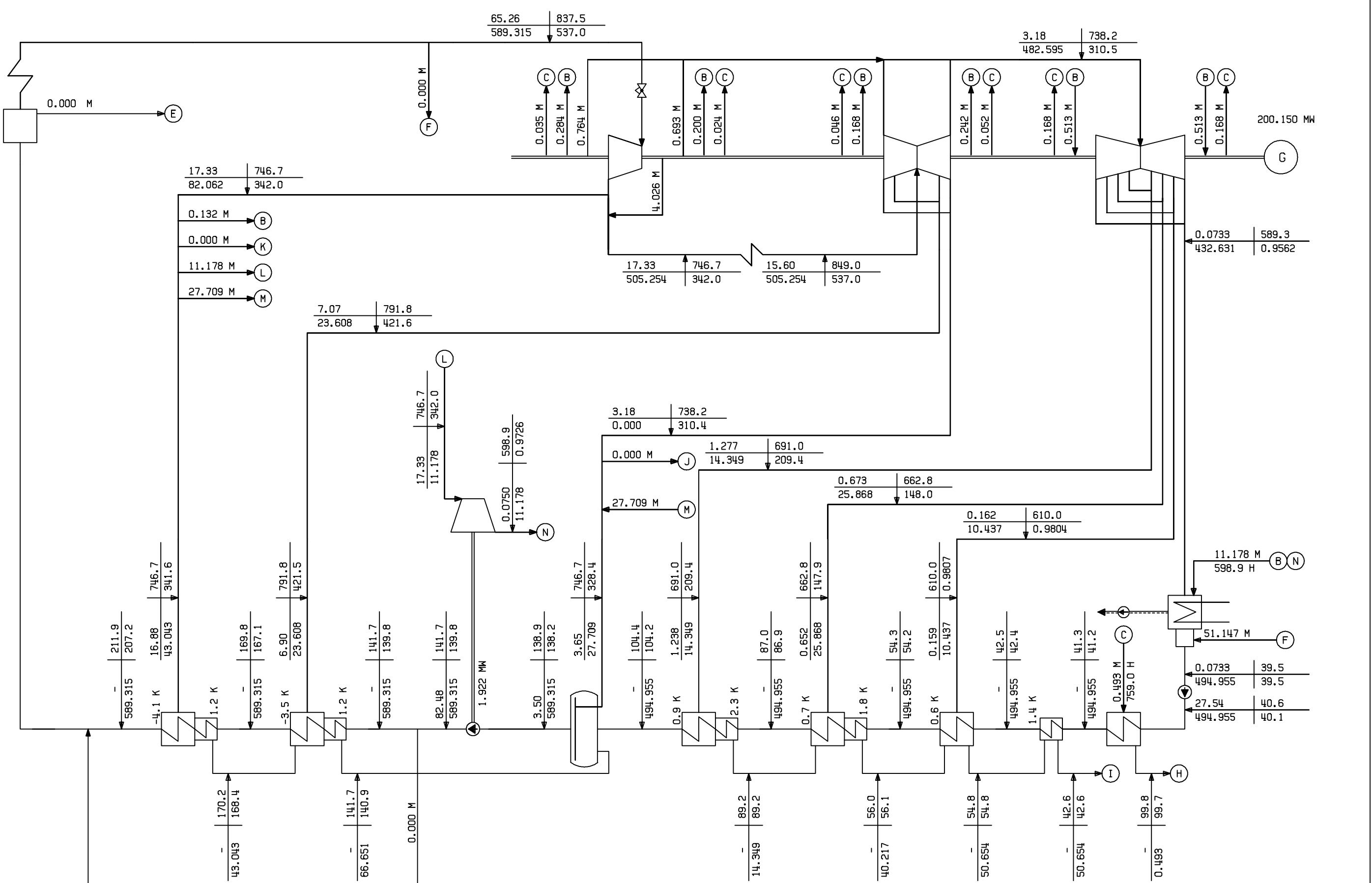
	PREP
	CHKD
	APPD
	DATE 21/11/05

BHARAT HEAVY ELECTRICALS LTD
PROJECT ENGINEERING MANAGEMENT
NEW DELHI

200MW 0%MU 33 DEG C CW TEMP.

JOB NO 245

DRG NO PE - DC - 245 - 100-N156 REV 00



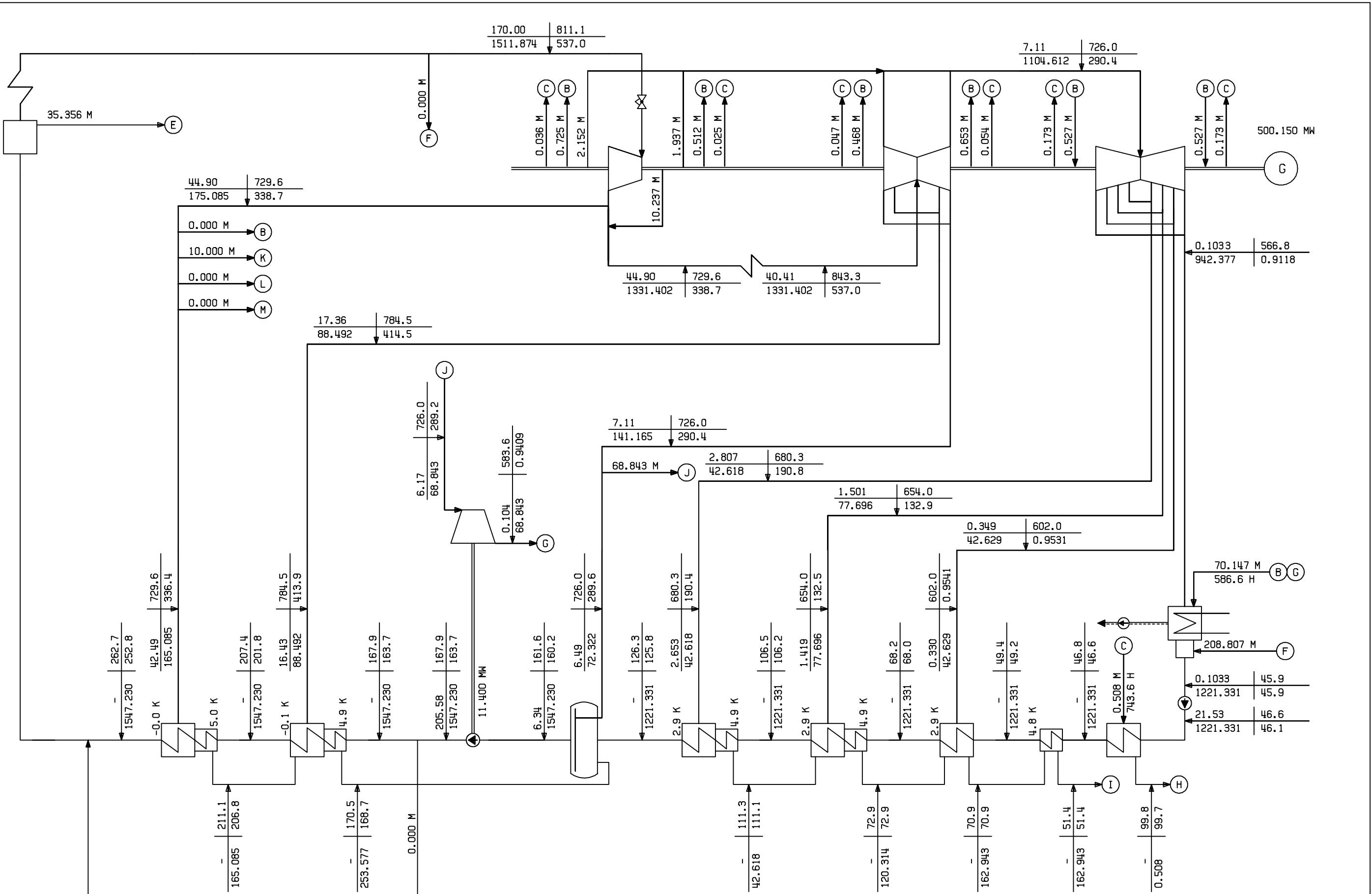
ANDHRA PRADESH POWER GENERATION COMPANY LTD.
BHOOPALAPALLI THERMAL POWER PROJECT
(1X500 MW)

AT	KCAL/KG
T/H	°C (X)

M... MASS FLOW.... T/H
H... ENTHALPY.... KCAL/KG

	BHARAT HEAVY ELECTRICALS LTD PROJECT ENGINEERING MANAGEMENT NEW DELHI
	200MW 0%MU 33 DEG C CW TEMP.R.
	SLIDING PRESSURE OPERATION
	JOB NO 245

DATE 21/11/05 DRG NO PE - DC - 245 - 100-N157 REV 00

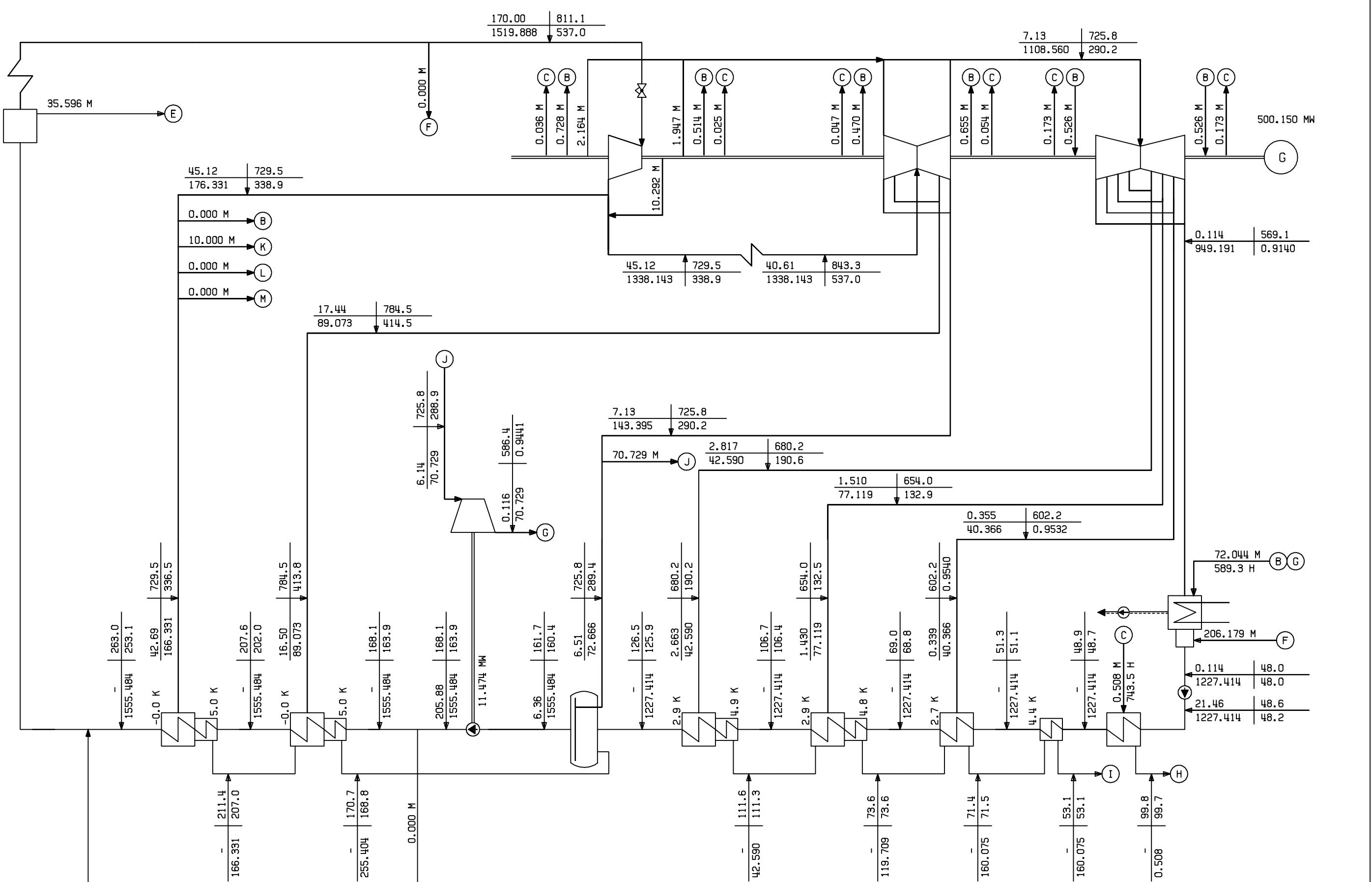


ANDHRA PRADESH POWER GENERATION COMPANY LTD.
BHOOPALAPALLI THERMAL POWER PROJECT
(1X500 MW)

AT	KCAL/KG
T/H	°C (X)

M... MASS FLOW.... T/H
H... ENTHALPY.... KCAL/KG

 PREP CHKD APPD DATE	BHARAT HEAVY ELECTRICALS LTD PROJECT ENGINEERING MANAGEMENT NEW DELHI
	500MW 3%MU 33 DEG C CW TEMP.
	JOB NO 245
	DRG NO PE - DC - 245 - 100-N158 REV 00



ANDHRA PRADESH POWER GENERATION COMPANY LTD.
BHOOPALAPALLI THERMAL POWER PROJECT
(1X500 MW)

AT	KCAL/KG
T/H	°C (X)

M... MASS FLOW.... T/H
H... ENTHALPY.... KCAL/KG

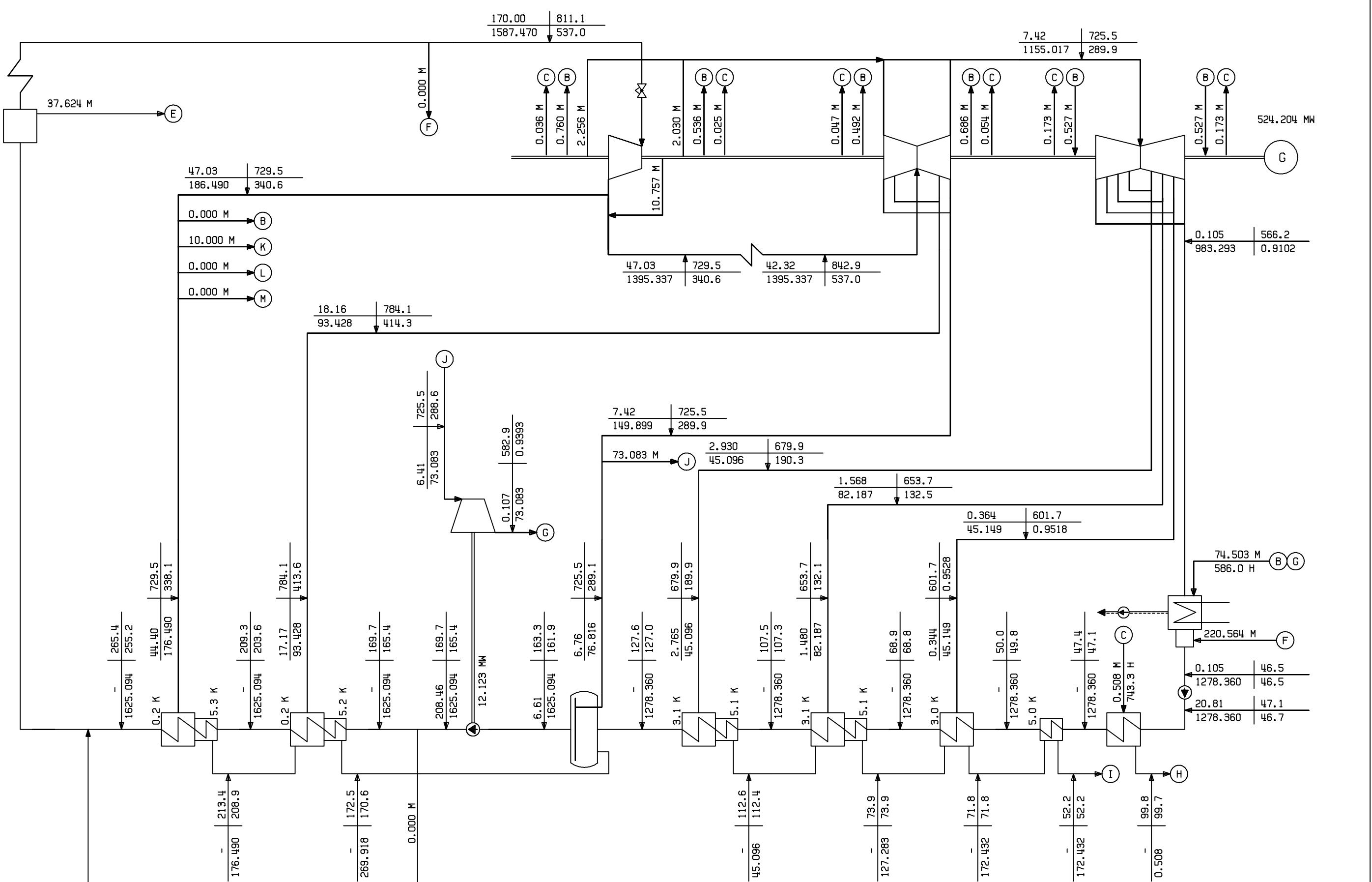
PREP	811.1
	725.8
	602.2
	51.1

BHARAT HEAVY ELECTRICALS LTD
PROJECT ENGINEERING MANAGEMENT
NEW DELHI

500MW 3%MU 35 DEG C CW TEMP.

JOB NO 245

DATE 21/11/05 DRG NO PE - DC - 245 - 100-N159 REV 00

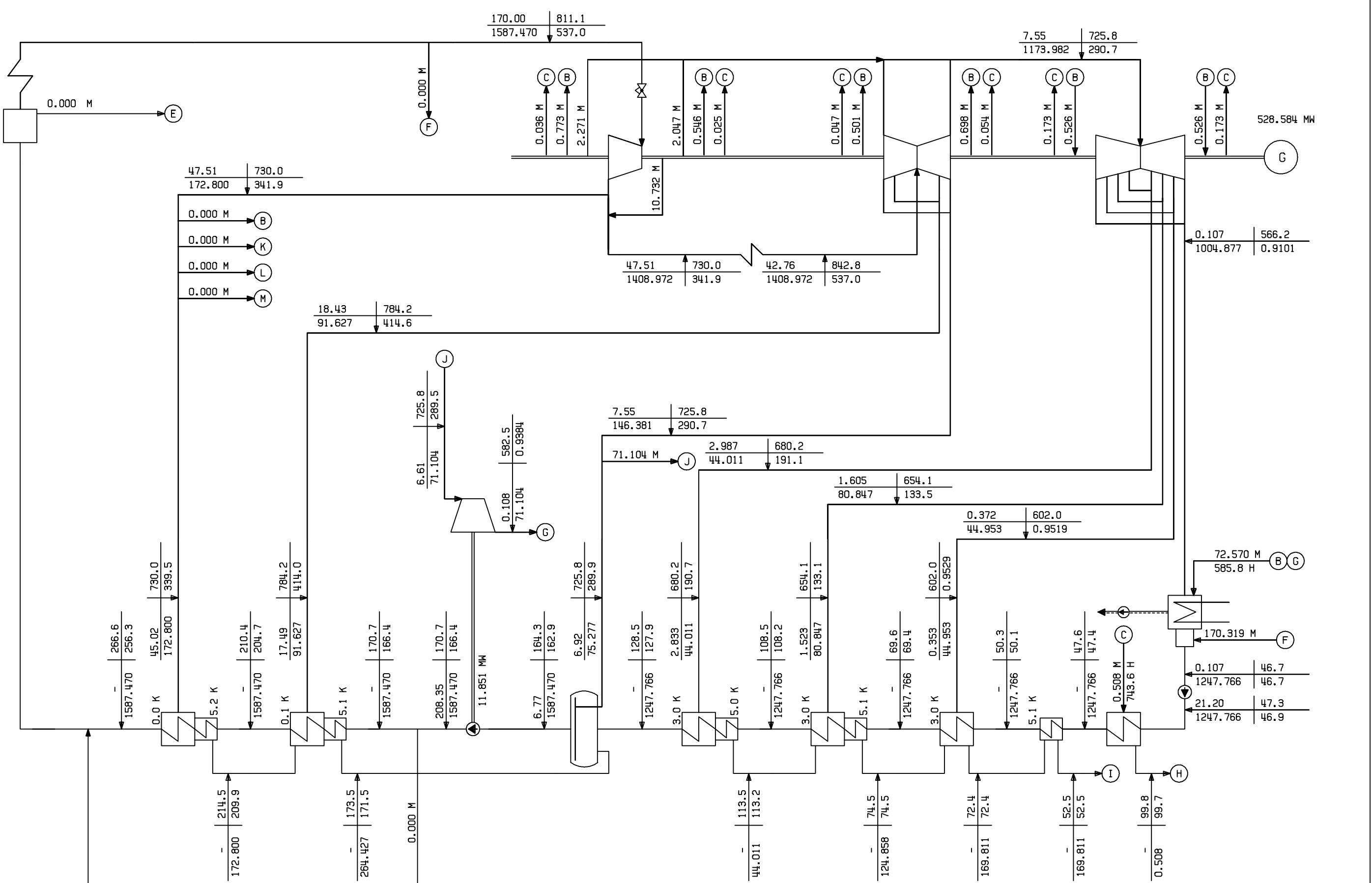


ANDHRA PRADESH POWER GENERATION COMPANY LTD.
BHOOPALAPALLI THERMAL POWER PROJECT
(1X500 MW)

AT	KCAL/KG
T/H	°C (X)

M... MASS FLOW.... T/H
H... ENTHALPY.... KCAL/KG

	BHARAT HEAVY ELECTRICALS LTD PROJECT ENGINEERING MANAGEMENT NEW DELHI
	VW0 3%MU 33 DEG C CW TEMP.
	JOB NO 245
	DATE 21/11/05 DRG NO PE - DC - 245 - 100-N160 REV 00

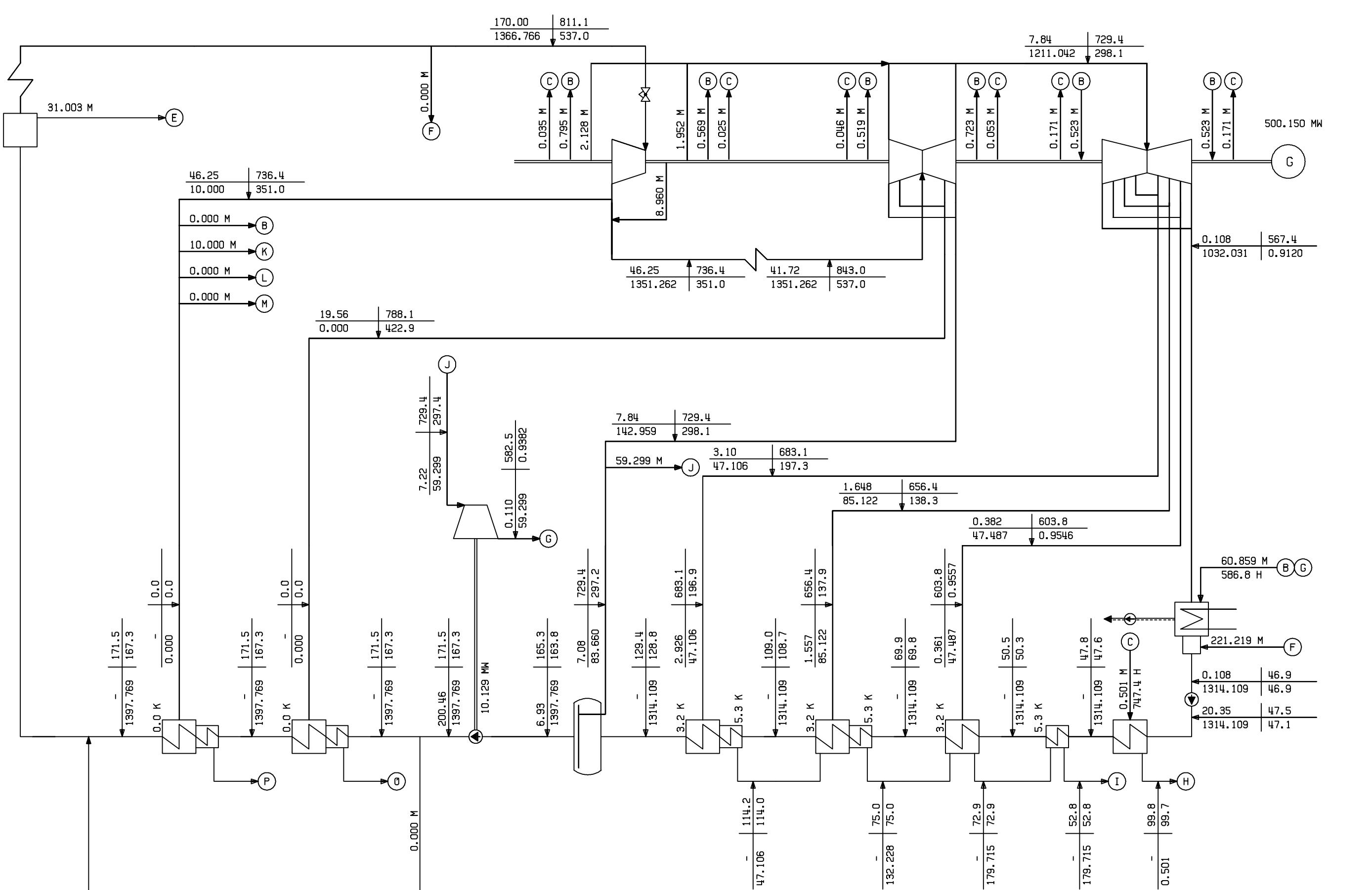


ANDHRA PRADESH POWER GENERATION COMPANY LTD.
BHOOPALAPALLI THERMAL POWER PROJECT
(1X500 MW)

AT	KCAL/KG
T/H	°C (X)

M... MASS FLOW.... T/H
H... ENTHALPY.... KCAL/KG

	BHARAT HEAVY ELECTRICALS LTD PROJECT ENGINEERING MANAGEMENT NEW DELHI
	VW0 0%MU 33 DEG C CW TEMP.
	JOB NO 245
	DATE 21/11/05 DRG NO PE - DC - 245 - 100-N161 REV 00

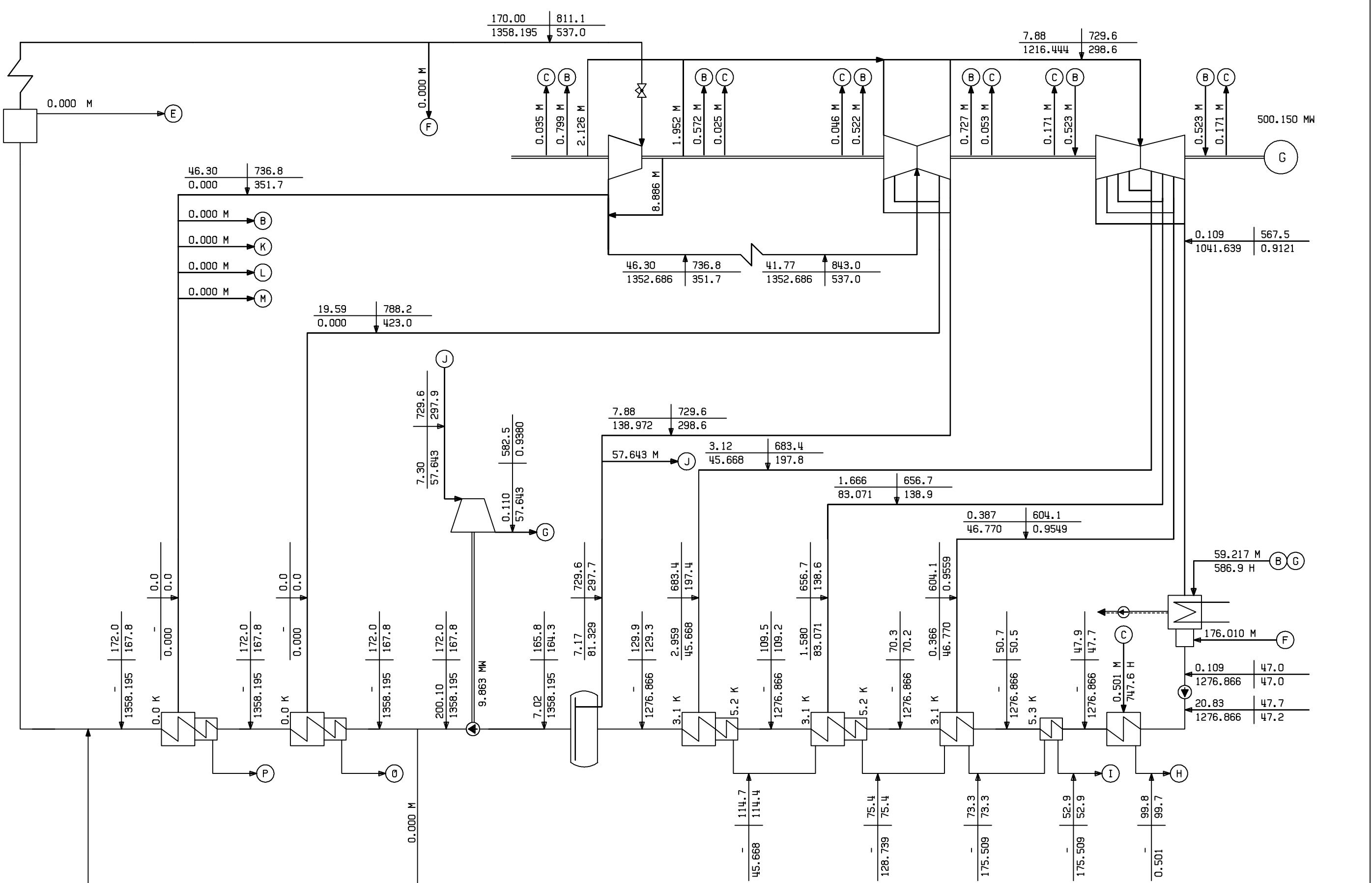


ANDHRA PRADESH POWER GENERATION COMPANY LTD.
BHOOPALAPALLI THERMAL POWER PROJECT
(1X500 MW)

AT	KCAL/KG
T/H	°C (X)

M... MASS FLOW.... T/H
H... ENTHALPY.... KCAL/KG

	BHARAT HEAVY ELECTRICALS LTD PROJECT ENGINEERING MANAGEMENT NEW DELHI
PREP	500MW 3XMU 33 DEG C CW TEMP
CHKD	BOTH HP HEATERS OUT OF SERVICE
APPD	JOB NO 245
DATE	21/11/05 DRG NO PE - DC - 245 - 100-N162 REV 00



ANDHRA PRADESH POWER GENERATION COMPANY LTD.
BHOOPALAPALLI THERMAL POWER PROJECT
(1X500 MW)

AT	KCAL/KG
T/H	°C (X)

M... MASS FLOW.... T/H
H... ENTHALPY.... KCAL/KG

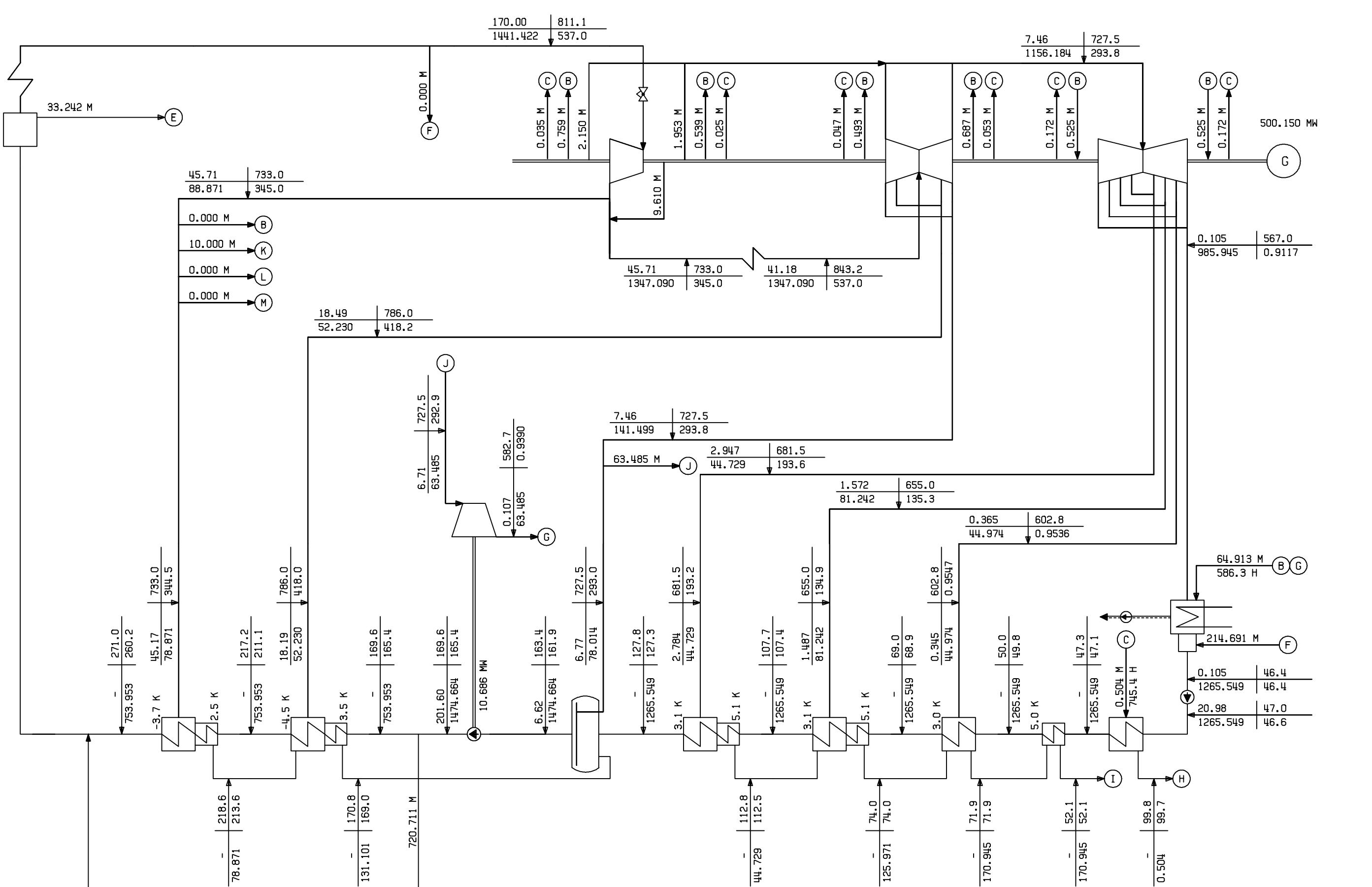


BHARAT HEAVY ELECTRICALS LTD
PROJECT ENGINEERING MANAGEMENT
NEW DELHI

500MW 0%MU 33 DEG C CW TEMP
BOTH HP HEATERS OUT OF SERVICE

JOB NO 245

DATE 21/11/05 DRG NO PE - DC - 245 - 100-N163 REV 00

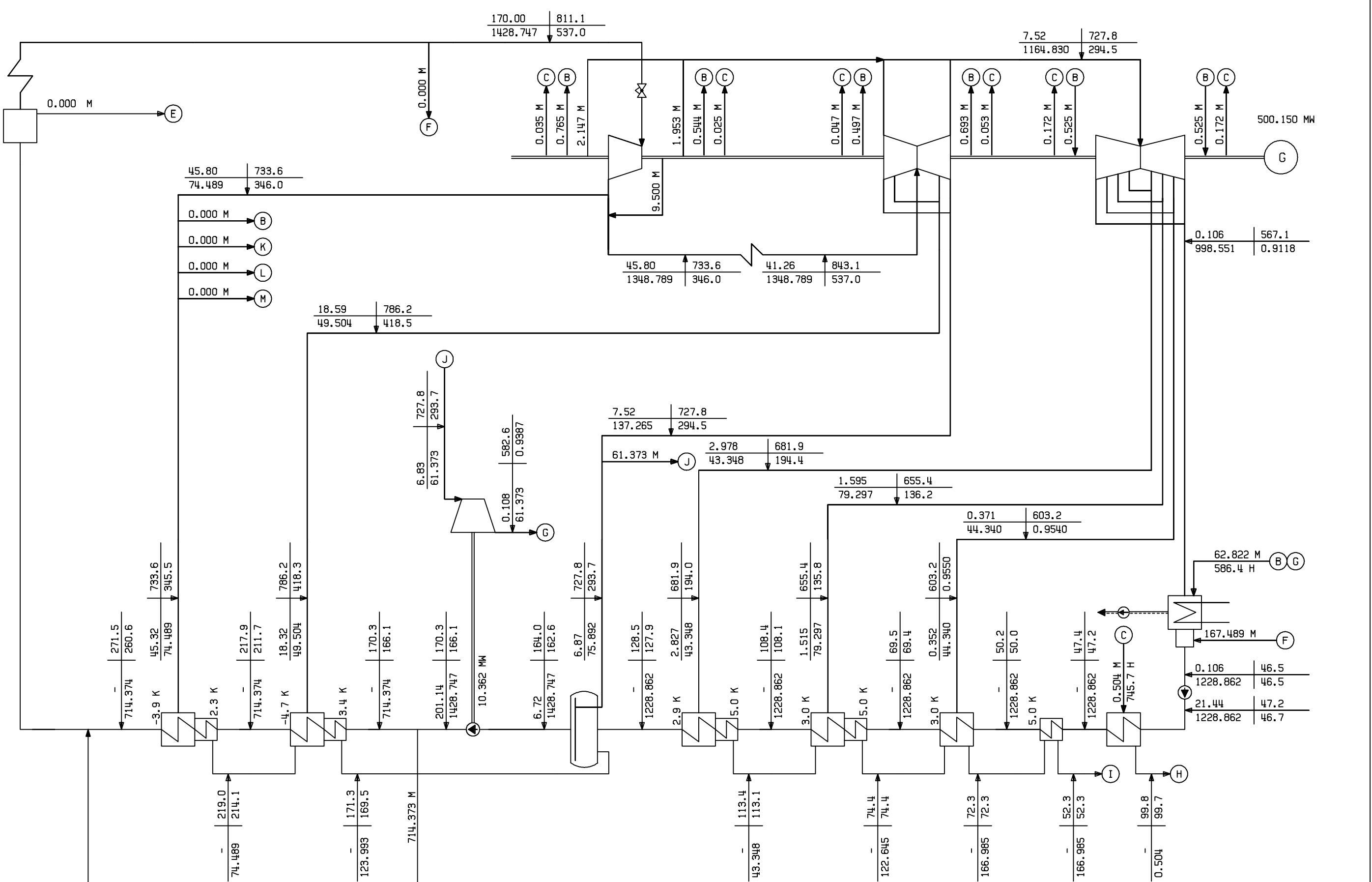


ANDHRA PRADESH POWER GENERATION COMPANY LTD.
BHOOPALAPALLI THERMAL POWER PROJECT
(1X500 MW)

AT	KCAL/KG
T/H	°C (X)

M... MASS FLOW.... T/H
H... ENTHALPY.... KCAL/KG

	BHARAT HEAVY ELECTRICALS LTD PROJECT ENGINEERING MANAGEMENT NEW DELHI
	500MW 3%MU 33 DEG C CW TEMP ONE STRING OF HP HEATERS OUT
	JOB NO 245
	DATE 21/11/05 DRG NO PE - DC - 245 - 100-N164 REV 00



ANDHRA PRADESH POWER GENERATION COMPANY LTD.
BHOOPALAPALLI THERMAL POWER PROJECT
(1X500 MW)

AT	KCAL/KG
T/H	°C (X)

M... MASS FLOW.... T/H
H... ENTHALPY.... KCAL/KG

 PREP CHKD APPD DATE	BHARAT HEAVY ELECTRICALS LTD PROJECT ENGINEERING MANAGEMENT NEW DELHI
	500MW 0%MU 33 DEG C CW TEMP ONE STRING OF HP HEATERS OUT
	JOB NO 245
	DRG NO PE - DC - 245 - 100-N165 REV 00