FIG. 1

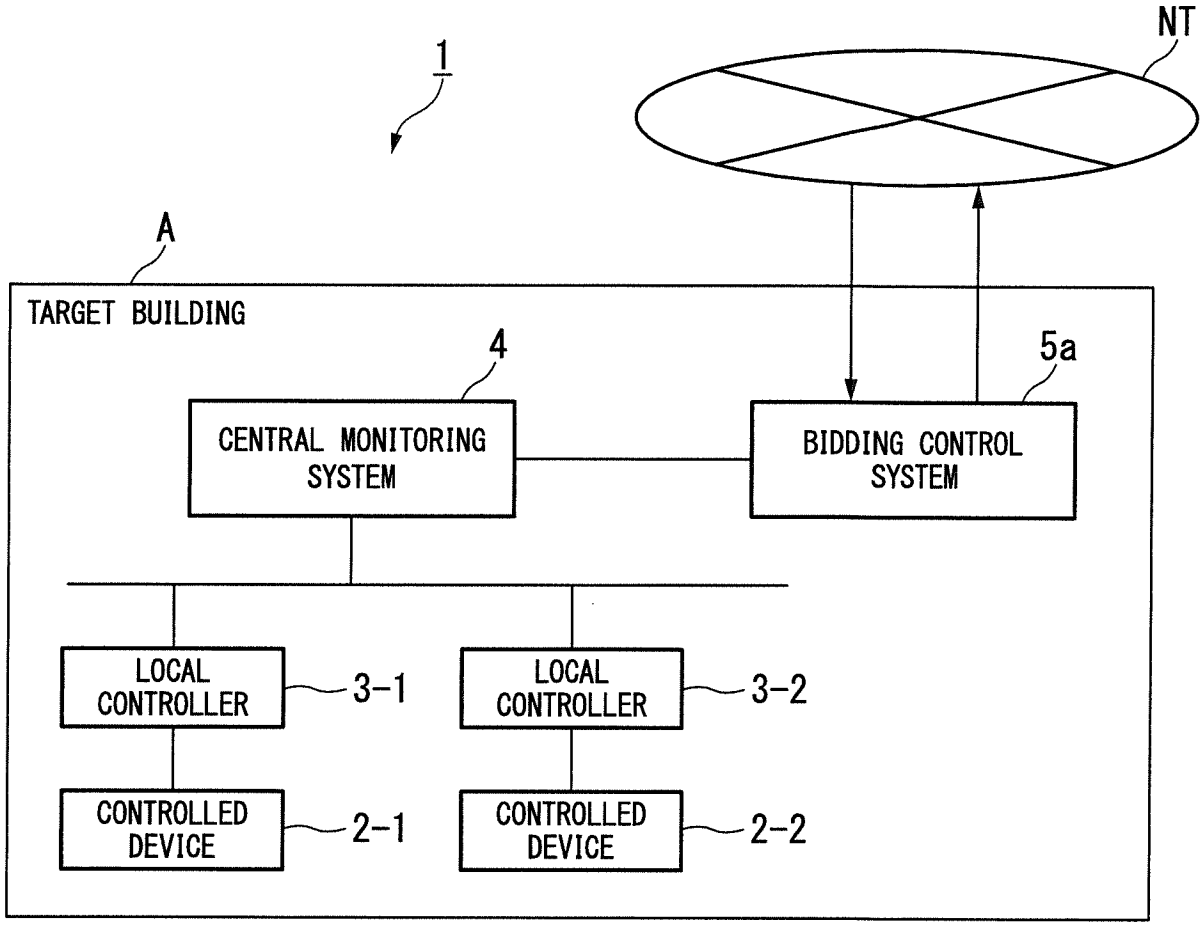

NT
1
A
TARGET BUILDING
4
5a
CENTRAL MONITORING SYSTEM
BIDDING CONTROL SYSTEM
LOCAL CONTROLLER
3-1
LOCAL CONTROLLER
3-2
CONTROLLED DEVICE
2-1
CONTROLLED DEVICE
2-2

FIG. 2

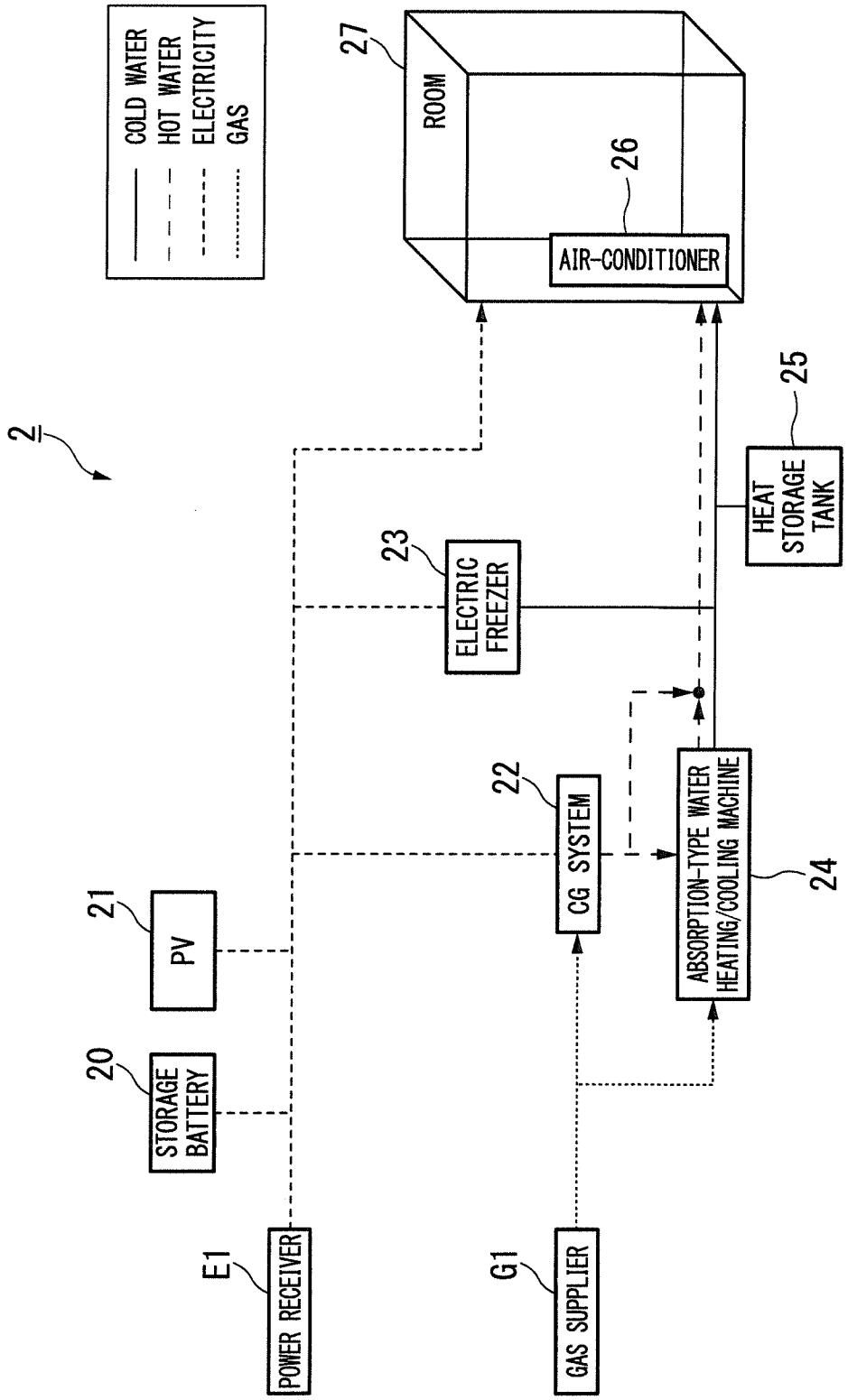

COLD WATER
HOT WATER
ELECTRICITY
GAS
2
27
ROOM
26
AIR-CONDITIONER
25
HEAT STORAGE TANK
23
ELECTRIC FREEZER
22
CG SYSTEM
24
ABSORPTION-TYPE WATER HEATING/COOLING MACHINE
21
PV
20
STORAGE BATTERY
E1
POWER RECEIVER
G1
GAS SUPPLIER

FIG. 3

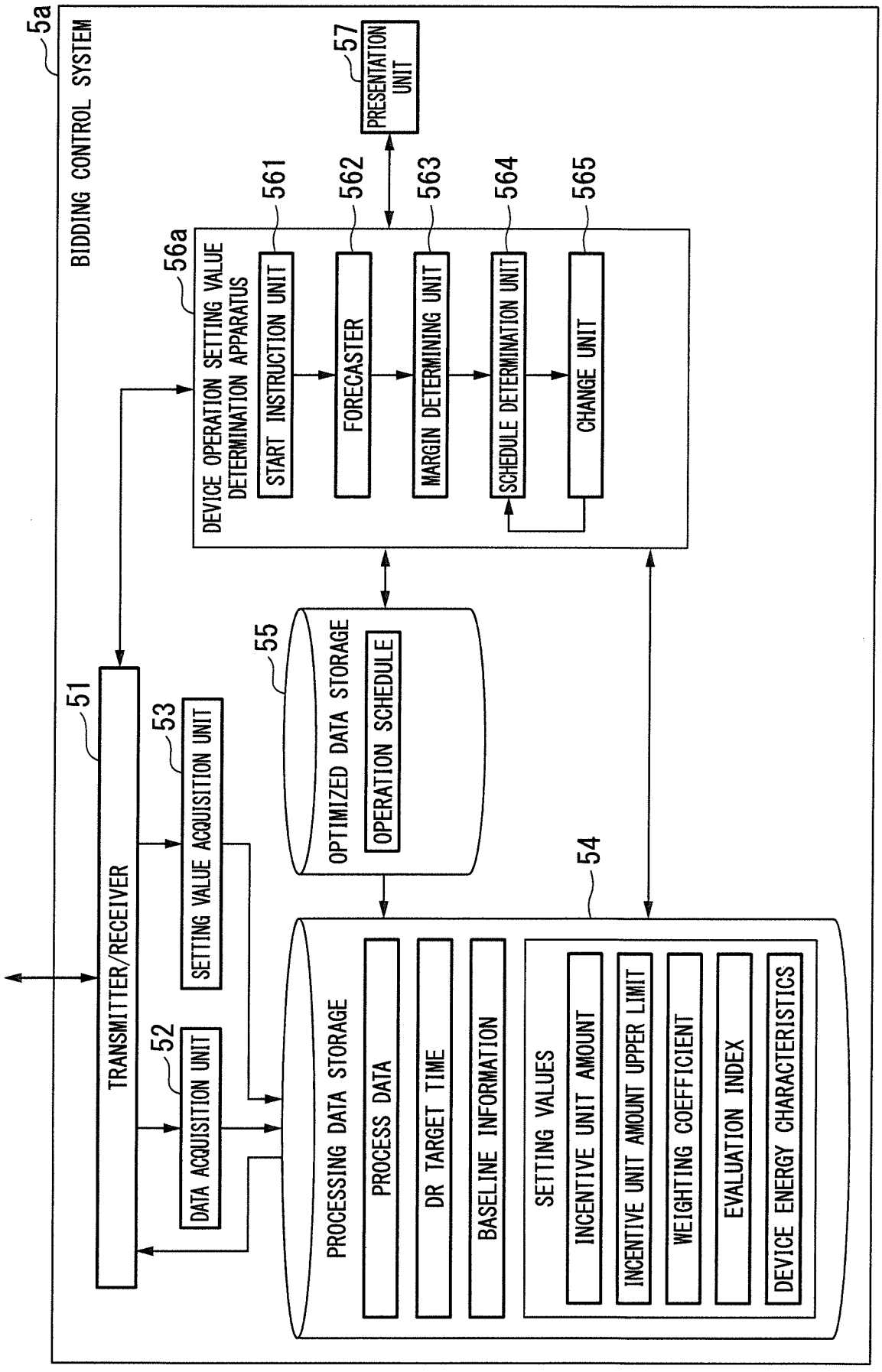

5a
BIDDING CONTROL SYSTEM
57
PRESENTATION UNIT
561
562
563
564
565
56a
DEVICE OPERATION SETTING VALUE DETERMINATION APPARATUS
START INSTRUCTION UNIT
FORECASTER
MARGIN DETERMINING UNIT
SCHEDULE DETERMINATION UNIT
CHANGE UNIT
55
OPTIMIZED DATA STORAGE
OPERATION SCHEDULE
51
TRANSMITTER/RECEIVER
53
SETTING VALUE ACQUISITION UNIT
52
DATA ACQUISITION UNIT
54
PROCESSING DATA STORAGE
PROCESS DATA
DR TARGET TIME
BASELINE INFORMATION
SETTING VALUES
INCENTIVE UNIT AMOUNT
INCENTIVE UNIT AMOUNT UPPER LIMIT
WEIGHTING COEFFICIENT
EVALUATION INDEX
DEVICE ENERGY CHARACTERISTICS

FIG. 4

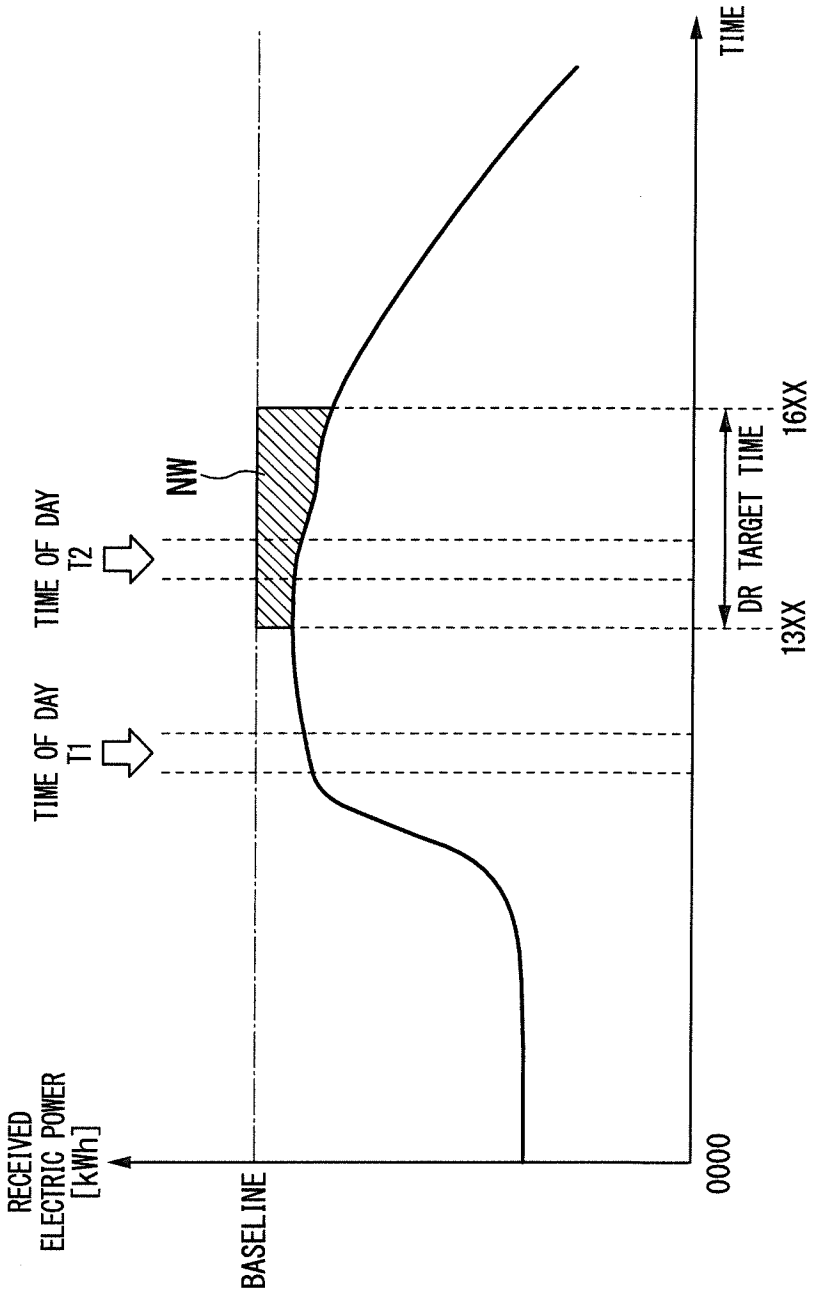

RECEIVED ELECTRIC POWER [kWh]
BASELINE
TIME OF DAY T1
TIME OF DAY T2
NW
0000
13XX
16XX
DR TARGET TIME
TIME

FIG. 5

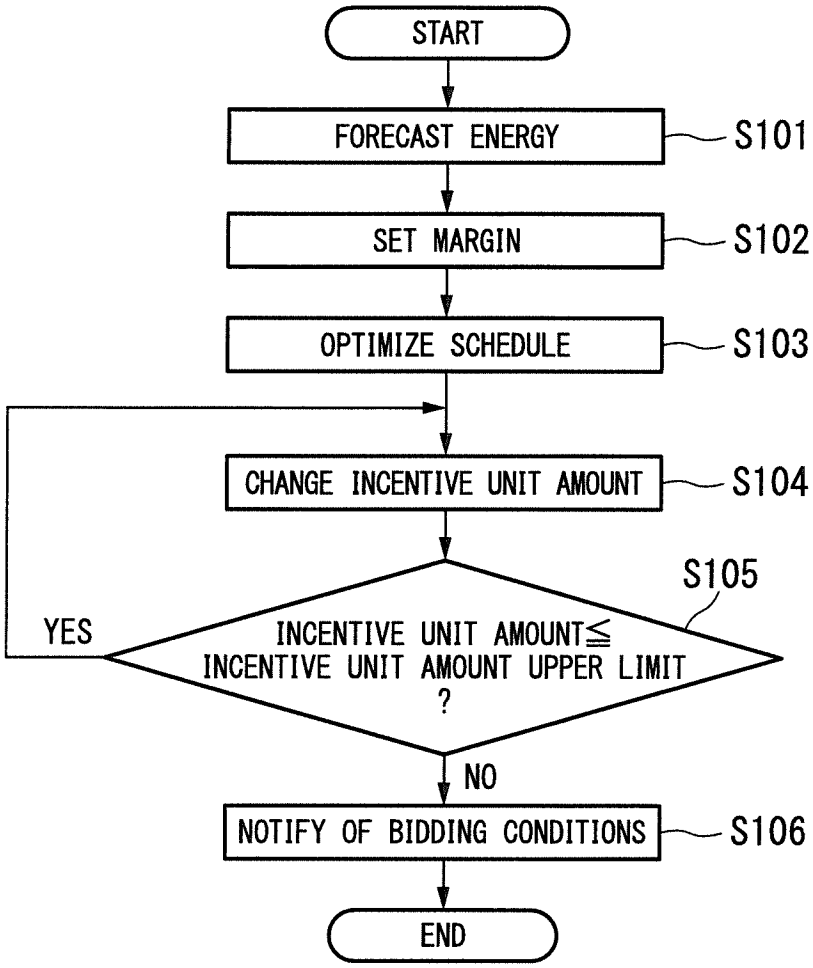

START
FORECAST ENERGY
S101
SET MARGIN
S102
OPTIMIZE SCHEDULE
S103
CHANGE INCENTIVE UNIT AMOUNT
S104
S105
YES
INCENTIVE UNIT AMOUNT≦
INCENTIVE UNIT AMOUNT UPPER LIMIT
?
NO
NOTIFY OF BIDDING CONDITIONS
S106
END

FIG. 6

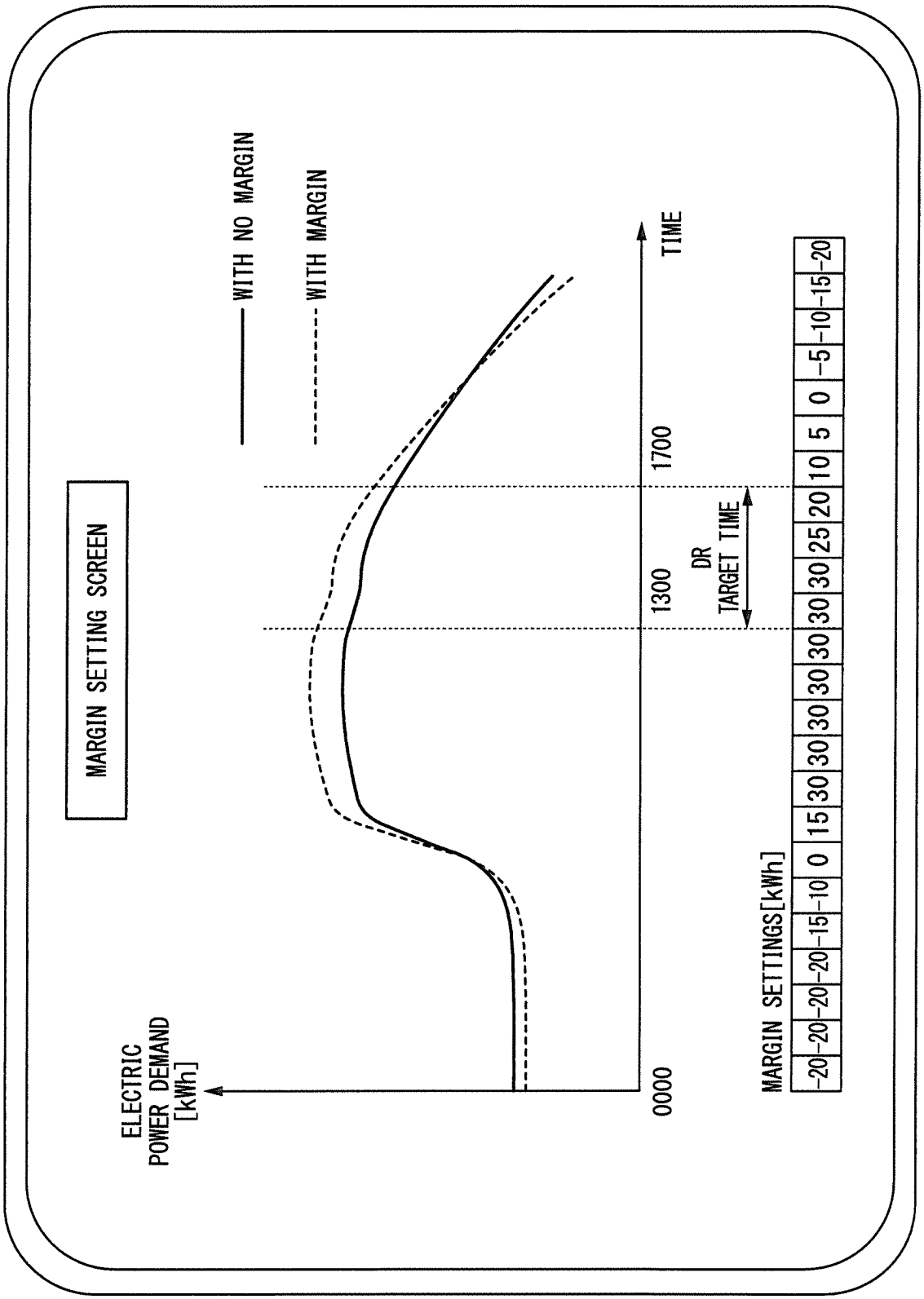

MARGIN SETTING SCREEN
WITH NO MARGIN
WITH MARGIN
ELECTRIC POWER DEMAND [kWh]
0000
1300
1700
TIME
DR TARGET TIME
MARGIN SETTINGS[kWh]
-20 -20 -20 -20 -15 -10 0 15 30 30 30 30 30 30 25 20 10 5 0 -5 -10 -15 -20

FIG. 7

VARIABLE NAME	PHYSICAL QUANTITY	UPPER/LOWER LIMITS	UNITS
X1	ELECTRICAL ENERGY USE	0≦X1≦CONTRACTED ELECTRIC POWER	[kWh]
X2	ABSORPTION-TYPE WATER HEATING/COOLING MACHINE LOAD RATE (EXHAUST HEAT INTAKE MODE)	LOWER LIMIT≦X2≦1	—
X3	ABSORPTION-TYPE WATER HEATING/COOLING MACHINE LOAD RATE (MAKING COLD WATER USING GAS)	LOWER LIMIT≦X3≦1	—
X4	ABSORPTION-TYPE WATER HEATING/COOLING MACHINE LOAD RATE (MAKING HOT WATER, USING GAS)	LOWER LIMIT≦X4≦1	—
X5	ELECTRIC FREEZER LOAD RATE	LOWER LIMIT≦X5≦1	—
X6	CG SYSTEM LOAD RATE	LOWER LIMIT≦X6≦1	—
X7	RESIDUAL STORED HEAT	0≦X7≦HEAT STORAGE CAPACITY	[kWh]
X8	SOC	0≦X8≦STORAGE BATTERY CAPACITY	[kWh]

FIG. 8

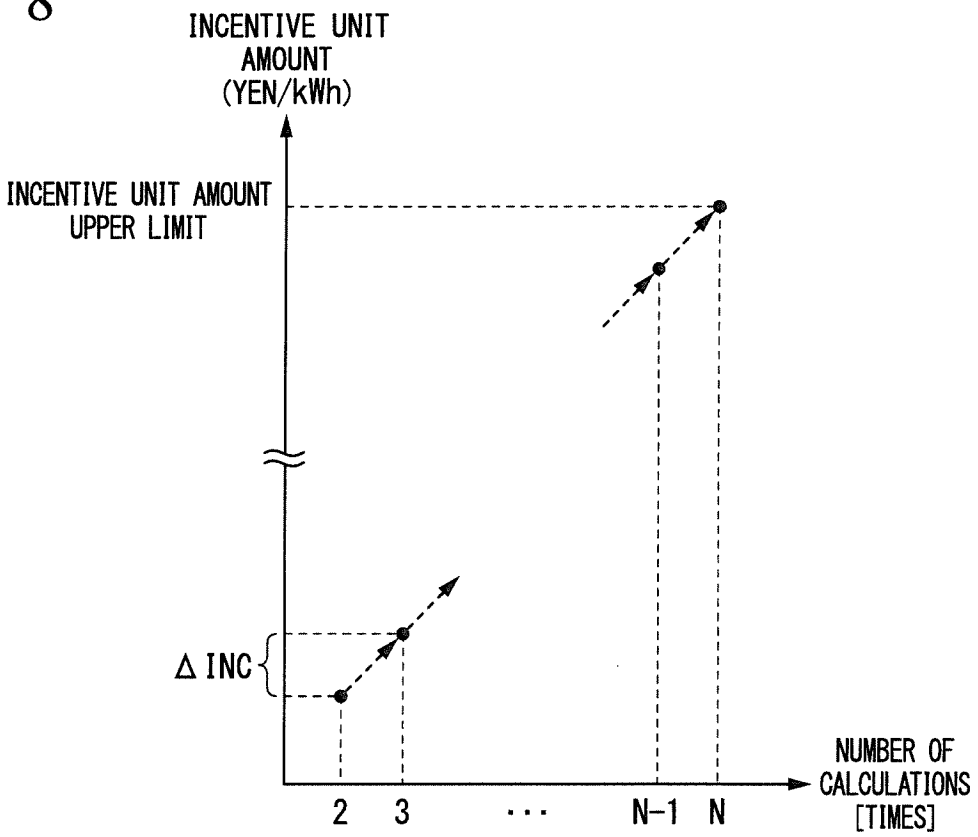

INCENTIVE UNIT AMOUNT (YEN/kWh)
INCENTIVE UNIT AMOUNT UPPER LIMIT
Δ INC
2
3
· · ·
N-1
N
NUMBER OF CALCULATIONS [TIMES]

FIG. 9

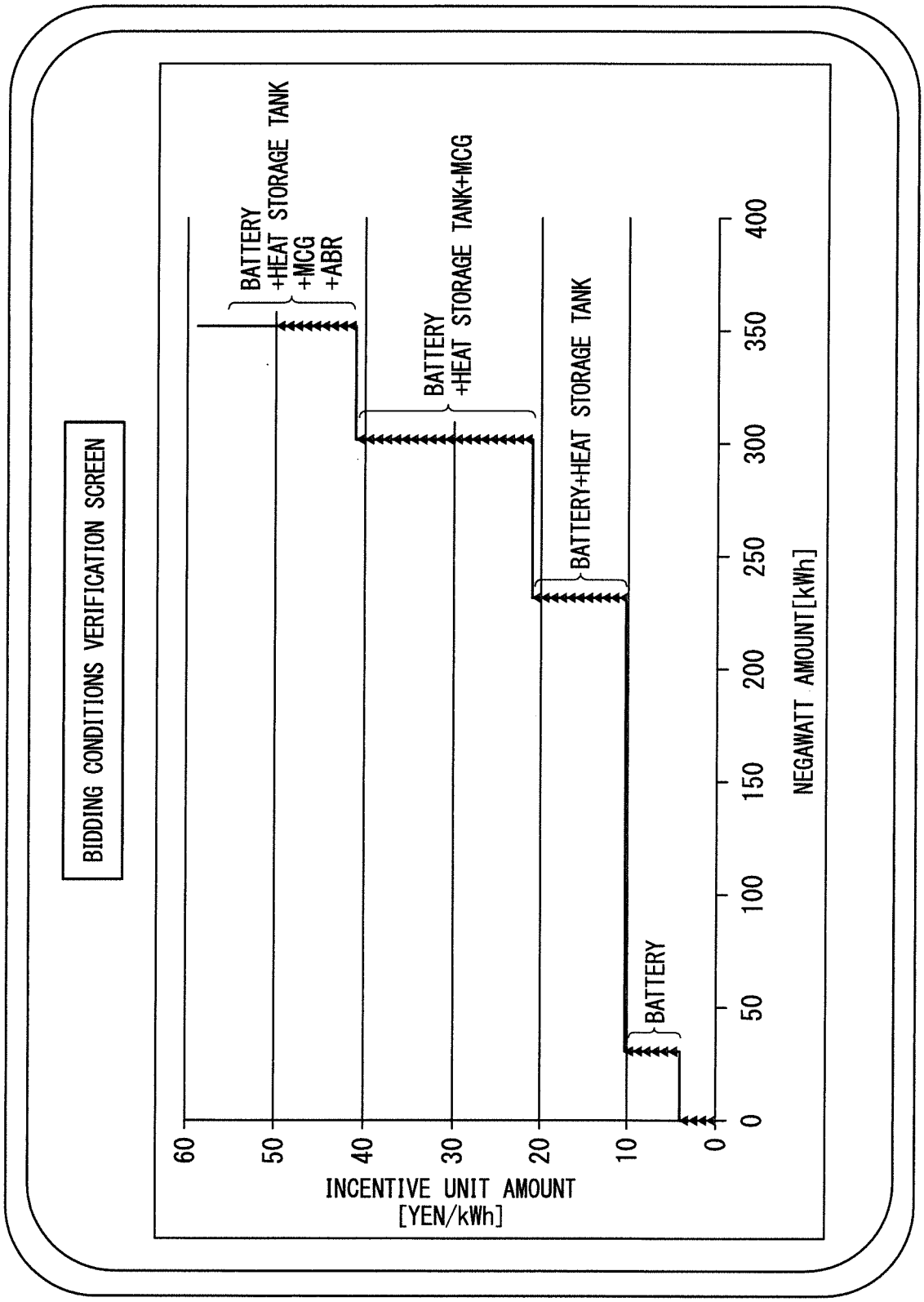

BIDDING CONDITIONS VERIFICATION SCREEN
INCENTIVE UNIT AMOUNT [YEN/kWh]
60
50
40
30
20
10
0
BATTERY +HEAT STORAGE TANK +MCG +ABR
BATTERY +HEAT STORAGE TANK+MCG
BATTERY+HEAT STORAGE TANK
BATTERY
0
50
100
150
200
250
300
350
400
NEGAWATT AMOUNT[kWh]

FIG. 10

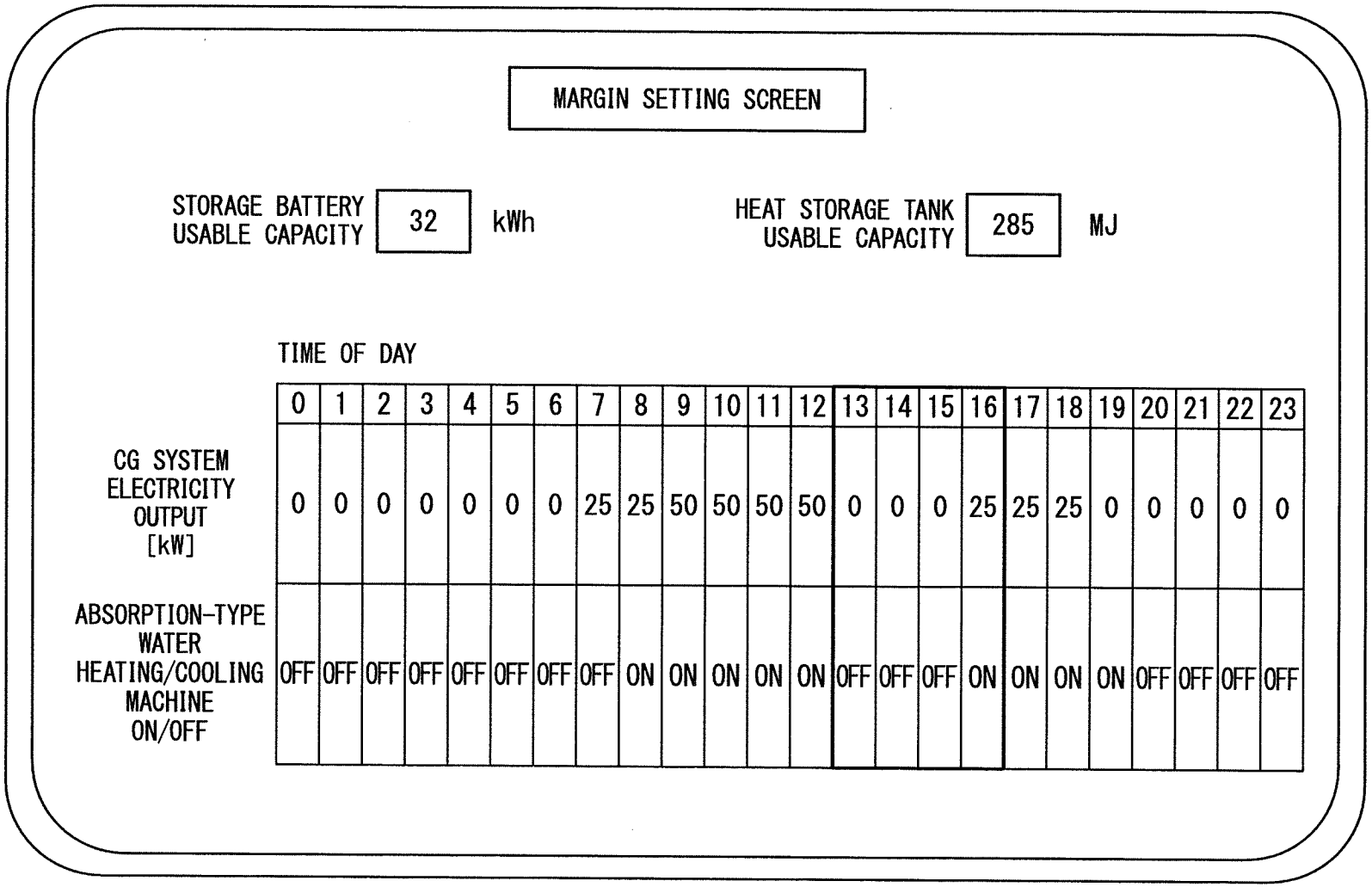

MARGIN SETTING SCREEN
STORAGE BATTERY USABLE CAPACITY
32
kWh
HEAT STORAGE TANK USABLE CAPACITY
285
MJ
TIME OF DAY
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
CG SYSTEM ELECTRICITY OUTPUT [kW]
0 0 0 0 0 0 0 25 25 50 50 50 50 0 0 0 25 25 25 0 0 0 0 0
ABSORPTION-TYPE WATER HEATING/COOLING MACHINE ON/OFF
OFF OFF OFF OFF OFF OFF OFF OFF ON ON ON ON ON OFF OFF OFF ON ON ON ON OFF OFF OFF OFF

FIG. 11

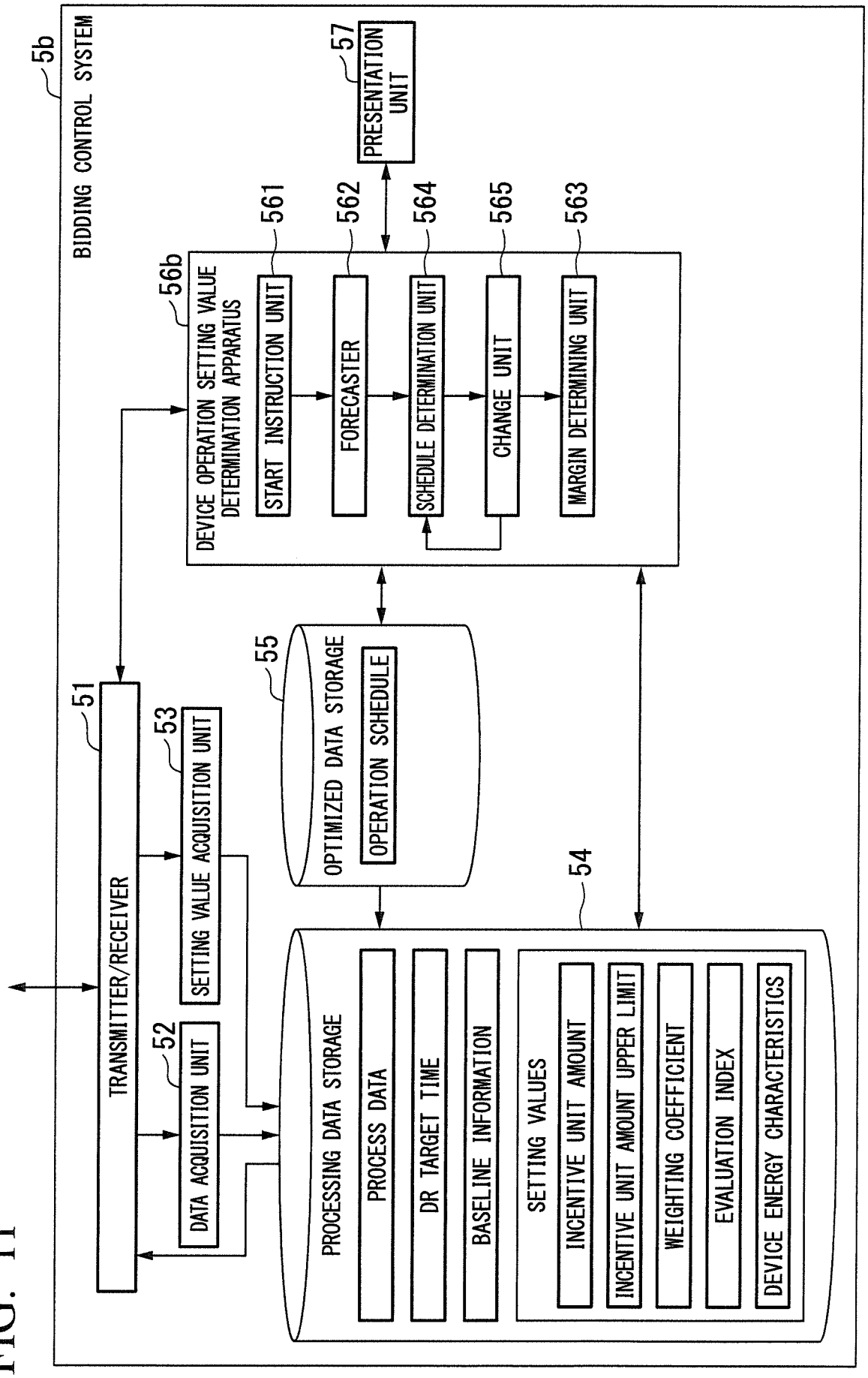

5b
BIDDING CONTROL SYSTEM
57
PRESENTATION UNIT
561
562
564
565
563
56b
DEVICE OPERATION SETTING VALUE DETERMINATION APPARATUS
START INSTRUCTION UNIT
FORECASTER
SCHEDULE DETERMINATION UNIT
CHANGE UNIT
MARGIN DETERMINING UNIT
55
OPTIMIZED DATA STORAGE
OPERATION SCHEDULE
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SETTING VALUE ACQUISITION UNIT
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DATA ACQUISITION UNIT
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PROCESSING DATA STORAGE
PROCESS DATA
DR TARGET TIME
BASELINE INFORMATION
SETTING VALUES
INCENTIVE UNIT AMOUNT
INCENTIVE UNIT AMOUNT UPPER LIMIT
WEIGHTING COEFFICIENT
EVALUATION INDEX
DEVICE ENERGY CHARACTERISTICS

FIG. 12

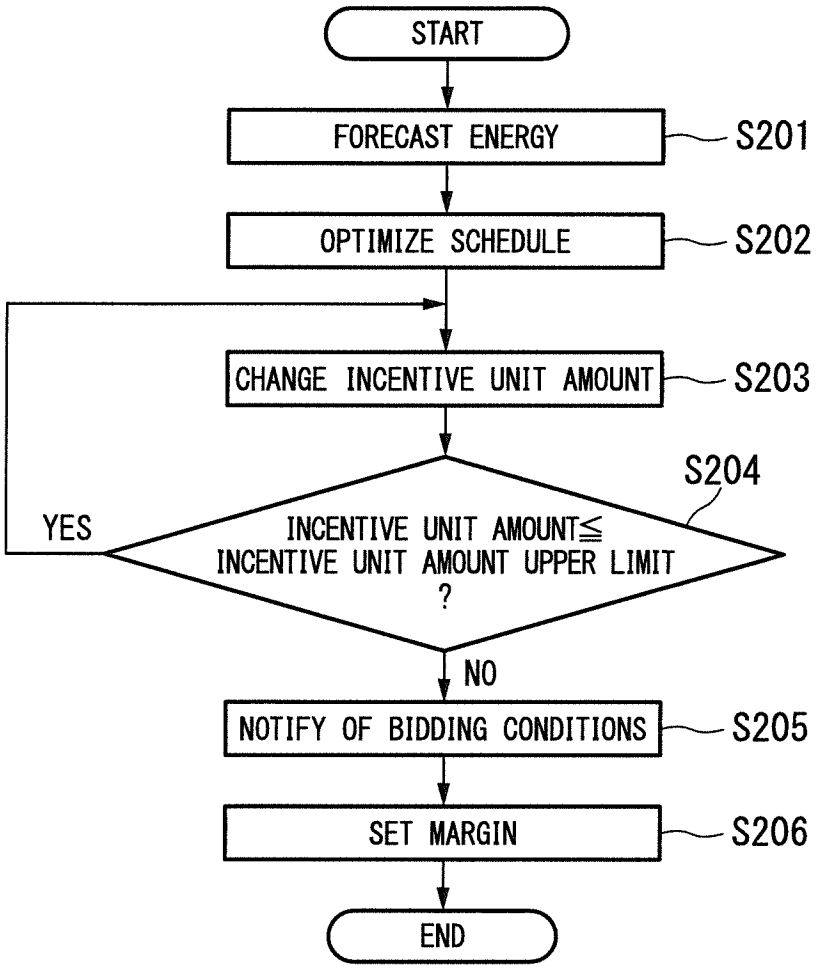
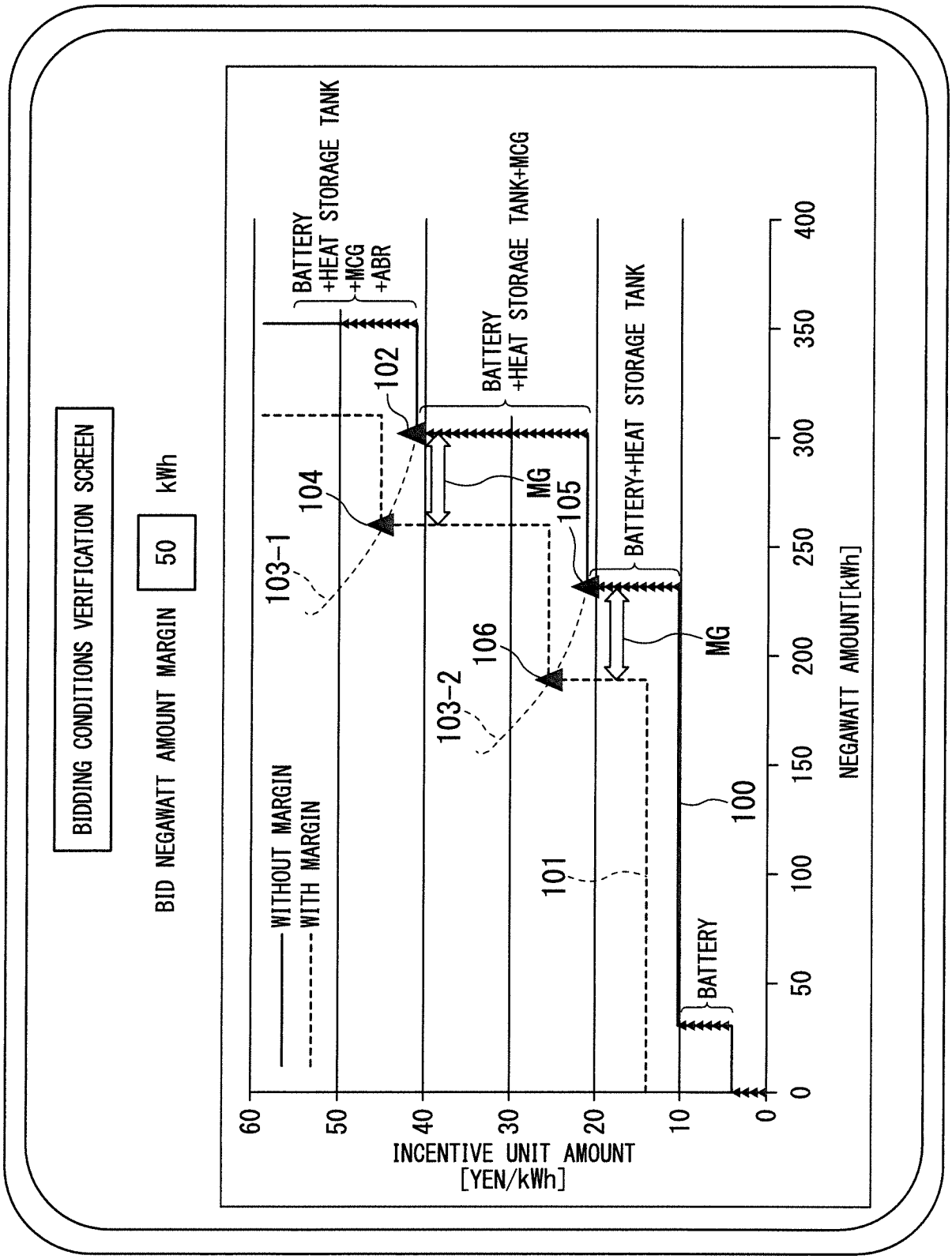

START
FORECAST ENERGY
S201
OPTIMIZE SCHEDULE
S202
CHANGE INCENTIVE UNIT AMOUNT
S203
S204
YES
INCENTIVE UNIT AMOUNT≦
INCENTIVE UNIT AMOUNT UPPER LIMIT
?
NO
NOTIFY OF BIDDING CONDITIONS
S205
SET MARGIN
S206
END

FIG. 13


BIDDING CONDITIONS VERIFICATION SCREEN
BID NEGAWATT AMOUNT MARGIN
50
kWh
WITHOUT MARGIN
WITH MARGIN
BATTERY +HEAT STORAGE TANK +MCG +ABR
BATTERY +HEAT STORAGE TANK+MCG
BATTERY+HEAT STORAGE TANK
BATTERY
MG
MG
102
103-1
103-2
104
105
106
101
100
INCENTIVE UNIT AMOUNT [YEN/kWh]
NEGAWATT AMOUNT[kWh]
0
10
20
30
40
50
60
0
50
100
150
200
250
300
350
400