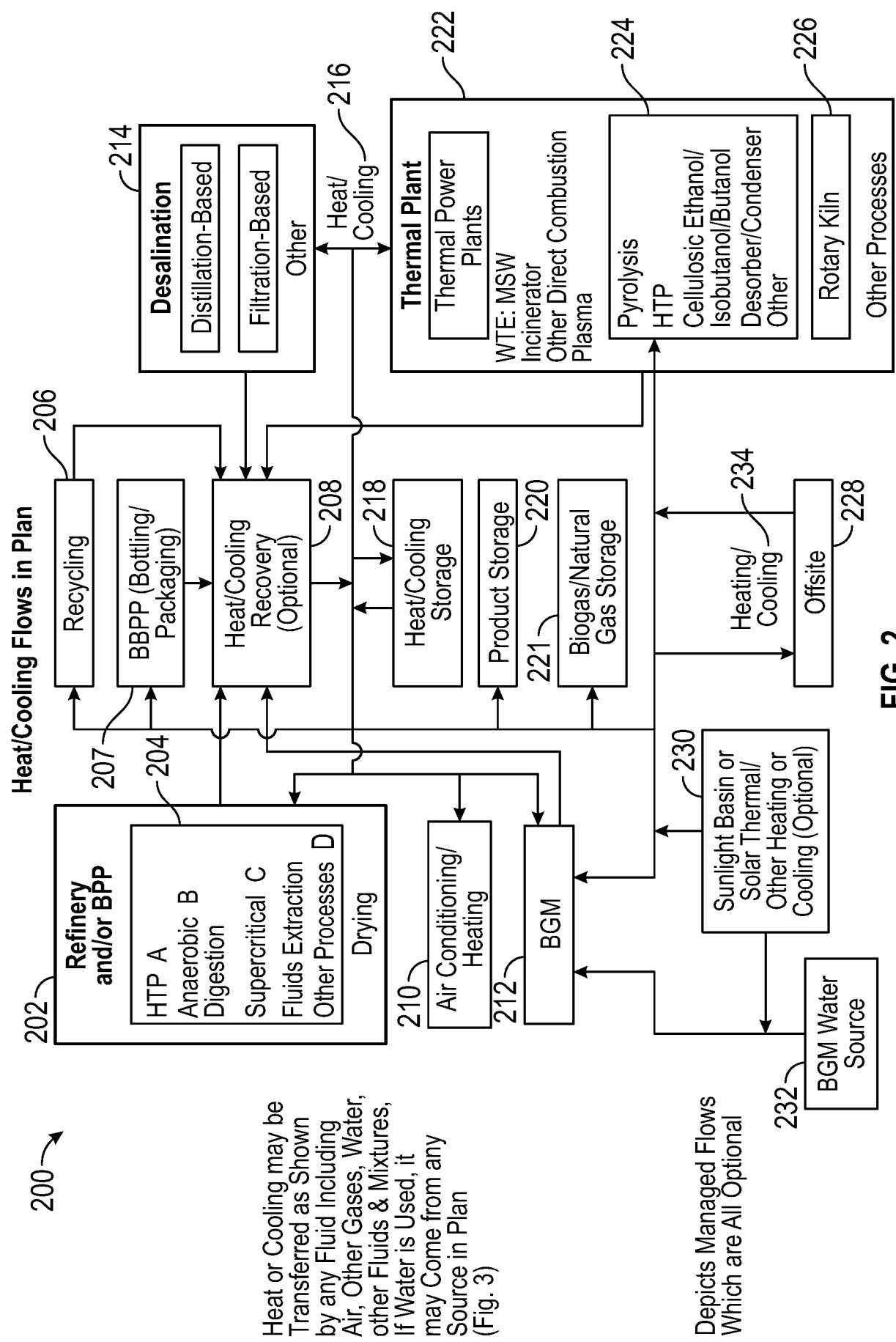
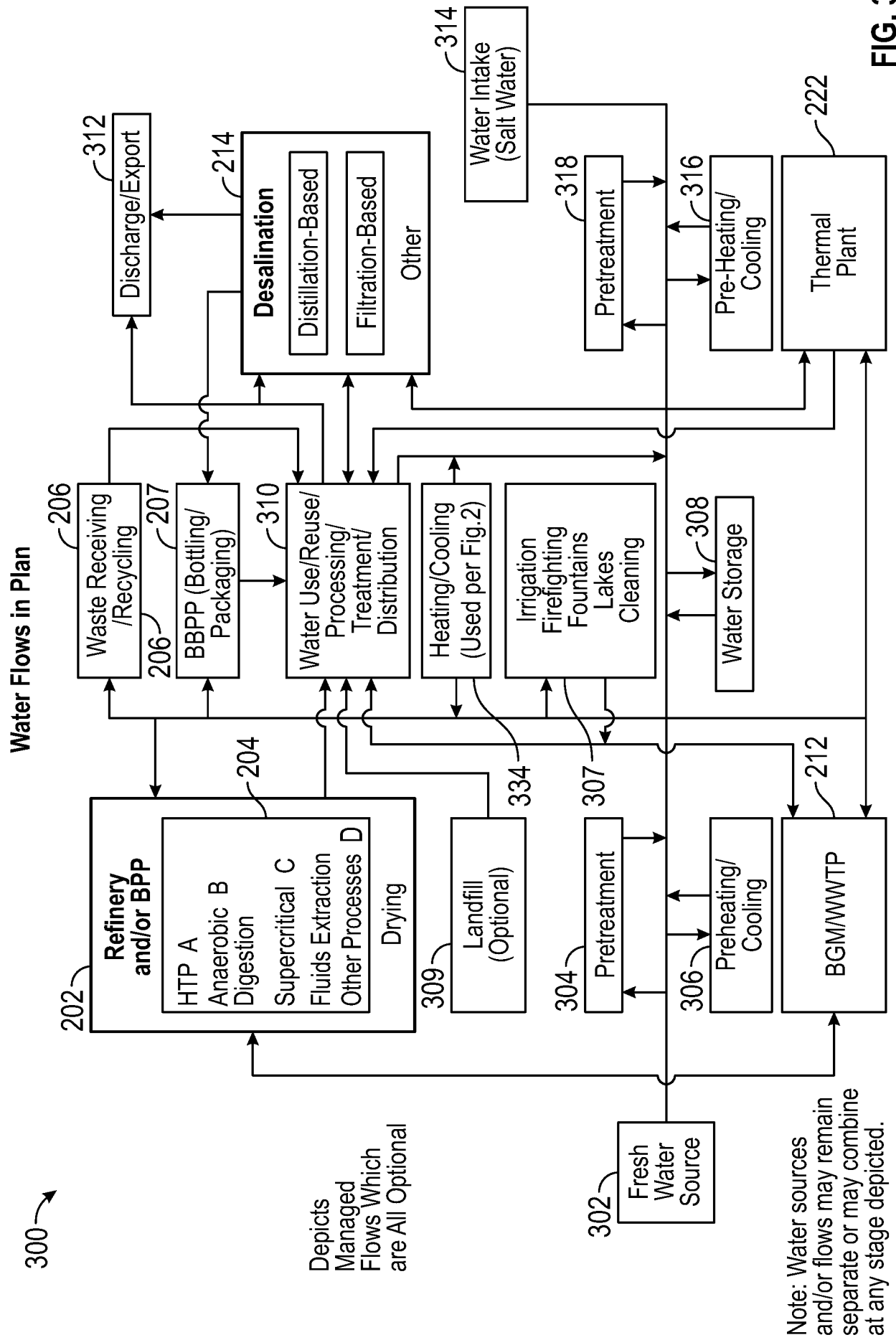


FIG. 1





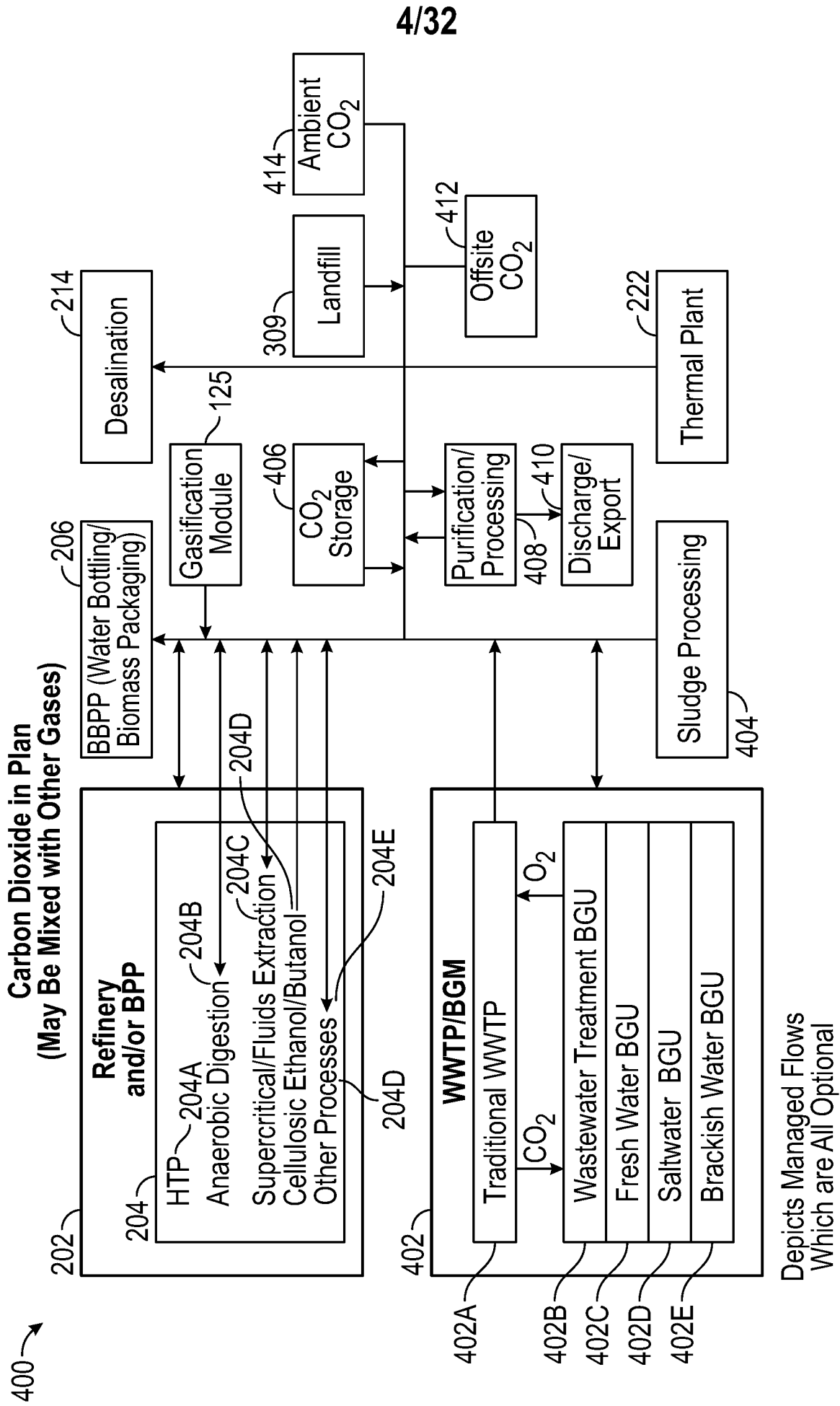


FIG. 4

500

BGM Example Configurations

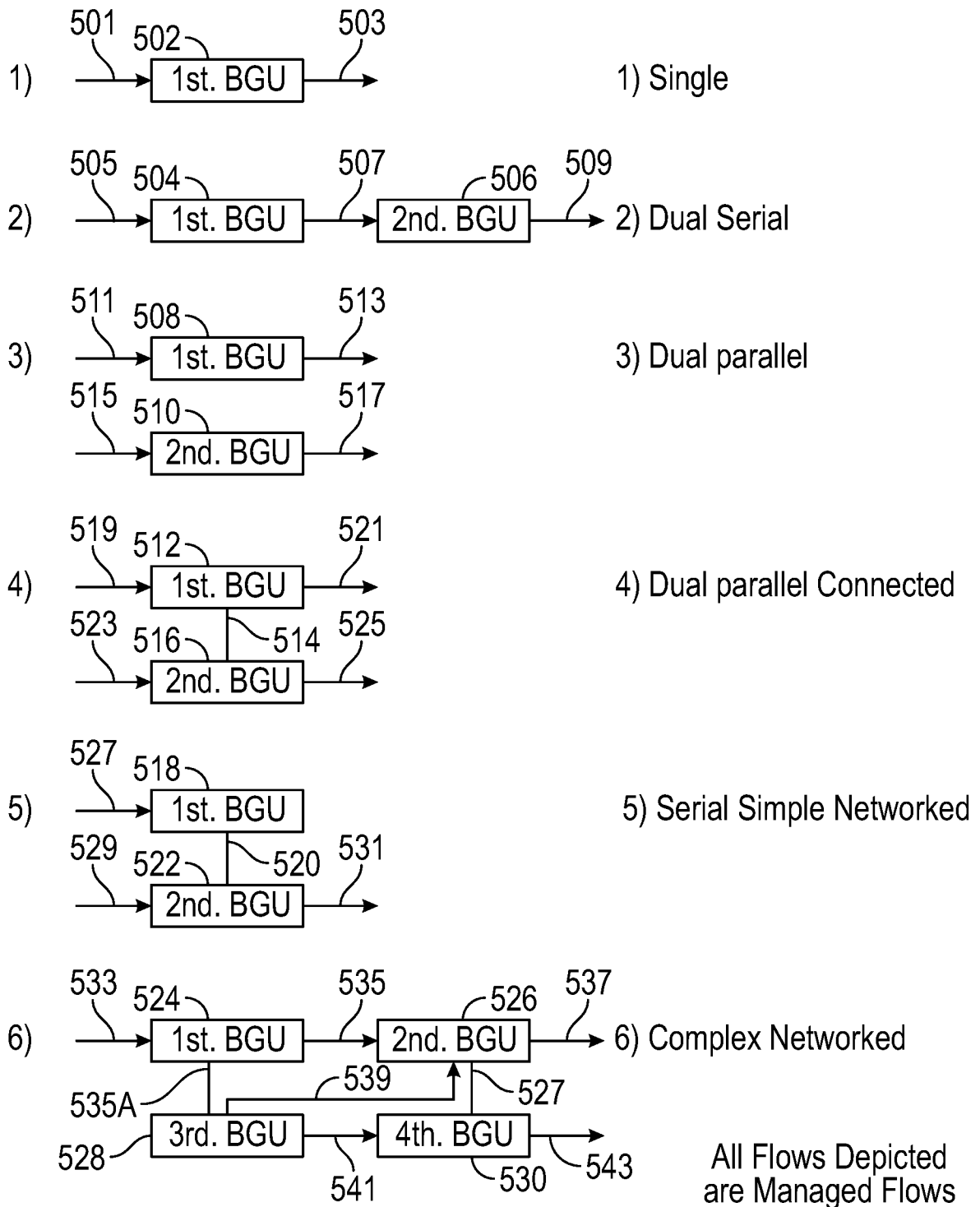
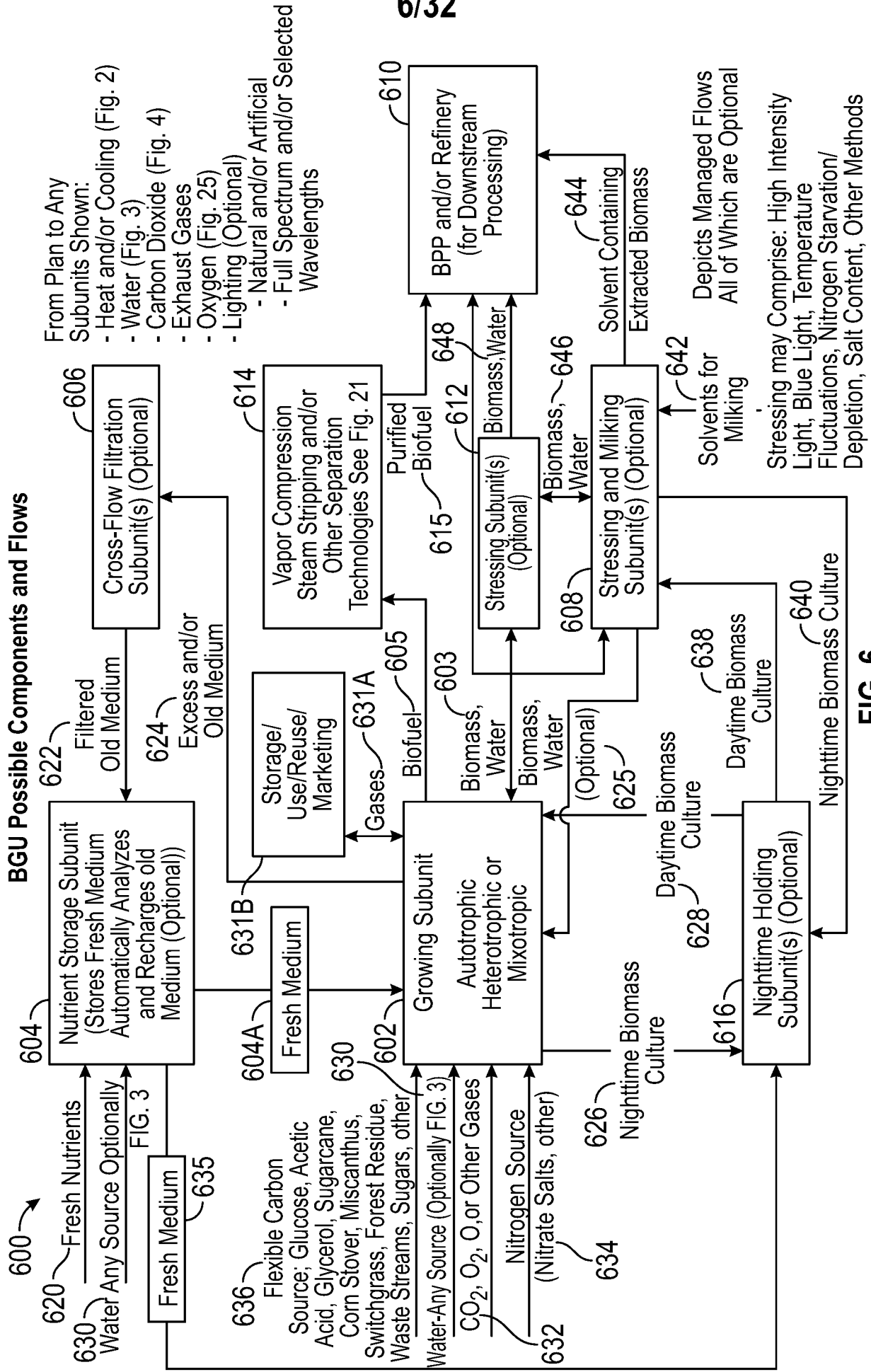
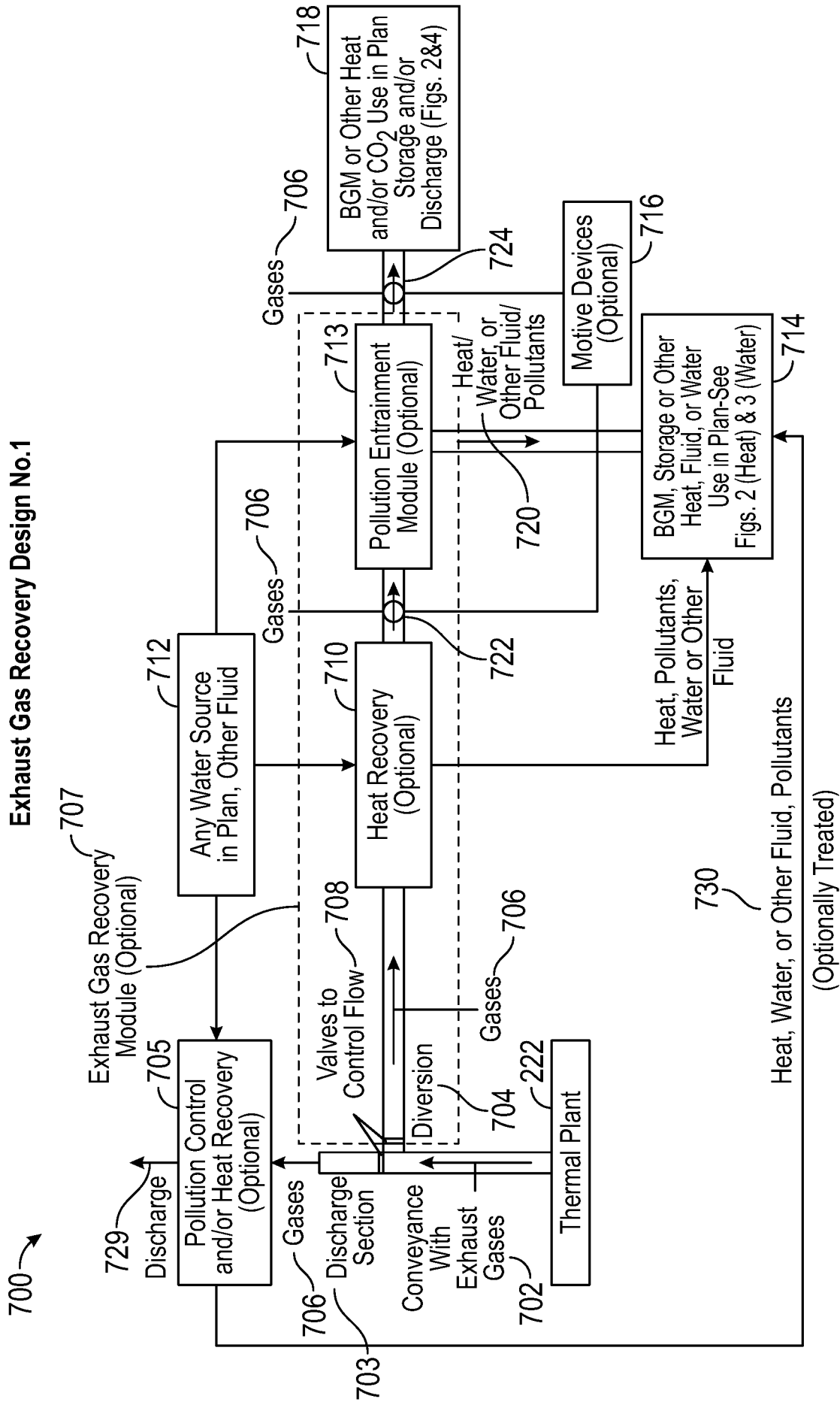


FIG. 5





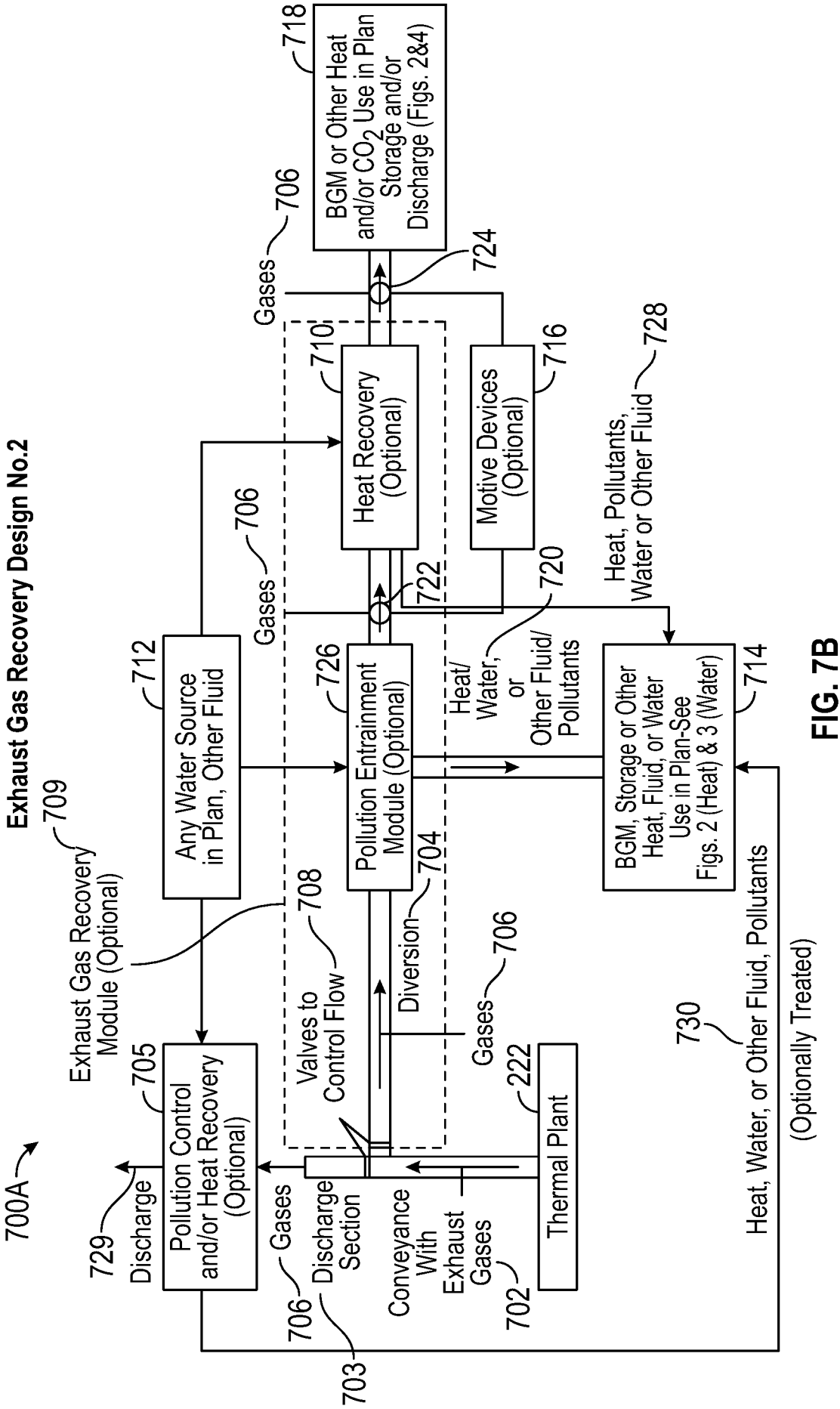


FIG. 7B

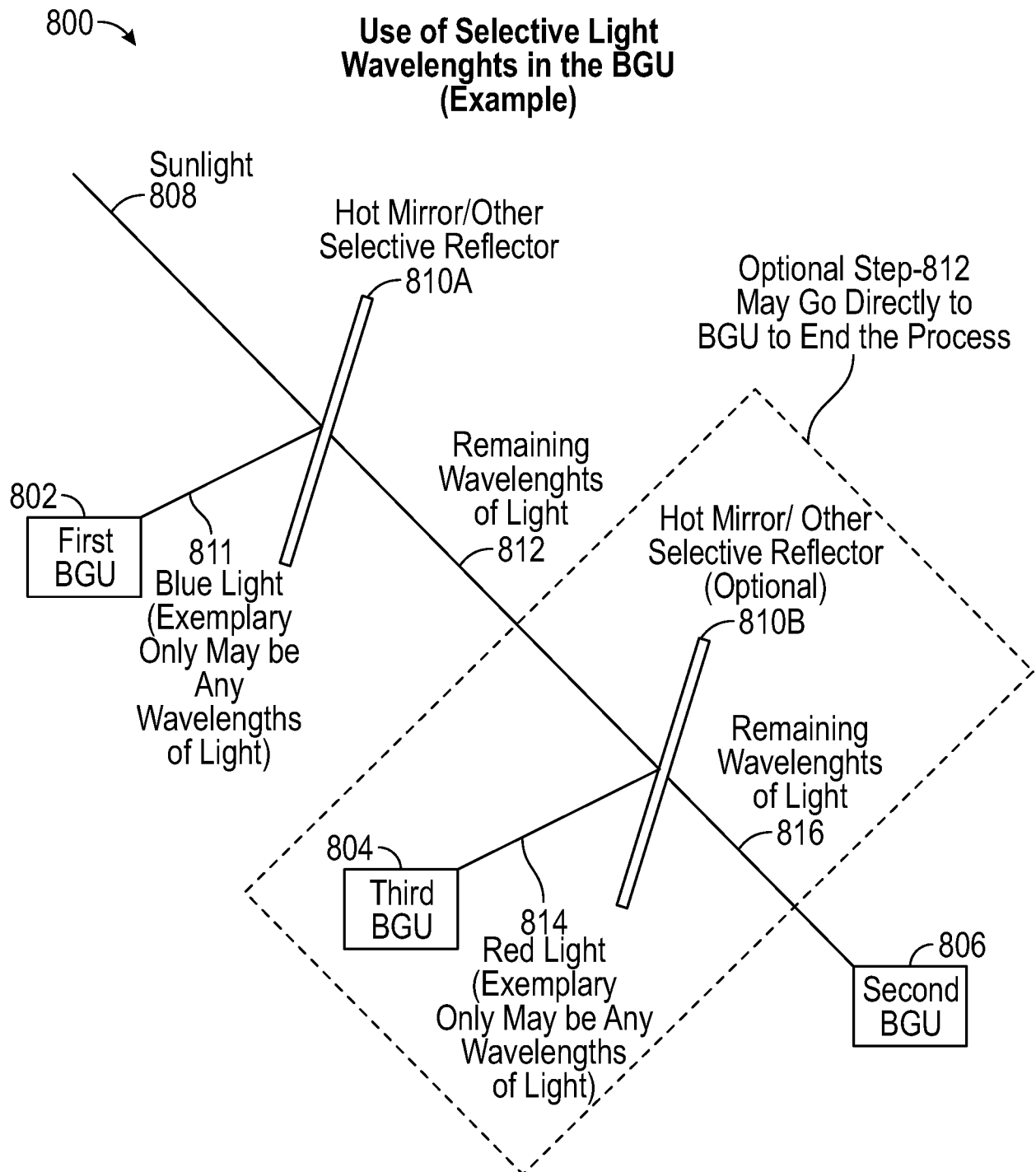


FIG. 8

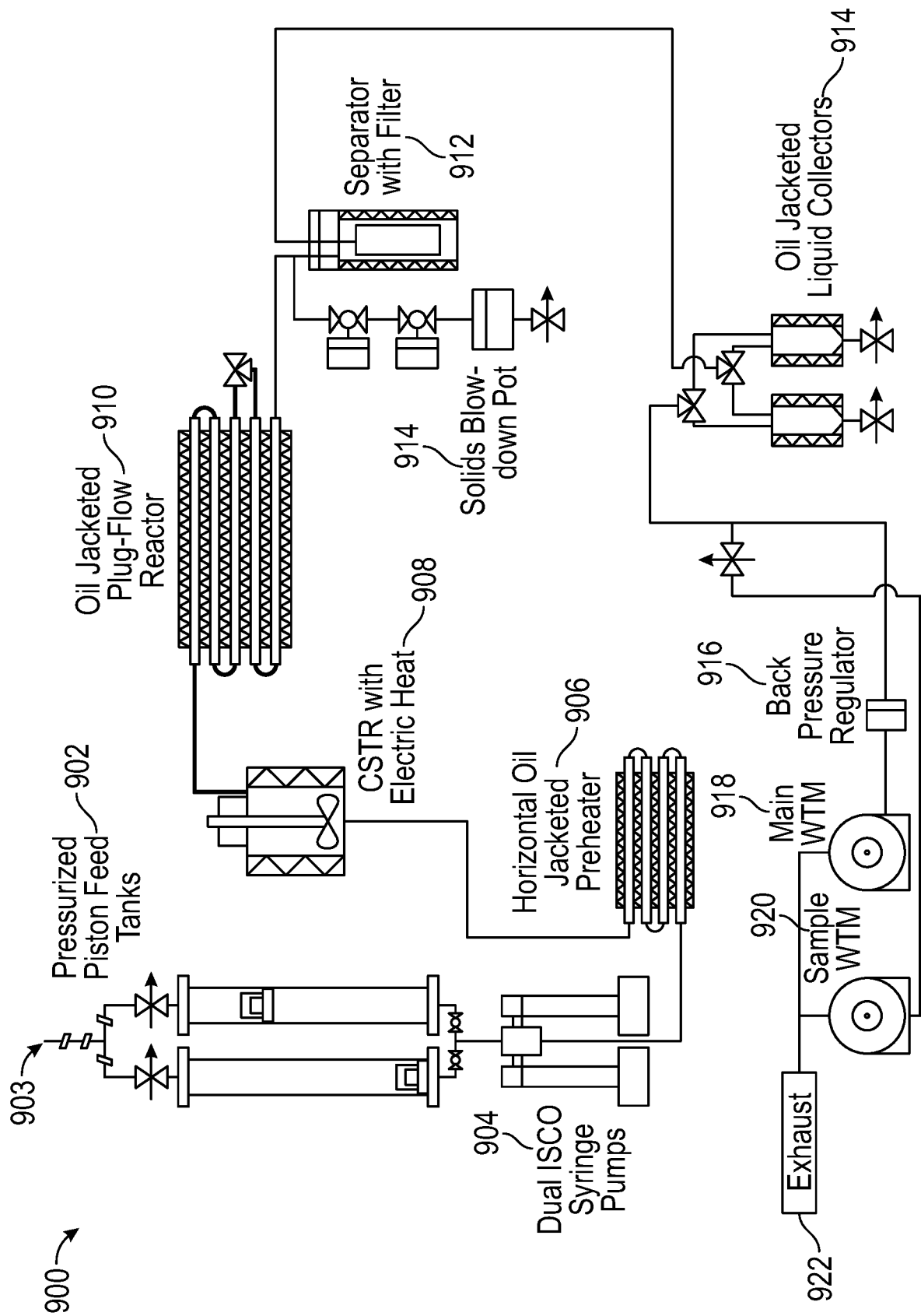
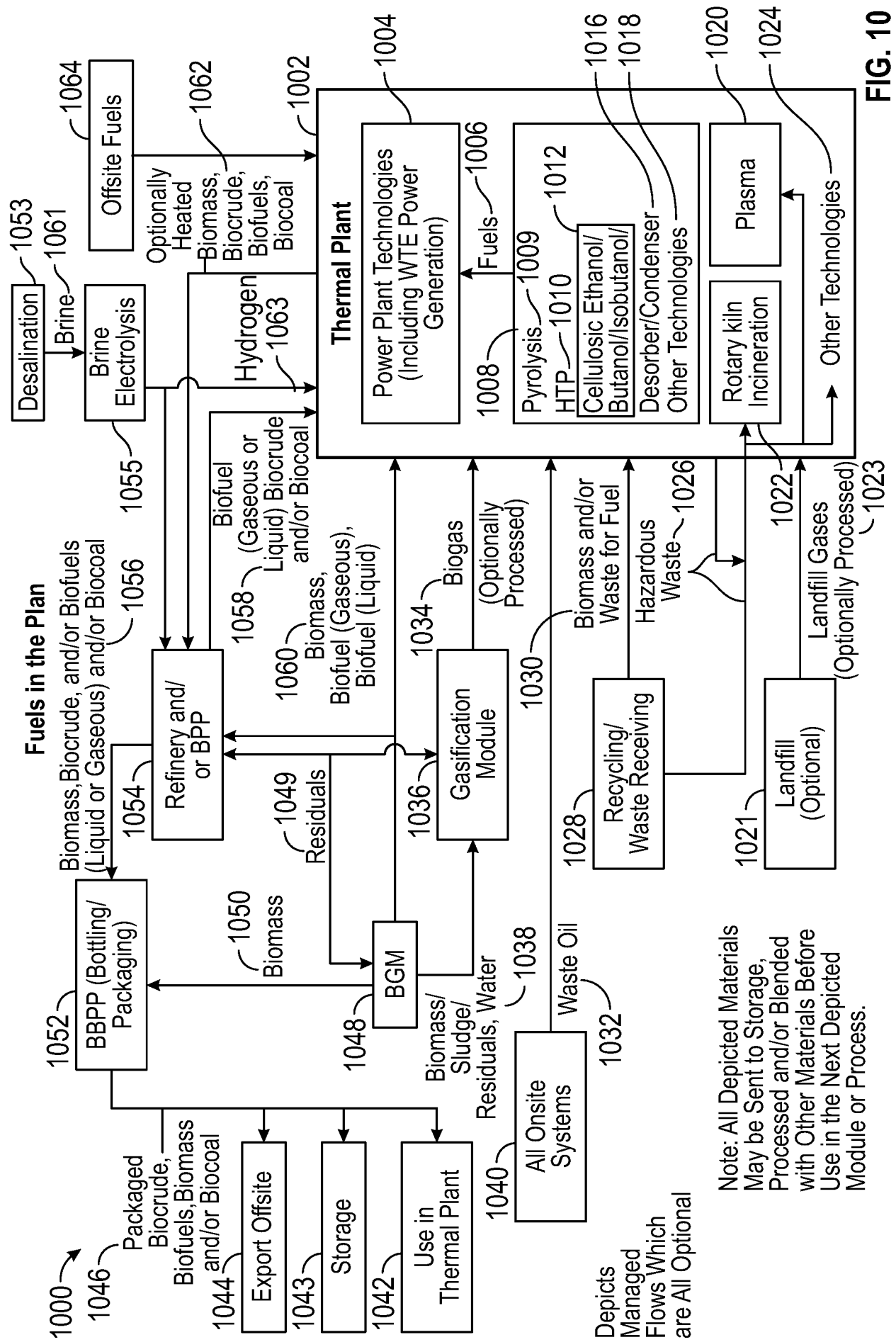
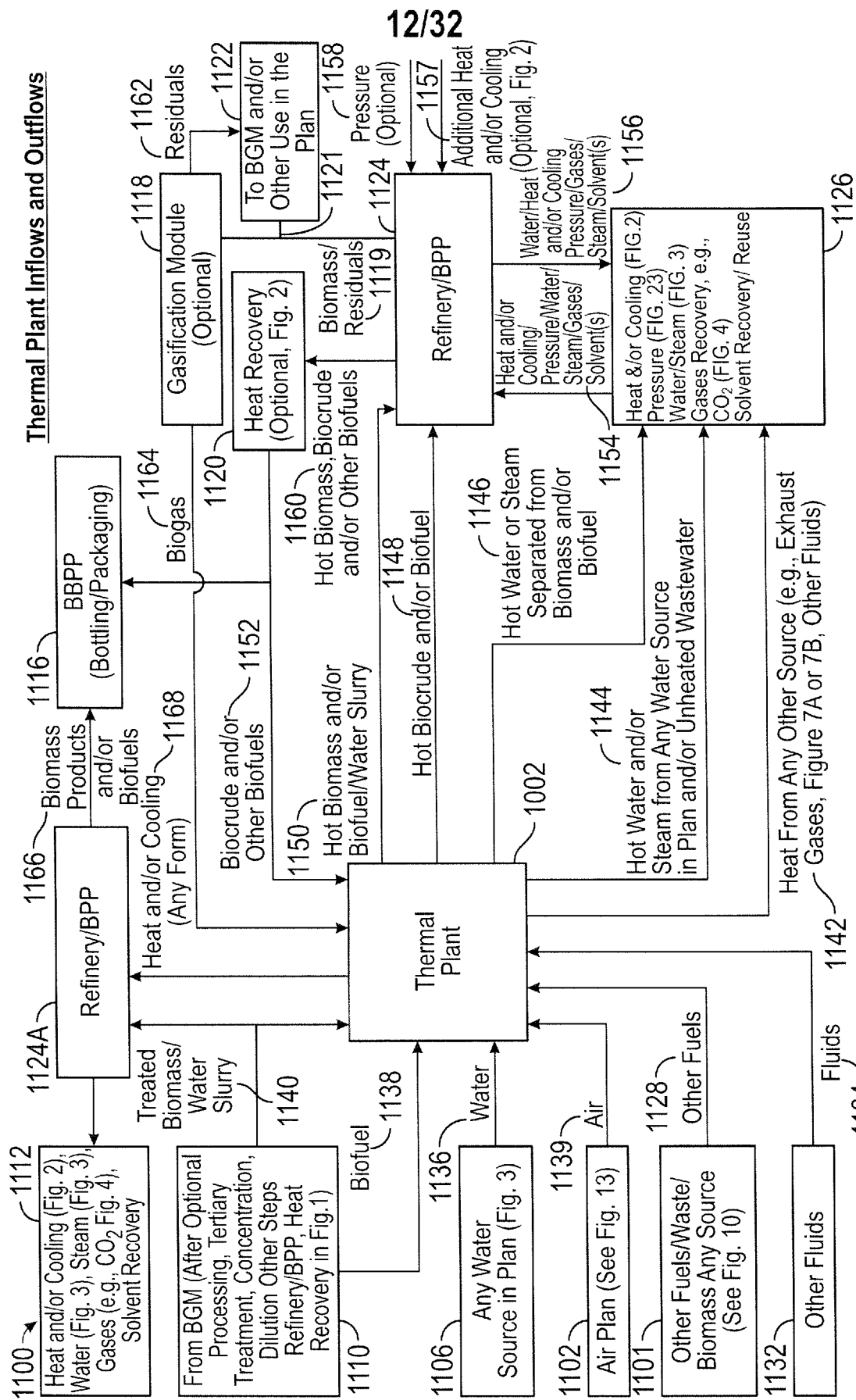


FIG. 9





Managed Flows Which are All Optional. Not all Flows Shown.

FIG. 11

Examples of How a Heated Fluid may be Used to Transfer Heat to the Plant or Cooling May be Substituted for Heat in Figs. 12B, 12C and 12D

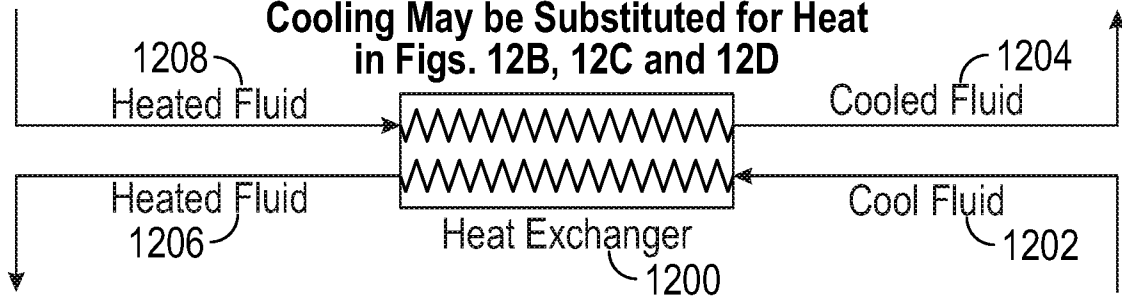


FIG. 12A

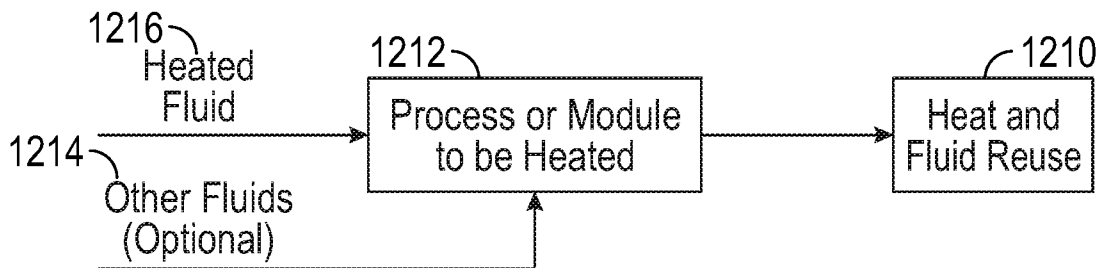


FIG. 12B

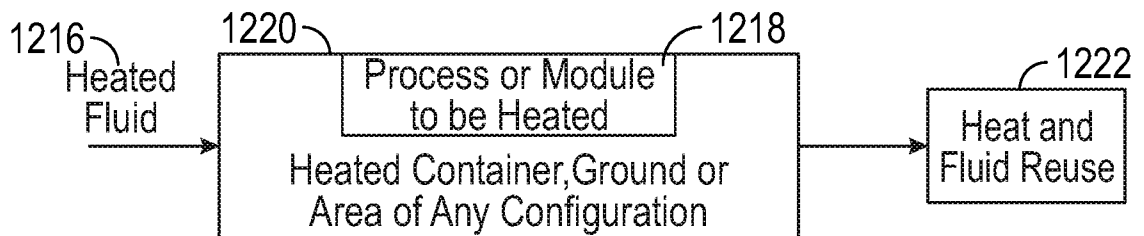


FIG. 12C

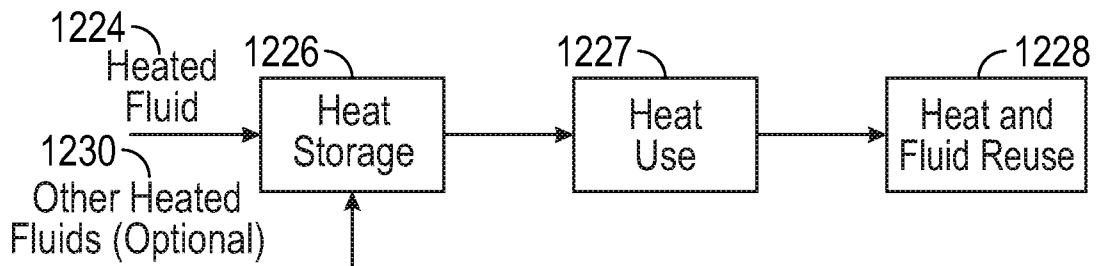


FIG. 12D

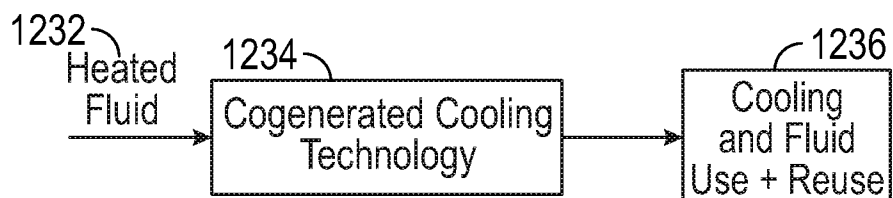


FIG. 12E

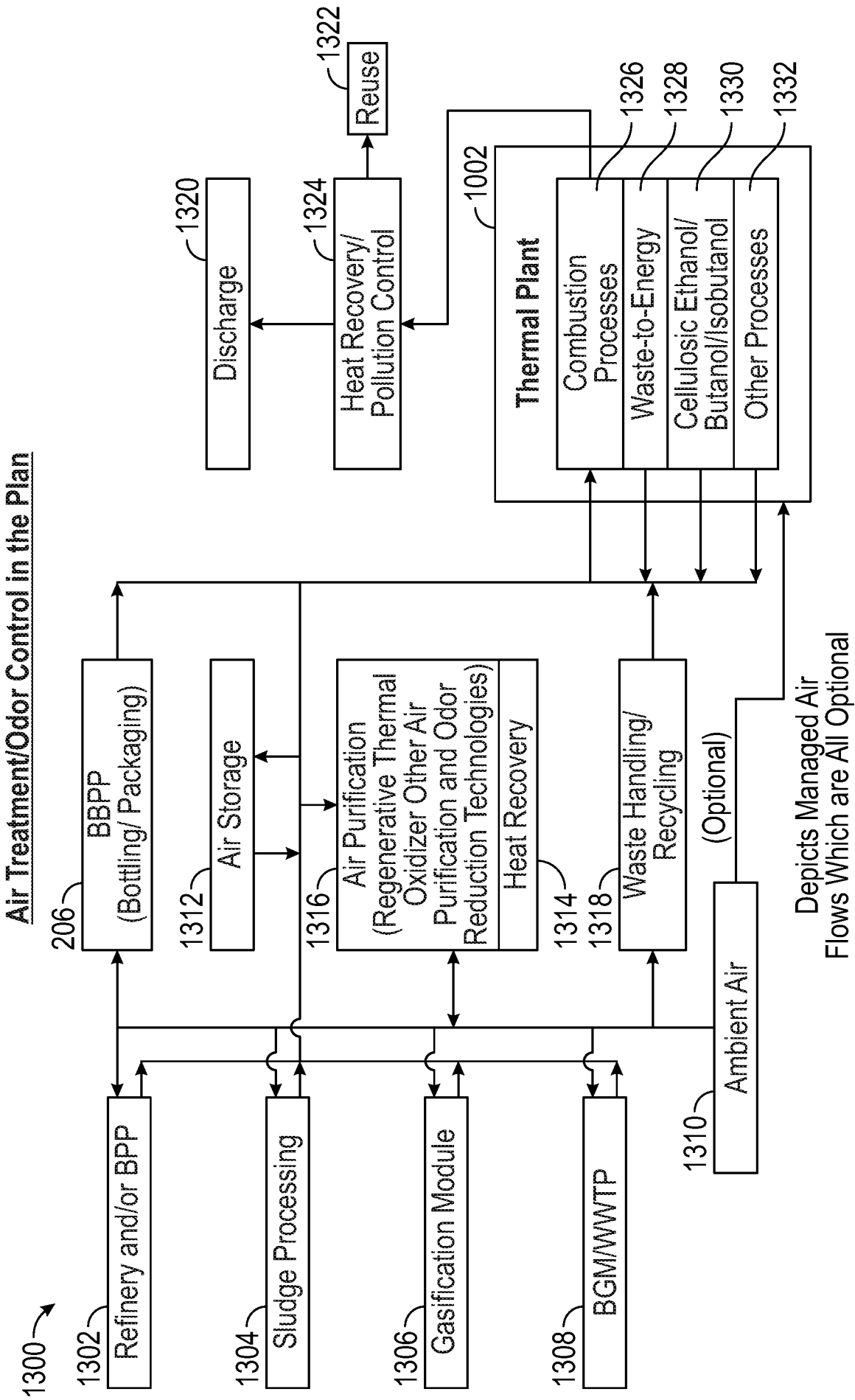


FIG. 13

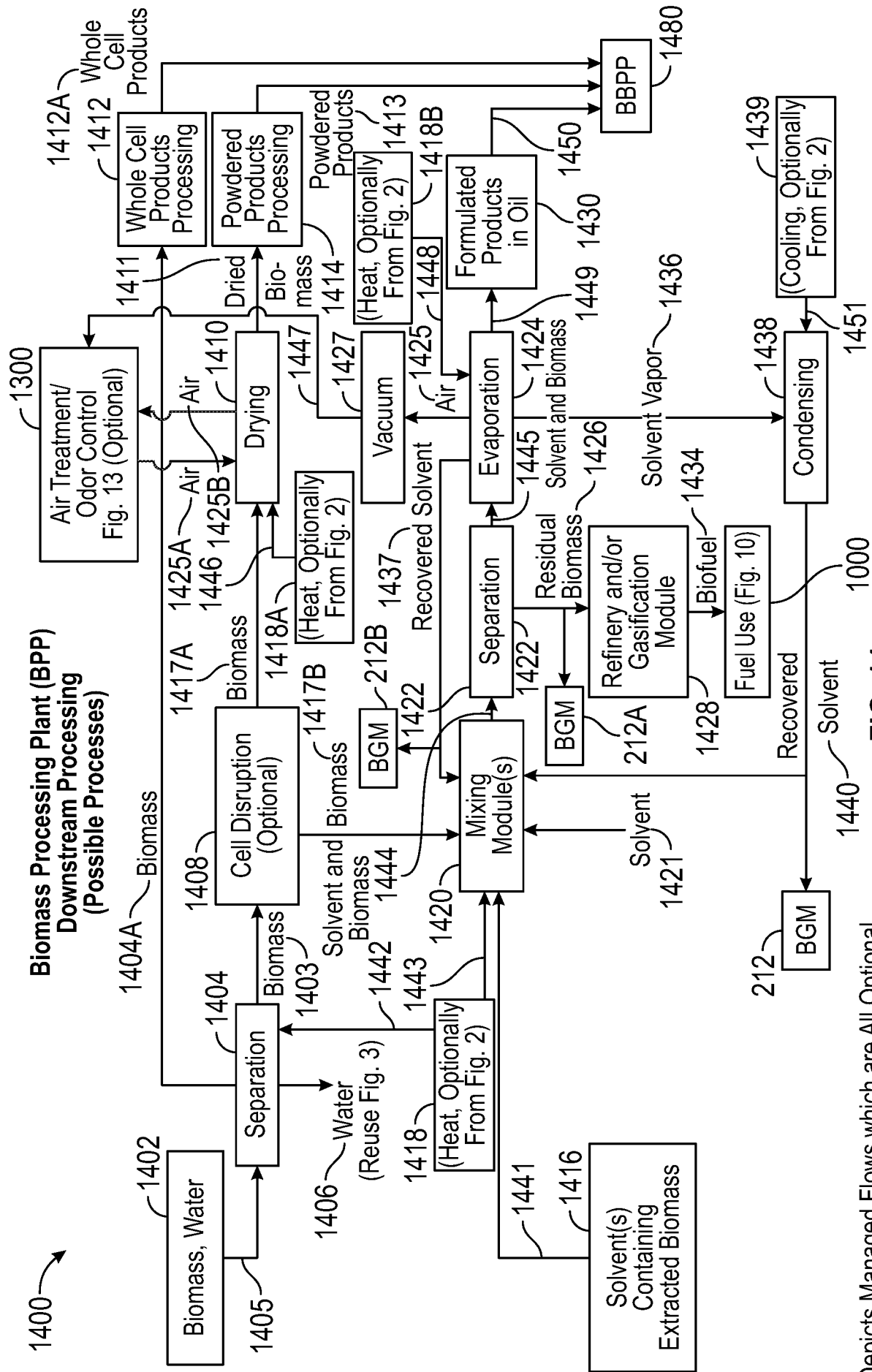


FIG. 14

Depicts Managed Flows which are All Optional.

Example Heat Transfer Modules
Module #1

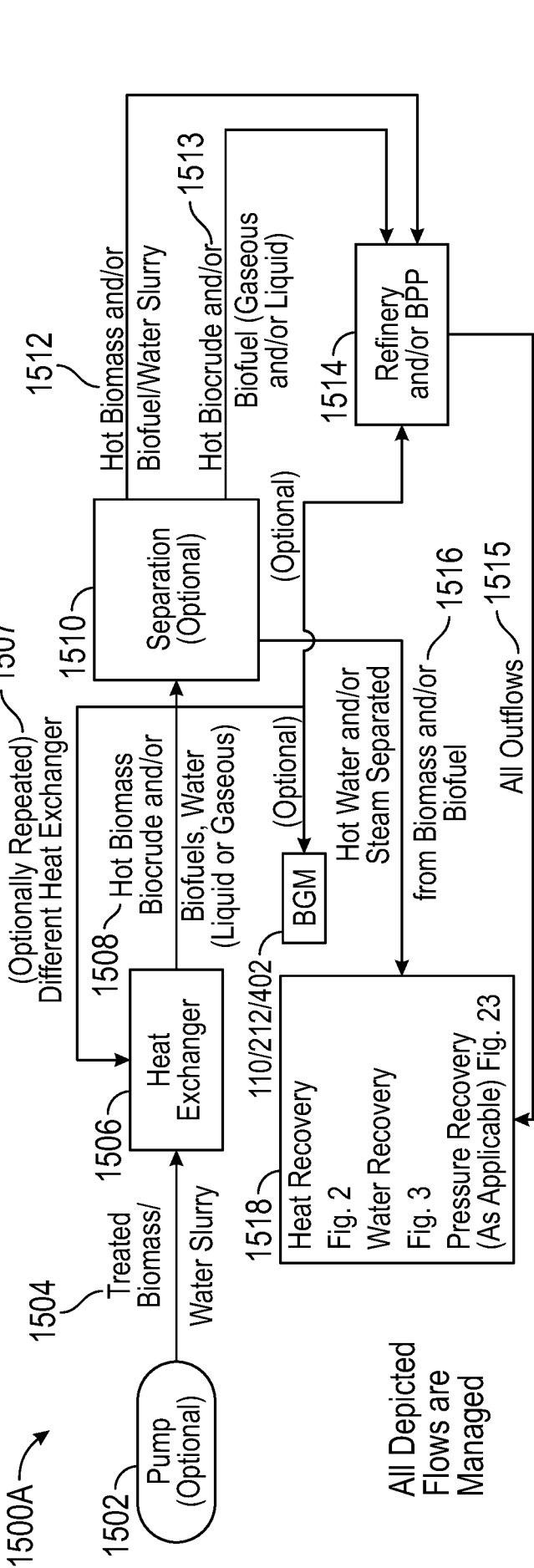


FIG. 15A

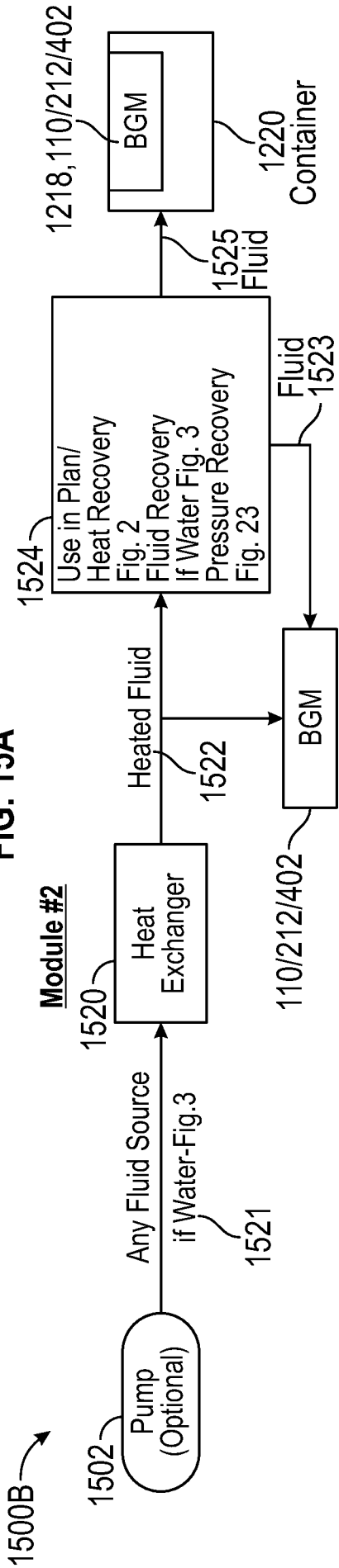


FIG. 15B

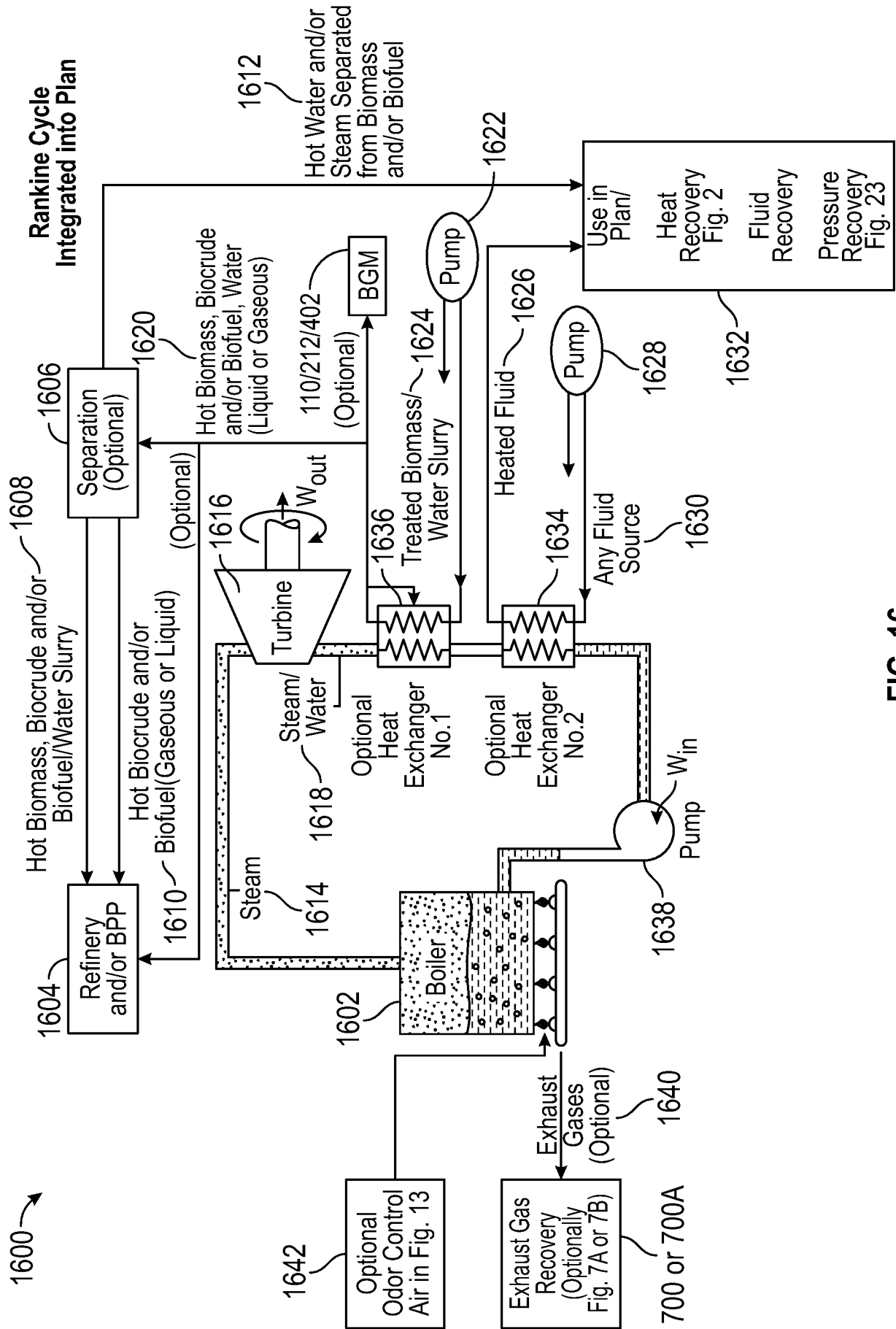


FIG. 16

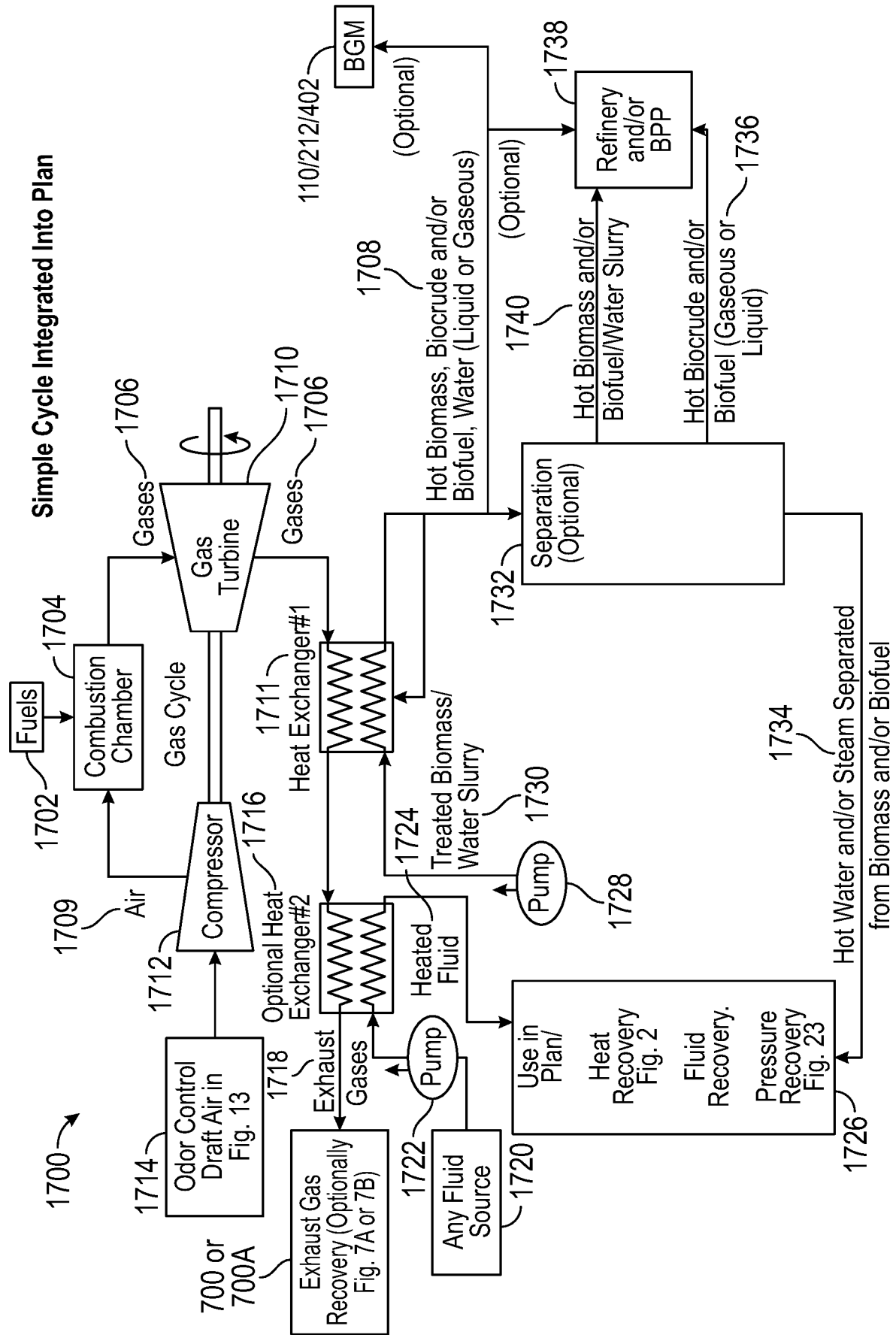


FIG. 17

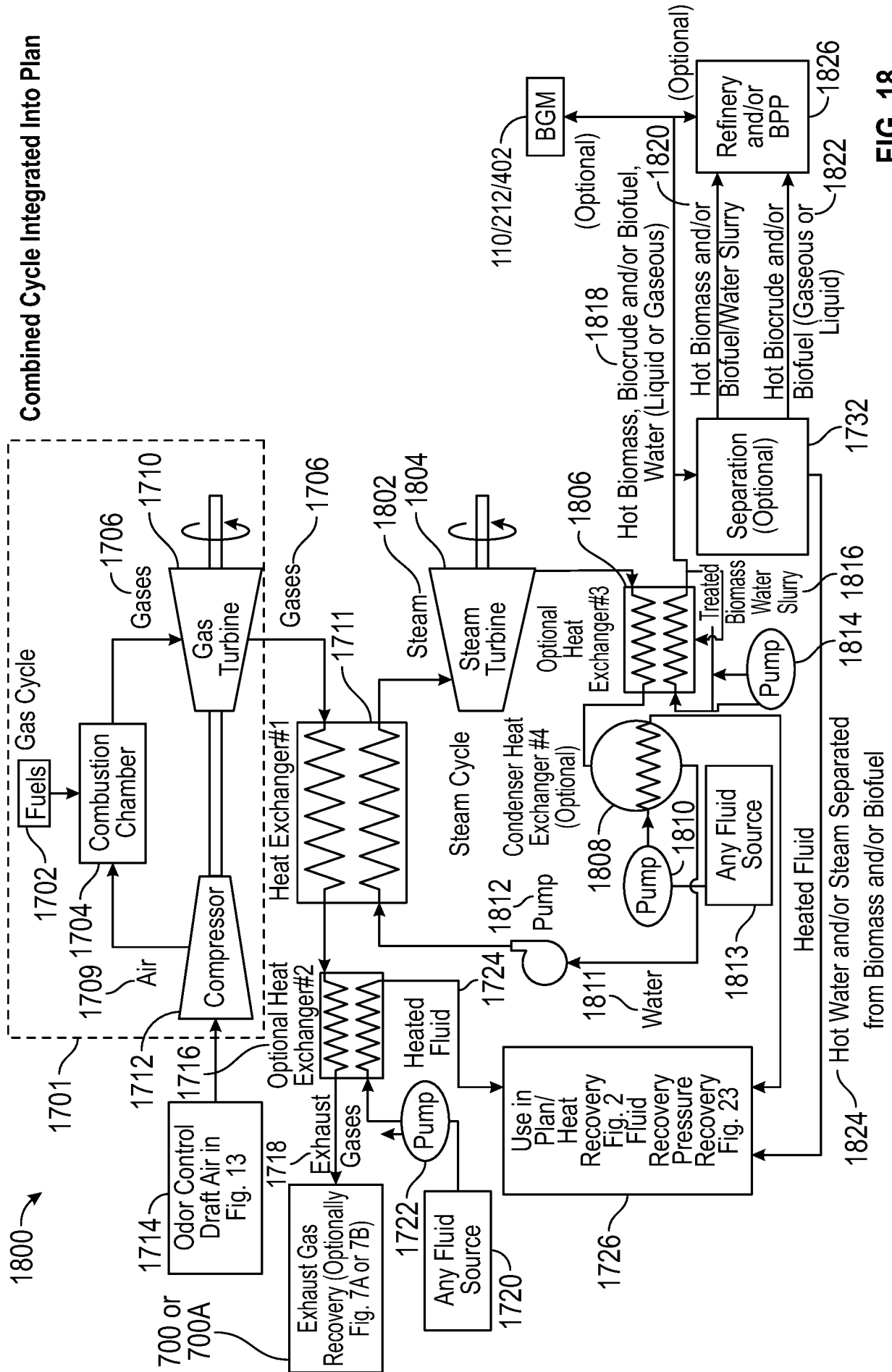


FIG. 18

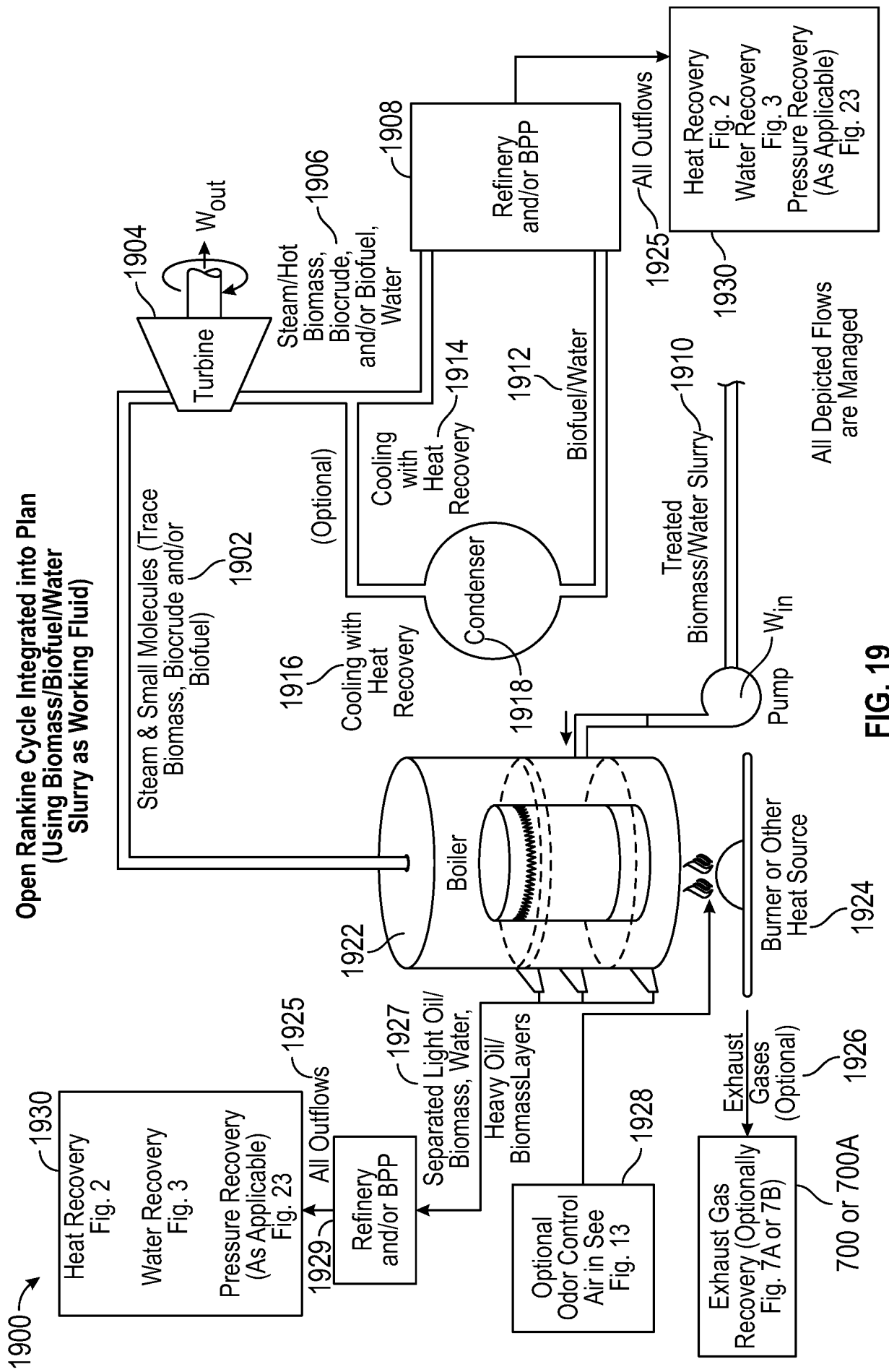


FIG. 19

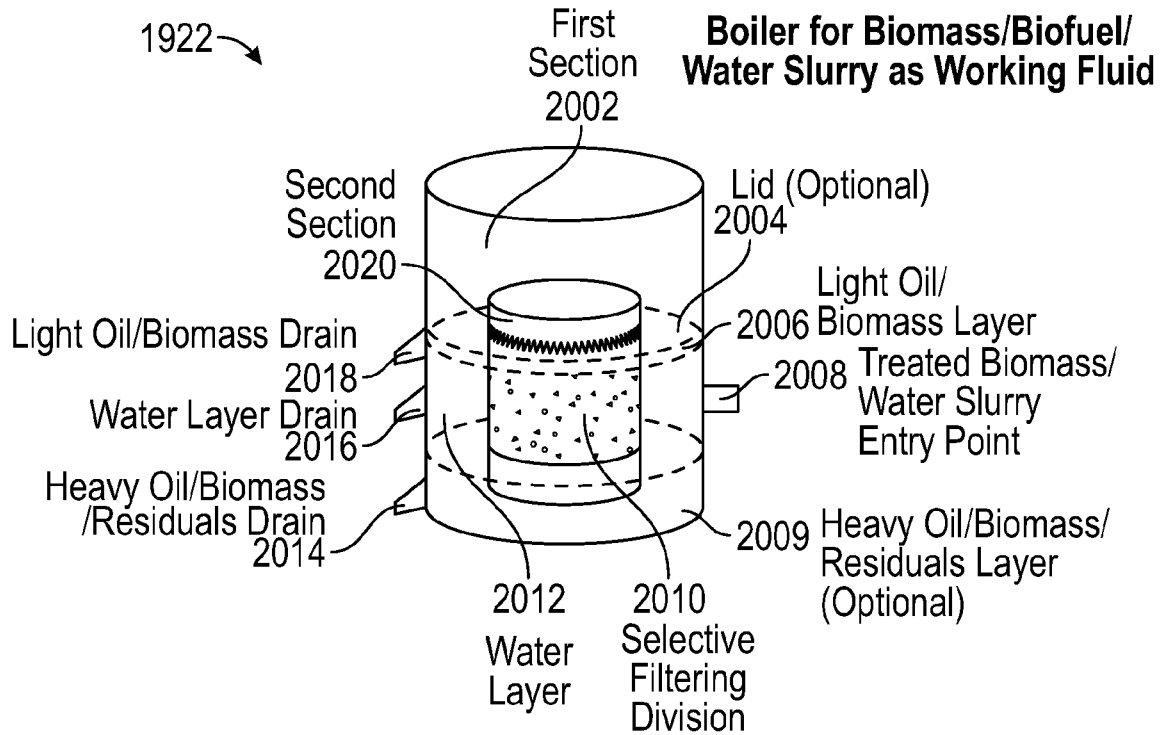


FIG. 20A

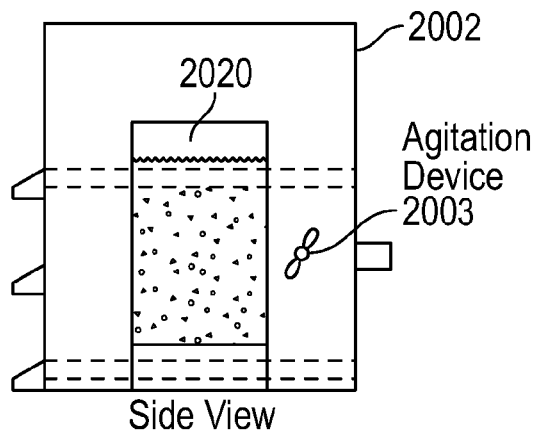
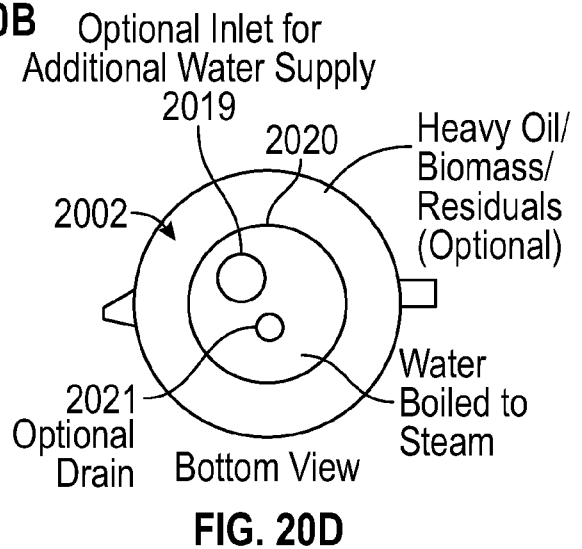
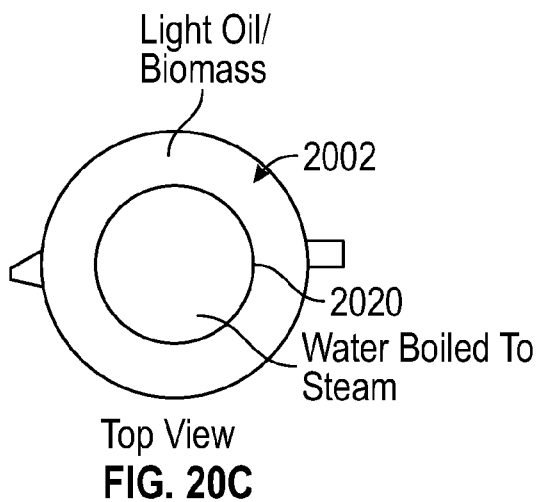
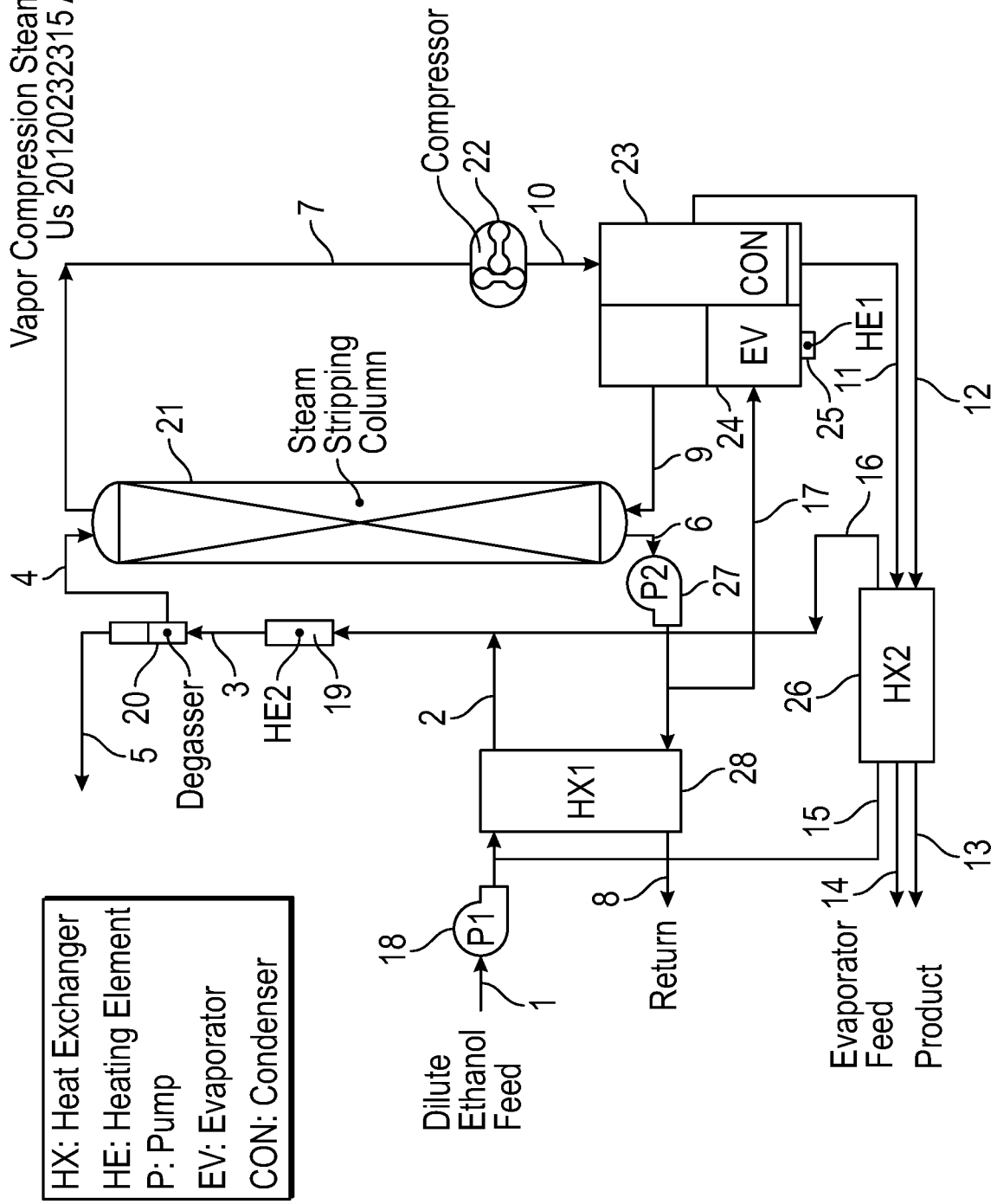


FIG. 20B





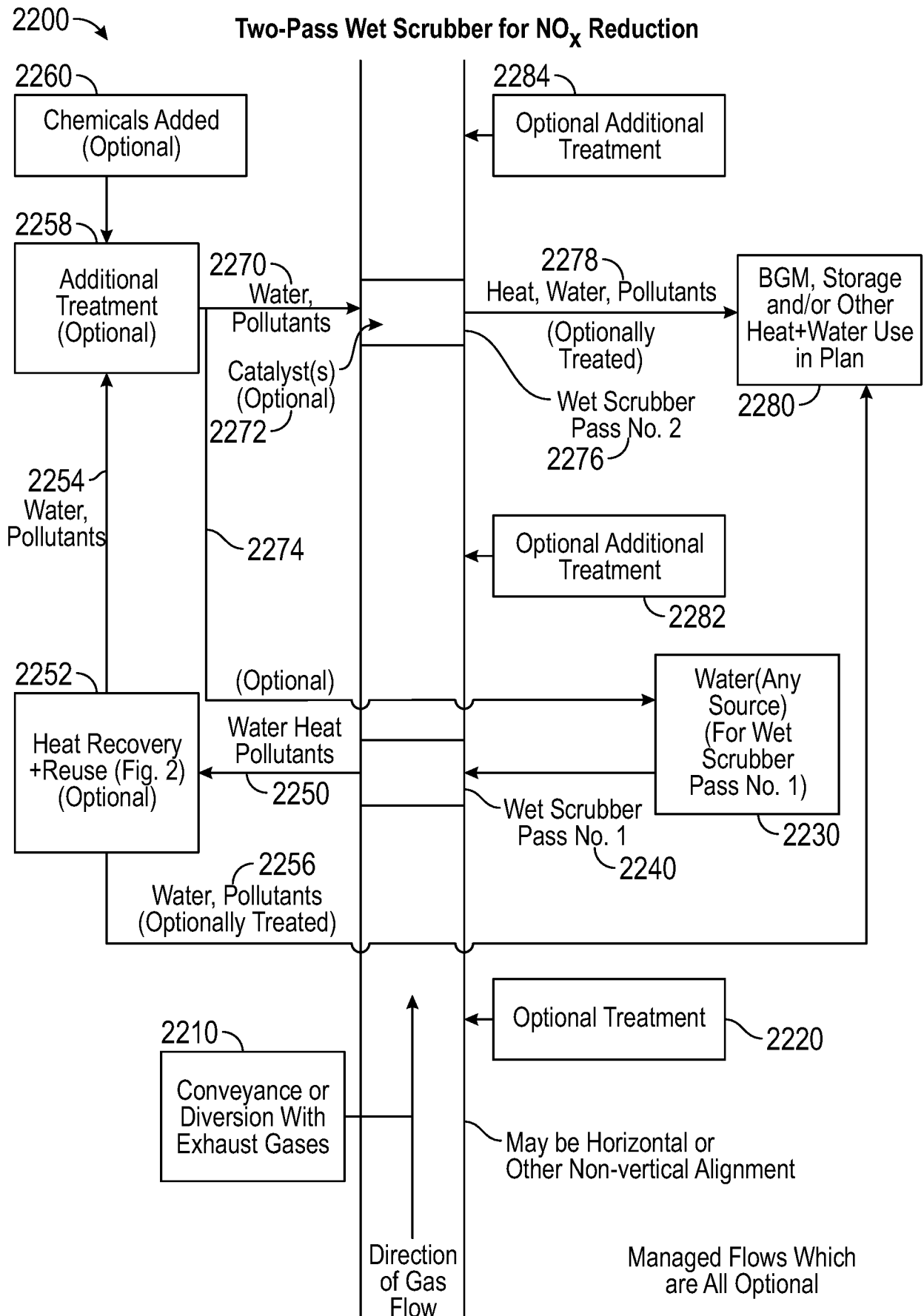


FIG. 22

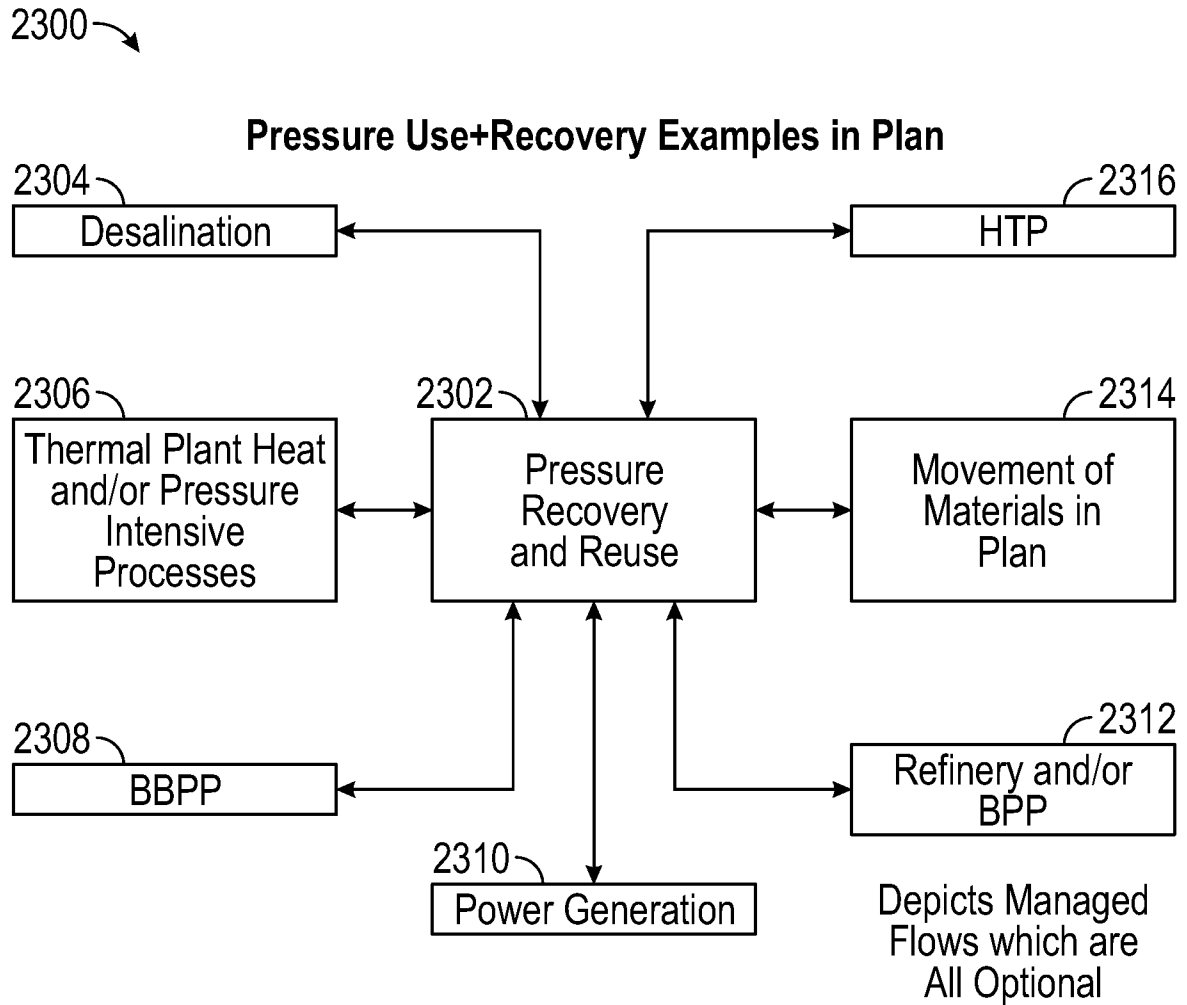


FIG. 23

Infrastructure Sharing, Example Synergies within Plan

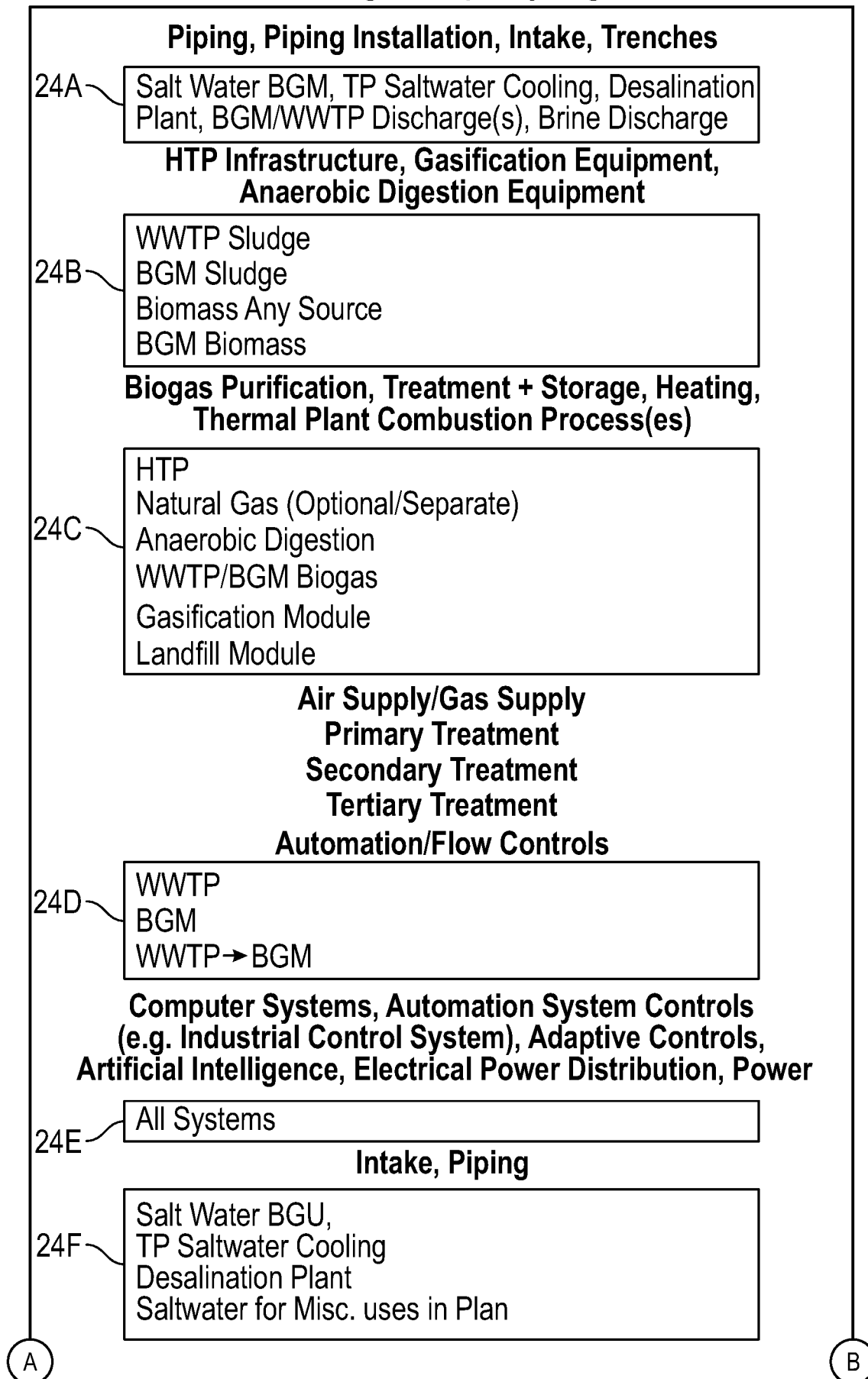


FIG. 24

Water Lines, Piping, Trenches

24G

Salt Water
Brine Water
Brackish Water
Fresh Water
Wastewater
Grey Water
Potable Water

Stack, Pollution Control Modules, Turbines, Pollution Entrainment Module, e.g Fig.7A or 7B, Water/Other Fluids and/or Sources and/or Storage, Conveyances in and out, CO₂ Distribution System(s), Fuels, Chemical Storage and Piping, Water Piping, Other Infrastructure/Resources/Outputs in Common, Cooling Systems, Heat Exchangers, Computer/Automation Controls

24H

All TP Technologies
Solar Thermal

24I **Heat and/or Cooling Transmission/Storage**

Optionally Any Two or More Modules with Heat or Cooling Outputs
Solar Thermal

Infrastructure for HTP Process & Combustion of Resultant Fuels (Optional)

24J

BGM Biomass
WTE Biomass
Agricultural Biomass

Other By-Products Converted to Products (Some Used in Plan)

Ash	→ Cement
Brine	→ Hydrogen (by Electrolysis)
Brine	→ Bleach
Brine	→ Sea Salt

Recycling Plant

Plastic	→ Plastic Bottles, Straps, Packing Materials for BBPP, Other
Rubber	→ Rubber Chips
Wood	→ Pressed Board
Glass	→ Glass Product
Metals	→ Misc Products/Raw Metals
Paper/ Cardboard	→ Paper or Cardboard for Products Produced
	→ Other Standard Recycling

24K

FIG. 24

C

D

Example of Refinery and/or BPP Synergies within the Plan

24L

- Prompt Processing of Biomass Into Fuels and/or Nonfuel Products for Use Onsite, Storage, Export
- All Fuels may be Used in Plan
- Nonfuel Products Synthesized which may be Used in Plan
 - Lubricants,
 - Bioplastics
 - Paper
 - Soil Amendments/Fertilizer
 - Paints
 - Chemicals
 - Other Useful Products
- When Refinery and BPP Both Present, may Share:
 - Infrastructure in Common
 - Resources&Inputs
 - Outflows
 - May Process Outflows and/or by Products from Each Other
- Use of Power, Waste Heat, Cogenerated Cooling, CO₂ and/or Other Resources from Thermal Plant

Examples of BBPP Synergies within the Plan

24M

- Prompt Processing and Bottling of Desalinated Water for Freshness
- Carbonation of Water Optionally Using Purified CO₂ from Plan (Fig.4)
- Ability to Store and Transport Water from Source
 - Creates Versatile Water Supply
 - May Generate Water Reserve Supply to meet Varying Needs or for Emergencies
- Prompt Packaging of Biomass Products for Freshness
- Carbonation of Biomass Liquids Optionally Using Purified CO₂ from Plan (Fig.4)
- May Use Heat Including Waste Heat from Thermal Plant for Processing
- May Use Cogenereted Cooling from Thermal Plant for Preservation of Water and/or Biomass Products

FIG. 24
(Continued)

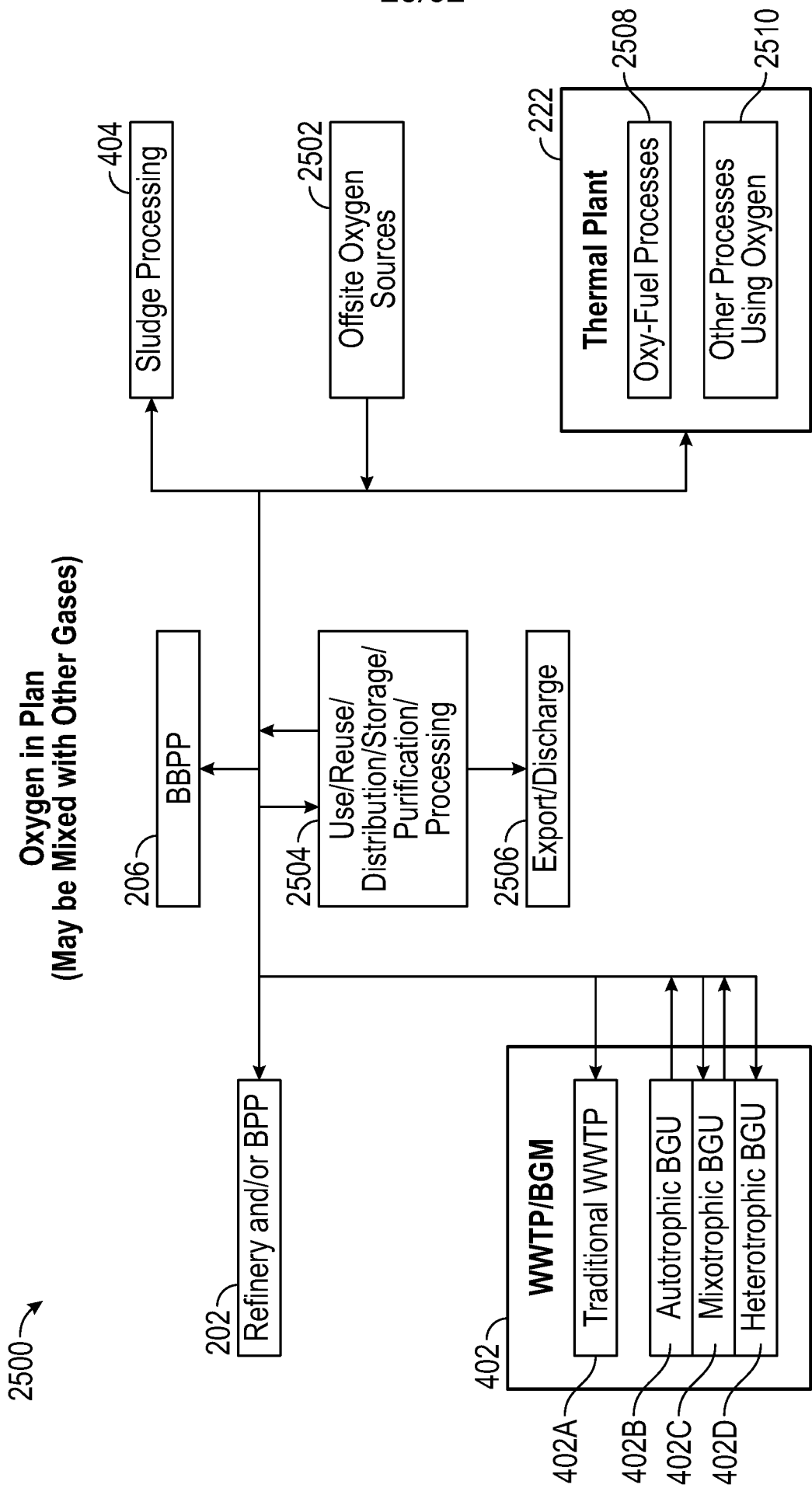
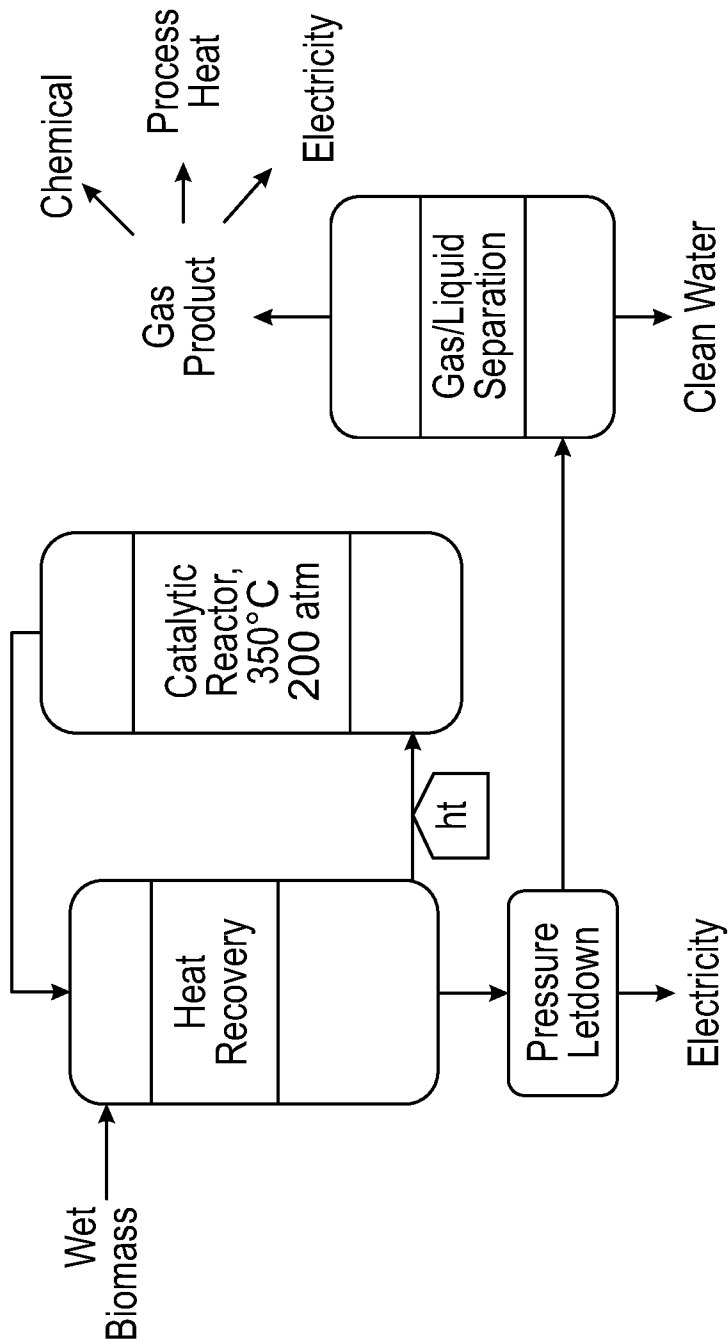


FIG. 25



Catalytic Hydrothermal Gasification at Subcritical Conditions

FIG. 26

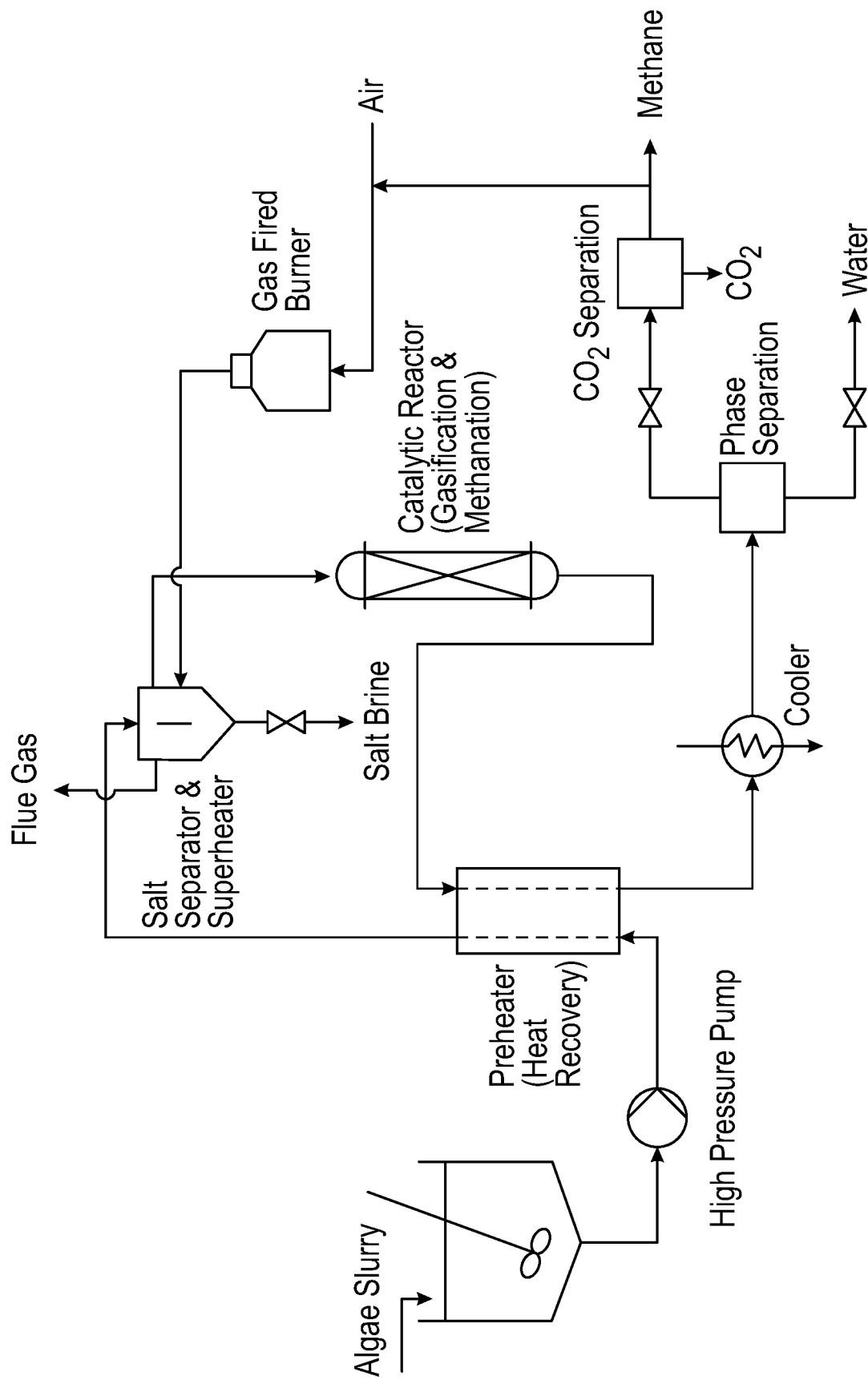
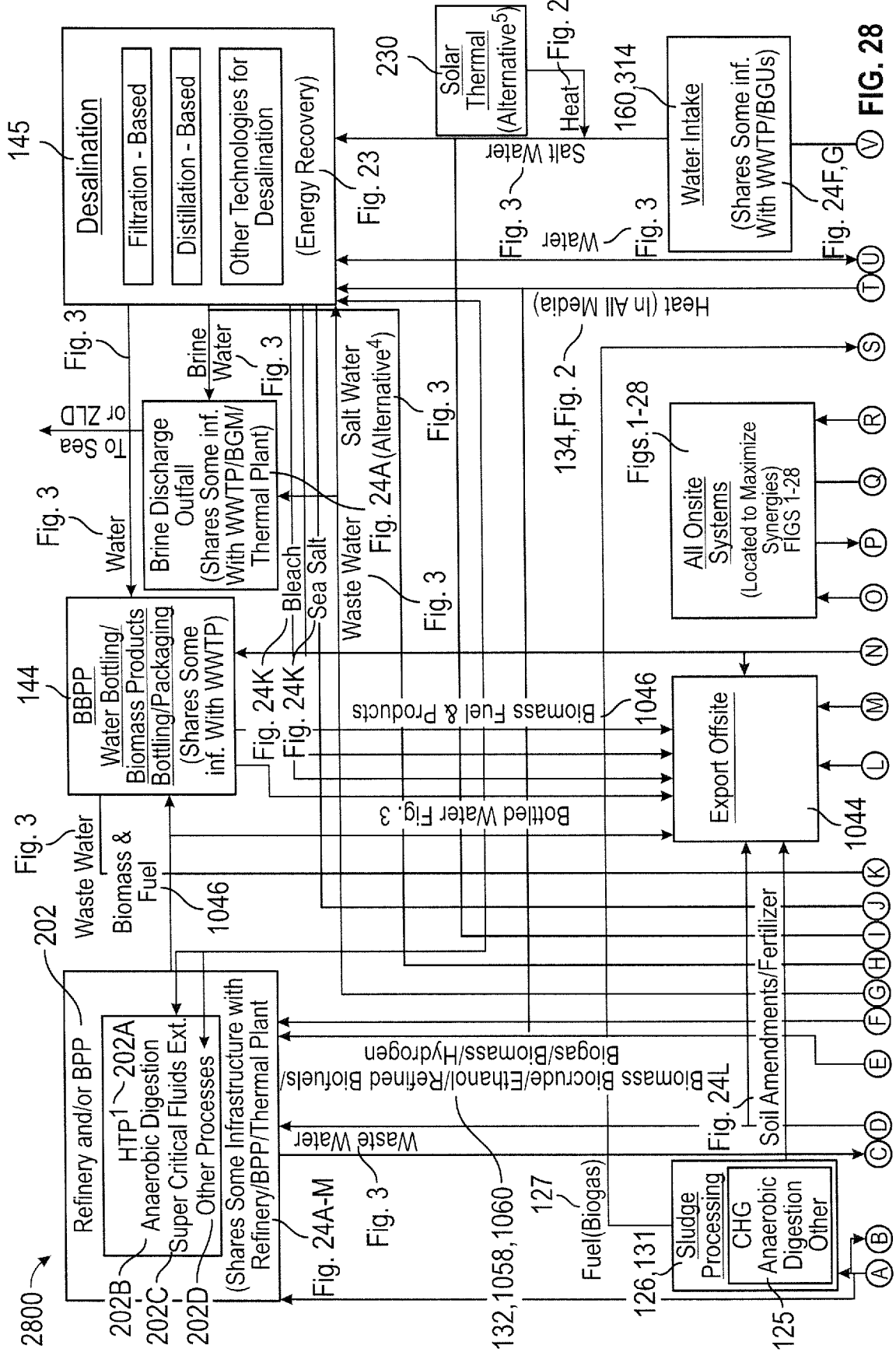


FIG. 27



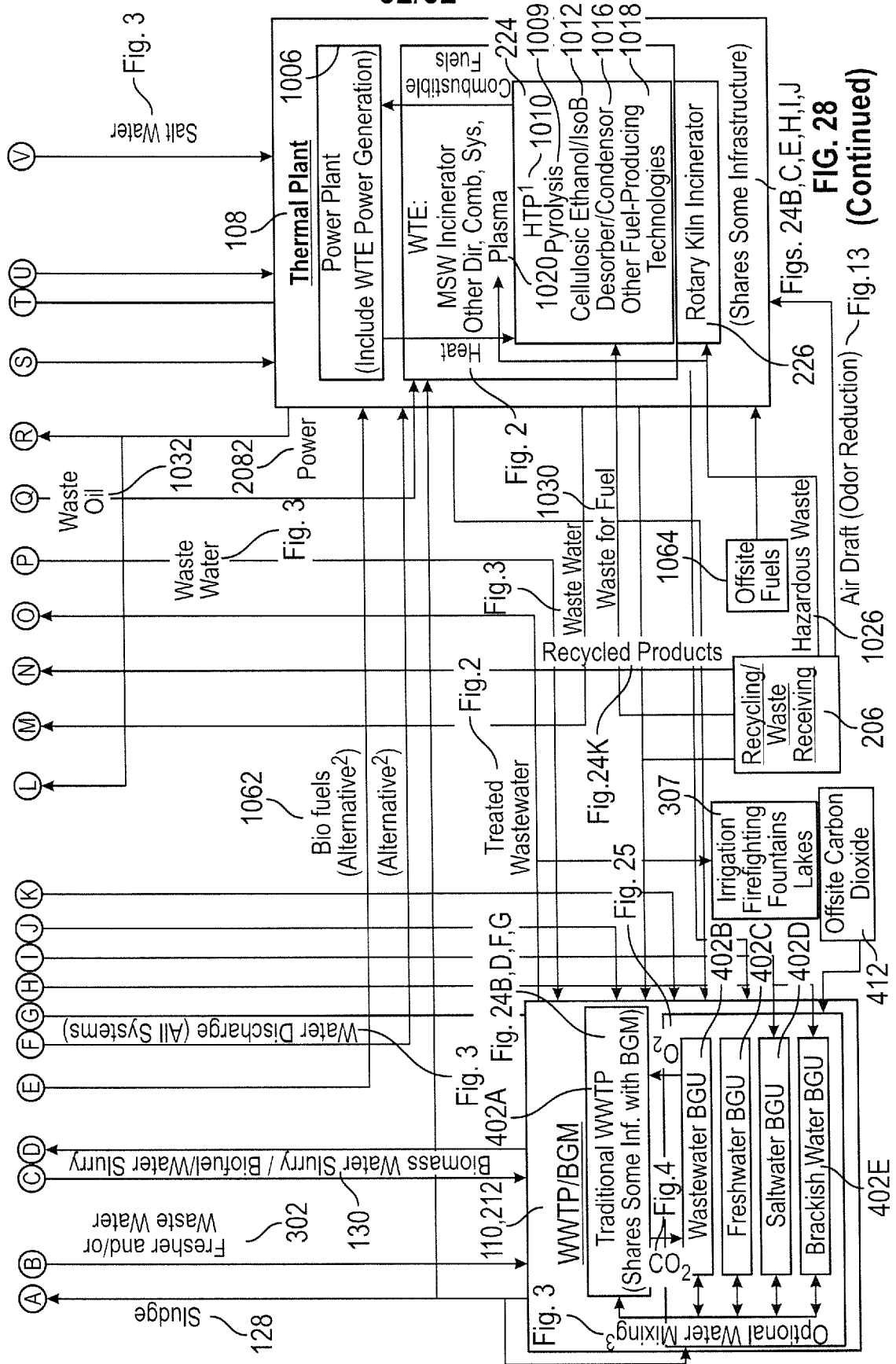


FIG. 28
Figs. 24B,C,E,H,I,J
~ Fig. 13 (Continued)