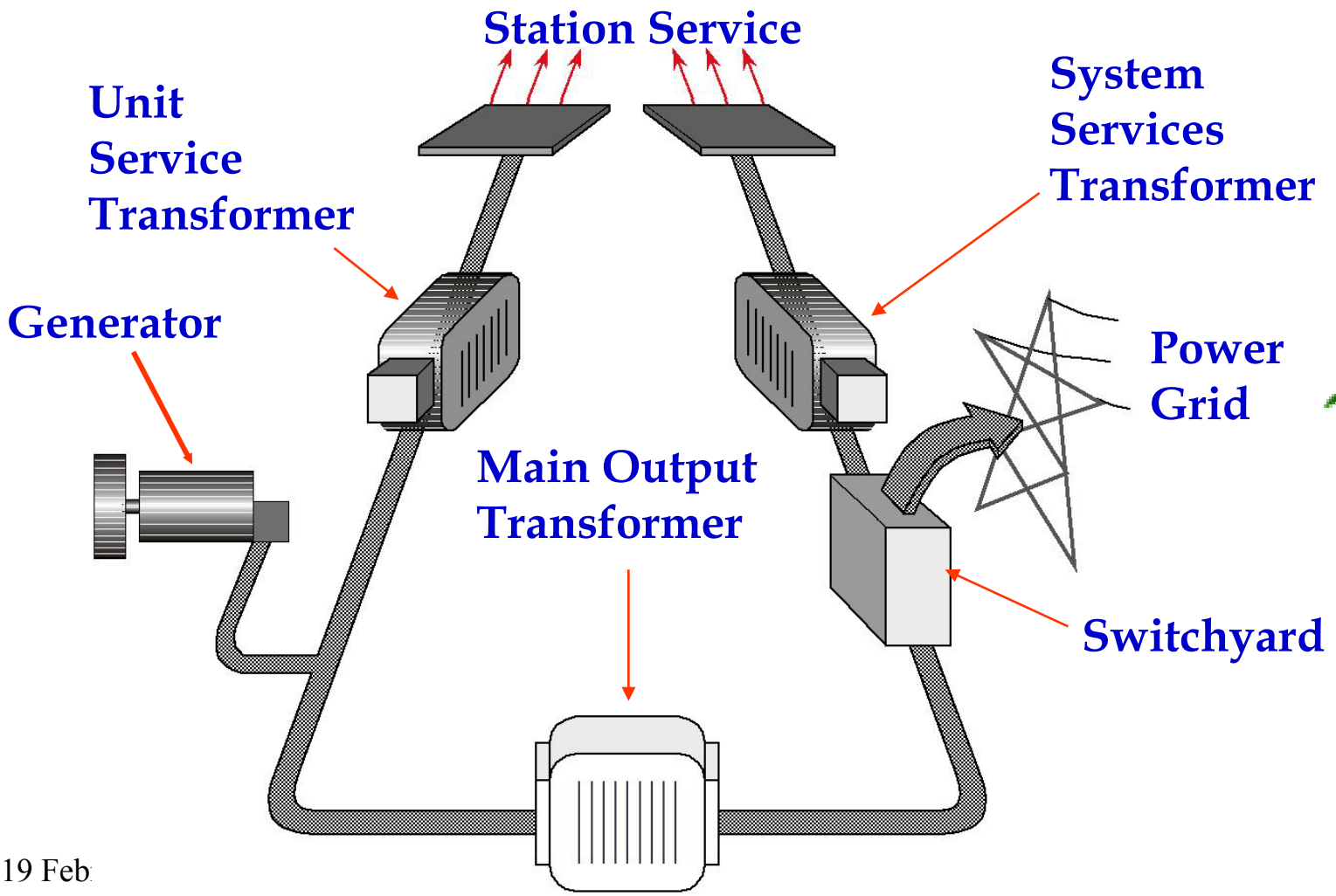
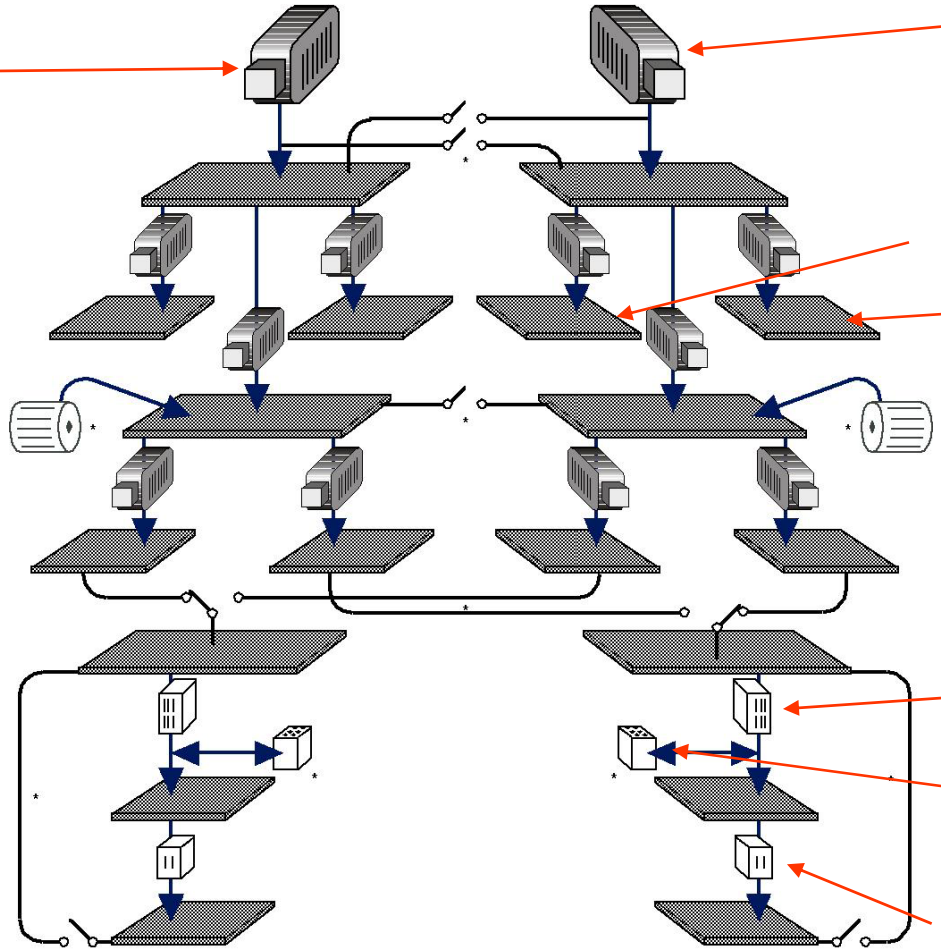
Other Major Systems

Main Power Output



Unit Distribution



Classes of Power

- Class IV
  - can live without it forever
  - most loads
  - normal supply to more reliable levels
- Class III
  - can live without it for a couple of minutes
  - normally supplied from class IV
  - automatically supplied from standby generators if class IV goes away

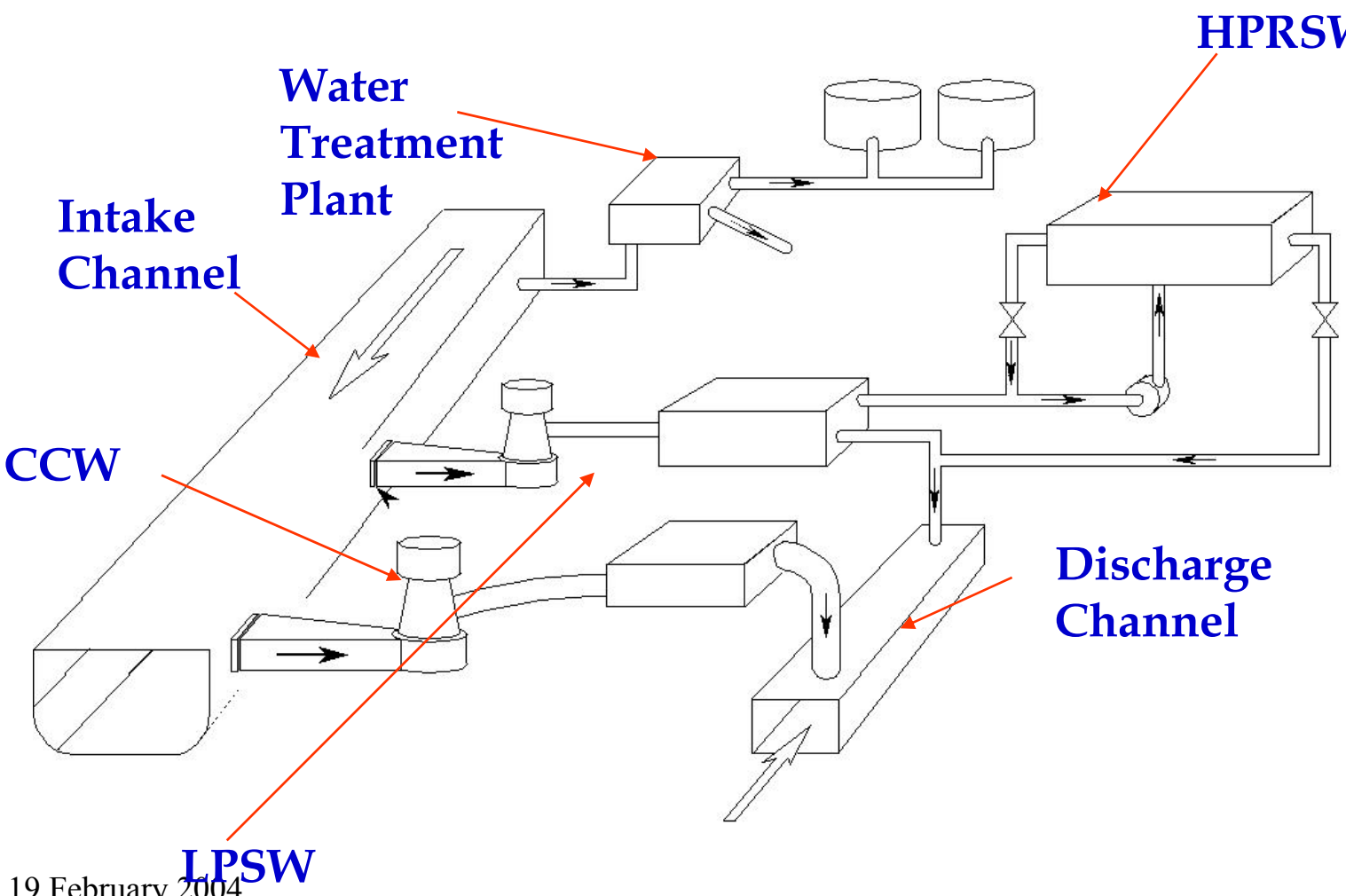
Classes of Power

- Class II
  - uninterruptible ac loads
  - normal supply from class III through rectifiers to class1 and then inverters to class II
  - supplied from batteries through inverters immediately after a power outage
  - supplied from SG's for the long haul
- Class I
  - uninterruptable dc loads
  - normally supplied from class III through rectifiers
  - supplied from batteries immediately after an outage
  - supplied from SGs for the long haul

Emergency Power System

- EPS
- Another level of defense in depth
  - redundant power system
  - protects against certain major catastrophes
    - widespread fire
    - earthquakes
    - turbine flying apart
- System is physically independent from the main distribution system
- Loads are a subset of the Class III system

Water Systems



System Numbers

- Division 0
  - General Project
- Division 1
  - Sites and Improvements
- Division 2
  - Building Structures and Shielding
- Division 3
  - Reactor, Boilers and Auxiliaries
- Division 4
  - Turbine, Generator and Auxiliaries

System Numbers

- Division 5
  - Electrical Power Systems
- Division 6
  - Instrumentation and Control
- Division 7
  - Common Processes and Services
- Division 8
  - Construction Indirects

System Numbers used for accounting, filing and equipment identification

System Numbers

40000	Turbine, Generators and Auxiliaries
42000	Condensing System
42100	Main Condensing System
42120	Condenser Extraction System
42123	Valves

- For accounting all five digits are used
- For process equipment identification 42120
- For instrumentation equipment 64212
- Flowsheet showing system would be 42120
- Prefixes show station and unit

Piping Colour Code

Colour of piping indicates fluid

Air	Blue
Heavy Water	Pink
Light Water	Green

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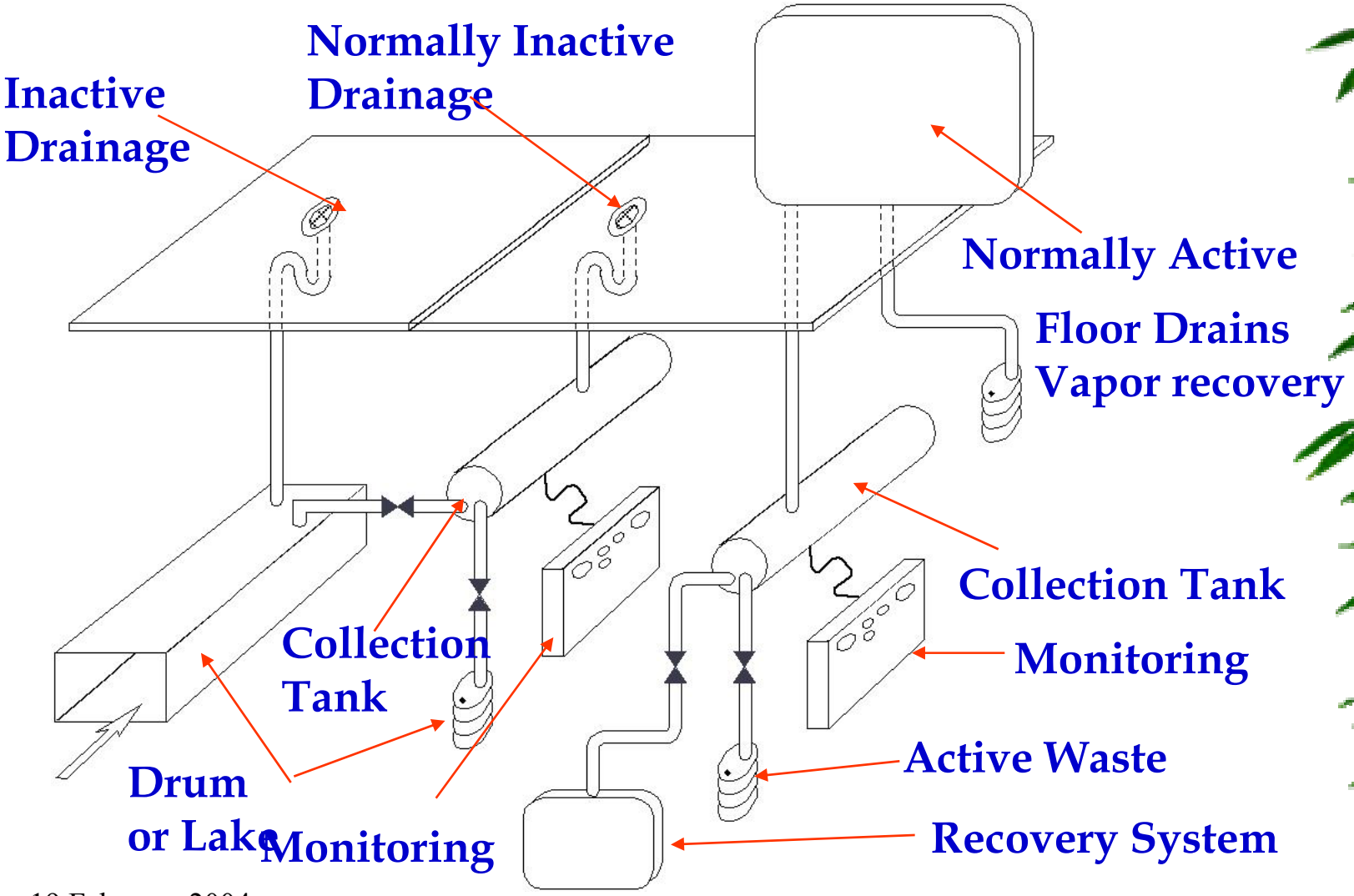
and so on

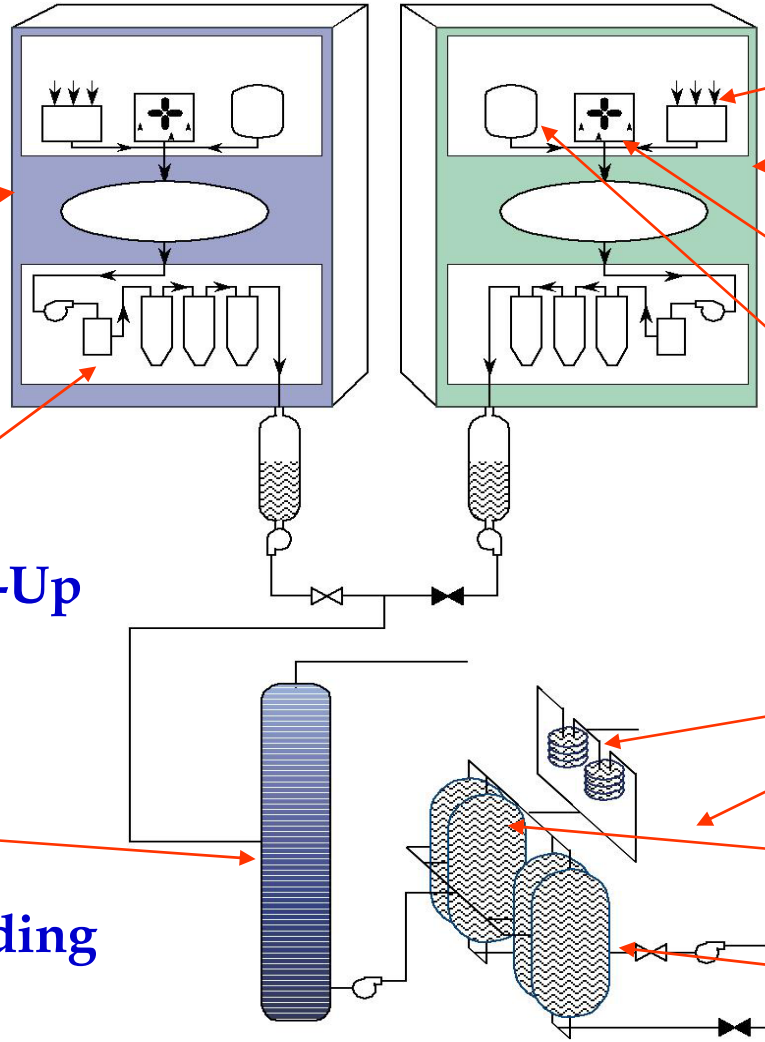
Drainage


Inactive Drainage
Normally Inactive Drainage
Normally Active
Floor Drains
Vapor recovery
Collection Tank
Collection Tank
Monitoring
Active Waste
Drum or Lake
Monitoring
Recovery System

Solid Waste Management

- Irradiated fuel storage
  - Irradiated fuel bays
  - Dry Storage
  - Kept at station
- Waste volume reduction at Bruce
  - Incinerator
  - Compactor
- Low level waste
  - Warehouse
  - Deep trenches
  - Deep tile holes

D2O Management Systems



Upgrading and Tritium Removal

- Each station has an upgrader
  - Output is 99.9% heavy water
- Tritium removal facility in Darlington
  - Reduces hazard due to tritium

Tritium Removal Facility