

# CANDU 3

## POWER STATION KEY

- |  |  |   |                                 |
|--|--|---|---------------------------------|
| 1. Control equipment room.                   | 18. Pressure and inventory system.       | 34. Emergency core cooling heat exchangers. | 52. Deaerator.                  |
| 2. Computer room.                            | 19. Moderator system.                    | 35. Water and accumulator tanks.            | 53. Deaerator storage tank.     |
| 3. Computer maintenance room.                | 20. Sump.                                | 36. Modular construction units.             | 54. Reserve feedwater tank.     |
| 4. Control room.                             | 21. Reactivity mechanisms deck.          | 37. Fuel handling system crane.             | 55. Elevator.                   |
| 5. Shift supervisor's office.                | 22. Shield tank extension.               | 38. Outlet vault shield door.               | 56. Auxiliary boiler feed pump. |
| 6. Recirculated cooling water system valves. | 23. Reactor.                             | 39. Fuel handling machine.                  | 57. Air receivers.              |
| 7. Reactor containment building.             | 24. Outlet feeders.                      | 40. Jib crane.                              | 58. Boiler feedwater pumps.     |
| 8. Main steam pipes.                         | 25. Inlet feeders.                       | 41. Rehearsal port.                         | 59. Air dryer.                  |
| 9. Steam generators.                         | 26. Vapour recovery system.              | 42. Fuel loading mechanism.                 | 60. Steam chest.                |
| 10. Main crane.                              | 27. Purification system.                 | 43. Shield cooling system.                  | 61. High pressure turbine.      |
| 11. Pressurizer.                             | 28. Annulus gas system.                  | 44. Irradiated fuel storage bay.            | 62. Low pressure turbines.      |
| 12. Feedwater pipes.                         | 29. Liquid injection shutdown system.    | 45. Defective fuel carousel.                | 63. Generator.                  |
| 13. Bleed condenser.                         | 30. Shield door.                         | 46. Pond bridge crane.                      | 64. Bus ducts.                  |
| 14. Shield cooling system tank.              | 31. Equipment hatch.                     | 47. Basket module storage area.             | 65. Reheater.                   |
| 15. Vent system equipment.                   | 32. Air lock.                            | 48. Maintenance building.                   | 66. Separator.                  |
| 16. Heat transport pumps.                    | 33. Emergency core cooling system pumps. | 49. Diesel generator building.              | 67. Condenser.                  |
| 17. Shutdown cooling system.                 |  | 50. Turbine building.                       | 68. Reheater drain tank.        |
|  |  | 51. Turbine building crane.                 | 69. Lube and seal oil tank.     |
|  |  |   | 70. Floor opening.              |

## TECHNICAL DATA

### Reactor

Type.....Horizontal pressure tube  
Coolant.....Pressurized heavy water  
Moderator.....Heavy water  
Number of fuel channels.....232

### Fuel

Fuel.....Compacted and sintered natural  $UO_2$  pellets  
Form.....Fuel bundle assembly of 37 elements  
Length of bundle.....495.3 mm  
Outside diameter.....102.4 mm  
Bundle weight.....23.5 kg (includes 19.1 kg U)  
Bundles per fuel channel.....12

### Heat transport system

Number of steam generators.....2  
Steam generator type.....Vertical U-tube with integral steam drum and preheater  
Number of heat transport pumps.....2  
Heat transport pump type.....Vertical, centrifugal, single suction, double discharge  
Reactor outlet header pressure (gauge).....9.9 MPa  
Reactor outlet temperature.....310°C  
Reactor coolant flow.....5.3 Mg/s  
Steam temperature (nominal).....260°C  
Steam quality (minimum).....99.75%  
Steam pressure (gauge).....4.6 MPa

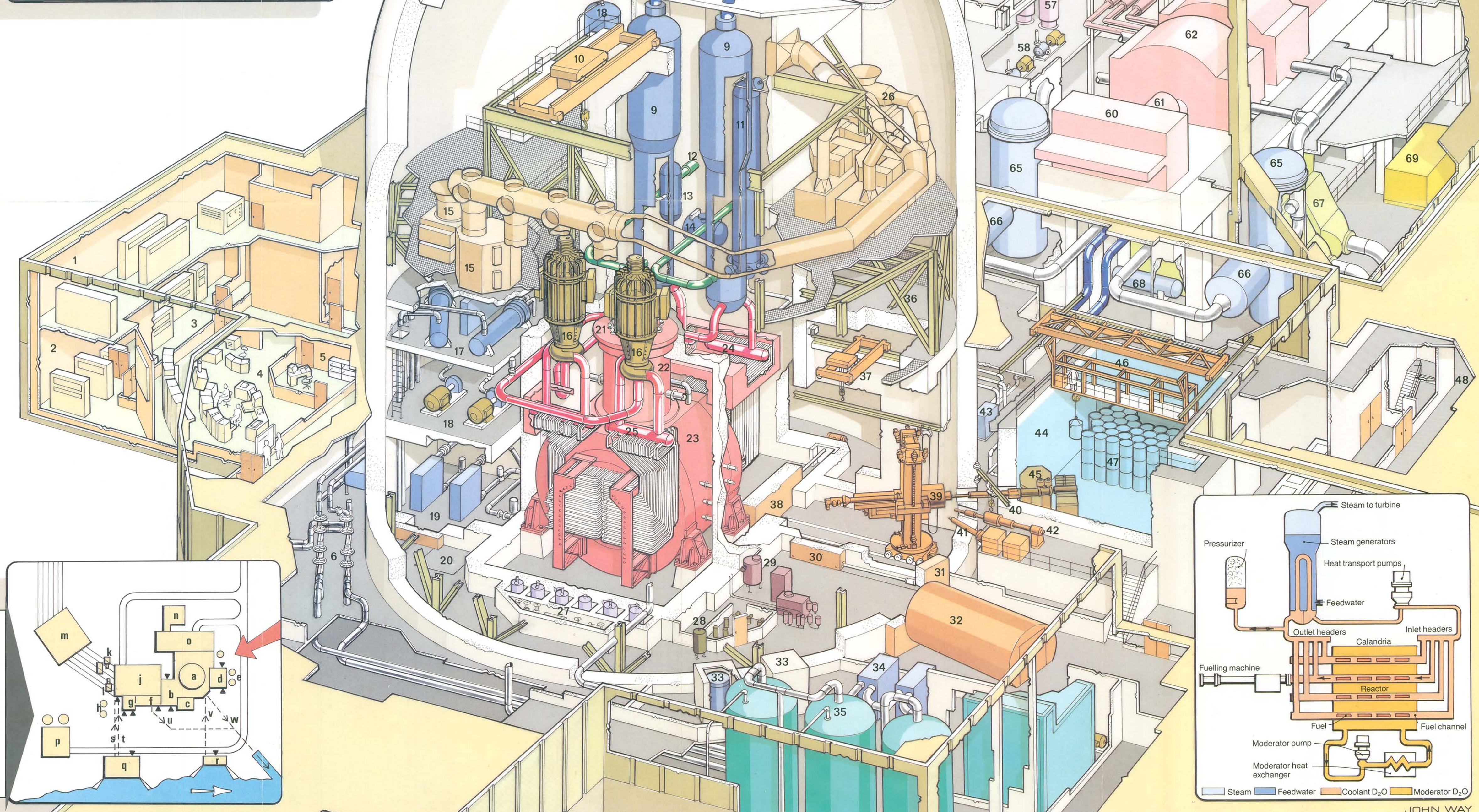
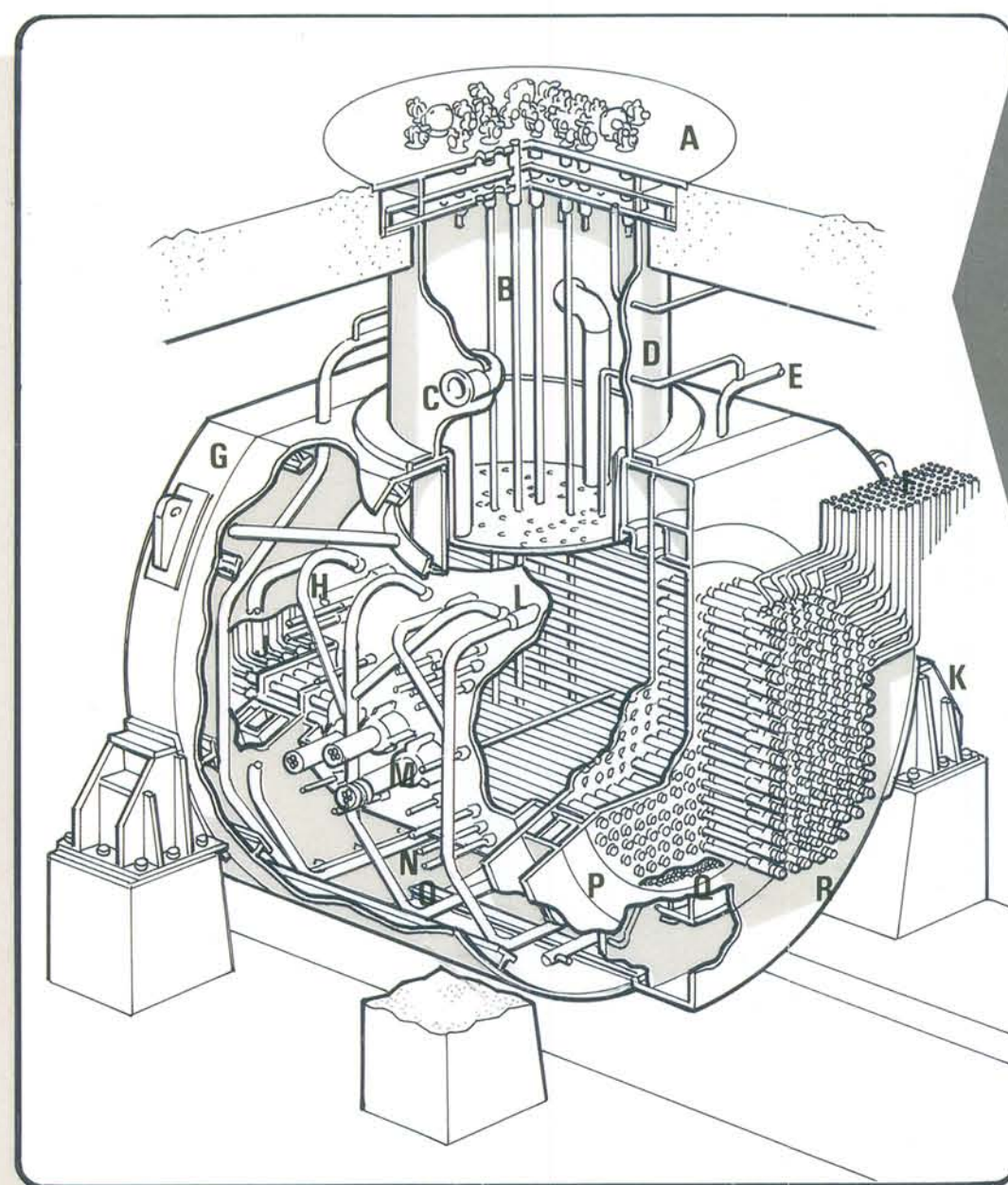
Total fission heat.....1440.3 MWt

Net electrical output (nominal).....450 MWe\*

\*Typical for a cold water site; net electrical output is dependent on cooling water temperature, and turbine-generator and condenser design.

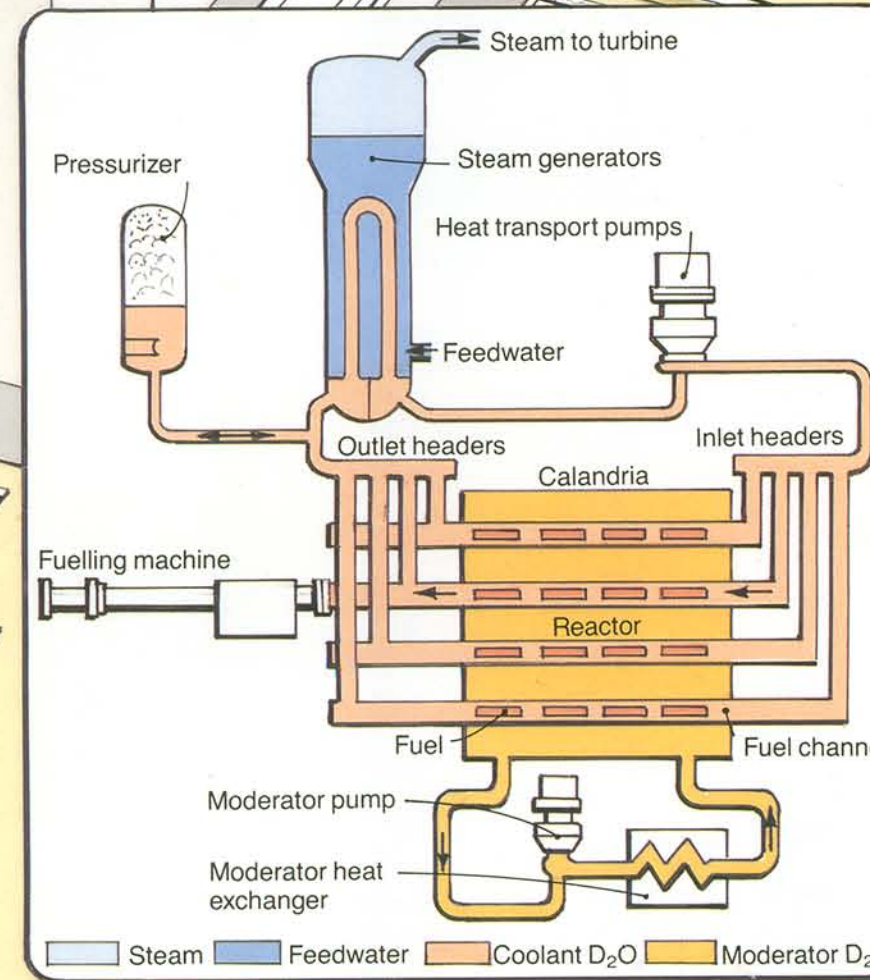
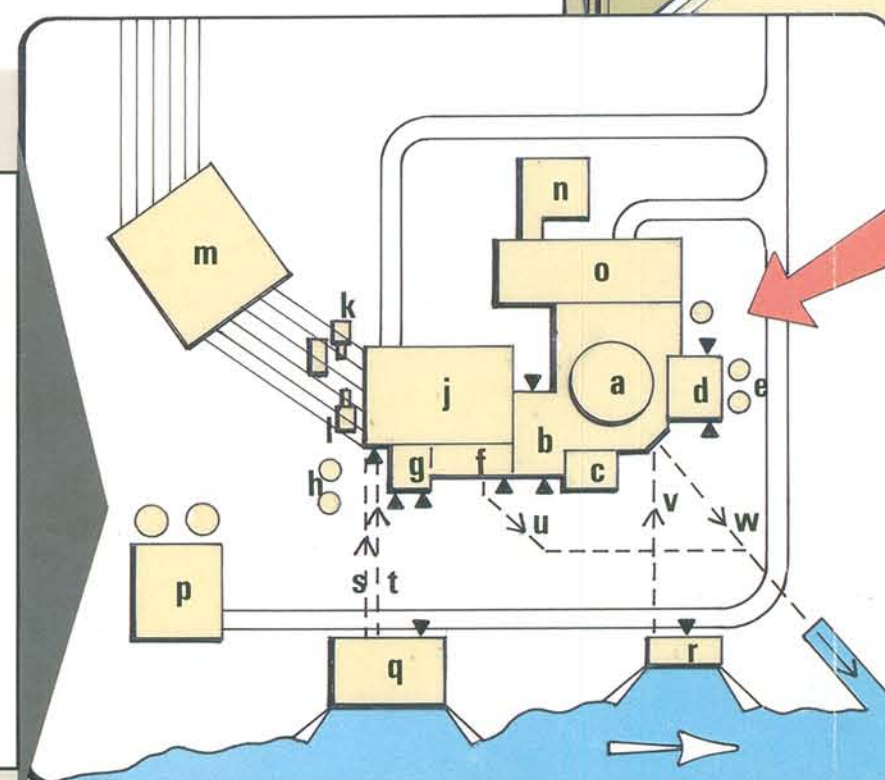
## REACTOR CUTAWAY KEY

- |                                       |                                    |
|---------------------------------------|------------------------------------|
| A. Reactivity mechanisms deck.        | K. Reactor assembly support.       |
| B. Vertical reactivity control units. | L. Calandria shell.                |
| C. Overpressure protection pipe.      | M. Ion chamber unit.               |
| D. Shield tank extension.             | N. Horizontal flux detector unit.  |
| E. Shield cooling piping inlet.       | O. Liquid injection shutdown unit. |
| F. Feeder pipes outlet.               | P. End shield.                     |
| G. Shield tank.                       | Q. Shielding balls.                |
| H. Moderator piping system.           | R. Fuel channel assembly.          |
| J. Feeder pipe inlet.                 |                                    |



## SITE PLAN KEY

- |   |   |
|---|---|
| a. Reactor building.                          | m. Switchyard.                          |
| b. Reactor auxiliary building.                | n. Administration building.             |
| c. Main control room.                         | o. Maintenance building.                |
| d. Group 2 service building.                  | p. Water treatment plant.               |
| e. Diesel fuel oil tanks.                     | q. Group 1 pumphouse.                   |
| f. Group 1 service building.                  | r. Group 2 pumphouse.                   |
| g. Group 1 diesels.                           | s. Main cooling water.                  |
| h. Fuel oil tanks.                            | t. Group 1 raw service water.           |
| j. Turbine building.                          | u. Cooling water discharge.             |
| k. Main output and unit service transformers. | v. Group 2 raw service water.           |
| l. Station service transformer.               | w. Group 2 raw service water discharge. |
|   | ▲. Truck access.                        |



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