SHIN-KORI 1&2 and SHIN-KORI 1&2 and SHIN-WOLSONG 1&2

Vertical U-tube

65 (FS) + 8 (PS)

IMPROVED KOREAN STANDARD NUCLEAR POWER PLANT



DOOSAN Heavy Industries & Construction

DOOSAN Heavy Industries & Construction. Co. Ltd., Head Office & Changwon Plant, 555 Guygok-dong, Changwon-city, Gyeongsangnam-do 641-792, Korea. NSSS & turbine generator supplier, construction (installation)

HYUNDAI

KOREA HYDRO & NUCLEAR POWER CO., LTD

Hyundai Engineering and Construction Co., Ltd., 140-2, Kye-dong, Chongro-gu, Seoul 110-793, Korea.

Korea Power Engineering Co. Inc., 150 Deokjin-dong, Yuseong-gu, Daejeon 305-353, and 360-9 Mabuk-ri, Kusong-myon, Yongin-shi, Kyunggi-do 449-713, Korea.

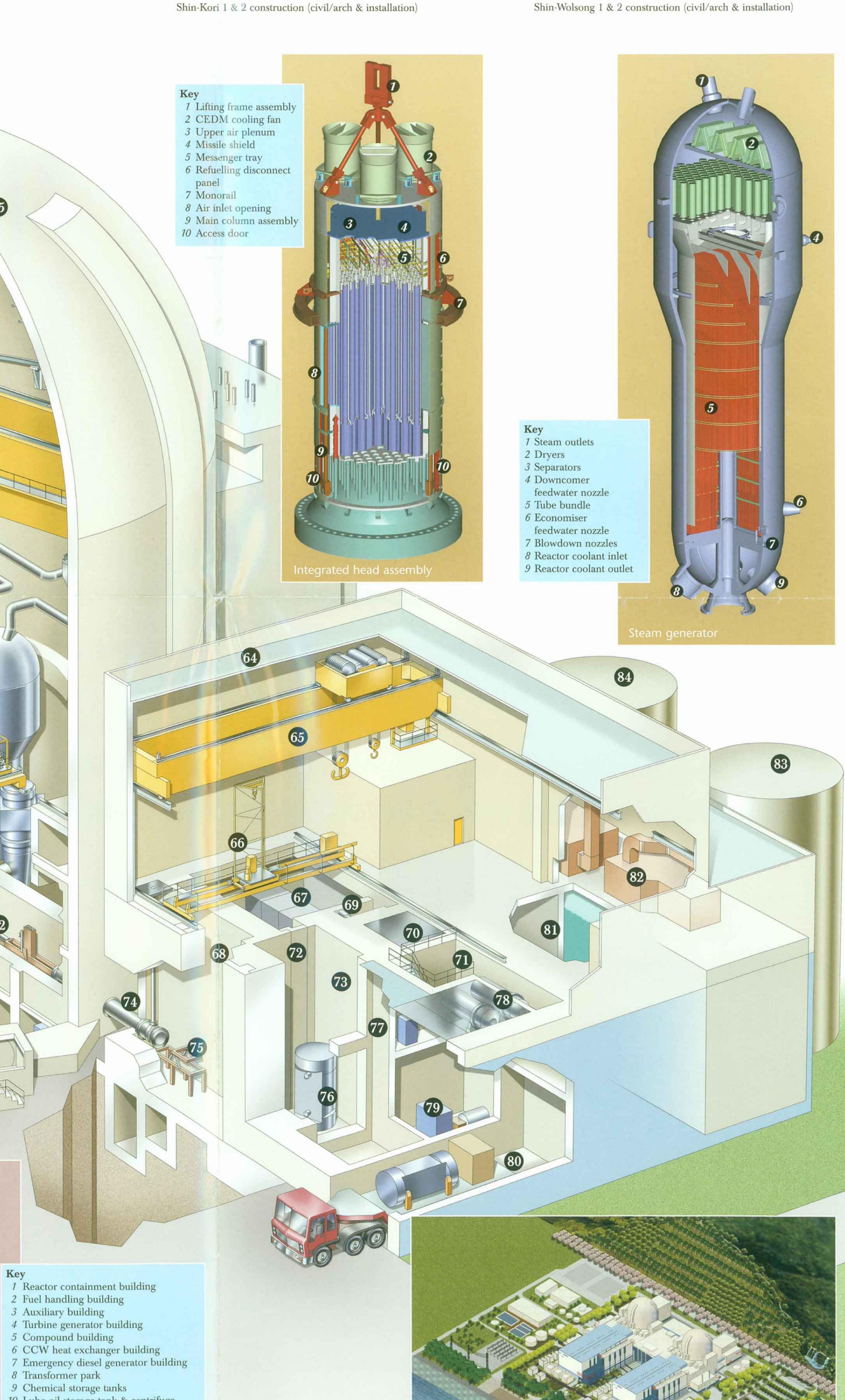
NSSS system designer and architect engineering

환 한전원자력연료주식회사 KNEC KEPCO NUCLEAR FUEL CO., LTD.

KEPCO Nuclear Fuel Co., Ltd., 493 Deokjin-dong, Yuseong-gu, Daejeon 305-353, Korea. Fuel design & supplier



Daewoo Engineering & Construction Co., Ltd. C.P.O. Box 8269 Seoul, 100-714 Korea.



Main power plant data Reactor

Design temperature (°F [°C]) Reactor vessel volume (ft³) 650 [343.3] 3821.9 Reactor coolant pumps Pump speed (RPM) Rated total dynamic head (ft) Rated flowrate (gpm) Frequency (Hz)

No. of fuel assemblies Fuel weight (lb) 189.9×10^{3} No. of fuel rods Core diameter (in) Zircaloy-4 0.025 Clad material Clad thickness (in)

Steam generators No. of units Primary/secondary pressure (lb/in²) Coolant volume each SG (ft3 [m3]) Tube thickness (in [mm])

Steam quality (%)
Feedwater (°F [°C])
Reactor coolant system No. of loops

12 and 4(FS) + 4(PS)B₄C and Inconel 625

Key to main cutaway illustration

 Turbine generator building 2 250 ton bridge crane 3 25 ton bridge crane 4 Turbine generator building

component cooling water surge tank 5 Generator 6 Low pressure turbines 7 High pressure turbine 8 Deaerator storage tank

9 Deaerator 10 Moisture separator reheater 11 Combined intermediate valve 12 Low pressure feedwater heaters 13 Turbine driven feedwater pumps 14 High pressure feedwater heaters

15 Feedwater booster pump 16 Condenser 17 Low pressure feedwater heater 18 Main steam stop valves 19 Condenser water outlets

20 Heater bay 21 Condensate pump 22 Auxiliary building air conditioning unit room 65 Cask handling crane 23 Auxiliary building air conditioning unit system 66 Spent fuel handling machine 24 Motor control centre

25 Radiation monitoring system computer cabinet 68 Refuelling canal 26 Radiation monitoring system skid 27 Essential chilled water air separator 28 Central chiller

29 Class 1E electrical equipment area HVAC 30 Valve room 31 Shutdown cooling heat exchanger 32 Chemical addition tank 33 Auxiliary building

34 Main steam vents 35 Feedwater line 36 Main steam line 37 Main steam isolation valve 38 Component cooling water surge tank

40 Main control room 41 Computer room 42 Electrical equipment room 43 Auxiliary protective system cabinet 44 Elevator

45 Reactor containment building 46 Containment spray system

47 Polar crane 48 Control element assembly change platform

49 Personnel access airlock 50 Pressuriser 51 Safety injection tank 52 Steam generator 53 Refuelling pool 54 Refuelling machine

55 Integrated head assembly 56 Reactor coolant pump 57 Reactor vessel 58 Reactor coolant piping hot leg 59 Reactor coolant piping cold leg 60 Reactor support structure 61 In-core instrumentation guide tube 62 Fuel transfer carriage and upender in 63 Emergency personnel lock 64 Fuel handling building

67 Spent fuel storage pool 69 New fuel elevator 70 New fuel storage pit 71 New fuel inspection area 72 Swing gate

74 Fuel transfer tube 75 Fuel transfer carriage and upender in fuel building 76 Shipping cask 77 Cask decontamination pit 78 Spent fuel pool cooling

85 Compound building

73 Cask loading pit

79 Spent fuel pool pump room 80 Fuel loading and unloading bay 39 Pipe tunnel 81 Refuelling water tank 82 Fuel building air handling unit 83 Reactor make-up water tank 84 Hold-up tank

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Sidcup, Kent, DA14 5HZ, United Kingdom.



eactor vessel

4

/ Control element assembly nozzles

4 Upper guide structure

6 Core support barrel

13 Bottom head nozzles

8 Fuel assemblies

12 Flow skirt

2 Control element assembly extension shafts

Unit 2

Reactor vessel closure head assembly