Run title	-->	Run Title (change this line using input variable 'runtitle')
PROCESS Version	-->	1.0.17
Date:	-->	03/09/2020
Time:	-->	10:38
User:	-->	apearce
Optimising:	-->	Plasma major radius

Plasma composition:
Number densities relative to electron density:

D + T	= 0.8808
He	= 0.05835
Xe	= 1e-08
W	= 5e-05

Colour Legend:
ITR
OP

Geometry:

R_0	= 13.87 m
a	= 3.368 m
A	= 4.117
κ_{95}	= 1.65
δ_{95}	= 0.3333
Surface area	= 2590 m^2
Plasma volume	= 5248 m^3
No. of TF coils	= 16
inboard blanket+shield	= 1.055 m
ouboard blanket+shield	= 1.782 m
Fusion power	= 2166 MW

Physics:

I_p	= 21.22 MA
Vacuum B_T at R_0	= 7.552 T
q_{95}	= 3.5
β_N, thermal	= 0.9146 % m T MA^{-1}
β_N, total	= 1.032 % m T MA^{-1}
β_P, thermal	= 0.573
β_P, total	= 0.6465
$< t_e >$	= 7.421 keV
$< n_e >$	= 5.358e+19 m^{-3}
$< n_{e,\,line} > / n_G$	= 1.2
$T_{e0} / < T_e >$	= 2.45
$n_{e0} / < n_{e,\,vol} >$	= 2
Z_{eff}	= 1.243
$n_Z / < n_{e,\,vol} >$	= 5.001e-05
τ_e	= 4.275 s
H-factor	= 1.3
H-mode threshold	= 243.4 MW
Scaling law	= ITER-96P

Coil currents etc:

PF 1	= 14.93 MA
PF 3	= -8.62 MA
PF 5	= -5.518 MA
Startup flux swing	= 752.2 Wb
Available flux swing	= -991.4 Wb
Burn time	= 2 hrs

TF coil type is WST Nb3Sn

Peak field at conductor (w. rip.)	= 12.93 T
I/I_{crit}	= 0.6069
TF Temperature margin	= 1.5 K
CS Temperature margin	= 8.383 K
TF Cond max TRESCA stress	= 416.3 MPa
TF Case max TRESCA stress	= 580 MPa
Allowable stress	= 580 Pa
Mass per TF coil	= 6.712e+06 kg

Power flows:

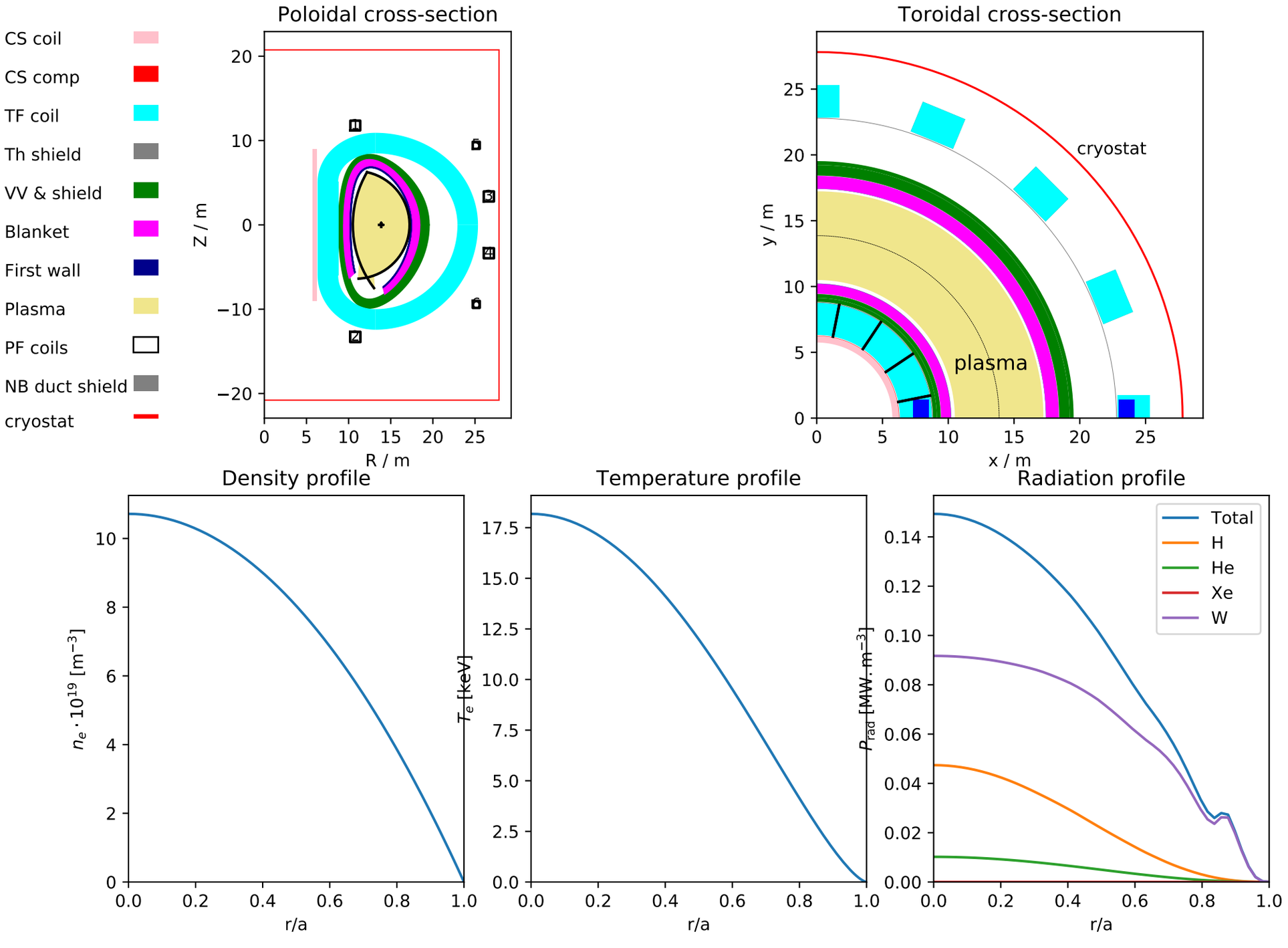
Nominal neutron wall load	= 0.6151 MW m^{-2}
Normalised radius of 'core' region	= 0.75
No pedestal model used	
Helium fraction	= 0.05835
Core radiation	= 123.5 MW
Total radiation	= 203.2 MW
Nuclear heating in blanket	= 1530 MW
Nuclear heating in shield	= 2.377 MW
TF cryogenic power	= 89.23 MW
Power to divertor	= 243.4 MW
Divertor life	= 3.888 years
Primary (high grade) heat	= 2825 MW
Gross cycle efficiency	= 37.5 %
Net cycle efficiency	= 31.57 %
Gross electric power	= 1059 MW
Net electric power	= 500 MW
Fusion-to-electric efficiency $\frac{P_{e,\,net}}{P_{fus}}$	= 23.09 %

Electron Cyclotron Current Drive:

Steady state auxiliary power	= 33.32 MW
Power for heating only	= 0.001 MW
Bootstrap fraction	= 0.2112
Auxiliary fraction	= 0.06339
Inductive fraction	= 0.7254
Plasma heating used for H factor	= 323.1 MW
$\frac{P_{div}}{R_0}$	= 17.55 MW m^{-1}
$\frac{P_{div}}{< n > R_0}$	= 32.76 $\times 10^{-20}$ MW m^2
$\frac{P_{div}}{P_{LH}}$	= 1
H* (non-rad. corr.)	= 1.146

Costs

Cost output not selected


CS coil
CS comp
TF coil
Th shield
VV & shield
Blanket
First wall
Plasma
PF coils
NB duct shield
cryostat
Poloidal cross-section
Z / m
R / m
Toroidal cross-section
cryostat
plasma
y / m
x / m
Density profile
$n_e \cdot 10^{19}$ [m^{-3}]
r/a
Temperature profile
T_e [keV]
r/a
Radiation profile
P_{rad} [MW.m^{-3}]
Total
H
He
Xe
W
r/a