

# Our findings so far

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# AP1000 Findings



# AP1000 Conclusion / GDA Issues

⇒ Our conclusion, pending consultation, is that we could issue an interim statement of design acceptability for the AP1000. This would be subject to a number of potential GDA Issues covering the following areas:

## ⇒ Potential GDA Issues

- ⇒ Decommissioning of the AP1000
- ⇒ The radiologically controlled area ventilation system (VAS), and any other ventilation systems where there is potential for the release of radioactive waste to the atmosphere which do not have passive high efficiency particulate arrest (HEPA) filtration as part of the design.
- ⇒ Disposability of spent fuel following longer term interim storage pending disposal.

# AP1000 - Other findings

- The capability to include boron recycle in the AP1000 design, to demonstrate whether boron recycling represents BAT.
- Detailed arrangements for the hand over between Westinghouse and future operators.
- The suitability of appropriate mobile equipment for waste which is not compatible with the aqueous radioactive waste system
- Information on secondary containment for the monitor tanks
- Justification of options for carbon-14 abatement.
- Providing evidence at site permitting that specific arrangements for minimising the disposals of radioactive waste for each site represent BAT.
- Disposability of intermediate level radioactive waste (ILW)
- The monitoring of radioactive waste discharges and disposals.
- Waste from construction activities shall be included in the waste strategy for each site at site specific permitting.

# AP1000 – Gaseous Disposals

Radionuclides or group of radionuclides	Annual limit (GBq)	Quarterly notification level (GBq)
Tritium	3,000	600
Carbon-14	1,000	210
Iodine-131	0.3	0.03
Noble gases excluding argon-41	13,000	1,300
All other radionuclides (excepting tritium, carbon-14, iodine radionuclides and noble gases)	0.03	0.003

# AP1000 – Aqueous Disposals

Radionuclides or group of radionuclides	Annual limit (GBq)	Quarterly notification level (GBq)
Tritium	60,000	11,000
Carbon-14	7	2.5
Cobalt-60	0.5	0.18
Caesium-137	0.05	0.018
All other radionuclides (excepting tritium, carbon-14, cobalt-60 and caesium137)	5	1.8

# UK EPR Findings



# UK EPR – Conclusions / GDA Issues

- ➔ Our conclusion, pending consultation, is that we could issue an interim statement of design acceptability for the UK EPR. This is subject to a number of potential GDA Issues covering the following areas:

## Potential GDA Issues

- ➔ Decommissioning of the UK EPR.
- ➔ Disposability of spent fuel following longer term interim storage pending disposal.

# UK EPR – Other Findings

- ➔ The changes to the 'reference case' for the site-specific strategy.
- ➔ Zinc injection as an option to aid corrosion control.
- ➔ Assessment of the removal of secondary neutron sources.
- ➔ Review of the Best Available Techniques (BAT) assessment on the minimisation of the production of activated corrosion products.
- ➔ BAT demonstration of certain discharge tanks.
- ➔ BAT assessment on the fuel pool to minimise the discharge of tritium to air.
- ➔ The sizing of filters and the demineralisation system.
- ➔ Disposability of intermediate level radioactive waste (ILW) following longer term interim storage pending disposal.
- ➔ Demonstrating that the conditions of acceptance of any available smelting/incineration facilities can be met (if proposed).
- ➔ Evidence at site-specific permitting that specific arrangements exist for minimising solid radioactive waste exist.
- ➔ The monitoring of radioactive waste discharges and disposals.

# UK EPR – Gaseous Disposals

Radionuclides or group of radionuclides	Annual limit (GBq)	Quarterly notification level (GBq)
Tritium	3,000	150
Carbon-14	700	100
Iodine-131	0.4	0.04
Noble gases	22,500	2,250
All other radionuclides (excepting tritium, carbon-14, iodine radionuclides and noble gases)	0.05	0.027

# UK EPR – Aqueous Disposals

Radionuclides or group of radionuclides	Annual limit (GBq)	Quarterly notification level (GBq)
Tritium	75,000	45,000
Carbon-14	95	9
Cobalt-60	1.5	0.12
Caesium-137	0.5	0.04
All other radionuclides (excepting tritium, carbon-14, cobalt-60 and caesium137)	3	0.24

# What we're asking

# Questions

- ➔ Do you have any views or comments on our preliminary conclusions on ..... ? (15 specific areas)
- ➔ Do you have any views or comments on our preliminary conclusions on the acceptability of the design?
- ➔ Do you have any overall views or comments to make on our assessment, not covered by previous questions?

# Reactor design breakouts today

- ➔ Integrated waste strategy / solid wastes / spent fuel (questions 2, 6, 7)
- ➔ BAT to minimise creation / gaseous / aqueous / monitoring (questions 3, 4, 5)
- ➔ Management systems / other environmental regulations / overall acceptability (questions 1, 10 – 15)
- ➔ Impacts (human and non-human) (question 9)

# How to respond

# Online, email, letter or fax

- ➔ Visit our website at <https://consult.environment-agency.gov.uk/portal/ho/nuclear/gda>.
- ➔ Email: [gda@environment-agency.gov.uk](mailto:gda@environment-agency.gov.uk)
- ➔ Post: Sue Riley  
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# Timescales

- ➔ This 16-week consultation began on 28 June 2010 and will close on 18 October 2010.
- ➔ Please send your responses to arrive by 18 October 2010.



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