

# Q2 Sizewell Operator Environmental Monitoring Results

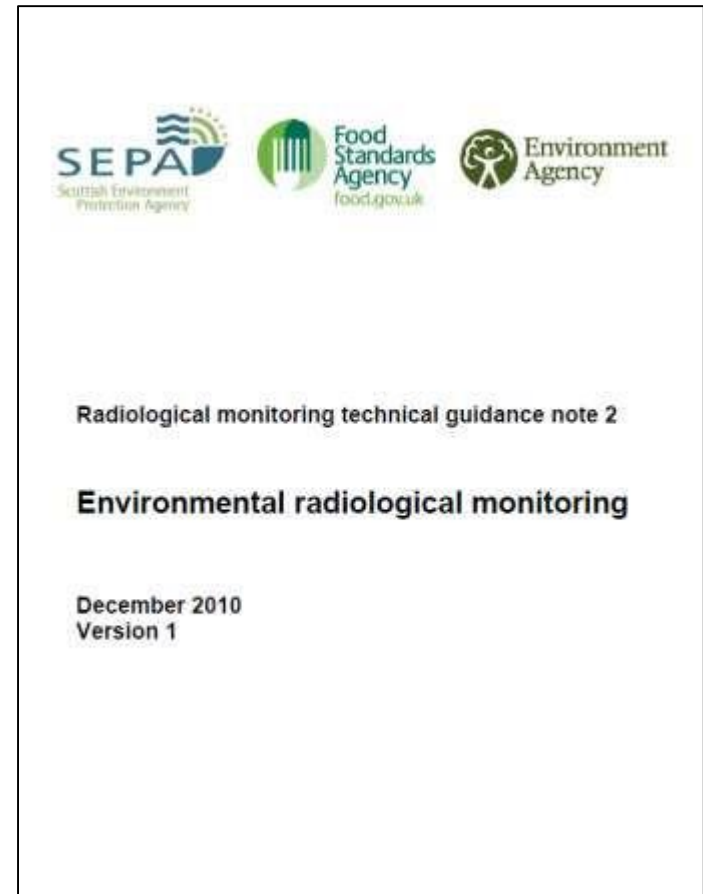
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# What do we require?

- ➔ Define, document and carry out an environmental monitoring programme
  - ➔ Reported quarterly to EA (publically available)
  - ➔ Three months retrospectively
- ➔ SZB manages programme for both sites
- ➔ Separate to monitoring done by the EA and Food Standards Agency

# Why do we ask?

- ➔ Monitor environmental effects of permitted discharges
  - ➔ What, when & how
- ➔ Objectives & Principles
- ➔ Source-Pathway-Receptor model



# Sizewell Programme (Operator)

- ➔ The current programme has a wide range of monitoring and sampling locations:
  - ➔ 13 radiation monitoring locations in the local area
  - ➔ 10 passive shade monitoring locations (changed monthly)
  - ➔ 3 different milk samples
  - ➔ Sampling of up to 10 species of fish, molluscs and crustacea during the year
  - ➔ 13 coastal locations for radiation monitoring
  - ➔ Biannual radiation monitoring of the strandline close to the power stations
  - ➔ Radiation monitoring of local fishing equipment
  - ➔ 5 locations where grass and soil samples are taken
  - ➔ 5 locations where sand/sediment samples are taken

# Q2 Results (April-June 2016)

## ➔ Sizewell A perimeter fence dose rates

- ➔ 13 fixed

- ➔ dosimeters No

- ➔ unusual results

Annual average results  $\leq 0.25$  mSv



## ➔ Off-site dose rates

- ➔ 13 fixed dosimeters

- ➔ 2 arcs around site at 1km and 6km

- ➔ No unusual results

Annual average results  $\leq 0.25$  mSv

# Q2 Results (April-June 2016)

## ➔ Beach/estuary dose rate monitoring

- ➔ 11 locations monitored quarterly

- ➔ 2 location monitored annually

- ➔ No unusual results

- *Access to one sample site was not possible due to construction works.*

- ➔ Net dose rates all <10 nGy per hour

# Q2 Results (April-June 2016)

- ➔ Passive shade monitoring
  - ➔ 10 shades deployed in an arc around Sizewell
  - ➔ Replaced monthly
  - ➔ 11 of the most common isotopes associated with operational and decommissioning nuclear power stations analysed for.
  - ➔ No positive results during the quarter
  - ➔ All results less than the limit of detection (0.1 – 0.3 Bq per shade)



# Q2 Results (April-June 2016)

## ➔ Milk sampling

➔ 2 samples collected quarterly

- *One sample site not sampled as ceased milk production in Q1 2016.*

➔ *Another site will cease milk production at end of Q2.*

12 of the most common isotopes associated with operational and decommissioning nuclear power

➔ stations analysed for.

➔ No positive results during the quarter

All results less than the limit of detection (0.1 – 0.6 Bq per litre of milk)



# Q2 Results (April-June 2016)

## ➔ Grass/herbage sampling

➔ 5 locations sampled

➔ quarterly

11 of the most common isotopes associated with operational and decommissioning nuclear

➔ power stations analysed for.

Analysed for concentration (Bq per kg) and loading

➔ (Bq

➔ per m<sup>2</sup>)

No positive results during the quarter

All results less than the limit of detection (<0.1 to <1.1Bq per kg or <0.1 to <0.8 Bq per m<sup>2</sup>)

# Q2 Results (April-June 2016)

## ➔ Marine sand/sediment samples

- ➔ Samples taken quarterly from 5
- ➔ locations

11 of the most common isotopes associated with operational and decommissioning nuclear

- ➔ power stations analysed for.

Positive Cs-137 result recorded at Southwold

- 7.7 Bq per kg
- Not unusual, similar to last quarter

# Q2 Results (April-June 2016)

- ➔ Annual contamination monitoring of fishing equipment
  - ➔ Equipment used by local fishermen at Sizewell
  - ➔ Not carried out in Q2.

# Q2 Results (April-June 2016)

## ➔ Fish, crustacea and mollusc sampling

➔ Oyster, mussels, cod, bass, sole and turbot

➔ Collected from local fishermen quarterly

*(species*

➔ *depends on season)*

11 of the most common isotopes associated with

➔ operational and decommissioning nuclear

➔ power stations analysed for

No positive

results

All results within the limit of detection (0.1 – 1.5 Bq per kg)

# Q2 Results (April-June 2016)

➔ Questions?

➔ Feedback

# Sizewell B Discharges to the Environment

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# SZB Gaseous Discharges

Month	Tritium (H-3) (GBq)*	Carbon-14 (GBq)	Iodine-131 (MBq)*	Noble gases (GBq)#	Beta particulate (MBq)
August	44	22	0.9	240	0.5
Sept	64	16	0.7	272	0.5
Oct	54	7	5.5	211	0.5
QNL	600	110	60	4,000	6
Annual Limit	3,000 (1.8%)	500 (3%)	500 (0.5%)	30,000 (0.8%)	100 (0.5%)

# SZB Liquid Effluent Discharges

Month	Tritium (H-3) (GBq)	Caesium-137 (GBq)	Other radionuclides^ (GBq)
August	239	0.0	0.2
Sept	383	0.0	0.1
Oct	407	0.0	0.1
QNL	30,000	4	15
Annual Limit	80,000 (0.43%)	20 (0%)	130 (0.1%)