

Blocking the Windscale pipeline – Seascale children cancer rates 12x the national average



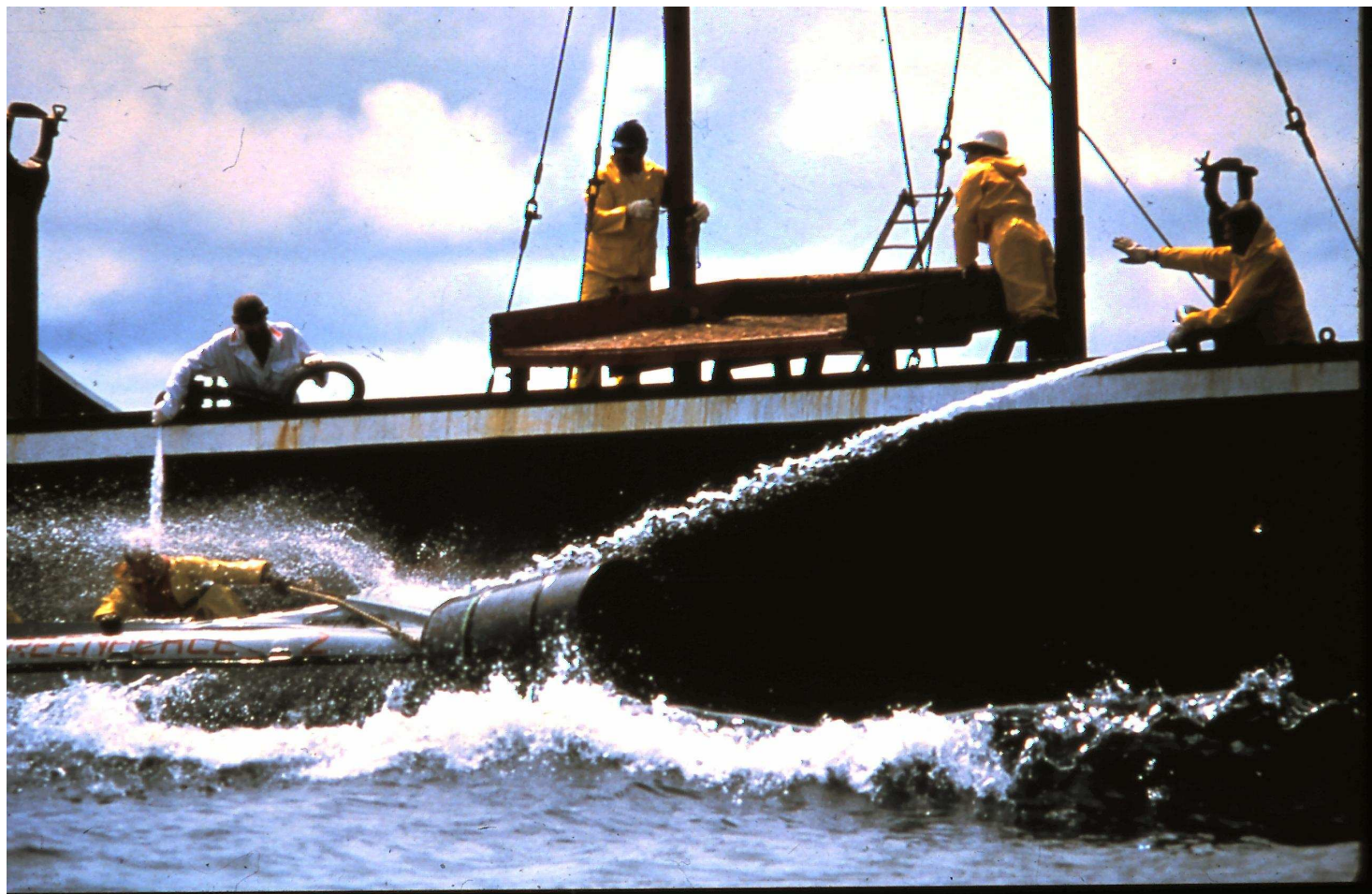
NUCLEAR TESTING

The French 'Licorne' thermonuclear test
at Mururoa Atoll on 3 July 1970,
which yielded 914 kilotons.

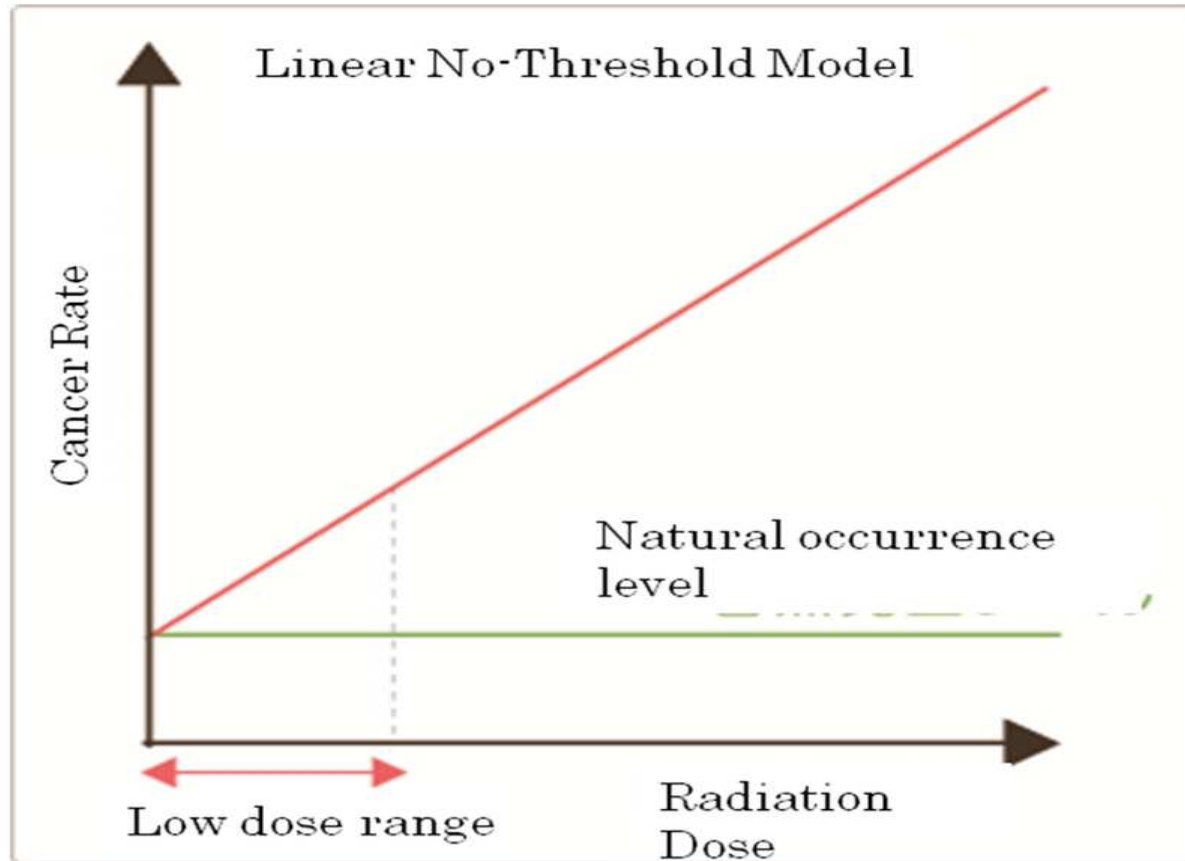


Fukushima 2011 – marine and atmospheric





Linear no threshold



Dose response accepted by the majority of scientists holds that there is no safe level of radiation. Cancer risk is directly proportionate to the level of exposure but is sometimes greatly delayed - I.e. that there is a relationship between dose and risk.

KiKK study – began in 2002, published in 2008

- Kinderkrebs in der Umgebung von Kernkraftwerken (Childhood Cancer in the Vicinity of Nuclear Power Plants) Spix et al (2007) and Kaatsch et al (2008). **The main findings were a 160% increase in solid cancer risk and a 220% increase in leukaemia risk among young children living within 5 km of all German nuclear reactors.**

CoMARE 14th Report 2011

- The latest report from COMARE looks specifically at the incidence of this cancer in children under the age of 5 living near 13 of the UK's nuclear power plants. It found "no **significant** association."
- (Despite the fact that it – along with some 60 other reports over the least decade or so – found an increase in cancers but argued that the increase was not 'statistically significant'.)

A recipe for confusion and obfuscation

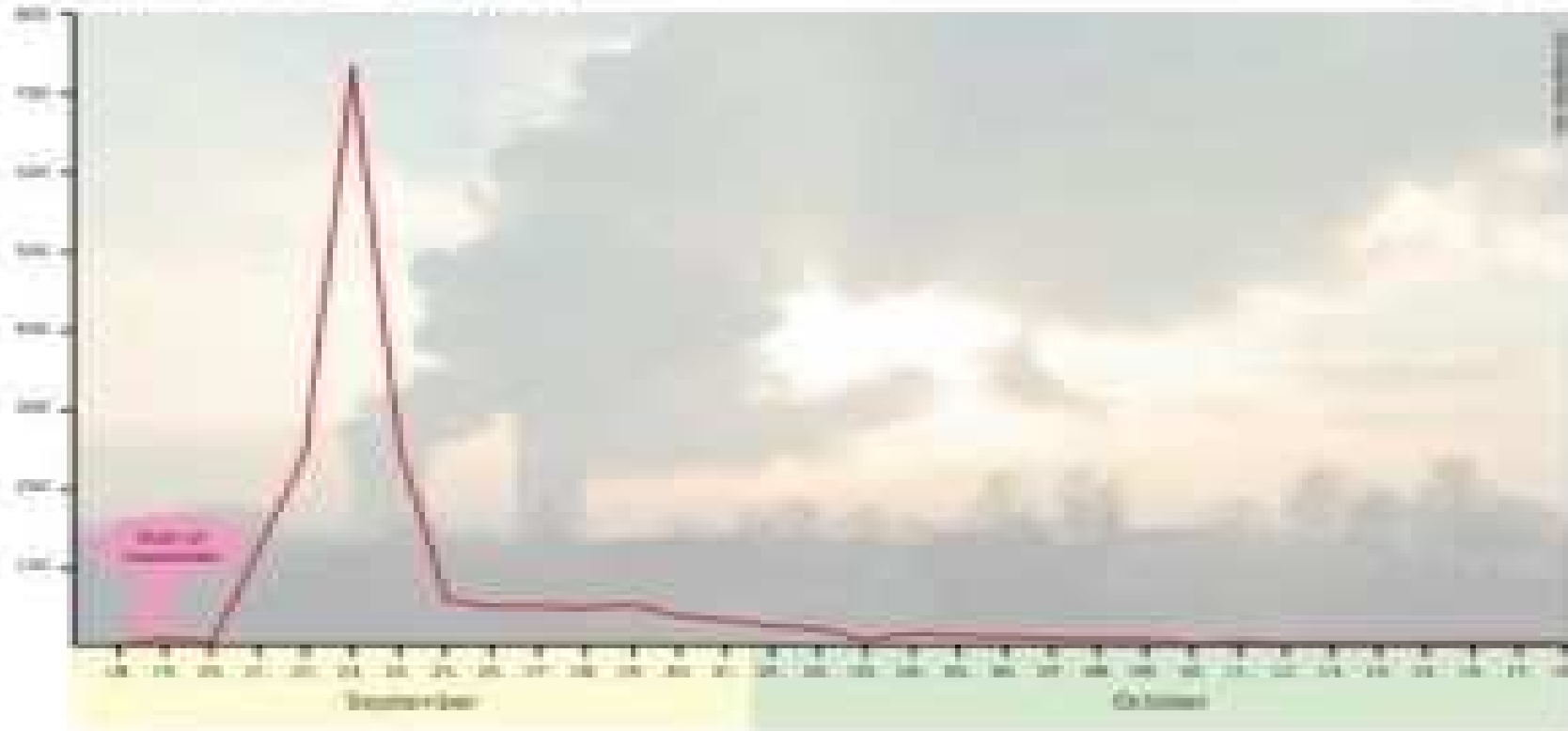
- ‘Yes it is.’
- ‘No it isn’t.’
- ‘Your study didn’t do X, Y and Z.’
- ‘Yes it did.’
- ‘Communities hosting nuclear facilities should not eat the vegetables they grow in gardens.’
- ‘The discharges are harmless.’

Routine discharges from NNPs during outages – mainly of noble gases (hydrogen-3 (tritium) and smaller amounts of carbon-14 and iodine-131).
Levels increase by ~ 500x.

Radioactive emissions of the NPP Gundremmingen during inspection and refuelling period



radioactive noble gas concentration (kBq/m³)



60 studies to date - most (70%) indicate an increase in childhood leukaemia. Most recent metadata:

Table: Studies of observed (O) and expected (E) leukaemia cases within 5 km of NPPs.

	O	E	SIR=O/E
Germany	34	24	
Great Britain	20	15	
Switzerland	11	7	
France	14	10	1.37
Pooled data	79	57	1.37

Hypotheses

Young children/foetuses are known to be far more 'radio-sensitive' than adults

Uranium binding to DNA

'Second event' theory – children with a propensity towards disease are sensitised by exposure to radiation which is triggered by a second exposure

A history of seeking official recognition

CERRIE report – Michael Meacher

Meeting agreed between CoMARE and
NGO-sponsored experts

Attempt two years ago to undertake a joint
fact finding exercise with CoMARE –
finally refused at a DECC/NGO meeting
earlier this year

Conclusions

- Authorised exposure levels go down not up
- Radiological protection is mostly guesswork
- 10 to the minus 6 and 5 millisievert limits are arbitrarily arrived at and placatory
- Monitoring is haphazard
- Health impacts are unknown
- Government won't instruct a publicly funded body to engage with NGOs