

WHAT YOU SHOULD DO IF THERE IS **A NUCLEAR EMERGENCY** AT THE DEVONPORT SITE

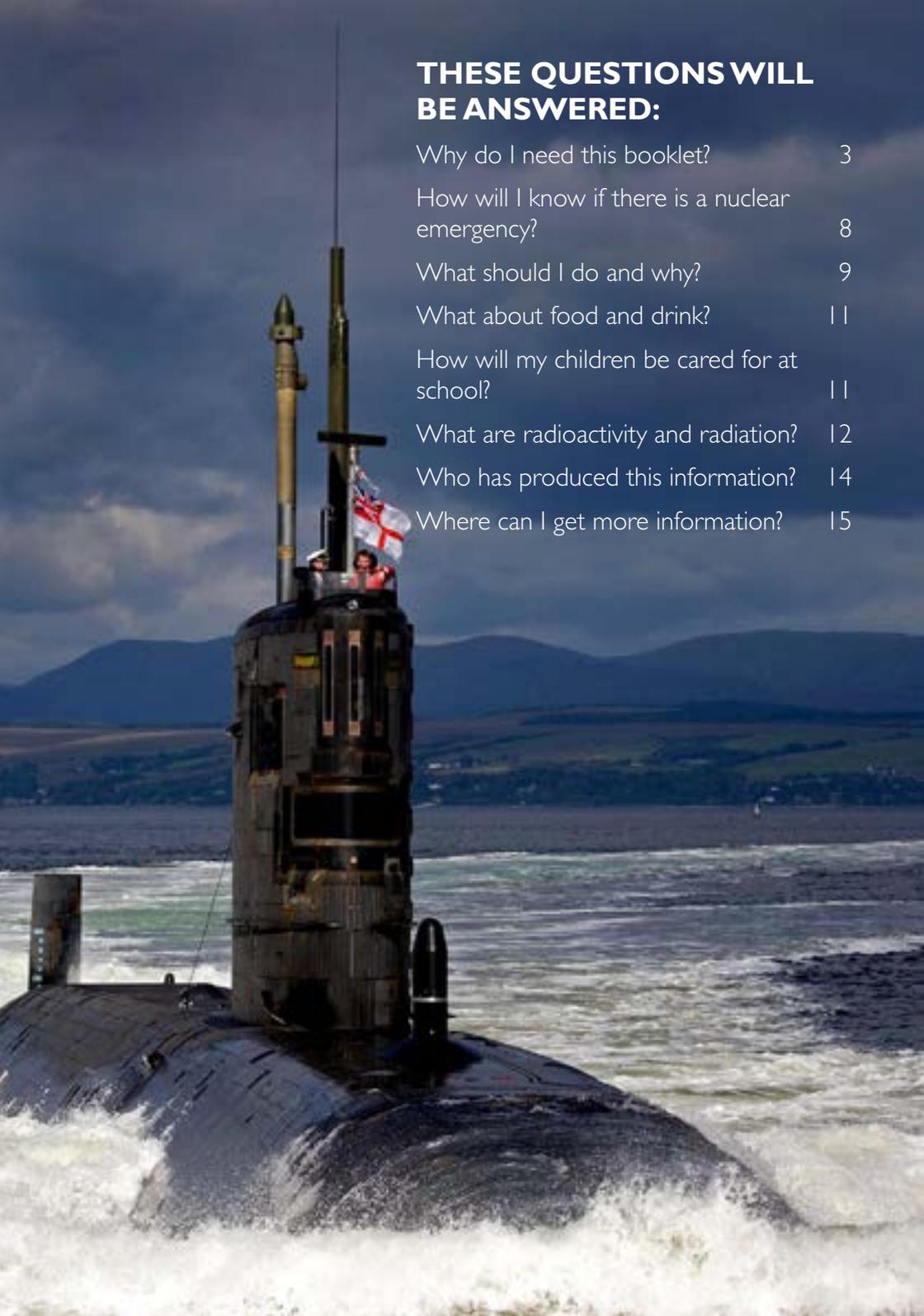
June 2020



IMPORTANT NUCLEAR SAFETY ADVICE

You should read this booklet carefully.

The advice is summarised on the back page, which you should tear off and hang on your notice board or by your front door, so you can find it easily.



THESE QUESTIONS WILL BE ANSWERED:

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WHY DO I NEED THIS BOOKLET?

You have been given this booklet because you either live or have a business in one of the Detailed Emergency Planning Zones around the Devonport Site.

If you live or have a business in the Outline Planning Zone and have been identified as being in a vulnerable group, then you will also have received this booklet.

The Detailed Emergency Planning Zones are areas around the Devonport Site, which extend to a minimum distance of 1.5km from the operational submarine berths. The Outline Planning Zone is an area around the Devonport Site, which extends to a distance of 5km from a central point, within the site.

'Devonport Site' means the areas at Devonport owned by Ministry of Defence and Devonport Royal Dockyard Limited (DRDL). It includes the Dockyard Port of Plymouth and anchorages within Plymouth Sound, including the Delta and Echo Buoys.

The maps below show the areas for the Detailed Emergency Planning Zones



The maps below show the areas for the Outline Planning Zones

**Outline Planning Zone
– Devonport**



**Outline Planning Zone
– Delta and Echo Buoys**



The Devonport Site operates, berths and maintains nuclear powered warships and moves radioactive material around the site. In the very unlikely event that there is significant damage to the reactor a nuclear emergency could occur. If such a nuclear emergency did occur radioactive material could be released into the air and/or marine environment. For an airborne release, radioactive material would be dispersed downwind and we work with weather forecasters who give us detailed advice about wind direction. This tells us how any radiation is dispersed and which areas could be affected. A proportion of this material would fall to the ground or marine environment.

If there is a nuclear emergency, people could be exposed to gamma radiation (like X-rays) and to beta radiation. In some circumstances radioactive material could be released from the Devonport Site and affect areas close to or downwind of it. This booklet tells you what to do in the very unlikely event that this happens. If necessary, the emergency services (which include the police, fire and rescue service and ambulance service), local councils, health services and the Environment Agency (who are all responsible for protecting the public) will co-ordinate an emergency response.



In a nuclear emergency, you could be exposed to radiation by:

- breathing in contaminated air and gases (inhalation)
- touching contaminated surfaces
- eating or drinking contaminated food or water (ingestion)
- direct exposure to radiation

As radiation passes through the body it can damage or kill cells. The risk of exposure to radiation (for example an increased risk of cancer) increases with radiation dose. Only big radiation doses can cause radiation sickness.

If you take the advice given in this booklet, you will reduce the effects of exposure to radiation.

Radioactivity, limits and hazards are explained further on pages 12-13.



HOW WILL I KNOW IF THERE IS A NUCLEAR EMERGENCY?

The Naval Base siren will give the emergency signal – a rising and falling wailing note. The 'All Clear' signal will be given by sounding the siren on a steady note for at least a minute.

The siren is tested every Monday morning at 11.30am.

The siren is sounded to warn people on the Devonport Site that there is a nuclear emergency. The siren may also be heard in nearby areas. You will also hear that there is a nuclear emergency via announcements on television, radio or social media or the Emergency Notification System (see page 15 for more details).



WHAT SHOULD I DO AND WHY?

- 1 Go indoors and stay there.**
This is because levels of radiation could be higher outside.

Staying inside is the most important safety advice. You should stay inside because levels of radiation will probably be higher outside. Also keep your pets indoors to stop them bringing in radioactive material from outside. If you are away from home when there is a nuclear emergency, then go into the nearest building.



- 2 Close all windows and doors.**

You should close external doors and windows to stop radioactive material from outside coming inside.

- 3 Put out fires and boilers and shut off air conditioning units.**

Fans, air conditioning units, boilers, gas fires and heating systems draw in air from outside. You should switch off these things (and damp down open fires) to stop radioactive material from outside coming inside.



4 Listen to local TV or radio or check social media for more instructions.

During a nuclear emergency, advice will be given out regularly on local television, radio or social media.

TV

BBC 1

ITV

Sky News

RADIO

BBC Radio Devon – 103.4

BBC Radio Cornwall – 95.2

Heart – 88-108 (varies)

Radio Plymouth – 106.7

Pirate FM – Devon 102.2 / Cornwall 102.8

Announcements will be made about:

- the care of children at school
- your food and water supply
- the delivery of stable iodine tablets
- care of animals and pets



5 Do not make mobile or landline phone calls.

You should not make mobile or landline phone calls because the phone system could become overloaded. If this happens the emergency services will not be able to contact each other.



6 Do not leave the area.

You should not leave the area because roads may become gridlocked and the emergency services will not be able to get through to do their job. It is very unlikely that an evacuation of the area will be needed. If there is any need for an evacuation, details will be given on local television, radio and social media. They will tell you what to do and when.

7 Only take stable iodine tablets if you are told to do so.

These tablets help to protect the thyroid from harmful effects of radioactive iodine. It is very unlikely that radioactive iodine would be released into the air. However, if this happens then staff from the Devonport Site will come and give the tablets to people in the affected areas. This will happen within a few hours of an emergency. You will also get advice on how to take them.



You should make sure that everyone in your house or business premises knows what to do if there is a nuclear emergency.

Please make sure you have adequate arrangements in place to inform visitors.

WHAT ABOUT FOOD AND DRINK?

It is unlikely that the water supply will be affected. It is also unlikely that food or drink in your house that is covered or sealed will be affected. If foodstuffs do get contaminated they will be unfit to use. You will be told if this is the case by announcements on local TV, radio and social media. Advice will also be given to farmers, fishermen and other food producers.

HOW WILL CHILDREN BE CARED FOR AT SCHOOL?

Children at school will be kept inside to protect them from radiation. Windows and doors will be closed and heating and air-conditioning units will be shut down. Children will be given stable iodine tablets, from the school's supply, if needed.

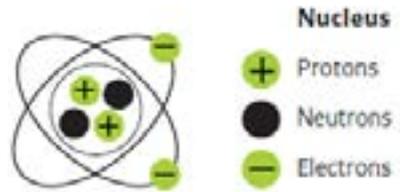
Do not risk exposing yourself or your children to higher levels of radiation by going outside to collect them.

You should tune in to local television, radio and social media to find out about the care and return of children at school.



WHAT ARE RADIOACTIVITY AND RADIATION?

- Everything is made up of tiny building blocks called atoms.
- Each atom is made up of Electrons which orbit around a Nucleus. This contains Protons and Neutrons.
- Some atoms are unstable. They can become stable by getting rid of some of their protons, neutrons and electrons. They are termed radioactive and give off radiation.
- There are three types of radiation: Alpha radiation, Beta radiation and Gamma radiation.



Alpha radiation



Heavy positively charged particles, each made up of 2 protons and 2 neutrons.

Beta radiation



High-speed electrons (negatively charged).

Gamma radiation

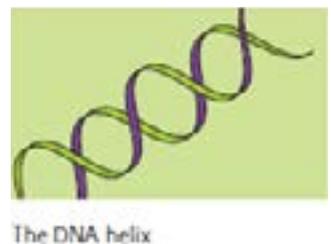


Similar to X-Rays. They penetrate further.

- You cannot be contaminated with radiation, but you can become contaminated if you come into contact with radioactive materials.
- The effect remains with you until you are 'decontaminated' (the contamination is removed).

How radiation could affect your body

- Radiation can cause changes to molecules and tissue in the body. It can also change or affect DNA, the molecule which contains the information used to control our growth and development.
- This can lead to biological effects such as cell changes. It is possible that these changes may not show up until some time after exposure to radiation.
- Different types of radiation can cause different effects and some parts of the body are more sensitive to radiation than others.
- Studies have shown that the risk of an effect from exposure to radiation increases with the radiation dose.



Radiation measurement – quantities and units

- The unit by which the amount of radioactivity is measured is the becquerel
- 1 becquerel (1 Bq) = 1 atomic disintegration per second
- the effect of ionising radiation on the body is measured in sieverts
- the sievert (Sv) is the unit of radiation dose
- the sievert is a large quantity so often the term millisievert or microsievert is used
- 1 millisievert (1 mSv) = 1/1000 Sv
- 1 microsievert (1 μ Sv) = 1/1000,000 Sv

For comparison 1 millisievert is less than half the average annual dose from natural radiation in the UK.

1 microsievert is approximately equal to a tenth of the dose incurred during a flight from the UK to Spain.

Hazards from a nuclear emergency

In a nuclear emergency, you could be exposed to radiation by:

- breathing in contaminated air and gases (inhalation)
- touching contaminated surfaces
- eating or drinking contaminated food or water (ingestion)
- direct exposure to radiation



1 Inhalation



2 Contaminated surfaces



3 Ingestion



4 Direct exposure

WHO HAS PRODUCED THIS INFORMATION?

This booklet has been produced by Plymouth City Council in consultation with Cornwall Council, Devon County Council, South Hams District Council, the Ministry of Defence and Devonport Royal Dockyard Limited (DRDL). It has been prepared in accordance with the Radiation (Emergency Preparedness and Public Information) Regulations 2019 (REPPIR).

REPPIR requires that the Ministry of Defence and DRDL, as the Devonport on-site operators, have emergency plans in place. It also states that the local authorities must provide prior information to people who live or work in the area surrounding the Devonport Site who may be affected by a nuclear emergency. The term 'nuclear emergency' is the same as 'radiation emergency', defined in REPPIR 2019. The term 'nuclear emergency' is used in this booklet.

WHERE CAN I GET MORE INFORMATION?

The off-site emergency plan for the area around the Devonport Site is called the Devonport Off-Site Emergency Plan (DOSEP).

It is written by Plymouth City Council as the lead local authority. The plan gives details of the roles of the Ministry of Defence, DRDL, the emergency services, and the other local civil authorities in the event of a nuclear emergency. You can view the DOSEP at www.plymouth.gov.uk or www.cornwall.gov.uk.

There is a free emergency notification service for residents and businesses close to the Devonport Site to inform them in the very unlikely event of a nuclear emergency. Registration is via the Plymouth City Council, Cornwall Council or Devon County Council websites. To register for this service visit www.plymouth.gov.uk/emergencies.

You can get more information on radiation and the Devonport Site from: Nuclear Safety Assurance, Emergency Planning and Response Team, Howard Block, Building B128, HM Naval Base, Devonport, Plymouth PL2 2BG
Email: NAVYNBCD-NSAEPR@mod.gov.uk

The information in this booklet is available in other languages and formats. Call 01752 668000 and ask for the Civil Protection Service.

SUMMARY ADVICE

If there is a nuclear emergency, a wailing siren will go off to warn people on the Devonport Site. You may also hear that there is a nuclear emergency via announcements on television, radio or social media or if you have registered for the emergency notification system at www.plymouth.gov.uk/emergencies.

Please stay calm and follow this advice:

- go indoors and stay there
- close all windows and doors
- put out fires and boilers and shut off air conditioning units
- do not make mobile or landline phone calls
- do not leave the area
- take stable iodine tablets ONLY if you have been told to
- listen to local radio, social media or television for more instructions

TV

BBC 1

ITV

Sky News

RADIO

BBC Radio Devon – 103.4

BBC Radio Cornwall – 95.2

Heart – 88-108 (varies)

Radio Plymouth – 106.7

Pirate FM – Devon 102.2 / Cornwall 102.8

This booklet will be updated in June 2023

