



**Dounreay Site  
Restoration Ltd**

## **DSRL ENVIRONMENTAL MONITORING PROGRAMME**

*EMPROG EVOLUTION – DSRL ASPIRATION*

Date: June 2010

## DSRL ENVIRONMENTAL MONITORING PROGRAMME

An Environmental Monitoring Programme has been in existence since the mid 1950s

Since August 1999 the statutory programme has remained essentially the same

The programme is as designed for an operational site:

- Reprocessing operations
- Reactor operations



## DSRL ENVIRONMENTAL MONITORING PROGRAMME

DSRL has an aspiration to take the programme forward to reflect current decommissioning operations

Advantages and Opportunities

- Cost effective
- Reflects the low impact of Dounreay discharges on the environment and members of the public
- Reduces the harm on the environment of an intensive programme



## DSRL ENVIRONMENTAL MONITORING PROGRAMME TERRESTRIAL

### ■ Current Programme

Material	Sampling Locations	Sampling Frequency	Analysis	Analysis Frequency
Grass	10 in total, 6 in an inner ring, 4 in an outer ring	Half of locations in any week.	γ spec	Weekly
			Sr-90	3 monthly (bulk)
			Actinides	6 monthly (bulk)
Root mat and soil core	Locations as grass	Half of locations in any quarter	γ spec, Sr-90	3 monthly
			Actinides	6 monthly (bulk)
Air	6 locations	Continuous	γ spec, Sr-90, Actinides	Monthly
Rainwater	Locations as grass	Continuous	γ spec, Sr-90, Actinides	Monthly
Sheep faeces	Locations as grass	Monthly from 2 inner and 2 outer locations	γ spec, Actinides	Monthly
Goat milk	Farm within 10 km	Quarterly	I-129, I-131, Cs-137, Sr-90	Quarterly
Dose rate	4 inner ring, 4 outer ring	Half, every 6 weeks	Dose rate at 1 m	6 weekly

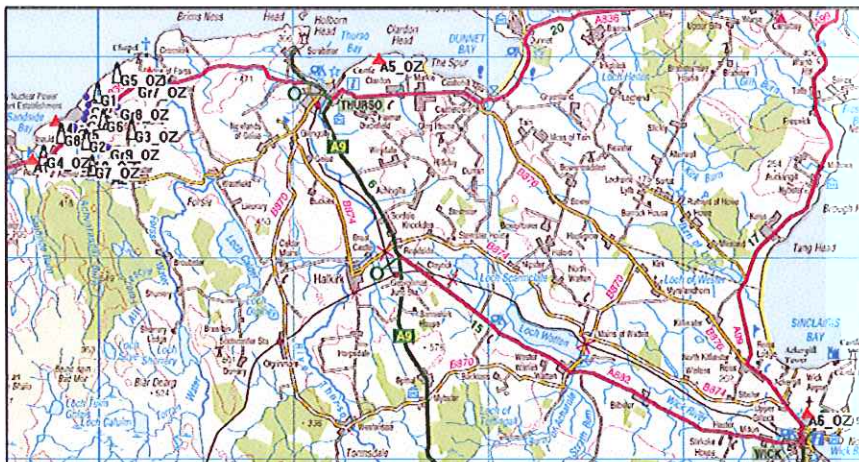


Dounreay Site  
Restoration Ltd

Date: 16/06/2010

5

## DSRL ENVIRONMENTAL MONITORING PROGRAMME TERRESTRIAL



Dounreay Site  
Restoration Ltd

Date: 16/06/2010

6

## DSRL ENVIRONMENTAL MONITORING PROGRAMME MARINE

Material	Locations	Frequency	Analysis	Analysis Frequency
Winkles	Sandside Bay (SB), Kirk Ebb, Crosskirk	Monthly	$\gamma$ spec, Actinides	Monthly
			Sr-90	Annual (bulk)
Soil core	Salmon net drying area	Annual (eos)	$\gamma$ spec, Actinides	Annual
Salmon	Melvich or Sandside	Twice a year	$\gamma$ spec, Actinides	Twice a year
			Sr-90	Annual (bulk)
Round fish, flat fish, crabs, lobster and whelks	Between Holborn Head and Strathy Point	6 weekly	$\gamma$ spec	6 weekly
			Sr-90	Annual (bulk)
			Actinides	Quarterly (bulk)
Seaweed	13 locations	Quarterly	$\gamma$ spec	Quarterly
	8 locations	Weekly	Dose rate at 1 m & contact $\beta$	Weekly
Intertidal material (a)	Locations as beach (a)	When dose rate criteria exceeded	$\gamma$ spec	On each sample
Beach (b)	10 locations	Monthly	Dose rate at 1 m & contact $\beta$	Monthly
				Intertidal material (b)
Beach strandline	SB and Dounreay foreshore	Fortnightly	$\beta$ contamination	Fortnightly
Salmon nets	SB or nearest fishery	Weekly during season	$\beta$ and $\gamma$ dose rates	Weekly during season
Salmon net stores	SB or nearest fishery	Annual (eos)	$\beta$ and $\gamma$ dose rates	Annual

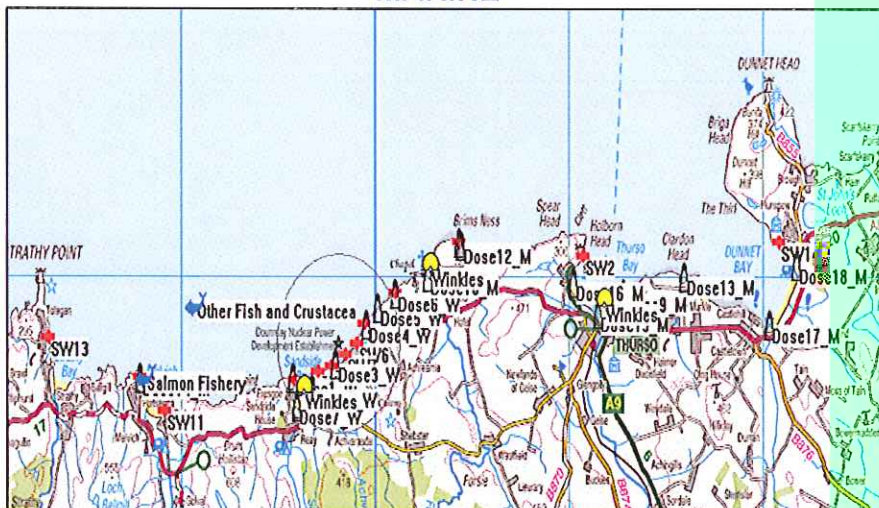


Dounreay Site  
Restoration Ltd

Date: 16/06/2010

7

## DSRL ENVIRONMENTAL MONITORING PROGRAMME MARINE



Dounreay Site  
Restoration Ltd

Date: 16/06/2010

8

## DSRL ENVIRONMENTAL MONITORING PROGRAMME

The aspiration will hopefully be realised in a proposal to be presented to SEPA later 2010

### Programme

- Prepare proposal                      June/July 2010
- Discuss with SEPA
- Peer Review                              June/July 2010
- Internal endorsement                September 2010
- Submission of proposal                December 2010
- DSG/ESG update                        March 2011



## DSRL ENVIRONMENTAL MONITORING PROGRAMME

Considering changes to the Environmental Monitoring Programme

To be proposed and agreed with SEPA

- Reduced/optimised number of samples
- Reduced number of locations in the far field (>2.5km)
- Inclusion of new samples
- Reduced sampling frequency



