

Consequence Report

3/12 anomaly

Automated Report - Testing

Not For Public Dissemination
Issued: March 16, 2014 08:37 MDT

SUMMARY:

This report describes the health effect consequences associated with a hypothetical unknown release to the atmosphere from a radiological source. This is an initial, automated NARAC product, not a final recommendation. Initial predictions are for a limited time period and areas affected may change at later times. Please consult NARAC staff (925-422-7627) for refined, quality assured predictions. Predictions should be confirmed and refined using measurements.

PRODUCTS:

Early Phase TED (0-96 hrs) : (Total Effective Dose Including Plume Passage)
Material: AM-241

Deposition at 12 hrs : (Surface Contamination from Deposited Radionuclides)
Material: AM-241

This product identifies the more highly contaminated areas due to fallout and deposition of the radioactive material. This material, depending upon the type of radiation emitted, may continue to give doses to individuals in these areas through inhalation of resuspended radioactive material or from direct external radiation. These levels of deposited radioactivity should be confirmed by monitoring surveys.

SOURCE INFORMATION:

Release Start Time:	March 11, 2014 16:30 MDT
Release Stop Time:	March 12, 2014 00:30 MDT
Release Location:	(32.3723,-103.792)
Release Mechanism:	Generic
Source Material and Amount:	61 dpm of AM-241 (100% respirable) Total Strength: 61.0 dpm
Source Geometry:	point released at 6.7 m
Particle Size Distribution:	All particulate is in the respirable range from 0.1 to 10 microns

METEOROLOGY:

Observations from 03/11/2014 22:00:00 UTC to 03/12/2014 21:00:00 UTC at 1 hr intervals were used in the NARAC meteorological model

Observation Met Times:

https://naracweb.llnl.gov/web/reports/viewReport.html?runId=run_201400001431&reportId=rpt_201400001348&orient=landscape&prettyPrint=true

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- March 11, 2014 16:00 MDT
- March 11, 2014 17:00 MDT
- March 11, 2014 18:00 MDT
- March 11, 2014 19:00 MDT
- March 11, 2014 20:00 MDT
- March 11, 2014 21:00 MDT
- March 11, 2014 22:00 MDT
- March 11, 2014 23:00 MDT
- March 12, 2014 00:00 MDT
- March 12, 2014 01:00 MDT
- March 12, 2014 02:00 MDT
- March 12, 2014 03:00 MDT
- March 12, 2014 04:00 MDT
- March 12, 2014 05:00 MDT
- March 12, 2014 06:00 MDT
- March 12, 2014 07:00 MDT
- March 12, 2014 08:00 MDT
- March 12, 2014 09:00 MDT
- March 12, 2014 10:00 MDT
- March 12, 2014 11:00 MDT
- March 12, 2014 12:00 MDT
- March 12, 2014 13:00 MDT
- March 12, 2014 14:00 MDT
- March 12, 2014 15:00 MDT

No precipitation is included in this calculation

ASSUMPTIONS:

Unless otherwise stated ICRP60 series DCF's were used for dose plots.

CONTACT INFORMATION:

Calculation requested by:
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This report has not been approved for distribution

Classification: Not For Public Dissemination

DISCLAIMER:

These model predictions are intended to be guidance, and are not final recommendations. The accuracy of any prediction will be limited by the accuracy of the input data, such as estimates of the amount of material that becomes airborne and the available meteorological data for the area and time of the incident. Plume predictions may be for a limited time period, and may change at later times if new input data becomes available. Predictions should be confirmed and refined using field measurements. Air and ground concentration may be higher than predicted by this plume model simulation due the limited resolution of this particular simulation. For actual incidents or exercises, consult incident command and subject matter experts from the appropriate coordinating agency before making any decisions based on this model prediction.

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Early Phase TED (0-96 hrs)
(Total Effective Dose Including Plume Passage)



Map Size: 2.9 km by 2.9 km Id: ProductionT.rcE22036.rcC1

Contour Levels			
	Description	(rem) Extent Area	Population
	Below health effect guidelines. Possibly contaminated area. Use to confirm with monitoring surveys.	>1.00E-10 0.4km 0.06km ²	0
	Below health effect guidelines. Possibly contaminated area. Use to confirm with monitoring surveys.	>1.00E-11 2.1km 1.6km ²	0
<p>Note: Areas and counts in the table are cumulative. Population Source = LandScan USA V1.0.</p>			

Effects or contamination from March 11, 2014 16:30 MDT to March 15, 2014 16:30 MDT
Release Location: 32.372340 N, 103.791610 W
Material: AM-241
Generated On: March 16, 2014 08:33 MDT
Model: ADAPT/LODI
Comments:
 Hypothetical release starting at 03/11/2014 22:30:00 UTC for 8 hr
 met obs at 1 hr intervals from 03/11/2014 22:00:00 UTC to 03/12/2014 21:00:00 UTC

NARAC Operations: (NARAC Staff); narac@lilni.gov; 925-424-6465

Requested by: {Robert B. Hayes; DOE – WPP; 5756316264; Robert.Hayes@wipp.ws }

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Deposition at 12 hrs
(Surface Contamination from Deposited Radionuclides)



Map Size: 4.3 km by 4.3 km Id: ProductionT.rcE22036.rcC1

Concentration Levels			
	Description	(uCi/m ²) Extent Area	Population
	No guidelines specified. Possibly contaminated area. Use to confirm with monitoring surveys.	>1.00E-11 0.08km 0.004km ²	0
	No guidelines specified. Possibly contaminated area. Use to confirm with monitoring surveys.	>1.00E-12 0.7km 0.2km ²	0
	No guidelines specified. Possibly contaminated area. Use to confirm with monitoring surveys.	>1.00E-13 3.3km 3.9km ²	0
<p>Note: Areas and counts in the table are cumulative. Population Source = LandScan USA V1.0.</p>			

Effects or contamination at March 12, 2014 04:30 MDT
Release Location: 32.372340 N, 103.791610 W
Material: AM-241
Generated On: March 16, 2014 08:33 MDT
Model: ADAPT/LODI
Comments:
 Hypothetical release starting at 03/11/2014 22:30:00
 UTC for 8 hr
 met obs at 1 hr intervals from 03/11/2014 22:00:00 UTC
 to 03/12/2014 21:00:00 UTC

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