



January 15, 2019

Reference: License #26-18033-01E

Attention: Traci Kime / Anthony Kirkwood
Nuclear Material Safety and Safeguards
US Nuclear Regulatory Commission
Washington, DC 20555-0001

Subject: Annual Report of Byproduct Material Transfer

This report is required per VISHAY's license with the USNRC and the State of Nebraska per Section 32.16, 10 CFR Part 32. Certain models of plasma display/ tubes manufactured at the Columbus site contain Kr-85. It is a controlled byproduct material. Kr-85 is the only radio nuclide transferred. Kr-85 gas concentrations used are 5.0, 3.0, 2.5, 1.0 and 0.1 mCi per liter.

The US NRC allows VISHAY to sell / transfer product for use under Section 30.15, paragraph 8, IV, 10 CFR Part 30 pertaining to maximum allowed Kr-85 in a single electron tube. The State of Nebraska also requires the material be transferred in accordance with the provisions of 10 NAC 13.

The USNRC requires a breakdown per product type, pieces shipped, and amount of radio nuclide in each product type. The report summarizes the transfer of product from January 1, 2018 to December 31, 2018.

<u>Type of Device</u>	<u># of Devices Shipped</u>	<u>Total Quantity Kr-85 Shipped</u>
Plasma Units	6,938 pcs	4,131 uCi

Please see the attached spreadsheet for a breakdown of transferred byproduct material per each VISHAY part number.

Sincerely,

Dave Wolfe
RSO / Sr. Process Engineer
VISHAY Dale Electronics

CC: Keith Raysby Don Groninger Valerie Paul Sue Evans Dave Holmgren
John Kraus CJ Swantek Ivan Perez James Ryba Tom Bertsch
Don McLaughlin

Vishay Dale Electronics, Incorporated

1122 23rd Street, Columbus, NE, 68601, Phone (402) 564-3131 Fax (402) 563-6418 www.vishay.com

MANUFACTURER OF THE WORLD'S BROADEST LINE OF DISCRETE SEMICONDUCTORS AND PASSIVE COMPONENTS

VISHAY Dale Electronics LLC		By Product Material Transfer Report for Year 2018	
USNRC License # 26-18033-01E		State of Nebraska License #10-02-01	
2018 Total	Reported 01-2019	Micro Curies	KR-85 Product Types Active in 2018
Display Type	# Shipped	Radiation / Display	Radiation / Type (uCi)
APD-192G096B	149	0.372	55.428
APD-160G040-1	7	0.94	6.58
PD-04D025-3	100	0.3025	30.25
PD-08D023-8	308	0.49	150.92
PD-08D025-21	10	0.3025	3.025
PD-09D025-1	16	0.41	6.56
PD-10D023-12	5	1.41	7.05
PD-10D023-13	3,185	0.553	1761.305
PD-10D025-10	67	0.58	38.86
PD-12D023-1	499	0.553	275.947
PD-13D025-1	11	1.124	12.364
PD-14D025-5	300	0.667	200.1
PD-20D025-5	436	0.8	348.8
PD-20D025-7	11	0.65	7.15
PD-50D023-4,-5	509	0.93	473.37
PD-133B011-1	845	0.515	435.175
PD-133B011-2	150	0.527	79.05
PD-133B011-3	180	0.825	148.5
PD-140B011-1	150	0.607	91.05
TOTAL DISPLAYS	6938	TOTAL RADIATION	4131.484
AVERAGE	RADIATION	PER UNIT	0.595486307