



pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION



Bureau of Radiation Protection

Appalachian Compact Low Level Radioactive Waste (LLRW) Disposal Data Calendar Year 2021

Low-Level Waste Advisory Committee Meeting
September 30, 2022

Tom Wolf, Governor

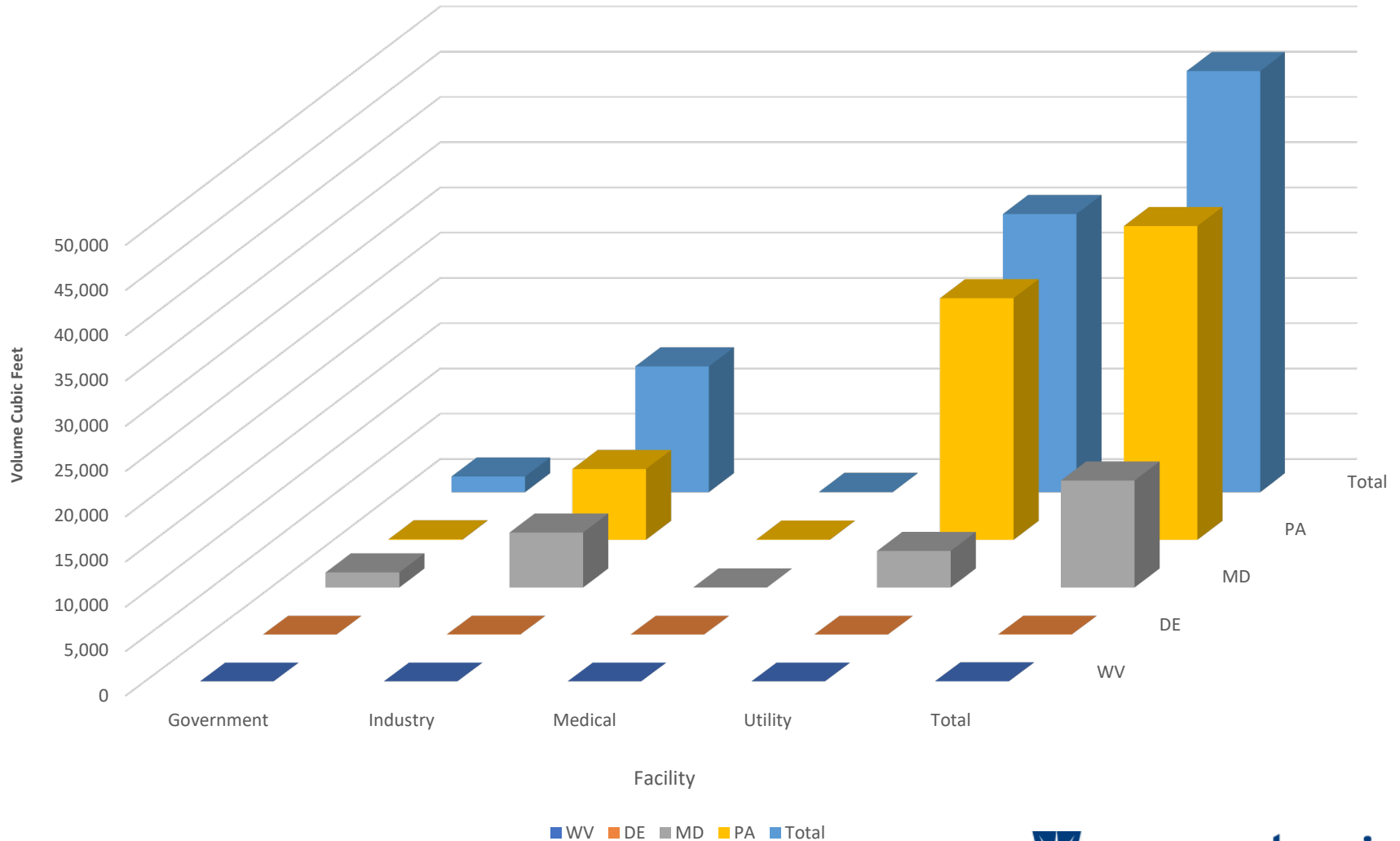
Ramez Ziadeh , Acting Secretary

Appalachian Compact Disposed LLRW Volume by State and Facility Type - 2021

Facility Type/State	WV	DE	MD	PA	Total
Academic	36	0	40	58	134
Government	0	0	1,670	64	1,733
Industry	0	8	6,072	7,825	13,905
Medical	0	0	6	24	30
Utility	0	0	4,036	26,708	30,744
Total	36	8	11,824	34,678	46,546

Volume is in cubic feet. This data is for LLRW disposal at EnergySolutions in Clive, Utah, and Waste Control Specialists in Andrews, Texas, for the calendar year 2021.

Appalachian Compact Disposed LLRW Volume by State and Facility Type - 2021

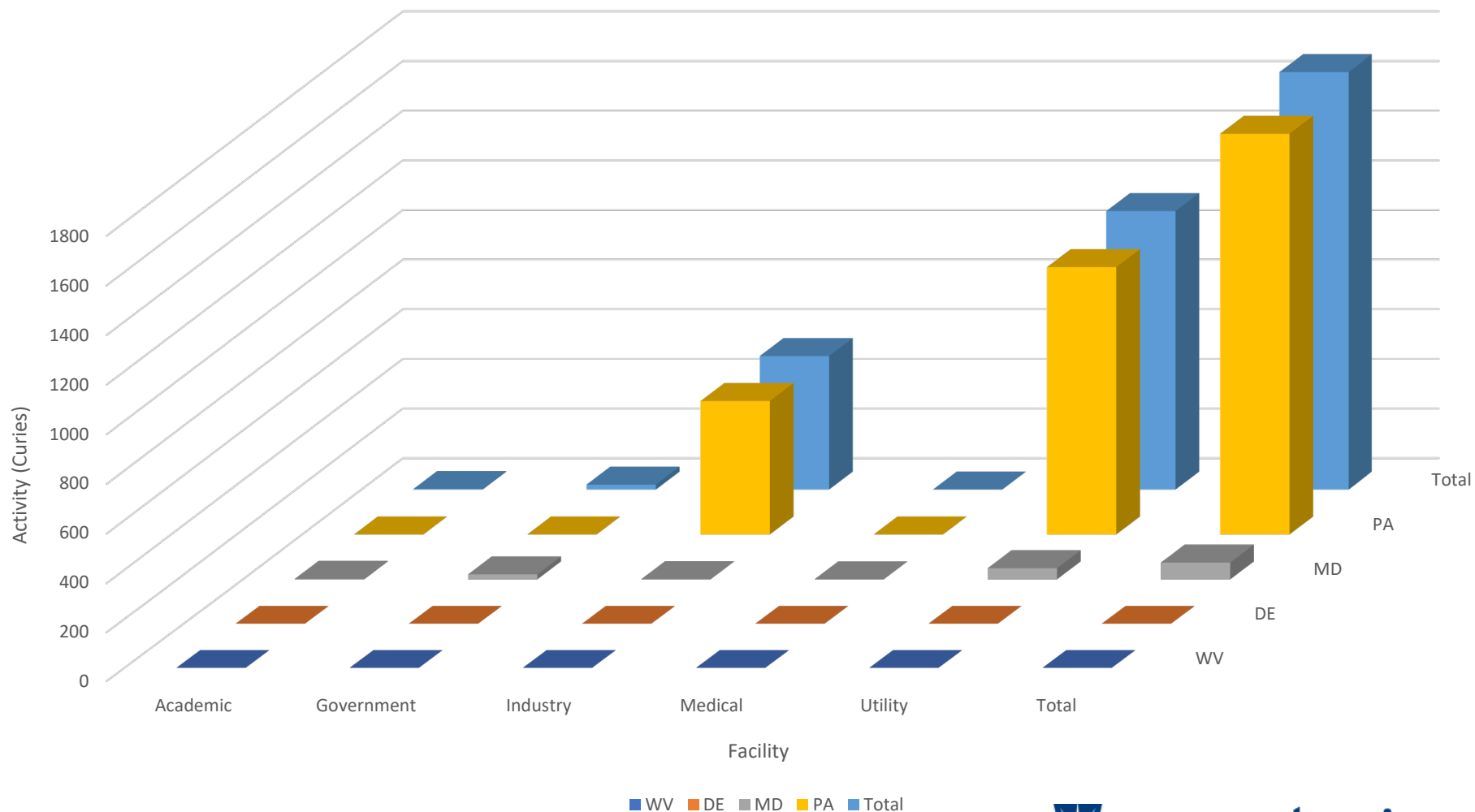


Appalachian Compact Disposed LLRW Activity by State and Facility Type - 2021

Facility Type/State	WV	DE	MD	PA	Total
Academic	<0.1	0	2	0	2
Government	0	0	20	0	20
Industry	0	<0.1	1	537	538
Medical	0	0	0	0	0
Utility	0	0	45	1,077	1,122
Total	<0.1	<0.1	68	1,614	1,682

Activity is in curies. This data is for LLRW disposal at EnergySolutions in Clive, Utah, and Waste Control Specialists in Andrews, Texas, for the calendar year 2021.

Appalachian Compact Disposed LLRW Activity by State and Facility Type - 2021

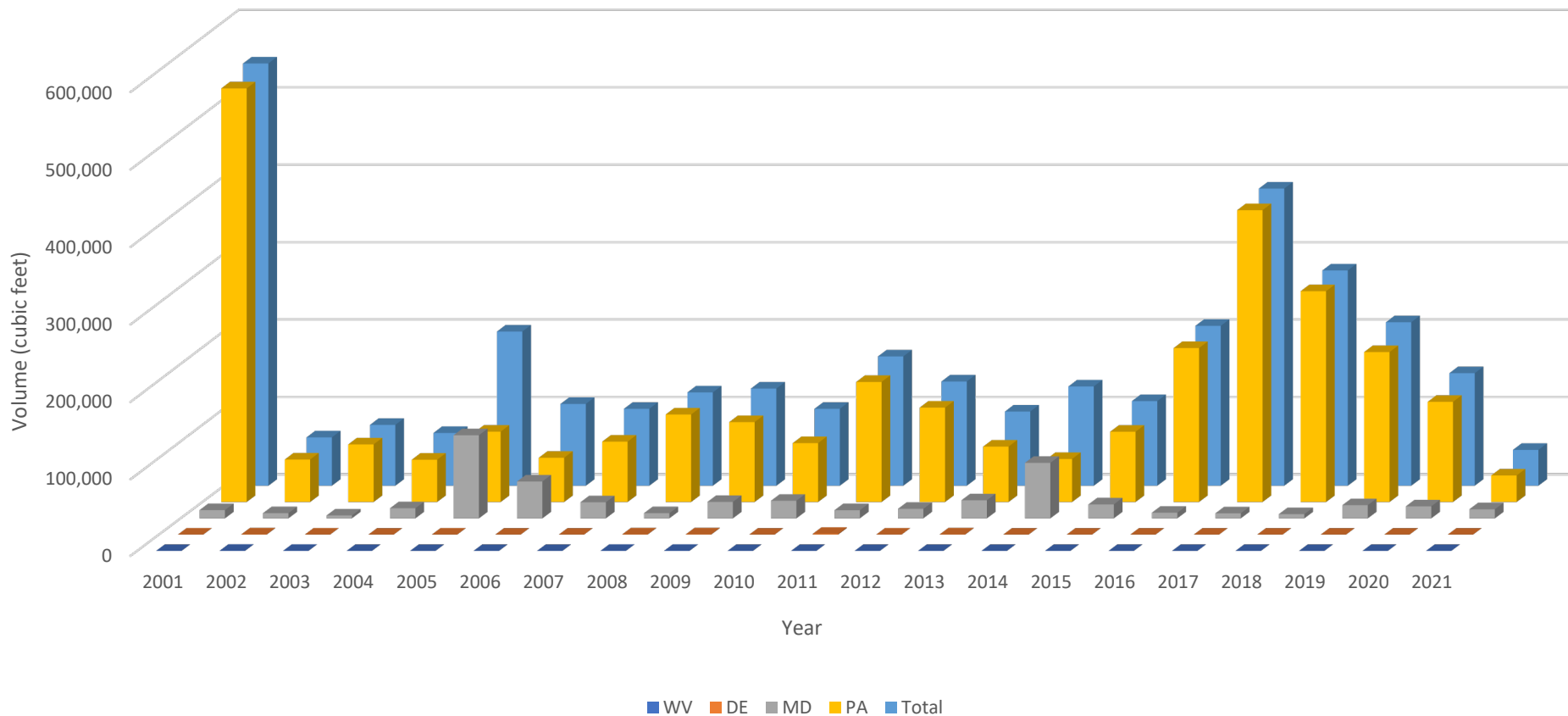


Appalachian Compact Disposed LLRW Volume in Cubic Feet from 2001 to 2021

Year	WV	DE	MD	PA	Total
2001	44	76	10,760	534,429	545,310
2002	183	366	6,753	55,371	62,674
2003	152	74	3,703	74,901	78,829
2004	35	49	13,178	55,136	68,397
2005	2	74	107,956	91,293	199,326
2006	38	59	48,132	57,628	105,857
2007	49	43	21,016	78,455	99,562
2008	132	415	6,703	113,483	120,733
2009 *	134	431	21,451	103,667	125,684
2010 *	11	29	22,958	76,519	99,518
2011 *	19	1,061	10,569	155,509	167,157
2012 *	21	75	12,364	122,380	134,841
2013 *	45	340	23,597	72,067	96,048
2014**	25	43	72,334	56,040	128,442
2015**	19	45	18,203	91,223	109,490
2016**	2	5	7,351	199,292	206,649
2017**	1	34	6,588	377,234	383,857
2018**	17	0	5,498	272,620	278,135
2019**	0	26	17,193	194,052	211,271
2020**	22	3	15,709	129,811	145,545
2021**	36	8	11,824	34,678	46,546
Total	987	3,255	463,839	2,945,788	Grand Total
					3,413,870

* 2009 to 2013 LLRW volume only includes disposal at EnergySolutions in Clive, Utah. ** 2014 to 2021 includes LLRW disposal at EnergySolutions in Clive, Utah, and Waste Control Specialists in Andrews, Texas. Years 2001 to 2008 includes LLRW disposal at Barnwell, South Carolina, and Energy Solutions, Clive, Utah.

Appalachian Compact Disposed LLRW Volume in Cubic Feet from 2001 to 2021

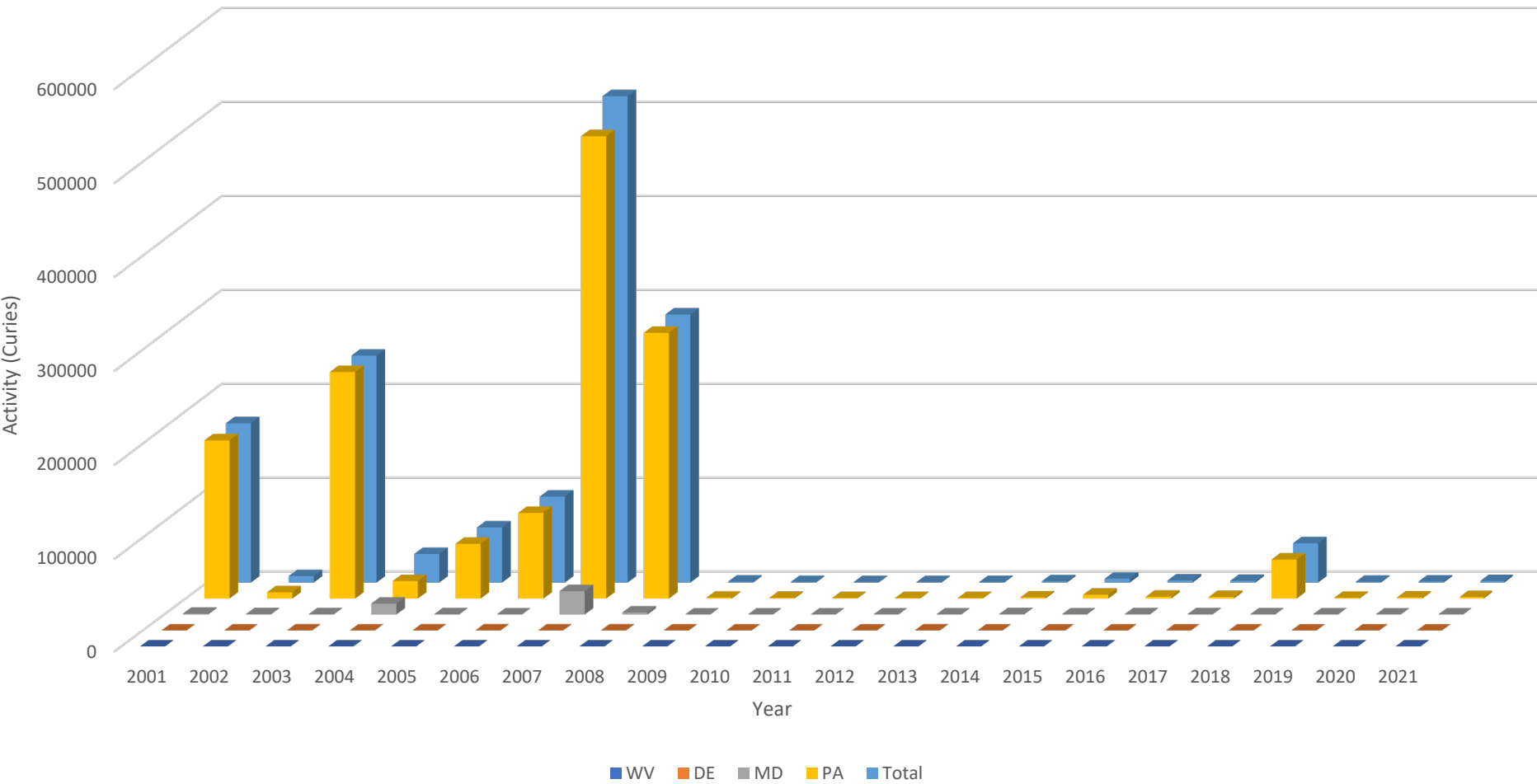


Appalachian Compact Disposed LLRW Activity in Curies from 2001 to 2021

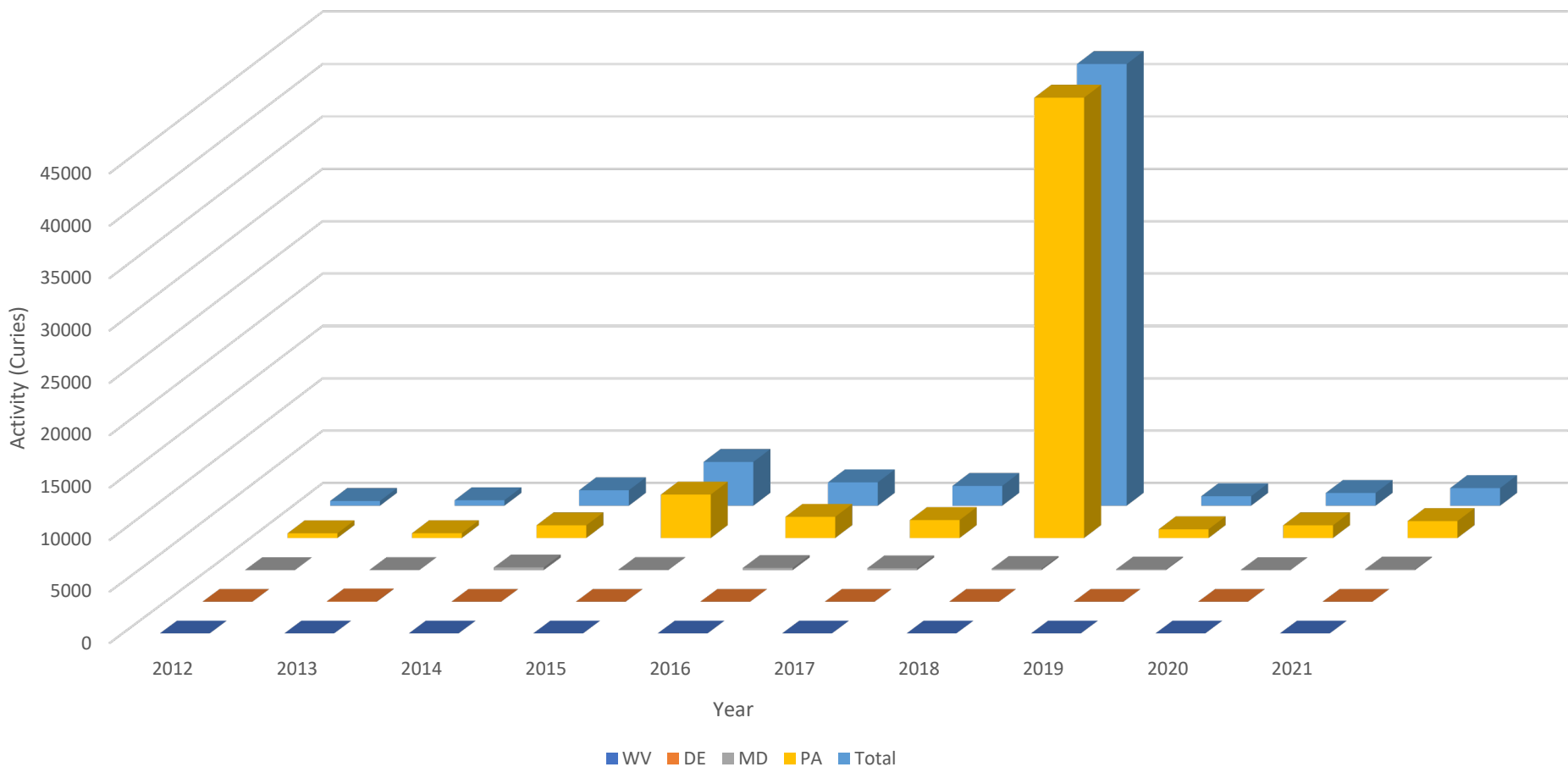
Year	WV	DE	MD	PA	Total
2001	<0.1	<0.1	903.3	168,920	169,823
2002	0.1	0.5	244.5	6,777	7,023
2003	0.2	24.7	166.3	241,650	241,841
2004	0.8	0.2	11,831	18,890	30,722
2005	0.7	31.3	156.8	58,786	58,975
2006	<0.1	11.9	60.1	91,719	91,791
2007	0.2	12.9	25,305	492,579	517,897
2008	0.1	12.2	2,182	283,329	285,523
2009 *	<0.1	0.5	4.7	1,001	1,007
2010 *	<0.1	<0.1	1.4	656.8	658.2
2011 *	<0.1	1.0	1.8	492.6	495.5
2012 *	<0.1	<0.1	2.1	449.3	451.4
2013 *	<0.1	45.3	15.7	458.5	519.5
2014 **	<0.1	<0.1	260.7	1,213	1,474
2015 **	<0.1	<0.1	27.8	4,147	4,175
2016**	0.35	<0.1	209	2,020	2,229
2017**	<0.1	<0.1	178.52	1,711	1,890
2018**	<0.1	0	125.31	42,027.47	42,153
2019**	0	<0.1	72.6	834.14	907
2020**	<0.1	<0.1	1.52	1,212	1,213
2021 **	<0.1	0	68	1,614	1,682
Total	2.64	140.61	41817.05	1,420,488	Grand Total
					1,462,448

* 2009 to 2013 LLRW activity only includes disposal at EnergySolutions in Clive, Utah. ** 2014 to 2021 includes LLRW disposal at EnergySolutions in Clive, Utah, and Waste Control Specialists in Andrews, Texas. Years 2001 to 2008 includes LLRW disposal at Barnwell, South Carolina, and EnergySolutions, Clive, Utah.

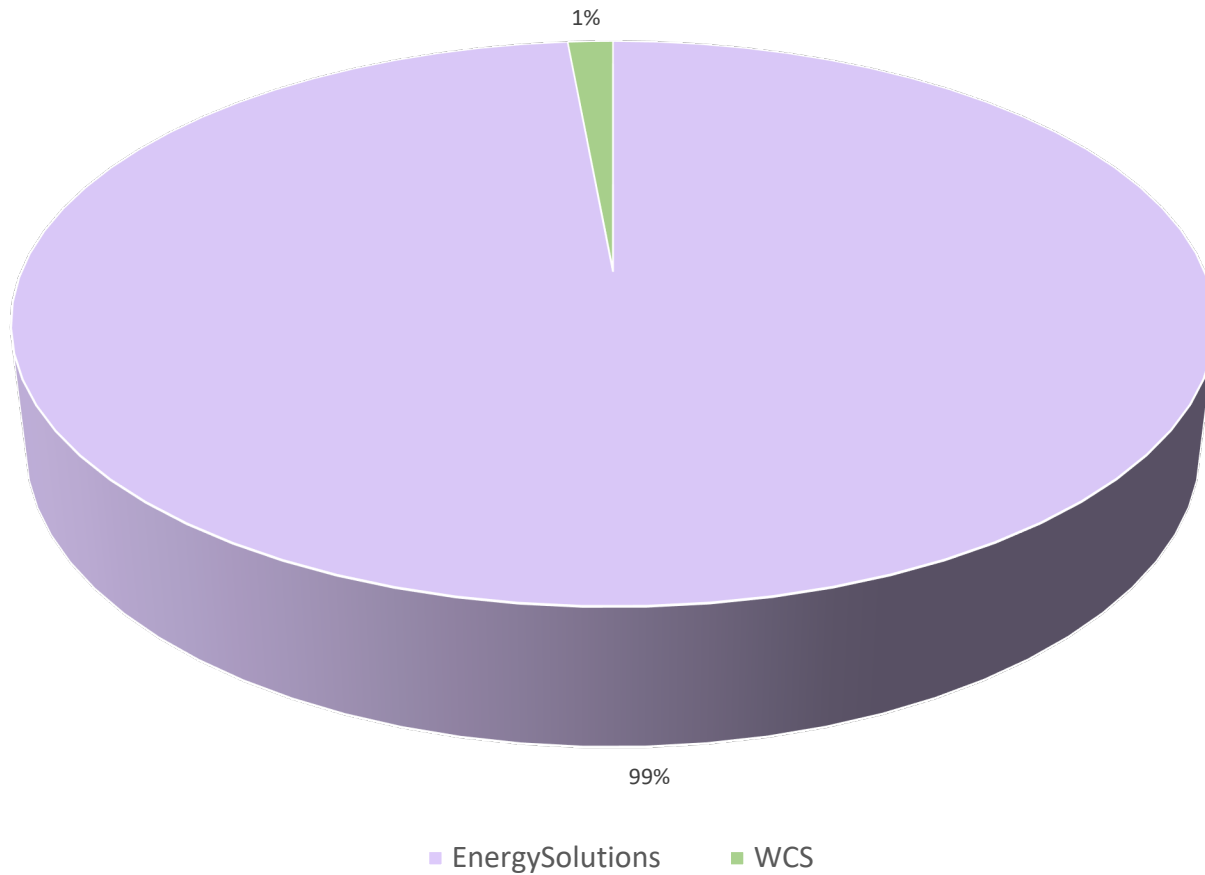
Appalachian Compact Disposed LLRW Activity in Curies from 2001 to 2021



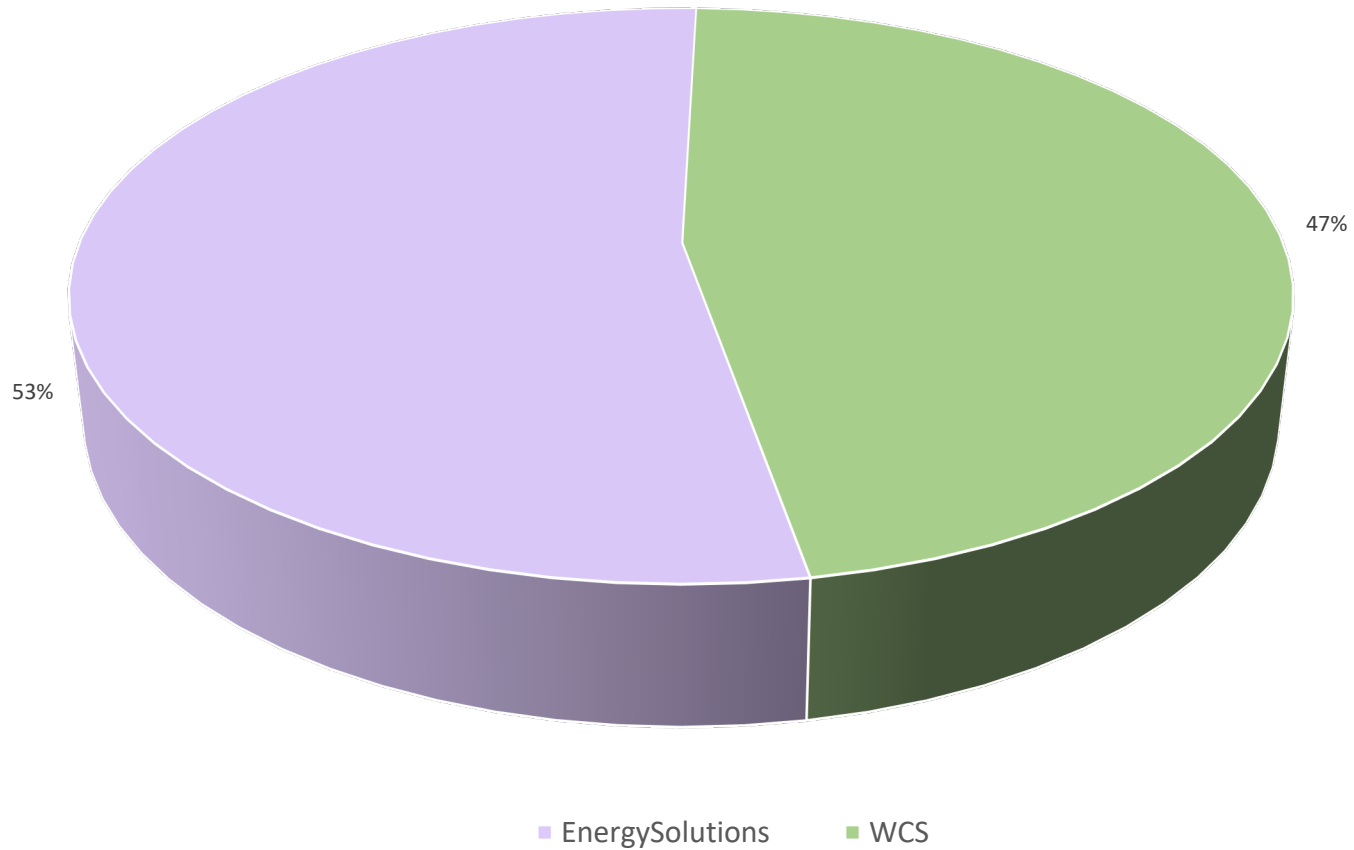
Appalachian Compact Disposed LLRW Activity in Curies from 2012 to 2021



Appalachian Compact Percent Disposed LLRW Volume by Disposal Site - 2021



Appalachian Compact Percent Disposed LLRW Activity by Disposal Site - 2021

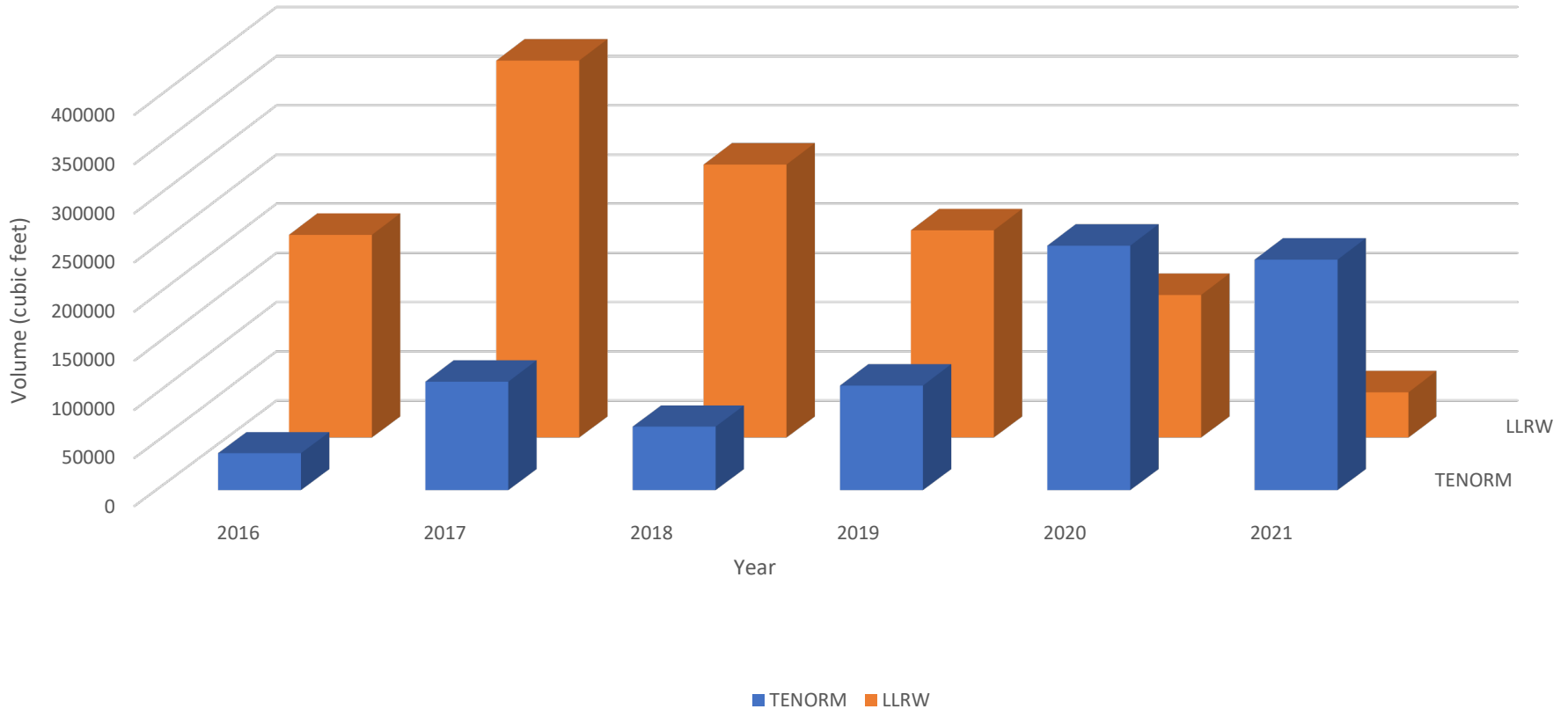


Disposed Compact LLRW and TENORM 2016 - 2021

	TENORM		LLRW	
Years	Volume (ft ³)	Activity (Ci)	Volume (ft ³)	Activity (Ci)
2016	38,400	0.91	206,649	2,229
2017	112,032	2.73	383,856	1,890
2018	66,048	1.88	278,136	42,153
2019	108,096	2.86	211,271	907
2020	250,344	3.50	145,545	1,213
2021	236,150	3.74	46,546	1,682
Total	811,070	15.62	1,272,003	50,074

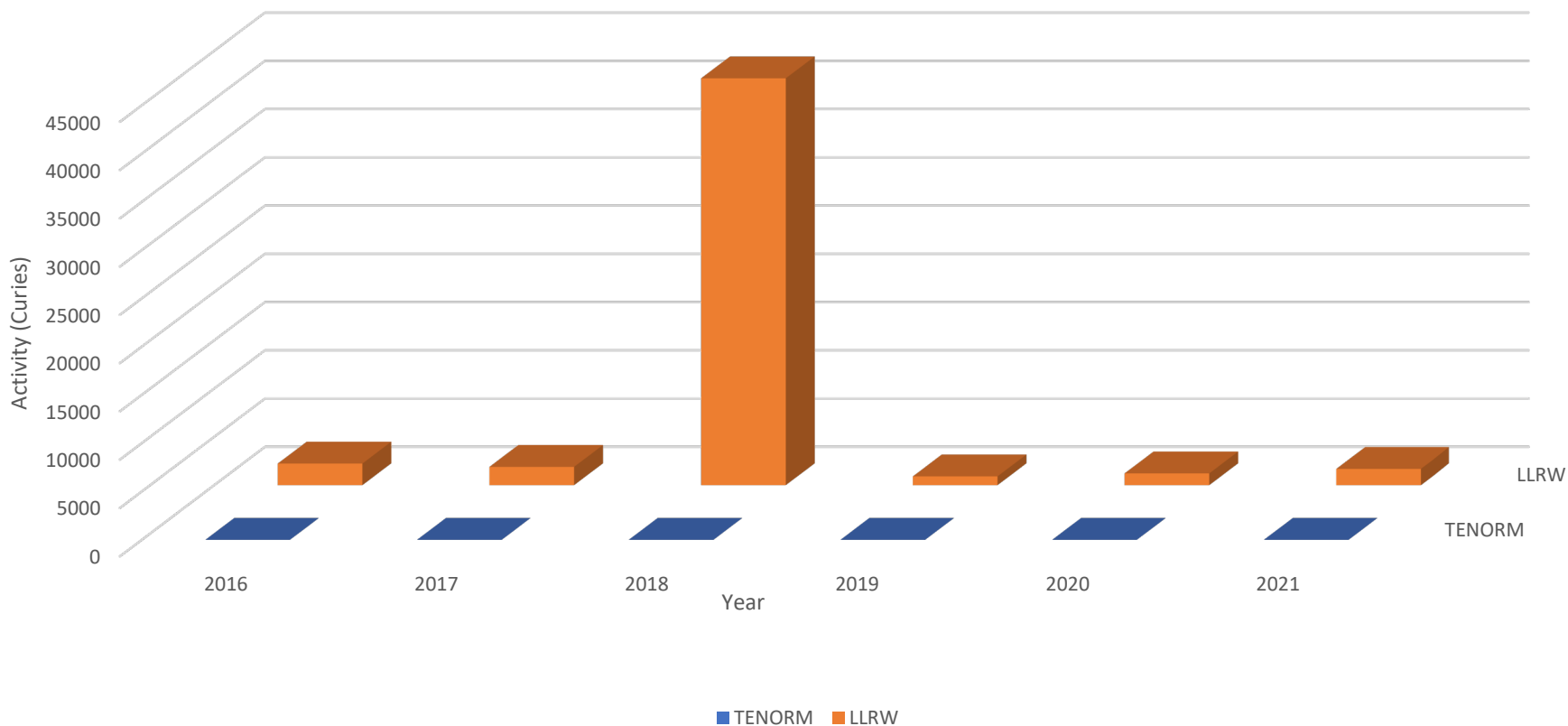
This table separates waste that is considered Technically Enhanced Naturally Occurring Radioactive Material (TENORM) and compares the values to the LLRW generated within the Compact for both volume and activity.

Disposed Compact LLRW and TENORM by Volume 2016 - 2021



This chart separates waste that is considered TENORM and compares the values to the LLRW generated within the Compact.

Disposed Compact LLRW and TENORM by Activity 2016 - 2021



This chart separates waste that is considered TENORM and compares the values to LLRW generated within the Compact.

Thank you. Questions?

Rich Janati

Bureau of Radiation Protection

Phone: 717-787-2163

rjanati@pa.gov