

Texas A&M cyclotron radiation effects facility
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The activity of the Radiation Effects Facility (REF) increased over the previous reporting year. In this reporting period, the facility was used for 3,681 hours, which is a 9.7% increase over the 3,355 hours used in the 2016-2017 reporting period and is the highest usage year ever. Users of the facility (and hours used) over the past year were: Boeing Satellite Systems (344.5), Radiation Test Solutions (332), Sandia National Lab (305), Air Force (262), International Rectifier (206.5), NASA JPL (180), Intersil (163), Texas Instruments (154.5), NASA GSFC (137), SEAKR (126), Honeywell (96), Naval Surface Warfare Center (87), Airbus (79), Ryoei Technica (64), Lockheed Martin (62), Microsemi (56), Space X (56), VPT Inc (55), Thales Alenia Space (52), Scientic (49), Cobham (48), Raytheon (48), BAE Systems

Table I. Radiation effects facility usage by commercial and government customers for this and previous reporting years.

Reporting Year	Total Hours	Commercial Hours (%)	Government Hours (%)
2017-2018	3,681	2,622 (71%)	1,059 (29%)
2016-2017	3,355	2,501 (75%)	854 (25%)
2015-2016	3,042	2,326 (76%)	716 (24%)
2014-2015	3,024	1,975 (65%)	1,049 (35%)
2013-2014	2,399	1,517 (63%)	882 (37%)
2012-2013	2,626	1,856 (71%)	770 (29%)
2011-2012	2,673	1,630 (61%)	1,043 (39%)
2010-2011	3,042	1,922 (63%)	1,121 (37%)
2009-2010	2,551	1,692 (66%)	859 (34%)
2008-2009	2,600	1,828 (70%)	772 (30%)
2007-2008	2,373	1,482 (62%)	891 (38%)
2006-2007	2,498	1,608 (64%)	890 (36%)
2005-2006	2,314	1,314 (57%)	1,000 (43%)
2004-2005	2,012	1,421 (71%)	591 (29%)
2003-2004	1,474	785 (53%)	689 (47%)
2002-2003	1,851	1,242 (67%)	609 (33%)
2001-2002	1,327	757 (57%)	570 (43%)
2000-2001	1,500	941 (63%)	559 (37%)
1999-2000	548	418 (76%)	131 (24%)
1998-1999	389	171 (44%)	218 (56%)
1997-1998	434	210 (48%)	224 (52%)
1996-1997	560	276 (49%)	284 (51%)
1995-1996	141	58 (41%)	83 (59%)

(45), Northrop Grumman (44.5), ATMEL (40), Ball Aerospace (40), Intel Corporation (40), Johns Hopkins (38), VPT Rad (34.5), Millennium (32), Southwest Research Institute (32), Defense Microelectronics Activity - DMEA (30.5), Harris Corp (28), Aria Labs (28), InnoFlight (24), TESAT (24), TRAD (22.5), Data Device Corp (20.5), Freebird (16), GSI Technologies (16), IMT s.r.l (16), JAXA (16), NASA JSC (16), Cubic Aerospace (15), Controlled Dynamics Inc (13), Vanderbilt University (8), CMOS Sensor (8), CoolCad (8), ispace (8), L-3 Communications (8), MIT Lincoln Labs (8), Nucltudes (8), Suntronics (8), Troxel Engineering (8), Crossfield Technologies (6), Frequency Management (5) and Texas A&M Physics Dept (4). New users included DMEA, Cubic Aerospace, Controlled Dynamics, CMOS Sensor, Croddfield Technologies, ispace, MIT Lincoln Labs, Nucltudes, Troxel Engineering and TESAT.

Table I compares the facility usage by commercial and government customers. While commercial hours still dominate, the ratio from this reporting year (71% to 29%) is similar to usage from the 2016-2017 reporting period (see Fig 1). Both commercial and government hours increased by 5% and 24% compared to hours from 2016-2017. 15 MeV/u ions were the most utilized and especially 15 MeV/u Au. No new beams were added to SEELine users list. Much of the testing conducted at the facility continues to be for defense systems by both government and commercial agencies. Almost 12% (314 hours) of the commercial hours were for foreign agencies from Japan, France and Germany. It is expected that the facility will continue to be as active in future years.

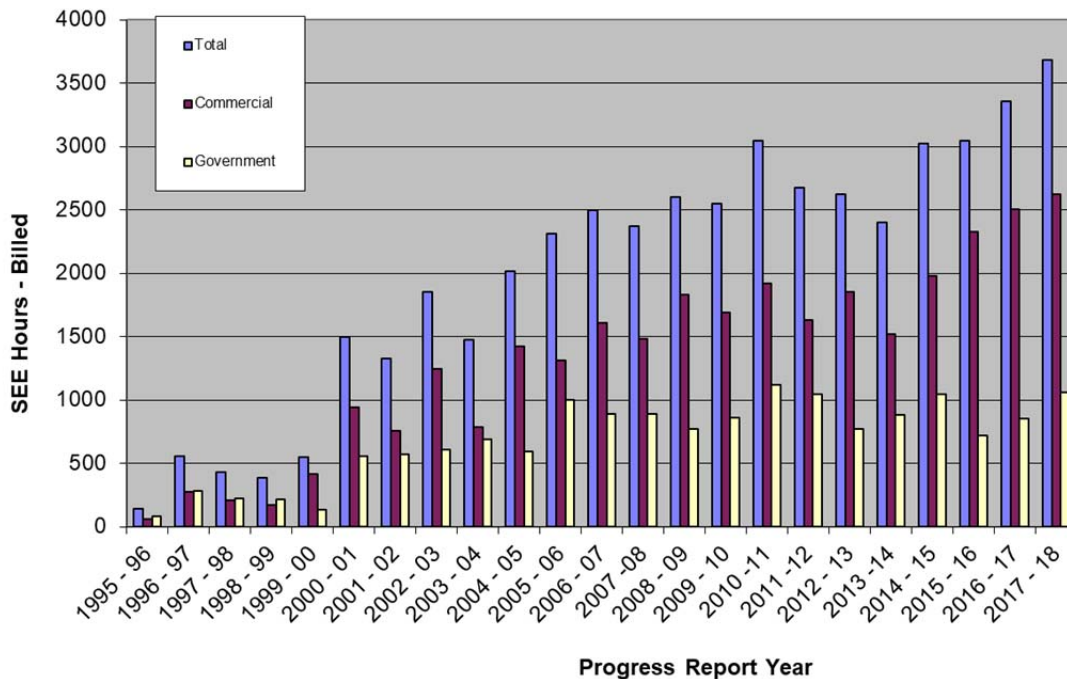


FIG. 1. Radiation Effects Facility usage by commercial and government customers for this and previous reporting years. While commercial hours still dominate, the ratio from this reporting year (71% to 29%) is similar compared to usage from the 2016-2017 reporting period. Almost 12% (314 hours) of the commercial hours were for foreign agencies from Japan, France and Germany.