

Texas A&M Cyclotron Radiation Effects Facility
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The activity of the Radiation Effects Facility (REF) decreased slightly from last year but was still the third highest reported year ever. In this reporting period, the facility was used for 3,684 hours, which is a 4% decrease over the hours of 2021-2022. The decrease was mainly due to issues with the K500 cyclotron RF system in December 2022 which lead to an early annual shut down. Users of the facility

Table 1. Radiation Effects Facility usage by commercial and government customers for this and previous reporting years.

Reporting Year	Total Hours	Commercial Hours (%)	Government Hours (%)
2022-2023	3,684	2,991 (81%)	693 (19%)
2021-2022	3,852	3,122 (81%)	730 (19%)
2020-2021	3,300	2,435 (74%)	865 (26%)
2019-2020	3,982	2,862 (72%)	1120 (28%)
2018-2019	3,678	2,939 (80%)	739 (20%)
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%)

(and hours used) over the past year were: Northrop Grumman (447), Texas Instruments (270), Renesas (245.5), RTS (186), Sandia Nat Lab (181.75), AFRL (168), Amazon (142), Infineon (135.5), Lockheed Martin (122), Milanowski (115), NAVSEA (111), Cobham (96), Raytheon (96), Draper (82), Boeing Satellite Systems (80), Johns Hopkins (66), SEAKR (64), Space X (62), EPC Space LLC (61), NASA GSFC (56), VPT Inc (56), Axiom Space (48), L3Harris (48), Boeing R&T (40), Millennium (39), Troxel Engineering (37), Airbus-France (32), Aria Labs (32), Microchip (32), Scientic (32), Signal Analysis (32), Teledyne (32), Honeywell (31), NASA JPL (28), Vanderbilt (28), TAMU EE/Physics (28), Utah State University (26), Apogee (24), Blue Origin (24), MOOG (24), Thales Alenia-Spain (24), Space Micro (19), Astranis (16), CFDR (16), CoolCad (16), Innoflight (16), Viasat (16), JD Instruments (16), Avalanche (14), Firefly (14), General Dynamics (13), TruVentic (12), Analog Devices (8), and VPT RAD (8). Firefly was the only new user.

Table I compares the facility usage by commercial and government customers. While commercial hours still dominate, the ratio from this reporting year (81% to 19%) is similar to usage from previous reporting periods (see Fig 1). Commercial usage decreased by 4% and was the second highest commercial usage ever. Government usage decreased by 5% and was the lowest usage since the 2004 – 2005 reporting period. The 15 MeV/u ions were the most utilized and especially 15 MeV/u Au. No new

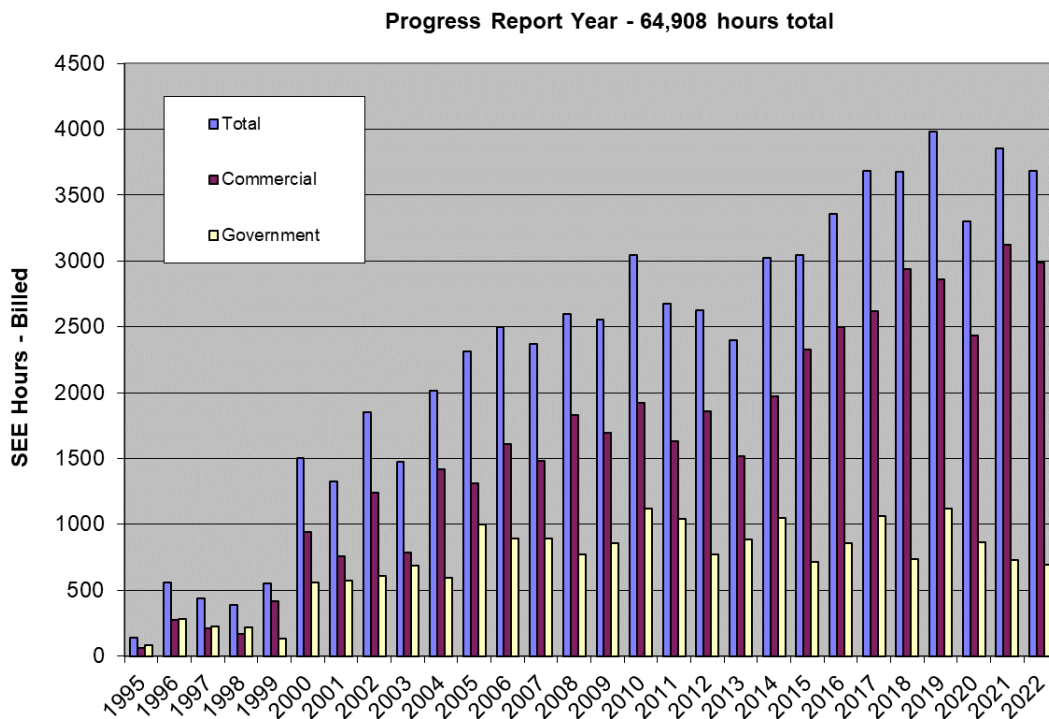


Fig. 1. Radiation Effects Facility usage by commercial and government customers for this and previous reporting years. While commercial hours still dominate, the ratio from this reporting year (81% to 19%) is similar compared to usage from prior reporting period. Usage hours decreased slightly from last year’s reporting period but was the third highest amount in history. 64,908 hours have been billed since the start of the project in 1995.

beams were added to the K500 cyclotron SEELine users list. Much of the testing conducted at the facility continues to be for defense systems by both government and commercial agencies. We had three foreign

users at the facility: AirBus-France (32 hours), Teledyne-Canada (32 hours) and Thales Alenia-Spain (24 hours).