



North Carolina  
Agricultural and Technical  
State University

# Assessment Report

Division of Research and Economic Development

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For July 2015 to June 2020

March 14, 2020

# Assessment Report

**Unit:** Division of Research and Economic Development

**Sub-units include:** Research Compliance & Ethics, Research Services, and Project Management, Sponsored Programs, Grants and Contracts Administration, Intellectual Property & Commercialization

**Period Covered by the Report:** Fall 2015 to Spring 2020

**Unit Head:** Vice-Chancellor of Research and Economic Development

**Mission:**

The Division of Research and Economic Development (DORED) Mission: DORED empowers and enables research and innovation by providing expert services that facilitate sound business and economic development practices with a focus on research integrity, fiscal accountability, and regulatory compliance.

**Outcome Statements:**

Aligned with Goal Number 1 (Excellence in Teaching, Research, and Engagement), Number 3 (Public Service and Community Engagement) and Number 4 (Stewardship, Operational Effectiveness, and Efficiencies) of the university's strategic plan, *A&T Preeminence: Taking the Momentum to 2023*, the primary outcomes for the Division of Research and Economic Development for the last five years have been:

1. Office of Research Services and Project Management (ORSPM): Will assist faculty in developing competitive proposals with a goal of ten percent (10%) increase in submitted proposals each year.
2. Office of Sponsored Programs (OSP): Will administer proposal submission to sponsors and awards received with the goal of a 4.5% increase in the dollar amount of awards received each year.
3. Technology Transfer and Economic Development: Will increase the number of patents received with the goal of at least 4 patents received each year.
4. Contracts and Grants (C&G) (award financial management and expenditure approval): Will improve business processes to ensure timely receipt of accounts receivables to be in the "green" for the UNC System Office KPI reporting. UNC System Office defines "green" as <5% of receivables total <120 days from invoice date.
5. Research Compliance and Ethics: Will reduce the number of post-approval research compliance findings to zero (0) compliance findings each year.

## Data Gathering Measures and Timetable:

Unit Outcomes	Assessment (Measures and Targets)	Assessment Results	Conclusions (supported by the Results)
<b>Reporting Period: July 2019 to June 2020</b>			
Faculty develop competitive proposals	Anticipate seeing growth of at least 10% in the number of proposals each year.	The goal has been met for FY20 even though data have only been collected through March 31, 2020.	<i>ORSPM and OSP continue to assist faculty in finding funding opportunities and developing high- quality, competitive proposals.</i>
Administer proposal submission and awards received.	Anticipate seeing growth of at least 4.5% in the total dollar amount of award funding received each year	The goal for FY2020 may not be met, although data has been collected through March 30, 2020.	<i>The goal has not been met for FY20 however data is only through March 31, 2020, and OSP continues to assist faculty in submitting high-quality, competitive proposals and in setting up awards upon receipt of award notifications.</i>
Increase in the number of patents issued.	At least 4 patents issued each year.	The goal has been met for FY20 with 6 patents issued.	<i>The goal has been met this fiscal year. Patents are continually discussed with and processed for faculty researchers.</i>
Improve business processes to ensure timely receipt of receivables.	UNC System Office Key Performance Indicators Report will report aging of receivables in the “green”	The goal not met as of March 31, 2020.	<i>The goal has not been met for FY20 however data is only through March 30, 2020. The Director of Financial Compliance, as well as the AVC of Research Administration, personally contact each sponsor to discuss late payment issues.</i>
Reduce the number of post-approval research compliance findings	Zero findings of noncompliance	FY20 – The goal Met through March 31, 2020.	<i>The Research Compliance and Ethics office will continue to increase awareness of research integrity through training to assist faculty and students in maintaining research compliance.</i>
<b>PLANNED IMPROVEMENTS:</b>			
Faculty develop competitive proposals – ORSPM and OSP will continue to assist faculty in finding relevant funding opportunities, creating and advancing functional teams, and developing high-quality, competitive proposals.			
Administer proposal submission and award set-up – OSP and C&G will work with faculty and sponsors to ensure quick, correct award negotiation, and award set-up.			
Increase in the number of patents issued or license agreements signed. – Tech Transfer will continue to work with faculty on patent and license issues to ensure successful patent applications as well as an increase in license agreements.			
Improve business processes to ensure timely receipt of receivables and award closeout. – Contracts and Grants will continue to review and revise processes to ensure timely receipt of receivables and award closeout.			
Increase awareness of research integrity through training to assist faculty and students in maintaining research compliance.			
<b>Reporting Period: July 2018 to June 2019</b>			
Faculty will develop competitive proposals.	Anticipate seeing the growth of at least 10% in the number of proposals submitted each year	The goal was not met for FY19.	<i>ORSPM and OSP continue to assist faculty in finding funding opportunities and developing high- quality, competitive proposals.</i>

Administer proposal submission and awards received.	Anticipate seeing the growth of at least 4.5% in the total dollar amount of award funding received each year	The goal for FY19 was met.	<i>OSP continues to assist faculty in submitting high quality, competitive proposals that become awards.</i>
Increase in the number of patents issued.	At least 4 patents issued each year.	The goal was met for FY 19 with 5 patents issued.	<i>The goal has been met however staff continue to work with faculty on ideation and patent applications.</i>
Improve business processes to ensure timely receipt of receivables.	UNC System Office Key Performance Indicators Report will report aging of receivables in the "green"	The goal was not met in FY 19.	<i>FY19 goal was not met due to a few sponsors' untimely payments. The Director of Financial Compliance, as well as the AVC of Research Administration, personally contacted each sponsor to discuss late payment issues. The Federal shutdown during FY2019 impacted the ability for timely invoicing as well as one NC DOT grant reimbursement. Both items are now alleviated.</i>
Reduce the number of post-approval research compliance findings.	Zero instances of noncompliance	The goal was met for FY19.	<i>The Research Compliance &amp; Ethics office continues to work with faculty and students on maintaining research compliance.</i>

#### **PLANNED IMPROVEMENTS:**

Faculty develop competitive proposals – ORSPM and OSP will continue to assist faculty in finding relevant funding opportunities, creating and advancing functional teams, and developing high-quality, competitive proposals.

Administer proposal submission and award set-up – OSP and C&G will work with faculty and sponsors to ensure quick, correct award negotiation, and award set-up.

Increase in the number of patents issued or license agreements signed. – Tech Transfer will continue to work with faculty on patent and license issues to ensure successful patent applications as well as an increase in license agreements.

Improve business processes to ensure timely receipt of receivables and award closeout. – Contracts and Grants will continue to review and revise processes to ensure timely receipt of receivables and award closeout.

Increase awareness of research integrity through training to assist faculty and students in maintaining research compliance.

#### **Reporting Period: July 2017 to June 2018**

Faculty develop competitive proposals	Anticipate seeing the growth of at least 10% in the number of proposals each year.	The goal was not met for FY18.	<i>ORSPM and OSP will continue to assist faculty in finding funding opportunities and developing high-quality, competitive proposals.</i>
Administer proposal submission and awards received	Anticipate seeing the growth of at least 4.5% in the total dollar amount of award funding received each year	The goal was not met for FY18.	<i>OSP continues to assist faculty in submitting high quality, competitive proposals and in setting up awards upon receipt of award notifications.</i>
Increase in the number of patents issued.	At least 4 patents issued each year.	The goal was not met for FY18 as only 3 patents were issued.	<i>While number of patents received did not meet the FY18 goal, patents are continually discussed with and processed for faculty researchers.</i>

Improve business processes to ensure timely receipt of receivables.	UNC System Office Key Performance Indicators Report will report aging of receivables in the "green"	The goal was met for FY18.	<i>If the year's receivables were not in the "green" per the KPI report, the Director of Financial Compliance, as well as the AVC of Research Administration, personally contact each sponsor to discuss late payment issues</i>
Reduce the number of post-approval research compliance findings	Zero findings of noncompliance	The goal was met for FY18.	<i>The Research Compliance and Ethics office will continue to increase awareness of research integrity through training to assist faculty and students in maintaining research compliance.</i>

**PLANNED IMPROVEMENTS:**

Faculty develop competitive proposals – ORSPM and OSP will continue to assist faculty in finding relevant funding opportunities, creating and advancing functional teams, and developing high-quality, competitive proposals.

Administer proposal submission and award set-up – OSP and C&G will work with faculty and sponsors to ensure quick, correct award negotiation, and award set-up.

Increase in the number of patents issued or license agreements signed. Tech Transfer will continue to work with faculty on patent and license issues to ensure successful patent applications as well as an increase in license agreements.

Improve business processes to ensure timely receipt of receivables and award closeout. – Contracts and Grants will continue to review and revise processes to ensure timely receipt of receivables and award closeout.

Increase awareness of research integrity through training to assist faculty and students in maintaining research compliance.

**Reporting Period: July 2016 to June 2017**

Faculty develop competitive proposals	Anticipate seeing the growth of at least 10% in the number of proposals each year.	The goal was met for FY17.	<i>ORSPM and OSP continue to assist faculty in finding funding opportunities and developing high- quality, competitive proposals.</i>
Administer proposal submission and awards received	Anticipate seeing the growth of at least 4.5% in total award funding received each year.	The goal was met for FY17.	<i>The goal has not been met for FY20 however OSP continues to assist faculty in submitting high quality, competitive proposals and in setting up awards upon receipt of award notifications.</i>
Increase in the number of patents issued.	At least 4 patents issued each year.	The goal was not met for FY17 with 3 patents issued.	<i>The goal was not met in FY17 however patents are continually discussed with and processed for faculty researchers.</i>
Improve business processes to ensure timely receipt of receivables.	UNC System Office Key Performance Indicators Report will report aging of receivables in the "green"	The goal was met for FY17.	<i>If the year's receivables were not in the "green" per the KPI report, the Director of Financial Compliance, as well as the AVC of Research Administration, personally contact each sponsor to discuss late payment issues</i>

**PLANNED IMPROVEMENTS:**

Faculty develop competitive proposals – ORSPM and OSP will continue to assist faculty in finding relevant funding opportunities, creating and advancing functional teams, and developing high-quality, competitive proposals.

Administer proposal submission and award set-up – OSP and C&G will work with faculty and sponsors to ensure quick, correct award negotiation, and award set-up.			
Increase in the number of patents issued or license agreements signed. Tech Transfer will continue to work with faculty on patent and license issues to ensure successful patent applications as well as an increase in license agreements.			
Improve business processes to ensure timely receipt of receivables and award closeout. – Contracts and Grants will continue to review and revise processes to ensure timely receipt of receivables and award closeout.			
<b>Reporting Period: The fiscal year 2015-2016</b>			
Faculty develop competitive proposals	Anticipate seeing the growth of at least 10% in the number of proposals each year.	The goal was met for FY16.	<i>ORSPM and OSP continue to assist faculty in finding funding opportunities and developing high- quality, competitive proposals.</i>
Administer proposal submission and awards received	Anticipate seeing the growth of at least 4.5% in total award funding received each year	The goal was met for FY16.	<i>The goal has not been met for FY20 however OSP continues to assist faculty in submitting high quality, competitive proposals and in setting up awards upon receipt of award notifications.</i>
Increase in number of patents issued.	At least 4 patents issued each year.	The goal was met for FY16 with 6 patents issued.	<i>The goal has been met. Patents are continually discussed with and processed for faculty researchers.</i>
Improve business processes to ensure timely receipt of receivables.	UNC System Office Key Performance Indicators Report will report aging of receivables in the “green”	The goal was met for FY16.	<i>If the year’s receivables were not in the “green” per the KPI report, the Director of Financial Compliance as well as the AVC of Research Administration personally contact each sponsor to discuss late payment issues</i>
<b>Planned Improvements:</b>			
Faculty develop competitive proposals – ORSPM and OSP will continue to assist faculty in finding relevant funding opportunities, creating and advancing functional teams, and developing high-quality, competitive proposals.			
Administer proposal submission and award set-up – OSP and C&G will work with faculty and sponsors to ensure quick, correct award negotiation and award set-up.			
Increase in number of patents issued or license agreements signed. Tech Transfer will continue to work with faculty on patent and license issues to ensure successful patent applications as well as increase in license agreements.			
Improve business processes to ensure timely receipt of receivables and award closeout. – Contracts and Grants will continue to review and revise processes to ensure timely receipt of receivables and award closeout.			
Increase awareness of research integrity through training to assist faculty and students in maintaining research compliance.			

### Summary/Concluding Statement

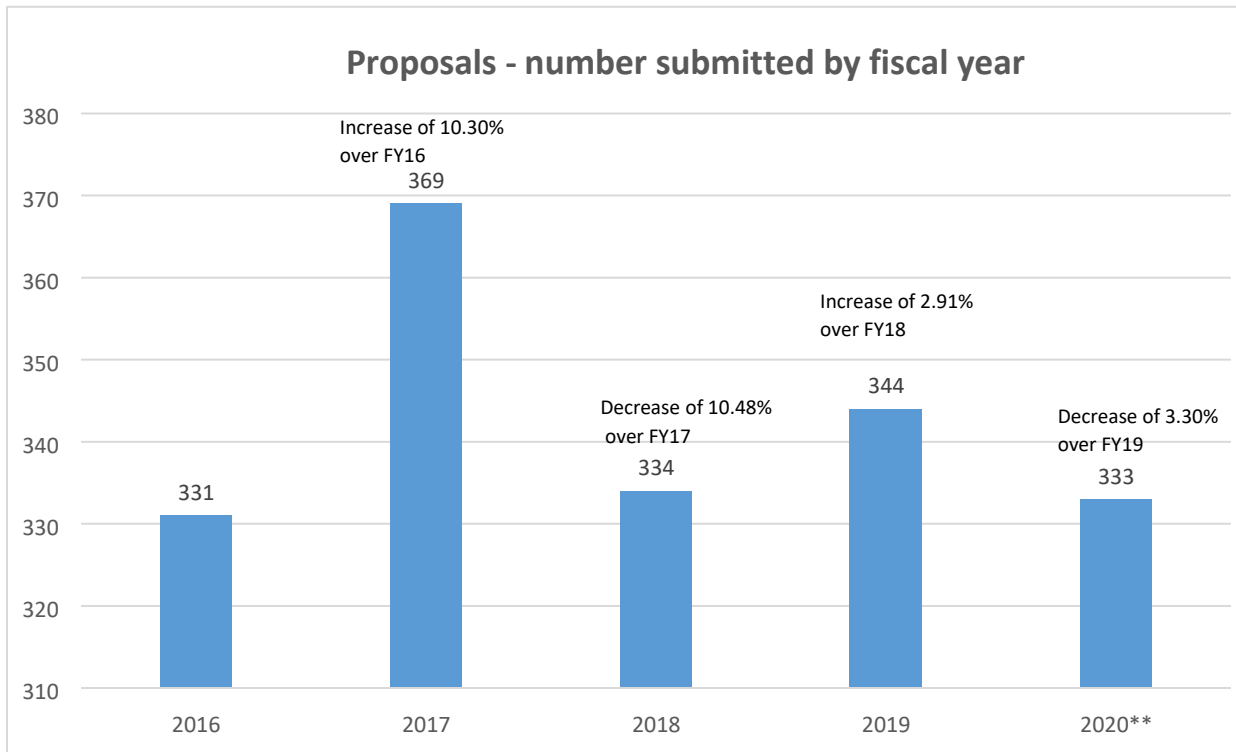
Even with an almost 50% turnover of staff in the past two years, including all executive leadership positions, DORED has seen tremendous growth. Since 2015, the number of patents received has exceeded institutional goals. DORED’s research development, proposal submission, award, and research compliance areas continue to grow to meet both faculty needs and regulatory mandates.

DORED will continue to collaborate with academic units to develop plans for expanding their externally sponsored research portfolios, assist larger numbers of faculty with engaging in sponsored research and programs, assess the quality and quantity of proposals and awards; and establish and strengthen partnerships within the university and with external institutions to ensure increases in the overall success of the N.C. A&T research enterprise.

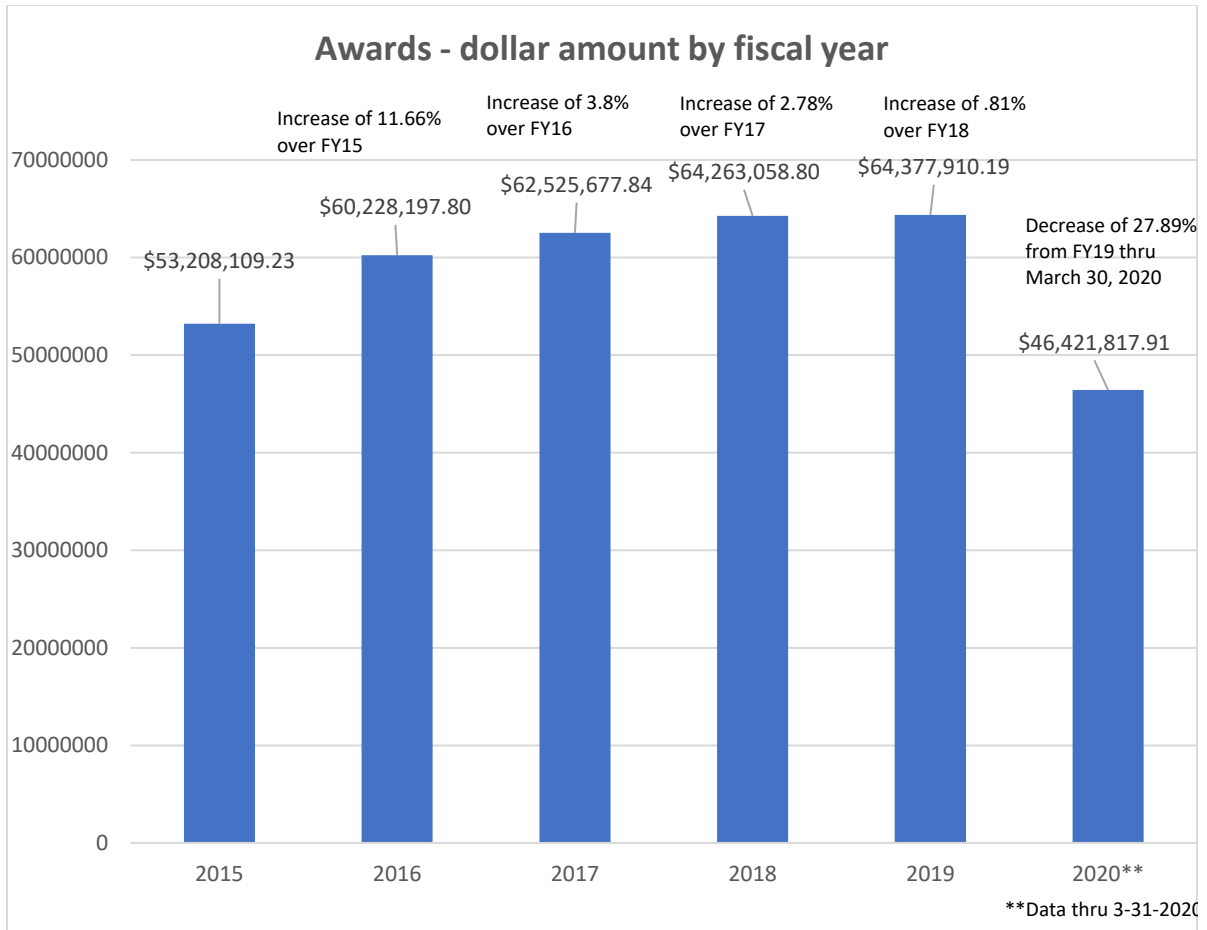
**APPENDICES**

**Appendix 1: Assessment Report, Division of Research and Economic Development, FY16-FY20**

*Office of Research Services & Project Management & Office of Sponsored Programs:*



Office of Sponsored Programs:





### *Technology Transfer & Economic Development:*

The following patents were issued during the indicated fiscal years.

#### **FY2016**

1. US 9,114,576 (issued 8/25/2015) Heat vacuum assisted resin transfer molding processes for manufacturing composite materials
2. US 9,151,733 (issued 10/6/2015) Acoustic emission sensor array
3. US 9,185,984 (issued 11/17/2015) Folded sheets of material for use as a structural member and assembly thereof
4. US 9,187,402 (issued 11/17/2015) Aspirin derivatives and uses thereof
5. US 9,190,222 (issued 11/17/2015) Production of carbonaceous nano-fibrous materials with ultra-high specific surface area from alkali (Kraft) lignin
6. US 9,272,994 (issued 3/1/2016) Ginger metabolites and uses thereof

#### **FY2017**

7. US 9,474,272 (issued 10/25/2016) Micropropagation of Alexandrian laurel
8. US 9,549,911 (issued 1/24/2017) Ginger metabolites uses thereof
9. US 9,637,615 (issued 5/2/2017) Preparation and uses of bio-adhesives

#### **FY2018**

10. US 9,745,248 (issued 8/29/2017) Aspirin derivatives and uses thereof
11. US 9,777,279 (issued 10/3/2017) Methods and compositions for treating autoimmune disorders by targeting Kv1.3 ion channels with functionalized lipid-derived nanovesicles
12. US 9,850,195 (issued 12/26/2017) Aspirin derivatives and uses thereof
13. US 9,950,987 (issued 4/24/2018) Aspirin derivatives and uses thereof

#### **FY2019**

14. US 10,024,495 (issued 7/17/2018) Folded sheets of material for use as a structural member and assembly thereof
15. US 10,028,505 (issued 7/24/2018) Micropropagation of Alexandrian laurel
16. US 10,077,356 (issued 9/17/2018) Preparation and uses of bio-adhesives
17. US 10,128,512 (issued 11/15/2018) Paper-Based Magnesium Battery and the Use Therefor
18. US 10,308,942 (issued 6/4/2019) Methods and compositions for treating autoimmune disorders by targeting Kv1.3 ion channels with functionalized lipid-derived nanovesicles

#### **FY2020**

19. US 10,342,766 (issued 7/9/2019) 6-shogaol derivatives and activities thereof
20. US 10,363,230 (issued 7/30/2019) 6-shogaol derivatives and activities thereof
21. US 10,412,962 (issued 9/17/2019) Antifungal Compositions and Methods of Use Thereof
22. US 10,505,201 (issued 12/10/2019) CNT Sheet Substrates and Transition Metals Deposited on Same
23. US 10,547,051 (issued 1/28/2020) Multi-Phase Structured Cathode Active Material For Lithium Ion Battery
24. US No 10,546,207 (issued 1/28/2020) Normalized Defect Characterization of Pulse Thermographic Nondestructive Evaluation

Contracts and Grants:

KPI Submission Summary FY2016

		2015						2016							
ID #	Contract and Grant KPIs	Frequency	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	at Mont
<a href="#">CG-REC</a>	Total Outstanding Contracts and Grants Receivables for the Reporting Period (in thousands)	Monthly	\$778	\$2,118	\$1,648	\$1,475	\$1,521	\$1,363	\$1,182	\$985	\$580	\$1,065	\$1,031	\$1,262	
<a href="#">CG03</a>	Aging of Receivables (% > 60 and < 90 Days) - CALCULATED FIELD	Monthly	2%	5%	6%	22%	10%	10%	17%	13%	5%	8%	10%	7%	
<a href="#">CG04</a>	Aging of Receivables (% > 90 and <120 Days) - CALCULATED FIELD	Monthly	11%	1%	6%	0%	14%	5%	8%	11%	3%	2%	5%	5%	
<a href="#">CG05</a>	Aging of Receivables (% > 120 Days) - CALCULATED FIELD	Monthly	3%	3%	2%	2%	2%	13%	6%	6%	14%	7%	1%	3%	
<a href="#">CG06-B</a>	Timeliness of Award Closeout (Total # of Funds Open)	Monthly	687	664	744	736	747	752	735	726	733	674	677	662	
<a href="#">CG06</a>	Timeliness of Award Closeout (% of Funds that are >120 Days Past End Date and Still Open) - CALCULATED FIELD	Monthly	20%	20%	20%	19%	20%	18%	20%	23%	16%	16%	19%	18%	We will continue to focus our efforts on closing funds timely.

### KPI Submission Summary FY2017

ID #	Contract and Grant KPIs	Frequency	2016						2 17						Current Month Comment
			Jul.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	
CG-REC	Total Outstanding Contracts and Grants Receivables for the Reporting Period (in thousands)	Monthly	\$607	\$1,448	\$1,427	\$1,371	\$1,433	\$1,077	\$1,170	\$1,155	\$811	\$1,719	\$1,198	\$1,258	
CG03	Aging of Receivables (% > 60 and < 90 Days) - CALCULATED FIELD	Monthly	3%	15%	3%	10%	15%	12%	19%	10%	10%	7%	5%	6%	
CG04	Aging of Receivables (% > 90 and < 120 Days) - CALCULATED FIELD	Monthly	7%	1%	9%	1%	5%	9%	7%	9%	3%	4%	3%	3%	
CG05	Aging of Receivables (% > 120 Days) - CALCULATED FIELD	Monthly	5%	3%	3%	0%	3%	3%	3%	6%	10%	4%	0%	1%	
CG06-B	Timeliness of Award Closeout (Total # of Funds Open)	Monthly	646	704	659	650	641	635	627	593	582	585	597	582	
CG06	Timeliness of Award Closeout (% of Funds that are >120 Days Past End Date and Still Open) - CALCULATED FIELD	Monthly	17%	10%	15%	13%	12%	13%	13%	16%	16%	15%	17%	16%	We continue to focus on the timely closing of awards

### KPI Submission Summary FY2018

ID #	Contract and Grant KPIs	Frequency	2017						2 18						Current Month Comment
			Jul.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	
CG-REC	Total Outstanding Contracts and Grants Receivables for the Reporting Period (in thousands)	Monthly	\$1,522	\$1,582	\$2,149	\$1,291	\$818	\$1,221	\$737	\$968	\$1,015	\$1,320	\$974	\$1,278	
CG03	Aging of Receivables (% > 60 and < 90 Days) - CALCULATED FIELD	Monthly	1%	5%	4%	15%	10%	5%	7%	3%	5%	6%	7%	18%	Two receivables totaling \$195,486 account for 88% of the dollar value. Agencies have been contacted and the additional information requested will be submitted. We continue to communicate with agencies about delinquent payments.
CG04	Aging of Receivables (% > 90 and < 120 Days) - CALCULATED FIELD	Monthly	5%	1%	1%	3%	4%	4%	6%	2%	2%	1%	8%	5%	
CG05	Aging of Receivables (% > 120 Days) - CALCULATED FIELD	Monthly	3%	6%	1%	1%	3%	3%	6%	7%	4%	5%	1%	4%	
CG06-B	Timeliness of Award Closeout (Total # of Funds Open)	Monthly	590	626	627	625	617	613	608	557	558	565	566	536	
CG06	Timeliness of Award Closeout (% of Funds that are >120 Days Past End Date and Still Open) - CALCULATED FIELD	Monthly	14%	13%	12%	11%	12%	12%	13%	14%	17%	16%	16%	9%	

# KPI Submission Summary FY2019

		2018							2 19							
<b>CG-REC</b>	Total Outstanding Contracts and Grants Receivables for the Reporting Period (in thousands)	Monthly	\$1,233	\$1,244	\$1,768	\$1,520	\$1,445	\$1,165	\$914	\$1,182	\$961	\$1,078	\$916	\$931		
<b>CG03</b>	Aging of Receivables (% > 60 and < 90 Days) - CALCULATED FIELD	Monthly	4%	3%	7%	4%	6%	24%	5%	1%	3%	6%	5%	8%		
<b>CG04</b>	Aging of Receivables (% > 90 and <120 Days) - CALCULATED FIELD	Monthly	1%	1%	2%	2%	3%	8%	12%	0%	1%	1%	7%	0%		
<b>CG05</b>	Aging of Receivables (% > 120 Days) - CALCULATED FIELD	Monthly	2%	2%	2%	2%	3%	6%	11%	22%	26%	16%	9%	10%	DOT has not paid 60K. UMES owes 11K and a Medical Supply Company owes 13K.	
<b>CG06-B</b>	Timeliness of Award Closeout (Total # of Funds Open)	Monthly	545	559	587	596	572	588	581	563	556	565	565	577		
<b>CG06</b>	Timeliness of Award Closeout (% of Funds that are >120 Days Past End Date and Still Open) - CALCULATED FIELD	Monthly	8%	6%	6%	7%	9%	10%	9%	10%	9%	9%	8%	10%		