TOTAL ACCESS FOR RESEARCH ADMINISTRATION (TARA)

Requirements for Reports on Research Activity For Schools, Departments, Centers & Institutes

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1. Purpose and Scope

This document provides the requirements for business intelligence reporting for USC's Total Access for Research Administration (TARA) system, previously referred to as the Research Administration System. TARA supports the management of research projects from "cradle to grave" across all funding sources, i.e., from the time when a proposal is initially conceived until final reports are submitted and approved by sponsors. The system includes these modules:

- **Kuali Financial System** for
- **Kuali Coeus System**
- **Click Commerce** applications for research ethics, including IRB, IACUC, Conflict of Interest and Safety
- **CORES** for financial accounting and billing of recharge centers

This document describes requirements for research activity report generation from TARA, utilizing Cognos business intelligence (BI) software. The focus of this document is on report generation on research activity for schools, departments, centers and institutes, as well as for the President, Provost and VP or Research. The reports described herein address these issues:

- Trends in proposals submitted, awards and expenditures, and identification of associated strengths and weaknesses.
- Identification of future problems, such as investigators or units that are running short of funds.
- Monitoring allocation of effort to sponsored projects.
- Assessment of appropriate space allocations to investigators.
- Tracking proposal success rates by unit, investigator or sponsor.

It is the goal to have the capability to easily generate reports that inform users of current status of research activity, historical trends and project future activity. These reports should help make strategic decisions on resource allocation, faculty recruitment and retention and other research investments.

A set of standard reports will be automatically provided in a format that is consistent across all centers, departments and schools. In addition, a capability will be provided to easily create customized reports that meet particular user needs.

2.1 Users

The BI tool will be used by the following categories of employees:

Investigators: are faculty and/or staff who are responsible for performing the work on a research project. The Principal Investigator has overall responsibility for a project, including the responsibility to ensure compliance with all requirements and regulations.

School Administrators: are staff employed by schools (or departments, centers, or institutes) with responsibility for assisting investigators in the preparation of proposals and managing financial aspects of research awards.

School Research Leadership: are faculty appointed as department chairs, deans, associate or vice deans, or those who are otherwise responsible for overseeing research within schools or centers.

DCG Administrators: are staff responsible for the review of proposals prior to submission to sponsors, negotiation and execution of agreements and various account closeout activities.

Business Process Administrators: are staff responsible for individual business processes, such as purchasing, sponsored project accounting, equipment management, technology licensing and disbursements.

Research Advancement Officers: staff responsible for assisting the campus and schools to put together large interdisciplinary proposals.

Research Compliance Administrators: are staff and faculty responsible for ensuring that research is conducted in compliance with regulations and university rules, particularly with respect to use by these regulatory committees:

- Institutional Research Board (IRB, for human subjects)
- Institutional Animal Care and Use Committee (IACUC)
- Conflict of Interest in Research Committee (CIRC)
- Stem Cell Research Oversight Committee (SCRO)
- Institutional Biosafety Committee (IBC)
- Radiation Safety Committee (RSC)
- Chemical Safety Committee (CSC).

University Research Leadership: are staff and faculty in the Office of Research, who are responsible for oversight of the entire university research enterprise, and for assisting investigators in pursuing major funding opportunities.

Health Research Association: is a potential future user responsible for administering industry sponsored clinical trials, including contracting and billing.

System Administrators: are staff responsible for system maintenance and allocation of system permissions.

2.2 Processes Supported

As stated in the RAS requirements document, the BI tool must support these capabilities:

Automatic and Customized Reports on Research Activity

- Customized and automated reports on funded research activity, as reflected in proposals, awards, and expenditures, classified by individual investigator, academic unit, interdisciplinary collaboration, sponsor. Examples include account summaries, funds available, drill-down to detailed account activity, roll-ups of satellite accounts to their associated master account, transactions grouped by category such as travel, materials and supplies.
- Projections of important metrics such as proposal yield, award volume, school and department projections, expected continuation funding, accounting of post docs, space usage, recovery of indirect cost, forecasting for PIs, burn rates, projecting time required for various award processing steps based on historical data.
- Search tool to identify awards by keyword, title, sponsor, academic unit, investigator, award period. Produce summary report on each identified award.
- Reports needed to fulfill government requirements on impact of research, such as “STAR Metrics”, and track associated data.
- “What-if” analytical tools so that users may generate reports based on given assumptions and historical data.
- Interface with an enterprise business intelligence tool, providing access to all data elements deemed relevant to research administration needs, which may include data from several systems of record.
- Download feature so that any reports can be accessed via download and import
- Comprehensive searching and filtering capabilities.
- Assure that sensitive data is only accessible to those that are authorized to view such data.
- Provide data with minimal latency; one day would be ideal.
- Provide tools for users to create their own report templates, which can then be shared with others, with no or minimal programmer involvement.
- Link accounts for multi-year awards for reporting purposes.
- Track foregone F&A, as well as cost-sharing commitments.

In addition, the BI tool must support the following additional capabilities:

Tracking and Reporting on Performance of Research Administration

- Status alerts as reminders for when actions or decisions are needed by staff or investigators.
- Period performance report, showing average time (and percentile times) to action at each process step and each business unit.
- Automatically generate customer surveys based on key transactions (e.g., proposal submission) and tabulate results.

This document only addresses requirements for reports on research activity. **The tracking and reporting on performance of research administration will be documented separately. Also, departmental reports for the Department of Contracts and Grants and Sponsored Projects Administration will be documented separately.**

In addition, tools for account financial management and projection will also be created. These will be documented separately

2.3 External Systems Requiring Interfaces

The BI tool will be interfaced with all TARA components. In addition, an interface is required to the following:

Facility Management System: To determine amount of research space assigned to each investigator.

3. Requirements.

The BI tool must be capable of generating five standard reports: (1) Account Status Summary Report; (2) Proposal Status Summary Report, (3) Research Activity Report, (4) Effort Summary Report, and (5) Interdisciplinary Activity Report. In addition, the BI tool must be capable of producing custom reports to meet individual user needs. All reports must meet the general requirements specified in Section 3.1.

3.1 General Requirements

The general requirements described in the RAS V1.0 requirements document all apply to the reports on research activity. In addition, reporting must provide these user capabilities

- Mask fields that he/she does not wish to view.
- Sort all records according to each data field.
- Export tables to a spreadsheet.
- Print table in different formats and on different paper sizes.

3.1.1 Access to Reports is restricted to users who log on to TARA. Access privileges are further restricted based on a need to know, as follows:

- **General Access:** All data fields marked as general access are viewable to all TARA users. All other fields are restricted as described below.

- **Investigators:** can view all account/proposal data derived from their own activity. A principal investigator can view activity for his/her own accounts/proposals along with any satellite accounts associated with his/her master account. Co-principal investigators or co-investigators only have full access to activity for his/her satellite account.

- **Chair or Director:** can view all account/proposal data derived from their unit's own activity. This includes viewing activity for investigators who hold appointments (partial or full) within his/her own unit. The chair or director does not have full viewing privileges for satellite accounts that fall outside of his/her unit. The chair or director may provide one or more administrators in his/her unit with these same access privileges.

- **Dean:** can view all account/proposal data derived from his/her school's own activity. This includes viewing activity for investigators who hold appointments (partial or full) within his/her own unit. The dean does not have full viewing privileges for satellite accounts that fall outside of his/her unit. The dean may provide one or more administrators in his/her school with these same access privileges.

- **Senior Vice President:** can view all account/proposal data for the entire university. The senior vice president may provide individuals in his/her units with these same access privileges (e.g., business process managers, compliance). The vice president for research also has full access privileges and may provide full access privilege to individuals in his/her office (e.g., contracts and grants, research advancement) with these same access privileges.

3.1.2 Jointly Appointed Investigators will appear in records for all units sharing the investigator's appointment. A record will be maintained within TARA that tracks the percentage distribution of effort across the investigator's assigned units. The percentage distribution will be applied to records uniformly to attribute credit to each participating unit.

<u>3.2 Source Data</u>

Research activity reports are derived from data captured in the following ways:

- At time of proposal submission, as entered by Department of Contracts and Grants
- At time accounts are established, as entered by Department of Contracts and Grants or Sponsored Projects Administration
- Ongoing, as funds are expended
- Imported from the Facilities Management System (including amount of space assigned to each investigator by type of space).

3.3 Account Status Summary Report (ASSR)

Based on designated attributes, the Account Status Summary Report (ASSR) lists data for all active accounts (including gift accounts). The ASSR is automatically generated for each of the following units upon completion of each month.

- Investigator
- Division (as used in Keck School of Medicine)
- Department
- Center or Institute
- School
- Provost

A designated person at each unit is then notified by email of its availability.

In addition users are able to generate a current or historical (i.e., current plus closed accounts) ASSR at any time based on these search attributes:

- Name of principal investigator
- Name of investigator (including co-PI or co-investigator)
- Division (as used in Keck School of Medicine)
- Department
- Center or Institute
- School
- Sponsor or sponsor type (federal, non-federal, state, foundation, corporate)
- Keyword (from title or other designator)
- Account type (education, training research project, program project, center, equipment, construction/renovation, service)
- Agreement type (grant, contract, cooperative agreement, gift)

The user may enter multiple search attributes to narrow a search.

After the user enters a search attribute (or automatically for the monthly report), the ASSR is returned in tabular format. Data fields marked with an asterisk are general access (all users). Other fields are restricted, as described earlier.

1. Name of principal investigator(s)*
2. School of principal investigator’s primary appointment*
3. Designated department or center/institute of principal investigator*
4. Names of all other principal investigators or co-principal investigators assigned to account*
5. Project title*
6. Sponsor*
7. Source sponsor (if sub-award, designate sponsor that provides source funding)
8. Account type

9. Agreement type
10. Account number
11. Start date*
12. End date* (including expected future non-competitive renewals)
13. Current end date*
14. Date that next report to sponsor is due
15. Indicator whether any reports are overdue
16. Total amount of award (including expected future non-competitive renewals)*
17. Total amount awarded to date
18. Total indirect costs awarded to date
19. Total funds spent to date
20. Indirect costs spent to date
21. Projection for remaining months of funding (ratio of total award amount to rate of spending)
22. Surplus/deficit projection, equally projection for remaining months of funding minus months remaining until end date.
23. Award amount attributed to <u>selected attribute</u> (e.g., named investigator, department, etc.)
24. Indirect cost attributed to <u>selected attribute</u>
25. Funds spent to date attributed to <u>selected attribute</u>
26. Indirect costs spent to date attributed to <u>selected attribute</u>
27. Projection for remaining months of funding attributed to <u>selected attribute</u> (ratio of total award amount to rate of spending)

For jointly appointed investigators, attributes 23-27 will account for the investigator's distribution of effort across units (i.e., only a percentage of activity is attributed to each unit). For accounts with multiple PIs or co-PIs, attributes 23-27 further reflect the assigned credit to each investigator, where the total assigned credit for all PIs/co-PIs equals 100%.

Each account will appear as a single line in tabular format.

A summary table will also be provided, totaling across all accounts for each account type (i.e., one line per type) along with a grand total for all account types.

A user should have the capability to retrieve the actual agreement through a single click.

<u>3.2 Proposal Status Summary Report (PSSR)</u>

Based on designated search attributes, the Proposal Status Summary Report (ASSR) lists data for all active proposals (i.e., those for which an account has not been established, and have not been rejected). The PSSR is automatically generated for each of the following units upon completion of each month. A designated person at each unit is then notified by email of its availability.

- Investigator

- Division (as used in Keck School of Medicine)
- Department
- Center or Institute
- School

In addition users are able to generate a current PSSR at any time based on these search attributes:

- Name of principal investigator
- Name of investigator (including co-PI or co-investigator)
- Division (as used in Keck School of Medicine)
- Department
- Center or Institute
- School
- Sponsor
- Keyword from title or other designator
- Proposal type (education, training research project, program project, center, equipment, construction/renovation, service)
- Agreement type (grant, contract, cooperative agreement, gift)

The user may enter multiple search attributes to narrow a search.

After the user enters a search attribute (or automatically for the monthly report), the PSSR is returned in tabular format. The PSSR is not available for general access.

1. Name of principal investigator(s)
2. School of principal investigator's primary appointment
3. Designated department or center/institute of principal investigator
4. Names of all other PIs or co-PIs assigned to account
5. Project title
6. Sponsor
7. Source sponsor
8. Account type
9. Proposal number
10. Date proposal was submitted (if not yet submitted, left blank)
11. Current status (in preparation, submitted awaiting review, notified of just-in-time, notice of grant award received, under negotiation)
12. Proposal due date
13. Proposed start date
14. Proposed end date (including expected future non-competitive renewals)
15. Total funding requested
16. Total indirect costs requested
17. Funding requested attributed to <u>selected attribute</u> (e.g., named investigator, department, etc.)
18. Indirect cost requested attributed to <u>selected attribute</u>

For jointly appointed investigators, attributes 17-18 will account for the investigator's distribution of effort across units (i.e., only a percentage of activity is attributed to each unit). For accounts with multiple PIs or co-PIs, attributes 17-18 further reflect the assigned credit to each investigator, where the total assigned credit for all PIs/co-PIs equals 100%.

Each proposal will appear as a single line in tabular format.

A summary table will also be provided, totaling across all accounts for each account type (i.e., one line per type) along with a grand total for all account types.

A user should have the capability to retrieve an actual proposal through a single click.

3.3 Research Activity Report (RAR)

The Research Activity Report (RAR) provides a summary of research activity for designated investigators or units. The reports are provided on a need-to-know basis, and are therefore not available for general access. The RAR can be viewed for different time units, as selected by the user.

In addition users are able to generate a current RAR at any time based on these search attributes:

- Name of principal investigator
- Name of investigator (including co-PI or co-investigator)
- Division (as used in Keck School of Medicine)
- Category of investigator (e.g., level or type of appointment)
- Department
- Center or Institute
- School
- Sponsor
- Keyword (from title or other designator)
- Account type (education, training research project, program project, center, equipment, construction/renovation, service)
- Agreement type (grant, contract, cooperative agreement, gift)

The user may enter multiple search attributes to narrow a search.

3.3.1 Data Elements The RAR provides data on the following:

1. Number of proposals submitted
2. Dollar value of proposals submitted
3. Indirect cost value of proposals submitted
4. Number of proposals awarded
5. Dollar value of proposals awarded

6. Indirect cost value of proposals awarded
7. Number of active accounts
8. Expenditures of active accounts
9. Indirect costs expended from active accounts
10. Remaining funds in active accounts
11. Remaining indirect costs of active accounts
12. Months of funding remaining in active accounts (ratio of remaining funds to burn rate)
13. Percentage of proposals submitted that have been awarded over period
14. Percentage of proposals submitted that have been rejected over period
15. Assigned square footage of research space
16. Ratio of indirect cost expenditures to assigned square footage of research space
17. For 12-month faculty, percentage effort charged by faculty members to sponsored research account for prior 12 month period. For 9-month faculty, percentage effort charged by faculty members to sponsored research accounts for prior 9 months of academic year.
18. For 12-month faculty, percentage effort scheduled to be charged by faculty members to sponsored research account for next 12 month period. For 9-month faculty, percentage effort scheduled to be charged by faculty members to sponsored research accounts for next 9 months of academic year.

3.3.2 Rolling Period Report The RAR Rolling Period Report is automatically generated for each of the following units upon completion of each month.

- Investigator
- Division (as used in Keck School of Medicine)
- Department
- Center or Institute
- School
- Provost

A designated person at each unit is then notified by email of its availability.

For each data element in 3.3.1, this report provides the cumulative activity over the most recent 12 month period, along with the two previous 12 month periods. In addition, a year-over-year percentage change will be provided for each data element.

Data are provided in the following manner:

Investigator: one record for each research sponsor, along with a total for all sponsors
Division/Department/Center:
Table 1: one record for each investigator along with a total for entire unit
Table 2: one record for each research sponsor along with a total for all sponsors
School:
Table 1: one record for each department/center/institute along with a total for entire unit

Table 2: one record for each research sponsor along with a total for all sponsors

Provost:

Table 1: one record for each school along with a total for entire unit.

Table 2: one record for each research sponsor along with a total for all sponsors

The Institute for Creative Technologies will be treated as a school for the purpose of this report.

Two graphs will also be provided for each table showing activity trends for the unit as a whole:

Graph 1 plots: (1) dollar value of proposals submitted, (2) dollar value of awards, (3) dollar value of expenditures

Graph 2 plots: (1) indirect cost value of proposals submitted, (2) indirect cost value of awards, (3) indirect cost value of expenditures.

Users will have access to all reports generated for their reporting units. For instance, a dean may view departmental reports or investigator reports.

3.3.3 Other Time Periods As an alternative, the research activity report may be viewed for these alternative time periods:

- Fiscal-year-to-date
- Calendar-year-to-date

The formatting of these reports are identical to the rolling period report.

3.3.4 Monthly Report Any user may also generate a monthly report for any selected data element. The monthly report provides a table with 36 months of data for the selected element. In addition, the table will provide:

- Cumulative value for the most recent 12 months, along with the two prior 12 month periods.
- Fiscal-year-to-date value, along with fiscal year-to-date for two prior 12 month periods.
- Calendar year-to-date value, along with calendar year-to-date for two prior 12 month periods.
- Total for all 36 months.

The monthly values will also be plotted for the 36 month period.

3.4 Effort Summary Report (ESR)

The ESR tracks charging of salary for faculty members to sponsored research accounts. The report is provided on a need-to-know basis, and is therefore not available for general access.

Users are able to generate a current ESR at any time based on these search attributes:

- Name of principal investigator
- Name of investigator (including co-PI or co-investigator)
- Division (as used in Keck School of Medicine)
- Category of investigator (e.g., level or type of appointment)
- Department
- Center or Institute
- School

The report provides actual percent effort charged to sponsored accounts for each of the prior 36 months and planned charges to sponsored accounts for each of the next 12 months by individual. An average by month can also be provided by unit, such as a school. In addition, the report provides:

1. For 12-month faculty:
    a. Total percentage effort charged by faculty member to sponsored research accounts for each of the three prior years.
    b. Total percentage effort charged by faculty member to cost-share accounts for each of the three prior years.
    c. Total planned charge to sponsored research accounts for the next 12 month period.
    d. Total planned charge to cost-share accounts for the next 12 month period.
2. For 9-month faculty:
    a. Percentage effort charged by faculty member to sponsored research accounts for each of the three prior 9 month academic years.
    b. Percentage effort charged by faculty member to cost-share accounts for each of the three prior 9 month academic years.
    c. Percentage effort scheduled to be charged by faculty member to sponsored research accounts for next 9 months of academic year.
    d. Percentage effort charged by faculty member to cost-share accounts for each of the three prior 9 month academic years.

3.5 Interdisciplinary Activity Report (IAR)

The IAR reports on the level of interdisciplinary funded research among schools. It is generated for use by school and university leadership, and is not provided to individual investigators.

Interdiscplinary activity represents proposals or accounts that span multiple schools. An activity is considered interdisciplinary if

- A portion of funding is (or will be) expended in a different school than that of the PI's primary appointment.

The IAR is presented as a matrix, where rows and columns represent schools. The following data are provided

X_{ij} : funds expended in school j, for which the master account resides in school i.

Y_i : total funds expended in schools other than school i, for which the master account resides in school i

Z_j : total funds expended in school j, for which the master account resides outside school j

The IAR is provided for a 12 month rolling period in two forms:

- Based on expenditures from active accounts.
- Based on budgets for proposals submitted.

3.6 Custom Reports

Individual users shall have the capability to generate additional custom reports based on the data elements described in this document, along with other data elements contained in TARA. Reports are restricted to data on investigators for which the user has access privileges, as described previously.