

OFFICE OF MANAGEMENT AND BUDGET
CONNECTND FINANCE
Bismarck, North Dakota

INFORMATION SYSTEM AUDIT
For the Fiscal Year ended June 30, 2005

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TRANSMITTAL LETTER

October 12, 2005

Honorable John Hoeven, Governor
Members of the North Dakota Legislative Assembly
Pam Sharp, Director, Office of Management and Budget
Laura Glatt, Vice Chancellor for Administrative Affairs, North Dakota University System
Curt Wolfe, Chief Information Officer, Information Technology Department

Transmitted herewith is the information system audit of ConnectND Finance for the fiscal year ended June 30, 2005. This audit resulted from the statutory responsibility of the State Auditor under NDCC § 54-10-01.

ConnectND Finance is used to support integrated, enterprise-wide business processes and maintain the official accounting records according to generally accepted accounting principals for the state of North Dakota and the North Dakota University System.

ConnectND Finance was selected for this audit because it is considered a high-risk information system. ConnectND Finance is considered a “high-risk” information system because it is a new system and is the primary financial system used by the majority of state agencies and North Dakota University System institutions. The term “high-risk” does not necessarily indicate that the system has problems, but indicates a higher potential for significant problems to occur.

Inquiries or comments relating to this audit may be directed to Donald LaFleur, Information Systems Audit Manager, by calling (701) 328-4744. We wish to express our appreciation to the Office of Management and Budget, the Information Technology Department, and the North Dakota University System for the courtesy, cooperation, and assistance provided to us during this audit.

Respectfully submitted,

Robert R. Peterson
State Auditor

EXECUTIVE SUMMARY

The purpose of this report is to provide our analysis, findings, and recommendations regarding our audit of the ConnectND Finance system. While primarily an information systems audit, we also addressed operational issues related to the system and its operation.

ConnectND Finance supports integrated, enterprise-wide business processes and maintains the state of North Dakota's and North Dakota University System's official accounting records according to generally accepted accounting principals.

This audit focused primarily on the state's use of ConnectND Finance, but included testing on the North Dakota University System where noted.

Our audit resulted in the following significant findings:

- ConnectND allows special funds to have negative cash balances. (page 14)
- Inadequate roles assigned give users more access than is necessary. (page 6)
- General ledger journal entries are not properly approved. (page 8)
- Superuser access was granted to individuals that do not have a demonstrated need for this access. (page 9)
- Sufficient guidance is not provided through written policies and procedures. (page 13)
- The detailed sub-module data did not always agree with their related entries in the general ledger. (page 10)
- Certain tables that should agree to each other do not. (page 11)
- Not all default accounts are locked or removed in a timely manner. (page 7)
- Roles and permission lists that are not being used have not been removed. (page 7)
- There is no distinction between transactions originating in the one-time payment module and transactions entered directly into the general ledger. (page 11)

BACKGROUND INFORMATION

System Implementation

The state of North Dakota has invested in PeopleSoft's HRMS, Financials, and Student Administration enterprise resource planning solutions to replace legacy human resource, financial, and student information systems. PeopleSoft is a well-known and reputable vendor. The state and North Dakota University System (NDUS) are participating jointly in this project.

PeopleSoft provided aid throughout the implementation process. ConnectND Finance was implemented first as part of a pilot project and was later rolled out to the remaining agencies and schools. As part of the pilot project, ConnectND Finance was first implemented at Valley City State University, Mayville State University, and the Office of Management and Budget in April of 2003. The North Dakota University System Office joined these pilot projects in July of 2003. Upon the conclusion of the pilot projects, ConnectND Finance was rolled out to the remaining agencies and schools. The roll out date for the state agencies was October 2004. For the schools, the roll out took place on two separate dates. In August 2004, ConnectND Finance was implemented at Bismarck State College, Dickinson State College, Lake Region State College, Williston State College, and the State School of Science. In January of 2005, the ConnectND Finance was implemented at Minot State University, Minot State University – Bottineau, University of North Dakota, and North Dakota State University.

System Overview

The Office of Management and Budget and the North Dakota University System Office are responsible for administering ConnectND Finance. The Information Technology Department (ITD) is responsible for maintaining and securing the application and database servers used by ConnectND Finance. ITD also aids in installing upgrades and in implementing changes to the application.

ConnectND Finance is comprised of several modules. The five main modules that have been implemented are Accounts Receivable, Accounts Payable, General Ledger, Asset Management, and Purchasing.

The **Accounts Receivable** module processes and records revenue collections and aids in the bank reconciliation process. Currently, state personnel use this module for maintaining customers, entering items, entering payments/deposits, and applying payments.

The **Accounts Payable** module manages cash disbursements. This module is being used to make purchases of goods and services from an approved table of vendors. Accounts Payable is integrated with the Purchasing module and Asset Management module. This allows the state to track a purchase from the original purchase order to the payment to the vendor to the reception of the purchased assets.

The **Purchasing** module provides automation of the business processes for the procurement of goods and services. This module aids in maintaining the vendor

list for the entire state and allows for the creation of requisitions and purchase orders.

The **Asset Management** module accounts for state property. This module records the additions and retirements of state property as well as any depreciation. The module is also used to track the location of state property.

The **General Ledger** module stores balance sheet, revenue, and expenditure activity for all agencies and schools while maintaining separate unique accounting environments for each of them. All other modules are integrated with the General Ledger so that the financial data from the other modules is eventually recorded into the General Ledger. The General Ledger module is currently being used to maintain budget information, record journal entries, and, for agencies and schools that have not implemented Accounts Receivable, to record deposits.

OBJECTIVES, SCOPE, AND METHODOLOGY

The objective of this audit of ConnectND Finance for the fiscal year ended June 30, 2005 was to answer the following questions:

1. Are security roles designed to provide access based on a demonstrated need to view, add, change, or delete data?
2. Are accounts that have “superuser” access necessary?
3. Do sub-modules properly record financial data in the general ledger?
4. Are financial policies and procedures adequate?
5. Are edit checks adequate?

This audit was conducted in accordance with *Standards for Information Systems Auditing* issued by the Information Systems Audit and Control Association and *Government Auditing Standards* issued by the Comptroller General of the United States.

ARE SECURITY ROLES DESIGNED TO PROVIDE ACCESS BASED ON A DEMONSTRATED NEED TO VIEW, ADD, CHANGE, OR DELETE DATA?

Summary of Audit Work Performed

We obtained and reviewed a list of ConnectND Finance roles and their access rights for the state of North Dakota and the North Dakota University System (NDUS). We reviewed these roles to ensure the access they provided was consistent with their stated purpose. We also reviewed default accounts to ensure they were being locked in a timely manner.

Audit Findings

Inadequate roles

In reviewing the list of roles and their access rights:

- We identified ten roles that grant access to maintain security. Best practice states that you limit security maintenance to security administrators only. Giving other users security administrator rights increases the possibility that unauthorized security changes could occur.
- We noted that there is no separate role to perform general ledger inquiries. This means inquiry-only users usually receive the role that allows them the right to enter data into the general ledger. Best practice states that users receive the least access necessary to perform their job functions. Giving users more access than necessary increases the possibility that errors and irregularities could occur.
- We noted two roles unrelated to the general ledger that gave access to enter journal entries on the general ledger. Best practices states that roles provide the least access necessary for their intended purpose. Unnecessary access rights increase the possibility that errors and irregularities could occur.

Recommendation:

We recommend the Office of Management and Budget design more specialized roles to support best security practice. The changes should include, but not be limited to, the following:

- Separate roles for general ledger inquiry and general ledger data entry;
- Security maintenance be limited to security administrator roles only; and
- General ledger data entry should be limited to roles that require it.

Agency Response:

Office of Management and Budget

Separate roles for general ledger inquiry and general ledger data entry:

We agree with the recommendation and have made this change.

Security maintenance be limited to security administrator roles only and general ledger data entry should be limited to roles that require it:

We agree with the recommendations. OMB intends on doing an in-depth review of PeopleSoft Roles/Permission Lists to tighten up security access. We will incorporate these recommendations in our scope.

Maintenance of unnecessary and unassigned roles and permission lists

We created specific queries to pull unused roles, unused permission lists, and permission lists attached only to unused roles. We identified 253 unused roles, 107 unused permission lists, and 132 permission lists attached only to unused roles. These items are roles and permission lists that are delivered with the application or test roles and permission lists created by the State or University System. Extra or unused roles and permission lists complicate security and should be removed as part of good housekeeping.

Recommendation:

We recommend the Office of Management and Budget and the North Dakota University System delete created roles and permission lists that are unassigned and unnecessary.

Agency Response:

Office of Management and Budget

OMB will delete roles developed by the state that are no longer used.

North Dakota University System

The NDUS agrees that any NDUS created permission lists and/or roles that are not used in any of the Finance environments should be and will be deleted. However, NDUS created permission lists and roles are kept in synch in all Finance environments, so there may be occasions when a permission list and/or role will not be used in the Production environment.

Default accounts not locked

When we reviewed default accounts, we noted that one default account was unlocked. The unlocked account was the default system administrator account. This account was being used by administrators in the Information Technology Department. Default accounts pose a security risk because vendors provide lists of them freely. Hackers target the default accounts when attempting to gain access to systems.

Recommendation:

We recommend the Information Technology Department establish procedures to lock or remove all default accounts.

Agency Response:

Information Technology Department

ITD will:

- A) Generate an automated monthly report that will show us all accounts in an unlocked status. ITD will then review this report, determine if any are default PeopleSoft accounts, and if so ITD will then lock the accounts.
- B) Work with ITD Application Server Group for proper notification when system patches and updates will be applied so that the 'unlocked status' report can be re-run to see if any default PeopleSoft accounts were created or unlocked.
- C) This will in place by December 15, 2005.

No general ledger approval function

During our review of security, we found the general ledger lacks an approval function for journal entries. Good internal controls require a segregation of duties between preparing and approving journal entries. The lack of proper approval increases the risk that errors and irregularities could occur.

Recommendation:

We recommend the Office of Management and Budget implement an approval function for journal entries and segregate this from preparing journal entries.

Agency Response:**Office of Management and Budget**

OMB will implement General Ledger Workflow functionality to comply with this recommendation.

Auditor's Opinion

In our opinion, security roles do not provide access based on a demonstrated need to view, add, change, or delete data.

ARE ACCOUNTS THAT HAVE SUPERUSER ACCESS NECESSARY?

Summary of Audit Work Performed

A superuser account has access to all or nearly all ConnectND Finance functions and data, or one that can modify security rights.

We created a query to pull all accounts with superuser access. We reviewed the list of accounts with superuser access to determine whether this access was appropriate.

Audit Findings

Excess superuser access

We identified eight accounts that had inappropriate superuser access. In addition, we identified twenty-two accounts for the Office of Management and Budget to review to determine if they require superuser access. Good internal controls require that you grant access rights based on a demonstrated need. Unnecessary superuser access increases the risk that errors and irregularities could occur.

Recommendation:

We recommend the Office of Management and Budget limit superuser access to only those individuals with a demonstrated need for superuser access.

Agency Response:

Office of Management and Budget

OMB will review those accounts granted superuser access to determine if it is needed.

Auditor's Opinion

In our opinion, not all accounts that have been granted superuser access are necessary.

DO SUB-MODULES PROPERLY RECORD FINANCIAL DATA IN THE GENERAL LEDGER?

Summary of Audit Work Performed

We reconciled sub-module detail records to general ledger journal entries from the sub-modules. We performed reconciliations for:

- Accounts Payable
- Accounts Receivable
- Billing
- Grants
- Contracts
- One-time Payments
- Student Administration
- Asset Management
- Travel and Expenses

In addition to these reconciliations, we verified data converted from legacy systems.

The reconciliations were all done in a similar manner. We created a query to extract the detailed data from the sub-modules. We created a query to extract sub-module general ledger journal entries. We compared the results of the two queries by all the relevant chart fields. Finally, we researched any differences.

Audit Findings

Financial data in sub-modules not in agreement with the general ledger

In reconciling the Student Administration module we found that the Student Administration module creates the general ledger journal entries. Student Administration sends these entries to ConnectND Finance, and they post to the general ledger. Prior to sending the entries to ConnectND Finance, an opportunity exists to modify the journal entries. For various reasons institutions modified journal entries which caused the final entry in ConnectND Finance to no longer agree to the detail in Student Administration.

Recommendation:

We recommend the North Dakota University System Office ensure that the sub-module detailed data agrees to the corresponding entries in the general ledger.

Agency Response:

North Dakota University System

Financial data is interfaced to Finance from the HRMS and Student databases. After the interface is complete, journals are created through the journal generation process in the nightly batch from student and manually by the HECN staff for the payroll. In either case, the journal generation is also set to edit, budget check and post the journal that is created.

There are many occasions when the journal will not post because of either a journal header error such as a chartfield missing or a budget checking error. Budget checking errors are typically resolved by creating budgets. When journal header errors occur, the only way to get

the journal to post is to add/revise the chartfield on the journal. The correction is made in the journal and allowed to post to the general ledger. Because these differences are minor, it is not feasible to make the change in the student finance system.

In addition, some of the differences that occur between the GL and student finance are as a result of set up issues at the campuses and/or unexplainable system errors. Set-up issues can cause student finance journals to be created with errors such as duplicate lines, missing lines, etc. As a result, the student finance generated journals do not match the student finance database. As each campus discovers these issues, journal entries are posted to the GL to correct the errors and changes to set-ups are made in Student Finance to eliminate these errors from occurring in the future. When these types of errors occur, campuses will keep documentation that will allow for an audit trail of the changes. In addition, campuses will be diligent in preparing set-up in student finance so as to avoid these types of errors in the future.

Based on user preferences, the institutions have the ability to determine who should have the authority at their institutions to change journals that are created through the journal generation process. As a result, there are only a few individuals at each institution that can change the journal and most journals are posted immediately in the nightly batch as they have no errors. Once a journal is posted, the journal cannot be revised.

Corresponding tables in the ConnectND Finance and Student Administration do not agree

Because Student Administration creates the journal entries and sends them to ConnectND Finance, we compared these two tables and found numerous discrepancies. We were unable to determine the cause of this error.

Recommendation:

We recommend the North Dakota University System Office ensure the journal entry tables are in agreement between the Student Administration system and ConnectND Finance.

Agency Response:

North Dakota University System Office

When errors occur, changes to chartfields in student finance will not update the staging table because app messaging is not kicked off by this process, thus there will be a difference between the journal and the staging tables, even if the error is corrected in SF. As resources become available, additional research and changes in this area may be warranted. We also expect that there will be fewer of these errors over time, as campuses are able to correct setup and table values.

Journal Entries from the One-Time Payment module not uniquely identified

The Office of Management and Budget created the one-time payments process to make payments outside the master vendor file. For the most part these are benefit payments or refunds to citizens where it is impractical to enter every citizen in the vendor file. We discovered that one-time payment journal entries are not uniquely identified in the general ledger. This makes one-time payment entries difficult, if not impossible, to differentiate from other entries in the general ledger.

Recommendation:

We recommend the Office of Management and Budget utilize a separate system source for One-Time Payment entries.

Agency Response:

Office of Management and Budget

OMB will change the one-time payment interface and provide a unique system source identifier.

Auditor's Opinion

In our opinion, the sub-module detailed data does not agree to the general ledger in all instances.

ARE FINANCIAL POLICIES AND PROCEDURES ADEQUATE?

Summary of Audit Work Performed

We reviewed the written policies and procedures that the Office of Management and Budget provided to the agencies. We also reviewed the related training manuals that the Office of Management and Budget or the vendor created.

Audit Findings

Inadequate written policies and procedures

In reviewing information the Office of Management and Budget provided on its website, we found that the vendor provided much of it. The guidance was general in nature and was intended to familiarize end-users with use of the PeopleSoft application. The Office of Management and Budget should provide additional guidance regarding internal controls in the form of policies and procedures. Policies and procedures are necessary to minimize errors and increase operating efficiency.

Recommendation:

We recommend the Office of Management and Budget develop a comprehensive financial manual which outlines the policies and procedures to be used by all state agencies. At a minimum, the manual should address proper internal controls and compliance with state law and Office of Management and Budget policy.

Agency Response:

Office of Management and Budget

OMB has updated the Fiscal and Administrative Policy manual as of August 1, 2005 and it is available on our website.

Since we deployed the PeopleSoft financial application in October 2004, our main communication with users was via emails, newsletters, portal articles, and phone calls. We agree there is not a comprehensive users manual one can refer to and it is our intention to develop one in the near future.

Auditor's Opinion

In our opinion, the policies and procedures surrounding ConnectND Finance are not adequate.

ARE EDIT CHECKS ADEQUATE?

Summary of Audit Work Performed

We reviewed edit checks in ConnectND to ensure they are adequate.

Audit Findings

Special funds can be overspent

ConnectND allows special funds to have a negative cash balance. Traditionally, controls prevented negative cash balances in special funds. Since special funds are designed to be self-funding this control should be continued.

Recommendation:

We recommend the Office of Management and Budget establish a policy and procedures to prohibit negative cash balances in special funds.

Agency Response:

Office of Management and Budget

OMB will monitor for this situation and will establish a policy outlining the procedures to be followed when it does occur.

Auditor's Opinion

In our opinion, edit checks are not adequate