

**NOICC Crosswalk and
Data Center**

**Annual Report
July 1, 1997-June 30, 1998**

August 17, 1998

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Introduction

The National Occupational Information Coordinating Committee (NOICC) is an interagency committee made up of federal agencies who are major producers of occupational and training program information. Part of NOICC's mission is to address the needs of those planning educational and training programs. Early in the agency's history, member agencies recognized the need to be able to relate occupations to training programs to aid those planners. Among the first tools developed was a publication titled *Vocational Preparation and Occupations*, known as the VPO. The VPO described the occupational and training classifications and contained a printed report that linked related programs and occupations.

Demand for custom products based on the database that was the source of information in the VPO grew as more people realized its potential for meeting their individual needs. Since NOICC lacked both staff and data processing resources to meet those needs, both NOICC and others turned to other possible service providers, including the Iowa SOICC. Two Iowa SOICC staff began providing a variety of products, mostly printed reports and computer tapes, to meet this demand. Since 1983, a service center for providing those products has been operated by the Iowa SOICC under a series of competitive special-purpose grants from NOICC. Until 1993 the service was known as the National Crosswalk Service Center; the name was then changed to the NOICC Crosswalk and Data Center to reflect the ongoing support by NOICC and the center's increasing involvement in the distribution and use of occupational and training data. This report documents activity during the latest period of the center's operation. NOICC's commitment to providing quality tools to its network and others has been demonstrated by its investment of over \$3 million dollars in the operation of the NCDC during the past 15 years.

During the year ending June 1997, funding for NCDC operation switched from NOICC to the Employment and Training Administration of the Department of Labor (DOL). Although funds still flow through NOICC and the center's grant is from that agency, the change in funding significantly widened the arena in which the center operates. It is expected that past NCDC efforts will be broadened to include a new audience from within DOL's system of State Employment Security Agencies (SESAs). DOL has undertaken a number of projects to help the SESAs deliver information to their customers, and a NCDC support for several of those projects could be significant. Collectively, these projects are known as America's Labor Market Information System (ALMIS).

The center's products and services have undergone major changes since the center began, going from mainframe computer tapes and printed reports based on a relatively small number of files to a wide array of products from numerous federal agencies available through a variety of delivery channels. During the period covered by this report, technological change allowed the center to continue to serve its traditional customer base while expanding support for DOL projects. A number of products were developed to support state efforts to populate the ALMIS Database, a

relational database designed to contain a wide variety of labor market, economic and occupational information. Many of the standardized files contained in the database are similar in content and format to files contained in NOICC's Occupational and Labor Market Information Database (OLMID), on which the ALMIS Database is partially based. Given the shift in NCDC funding, support for the ALMIS Database is a logical next step in expansion of the center's operation.

Support for the NOICC/SOICC Network

The NCDC's primary audience is the NOICC/SOICC network and those committees' constituent agencies. The center supports the network in a variety of ways, ranging from supplying files members need for their own individual projects to providing support for various national projects. Some of the activities relating to the latter type of support are described below:

- ❑ *Internet Services:* The NCDC developed the initial NOICC home page (www.noicc.gov) on the World Wide Web in 1995. Additional Internet services have been added over time. The NCDC sponsors the NOICC listserver as part of the State of Iowa's Internet services. A listserver distributes electronic mail (e-mail) messages to its subscribers. NOICC has encouraged all SOICCs to subscribe to this service, which is expected to take on increasing significance in the network's communication processes. In December 1997, the NCDC began operation of an Internet File Transfer Protocol (FTP) server (ftp.noicc.gov). The center uses this server for distribution of its standardized files and in support of specific programs such as the ALMIS Database. During the server's first six months of operation, over 3,500 files were downloaded. The service has made a significant contribution to the center's ability to serve its customers (see the Analysis of NCDC Requests section of this report.)
- ❑ *Bulletin Board Activities:* The NCDC has operated a dial-up electronic bulletin board system, the NCDC BBS, for sharing of files since 1989. This resource has allowed callers to download 6,500 files, freeing up NCDC resources for other activities. As use of the Internet for file distribution has grown, use of the NCDC BBS has declined. During the current period, the number of calls to the service declined by 40 percent and the number of files downloaded dropped by 35 percent. Updated files placed on the Internet FTP server have not been routinely placed on the BBS, largely due to a lack of NCDC resources. In January 1998, all messaging functions on the service were disabled following an assault during which a user posted over 50,000 messages on the system. This is a growing problem for this type of system, and this user has attacked other systems in the Des Moines area as well.
- ❑ *Classification activities:* Although no occupational or training classifications were revised during the period covered by this report, work related to upcoming revisions had an effect on the center's activities, including:
 - ✓ The NCDC furnished printed reports in support of the Department of Education's revision of their Classification of Instructional Programs (CIP). The reports included

- national counts of program completers and institutions by CIP and the relationships between the CIP and the proposed revision of the Standard Occupational Classification (SOC).
- ✓ During May 1998, the Department of Labor released a new version of America's Job Bank (AJB), and Internet resource for states and the private sector to use for posting job openings. Included in the revision was the use of a new classification system for the job openings, based on the proposed SOC. Many career information system developers had included links to AJB in their systems, and those links stopped working when the underlying classification system changed in the new release. During June, the NCDC received tools to allow system developers to modify their links and restore that function to their systems. Those resources were made available on the center's FTP server.
 - *NOICC's Licensed Occupation Information System (LOIS)*: During the report period, the LOIS system was put into operation as the NCDC purchased a server and licensed the necessary software. The center has received feedback from several states and furnished those comments to NOICC and the system developer. Links to the LOIS server were added to two federal Internet services: the home pages of America's Learning eXchange (ALX, part of ALMIS) and the Department of Defense's Occupational Database home page.
 - *OLMID/OIS and the ALMIS Database*: NOICC's Occupational and Labor Market Information Database (OLMID) and Microcomputer Occupational Information System (Micro-OIS) resulted from a cooperative effort involving NOICC and the SOICCs. OLMID was developed as a standardized structure designed to hold the occupational and labor market data that the network has traditionally delivered to planners of training programs and other users. NOICC staff, along with the Department of Labor and others, participated in the design of the ALMIS Database. This latter database contains information that is in many ways similar to OLMID. NCDC staff translated all of the files developed for OLMID into the format of their ALMIS Database counterparts. In addition, three sets of standardized data files were developed containing Bureau of Economic Analysis income data, census income data and census population estimates. DOL specifications call for the ALMIS database to be maintained using the Oracle database. However, states have expressed an interest in using a variety of packages for development of the database. In order to satisfy as many needs as possible, the NCDC has made ALMIS Database files available in three formats: as a Microsoft Visual FoxPro (VFP) database, as individual FoxPro files, and as individual comma-delimited text files. Some states have elected to use VFP to maintain the database. Those states can use that version of the database, which includes the relationships among individual tables specified as part of the ALMIS Database design, and add updates from the individual FoxPro or text files. The text files are designed to be the easiest to export to Oracle. NOICC is a member of the consortium formed by DOL to help manage the database, and NCDC staff attend consortium meetings to provide updates on the center's activities in support of the project and advise on classification issues.

- *State Training Inventory (STI)*: NOICC has long sponsored the annual collection and distribution of state-based training information. Two features of the STI program are unique: the sharing of information among states, and the system's ability to allow states to include unique (non-standard) programs in their data. During the period covered by this report, the NCDC did not conduct an update to the system. A variety of factors contributed: lack of NCDC resources as support for the ALMIS Database became more significant; lack of a consensus among the states on the future direction for the effort; and a lack of resources at NOICC's support for several ALMIS projects increased. The NCDC will analyze the situation and provide a variety of options to NOICC for continuation/modification of this effort.

- *File Archives*: The NCDC maintains a secure archive of its major files, with off-site copies in Iowa and at NOICC. During the period covered by this report, a number of files were added to the archive, including:
 - ✓ NOICC Master Crosswalk, Version 4.3
 - ✓ 1996 BLS (OES-DOT) Crosswalk
 - ✓ 1988-96 OES Survey Dictionary
 - ✓ 1994-2005 and 1996-2006 employment projections matrix files
 - ✓ 1996 and 1997 Military Occupational and Training Data
 - ✓ 1998-99 Occupational Outlook Handbook files

- *Product Development*: Classification changes are the driving force behind many of the products developed by the NCDC. No revisions were released during the period covered by this report, but a number of other major resources were revised or released. Many of these have wide applicability, often outside formal programs such as the ALMIS Database. Among the products made available for distribution are:
 - ✓ 1997 Military Occupational and Training Data from the Department of Defense in August 1997.
 - ✓ 1996-2006 employment projections by industry and occupation by the Bureau of Labor Statistics during December 1997.
 - ✓ Selected information from the Current Population Survey by industry and occupation during January 1998,
 - ✓ State and national files containing wage information by occupation from the Occupational Employment Statistics (OES) program from the Bureau of Labor Statistics during March 1998.
 - ✓ Files from the Bureau of Labor Statistics' 1998-99 Occupational Outlook Handbook during March 1998.

- *NCDC Outreach:* NCDC staff attend various conferences and meetings at which its customers congregate. These offer good opportunities to meet with customers and provide them with information about NCDC activities that may be of interest to them. During the latest grant period, NCDC staff attended the following meetings and conferences:
 - ✓ Annual SOICC Conference in Tacoma WA in July 1997
 - ✓ ALMIS Database Consortium meeting in Raleigh NC in August 1997
 - ✓ A DOL-sponsored symposium in Washington DC in September 1997 at which information about ALMIS and other DOL activities was shared with developers of career information delivery systems. NCDC staff presented information about the center's activities and anticipated changes.
 - ✓ Annual Labor Market Information Forum and ALMIS Database Consortium meeting in Portland OR in November 1998.
 - ✓ Annual conference of the Association of Computer-based Systems for Career Information (ACSCI) in Las Vegas NV in November 1998. At this meeting NCDC staff and ACSCI members evaluated potential activities for the center based on upcoming classification changes and DOL activities.
 - ✓ ALMIS Database Consortium meeting in St. Simons Island GA in February 1998.
 - ✓ ALMIS Database Consortium meeting in Carson City NV in May 1998.
 - ✓ Annual Iowa Labor Market Information Conference in Council Bluffs IA in May 1998. NCDC staff presented an update on upcoming classification revisions to Iowa Labor Market Information users.

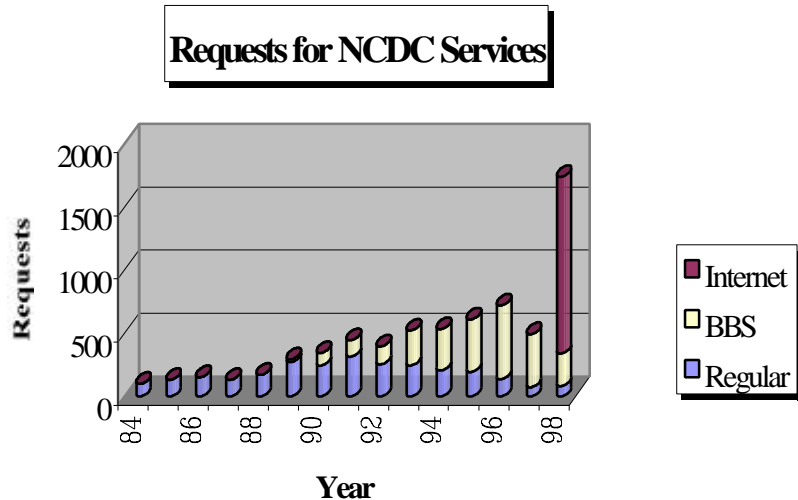
Analysis of NCDC Requests

The most significant NCDC activity is the provision of files, reports and other services to its customers. These services put occupational resources into the hands of those developing systems and others who help the ultimate consumers of occupational information. Two trends have been evident over the past several years: the diversity of products available from the center has increased significantly, and the number of files obtained by NCDC customers without direct action by the center's staff has also grown.

The shift in the ways in which NCDC products are delivered has several implications. First, communication between the center's staff and its customers has changed. Customers are less likely to call the center if they can find the files they want on either the BBS or Internet. So, center staff have less day-to-day contact with customers. Customers do call the center asking about the formatting or uses of current products or the availability of others. As a bonus, when new products are developed in response to these customer requests, the sharing of those files is facilitated when they are placed on the Internet or BBS. This allows NCDC customers to retrieve files with no assistance from NCDC staff and frees the center's resources for expansion of services into new areas and concentration on more complex requests and other product

development. In fact, relatively few files are distributed on diskette. This trend is likely to continue as the Internet becomes an even more significant distribution mode for the NCDC. To some degree the growth of the Internet may contribute to a decline in the significance of the NCDC BBS for delivering services. Generally, those who operate dial-up BBS systems have seen significant declines in activity as use of the Internet has skyrocketed. Many BBS users and operators predict that use of the Internet will render dial-up systems obsolete. The NCDC has committed to maintain its BBS as a low-technology alternative to the Internet.

The second trend, evident in the accompanying graph, is how the use of technology has enabled the center to increase its services to customers without an increase in resources. For the purpose of this analysis, a request on the BBS or



Internet is defined as any user session during which one or more files is downloaded, regardless of the number of files transferred. So, a session at which a single file is transferred is equivalent to one during which the customer downloads 20 files. The downloading of files developed for the ALMIS Database has contributed significantly to the Internet usage. The NCDC has placed over 600 ALMIS Database files on the Internet FTP server. Many of these files are state-specific data files, so they are downloaded infrequently.

Last year's annual report attributed an overall decline in demand for NCDC products to the lack of any significant new products and impending classification system revisions. Classification revisions were not finalized during the period covered by this report. The increase in demand for the center's products can be attributed to two factors: the release of the new occupational resources (employment projections files, *Occupational Outlook Handbook*, etc.) listed in a previous section of this report, and support for the ALMIS Database. Another increase in demand may be on the horizon as classification revisions are completed and the ALMIS Database evolves and more states begin populating the files that make up the database.

Analysis of download activity on the BBS and Internet FTP servers illustrates the types of files in demand by NCDC customers and how significant the Internet has become as a distribution medium. For example, far more copies of the NOICC Master Crosswalk were distributed in just six months via the internet than were downloaded during the three years the file was available on the BBS (during the early years of BBS operation, relative slow modem speeds prevented making the 1 MB+ crosswalk file available for downloading there.). The significance of the ALMIS

Database is also apparent; four of the ten files with the most downloads relate to the database. The significance of the ALMIS Database will undoubtedly increase as data files are updated, additional files are incorporated into the system and revised classifications are added.

Anticipated NCDC Activities

During times of rapid change, planning for changes in the mix of products and services offered by the center becomes critical. As the center's customers become more sophisticated and new or revised classification systems are released, even more demands are expected on the center's resources. At the time this report was written, NCDC staff have anticipate the following major activities for the following year:

❑ *More Internet/BBS Activity:*

The LOIS system was operational during the first six months of calendar 1998. Users of the system have provided feedback on a number of its features and processes. We expect to continue to work with NOICC's and their contractor on the project, testing and implementing enhancements to the system software and aiding the states in file development. We plan to increase our ability to analyze use of LOIS by developing reports on overall use of the system and the various ways in which users access the data. Overall FTP activity should also continue to grow as new classification systems, crosswalks and other products are developed and made available. We also expect to increase our ability to analyze use of this service, both for capacity planning and product development. NCDC staff will continue to maintain and enhance the NOICC and NCDC home pages on the World Wide Web. Feedback from those attending the NOICC/SOICC Leadership Forum in Breckenridge CO in August may fuel a major redesign of the types of information contained on the NOICC home page and how that information is delivered.

❑ *Technological issues:* The NCDC will continue to address technological issues that have an impact on its delivery of services. For example, the software used for operation of the

NCDC BBS Top Downloads
1991-1997

File Name	Description	Downloads
ALLFILES.EXE	List of files on NCDC BBS	65
BLSXW95.EXE	1995 BLS OES-DOT Crosswalk	56
ALLFILES.TXT	List of files on NCDC BBS	55
OU DOT.EXE	O*NET-DOT Crosswalk	54
BLSXW96.EXE	1996 BLS OES-DOT Crosswalk	54
BLSXW94.EXE	1994 BLS OES-DOT Crosswalk	53
MTRX94A.EXE	1994-2005 Projections--part 1	52
DOTCEN40.EXE	DOT to 1990 Census Crosswalk	49
SURD8896.EXE	1988-96 OES Survey Dictionary	49
OIS0226.EXE	Micro-OIS Software Patch	49
TOTAL for above		536

NCDC Internet Top Downloads
January-June 1998

File Name	Description	Downloads
XWALKV43.EXE	NOICC Master Crosswalk	107
BLSXW96.EXE	1996 BLS OES-DOT Crosswalk	81
ALMISDB.DOC	ALMIS Database Documentation	67
BLS2006.EXE	BLS Slide Show -- Empl. Trends	48
XWALK95.EXE	Military Crosswalk Files	51
ANALYSIS.DBF	ALMIS Cluster Analysis	44
MATRIX96.EXE	1996-2006 Projections	31
DOTCEN80.DBF	DOT to 1980 Census Crosswalk	30
OESXDOT.DBF	ALMIS DOT-OES File	29
ONETCODE.DBF	ALMIS O*NET File	29
TOTAL for above		517

NCDC BBS is not year 2000 (Y2K) compliant. The developer has committed to revising the software, and the NCDC will begin using the new version as soon as it becomes available. In addition, the operating system used on one of the NCDC file servers, Netware 3.12, is not Y2K compliant. NCDC staff have downloaded the necessary patches that will enable the operation of this server after the year 2000. Issues involved with applying the operating system patches will be explored, and the system will be modified. NCDC staff may also assist in addressing other Y2K issues facing ISOICC. IWD Internet activities will be monitored to ensure that any technological ground broken there will be exploited for the benefit of NOICC and the NCDC if possible.

- *STI Evolution:* The State Training Inventory has operated virtually unchanged since its beginning. NOICC is actively involved in a potentially related activity sponsored by the ETA. This project, Americas Learning eXchange or ALX, is designed to provide a variety of training-related information over the Internet. Included among this information could be institutional and training program information similar to that contained in STI. In addition, the software used by states to access their STI databases is the same DOS application developed at the start of the project. The questions about the future of STI are many:
 - ✓ Is it in the best of the interest of the network to continue STI? And, if so, in what form?
 - ✓ Can STI information be gathered by states over the Internet?
 - ✓ What will the relationship be between STI and ALX?
 - ✓ Has the state of technology reached the point at which the STI software should be redesigned? If so, should the scope of the system be expanded?

- *Support for ALMIS:* A major ETA initiative is the development of the ALMIS Database. This database is made up of a series of tables and is designed to be a depository of various labor market, occupational and other information used in a wide variety of ETA projects. The center has supported states in their efforts to populate their own versions of the database since a consortium of state and federal agencies was formed to manage the database structure. NCDC staff have attended all meetings of the ALMIS Database Consortium and will continue to do so. The center will also advise the consortium and the states on its activities and the potential incorporation of new classifications and other resources into the database. Should resources and the workload permit, the NCDC may develop and prototype ALMIS Database utilities to extract files for use with the Microcomputer Occupational Information System (Micro-OIS).

- *Classification revisions:* Revisions to a number of classifications and releases of other, new classifications were expected during the year covered by this report. For a variety of reasons, these revisions were not finalized. They are expected to occur during the next year and will have significant impacts on NCDC customers and the center's activities. The expected classification releases include:
 - ✓ Standard Occupational Classification (SOC): The Bureau of Labor Statistics is leading the effort to revise this classification and make it a true standard adopted by programs

- using occupational classifications. A third public comment period was initiated in early August 1998, with finalization of the classification expected by year's end. We expect that the NCDC will develop and/or distribute tools useful for linking the new SOC to legacy classifications used by the center's customers.
- ✓ O*NET: The Department of Labor has been developing the O*NET, its replacement for the Dictionary of Occupational Titles for several years. A general public release of expected in late summer, 1998. Just as assistance in use of the DOT and its relationships to other classifications has been a very significant NCDC activity, assistance in the use of its replacement could be a key to the center's future. The Department of Labor has placed significant restrictions on use and distribution of products based on an early release of O*NET to system developers. Similar restrictions, if placed on the general public release could have an impact on the services the NCDC is able to provide.
 - ✓ Classification of Instructional Programs (CIP): The Department of Education (DE) has begun revision of its major educational classification. NCDC support for the revision is expected to include products relating to the new occupational classifications and tools to aid in targeting resources during the revision. After the CIP revision is complete, the NCDC, in cooperation with DE, NOICC and others, will develop links to occupational classifications and support the DE in their revision of another classification: the Classification of Educational Subject Matter. This revision could be key as both occupational and educational classifications go beyond their traditional modes and begin dealing more with the individual skills and tasks which make up occupations.
- *Resource Revisions:* The analysis of demand for NCDC products illustrated the importance of revisions to federal resources to demand for services. A number of resource revisions are expected during the upcoming year. A number of major resources were revised during the period covered by this report. We expect that classification revisions will overshadow revisions in other resources during the upcoming year. Nonetheless, some resources will be revised, including:
- ✓ *Military Occupational and Training Data:* This Department of Defense resource should be available by the summer of 1999 and will include updates to the new civilian classifications.
 - ✓ Clearinghouse files: The NCDC has for several years distributed to the states file containing information about the occupations of persons completing apprenticeship and Job Corps training programs and those leaving the military service. An update to these data is planned, formatted for inclusion in either the ALMIS Database or OLMID.
 - ✓ Units of Analysis: NOICC has revised their prototype units of analysis following the release of new national employment projections by BLS. The November 1997 release of new projections will prompt a revision of the NOICC files. Since key NOICC staff are no longer available for this revision, the NCDC expects to produce the revision.
- *Conferences, Training:* A number of factors are expected to contribute to a fairly heavy

travel and training schedule for NCDC staff during the next year. Included are:

- ✓ Support for ALMIS: The NCDC serves as a consultant to the ALMIS Database Consortium and provides services to the states in support of the database. NCDC staff will attend the quarterly consortium meetings, the Labor Market Information Forum in St. Louis in November, and ALMIS-specific training to further develop their knowledge base in support of the project.
- ✓ NOICC/SOICC activities: NCDC staff will attend the NOICC /SOICC Leadership Forum in Breckenridge CO in August. In addition, NOICC strategic planning activities and possible enhancements to the NOICC home page may require NCDC travel.
- ✓ Career guidance system conferences: Significant revisions to classification systems and rapid change in the technology used to deliver information necessitate continual communication between the center and developers of computerized career guidance systems. These developers have traditionally been major users of NCDC services. Center staff expect to attend both the midwest conference and the annual conference of the Association of Computer-based Systems for Career Information (ACSCI) in New Orleans.
- ✓ Technology changes: During the reporting period, the NCDC embraced Microsoft Windows NT as its platform of choice for providing both network and Internet services. The expected 1999 release of version 5.0 of the operating system and the anticipated enhanced capabilities of the new release will require training for NCDC staff.