

**FISCAL NOTE**  
**Requested by Legislative Council**  
**12/19/2014**

Revised  
 Bill/Resolution No.: SB 2051

- 1 A. **State fiscal effect:** *Identify the state fiscal effect and the fiscal effect on agency appropriations compared to funding levels and appropriations anticipated under current law.*

	2013-2015 Biennium		2015-2017 Biennium		2017-2019 Biennium	
	General Fund	Other Funds	General Fund	Other Funds	General Fund	Other Funds
<b>Revenues</b>	\$0	\$0	\$0	\$1,480,000	\$0	\$1,304,000
<b>Expenditures</b>	\$0	\$0	\$521,000	\$2,439,000	\$474,150	\$2,133,850
<b>Appropriations</b>	\$0	\$0	\$521,000	\$2,439,000	\$474,150	\$2,133,850

- 1 B. **County, city, school district and township fiscal effect:** *Identify the fiscal effect on the appropriate political subdivision.*

	2013-2015 Biennium	2015-2017 Biennium	2017-2019 Biennium
<b>Counties</b>	\$0	\$0	\$0
<b>Cities</b>	\$0	\$0	\$0
<b>School Districts</b>	\$0	\$0	\$0
<b>Townships</b>	\$0	\$0	\$0

- 2 A. **Bill and fiscal impact summary:** *Provide a brief summary of the measure, including description of the provisions having fiscal impact (limited to 300 characters).*

SB2051 would remove the hosting exemption for the State Water Commission, Public Service Commission and Industrial Commission and require these three state agencies to host their data and servers with ITD.

- B. **Fiscal impact sections:** *Identify and provide a brief description of the sections of the measure which have fiscal impact. Include any assumptions and comments relevant to the analysis.*

SB2051 recommends no hosting waivers. Based on input from ITD this fiscal note accounts for full consolidation of the Public Service Commission and Industrial Commission data and servers. Only a portion of the State Water Commission (SWC) data and servers are included in this fiscal note. The SWC has existing applications written in 4D and hosted on an Apple platform. Both ITD and the SWC agree that migrating the existing 4D applications requires more study to determine if there is a viable timeline for migrating these services to another platform that could be hosted by ITD. ITD and the SWC have identified a subset of existing servers and data that have potential to be consolidated and these servers and applications are included in the fiscal note for the 15-17 and 17-19 bienniums.

3. **State fiscal effect detail:** *For information shown under state fiscal effect in 1A, please:*

- A. **Revenues:** *Explain the revenue amounts. Provide detail, when appropriate, for each revenue type and fund affected and any amounts included in the executive budget.*

15-17: \$1,480,000 special fund revenue will come to ITD from rates charged to State Agencies.

17-19: \$1,304,000 special fund revenue will come to ITD from rates charged to State Agencies.

- B. **Expenditures:** *Explain the expenditure amounts. Provide detail, when appropriate, for each agency, line item, and fund affected and the number of FTE positions affected.*

2015-17:

\$1,480,000 in Special Fund Expenditures in ITD's budget for hardware, software and operating expenses to provide

the consolidated hosting services to the three state agencies. The appropriation would be in Fund 780 with \$398,000 in line 50 and the remaining appropriation of \$1,082,000 in line 30.

The following items are the double expenditure/appropriation impact that must be reflected in agency budgets since ITD receives its funding from charges to agencies. Assuming each affected agency has normal line item appropriations these appropriations would all be line 30 appropriations.

\$521,000 for General Fund Expenditures and for General Fund Appropriations in agency budgets for fees from ITD; \$959,000 for Other Fund Expenditures and for Other Fund Appropriations in agency budgets for fees from ITD.

2017-19:

\$1,304,000 in Special Fund Expenditures and Appropriations in ITD's budget for hardware, software and operating expenses to provide the consolidated hosting services to the three state agencies. The appropriation would be in Fund 780 with \$59,700 in line 50 and the remaining appropriation of \$1,244,300 in line 30.

The following items are the double expenditure/appropriation impact that must be reflected in agency budgets since ITD receives its funding from charges to agencies. Assuming each affected agency has normal line item appropriations these appropriations would all be line 30 appropriations.

\$474,150 for General Fund Expenditures and for General Fund Appropriations in agency budgets for fees from ITD; \$829,850 for Other Fund Expenditures and for Other Fund Appropriations in agency budgets for fees from ITD.

- C. **Appropriations:** *Explain the appropriation amounts. Provide detail, when appropriate, for each agency and fund affected. Explain the relationship between the amounts shown for expenditures and appropriations. Indicate whether the appropriation or a part of the appropriation is included in the executive budget or relates to a continuing appropriation.*

2015-17:

\$1,480,000 in Special Fund Expenditures and Appropriations in ITD's budget for hardware, software and operating expenses to provide the consolidated hosting services to the three state agencies. The appropriation would be in Fund 780 with \$398,000 in line 50 and the remaining appropriation of \$1,082,000 in line 30.

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2017-19:

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**Name:** Lori Laschkewitsch

**Agency:** Office of Management and Budget

**Telephone:** 701-328-2685

**Date Prepared:** 01/06/2015

**SB 2051 Fiscal Note**

**Expenditures/Appropriations**

	2015-2017			2017-2019		
	General	Other	Total	General	Other	Total
ITD		1,480,000	1,480,000		1,304,000	1,304,000
State Water Commission		959,000	959,000		829,850	829,850
Public Service Commission	292,000		292,000	267,800		267,800
Industrial Commission	229,000		229,000	206,350		206,350
<b>Total</b>	<b>521,000</b>	<b>2,439,000</b>	<b>2,960,000</b>	<b>474,150</b>	<b>2,133,850</b>	<b>2,608,000</b>

**2015 SENATE GOVERNMENT AND VETERANS AFFAIRS**

**SB 2051**

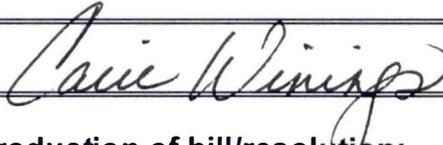
# 2015 SENATE STANDING COMMITTEE MINUTES

## Government and Veterans Affairs Committee Missouri River Room, State Capitol

SB 2051  
1/9/2015  
Job # 21801

- Subcommittee  
 Conference Committee

Committee Clerk Signature



### Explanation or reason for introduction of bill/resolution:

Relating to electronic mail, file and print server administration, database administration, application server, and hosting services

### Minutes:

Attachments 1-5

**Chairman Dever:** Opened the hearing on SB 2051.

**Adam Mathiak, Fiscal Analyst, Legislative Council:** Testified in a neutral capacity on the bill. In going over the mechanics of the bill, it is a short one page bill with not many changes but the impacts may be more significant than what appears here. OMB is currently allowed to grant exemptions to agencies for the use of their hosting services so that they do not have to have them hosted with ITD. However, this bill amends the code to remove that exemption thereby requiring any agencies that are currently exempted to consolidate and move any of their hardware over to ITD. The bill was based on the results of a study that was conducted during the interim and the committee drafted the bill to reflect the results of that study.

**(1:56) Chairman Dever:** I should have noted that there is a fiscal note to this. Are you prepared to speak to that?

**Adam Mathiak:** I have not reviewed that at this point.

**(2:28) Representative Wiesz, District 14:** Testified as the interim committee chairman and in support of the bill. This issue was before us in 1999 and we consolidated several agencies and at that point in time, we exempted 4 of them. We did the study and looked again at whether the remaining agencies should be put into the consolidation that we started. The results concluded that we continue to leave the Attorney General's office as a separate agency because of the nature of their business. The other three agencies were recommended to consolidate as we have done with the other state agencies. The main reason is that security is greater with ITD, fire suppression, redundancy, back up, and time of the staff that are currently in those agencies to be able to be more proactive in keeping up with new technology/software instead of maintaining the servers and some of the other equipment. The recommendation was not to eliminate staff in these agencies but to allow them to do more of what the work that they should be doing.

(6:03)**Chairman Dever:** So we are talking about three agencies?

**Representative Weisz:** We are talking about Public Service Commission, Oil and Gas, and State Water Commission.

**Chairman Dever:** When you heard these bills in the interim was the room as full as it is now?

**Representative Weisz:** No, it was pretty quiet.

**Chairman Dever:** You are aware that there may be some opposition to the bill?

**Representative Weisz:** Yes.

**Representative Rosco Stryle, District 3:** Testified in support of the bill. See Attachment # 1 for the IT Hardware Relocation/Consolidation Study.

(12:40) **Randy Christmann, Commissioner Public Service Commission:** See Attachment #2 in opposition to the bill.

(22:05) **Senator Davison:** Is the major software that the public service uses a legacy program or a vendor developed program for a majority of the work that you do?

**Randy Christmann:** Much of it is vendor developed work between our staff and OSM at times, and then our staff working with private industry at times.

**Chairman Dever:** You mentioned that \$300,000 would be an increased expense to PSC to move it?

**Randy Christmann:** I believe the fiscal note shows \$292,000. That would be additional cost to the general fund that is not included in the Governor's Budget.

**Chairman Dever:** Would you have IT people on staff that would transfer to ITD or that would be unnecessary in your department?

**Randy Christmann:** No, in fact it is recommended that the staff is kept within the agency because there is still programing work that still needs to be done.

**Chairman Dever:** Currently OMB makes the determination for the exemption; do they review that from time to time?

**Randy Christmann:** I would say you would have to ask them for certain. I was one of the people that was pushing for consolidation in the 90's, and we did what we did at the time and wisely due to the circumstances at the time. Some agencies have unique situations. Time has proven that good decisions were made back then and need to continue.

**Chairman Dever:** I am sure on an ongoing basis OMB would be open to conversation with agencies that are not currently exempted and they wanted to become exempted and vice versa.

**Randy Christmann:** I will say that Pam Sharp has continually been in the room in these discussions and had they pulled our exemption we frankly would have just lost it.

**Senator Davison:** The previous testimony for the bill suggested that there would be some time saved via server maintenance; are there any time logs? How was it determined that money would be saved?

**Randy Christmann:** That is a bit of a mystery to me. I don't see any savings. I only see \$290,000+ additional costs.

**(26:05) Michelle Klose, North Dakota Assistant State Engineer to the North Dakota State Water Commission:** See Attachment #3a and #3b in opposition to the bill.

**(33:20) Chairman Dever:** One thing I struggle with is that the proponents seem to argue that the content of the information doesn't make any difference as far the management of the information. The opponents seem to argue otherwise.

**Michelle Klose:** We really do make a difference. If you are dealing with banks or financial institutions or things that are handling information or financial transactions, those are spread sheets/ word processing types of information. When you are dealing with our agency we are dealing with vast amounts of information, GIS layers, information that we are trying to provide to the public that is a much broader scope and the IT services and servers/infrastructures that we need to be able to provide that is actually very unique to the engineering and scientific based agencies. A lot of our agencies actually do more of the financial or business oriented and it does make sense to have them pool their resources. We appreciate the flexibility we have to allow the engineering and the scientific information to be able to be presented in a little different model and to make sure that we have the infrastructure on the quantity of data that we are dealing with is tremendous. If we were trying to take LIDAR mapping which helps us with our flood protection and gives our engineers information to be able to build more dams and protection and is large amounts of data and may require additional equipment, and had to go through the service, the costs would be astronomical. The rate schedules are not set up for those large volumes. We do want to make sure that we are taking care when we are investing in infrastructure for those large volumes of information. That it really is sustainable. We don't want to provide it and find that economically we cannot keep it maintained for the public in the future.

**Senator Flakoll:** How much data do you have stored?

**Michelle Klose:** 180 terabytes of data. See Attachment # 3b for breakdown.

**Senator Davison:** The \$95,000 allocated for server maintenance, is that outsourced or is that a salary and benefits of an employee?

**Chris Baylor, IT Director, ND Water Commission:** That is just software and hardware. That is what we spend right now today per biennium on servers and storage. That is maintenance, management, introduction of new infrastructure. That does not include staff or any other overhead.

**(38:10) Bruce Hicks, Assistant Director, North Dakota Industrial Commission:** See Attachment #4 for testimony in opposition to the bill.

**(46:00) Chairman Dever:** I think the concerns of the three different agencies are very similar as well as the answers to our questions.

**(46:38) Jason Bohrer, President, Lignite Energy Council:** See Attachment #5 in neutral capacity to the bill with some concerns.

**(51:17) Senator Cook:** We heard Mr. Hicks talk about a permanent exemption, how many of these three agencies have a permanent exemption?

**Pam Sharp, OMB:** The letter you are referring to is from 2005. They all have exemptions, but I do not know if the word "permanent" is in the other letters.

**Senator Cook:** Do you folks have any ongoing conversations on whether or not they should continue to get an exemption? Does the decision get reviewed?

**Pam Sharp:** We have had several conversations over the years on that. None that went as far as saying that we need to remove that exemption. We have not felt that was appropriate.

**Senator Cook:** I don't think this bill is going to go too far. I look at all the money and time that was spend doing the study and maybe it was worthwhile, but to me I can't help but think that there needed to be some communication going on long before this point ever got to here.

**Pam Sharp:** I don't know that we have documented that we have talked, but we do know that the situation among the three agencies and their view of why that exemption was granted and why it was required and it has never changed at all. The agencies that have been consolidated have been very happy with the situation.

**Chairman Dever:** Closed the hearing on SB 2051.

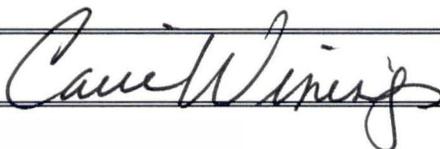
# 2015 SENATE STANDING COMMITTEE MINUTES

Government and Veterans Affairs Committee  
Missouri River Room, State Capitol

SB 2051  
1/16/2015  
Job # 22053

- Subcommittee  
 Conference Committee

Committee Clerk Signature



**Minutes:**

No Attachments

**Chairman Dever:** Opened SB 2051 for committee discussion, and reminded the committee that the bill is to move the exempted agencies into ITD. The fiscal note was also referenced. Stated that the issue was that some people believe that the content of information is irrelevant to the management of information and others would argue otherwise.

**Senator Davison:** Being new and not having a lot of background information on this particular issue, I still felt that the three agencies made a compelling argument to keep their own IT services within their own department based on the uniqueness of what each of the three do and how they serve the public and the tax payers; also, the amount of data and information that they are required to keep regarding the work that they do.

**Senator Davison:** Moved a Do Not Pass.

**Senator Poolman:** Seconded.

**A Roll Call Vote Was Taken: 7 yeas, 0 nays, 0 absent.**

**Motion Carried.**

**Senator Poolman carrier.**

**2015 SENATE STANDING COMMITTEE  
 ROLL CALL VOTES  
 BILL/RESOLUTION NO. 2051**

Senate Government and Veterans Affairs Committee

Subcommittee

Amendment LC# or Description: \_\_\_\_\_

- Recommendation:  Adopt Amendment  
 Do Pass  Do Not Pass  Without Committee Recommendation  
 As Amended  Rerefer to Appropriations  
 Place on Consent Calendar  
 Other Actions:  Reconsider  \_\_\_\_\_

Motion Made By Davison Seconded By Poolman

Senators	Yes	No	Senators	Yes	No
Chairman Dever	✓		Senator Marcellais	✓	
Vice Chairman Poolman	✓		Senator Nelson	✓	
Senator Cook	✓				
Senator Davison	✓				
Senator Flakoll	✓				

Total (Yes) 7 No 0

Absent 0

Floor Assignment Poolman

If the vote is on an amendment, briefly indicate intent:

**REPORT OF STANDING COMMITTEE**

**SB 2051: Government and Veterans Affairs Committee (Sen. Dever, Chairman)**  
recommends **DO NOT PASS** (7 YEAS, 0 NAYS, 0 ABSENT AND NOT VOTING).  
SB 2051 was placed on the Eleventh order on the calendar.

**2015 TESTIMONY**

**SB 2051**

# State of North Dakota

*Office of Management and Budget*

## *IT Hardware Relocation/Consolidation Study*

*Final Report*

*12/29/2013*



Professional Consulting and Advisory Services Provided By

UmmelGroup International, Inc.

**UMMELGROUP.COM**

providing solutions for business and IT applications

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# I. EXECUTIVE SUMMARY

## A. Background

Ten years after a 2003 information technology consolidation effort, the North Dakota legislature adopted Senate Bill 2021. Section 8 of that bill called for an independent study to reexamine the potential of consolidation of four state agencies that were exempted from the 2003 consolidation. The State of North Dakota issued a Request for Proposal (RFP) in July of 2013 and selected the UmmelGroup International, Inc. to complete an information technology relocation and consolidation study.

"The study:

- a. Must include input from the attorney general and representatives from the exempted agencies and a review of the feasibility and the desirability of relocating and consolidating information technology hardware of the attorney general and the agencies exempted by the office of management and budget to the information technology department's secure data center.
- b. Must address the issues of cost, physical security, cybersecurity, redundancy, staffing, impact on service to stakeholders, and impact on contractual relationships for software and hardware with federal partnerships.
- c. Must be completed before December 31, 2013."

(Excerpt from Senate Bill No. 2021 – Section 8.)

This report represents UmmelGroup's findings and recommendations based on an analysis of the existing systems and IT hardware resources currently supporting the Office of the Attorney General, the Industrial Commission (Department of Mineral Resources - Oil and Gas Division), the State Water Commission, and the Public Service Commission.

## B. Recommendations

Having found no specific value in a simple relocation of their IT hardware resources to ITD's Agency Data Center, the focus of UmmelGroup's recommendation is on the potential of consolidation for the four agencies studied.

UmmelGroup recommends that the Attorney General, as the focal point for FBI CJIS activity for the State of North Dakota, should not be considered for this consolidation initiative. The servicing of criminal history information retrieval requirements of law enforcement agencies statewide, and their information exchange responsibilities with and between the FBI, adds a level of complexity to their operations that creates unique challenges. The following list of responsibilities would end up adding additional unwarranted complexity to the current FBI CJIS communications structure and additional un-needed FBI mandated CJIS control structures and procedures to the ITD staff and Data Center if the AG's Office were consolidated.

- 1. Interaction and partnership with the FBI for the management and dissemination of criminal history information.
- 2. The storage and administration of sensitive CJIS data storage as defined by FBI CJIS policy.
- 3. Administration of access to CJIS data by criminal justice agencies statewide in compliance with FBI CJIS policy.

UmmelGroup further recommends that the other three agencies, (Public Service Commission, DMR Oil & Gas, and State Water Commission) should be considered for consolidation under the following stipulations:

1. Current agency IT staff remains assigned to their respective agency.
2. ITD establish a virtual server environment that will facilitate the special computing needs of these three agencies.
3. ITD make accommodations in their policies and procedures that enable the agency IT staff to continue to perform application development activity that allows the agency to quickly respond to changing business requirements without sacrificing ITD management and security controls.
4. ITD provides agency IT staff with sufficient administrative rights and control over their own virtual servers to facilitate development and testing activities and to include the capability to install new software and reboot virtual servers as needed.
5. Agency budgets are adjusted accordingly to account for impact of projected increases in ITD service fees following consolidation.

### C. Key Findings

The four agencies evaluated have small, well run data centers in place with typical department level attention to security, power protection, air conditioning needs, and backup and recovery procedures

#### 1. Cost

Based on review of agency computer facilities, staff, and work environments, UmmelGroup concluded that *no specific current hard dollar cost savings could be identified by a consolidation effort*. There are three cost factors to be taken into consideration when considering a consolidation of IT hardware resources for the Attorney General, Public Service Commission, DMR Oil & Gas, and the State Water Commission.

##### a) *Server Environment*

Based on our analysis, a total of 18 new server instances in ITD would be anticipated to serve the three agencies. According to ITD's rate structures, \$36,000 (\$2,000 per server) in one time set up cost would be charged to the agencies to initially implement these servers. After initial setup, ITD would charge the agencies \$390 per month per server for ongoing operation and maintenance totaling \$84,240.

##### b) *Data Storage Facilities*

Data storage would also have an initial one time anticipated set up cost of \$3,900 per terabyte (TB) of storage which would be charged to the agencies totaling \$663,000 for all agencies for their 170 TB of data to be migrated. After this initial setup, ITD would charge, at current rates, \$50 per TB per month for ongoing operation and maintenance of the storage facilities totaling \$102,000 annually.

c) *Staffing Resources*

UmmelGroup anticipates that a consolidation of the three recommended agencies would have the effect of freeing up as much as 15% of each agency's IT staff from time spent doing routine hardware planning, installations, trouble shooting, repair, and maintenance activities. These activities would end up being shifted to ITD and the agency IT staff would have the opportunity to redirect that time toward focusing on application specific issues, business intelligence activities, and customer support requirements within their agency and on behalf of their agency's customers. OMB provided an average benefit loaded hourly salary rate of \$54 for agency IT staff. We have extrapolated the potential 15% of time saving for agency IT staff, which could be redirected to other activities, as an annual value of \$178,200.

2. *Physical Security*

UmmelGroup believes consolidation provides the opportunity to increase over-all physical security for the State's computing resources and reduce exposure to vulnerabilities.

Considerations:

- (1) **Physical presence of staff.** In each case, servers supporting the agency, while under their control, are not staffed around the clock. While ITD's data centers do not supply 24 x 7 staffing, they are staffed 24 x 5.5 – which is much closer than a normal 8 x 5 commitment used by the study agencies.
- (2) **Fire suppression.** Only one of the four agency data centers (the Attorney General) was observed to have a supplemental fire extinguisher close by their server room. ITD has up-to-date automatic fire suppression systems in both the capitol data center and at the remote disaster recovery facility.
- (3) **Access procedures.** All four of the study agencies plus ITD have varying levels of access control. In all cases we were escorted in our visits. We were required to sign in to create a log of our visit when visiting ITD's data center facilities.
- (4) **Employee Security Clearance.** An evaluation of the personnel and administrative security posture indicated the AG required the highest level of background checking of their IT personnel to satisfy the FBI's CJIS requirements. AG's background checks for staff include agent interviews with family, friends, and neighbors in addition to electronic checks for wants, warrants and fingerprints. FBI CJIS security policies preclude employees from having any evidence of felony conviction, and the AG adds the requirement of no evidence of misdemeanor theft or drug arrests or charges. Additionally, employee fingerprints are recorded in the AFIS system so the AG will be notified of any ongoing arrest activity for employees.

3. *Cyber security*

ITD controls all of the networks for the state to the point where devices are connected to the network. In general, since all of the agencies involved use ITD's network security, consolidation would not change the cybersecurity penetration and intrusion profile of any of the agencies.

Overall, our impression was that network security “due diligence” is being exercised by the ITD’s networking professionals.

The State’s exposure to cybersecurity attacks are not specifically affected by potential consolidation initiatives however, from past experience, UmmelGroup concluded that all of the agencies would be better positioned to ward off virus and malware exposure with ITD’s automated patch management program for server operating systems.

#### 4. Redundancy

Currently, there is a level of redundancy of skill sets between ITD and all four of the exempted agencies. All of these entities, for example, are involved with the selection, installation, and maintenance of server class computer equipment. The scope of ITD’s server administration environment is extensive and the addition of the anticipated 18 servers needed to support a consolidation effort should have a minimal impact on the current ITD staff. However, we anticipate the agencies will be able to recover approximately 15% of their time now dedicated to the “care and feeding” of their respective server platforms to be redirected to more application development and customer service activities.

#### 5. Staffing

It became clear that even though the relocation/consolidation study was focused specifically on the IT hardware, that agency management staff was primarily concerned about having their IT staff consolidated to ITD and losing their ability to be able to administer that staff to quickly establish priorities and respond to the very dynamic business environments each agency faces. It appeared that the IT hardware itself was really a secondary issue but, none the less, one where considerable concern was expressed in that the installed base of hardware provides the tools the agency IT staff utilize in their pursuit of just “getting the job done”. All of the agencies expressed concerns about potential impacts to their need for agility in their operations if their IT hardware was relocated or consolidated to ITD’s data center.

Each of the agencies appears to have capable and talented IT staff with entrepreneurial attitudes. This shows in what they have been able to accomplish with relatively limited budgets, the quality of the products they produce, and the respect they have garnered by members of their agencies and external customers of their products and work efforts.

#### 6. Impact on Service to Stakeholders

The scope of ITD’s server administration environment is extensive and the addition of the proposed virtual server environment and the anticipated 18 virtual servers needed to support the consolidation effort should have a minimal impact on the current ITD staff. Therefore, we anticipate the agencies will be able provide more focus on application development and customer service activities.

7. Impact on Contractual Relationships

The Attorney General's office and the DMR Oil and Gas Division expressed concerns about the possibility of licensing issues for application software obtained via the Federal Government. With all of the variety of organizational alignments and IT support scenarios that exist in states across the country, we are confident any application software licensing issues will be administrative in nature requiring simple coordination with the respective Federal partners.

## II. BACKGROUND

On September 15, 2003, in response to the 58<sup>th</sup> Legislative Assembly's passage of House Bill 1505 (Appendix F), the IT Functional Consolidation Project presented its Final Recommendation Report. The result of their study was an implementation plan for the consolidation of information technology facilities and services for 48 state agencies. The result of this effort included a consolidation of email and file and print services for all agencies, however, the Attorney General's office, the State Water Commission, the Oil and Gas Division of the Department of Mineral Resources (Industrial Commission), and the Public Service Commission were exempted from a consolidation of hardware required to support their primary business applications.

The 63<sup>rd</sup> Legislature passed Senate Bill 2021 (Appendix H), which requires a private consultant to conduct information technology relocation and consolidation study of information technology equipment operated by the Attorney General and by agencies that have been exempted under N.D.C.C. § 54-59-22 (Appendix G) by the Office of Management and Budget (OMB). Exempted agencies include the Industrial Commission Department of Mineral Resources - Oil and Gas Division (DMR), the State Water Commission (SWC), and the Public Service Commission (PSC).

On July 25, 2013, the State of North Dakota issued a Request for Proposal (RFP) to solicit proposals for a consultant to conduct information technology relocation and consolidation study of information technology equipment operated by the Attorney General and agencies that have been exempted under N.D.C.C. § 54-59-22.

On September 9, 2013, the State of North Dakota entered into a contract with UmmelGroup International, Inc to complete an information technology relocation and consolidation study and develop a report resulting from the study.

As stated in the RFP, this study will:

- a. Include input from the Office of the Attorney General, and representatives from the exempted agencies and a review of the feasibility and the desirability of relocating and consolidating information technology hardware of the Attorney General and the agencies exempted by the Office of Management and Budget to the Information Technology Department's secure data center;
- b. Address issues of cost, physical security, cybersecurity, redundancy, staffing, impact on service to stakeholders, and impact on contractual relationships for software and hardware with federal partnerships;

## III. CRITICAL SUCCESS FACTORS

There is no foolproof blueprint for consolidation of IT resources, however, UmmelGroup has found that there are a set of critical success factors that seem to be present in most successful relocation and consolidation projects.

## A. A Sense of Mission

One of the key elements to the success of a consolidation project is a sense of mission. All of the parties involved have some very important things in common: they work for people of the State of North Dakota and they are charged with doing the very best they can with the resources at hand. IT systems play a big role in the delivery of services to the people and this role is growing. The mission of consolidation, therefore, is large as well.

It is a given that not everyone involved in a consolidation project will be entirely committed in the beginning of the project, but if the project management can instill the sense of mission to everyone involved in the project, then a strong basis exists for building trust and cooperation.

## B. Trust and Cooperation

"Trust is the bandwidth of communication" K-E Sveiby

From the interviews with all of the parties involved, the UmmelGroup team, which has experience on both sides of a number of similar consolidations, has found a certain lack of mutual trust. This is critical since trust and cooperation are, perhaps, the most important critical success factors in consolidations such as this. If both parties trust each other, then small problems, even large ones, can be overcome. If trust is lacking, however, then cooperation is much more difficult. The bottom line is that trust takes time to establish and if, for whatever reasons, trust is lacking between organizations with a long relationship, then conscious effort must be made to rebuild and renew that trust.

## C. Marketing

IT managers and professionals are not famous for their marketing skills, but marketing, continuous and persistent marketing, has proved to be a major success factor in relocation and consolidation efforts. Those involved in managing this project must be constantly thinking of how to demonstrate to the others in the project what the benefits are and how they and their organization can benefit by its success.

## D. Planning

Relocation and Consolidation projects are by their very nature complicated. This means that extensive data gathering and planning at the beginning of the project are extremely important. Often, some seemingly trivial item will be overlooked that will cause significant difficulties. While time is an important element in any project of this nature, relocation and consolidation projects result in very long term relationships that will span years or as in this case decades. UmmelGroup has found that planning is a very critical success factor.

## E. Communications

On projects of this nature, UmmelGroup has found that there needs to be clear lines of communication between and within all of the agencies involved. Often, IT professionals are not great communicators,

"The SWC utilizes information technology to support almost all facets of the business operations surrounding water resource management. Agency IT requirements are generally driven by the scientific applications used for water resource analysis. Advanced data analysis, research, data modeling, and engineering applications are routinely combined with customized applications that are developed internally. Because of the wide range and diversity of applications used, the IT infrastructure must be open and extensible. An open framework supports a wide range of diverse applications, which makes it possible to easily scale and evolve the IT infrastructure to accommodate changes in current initiatives as well as any new initiatives."

(ND State Water Commission - IT Strategic Plan 2013-2015 - IT Architecture Review)

## 2. Current IT Environment

- The State Water Commission's main office is located in a separate building on the Capitol complex grounds.
- SWC has a total staff of 90 supported by 4 IT staff.
- A network diagram may be found in Appendix D.
- SWC provides IT services to 6 remote locations.
- SWC utilizes Apple workstations.
- SWC has four Apple Xserve servers supporting applications and data, five Mac Pro desktops running as servers supporting backups and SCADA, and twelve Mac Mini desktop computers configured as servers providing web server, file services, imagery, and directory services.
- SWC is using the BSD distribution of Linux® for a couple of servers.
- Apple's virtual services are used to support creation of virtual server instances.
- Approximately 100 TB of RAID 5 server attached storage is installed at the primary location.
- Apple Xgrid is utilized to provide parallel computing clusters for large modeling requirements.
- All applications have been developed using open-source technologies.
- SWC provides IT support for SCADA (Supervisory Control And Data Acquisition) systems located at reservoirs.
- Support is provided for RADAR (Radio Detection and Ranging) and LIDAR (Light Detection and Ranging -- a remote sensing technology that measures distance by illuminating a target with a laser and analyzing the reflected light) supplementation, and cloud-seeding flight operations.

## 3. Strengths of Current Environment

- IT costs are somewhat contained through the use of open source software and development tools.
- SWC has developed the ability to use parallel processing by spreading large processing requirements across multiple servers and desktop devices to significantly reduce time required for modeling scenarios. This capability utilizes unused CPU cycles when clients are doing other tasks or are away from their workstation during nights and weekends. This is a fine example of SWC's innovation that has saved significant staff hours.
- SWC's development for the cloud-seeding application is another notable innovation.
- Daily and weekly tape backups are maintained off site.

- Data are replicated to servers and storage facilities located at an SWC off site location that is being used to host disaster recovery capabilities.
- Uninterruptable power systems (UPS) condition power and protect from power spikes, brown outs, and provide approximately 15 minutes of protection for power outage.

#### 4. Challenges in Current Environment

- Open source software typically has no commercial support systems, and must rely on other users for support.
- Apple announced that the Xserve server hardware products would no longer be manufactured as of January 31, 2011 requiring a conversion to a different platform (likely Linux) in the near future. This is a significant effort that produces no tangible return – other than the ability to keep processing. Failure to do the conversion results in the inability to do other future updates because prerequisites cannot be met.
- A conversion of applications and tools from Apple server environment, the environment staff know and with which they are comfortable working, will be needed in the near future.
- Apple Xgrid needs to be replaced; SWC is looking at the open source Pooch product.
- No observed fire protection in the server room.
- There is a lack of auxiliary (generator) power at the SWC main office to support the server room.
- During non-business hours, personnel would not be available to intervene in an extended power outage would result in an exhaustion of the battery back capacity of UPS facilities.
- Management of the growing application library is placing stress on IT staff resources as business demands grow.
- SWC IT staff expressed a need for two additional IT staff during the budget process but, apparently, these were not requested beyond the agency level.
- There is a duplication of effort because ITD provides life-cycle management for replacing servers and is responsible for scheduling OS updates and security patch management.

#### 5. Threats and Risks of Consolidation

- Anticipated increased cost to SWC in ITD service fees – particularly for servers and storage. See section V.B.2 of this report for a more in-depth cost analysis.
- SWC has a concern for loss of efficiency and agility in their IT support in a consolidated IT hardware configuration.

### E. Information Technology Department (ITD)

#### 1. Overview

The Information Technology Department exists for the purpose of creating and operating a centralized IT facility, leading state agencies in discovering, assessing, and implementing information technologies. ITD is committed to better understanding state agency needs and in assisting in the implementation of the proper technology solution to accomplish these needs. It is organized to provide a broad range of technologies including mainframe and desktop computing, local and wide area networks, voice and data technologies, web, client server and

mainframe software development, video conferencing, and emerging technologies. This is accomplished by investing in the development of highly skilled employees along with contracting outside vendors who maintain a level of expertise that is not available in-house or is limited due to the demands for a particular service.

(<http://www.nd.gov/itd/about-us/organizational-structure>)

## 2. Domain Capabilities

- a) Computer Systems
- b) Enterprise Architecture and Strategic Planning
- c) Criminal Justice Information Sharing (CJIS) Coordination. This should not be confused with the National FBI CJIS program. The ND-CJIS Board has a key role in approving and enabling strategic planning activity focusing on public safety issues in the State of North Dakota. The ITD Chief Information Officer (CIO) is the chairman of this board, and the ITD provides funding for the activities of the CJIS Coordinator.
- d) Network Administration
  - (1) Wide Area Network (WAN)
  - (2) Local Area Network (LAN)
  - (3) STAGEnet Wireless Network
    - (a) Guest
    - (b) Member
  - (4) Charges for network traffic:
    - (a) Port connection for all network attachable devices.
    - (b) Bandwidth usage for data transmission.
    - (c) Included in ITD's monthly chargeback billing.
- e) Security
  - (1) Microsoft's Active Directory is used for identity management and authentication services for access to the network and common open systems applications.
  - (2) IBM's RACF provide security management for the State's central enterprise server.
  - (3) Firewalls at network points of entry and for separation of network segments.
  - (4) Virtual Private Network (VPN) – has to be requested by the agencies for remote access into the State's network (STAGEnet).
  - (5) Anti-virus software for workstations and servers.
  - (6) SPAM guard for e-mail.
  - (7) All ITD staff is subject to a background check which includes fingerprints which are sent to the FBI for evaluation.
    - (a) Performed through the Attorney General's (AG) office.
    - (b) Level & quality of check is set by the AG.
  - (8) Disaster Recovery and Business Continuity

ITD operates a full service disaster recovery site at a remote location. This site has comparable power (with UPS and generator backup), fire suppression, air conditioning, and humidity controls in place at this site similar to those servicing the main data center at the Capitol complex. At this disaster site, servers are in place that provide for rapidly replacing the processing capability of their Level 1 processing capabilities within one

hour. They have identified the following five disaster recovery levels. Each level indicates the recovery activity and the timeframe for recovery. ITD will work with agencies to identify a recovery level that best meets the agencies' needs for the cost they are willing to pay. Disaster recovery is an added service to an agency's service level agreement and would be provided at an additional monthly cost.

LEVEL 1
<p><b>CORE INFRASTRUCTURE COMPONENTS INDEPENDENTLY ACTIVE IN THE MDC.</b></p> <p>Level 1 System Availability includes:</p> <ol style="list-style-type: none"> <li>1. System is fully and independently operational in the MDC without dependencies on other systems.</li> <li>2. Systems that can be active within 1 hour with automatic failover, manual activation or rerouting.</li> </ol>
<p><b>ACTIVE WITHIN FIRST HOUR</b></p>

LEVEL 2
<p><b>INFRASTRUCTURE AND USER APPLICATIONS READY FOR IMMEDIATE ACTIVATION.</b></p> <p>Level 2 System Availability includes:</p> <ol style="list-style-type: none"> <li>1. Active after repurposing test/dev hardware.</li> <li>2. Active using dedicated disaster recovery hardware, including VMWare/SRM.</li> <li>3. Active after dependencies in Level 1 are active.</li> </ol>
<p><b>30 MINUTES - 4 HOURS</b></p>

LEVEL 3
<p><b>INFRASTRUCTURE AND USER APPLICATIONS</b></p> <p>Level 3 System Availability includes:</p> <ol style="list-style-type: none"> <li>1. Active after repurposing test/dev hardware.</li> <li>2. Active using dedicated disaster recovery hardware including VMWare/SRM.</li> <li>3. Active after dependencies in levels 1 and 2 are active.</li> </ol>
<p><b>2 HOURS - 12 HOURS</b></p>

LEVEL 4
<p><b>INFRASTRUCTURE AND USER APPLICATIONS WITH A D/R SLA</b></p> <p>Level 4 System Availability includes:</p> <ol style="list-style-type: none"> <li>1. Active after repurposing test/dev hardware.</li> <li>2. Active using dedicated disaster recovery hardware, including VMWare/SRM.</li> </ol>
<p><b>12 HOURS - 48 HOURS</b></p>

LEVEL 5
<p><b>INFRASTRUCTURE AND USER SYSTEMS WITHOUT A D/R CAPABILITY OR SLA</b></p> <p>Level 5 System Availability:</p> <ol style="list-style-type: none"> <li>1. Replacement hardware obtained after a disaster.</li> </ol>
<p><b>INDETERMINABLE NUMBER OF WEEKS</b></p>

Information source: ITD

### 3. Current IT Environment

- A comprehensive statewide communications network, STAGEnet, provides protection against most single points of failure.
- A diagram of the State's network may be found in Appendix E.
- ITD operates a central IBM mainframe computer system.
- Storage Area Network (SAN) data storage facilities have the ability to support high volumes of data and high processing demands.
- VMware based Virtual server environment supporting a high percentage of open systems server requirements.
- A secure and comprehensive disaster recovery facility is capable of supporting business continuity initiatives.
- UmmelGroup found ITD to be more than competent to handle the additional load proposed by any or all of the agencies under study.

### 4. Strengths of Current Environment

- Size of the department - At 340 FTE, ITD outnumbers the IT staff of the four subject departments combined by a factor of 30. The combined IT experience of this team can be measured in centuries, not just years.
- Breadth of experience - With the number of individuals on staff, there is a broad base of experience upon which to draw for almost any reason, and the odds are that someone on staff has either "done it" or knows someone who has.
- Economies of scale - There is considerable "depth of staff." Just based on workloads, there are few areas where a skill is known by only one individual.
- The State has clearly invested heavily in ITD. UmmelGroup is impressed with the recent remodeling of the data center, the emphasis on resolving the relatively recent power problems, and the capabilities of the backup center.
- The data center well laid out, organized, and neat. Wiring was mostly hidden, what was visible was neatly bundled and carefully routed.
- Fire protection was professionally installed, and the ceiling was being used as a return-air plenum.
- Data center security was obviously thought through and efforts had been taken to plug any security "holes." We were signed-in, checked against our driver's license, given badges, escorted, and the whole thing logged on camera.
- Professionalism is a major strength. Without exception, with the individuals we interviewed, there were the traits of people confident in their positions, knowledge, and commitment to "doing the job right." It speaks well for the managers of ITD over years of operation.
- Procedures have been developed to ensure up-to-date documentation and an enterprise view of potential impacts of actions taken that can prove extremely valuable during a major outage.

## V. RECOMMENDATIONS

### A. Summary of Recommendations

The focus of UmmelGroup's recommendation is on the issue of consolidation for the four agencies studied, having found no specific value in a simple relocation of their IT hardware resources to ITD's Agency Data Center (see Recommendation Details below).

UmmelGroup recommends that the Attorney General, as the focal point for FBI CJIS activity for the State of North Dakota, servicing of criminal history information retrieval requirements of law enforcement agencies statewide, and their information exchange responsibilities with the FBI, their operations are unique and complex within the State, should not be considered for consolidation. The following list of responsibilities would end up adding additional unwarranted complexity to the current CJIS communications structure and additional un-needed CJIS control structures and procedures to the ITD Data Center.

1. Interaction and partnership with the FBI for the management and dissemination of criminal history information.
2. The storage and administration of sensitive CJIS data storage as defined by FBI CJIS policy.
3. Administration of access to CJIS data by criminal justice agencies statewide in compliance with FBI CJIS policy.

While not recommended for consolidation, the Attorney General's Office should be considered "partners for the long run" with ITD for consulting, advice, and assistance on a regular basis. Over time, the Attorney General's office may find certain ITD services an attractive option to continuing to grow their own computing capability for non-CJIS information processing needs.

UmmelGroup further recommends that the other three agencies, (Public Service Commission, DMR Oil & Gas, and State Water Commission) should be considered for consolidation under the following stipulations:

1. Agency IT staff remains assigned to their respective agency.
2. ITD establish a virtual server environment that will facilitate the special computing needs of these three agencies.
3. ITD make accommodations in their policies and procedures that enable the agency IT staff to continue to perform application development activity that quickly responds to changing business requirements.
4. ITD provides the agency IT staff with sufficient administrative rights and control over their virtual servers to facilitate development and testing activities to include the capability to install new software and reboot virtual servers as needed.
5. Agency budgets are adjusted accordingly to account for impact of projected increases in ITD service fees following consolidation.

**Senate Bill 2051**

**Presented by: Randy Christmann, Commissioner  
Public Service Commission**

**Before: Senate Government and Veterans Affairs Committee  
Senator Dick Dever, Chairman**

**Date: January 9, 2015**

**TESTIMONY OPPOSING SENATE BILL 2051**

Mister Chairman and committee members, I'm Randy Christmann, Public Service Commissioner. The Public Service Commission is testifying today in opposition to Senate Bill 2051.

The business process for the PSC, like the Water Commission and the Department of Mineral Resources, is science and engineering based. While a component of our IT requirements support basic data management and office automation, the core focus of our IT infrastructure is the direct support of the scientific and engineering applications that drive our business process.

The Public Service Commission presently houses and maintains its own servers to support various energy related regulatory functions. The Commission would like to provide some background as to why we feel this is the best solution for our stakeholders.

In-house management of hardware and software allows the PSC to stay closely integrated with our business partners which include both the mining industry and the Federal Office of Surface Mining (OSM), as required by the federal reclamation law. Transferring this function to a unified state IT department that is unfamiliar with these scientific functions, the federal requirements, or the

needs of industry, would jeopardize the efficiency, seamlessness and cost effectiveness of the state's current coal regulatory process.

Managing the state's coal regulatory and reclamation program requires the PSC to be, above all else, in sync with the federal Office of Surface Mining. After all, to be authorized by OSM, our program must meet all of their standards as required by the federal reclamation law. Our business applications and server infrastructure are closely related and in some cases directly integrated with the OSM and industry.

The Office of Surface Mining, in its April 19, 2013 letter to Chairman Brian P. Kalk, concerning the PSC's innovation and effective use of OSM provided IT resources, stated:

"Since 1989, the PSC has been at the forefront in taking advantage of the IT equipment and software that is available from OSM for exclusive use in the state mining programs that we oversee pursuant to the federal Surface Mining Control and Reclamation Act of 1977. North Dakota was the first western state with large surface mines to develop an electronic permitting system which allows mining companies to file an entire mining permit application on a CD and/or DVD. Likewise, the PSC has been a leader in the development of GIS applications that are used to track mining and reclamation activities. To use the OSM provided software for these and other purposes, the states need to load it on their IT servers and

the software is subject to certain licensing agreements when used. The PSC has signed a *Memorandum of Agreement* with OSM committing their pledge to abide by all software licensing agreements and to ensure proper access to our servers that supply these licenses. We have found that there are usually fewer issues in loading the software and dealing with related programs when the state agency has local control of its IT servers, compared to a state that operates under a centralized server system. We believe the PSC's ability to implement new technology over the years has helped with its efficient administration of successful coal regulatory and AML programs.”

In their 2014 evaluation report, OSM noted that development of this program is an ongoing and dynamic project. They further stated, “The Reclamation Division uses new technology to become more efficient and make information more readily available to the public.”

Flexibility is also needed to allow the Commission to implement technological advances, minimize cost, and maximize effectiveness in step with private enterprise. This interaction with our private sector business partners effectively leverages an optimum mix of state and federal software, while maintaining strict compatibility with industry and other regulatory jurisdictions. This process provides benefits and efficiencies far beyond the

federal dollars that help support our agency. This process allows us to provide the highest quality service to the state at the lowest possible cost.

The coal industry is currently facing regulatory uncertainty from many different angles. Before adding even more uncertainty, you need to know the effects of additional regulatory lag and lost opportunity costs which are inherent when placing a third party between the Commission and its IT infrastructure. That is a question you need to ask yourself, because changing a core regulatory process which has been at the forefront of innovation will introduce even more uncertainty for this key North Dakota industry whose viability is already in danger.

If the North Dakota regulatory program encounters problems the result may be that the federal government regulates the coal industry, not North Dakota. So the next question that needs to be asked is, does this proposal provide enough increased security or enough cost savings to justify that additional risk? To help with answering that question you funded an interim study.

In the study results, on page 2, the Ummel Group included the following stipulations which must be met before consolidation can even be considered:

- Current agency IT staff remains assigned to their respective agency.
- ITD establish a virtual server environment that will facilitate the special computing needs of these three agencies.

- ITD make accommodations in their policies and procedures that enable the agency IT staff to continue to perform application development activity that allows the agency to quickly respond to changing business requirements without sacrificing ITD management and security controls.
- ITD provides agency IT staff with sufficient administrative rights and control over their own virtual servers to facilitate development and testing activities and to include the capability to install new software and reboot virtual servers as needed.
- Agency budgets are adjusted accordingly to account for impact of projected increases in ITD service fees following consolidation.

Senate Bill 2051 goes far beyond the Ummel Group recommendation but it does not provide any assurance these stipulations will be implemented. Amazingly, in the preliminary cost estimate provided by ITD it appears that ITD will simply attempt to integrate these agencies into their current infrastructure without any regard to the unique business processes of these agencies and without any regard to the previously mentioned stipulations.

Regarding cost savings which might justify the risks involved with this bill, frankly, there are none. ITD's preliminary cost estimate for the Public Service Commission's portion of the fiscal note is \$291,356/biennium. But that estimate uses a new and unpublished storage rate so I am very concerned that our cost INCREASES will ultimately be substantially higher!

Regarding increased security, on page 24 of the study results the Ummel Group concluded, "ITD controls all of the networks for the State to the point where devices are connected to the network. In general, since all of the agencies involved use ITD's network security, consolidation would not change the cybersecurity profile of any of the agencies." No PSC server is exposed to the internet – all public information is disseminated through the PSC website already provided and managed by ITD.

Considering the certainty of substantial increases in our costs and the fact Ummel Group found that consolidation would not change the cybersecurity profile of any of the agencies, there is no demonstrable benefit to consolidation. There is however significant risk to a North Dakota industry at a time when they are under extreme economic and regulatory pressure.

Mister Chairman, this concludes my testimony. I will be happy to answer any questions.

NORTH DAKOTA STATE WATER COMMISSION TESTIMONY

RELATIVE TO SENATE BILL 2051

PRESENTED TO THE SENATE GOVERNMENT AND VETERAN AFFAIRS COMMITTEE

JANUARY 9, 2015

Good morning Chairman Dever, and members of the Senate Government and Veterans Affairs Committee, I am Michelle Klose, North Dakota's Assistant State Engineer to the North Dakota State Water Commission.

Our agency has concerns with proposed Senate Bill 2051. The goal of the current law is to create cost savings through efficiencies in certain information technology services. However, Senate Bill 2051 removes a provision that provides agency flexibility, and it does not provide cost savings for the Water Commission. As evidence of our concerns, I respectfully request your consideration of the following five points.

1) There are no changes needed to the current law to accomplish the goals of efficiencies, cost-savings, and improved quality of service for information technology services discussed in this legislation. The current law, which was implemented over ten years ago, is still effective today in providing a process to accomplish these goals. The process as defined by the existing law inserts the Office of Management and Budget (OMB) as a neutral third party to balance recommendations of the Information Technology Department with the needs of each state agency. The role of OMB was spelled out in legislation and provides flexibility to allow unique considerations to be factored into decision-making related to the delivery of information technology services. At any point in time under the current law, OMB can review and make determinations on consolidation, with consideration given to the creation of efficiencies, cost-savings, and improved quality of service.

2) Flexibility is needed for engineering and science-based agencies. Engineering and science-based agencies have different information technology needs compared to financial or business-related agencies. The Water Commission has provided engineering and scientific resources since its inception. The Water Commission stores large volumes of data that are used by other state agencies, federal agencies, engineering firms, water resource districts, communities, and the general public. This information can range from ground water studies, lidar, well drilling logs, and radar - to water use data.

While ITD has produced a state-of-the-art infrastructure that is tailored to address the traditional business model, they simply do not maintain the staff with skills surrounding the tools and resources that are commonly required within engineering and scientific disciplines. Many of the tools used by the Water Commission - including 4D, Fortran, Python, and a range of other tools are not supported by ITD. In addition to differences in software resources that support the engineering and scientific disciplines, these areas often require very different hardware architecture to support the types of applications and processes that are common to engineering and scientific applications. Given the small number of agencies involved with engineering and scientific applications, it is very difficult for ITD to develop and maintain the skill set to support these resources.

3) The proposed legislation will result in substantial cost increases for the State Water Commission and cannot be considered a savings. Our agency is currently funded through the state's Resources Trust Fund and some limited federal program funding. The Resources Trust Fund is used for water development projects across our state. For this biennium we received over 250 applications for state funding to be included in our state water plan. Increased operational costs will take dollars away from available project funding. When oil extraction taxes are coming in strong, there are some who would not consider cost to be a factor in decisions concerning consolidation. However, our agency also has a focus on sustainable infrastructure and places an emphasis on being able to take care of resources in the future as well as today.

We have worked with ITD and have identified that consolidation would require an additional \$700,000 in installation costs and \$1.6 million in recurring costs per biennium for full consolidation. The fiscal note attached to this bill has identified installation costs of nearly \$210,000 and recurring biennial costs of more than \$730,000 for partial consolidation as defined by ITD. Currently, the Water Commission maintains a budget of approximately \$450,000 for all internal IT resources. Of this, approximately \$95,000 is allocated for server maintenance and support. Therefore, regardless of which path is selected the Water Commission is facing an increase that is nearly 10 times current spending levels to maintain the same services. In addition, the projected costs in the fiscal note include some general assumptions that may or may not be realized, which could drive costs even higher. If the point of the proposed legislation is to produce efficiencies or cost savings, it is hard to see how these goals will be met with the removal of the current flexibility in the law.

4) The proposed legislation introduces significant risks to our agency operations and the benefits have not been shown to outweigh impacts. We respectfully request that the Water Commission be allowed

to continue to make information technology decisions that address our unique requirements. The agency is currently facing pressures with increased water supply demands for drinking water; increased ground water permitting for agriculture and industrial development; increased federal rulemaking that proposes to restrict access and use of the waters of the state; and even climatic conditions that elevate flooding risks and impacts to agricultural lands. These pressures combined with major changes to the IT infrastructure and related tool base that is used to manage these initiatives will have significant impacts on the Water Commission and will make it much more difficult for the agency to respond to these increased demands.

5) Security was discussed at the Interim Information Technology hearing in September 2014 as a major factor driving the proposed change to the current law. However, the proposed legislation does not improve security. Under current law and practice, ITD still provides security and security audits for agencies exempted by OMB under this section of law.

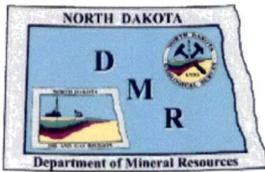
Mr. Chairman and members of the committee, this concludes my testimony regarding Senate Bill 2051. I thank you for your consideration of our concerns, and I will be happy to answer any questions that you or other members of the committee might have.

SB 2051  
# 36

**SWC Storage Inventory  
(1/9/2015)**

Lidar		20 TB
Aerial Images		40 TB
General Agency File Services	(Server based)	10 TB
	(Client Based)	40 TB
Records Management		2 TB
Spatial Services GIS	(Imagery)	34 TB
	(Vector Base Data)	4 TB
Primary Data Development Platform		10 TB
Application Staging Platform		10 TB
<u>SWC FTP Services</u>	<u>(Custom Data Resources)</u>	<u>10 TB</u>
Total Active Storage for the Water Commission		180 TB

Provided By: Rosemary Pedersen, ND Water Comm.



**Senate Bill 2051**  
**Senate Government and Veterans Affairs**  
January 9, 2015

Testimony of Bruce E. Hicks, Assistant Director

North Dakota Industrial Commission – Department of Mineral Resources – Oil and Gas Division

Chairman Dever and members of the Senate Government and Veterans Affairs Committee, my name is Bruce Hicks. I am the Assistant Director of the Oil and Gas Division of the North Dakota Industrial Commission.

SB2051 amends North Dakota Century Code (NDCC) § 54-59-22 and seeks to remove authority for the Office of Management and Budget to grant exemptions for IT consolidation. Our department is opposed to this bill and we offer the following:

**Permanent Exemption granted in 2005**

- Pam Sharp's letter of 4-29-2005, "I am granting your request for a full and **permanent** exemption from IT consolidation based on the authority provided to me in NDCC § 54-59-22."
  - Office of Management and Budget can only exempt agencies after advisement by the Information Technology Department
    - Since receiving exemption: 300 → 3217 users; 140,000 → 1,200,000 bopd
  - **permanent** exemption should not expire

**Consolidation Study by Ummel Group**

- Costs—Ummel expected no cost savings
  - 20-30% cost increase experienced by other states
  - \$1,400,000 bien increase DMR estimate
- Physical Security—Ummel expected increased security
  - no improvement noted by other states
- Cyber Security—Ummel expected no change
  - no change to less secure noted by other states
- Redundancy—Ummel expected 15% improvement expected
  - State's experienced loss of staff, ITD billed back IT personnel at higher cost
- Service—Ummel expected improvement
  - degradation in service noted by all other states

**Current ITD Consolidation Implemented by DMR**

- Electronic Mail
- Phone Service
- Audio Streaming Services
- Wireless Connectivity (StageNet)
- VPN Services
- Security Intrusion Detection and Prevention

Chairman Dever and members of the Senate Government and Veterans Affairs Committee, we urge you to vote "**Do Not Pass**" on SB2051.

**NDIC-Oil and Gas Division Summary of Findings for IT Hardware Consolidation**

Findings	Costs	Physical Security	Cyber Security	Redundancy	Service
Ummel Group Study	No Cost Savings Expected	Increase Expected	No Change Expected	15% Improvement Expected	Improvement Expected
<b>NDIC Surveyed Agencies<sup>1</sup></b>					
Colorado Oil and Gas Conservation Commission	Not Quantified	No Change	No Change	Lost IT Staff	Degraded: "Down-Time" increased and services were "off-line" more. Takes longer to get server back up through ITD service call.
Ohio Department of Natural Resources - Division of Oil & Gas Resources	20-30% Increases	No Change	No Change - Still receiving bogus emails	Lost two IT Staff - 3 ITD FTE dedicated to RBDMS	Degraded: Reliability decreased with longer time required to get servers back up under ITD control. When server goes down it is down until ITD is contacted and provides service.
Utah Oil and Gas	30% Increase estimated. Initially presented as a no cost increase activity by Department of Technology Services (DTS).	No Improvement. Physical security measures were adequate prior to consolidation.	No Improvement. DTS experienced a huge data breach in State Health Dept. records post consolidation. \$2Million required to repair security.	Three programmers transferred to DTS. Two of three retasked back to agency to house and pay for at \$75/hr.	Degraded: Agency, as a customer, has been poorly served by the DTS. RBDMS was being implemented at the time otherwise more issues would have been discussed. Less service provided for greater costs. Outages due to upgrades results in 24-48 hour down periods. What used to take days now takes months to accomplish.
Wyoming Oil and Gas Conservation Commission	Increased costs. Both direct and indirect cost increases. Additional charges for storage, back-up, and consulting fees.	No Change	Less secure. Servers have been "hacked" three times since consolidation.	Existing staff unable to perform their duties until ITD resolves connection issues.	Degraded: Servers down for a week while ITD consolidated hardware and discovered, then resolved errors. Customers can no longer run queries on their databases. Additional constraints imposed by consolidation when new features are added or adjusted or when staff or procedures change. Access to data and website hampered. Lack of communication and planning. ITD makes changes without agency consultation.

<sup>1</sup> NDIC-OGD requested the Ummel Group consult with additional oil and gas regulatory agencies, specifically Utah and Ohio, as a part of their scope of inquiry. The Ummel Group did not incorporate the OGD recommendation in their study. As a result, the OGD completed the activity and provides the comments as summarized above.

Testimony on SB 2051  
Jason Bohrer, President and CEO, Lignite Energy Council  
Presented before the Senate Government and Veterans Affairs Committee  
January 9, 2015

Good morning, my name is Jason Bohrer, I am President of the Lignite Energy Council.

I would like to respectfully submit the LEC's comments for the record on the bill before the committee today that would consolidate the IT systems of the Public Service Commission, State Water Commission, and Department of Mineral Resources.

The Lignite Energy Council is comprised of companies that rely upon North Dakota's plentiful lignite coal for their businesses. Our members support thousands of jobs throughout the State.

The businesses and individuals of the Lignite Energy Council support efforts to increase efficient operation of state agencies and exercise wise stewardship of taxpayer resources. More efficient government means our members can focus on what they do best: maximizing the value of coal and powering the lives of those in the Upper Midwest. And as direct consumers of services provided by the PSC, our members have first hand knowledge of the importance of stable and reliable IT services. As such, we have some serious concerns with this proposal to consolidate their IT systems.

In our long history of working with the PSC, our members have had no issue, problems, or concerns with the agency and the reliability and security of their IT systems. In fact, our members have worked together with the PSC on cutting edge technological services to increase efficiency and access to information in our industry. These efforts have been recognized by federal officials in the Office of Surface Mining for their innovation and effectiveness, and have served as models for other States to leverage the assets provided by OSM to make their own mining programs more effective.

This leads to one of our concerns with this proposal. The PSC computer systems serve to aggregate information from federal partners and industry participants

within the State's regulatory infrastructure. This three-way conversation creates the need for a system that is suited for rigorous compliance with federal requirements while maintaining the ability to quickly adapt and integrate the innovations that come from the private sector's early adoption of technological improvements.

This expertise has developed over a series of decades and we fear it cannot be easily replicated if the PSC server system is uprooted from its current location.

In the coal industry, livelihoods depend upon compliance with State and federal regulations. Any threat that puts our permitting system at-risk, or puts our access to critical data at-risk is taken seriously by those who rely upon the PSC's systems. For this reason, we share the concern for a IT system that is secure from cyberthreats and physical threats. But in the day to day operations of our businesses, the risk of unnecessary delays, or unexpected interoperability problems, or a regulatory mistake due to a steep learning curve are just as real and just as damaging as cyberthreats or physical threats.

Therefore, our primary concern would be moving servers out of the PSC and into another agencies' jurisdiction.

When coupled with the study's conclusion that consolidation would have no cost savings, potentially *greater* costs for the PSC, and no real benefit, we question the need for the PSC to be consolidated under this bill. In short, a solution in search of a problem. Today's lignite industry is faced with many issues on the regulatory front, and we hope to avoid additional risk of problems or delays of permits, revisions, exchange of data or information, etc. due to the issues of another agency.

Thank you for the opportunity to submit comments, and I would be happy to answer any questions the committee might have.