

A big project, with a lot of issues/improvements to address. A more direct measure of "ease of access" to documents will be needed - soon - in order to assess whether it has improved after full implementation of the pilot. At the same time, you have done an excellent

job of guiding the team's review of all the important questions/concerns!

**Information Flow within the Division of Air Quality  
Focus on Procedural Memorandums**

Congratulations!  
Anna Niemitz

**Project Report for the North Carolina Public Manager Program**

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## Background

The Department of Environment and Natural Resources (DENR) consists of seventeen divisions and several other agencies. Offices are located throughout the state with most headquarters offices located in several buildings in the Raleigh area. Within the next few years, there are plans to centralize all of DENR's Raleigh HQ offices in two buildings downtown. In the early discussions of moving, the issue of vast amounts of current file space and paperwork was raised. The new location, "Green Square," is not expected to have allocated large file rooms for every division, or large personal office space for the volumes of material currently in each office. Over the past year, I have been working with Division of Air Quality (DAQ) and DENR management to resolve issues surrounding our paperbound work processes.

The team I have been leading over the past year has primarily focused on the DAQ and DENR retention schedules and imaging solutions. We have identified several reasons to capture, store and archive our information digitally. As indicated earlier, space will be a big factor. Although building plans have not been finalized, contracts signed or construction begun on a building, addressing our paper issues now is imperative. If we wait until 3 months prior to moving to deal with the paper issue, then a tremendous amount of material will be disposed of that is required to be retained by law. By pursuing an imaging solution now, we will have avoided three to four years of paper use for retention purposes.

Other reasons to pursue an imaging solution:

- Continuity of Operations – Several of our offices are in hurricane prone areas. Additionally, disasters such as fires, flooding and tornadoes can occur and wipe out an entire office as well as all facility associated paperwork.
- Security - Documents can be stolen from our physical files
- Access - An enterprise level system would allow for access to documents via the web for our use and public use.
- Archiving - digital system would allow for one copy of a document to be sent to record center / archives rather than 5 or 15 that are in various office and personal files.
- Archiving on the fly would allow record series numbers to be attached to digital images when they are created or entered, rather than figuring out the record series 10 years after the document is created.

The overall team that I have been leading at the DENR level has met several times. Due to schedules and the number of divisions involved, meetings occur with various stakeholders present. Retention schedules, imaging, storage, retrieval, indices, hardware and software have all been discussed. Budget models have been created and an expansion budget request for hardware was created, submitted and approved by the department, but ultimately not included in the State fiscal budget.

While the departmental team was functioning, I was also leading a Division of Air Quality (DAQ) team on the same issues. The DAQ team focused on all of the same issues, but from a divisional standpoint. We also reviewed all of our retention schedules

and found several areas where we were submitting two, three or more copies of the same materials to the record center and to archives. We focused on streamlining the information flow within the division and finding solutions to paper and information inefficiency issues within our division. We also began preparations for installing our own system if the DENR budget was not approved again.

The Public Manager Program project was the perfect opportunity to focus on a small section of a very large project. I have focused on the information flow within the Division of Air Quality, how staff would suggest improvements, and create an action plan that would benefit the paper and information flow. Specifically I have focused on DAQ procedure memorandums – how they are retained, retrieved and followed.

The Division of Air Quality is a regulatory agency within the Department of Environment and Natural Resources. The DAQ is responsible for implementing, insuring compliance with and enforcing on violations of rules issued by the state of North Carolina and federal EPA. Most of the rules we implement affect stationary sources of emissions – industrial plants. As with most rules, there are areas of vagueness that are open for interpretation. In these cases, the DAQ will issue procedural (policy) memorandums that define how the DAQ plans to implement a rule or interpret a rule. Our procedural documents also address other aspects of business such as office procedure, protocol, document processes, etc.

### **Improvement Opportunity**

The procedural documents are very important since they dictate a consistent method of operations and implementation for our staff. When a memo is issued, staff is expected to get a copy of the memo and then to follow the content of the memo. Several issues are raised from this statement: Do all staff members get copies of the memos? Are all staff members following the memos? Are historic memos followed? Is there a mythology assigned to memos that were never written – “An old policy makes us do this...”? Is there an issue with memos being superseded?

There is an opportunity for the DAQ to improve our methods of communication between groups. There is also the opportunity for the DAQ to insure that information is more readily available. Current methods of finding information include manual searches through file drawers or binders. One misfiled document could render a lengthy search worthless. Other methods of getting information include word of mouth discussions without verified documentation. Insuring that staff and the public have the correct information in a readily accessible format is an area that the DAQ must improve upon.

### **Service**

The service provided can be summed into the word – information. How our staff receives, retains and retrieves information. How our staff relays that information to the

regulated facilities as well as the public. How our staff implements that information in decisions made daily. Identifying the current methods of information management and planning for new ways to manage information.

### Customers

The primary customers involved in the project include DAQ staff, regulated facilities, and consultants that work for the facilities. DAQ staff includes the personnel that issue the memos as well as the staff that must implement and follow the memos. The staff is located in a Central Office and seven regional offices. Procedures memos typically originate from the Central Office and flow to the regional offices. But communications must flow between all offices. Facilities are ultimately the customers affected by the rule interpretation and implementation memos. Consultants are also affected due to their role in permit applications, source tests and compliance documentation. Consultants are often the information conduits between facilities and the DAQ. Secondary customers would include environmental groups, business watchdog groups, and the general public. Since we perform a regulatory state function, providing all interested parties with easy and quick access to documents that define our operations serves to provide a transparent operation.

*Well said!*

### Quality Dimension

The primary quality dimension, what we are trying to improve, is the helpfulness of insuring information is available and followed. A secondary dimension could be defined as convenience, but that would actually be a criteria for the strategy we implement to achieve helpfulness with the staff, facilities and the public. The issue is not only a matter of availability and accessibility, but also do the staff and public understand the importance of the documents and follow the documents. The goal is to provide a complete set of documentation, a complete volume of work including identifying documents that have been superseded as well as documents that are no longer needed.

Therefore, if information is the primary service, then improving access to information is a goal. Insuring that the information is understood and followed is also a goal.

*service improvement*  
*mgmt issue*  
*mt of service & management response*

### Improvement Opportunity

Implementation of the project would address the handling of memos and information contained within the procedure memos. The knowledge base that the volumes of procedures represent is invaluable to the DAQ. I want to insure that staff has access to memos, knows that they exist, (and insure that the memos are followed.) Additionally, when a memo is superseded, we need to insure that the newer memo takes

*a different issue: responsibility of management*

precedence. Currently, there is no consolidated way of receiving or providing information to staff or the public. All information is transferred through normal routing channels and each user is expected to keep track of all the information.

### **Team process**

The team that I assembled functioned as a consulting team. I have worked on various aspects of this project over the past year. I am also working on a Department wide digital imaging solution. A consulting team provided the steering and guidance to successfully meet the goals of the project. I wanted the team members to include staff that create policy and staff that are required to follow policy. Therefore, I selected a Section Chief, a Regional Supervisor, the Public Information Officer, the Information Technology Section supervisor and a staff member in charge of one of our programs, the Open Burning Outreach Team (OBOT). This last individual served for many years in a regional office where he was dependant on receiving information. He now holds a position where he is also responsible for disseminating information to all of our regional offices.

*Important person  
was represented*

A couple of the team members were selected for this analysis on DAQ information flow based on my work with them on the larger DAQ & DENR issues. The other staff is responsible for supplying information to the public, to other regions, or to insure that their field level staff has the information necessary to complete their duties correctly. The Section Chief oversees all compliance activities and is therefore ultimately responsible for insuring procedures are developed, implemented and followed across eight offices consistently. The Regional Supervisor manages an office with fifteen employees working in various facets of our program. He is responsible for knowing about the procedures memos, distributing them, insuring staff is familiar and insuring staff follows and implements the procedures. The Public Information Officer oversees the dissemination of information to the general public. The IT manager is ultimately in charge of any electronic systems that have been or will be used to share information. The OBOT manager is in a unique situation since he is now charged with insuring that regional offices and other agencies get, provide and share information on Open Burning issues. Since this individual recently worked in one of our regional offices where he primarily received procedures, he offered good insight into where there are problems with our information flow.

### **Baseline**

The baseline data that was gathered defined how information is currently received, how staff would retrieve the information at some point in the future, a numeric rating on communication within the division and an opportunity to suggest improvements. The team meeting process helped to identify several possible ways of identifying information flow and receiving feedback.

One obstacle was the inability to trace a document to all staff to determine the time duration between memo issuance and memo receipt, memo reading, comprehension of the memo, and implementation of the memo. A suggestion was made to have the Director sign a memo directed to all staff that would require all staff to send an e-mail to me upon receipt. This method would provide a timeline and trace all staff on when they received and read the memo. However, issues of bias arose such as: Will a manager require all staff to immediately respond to the memo? Would the memo be treated the same as any other memo for the entire staff? Ultimately it was decided that an exercise created to solely require an active reply from all staff would become biased.

*Well thought-out!*

The next suggestion was to wait for a memo issued by the Director to all staff on an operating procedure issue that would affect all staff. Once the memo was issued, I would wait a week to survey staff from each regional office to determine when they received the memo and what is their understanding of the memo. A second and third survey would be taken of different staff in each region at the end of the second and third week. Unfortunately, there was not an opportunity to set-up this data gathering effort. The Director is in the process of issuing a memo on the standardization of e-mail signatures. This will be the perfect opportunity to track a memo that is for every staff member's consumption and implementation. Additionally, I will have the benefit of reviewing e-mails from regional office staff to insure they have implemented the standardized signatures.

*→ a "timeliness" question earlier, it sounds like the issue was whether staff who needed to get the info, did so, & whether it was easy to find the info @ a later time.*

Analyzing and determining the efficiency of information flow, specifically the handling of procedural memos, is not something that has been done previously. Providing this information and widespread accessibility to staff would effectively be a new service. Therefore, we needed to determine not only the current status of information flow, but to gather ideas on how staff would like this new service to be delivered.

My team decided that a survey would be beneficial to collect baseline information. The baseline would define how staff receives and retrieves the information that they need – do they each keep up with all memorandums? Do individual units or supervisors have libraries or procedure folders? How does one determine that there is not a procedure associated with a project they are currently working on? Determining this baseline information will assist in defining a more efficient way to manage, store and present information.

Six questions were asked on a single page survey. The team defined the questions and suggested that the survey be kept short in order to get a better response rate. The survey was issued to 30 DAQ employees, primarily regional staff or staff with regional experience. We chose regional staff since some of our basic communication issues arise from the Central Office issuing information that does not reach the regional offices in a timely fashion. The target staff in our survey was split evenly between permitting and compliance staff. Of the 30 surveys issued, 23 were returned within 2 weeks – a 77% return. Several other staff were either traveling for work or on vacation. A copy of the survey is included in Appendix B.

*Yes!*

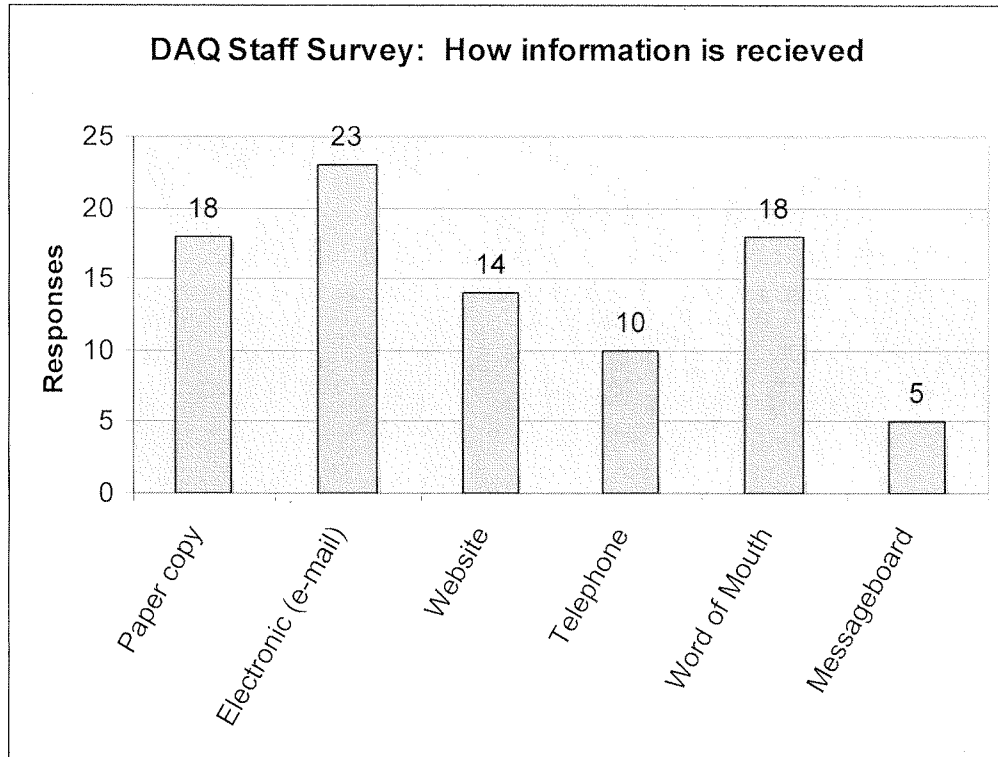
*Great!*

The first question requested the number of years the staff person had with the DAQ. The average was 8.6 years, with a high result of 16 years and a low result of less than one year.

The second question asked

*“How do you currently get new information (procedural memos, personnel information, DAQ news, etc)? You may check off more than one.”*

The distribution of responses are seen in the following chart:

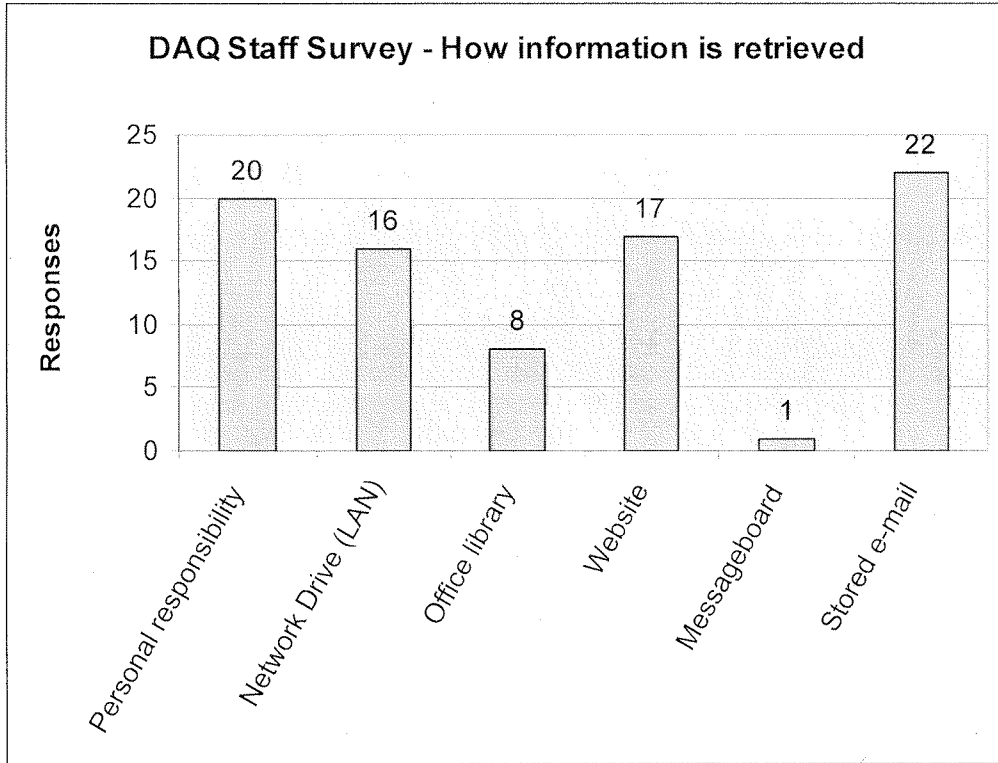


The leading response to this question was expected. E-mail has become the greatest means of transferring information within our offices. However, tied for second was the paper copy and word of mouth. The paper copy is still considered the official copy since it often carries the signature. “Word of Mouth” was an interesting response to be tied for second. One would hope that our Standard Operating Procedures are not communicated verbally alone. However, upon reflection, word of mouth communication that is then verified may indicate a high level of peer-to-peer communication. Our website was the fourth highest entry followed by the telephone and the message board. The DAQ message board allows each staff member to post topics, agendas, questions, etc and provides a forum for discussion. The message board is relatively new technology to the DAQ and is not in widespread use.

The third question asked:

*“How do you currently store information or find information that you need (procedural memos, personnel information, DAQ news, etc). You may check off more than one.”*

The distribution of responses are seen in the following chart:



The two highest responses were stored e-mail and personal responsibility (personal files, etc). While these results may be construed as a high degree of professionalism and dedication, they may also define a lack of institutional information control and a lack of a service that any business entity must provide – a management of information for employees. These results can be construed to mean that individuals manage the agencies information on their own. Once an individual leaves the agency, virtually all knowledge associated with personal responsibility and personal stored e-mail will leave as well. Our agency, like many others, is facing the issue of losing institutional knowledge. We have many key staff members that are in the 25-35 years of service range. As those staff members retire, an invaluable amount of information will exit the agency with them, unless we try to capture that information now.

*Good point!*

A question requested “On a scale of 1 to 5 (1 being poor, 5 being the best) how would you rate current communication effectiveness in the DAQ?” The average result was 2.9 – slightly above average. The lowest result was a 2 and the highest was a 4. However, some responses included text that indicated the communication within their physical location was great, but the communication between the Central Office and their Regional Office needed improvement. Or, the communication between different sections

*Provides a very general baseline measure - general because it covers all communication. Could be hard to affect even with successful implementation of the strategy to improve access to procedural document*

(i.e. compliance & permitting) was not as good as desired. A response indicated that there were too many procedures that are not written down in a memo or an SOP. Interestingly, since e-mail was the top response to receiving and retrieving information, a response indicated that the staff member is inundated with e-mails and cannot keep up with them and complete all the other duties. Effectively the staff member had an information overload.

The last two questions were "What is the ideal way for you to get information?" and "What can be done to improve communication?" Overwhelmingly, 22 of the 23 responses centered on an electronic repository, database, or cross-referenced website system. Discussion with staff members indicated that knowing the content of the memos and implementing the content correctly was the staff's responsibility. However, providing that information to employees in an easily retrievable format was an agency responsibility.

*incl. their preferred way of accessing info.*

*For a baseline on improving access to information - which further "discussion" indicates means 1) all relevant parties receive the information and 2) when they need to find a procedure/document, they are able to locate it easily, and it is the up-to-date version - you would want to ask questions regarding the extent to which #1 & #2 are true. Once the improvement strategy has been implemented long enough to affect perceptions (hopefully positively), the same questions would be asked.*

**Improvement Process**

Developing a solid team with disparate responsibilities, but a common goal, was key. Each team member was familiar with the subject since anyone within the division has struggled with getting procedural memo information quickly, easily and consistently. Prior to the first team meeting, I spoke with each individual about my project, my goals, and how their involvement would be important. The members were issued a copy of my proposal for their review.

During the first meeting, we discussed ground rules for discussion and quickly began discussion on the project. The members provided suggestions such as compiling all of the procedural memos that have ever been issued and then organizing the information. This became the first hurdle – how do we compile all memos? How do we know if we have missed a memo? An error of omission could occur. Suggestions were made on how to organize the memos including by regulatory function, regulatory office, author, date of issuance, associated rule(s), and ultimately including all references that pertain to each memo. Other suggestions included surveying staff and trying to trace a memo from issuance to receipt and implementation.

During the second meeting, I shared information with my consulting group that I received during my project course. Our goal was to set out a plan of action that would outline several other smaller plans of action. In other words, this project was so important to the knowledge base of the division and included so many processes, pieces of information, and staff members, that each point on the plan of action would become it's own project. We discussed the failed attempt to issue a test memo requiring an e-mail response and why the bias involved would not yield good results. Then it was suggested to track a real memo issued to all staff and then survey select staff at different time periods to determine if it had been received. Unfortunately, an opportunity to complete this task did not arise. We also discussed the survey that could be given to staff members to find out the best way that they want information. The conversation expanded

to determining the current methods of receiving and retrieving information as well as the ideal way that staff would like to. A suggestion was made to survey random staff via phone interviews. The random staff suggestion was then narrowed to primarily regional staff in permitting or compliance roles. It was also suggested to survey staff members that are relatively new as well as experienced staff members. The author attempted two phone interviews that were somewhat awkward due to the material and questions. Based on suggestions of those interviewed, the survey was then e-mailed to all 30 staff.

The 77% response rate was more than adequate considering summer vacations, conferences and a heavy summer inspection load for our regional staff. The results, as discussed in the baseline section, provided much more insight into the project than the author or my team alone had.

The team believed that this approach would yield a set of data that could be used to create an action plan. Based on my experience with the larger issues of DENR document management, getting feedback from DAQ staff would allow us to create a plan that would satisfy our needs based on how staff would like to receive and retrieve memos.

### **Target and Target Date**

Based on the data gathered in the surveys, conversations with staff members & management, it is apparent that the DAQ needs to provide procedural memos and other necessary documentation in a digital repository that should be web-based. Separating the procedural memos from other documentation would allow for a pilot project to be completed in a reasonable amount of time. The process to create a pilot will be dependant on several factors including budget. However, once a pilot can be prepared, the implementation of digitizing and producing all procedural documents can be completed in six months. Therefore a target date of February 1, 2008 will be set for the production of all procedural memos. Further indexing and web publishing on demand will require the use of additional document management software. Whether or not the software can be procured and installed in that time frame is unknown.

### **Tools**

The tools that I started to use in this project were interviews, surveys, and list reduction. My team helped to define the most effective tools to use. We started with a suggested exercise in tracking a published test memo that would require a response. The goal was to create a modified flow chart with an associated timeline. This chart would identify who received the memo and the duration of time from issuance to receipt and completion of task. However, due to biases pointed out by team members, this method was dropped.

We also decided on phone interviews of staff in our regional offices. Several questions were created by the team and included in the interview form. The author conducted the interviews, but due to the nature of the material, by the second interview it was decided to change methods. I requested feedback from the first person I interviewed. That person stated that a survey form would have given him more time to think about the questions and give more thoughtful answers. At that point I rewrote the interview into a survey form. I requested another staff member to review it and received positive feedback. I then issued the survey to 30 staff members with instructions on when to complete and why they received the survey. The results were used to create bar charts from the specific questions. The open-ended questions allowed me to create a list of ideas. A very surprising result was the near unanimous response to an open-ended question. The question “What is the ideal way for you to get information? ... How would you WANT to find that memo?” was not biased to an answer and resulted in a very positive response that helped to define how the project would be implemented.

The last method that the team suggested to use is a modification of the flow chart with a timeline. The team had decided on tracking a procedural memo on e-mail signature content from the time the Director signed it through periodic surveys of regional staff. The questions would have included when the staff member received the memo, which staff member gave them the memo, and whether they passed the memo on to someone else. Since the survey responses would be e-mailed by the staff back to me, I would also be able to determine if the staff comprehended and implemented the content of the memo by reviewing their signature content. Unfortunately, we were not able to perform this task in the time frame of this paper.

Brain storming and list reduction was also used in an informal fashion. As the team was presented with questions I requested some feedback and lots of ideas were produced. Additionally, the open-ended questions on improving communication within the division provided lists of items.

Some of the responses from the survey provided suggestions outside of the realm of this project. One response dealing with content on the website has initiated a task for our Public Information Officer (PIO). Based on discussion of the survey results with our Information Technology Steering Committee (ITSC), the PIO will create a plan to solicit feedback from staff on the website and provide content suggestions back to the ITSC. Another response dealt with our message boards and the lack of moderation that leads to confusing content. This item was also discussed in our ITSC. However, it was decided that the message boards are still “new” enough that there will be no additional moderation or content rules imposed. The subject will be revisited in another quarter.

### **Plan of Action**

The overall plan of action is outlined in Appendix B of this paper. I have split the project into two distinct phases. One phase deals only with the DAQ’s procedural memo pilot project. The second phase deals with the larger project of instituting a digital

document solution DENR wide. The second phase will include more divisional acceptance and much greater cost.

### Pilot Project

The DAQ pilot project can be implemented with a small budget and some allocation of time resources. Management has agreed to back the project, however the new fiscal year brings new budgetary challenges.

The primary steps in the pilot project, as outlined in Appendix B, start with procuring a scanner that can be dedicated to this project. The procurement of the scanner should occur quickly provided that budget restraints are released.

The most difficult part of the pilot project will be to collect all of the memos that should be included. Every staff member may have his or her own "library" of memos. Compiling all of the memos & insuring that documents are not left out will be difficult. It will require all staff to search their files & provide memos to the team. It will also mean that there will be numerous duplicate memos that the team will need to sort through, organize and place in bins so that duplicate scans are not created. As the project proceeds, staff will continually be requested to review files so that we can insure as close to 100% of procedural memos are included.

Standardizing the naming conventions and scanner settings will be necessary. Several groups will be presented a standardized convention for their input. To begin with, for the static web page, the suggested convention will include the date of the document, the exact primary title, the author, and the section from which it was originated. All of these items can be considered the most rudimental of indices that will eventually be incorporated into a searchable database. By including this information in the document name, the information can at least be searched for on a static page. The scanner settings (dots per inch, format, etc) will need to be agreed to based on input from the sections and the record center. Different documents may require different settings dependant on age and physical clarity. Minimum archival standards will need to be agreed to. *yes!*

Training on the use of the scanners, saving documents, and quality assurance with the individual documents will be important to insure a good final product. The scanners will be fairly easy to use and fully integrated with the computer they are connected to. Scans will occur individually and then the document will be saved based on the agreed to naming convention. Insuring the saved document matches the name is vital. Insuring that the scanned document is of an appropriate quality will be vital as well. *Could cause dupli-  
cation?*

Primarily Office Assistants from all sections of the Division will perform scanning. The scanning process will take an unknown amount of time. The number of memos that we can find will define the time period required.

Once the documents are scanned, they will need to be assembled on a webpage for viewing. Provided that the naming convention and scanning standards have been followed, this should be a fairly automated process.

Staff will then need to review all of the memos on the website and review their own files. Any additional memos will need to be forwarded to the team for inclusion in the pilot. Simultaneously, we will be requesting staff to indicate if any documents supersede older documents. The team will have to agree on how to notate the document that has been superseded. Staff will also be requested to help define which documents should be published on our external site and which documents should not. The only documents that would not be published externally deal with internal procedures such as dress code, time accounting, leave accounting, other personnel issues, etc.

The final step will be publishing the static page for public consumption. Once published, a feedback button should be included to get suggestions on immediate improvement from the public. Hit counters should also be included so that we can track usage and those documents most requested. The internal staff should also be surveyed on how they use the site. Improvements would also be solicited from DAQ staff.

*This seems to address #2 (per p. 9). It seems to me that something is needed to alert staff about new procedures/regulations, or changes in same & how to access the specific information.*

**DENR Project**

The larger DENR project will be similar to the pilot project, but will include any learning experiences from the DAQ pilot.

The first phase of the project will be to extend the surveys to a larger population of more diverse sections. Feedback from those sections will help to define the larger project. Due to the unfamiliarity of other sections, we will probably pursue contracting with a document management specialist in order to evaluate other sections work processes and information flow. A Request For Proposal will be required to specify what we are interested in and what consultants may offer. We will also be pursuing the purchase of full scale document management, indexing and web publishing software. These packages can be extremely expensive (1 million dollars plus in capital expenditure). We will need to keep evaluating software that serves our purposes and pursue purchasing that product. As always, budget issues will be a major factor.

Once we have decided on a software product, the service may be rolled out to other groups. The addition of indices for individual documents in a database will make querying for documents extremely powerful. Also, the addition of Optical Character Recognition (OCR) will allow for full text searching across virtually all documents. The final steps of implementation would include standardizing all of our documentation into specific templates with information consistently located in specific areas of the page. We would also include the retention record series number as an index as well as including the record series in the template. Final implementation would include full web querying of all our permits, inspection reports, notices of violation, etc, by the public.

## Evidence of Improvement

Once the plan is implemented, the final result will be agency responsibility for providing staff with memorandums required to accurately complete their job. The production of memorandum will be through a digital repository that DAQ management will be responsible for. This was the near unanimous response to an open-ended question on how a staff member would like to retrieve documentation. This entire repository will effectively be a new endeavor for the DAQ. Although this is an improvement from nothing to a new product, the evidence can clearly be tracked through a variety of methods. One method would easily be a hit counter on the digital repository – how many times are staff members accessing documents and what documents are the most frequently accessed. Other methods include a new survey discussing the retrieval of information prior to and after implementation of the digital repository. Finally, we can determine how many staff members continue to depend on private collections of documents rather than a shared division wide collection.

*Here is the baseline data for # 2 - per my notes on p. 2.*

## Conclusion

The goals we have set are very attainable and the timeline is as well. The technology is readily available and as evidenced from the survey, the demand is great. The largest impediment to accomplishing this task will be budget related. The initial pilot phase is attainable through equipment already on hand and storage space available on servers. The staff time to create the images can be cobbled through various groups. However, the implementation of the overall digital solution that will provide index search, full text search and web query ability will depend on software purchase and support. This item will be the major budget issue.

The overall completion of this project will pave the way for more full digital documentation throughout the division and department. The pilot will also aid in providing insight on what works well and what doesn't work.

*Yes! Very important to have included this, since it will reveal what works & what doesn't.*

The vision of a near paperless environmental regulatory office is on the horizon. Electronic signature, digital repositories, process workflow software, etc will all aid in reaching this lofty goal. Although some paper may always be used or required, the elimination of vast amounts of waste and redundancy is possible.

Appendix B:  
Survey Form:

**Michael Pjetraj's PMP Project Survey**  
**DAQ Communications**

**To:** Staff in each office – Primarily random sample of compliance and permitting staff

**Questions:**

- 1) Years of Service w/ the DAQ \_\_\_\_\_
- 2) How do you currently get new information (procedural memos, personnel information, DAQ news, etc). You may check off more than one.

- Paper copy
- Electronic (e-mail)
- Website
- Telephone
- Word of Mouth
- Messageboard

Other \_\_\_\_\_

- 3) How do you currently store information or find information that you need (procedural memos, personnel information, DAQ news, etc). You may check off more than one.

- Personal responsibility (your file cabinet)
- Network Drive (LAN)
- Volumes of books in office – office library
- Data available on the web
- Messageboard
- Stored e-mail

Other \_\_\_\_\_

*Very useful data not under standing what is going on (problem identification phase)*

- 4) What is the ideal way for you to get information? Hypothetically – you know there was a procedural memo from 2 years ago on (for example) peak shaving units. How would you WANT to find that memo?

\_\_\_\_\_  
\_\_\_\_\_

*Useful for fine tuning*

- 5) On a scale of 1 to 5 (1 being poor, 5 being the best) how would you rate current communication effectiveness in the DAQ? \_\_\_\_\_

- 6) What would you do, or like to see done to improve communication?

\_\_\_\_\_  
\_\_\_\_\_

*Ahead this is too general to provide a useful baseline.*

Appendix B:  
Plan of Action Chart:

# Information Flow within the Division of Air Quality Focus on Procedural Memorandums

Project Report for the North Carolina Public Manager Program  
Michael Pjetraj  
Plan of Action

Action to be taken	Date to be completed	Method	People responsible	Resources needed	Special needs
Short Term					
Pilot project					
Procure scanner(s)	9/7/2007	Budget issue, request for exemption, block purchase	Team lead, IT group, Budget group	Funding	
Assemble memos	Start immediately, continue throughout project	Requests, file searches	OA's, Division wide staff	Time	
Set scanning standards and name conventions	9/7/2007	Feedback from IT & user groups	IT, Compliance and Permit Workgroups, Public Information Officer	Time	research on industry standards for full scale software so that we are compatible
Scanner Training	9/10/2007	Training classes	Team lead, IT Group	Computer, scanner, time	OA's time across the central office will need to be cobbled together
Begin scanning	9/14/2007	OA's and team	OaA's & team	time	
Assemble documents in electronic format	11/1/2007	Static sort using naming convention	Team lead	computer, server space	
Require all staff to search paper files for additional memos	11/1/2007-12/30/2007	manual file searches	Division wide staff	time, effort	all staff will need to insure all memos have been accounted for
Define supersedance	12/1/07-1/20/08	memo review by staff	Division wide staff - coordinated by Team lead	time, effort	define if a memo has been superseded or is no longer relevant
Define public vs internal memos (ie internal dress code memos)	12/1/07-1/20/08	memo review by staff	Division wide staff - coordinated by Team lead	time, effort	

*Big task* →

Produce static webpage with minimal search capability	2/1/2008	Web production	IT group with Team input	IT time, servers	All staff will need to review
Re-evaluate staff needs, revisit baseline	2/1/08-2/28/08	Survey	Team leader	Division staff	
<b>Long Term</b>					
<b>Division and Department wide Digital Solution</b>					
Further Survey of DENR staff	Fall 2007	Survey	DENR Team	Divisional time, staff time	
Request for Proposal for consultation to review operations	Winter 2007	Create proposal & issue basedon DENR standards	DENR Team	Department approval	
Pursue document management software - Pilot	Fall / Winter 2007	Contract with software vendor for use	DENR Team	Budget, time	
Request for Bids for software	Early 2008	Create bid & issue basedon DENR standards	DENR Team, DENR IT, Budget	time	Standard evaluation of bids
Pursue document management software - Full scale	Early 2008	Purchase software/service	DENR Team, DENR IT, Budget	Dept approval, Budget, time	
Pursue full text searches via Optical character recognition	Early 2008	Expansion of software	DENR Team, IT	Budget, time	
Pursue extending pilot to other documents such as violations or inspections	2008	Purchase software/service, divisional acceptance	DENR Team, IT, Divisions	Divisional support, time, budget	
Standardize templates for OCR & supersedance	Late 2008	Survey, reduction, consistency training	Divisions	Divisional support, time, budget	
Include series number on documents	Late 2008	Aligning record center with our processes	DENR Team	Time	
Full scale web publishing	2009	Expansion of software	DENR Team, IT	Budget, time	

*Web done!*



Appendix C:  
Project Log:

## Information Flow within the Division of Air Quality

### Focus on Procedural Memorandums

Project Report for the North Carolina Public Manager Program

Michael Pjetraj

Activity Log

Date	Description of Activity	Outcome	Reaction / Thoughts	Duration
3/13-14/07	CPM Class 1	Outlined the project process and outcomes	Good discussion, lots of opportunities	2 days
3/20/2007	ITSC discussion	Updated Information Steering Committee on document project	Continue working on solution	10 min
3/27/2007	Oracle Digital Document	Presentation on Full Digital Document Solution	High Dollar, but very powerful	4hrs
3/29/2007	TAC Discussion	Update DENR Technology Advisory Committee (TAC) on DAQ Document activities	Continue working on solution	20 min
4/17/2007	ITSC discussion	Updated Information Steering Committee on document project	Continue working on solution	10 min
4/18/2007	CPM Class 2	Project outline began to come together - understood task better	Lots of ideas start to refine into specific project	1 day
4/26/2007	TAC Discussion	Update on DAQ Document activities	Continue working on solution	10 min
5/10/2007	Team Meeting 1	Find out how staff currently receives and retrieves info. How do they want to?	Good meeting - reaffirms that this is an important project	2 hrs
5/15/2007	ITSC discussion	Updated Information Steering Committee on document project	Continue working on solution	10 min
5/18/2007	CopyPro / Docuware	Vendor Discussion on Full Digital Document Solution	Provided more ideas on tools to gather information	2 hours
5/22/2007	CPM Class 3	Project is very defined - still have lots of questions on how to do it.	Concerned at first, but benefited from re-reading other papers and project content.	1 day
6/5/2007	TMC presentation	Present to the DENR Technology Management Committee what DENR suggests for document management	In depth questions pertaining to budget and efficiencies by Division Directors	20 min
6/12/2007	DWQ Wetlands pilot	Presentation on Full Digital Document Solution	Very impressed with DWQ progress and tools	2 hr
6/14/2007	DWQ Wetlands staff	Individual meeting with DWQ staff	Material for review	1 hr
6/19/2007	ITSC discussion	Updated Information Steering Committee on document project	Continue working on solution	10 min
6/27/2007	Team Meeting 2	Discussed failure of attempts to gather data - arranged for an interview that became a survey - positive feedback from group	Concerned at first, but the team provided invaluable insight on how to capture data and proceed	1.5 hr
6/28/2007	TAC presentation	DWQ & DAQ discussed digital document solution, DWQ pilot & proposed DAQ pilot	Positive feedback & suggestions on moving forward	1 hr
7/2/2007	Discussion with OITS	Reviewed cost estimates of OITS product		30 min
7/2-3/07	Survey construction	Created Survey for Staff	Used Kelly book to create questions that could be measured and then checked against.	2hrs
7/3/2007	Survey Issue	Sent individual e-mails to staff		2 hrs
7/10/2007	TMC Presentation	Presented to the TMC the progress by DWQ in their pilot of a document product.	In depth questions pertaining to budget and efficiencies by Division Directors	30 min

7/12/2007	Docuware meeting	Presentation on Full Digital Document Solution	Supplied suggestions to move forward w/ Request for Proposal to analyze document handling in a few divisions	1.5 hr
7/16/2007	Combine Survey	Reviewed all data	Data provided insight and verified solution that the group had. Review also allowed other comments on other aspects of communication to be recorded and forwarded to appropriate parties.	4 hrs
7/19/2007	Team meeting 3	Met w/ group to present data & proposed outcomes	Positive feedback	30 min
7/10-7/19/07	Paper Writing	Project Paper	Good exercise - lots of revisions and editing. Happy with final outcome.	10 hrs

Total=

64 hours