REPORT OF THE
DEPARTMENT OF ENVIRONMENTAL QUALITY

Improving Permitting and Compliance Processes for DEQ and Permittees in Virginia

TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA

SENATE DOCUMENT NO. 3

COMMONWEALTH OF VIRGINIA
RICHMOND
2006

COMMONWEALTH of VIRGINIA

W. Tayloe Murphy, Jr.
Secretary of Natural Resources

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November 30, 2005

The Honorable Kirkland Cox, Chairman
House Committee on Agriculture, Chesapeake, and Natural Resources
1309 Appomattox Drive
Colonial Heights, VA 23834

The Honorable Vincent F. Callahan, Jr., Chairman
House Appropriations.
P.O. Box 1173
McLean, VA 22101

The Honorable Charles R. Hawkins, Chairman,
Senate Committee on Agriculture, Conservation, and Natural Resources
P.O. Box 818
Chatham, VA 24531-0818

The Honorable John H. Chichester, Chairman
Senate Finance
P.O. Box 904
Fredericksburg, VA 22404-0904

Re: Identification of Opportunities for Improving Permitting and Compliance Processes for the Department of Environmental Quality and Permittees in Virginia

Dear Gentlemen:

The Virginia Department of Environmental Quality (DEQ) is responsible for protecting Virginia's environment. The DEQ is involved in monitoring and regulating activities related to air and water quality and waste management, and strives to reduce and prevent adverse environmental impacts. By the end of the decade, DEQ's goal is for Virginians to have cleaner waters to enjoy, cleaner air to support our communities and ecosystems, and remediation and reuse of formerly contaminated properties. DEQ's strategic plan focuses on achieving these goals by implementing more efficient programs to meet or exceed environmental standards; through informing and engaging the

community about impacts to the environment; and by maximizing use of available resources.

During the 2004 General Assembly, through passage of SB365 and HB1350, the permit fees assessed from regulated facilities were revised. Included in these bills was a requirement for DEQ to evaluate and implement measures to improve the long term effectiveness and efficiency of its programs to ensure that maximum value is being achieved from the funding provided for environmental programs. These reviews were to be led by a consulting firm with experience in conducting similar reviews. ERM was the consulting firm selected to conduct this review.

Three stakeholder groups were formed to assist with conducting this review: one for the Virginia Water Protection Permit Program, one for the Solid Waste Permit Program, and one for the Virginia Pollution Discharge Elimination System (VPDES), Air and Hazardous Waste Programs. The stakeholder groups, called Peer Review Teams, were comprised of representatives of the regulated community experienced with the permitting process, the environmental community and DEQ program staff. In addition to working with the Peer Review Teams, ERM also interviewed several individuals. The goals of these interviews were to obtain information on past experiences with the permitting process. This information assisted ERM in focusing on areas in the permitting programs that potentially could be improved the most, either by reducing costs or increasing efficiency for the regulated community or DEQ.

After meeting multiple times with the Peer Review Teams, a list of opportunities for improvement were identified and discussed with team members. These opportunities covered many areas, from changes in how DEQ and facilities exchange information, to changes in how DEQ conducts inspections, to changes in how DEQ structures and processes permits. Both cross-program opportunities and program-specific opportunities were identified. Cross-program opportunities are ideas for improving parts of the permit programs that can be can be applied to multiple programs. An example of a cross-program opportunity is to modify program requirements and agency technology to allow for electronic submission of routine monitoring data and reports. Electronic submission of information was identified as an area in which the exchange of information between the regulated community and DEQ could be streamlined and improved. Other examples of cross-program opportunities include improving the regulatory rule making process, improving the permit review process, improving the efficiency and effectiveness of inspection, improving public participation, and improved training of staff. Cross-program opportunities have been tailored to specific media and incorporated into the program-specific opportunities. Program-specific opportunities relate to specific program requirements and identify specific changes that have been identified to improve a specific element of a program. Program-specific opportunities are also identified in the report.

DEQ is evaluating the opportunities identified by the teams and is developing the agency's plans to implement each one. Included in this evaluation will be any barriers that prevent the agency from implementing the changes, and additional resources that will be needed to implement the changes. For example, funding will be needed to

implement an electronic document management system that will improve the efficiency of the exchange of information between the agency and the regulated community, and the public, and will minimize the amount of space the agency uses to store information. Some of the opportunities identified in the report will be piloted on a small scale prior to being implemented throughout the agency to collect more information on the quantified benefits to the regulated community and the agency. In total 35 program-specific opportunities and 6 cross-program opportunities were identified. Within each opportunity, specific tasks are listed that need to be addressed in order to implement the remaining opportunities. The Peer Review Teams identified a total of 251 tasks that would need to be completed prior to all of the opportunities being incorporated into the agency's programs. For each task, DEQ has indicated whether the task has been completed, if planning is underway to complete the task, or if further evaluation is needed. A task may be listed as needing further evaluation due to potential conflicts with federal requirements, the need for further stakeholder input, or the need for the development of technology infrastructure. To date, 12 of these tasks have been completed, work is underway to complete 183 of the tasks, and further evaluation is needed of 56 tasks before the opportunities can be fully implemented.

The agency will be incorporating tasks related to implementing these improvements into the Agency's strategic planning document- Strategic Priorities 2010. The Agency's progress towards implementing the opportunities identified can be tracked through the agency's website at www.deq.virginia.gov . The attached report contains the specific recommendations developed by ERM and the Permit Peer Review Teams. Based on information examined in this project, ERM is developing a method for the agency to use in evaluating the adequacy and appropriateness of staffing levels. This information and methodology will be provided at a later date.

The information obtained from the Peer Review Teams, agency staff, environmental groups and industry representatives has been a valuable asset during this process. I am grateful for the time and effort expended by all on this project, and I am confident that as a result of this study, DEQ, the regulated community, and the environment will receive many benefits. DEQ looks forward to working with stakeholders and members of the General Assembly to continue to improve the way Virginia protects its environment.

Sincerely,

Robert G. Burnley

Enclosure

Improving Permitting and Compliance Processes for DEQ and Permittees in Virginia

30 November 2005

Delivering sustainable solutions in a more competitive world

ERM

Table of Contents

Project Objectives

- **Identify/assess operational changes in DEQ permitting programs that would improve the efficiency and effectiveness**
  - Application, processing, monitoring and reporting, and inspections
  - Five programs: air, water (Virginia Pollution Discharge Elimination System permit -VPDES), hazardous waste, solid waste and wetlands (Virginia Wetland Protection- VWP)
- **Identify approaches to reduce the costs of compliance for both DEQ and the regulated community**

Reach consensus with key stakeholders on proposed improvement opportunities

Project Background

- **The 2004 General Assembly tasked DEQ with evaluating and implementing measures to improve the long term effectiveness and efficiency of its permitting programs (Senate Bill SB365/House Bill HB1350).**
- **These reviews were to be conducted with the assistance of stakeholders experienced with the DEQ permitting programs.**
- **ERM, a consulting firm experienced with conducting similar reviews, was selected to assist with conducting this review.**

Project Approach: Clear Relationship to Strategic Objectives

Key Drivers

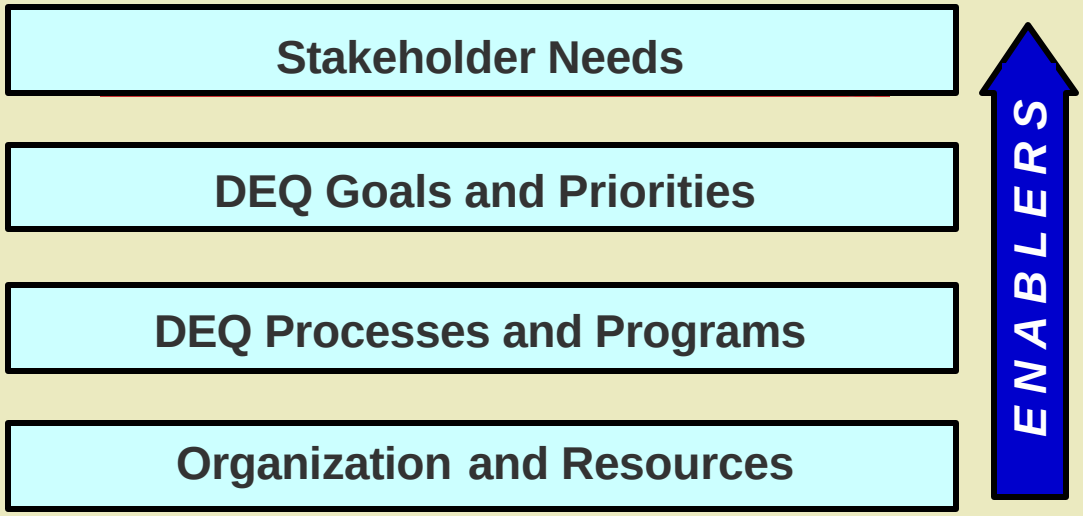
- **Chapters 249 and 324 of the 2004 Acts of Assembly**
- **Increasing expectations and program mandates**
- **Changes in IT tools driving increased data monitoring and collection**
- **Changes in work models to maximize resources as state financial resources decrease**

DRIVERS

- **Stakeholder Needs**
- **DEQ Goals and Priorities**
- **DEQ Processes and Programs**
- **Organization and Resources**

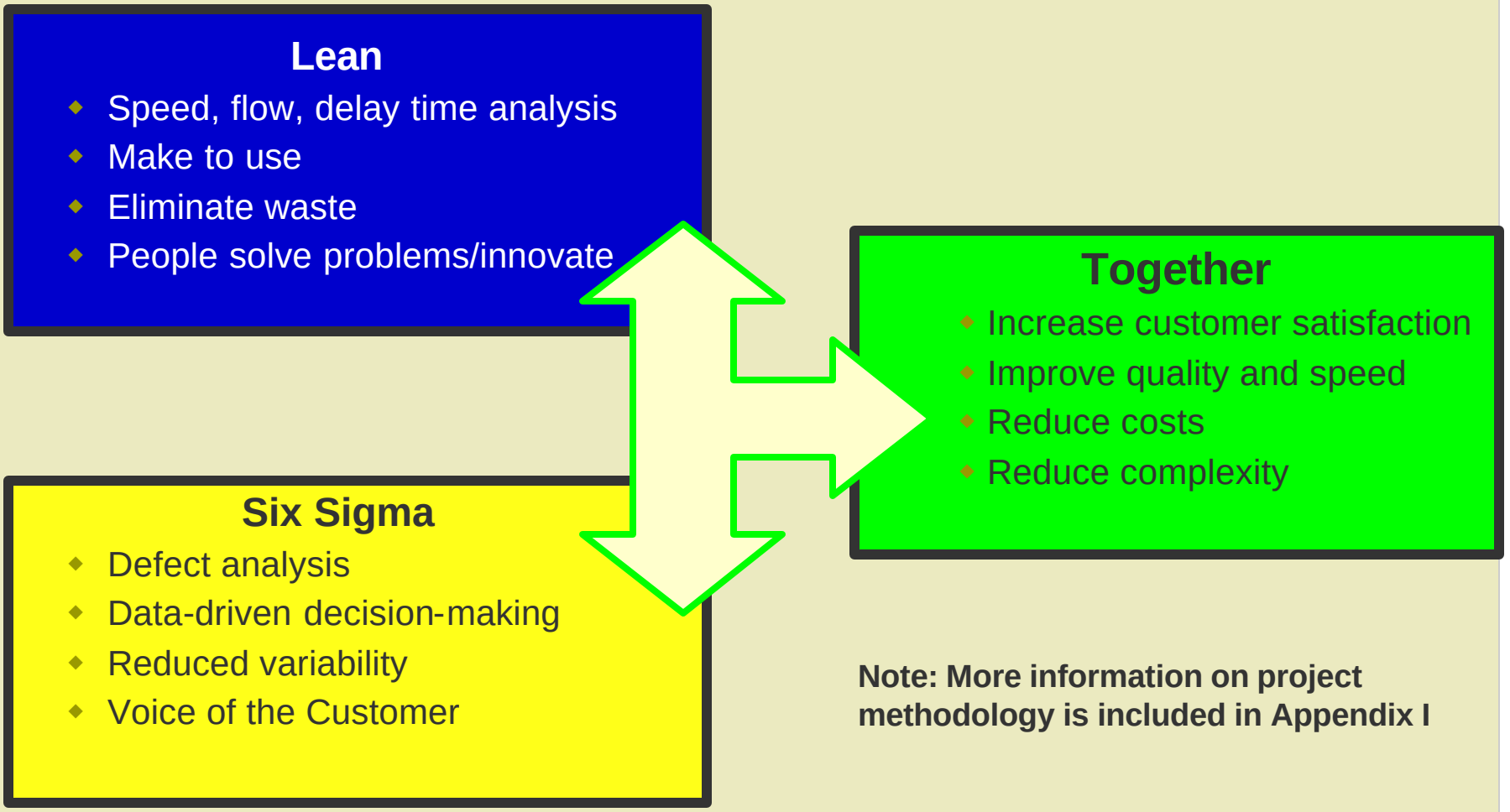
Achieve mutually desired outcomes

Project Approach: Alignment with Strategic Priorities



Key Enablers

- **DEQ's Strategic Priorities– 2010: Dynamic management tools for systemic improvement initiatives**
- **Peer Review Teams**



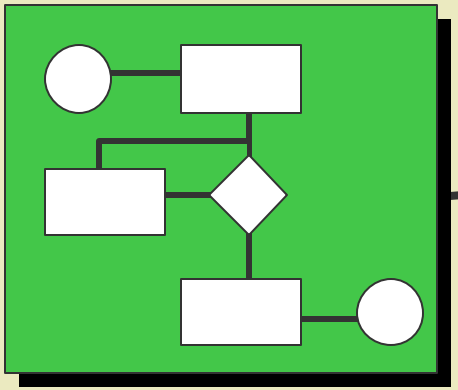
Note: More information on project methodology is included in Appendix I

Characteristics of a Lean Sigma Approach

- **Voice of the customer**
- **Critical to quality**
- **Process mapping (“as is” and “to be”)**
- **Balancing speed, quality and costs**
- **Identification and elimination of bottlenecks, sources of errors and rework, redundancies, time wasters, non-value added tasks**
- **Root cause analysis and correction versus temporary countermeasures**
- **Managing work-in-process**
- **Brainstorming with those close to the process**

Introduction
Process Flow Maps Illuminated the Opportunities

Process Flowchart



- Makes it easier to understand a broad process
- Describes activities that impact productivity
- Helps reveal breakdown points within the process
- Helps in the development of targeted, effective process improvements.

Breakdown Analysis	
Bottleneck	**An activity where work piles up or long delays exist**
Redundancy	**An activity performed multiple times or by multiple parties**
Rework	**An activity required to fix failures.**
Non-value-added	**An activity unnecessary in terms of customer requirements**
Source of error	**An activity which causes rework**
Too manual, cumbersome	**An activity which involves unnecessary human activity**

Peer Review Team Members

Member	Organization	Representing
Bill Cash Robinson	DEQ	Tidewater Regional Office
Jeff Corbin	Chesapeake Bay Foundation	Chesapeake Bay Foundation
Thomas A. Davin	N/A	Citizen
Bill Dennison	City of Bristol	SVSWMA
Mike Dieter	DEQ	Waste Division
Evans Drake	Honeywell	Chamber of Commerce
Tom Faha	DEQ	Northern Virginia Regional Office
Aziz Faramand	DEQ	West Central Regional Office
Sharon Foley	DEQ	Valley Regional Office
David Van Gelder	Hanover County DPUV	VAMWA
Ellen Gilinsky	DEQ	Water Division
James Golden	DEQ	Piedmont Regional Office
Ann Jennings	Chesapeake Bay Foundation	Chesapeake Bay Foundation
Joe Levine	New River Resource Authority	NRRA

Peer Review Team Members- cont.

Member	Organization	Representing
Joe Loschiavo	DuPont Spruance	Chemistry Council
Dan Lucey	Wetland Studies & Solutions	VACRE
Dean McClain	Governor's Point	HBAV
Amarjit Riat	Fairfax County	SWANA
Mark Rinaldi	P.F. Summers Development, LLC	Tidewater area developers
Leslie Romanchik	DEQ	Waste Division
Tom Roberts	Smurfit-Stone Container	VMA
Joan Salvati		VACo
Karen Sismour	DEQ	Waste Division
James Spacek	Portsmouth City	HRPDC
Bob Steidel	City of Richmond	VML
Jim Thornton	Northrop Grumman	Northrop Grumman
Clarence Warnstaff	City of VA Beach	AWWA
Lee Wilson	WM	VWIA

Project Timeline (November 2004 – November 2005)

Month	Activity
November	Peer Review Team kickoff meeting
February	Direct interviews and focus groups with DEQ staff and stakeholders
March	On-line survey of the regulated community and follow-up interviews with permittees. Benchmarking with other states.
April	Direct interviews with permittees and non-governmental organizations (NGOs). Additional direct interviews with DEQ staff. Data analysis and preparation of draft lists of opportunities. Additional benchmarking with other states.
May	Peer Review Team meetings to review, expand, and refine opportunities list, identify priority opportunities, and further actions
June	Priority opportunity action plans and meeting summaries
July	Solid Waste Peer Review Team meeting to refine priority opportunity action plan. Internal DEQ workshops. Draft report and revised opportunities lists developed.
August	PRT and DEQ review and revise draft report and opportunities lists via direct meetings and follow-up communications.
November	Finalize report.

Table of Contents

Priority Opportunities: All Programs
Criteria Used in Identifying Priority Opportunities

- **Benefit to DEQ, permittees, and public**
- **Quick wins**
- **Expected benefit per level of effort**
- **Expected benefit per dollar invested**
- **Ability to leverage current improvement initiatives**

Opportunities
Summaries and Details

- **Program areas (in order of coverage)**
  - Air
  - Virginia Pollution Discharge Elimination Systems (VPDES)
  - Hazardous waste
  - Solid waste
  - Virginia Wetland Protection (VWP)
- **Content for each program area**
  - Context
  - Opportunities
  - Outcomes
  - Status of progress (C = completed, U = planning underway, E = further evaluation needed)

Cross Program Opportunities

- **Improve regulatory rulemaking by piloting regulations prior to implementation and by gaining more input from regional staff and stakeholders**
- **Improve permit application and review efficiency by:**
  - making procedures and guidance easier to use and understand
  - Revising applications and submittal methods, including electronic submission of applications and other information
  - Improving staff through increased training and assigning backups for staff in case of absences and vacancies
- **Improve inspection efficiency and effectiveness through:**
  - identifying and minimizing logistical efficiencies
  - Focusing inspections on higher risk facilities
  - Cross training inspectors to handle multiple inspections at facilities, as well as providing additional training to improve skills of inspectors
- **Use electronic submittal and storage of monitoring data and reports**
- **Public Participation**
- **Workforce Development and Staff Development**

Opportunity 1: Regulatory rule-making

Efficiency and Effectiveness Outcomes

- Improved identification of impacts of rule-making changes
- Early detection and elimination of fatal flaws
- Reduced rework

1. Pilot proposed regulations before promulgation to define weaknesses in intended outcomes and inefficiencies from unintended adverse consequences. (U)
2. Broaden stakeholder input into process, including increased VADEQ Regional Office input. (U)

Opportunity 2: Improve Permit Application and Review Efficiency

Efficiency and Effectiveness Outcomes

- Increased productivity per labor hour
- Decreased rework
- Decreased manual data entry

- Procedures and guidelines
  - Improve the format and structure of VADEQ procedures and guidelines, for both internal use and for the regulated community, to make these more concise, usable, timely, accurate, and with an identifiable VADEQ "brand." (U)
  - Improve applicability determination guidance for large, complex facilities (including more detailed/better decision trees) (U)
  - Improve permit application guidance to make it easier to understand and use by permit applicants and DEQ staff. (U)
  - Make guidance documents across media more fluid and consistent in regard to content. (U)
  - Conduct VADEQ seminars for smaller facilities on application process. (U)
  - Identify mentoring mechanisms, e.g., large facility mentors for smaller facilities to assist with permit applications, technical issues, etc. (U)
  - Publicize the availability of currently available guidance for ease of access by permittees and permit writers and ensure that this information is kept up-to-date (e.g., www.townhall.virginia.gov). Benchmark with USEPA and other states (U)

Cross Program Opportunities
Opportunity 2: Improve Permit Application and Review Efficiency-cont.

- Application forms and submittal methods
  - Identify ways to streamline signature authority and supporting materials (e.g., QA/QC plan) so that information can be submitted electronically (U).
  - Web-ify application process/online application, including ensuring design and use makes the process easier (TURBO TAX APPROACH) (E)
  - Customize and streamline application forms so that the applicant completes only the information necessary for VADEQ to conduct its review. (U)
  - Require permittee to highlight changes in renewal application (e.g., comparison table). (U)
  - Identify performance criteria for qualifying permittees for faster tracking through permit renewal/amendment process (e.g., Environmental Excellence, Performance Track, third-party certification). (E)
  - Allow carryover of unchanged information from previous permit renewal/permit application. (E)
  - Utilize routine reports already provided by permittee that contain needed data for permit application/renewal processing instead of requiring submittal of the same data in the permit application (e.g., routine reports) (E)
  - Work with a multi-stakeholder group to develop revised application forms and submittal methods (U)

Opportunity 3: Inspection efficiency and effectiveness

Efficiency and Effectiveness Outcomes

- Improved inspector productivity
- Reduce non-value added time expenditures
- Increase focus of inspection strategy and risk monitoring reduction

- **Logisitical efficiencies**
  - Evaluate time losses due to state vehicle policy (e.g., must pick up vehicle at DEQ office) (E)
  - Determine opportunities or constraints to accessing project related files remotely (U)
  - Identify an appropriate balance between unannounced and announced inspections to limit amount of time field inspectors need to "wait at the gate" and minimize the potential for not having appropriate facility personnel available on site to conduct inspection (U)
  - Determine appropriate pre-inspection notification period (e.g., 24 hours?). (U)
  - Review inspection frequency commitments via EPA MOU, VA code/statute. Customize inspection frequency based on historic facility performance and maturity of environmental performance management programs (e.g., Environmental Excellence, Performance Track, ISO 14001). (U)
  - Examine utilizing groundwater and other technical staff in multiple programs. (E)

Cross Program Opportunities
Opportunity 3: Inspection efficiency and effectiveness – cont.

- **Risk Management focus**
  - Explore opportunities with USEPA in grant requirements (and other external drivers as applicable) to shift inspection focus to higher risk operations and activities that have historically been subject to fewer regulations/controls. (U)
  - Explore opportunities to adjust inspection frequency or type of inspection for permittees with demonstrated environmental performance improvement programs. (U)
- Reinforce guidelines and training for inspectors to ensure they can discuss potential compliance issues with permittees at the completion of the field inspection and before leaving the site. (U)
- Ensure adequate field oversight role for management to ensure consistency of inspection scope, quality and reports. (U)
- Reinforce guidelines on timely issuance of inspection reports. (U)

Opportunity 4: Electronic submittal and storage of monitoring data and reports

Efficiency and Effectiveness Outcomes

- More time-efficient completion and submittal of reports
- More time-efficient uploading of data
- Decreased floor space requirements for filing
- Faster filing and accessing of reports
- Improved public access to non-confidential information

- Identify the types of reports submitted; where they go and who processes them (U)
- Redefine VADEQ's recordkeeping and document control procedures to address electronic documents. (U)
- Resolve barriers in statues and regulations (electronic signatures) (E)
- Obtain input from Peer Review Team during design stage (e.g., pre-pilot) on capability for permittee to work on and submit electronic forms.(E)
- Identify technology changes needed, including verifying and documenting receipt (E)
- Look at what is being done in other states (e.g. EI in NJ, Ohio) (SC accepts electronic spreadsheets) (E)
- Utilize information learned from eDMR experience when developing other electronic data submittals (U)
- Obtain cost justification information from experienced vendor (E)
- Ensure automatic transfer of data into CEDS. (E)
- Pro-actively manage transfer of documents from hard copy to electronic format. (E)
- Recruit volunteer permittee for "pilot" testing and schedule stakeholder outreach and training (E)

Opportunity 5: Public Participation

Efficiency and Effectiveness Outcomes

- **Save time, effort, and money from prepping and holding a public hearing that no one requested and where no members of the public attend**
- **Free up VADEQ resources to focus on permitting, compliance assurance, and environmental protection through more field work.**

- Utilize the current public outreach initiatives to reinforce public education of the public comment and public hearing process, the DEQ's role, and its resource requirements (U)
- Amend regulations to state that unless required by statute, public meetings and hearings will be held only when requested (U).
- Facilitate implementation of "self-service" FOIA requests, including publicly availably computer terminals in Central Office and Regional Offices to accommodate "walk-ins.' (E)

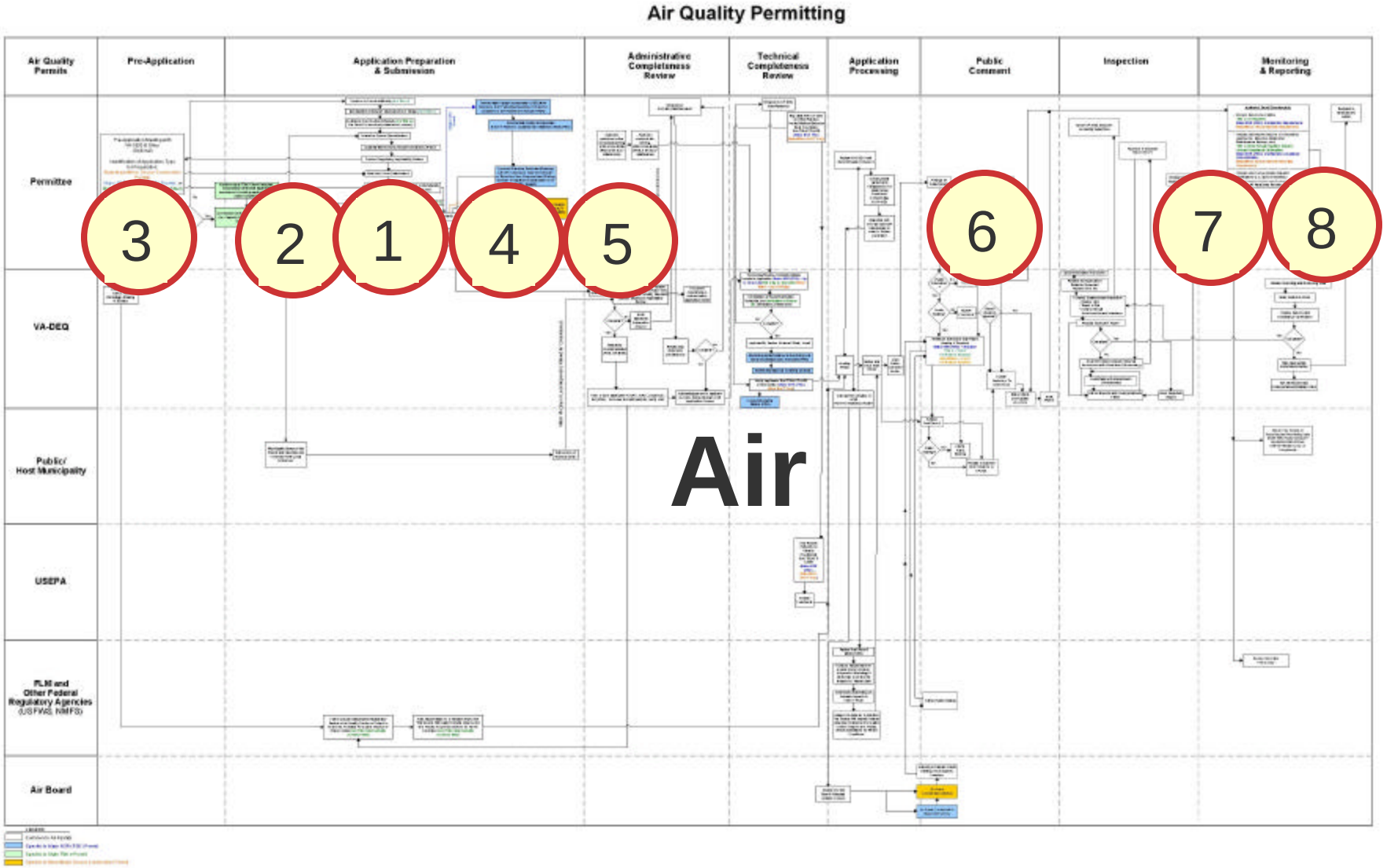
Opportunity 6: Workforce Development and Staff Development

Efficiency and Effectiveness Outcomes

- Improve permit efficiency and inspection efficiency

- Assign backups for permit writers and inspectors in case of absence, turnover, etc. (E)
- Provide technical guidance and training to ensure consistency in permit writers' interpretation of the regulations. Use real life scenarios to improve relevance and usefulness. (U)
- Improve content of technical guidance to permit writers on conducting administrative and technical completeness reviews. Reinforce the guidance as part of permit writer training. (U)
- Ensure that selected permit writers receive timely specialist training when new regulations are adopted. (U)
- Provide technical training to the regulated community in addition to DEQ personnel, so that there is more common understanding of regulations and permit conditions. (U)
- Cross-train inspectors to handle multi-media inspections at small facilities. (E- pilot project underway)
- Provide customer service training to VADEQ staff to ensure timely, accurate, and diplomatic communications with permittees and other stakeholders. (U)
- Enhance audit training with "real life" scenarios. (U)
- Conduct customer satisfaction surveys/implement other feedback mechanisms as inputs to DEQ staff performance management (e.g., recognition and reward). (U)
- Implement internal VADEQ reward and recognition program for staff. (U)

Table of Contents



Air Quality Permits 7-15-05

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Air Opportunities
Regulatory context

- **Clean air is considered a right, not a privilege, by residents**
- **The Air Board came into existence in 1967**
- **The program expanded in 1970 because of the Clean Air Act and subsequent amendments (1977 and 1990)**
  - The program has evolved from a pre-construction and construction review program to encompass operations
  - There is a patchwork of old and new regulations
  - The types and numbers of regulated air emissions, operations and equipment has greatly increased
- **The regulations have become increasingly complex and nuanced – and are driving multi-media compliance consequences**
  - The complexity of the regulations makes them difficult to understand and interpret, even for specialists
  - The regional regulatory model, which can encompass multiple states, is not as easily understood by the public compared to other media, such as water
  - There is a need for regulators, permittees, and other stakeholders to have a clear understanding of the implications of operationalizing new and changed regulations
  - Making a change in one regulation often leads to unforeseen and unintended consequences --- not just for air, but for other programs as well
- **There is an impact on business competiveness**
  - The regulated community is primarily business (commercial and industrial), some Federal, not many municipal sources
  - Permits are often needed for business plans to be implemented, with significant economic implications, including the “need for speed.”
  - The combination of regulatory complexity and potential economic impact results in significant transactional time and cost to demonstrate and achieve compliance
  - There are a very high number of transactions between permittees and regulators to accomplish regulatory objectives compared with other programs

Air Priority Opportunities
Top Opportunities and Actions

1. **Improve the permit application process**
2. **Streamline/expand the use of general permits**
3. **Reduce the complexity of source compliance requirements**
4. **Streamline how minor New Source Review (NSR) changes are incorporated into Title V permits**
5. **Streamline the permit amendment and renewal process**
6. **Hold public hearings when specifically requested by the public**
7. **Electronically submit routine reports**
8. **Clarify Title V semi-annual and annual reporting requirements**

Air Opportunities
Relationship to Cross-Program Opportunities

The following improvements, identified as cross-program opportunities, are important to successful implementation of the air priority opportunities:

- Intra-program communications
- Workforce retention and competency development
- Technology and infrastructure that support emerging work models (e.g., telecommuters, job sharing)
- Risk-based inspection scopes and frequencies
- Identify qualifying criteria and implementation steps for expediting permit renewals and amendments for top tier environmental performers
- Facilitated public access via the Internet to non-confidential documents (e.g., FOIA requests)
- Timely, accurate, and clearly presented permit and inspection guidance documents
- User-friendly, streamlined application forms

Opportunity 1: Improve the permit application process

Efficiency and Effectiveness Outcomes

- More complete and accurate permit applications
- Increased productivity per labor hour
- Decreased rework
- Decreased manual data entry

1. Constitute a focus group/working team to review/discuss improvements to forms and guidelines (U)
2. Streamline Form 805 (Title V) and Form 7 (Minor NSR) to eliminate non-value added information. (U)
3. Web-ify application process/online application, including ensuring design and use makes the process easier (TURBO TAX APPROACH) (E)
4. Improve applicability determination guidance for large, complex facilities (including more/better decision trees) (E)
5. Consolidate currently available guidance for ease of access by permittees and permit writers (U)
6. Look into what USEPA and other states are using (U)

Opportunity 2: Streamline/expand the use of general permits (GPs)

Efficiency and Effectiveness Outcomes

- Reduce permit issuance and maintenance time by 66% as compared to individual permits

1. Define the scope of the opportunity
   - Inventory the number of industrial facilities eligible for general permits (C)
   - Establish a risk basis for determining if general permits are needed (E)
   - Revisit permit strategy for some of these types of facilities to address multi-media aspects/multiple media regulatory requirements.) (U)
2. Identify barriers to implementation due to USEPA and existing permits, including resolution of differences (U)
3. Identify lessons learned from non-metallic general permits and improvement opportunities, including degrees of documentation/approval activity (U)
4. Look at general permit implementation in other states (e.g., North Carolina) (U)
5. Capture multi-media permitting approach (e.g., for combusters/incinerators) (U)
6. Identify process to develop appropriate monitoring and reporting frequencies for specific types of general permits (U)
7. Explore options for exempting general permits from Administrative Process Act (APA) and/or permit-by-rule (E)
8. Determine amenability of GP sources to multi-media inspection approaches (E)

Opportunity 3: Reduce the complexity of source compliance requirements

Efficiency and Effectiveness Outcomes

- Reconcile different and conflicting requirements
- Eliminate cross-referencing efforts
- Improve permittee compliance

1. Investigate what other states are doing (U)
2. Define legality issues of eliminating underlying requirements per New Source Review (NSR) (U)
3. Identify facility-specific opportunities to supersede NSR (U)
4. Document situations where conflicting or different conditions in multiple permits adversely impacts a permittee's ability to comply. (E)

Note: There are significant barriers to consolidation, including:

(a) State Best Available Control Technology (BACT)/underlying nature of DEQ permits

(b) USEPA Region III interpretations

(c) State level of interest in superseding NSR permit via case decision and potential creation of legal loopholes

(d) Complexity of working through all the issues

Opportunity 4: Streamline how minor NSR changes are incorporated into Title V permits

Efficiency and Effectiveness Outcomes

- Save time and effort, in processing unnecessary Title V permit amendments
- Ability to make changes more quickly/flexibility is a business/competitive advantage

Environmentally neutral or beneficial

[Note: DEQ and USEPA currently have different positions concerning NSR requirements]

1. Identify source of requirement (Federal vs. State regs state statute) for each applicable program. (U)
2. Identify barriers to make a change. (U)
3. Improve current guidance to permit staff clarifying the timing and necessity of Title V permit revisions. (U)
4. Explore the development of enforcement discretion policy. (E)
5. Explore concurrent NSR and Title V permit processing procedures. (E)
6. Utilize pre-application meetings to clarify NSR/Title V potential conflicts (U)
7. Evaluate use of NSR permit language that reduces conflicts with Title V permits (U)
8. Evaluate use of self-effecting minor permit amendments for defined scenarios (U)
9. Benchmark North Carolina's approach to TitleV/NSR (E)

Opportunity 5: Streamline permit amendment and renewal process

Efficiency and Effectiveness Outcomes

- Ability to make changes more quickly/flexibility is a business/competitive advantage
- Reduced amount of time permittee needs to spend preparing renewal documentation

1. Revisit criteria and interpretation of what triggers a minor vs. major amendment vs. administrative change (especially in reference to changes resulting in improvements, e.g. decrease emissions). As part of this action, better define what constitutes "case-by-case" and define specific scenarios to improve consistency of interpretation and understanding (DEQ staff and regulated community). (U)
2. Identify what other states in USEPA Region III are doing. (U)
3. Identify what other USEPA regions are doing. (U)
4. Evaluate how to maximize the use of cross-referencing unchanged information from previous submissions. Do this for a broader range of source types. (U)
5. Utilize workforce development plan to retain experienced permit writers. (E)

Opportunity 6: Hold public hearings when specifically requested by the public

Efficiency and Effectiveness Outcomes

- Limit DEQ resources spent on mandatory public hearings where no public interest has been expressed.

1. Prepare a list of the total number of mandatory public hearings and the percentage that are not attended by the public (E)
2. Evaluate need for alternatives for mandatory public hearings that provide equivalent public participation (U)
3. Identify source of requirement (Federal vs. State regs state statute) for mandatory public hearings (e.g., state Major NSR) for each applicable program. (U)
4. Identify barriers to make a change. (U)
5. Instruct public re: public comment as part of community outreach initiatives. (U)

Air Opportunities

Opportunity 7: Electronic submittal and storage of monitoring data and reports

Efficiency and Effectiveness Outcomes

- More efficient uploading of data (e.g., eliminate hand-keying in AFS)
- Reduce mail and paper costs
- Reduce file space needs
- Faster filing and accessing of reports
- Decrease amount of time spent by permittees to prepare and submit reports (estimated 50 – 100 hours/year/permittee)
- Improved public access to non-confidential information

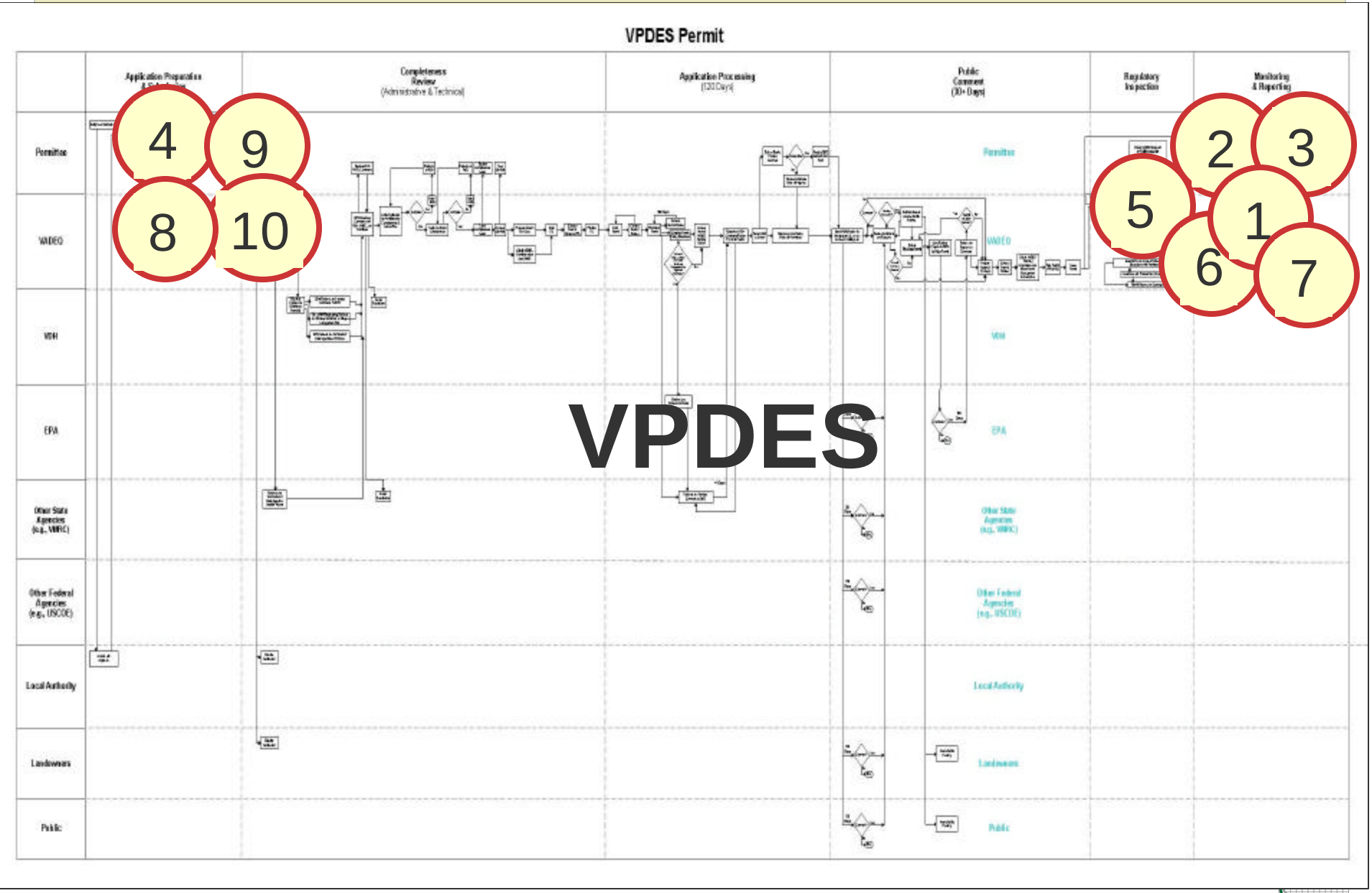
1. Identify the types of reports submitted; where they go and who processes them (E)
2. Redefine DEQ's recordkeeping and document control procedures to address electronic documents. (E)
3. Resolve barriers in statues and regulations (electronic signatures) (U)
4. Obtain input from Peer Review Team during design stage (e.g., pre-pilot) on usability (E)
5. Identify technology changes needed, including verifying and documenting receipt (E)
6. Look at what is being done in other states (e.g. EI in NJ, Ohio) (SC accepts electronic spreadsheets) (E)
7. Utilize information learned from eDMR experience when developing other electronic data submittals (E)
8. Obtain cost justification information from E-Visory. (E)
9. Ensure automatic transfer of data into CEDS. (E)

Opportunity 8: Clarify Title V semi- and annual reporting requirements to eliminate duplicative report preparation work by permittees

Efficiency and Effectiveness Outcomes

- Decrease report preparation time (permittees) by 1 week per Title V permittee (there are 300+ Title V permits).
- Decrease report review time (DEQ)
- Reduce discrepancies/rework between second semi-annual and annual reports.

1. Clarify DEQ requirements for semi-annual deviation and annual compliance reports. (U)
2. Prepare sample report formats for 1st semi-annual deviation report and combined 2nd semi-annual and annual report. Have Peer Review Team look at sample formats and provide feedback. (U)
3. Check Part 70 regulations to confirm that deviation information in the semi-annual reports does not have to be relisted in the annual compliance certification (U)
4. If reporting dates in permit do not align with standard semi-annual and annual report submittal dates, investigate allowing permittees to align with those dates through a minor amendment/self-effecting change. (U)
5. Explore feasibility of “exception only” reporting for large data sets (E)


VPDES Permit
Application Preparation
Completeness Review
(Administrative & Technical)
Application Processing
(120 Days)
Public Comment
(30+ Days)
Regulatory Inspection
Monitoring & Reporting
Permittee
VADEQ
VDH
EPA
Other State Agencies (e.g., VMRC)
Other Federal Agencies (e.g., USCOE)
Local Authority
Landowners
Public
4
9
8
10
2
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1
6
7
VPDES

VPDES Opportunities
Context

- **Water is a valuable and finite resource --- residents consider clean and plentiful water a right, not a privilege**
- **The discharges are visible and the politics can be highly charged**
- **VPDES is a mature program (over 25 years). There are three tiers of governance: this creates redundancy and duplicative efforts**
  - A lot of the requirements are mandated by USEPA
  - State law is very specific in terms of requirements
  - Local jurisdictions
- **Permittees are more broad-based and diverse than in other programs – municipal, industrial, residential – everything from small residential to regional authorities**
  - The direct financial impact makes for a lot of people who care about efficiency
  - There are significant unregulated sources of pollutants, with the increased burden falling on the sources that are regulated
- **Permit compliance is costly (control equipment, routine monitoring and reporting) both for permittees and for the DEQ to administer (largest DEQ program)**
  - Permits are reissued every five years and become more stringent during each reissuance period (dynamic program)
  - Control technology has not kept up with the regulations, requiring operational changes to compensate
  - The Chesapeake Bay initiatives will significantly impact the stringency (and associated cost) of compliance
  - Emerging issues include sediment criteria and emerging pollutants. This will increase program complexity.

VPDES Opportunities
Top Opportunities

1. **Deploy electronic filing of Discharge Monitoring Reports (DMRs): “eDMRs”**
2. **Adjust DMR due date for permittees submitting eDMRs**
3. **Consider DMR reporting on an “exception” basis**
4. **Strengthen the regulatory and guidance development and deployment processes**
5. **Make inspections more valuable to permittee and DEQ**
6. **Expand compliance assistance support**
7. **Streamline sewage overflow notification requirements**
8. **Improve decision-making for collecting data on toxic pollutant discharge and sampling requirements**
9. **Streamline the individual permit application and renewal process**
10. **Expand the use of general permits and streamline the application and renewal process**

VPDES Priority Opportunities
Relationship to Cross-Program Opportunities

The following improvements, identified as cross-program opportunities, are important to successful implementation of the VPDES priority opportunities:

- Intra-program communications
- Workforce retention and competency development
- Technology and infrastructure that support emerging work models (e.g., telecommuters, job sharing)
- Risk-based inspection scopes and frequencies
- Incentives for top tier environmental performers
- Facilitated public access via the Internet to non-confidential documents such as Freedom of Information Act (FOIA) requests
- Timely, accurate, and clearly presented permit and inspection guidance documents
- User-friendly, streamlined application forms

VPDES Opportunities
Opportunity 1: Implement electronic submittals for DMRs and supplemental information

Efficiency and Effectiveness Outcomes

- Permittees save on labor equivalent to 1 day/month/permit.
- DEQ saves 4200 hours of DEQ staff time at full implementation of eDMRs.
- DEQ saves file space.
- Less rework from data input errors.
- Shift resources from administrative duties to environmental protection duties.

1. **Issue contract to experienced vendor (C).**
2. **Ensure automatic transfer of data into Comprehensive Environmental Data Systems (CEDS). (C)**
3. **Recruit volunteer permittee for "pilot" testing. (C)**
4. **Schedule stakeholder outreach and training (U)**
5. **Redefine DEQ's signatory authority, recordkeeping and document control procedures to address electronic documents. (U)**
6. **Pro-actively manage transfer of documents from hard copy to electronic format. (U)**
7. **Obtain input from Peer Review Team during design stage (e.g., pre-pilot) on capability for permittee to work on and submit electronic forms. (U)**
8. **Ensure that permittee receives submission confirmation. (U)**
9. **Identify the types of supplemental information that permittees are being asked to submit to DEQ, evaluate DEQ's need for that information, and evaluate their amenability to electronic submittal. (U)**
10. **Evaluate requirement that supplemental data such as operational data is required to be submitted with DMRs. (U)**
11. **Identify mechanisms to electronically submit supplemental information, including narrative (this is enormously important in incentivising the use of the e-DMR). (application designed to accept up to 1.5 MB documents) (U)**
12. **Extend electronic submittal capability to applications (E)**

[Note: It's important that this be approached as an "all or nothing" initiative to be meaningful to permittees]

Opportunity 2: Change due date from the 10th of the month to the 30th of the month

Efficiency and Effectiveness Outcomes

- Improved reporting of previous month's data, especially BOD, because time constraints for conducting and submitting sampling data is more aligned with laboratory analysis turn-around times.
- Decreased rework
- Incentivize transition to e-DMR reporting

1. Check DMR data upload schedule required by USEPA to determine if there is flexibility regarding DEQ's DMR reporting schedule. (U)
2. Provide incentive to electronic filers by allowing later submittal time than hard-copy filers. (E)
3. Investigate grant to assist small permittees with eDMR phase-in assistance to ease transition from hard copy to eDMR submittals. (E)
4. Determine if DMR submittal date contained in VPDES permits can be changed without going through the permit amendment process. (E)

Opportunity 3: Require DMR reporting on an "exception" (e.g., exceedence) basis only

Efficiency and Effectiveness Outcomes

- Reduce report preparation time.
- Reduce report review time and data entry time.
- Reduce file space needs.

1. Identify the types of reports submitted; where they go and who processes. Investigate regulatory barriers to "exception" only reporting (e.g., USEPA may have a strict requirement for full DMR reporting) (U)
2. Evaluate "needs" versus "wants" re: DMR reports (e.g., DEQ uses the actual DMR data for modeling) and communicate to permittees how the data is being used. As part of this, evaluate the needed frequency of full reporting. (U)
3. Investigate CEDS functionality to accept only exceptions to allow generation of point system that triggers a red flag for a Notice of Violation (NOV), inspection schedule, etc. (U)
4. Communicate with USEPA about constraints imposed by its computer (PCS) system. (E)
5. In light of the near-term phase-in of e-DMRs, identify whether there will be additional incremental efficiency benefits for exception reporting versus full electronic DMR reporting. (E)

Opportunity 4: Strengthen regulatory and guidance development and deployment processes

Efficiency and Effectiveness Outcomes

- Improved accuracy, completeness and timeliness of permit application submittals.
- Increased productivity and consistency per labor hour for both permittee and DEQ.
- Identification and elimination of "fatal flaws" before regulations are promulgated/guidance is issued.
- Improved consistency in determining guidance versus rule, thereby empowering DEQ staff in appropriate decision-making.

1. Increase stakeholder input earlier in the processes. (U)
2. Pilot new regulations and guidance to identify fatal flaws and unintended consequences. (U)
3. Ensure that guidance is consistent, usable, and timely (e.g., co-creation of regulation and guidance). Make sure guidance across all program areas has a distinct DEQ "brand" image (e.g., standard look, format, type of content) across all media.) (U)
4. Clarify what is guidance versus what is a regulatory requirement, particularly for DEQ permit and inspection staff, and provide consistent training on appropriate interpretations. (U)
5. Make stakeholders aware that all DEQ guidance documents are available at the Town Hall web site (www.townhall.virginia.gov) (U)
6. Clearly define participatory process for regulatory rulemaking, especially Regional Office roles, timing, and degree of involvement. (U)

Opportunity 5: Make inspections more valuable to permittee and DEQ

Efficiency and Effectiveness Outcomes

- Improve productivity of inspector time in the field.
- Increase productivity in preparing and issuing inspection reports.
- Increase consistency in inspector methodology and interpretations of regulations.
- Free up staff resources to focus on more significant environmental risks.

1. Evaluate DEQ policies on unannounced inspections. (U)
2. Evaluate and implement a risk-based inspection program (e.g., split sample inspections vs. traditional inspections to focus on performance instead of paperwork reviews). (U)
3. Utilize split sample inspections (U)
4. Determine appropriate pre-inspection notification period (e.g., 24 hours?). (U)
5. Review inspection frequency commitments in DEQ/USEPA EPA Memorandum of Understanding (MOU) and VA code/statute. Customize inspection frequency based on historic facility performance and maturity of environmental performance management programs (e.g., Virginia Environmental Excellence Program (VEEP), Performance Track (PT), ISO 14001). (U)
6. Provide opportunities for inspection flexibility (e.g., schedule, announced vs. unannounced, performance-based scope, frequency) to incentivize participation in VEEP and/or PT (U)
7. Coordinate with DCLS to define and eliminate overlaps and redundancies related to laboratory inspections. (U)
8. Utilize workforce retention plans to ensure DEQ inspection expertise is maintained (U)
9. Identify technology tools that can speed up and improve the quality of inspections (e.g., field PDAs) (U)

Opportunity 6: Expand compliance assistance support

Efficiency and Effectiveness Outcomes

- Improved productivity and more effective environmental management by permittees.
- Improved DEQ service consistency and quality.
- Reduced rework for DEQ and permittees

1. Conduct DEQ seminars for smaller facilities. (U)
2. Peer Review Team to identify mentoring mechanisms, e.g., VEEP and PT facilities as mentors for small facilities to assist with permit applications, technical issues. Also consider barriers to formal mentoring schemes (e.g., liability concerns). (U)
3. Identify sources of quality problems and identify fixes, e.g., training, peer review. (U)
4. Prepare better tools for DEQ staff, including well-written, clear and concise permit manuals and guidance. (U)
5. Define clear criteria regarding what kind/amount of compliance assistance DEQ should/could provide to the regulated community. (U)

Opportunity 7: Streamline sewage overflow notification requirements

Efficiency and Effectiveness Outcomes

- Improved management of risk per time expended by permittee and DEQ for permit compliance.

1. Investigate what other states are doing re: thresholds for reportable quantities, notification timeline, reporting method, relationship to DMR reporting requirements. As part of establishing the reportable quantity (RQ), consider appropriateness and compatibility with emerging USEPA reporting requirements. (U)
2. Provide clear definition and threshold for reportable quantity. (U)
3. Clarify whether conditions applicable to all VPDES permits, as spelled out in Part II, can be modified to include a specific reportable quantity versus the current general requirement with no minimum quantity specified. (U)
4. Investigate what Web-based application the Hampton Roads Planning District Commission (HRPDC) is using to facilitate on-line reporting and reduce duplicative notifications. (U)

Opportunity 8: Improve decision-making for collecting data on toxic pollutant discharge and sampling requirements

Efficiency and Effectiveness Outcomes

- Improved level of understanding, comfort, and analytical capabilities (both permittee and staff)
- Permits with sampling requirements that reflect the permitted entity's wastewater discharge characteristics.

1. Identify key communications gateways between permittee and DEQ when additional sampling will be required in developing permit-specific effluent limits. (For example, DEQ can make presentations to permittees, include in pre-application meetings, etc.) (U)
2. Train DEQ staff, permittees and other stakeholders on the statistical methodology used by DEQ in developing permit requirements and how this relates to monitoring (U)
3. Revisit DEQ's approach to effluent sampling requirements for toxics (what, when, how often). (U)

Opportunity 9: Streamline individual permit application and renewal process

Efficiency and Effectiveness Outcomes

- Cost savings and labor savings for industries ($250,000 per large facility, possible overall 30% reduction in costs based on current cost structure).
- Improve staff resource utilization by balancing work flow peaks and troughs.

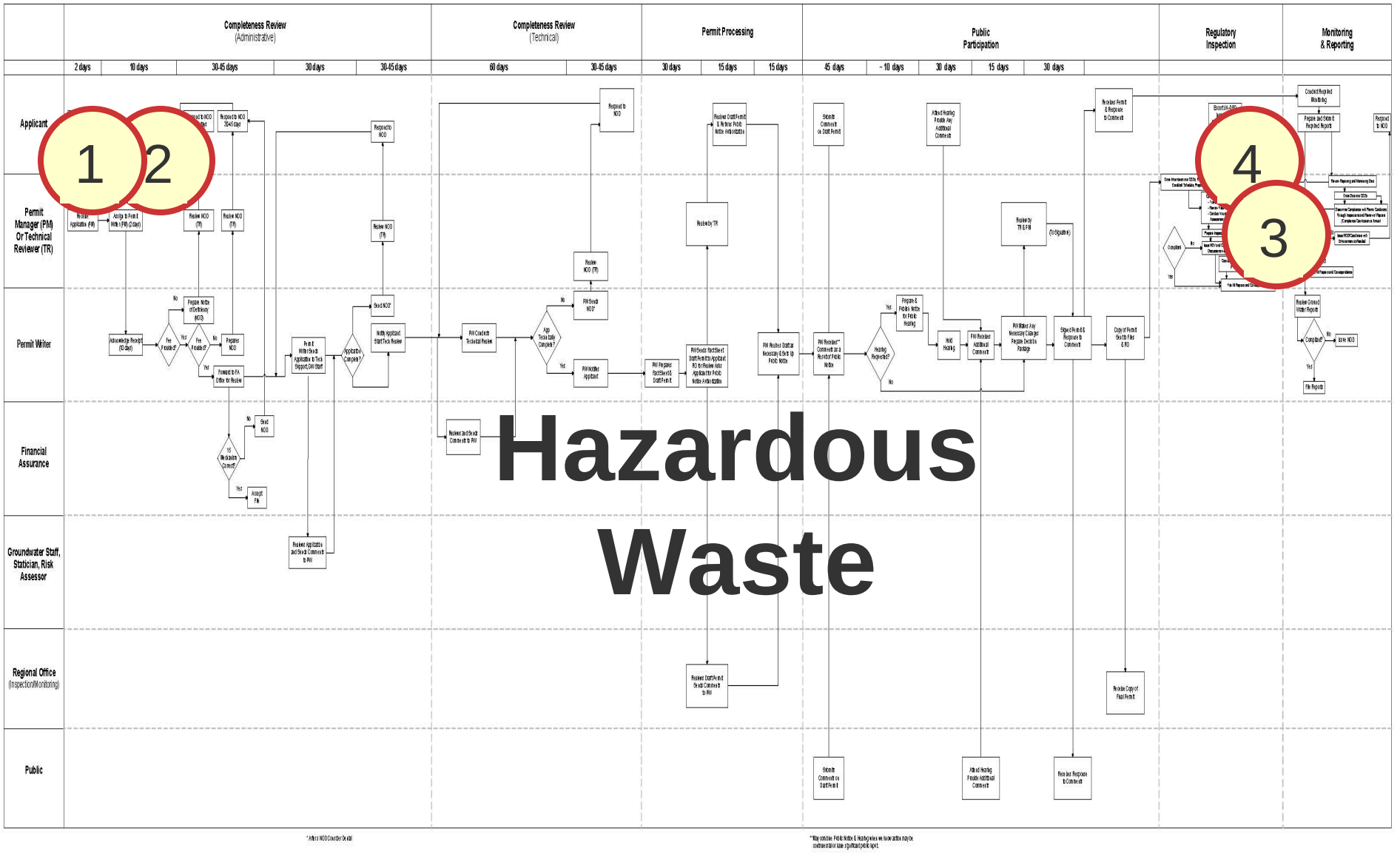
1. Utilize formal pre-application meetings where requested by permittee to discuss permittee's plans, significant changes with DEQ issues/concerns, and other matters. The outcome of the meeting should be specific and unambiguous so as to eliminate "back and forth" (extensive documentation to and from DEQ) and rework during the review phase. (U)
2. Consider dampening 5-year peak permit renewal load by strategically utilizing "administrative continuance" powers and negotiating with EPA for longer permit terms for low risk facilities/facilities without significant changes in operations or effluents. (This may require changes to the Federal Clean Water Act) (U)
3. Streamline application to request only information needed for appropriate technical and administrative review. (U)
4. Identify performance criteria (Voluntary Environmental Excellence Program, Performance Track) for qualifying permittees for faster tracking through permit renewal/amendment process (U)
5. Allow carryover of unchanged information from previous permit renewal/permit application. For example, use preprinted renewal forms that contain the information from the previous permit submission. (U)
6. Evaluate modifying permit format to append changed requirements. (U)
7. Focus permit review on the changed information, utilizing routine reports already provided by permittee that contain needed data for permit application/renewal processing instead of requiring submittal of the same data in the permit application (e.g., DMR data versus monitoring data summary). (U)
8. Benchmark EPA Region III VPDES permit application/renewal requirements with other EPA regions and other states within Region III to identify streamlining opportunities. (U)
9. Work with a multi-stakeholder group (e.g., Peer Review Team) to systematically develop mutually agreeable options/alternatives. (U)

Opportunity 10: Expand use of general permits (GPs) and streamline the application and renewal process

Efficiency and Effectiveness Outcomes

- Cost savings for operations requiring general permits.
- Improve staff resource utilization by balancing work flow peaks and troughs.
- Allow shifting of resources to inspection/compliance instead of permit writing.

1. Explore options of exempting general permits from Administrative Process Act (APA) and/or permit by rule . (U)
2. Revise regulations to stagger 5-year permit term within an individual GP category. (E)
3. Determine if Federal or VA statutes require a VPDES or VA GP for all point source discharges (U)
4. Benchmark how other states regulate sources that require a GP in VA. (U)
5. Consider watershed-based general permits (U)


Hazardous Waste Individual Permit
Completeness Review (Administrative)
Completeness Review (Technical)
Permit Processing
Public Participation
Regulatory Inspection
Monitoring & Reporting
2 days
10 days
30-45 days
30 days
30-45 days
60 days
30-45 days
30 days
15 days
15 days
45 days
~ 10 days
30 days
15 days
30 days
Applicant
Permit Manager (PM) Or Technical Reviewer (TR)
Permit Writer
Financial Assurance
Groundwater Staff, Statician, Risk Assessor
Regional Office (Inspection/Monitoring)
Public
1
2
3
4
Hazardous Waste

ERM

Hazardous Waste Opportunities
Context

- **“Not in my backyard” attitudes play a significant role in facility siting**
- **Very mature program**
- **State and Federal regulations are well aligned**
- **Substantial USEPA oversight of state program**
- **Relatively straightforward in terms of requirements**
- **45 permitted facilities, most non-commercial**
- **4,700 regulated generators of hazardous waste**

Hazardous Waste Priority Opportunities
Top Hazardous Waste Opportunities and Actions

1. **Transition to a risk-based inspection schedule**
2. **Streamline the permit renewal process where there is no significant change in operations**
3. **Eliminate use of CEDS for data that must be entered into EPA's Resource Conservation and Recovery Act *RCRA Info* database**
4. **Improve completeness of permit applications**

Hazardous Waste Priority Opportunities
Relationship to Cross-Program Opportunities

The following improvements, identified as cross-program opportunities, are important to successful implementation of the hazardous waste priority opportunities:

- Intra-program communications
- Workforce retention and competency development
- Technology and infrastructure that support emerging work models (e.g., telecommuters, job sharing)
- Risk-based inspection scopes and frequencies
- Incentives for top tier environmental performers
- Facilitated public access via the Internet to non-confidential documents (e.g., FOIA requests)
- Timely, accurate, and clearly presented permit and inspection guidance documents
- User-friendly, streamlined application forms

Opportunity 1: Improve completeness of applications

Efficiency and Effectiveness Outcomes

- Decrease DEQ labor hours to review application.
- Expedite schedule for review.

1. Encourage pre-application meetings to flag and address significant issues and to reinforce DEQ's expectations for a complete application (U)
2. Evaluate electronic submittal of applications and supporting materials. Web-ify (e.g., TURBO-TAX approach) (U)
3. Implement tiered fee structure that encourages a complete application the first time by increasing fees for each DEQ completeness review. (E)
4. Develop streamlined submission options for renewal applications (see Opportunity 2, #2). (U)

Opportunity 2: Streamline the permit renewal process where there is no significant change in operations

Efficiency and Effectiveness Outcomes

- Fewer labor hours preparing permit application
- Fewer labor hours reviewing permit application
- Less file space needed

1. Develop streamlined submission instructions for permit renewals. Identify any regulatory barriers to submitting only changed information. (U)
2. Require permittee to highlight changes in renewal application (e.g., comparison table or red-line current permit to show changes). (U)
3. Incentivize participation in environmental performance programs (VEEP, PT) by expediting review of renewals. (U)

Opportunity 3: Eliminate duplicate data entry (CEDS vs. RCRA Info)

Efficiency and Effectiveness Outcomes

- Decrease DEQ staff hours required to perform data entry (estimated 300 hrs/yr for inspectors and 300 hrs/yr for permit writers)

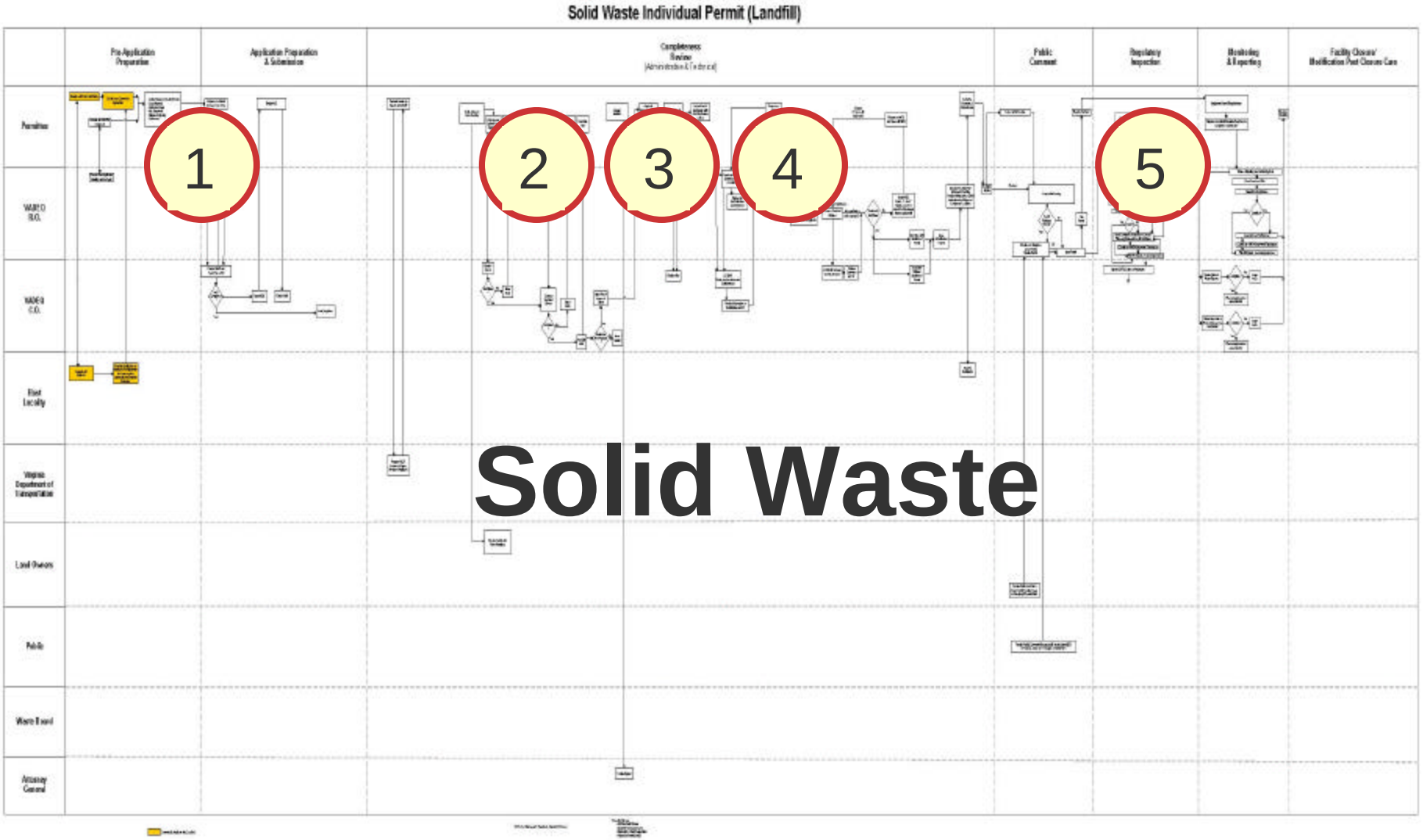
1. Utilize *RCRA Info* database only pending phase-in of USEPA's Integrated Compliance Information System (*ICIS)* application (eliminate use of CEDS). (C)

Opportunity 4: Transition to a risk-based inspection schedule

Efficiency and Effectiveness Outcomes

- Increased environmental protection.
- More inspections of high risk generators.
- Incentivize VEEP/PT participation

1. Develop risk-based inspection plan, including inspection frequencies for different HW classifications (Small Quantity Generator (SQG), Large Quantity Generator (LQG), Treatment, Storage and Disposal facility (TSD), noncomplier). (U)
2. Explore opportunities with USEPA in grant requirements to re-assign priorities to focus on noncompliant generators. (U)
3. Incorporate environmental excellence into the risk criteria (VEEP, PT) for setting inspection frequency and scope (U)
4. Cross-train inspectors to handle multi-media inspections at small facilities. Pilot this approach at specific industry sectors, e.g., parts washers, dry cleaners, auto body shops, laundry facilities. (U)


Solid Waste Individual Permit (Landfill)
Pre-Application Preparation
Application Preparation & Submission
Completeness Review
Public Comment
Regulatory Inspection
Monitoring & Reporting
Facility Closure/ Modification Post-Closure Care
1
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3
4
5
Solid Waste

ERM

Solid Waste Priority Opportunities
Context

- **Permits have been required since 1971 with major revisions in 1988 and 1993**
- **The program was federally approved in 1993 but is not federally funded**
- **Annual permit fees are set by statute which required completion of this report with Peer Review Team participation**
- **Annual fees and permit action fees do not cover the full cost of the program (general funds are needed to make up the difference)**
- **Information on how these funds are used to support the program, staffing needs, and any efficiencies realized would ensure this evaluation process meets the expectations of some of the study participants.**
- **A report on fees collected to support the solid waste program as well program expenditures is prepared bi-annually as required by statute.**

Solid Waste Priority Opportunities
Top Solid Waste Opportunities and Actions

1. **Streamline permit application process**
2. **Expedite permit review and issuance processes**
3. **Strengthen risk-based, performance-based permit approaches**
4. **Improve quality, consistency, and relevance of permits**
5. **Improve quality of inspections and timeliness of reports**

Solid Waste Priority Opportunities
Relationship to Cross-Program Opportunities

The following improvements, identified as cross-program opportunities, are important to successful implementation of the solid waste priority opportunities:

- Intra-program communications
- Workforce retention and competency development
- Technology and infrastructure that support emerging work models (e.g., telecommuters, job sharing)
- Risk-based inspection scopes and frequencies
- Incentives for top tier environmental performers
- Facilitated public access via the Internet to non-confidential documents (e.g., FOIA requests)
- Timely, accurate, and clearly presented permit and inspection guidance documents
- User-friendly, streamlined application forms

Opportunity 1: Streamline permit application process

Efficiency and Effectiveness Outcomes

- Easier to understand and complete correctly
- Speed up the review process

1. Develop an application form that is more structured and amenable to electronic completion and submissions. Also provide for electronic submittal of supporting materials (e.g., Quality Assurance/Quality Control plan) (U)
2. Authorize electronic signature information (U).
3. Improve permit application guidance to make it easier to understand and use by permit applicants. (U)
4. Implement a more formal approach to pre-application meetings to achieve outcomes such as agreement on functionally equivalent construction materials and designs that qualify for an expedited permit amendment review.* Alternatively, provide more clarity in regulations about permit amendment scenarios. (U)

*** See Opportunity 2, #4, for additional points regarding pre-application meetings**

Opportunity 2: Expedite permit review and issuance processes

Efficiency and Effectiveness Outcomes

- Reduce amount of time permit waits at DEQ without progress.
- Streamline communications and coordination (within DEQ, between DEQ and permittee).

1. Improve internal coordination between Part A, Part B and Part B ground water reviews (U)
2. Provide dedicated DEQ staff resource for Part A reviews with appropriate combination of technical and regulatory knowledge (e.g., geological engineering, hydrogeology) (C). Ensure backup is available and obtain feedback from regulated community by 1/31/06 on the success of this strategy. (U)
3. Assign an accessible single point of contact (SPC) within DEQ to coordinate and expedite communications with permittee. Define the SPC role and responsibilities, ensure proper training, and pilot and refine the approach (e.g., this will typically be the Regional Waste Program Manager). (U)
4. Encourage the use and usefulness of pre-application meetings to communicate DEQ permit process, including DEQ's timeline commitments and the impact of incomplete applications on the DEQ schedule. Do this for Part A, Part B, CTO, and closure review processes (U)
5. Conduct resource needs assessment as part of manpower allocation, including outsourcing evaluation to catch up on backlog. (U)
6. Improve consistency and continuity of permit review process during transitions (e.g., when permit writer changes) by managing staff to adhere to permit review expectations and norms. Clearly articulate and communicate these expectations and norms to managers and staff and document guidance accessible both to DEQ staff and the regulated community. (U)
7. Establish criteria for field inspections and review of submitted material at critical steps during construction and closure to expedite final CTO approval and final closure certification (U)
8. Adhere to existing permit review timelines (U)
9. Develop list or guidance for applicants and DEQ staff regarding "functionally equivalent" construction materials that qualify for an expedited permit amendment review. (U)

Opportunity 3: Strengthen risk-based, performance-based approaches to permitting to best utilize DEQ staff resources

Efficiency and Effectiveness Outcomes

- Speed review of approved alternatives
- Reduce level of effort spent on minor risks by permit writers, inspectors and permittees
- Refocus resources on ensuring consistent achievement of high standards of performance
- Increase opportunity to use DEQ resources for compliance monitoring of higher risk activities

1. Evaluate and revise regulations to incorporate a list of approved alternative designs that can be approved in the initial permit or a major permit amendment without going through the variance procedure. (U)
2. Amend regulations to distinguish whether specific kinds of changes (e.g., changes in kind, functionally or operationally equivalent changes) can be made by change order/notification rather than minor amendment process. (U)
3. Amend regulations to state that unless required by statute, public meetings and hearings will be held only when requested (U).
4. Establish hierarchy of DEQ review priorities, considering environmental protection objectives, the hierarchy of preferred waste management methods, and the applicant's business continuity issues. [Note: Benchmark states such as North Carolina that are successfully attracting and implementing preferred waste management methods such as composting, material recovery, and recycling.] (U)

Opportunity 4: Improve quality, consistency and relevance of permits

Efficiency and Effectiveness Outcomes

- More consistent permit and permit application quality.
- Improved likelihood of faster permit application review and processing, including resolution of differences between applicant and DEQ.
- Clearer, more concise permits are easier for permittees to understand, making compliance easier to achieve.
- Clearer, more concise permits are easier for inspectors to understand, improving compliance monitoring.

1. Provide timely and understandable technical guidance and training to ensure consistency in permit writers' interpretation of the regulations. Use real life scenarios to improve relevance and usefulness. (U)
2. Improve content of technical guidance to permit writers on conducting administrative and technical completeness reviews. Reinforce the guidance as part of permit writer training. (C)
3. Improve the format and structure of DEQ procedures and guidelines, for both internal use and for the regulated community, to make these more concise, usable, timely, and accurate. Make the format and structure consistent across DEQ. (U)
4. Make permit format more consistent and concise by identifying key requirements for inclusion, common permit conditions, and boilerplate as well as information in the application that can be addressed in the permit by reference. Craft a strawman for review by DEQ and regulated community and other stakeholders. Consider if regulatory changes are needed to accomplish this. (U)
5. Ensure that permit writers receive timely and applicable training appropriate to job duties. (U)
6. Reinforce communications expectations between permit writer and applicant. (U)

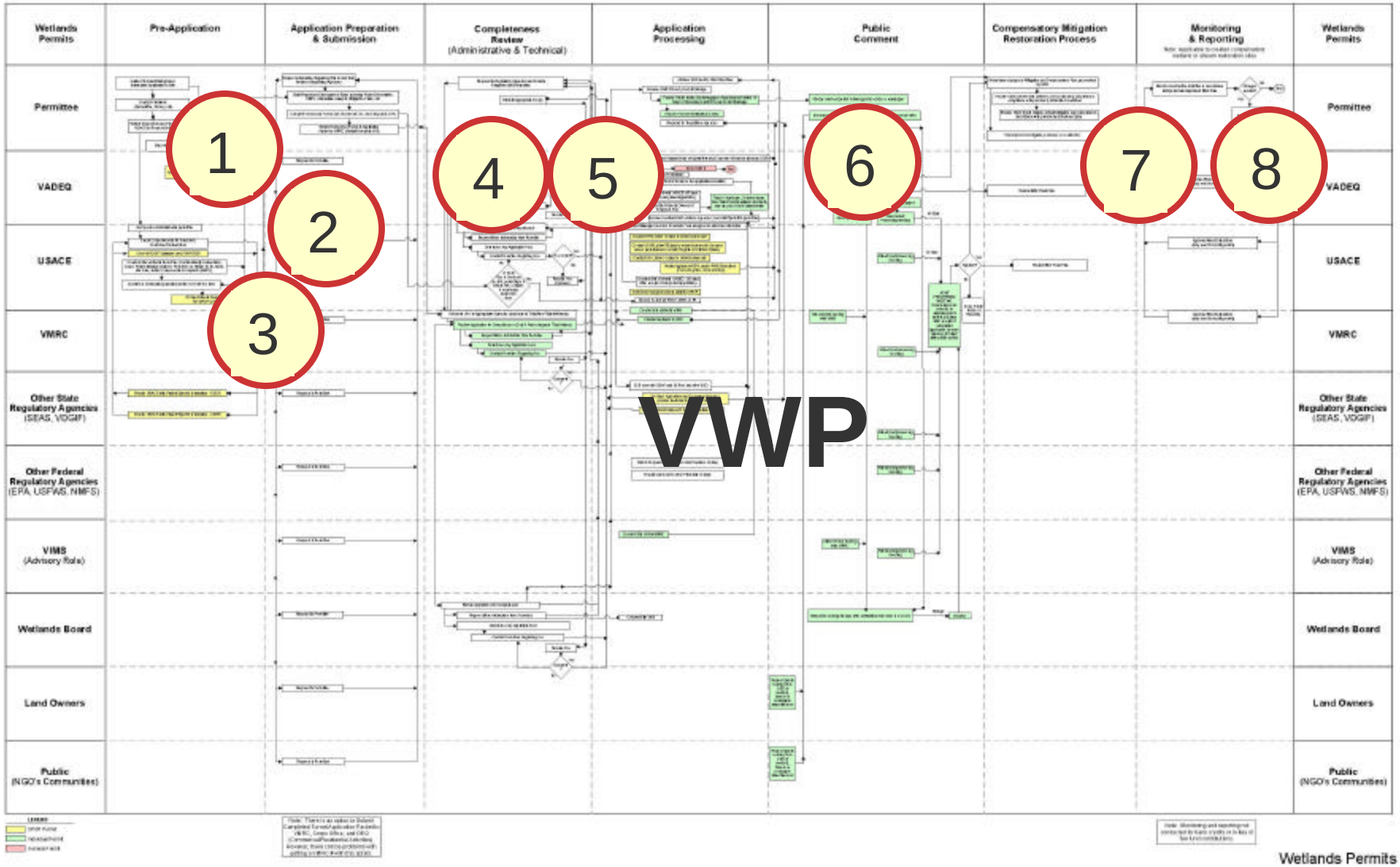
Opportunity 5 : Improve quality of inspections and timeliness of inspection reports

Efficiency and Effectiveness Outcomes

- More consistent inspection scope and execution.
- More communication/information transfer and certainty on findings before the inspector leaves locations (thus, fewer surprises)
- Faster creation of inspection checklists and reports.
- Timely issuance of inspection reports to permittee.

1. Reinforce communications expectations between inspector and permittee. (U)
2. Review agency guidelines with inspectors and provide training as necessary to ensure inspectors can discuss potential compliance issues with permittees at the completion of the field inspection and before leaving the site. (C)
3. Enhance inspector training through the inclusion of “real life” scenarios. (C)
4. Ensure adequate field oversight role for management to ensure consistency of inspection scope, quality and reports. (U)
5. Streamline input of routine data, preparation of inspection reports, and completion of inspection checklists. (U)
6. Re-emphasize with staff the importance of adhering to established guidelines on timely issuance of inspection reports. (C)

VWP Permit (IP & GP) & ACE (NWP, SPGP, RP)



Wetlands Permits 7-15-05

VWP Priority Opportunities
Context

- **The VWP program is 13 years old, significantly younger than other regulatory programs**
- **The law and regulations were extensively revised in 2000 – 2001, the workload increased and more staff were hired**
- **The program is very complex, with extensive overlaps between other state and Federal regulatory requirements (VMRC, USACE, Chesapeake Bay Preservation Act/DCR, US Coast Guard, local governments, DGIF, US Fish and Wildlife, USEPA, VDHR)**
- **The program is more subjective than other permit programs (it's more qualitative than quantitative)**
- **Turnover has led to less experienced personnel in the program**
- **"Avoid and minimize to the maximum extent practicable" is not an absolute and is designed for flexibility to ensure adequate environmental protection and allow development to occur.**
- **This can also lead to uncertainty and ambiguity for the permittee with respect to DEQ requirements and expectations**
- **This means that the permittee, the DEQ, and any other involved agencies can all benefit from a robust pre-application process which identifies key permit issues, records/documents agreements and disagreements over solutions, and which alleviates uncertainties**

VWP Priority Opportunities
Top Opportunities and Actions

1. **Improve the pre-application process**
2. **Improve alignment between DEQ and USACE permit processes**
3. **Improve multi-agency coordination**
4. **Streamline (adjacent and riparian) property owner notifications**
5. **Improve permit quality, consistency, and level of dedicated resources**
6. **Define a formal dispute resolution process**
7. **Streamline permit modification process**
8. **Increase permit post-issuance compliance assurance activities**

VWP Priority Opportunities
Relationship to Cross-Program Opportunities

The following improvements, identified as cross-program opportunities, are important to successful implementation of the VWP priority opportunities:

- Timely, accurate, and clearly presented permit and inspection guidance documents
- User-friendly, streamlined application forms
- Intra-program communications
- Workforce retention and competency development
- Technology and infrastructure that support emerging work models (e.g., telecommuters, job sharing)
- Risk-based inspection scopes and frequencies
- Facilitated public access via the Internet to non-confidential documents (e.g., FOIA requests)
- Electronic submittal of applications, attachments, and other documents

Opportunity 1: Improve pre-application process

Efficiency and Effectiveness Outcomes

- Improved quality and completeness of applications
- Improved staff understanding of the project
- Expedited review
- Increased understanding and certainty of likely project outcomes

1. Identify projects most appropriate for pre-application meetings. (U)
2. For identified project types, evaluate opportunities for providing incentives to applicant to participate in pre-application meeting (U)
3. Formalize a pre-application process and document meeting results (U)
4. Conduct pre-application scoping meetings with specific and unambiguous results for development projects, other significant projects where multiple agencies are involved in reviews (see Opportunity 7). (U)
5. Consider IACM-type coordination models including meetings and screening process to better coordinate agencies and local jurisdictions on key projects (U)
6. Clarify relationship between permit fee submittal and complete application (U)

VWP Opportunities

Opportunity 2: Improve alignment between USACE and DEQ permit application/amendment review processes

Efficiency and Effectiveness Outcomes

- Reduce non-value added work
- Speed up permit review and issuance
- Reduce duplication and redundant activities
- Allow DEQ staff to focus more attention on higher risk projects and compliance assurance

1. Identify steps in the process where coordination/discussion with USACE can reduce or eliminate duplication and redundancies and prepare strategy and implementation plan (U)
2. Increase activities/size of impact covered under SPGP to minimize redundant and overlapping jurisdictions [Note: Benchmark Pennsylvania] (E)
3. Consolidate USACE permit authority under DEQ (E)
4. Further discuss regulated communities' advocacy of use of Engineering Surveyors Institute to expedite completeness review and other permit review functions as a means of augmenting DEQ staff. (U)
5. Fix the disconnect and disparate timelines between the USACE nationwide permit determinations and DEQ completeness determinations (E)
6. Resolve/reconcile other permit overlaps and conflicting statutory timelines between DEQ and USACE permit processes . (U)
7. Coordinate USACE and DEQ confirmation site visits (both larger specialized projects and smaller, economically strategic projects). (C)

VWP Opportunities
Opportunity 3: Improve multi-agency coordination (DEQ, USACE, DCR, VMRC, others)

Efficiency and Effectiveness Outcomes

- Faster permit review and issuance.
- Labor and cost savings for permittee.
- Promote more informed decision-making, especially where controversies can occur

1. Establish clear lead agency roles and responsibilities. (U)
2. Identify strategy to reduce DEQ's No Permit Required (NPR) workload associated with USACE nationwide/regional permits. (U)
3. Create a process/establish an ombudsman for improved coordination and conflict resolution (e.g., SW3P, DEQ/DCR stormwater containment construction, E&S). (U)
4. Explore inter-agency teams/coordination improvements for development projects. (U)
5. Build on MOUs by continuing to identify opportunities to streamline interactions between DGIF, VDH, and DCR in areas such as endangered species, historic resources, and others (U)
6. Clarify differences in Federal and State endangered species lists to reduce applicant confusion and uncertainty (U)

Opportunity 4: Streamline property owner notifications

Efficiency and Effectiveness Outcomes

- Increase speed of administrative completeness review
- Allows permit writer to focus on the technical application

1. Distinguish and clarify definitions of directly adjacent landowners (USACE requirement) and riparian landowners (DEQ requirement). (U)
2. Clarify statue language re: what constitutes ½ mile downstream (this impacts definition of riparian landowners required to be notified). (E)
3. Reassign responsibility for adjacent and riparian landowner notifications from DEQ to permit applicant. As with solid waste program, require permit applicant to demonstrate good faith effort to notify applicable landowners. (E)

Opportunity 5: Improve permit quality, consistency, and level of dedicated resource

Efficiency and Effectiveness Outcomes

- Reduce permit review times
- Improved DEQ service consistency and quality
- Shorter learning curve for new permit writers
- Reduced rework

1. Strengthen and systematize training, guidance, mentoring, and internal communications to increase number and benefit of peer reviews, knowledge sharing opportunities, and transfer of best practices (U)
2. Explore funding mechanisms for dedicated permit resources. (U)
3. Establish a primary point of contact within DEQ to communicate with applicant on permit. (This can be done by assigning permit writers to a territory or other mechanism.) (E)
4. Conduct customer satisfaction surveys/implement other feedback mechanisms as inputs to DEQ staff performance management (e.g., recognition and reward). (U)
5. Utilize the DEQ workforce development plan to improve staff retention, training, and productivity (U)
6. Improve DEQ staff training, including regulatory context and nuance, permit review, USACE Reg 1 and Reg 2 courses (or similar to VA regulations). (U)
7. Develop and deploy improved guidance and policy on specific issues and better tools, such as interactive and cross-referenced permit manuals. Share these with the regulated community. (U)

Opportunity 6: Define a formal process for dispute resolution

Efficiency and Effectiveness Outcomes

- Clearer and more consistent decision-making process
- Quicker and more consistent resolution of disputes

1. Assign ultimate DEQ authority/ombudsman in instances where there are inter-agency or applicant/agency differences of professional opinion. (C)
2. Define a formal dispute resolution process, consistent with Virginia administrative law, for situations where the applicant and DEQ are unable to resolve differences using the routine permit process (C)

Opportunity 7: Streamline permit modification process

Efficiency and Effectiveness Outcomes

- Improve risk management strategies
- Free up staff resources to focus on more significant environmental risks

1. Establish classification system based on risk levels and link these to type/level of permit amendment. (E)
2. Expand category for minor modifications (E)
3. Establish timelines for modifications (U)
4. Customize steps in the permit review and issuance process to align requirements with risk levels (e.g., GPs don't get public notice, all individual permits (IPs) do get public notice). Identify needed changes to regulations to facilitate risk-based customized approach. (E)
5. Clearly explain and communicate the modification process to DEQ staff, permittees, and public. (U)

Opportunity 8: Increase permit post-issuance compliance assurance activities

Efficiency and Effectiveness Outcomes

- Compliance improvement.
- Minimize diversion of permit writing effort
- Improved risk management

1. Evaluate manpower requirements for increased inspection and monitoring. (U)
2. Utilize three-year USEPA grant to develop and implement an inspection strategy (U)
3. Apply for grants for inspections and investigate other funding opportunities. (U)
4. Define inspection scopes. (U)
5. Leverage partnerships with other agencies and other programs within DEQ to improve/increase compliance coverage. (E)
6. Identify cross-training needs for DEQ staff. (U)
7. Measure improvements in efficiency and environmental protection/total life cycle efficiency (this is a USACE performance measure). (E)
8. Identify efficiency opportunities regarding construction monitoring reporting, e.g., flexibility in how information is provided. (U)

Table of Contents

Multi-Stakeholder Process Results

- The Peer Review Teams identified 35 program-specific priority opportunities
- DEQ has significant opportunities to eliminate inefficiencies that will result in real internal savings
- Similarly, there are significant opportunities – in time savings, utilization of staff and consultant resources, more predictability in outcomes ---for the regulated community
- The identified opportunities will provide equivalent, if not greater, benefits to the environment
- The involvement of the Peer Review Teams has provided significant value to the process

Conclusions and Next Steps
Common Causes of Inefficiencies

- Program complexity
- Employee turnover
- Lack of alignment between procedural and inspection requirements
- Workload increases from implementing changes Federal and state laws and regulations
- Inconsistent understanding and application of regulations, interpretations and guidance
- Outdated and overly complex application forms
- Permit application, review and inspection guidance documents not current or completely accurate
- Lack of alignment between emerging work models (e.g., telecommuting, job sharing) and DEQ IT technology and infrastructure
- Mismatches between DEQ's database functionality and required uses
- Specific statutory requirements mandating unrequested public hearings
- Gaps in communication of requirements and expectations within DEQ and between DEQ and the regulated community

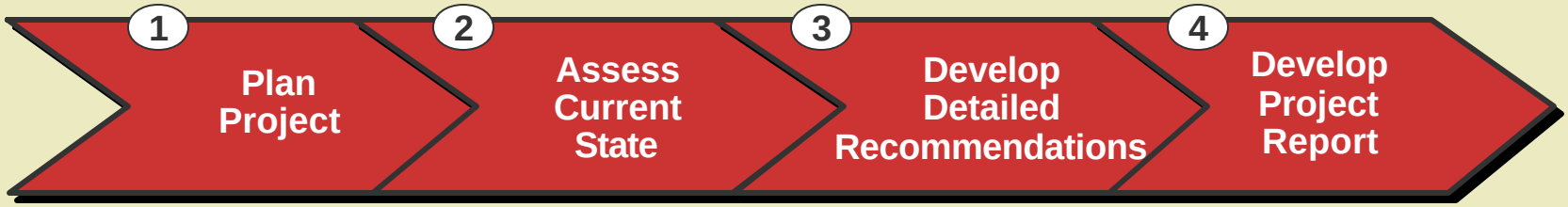
The identified opportunities can be characterized as follows:

- Few are quick fixes
- Some will require changes to laws and regulations
- Most will require additional time and resources (e.g., internal staff effort, external resources, technology support, and funding)
- Many will benefit from continued stakeholder involvement to identify root causes and formulate implementation plans

- **DEQ, along with its Peer Review Team partners, is poised to take the next steps:**
  - Evaluate the joint costs and benefits of the priority opportunities to the extent practicable
  - Evaluate the priority opportunities using criteria such as cost/benefit, level of difficulty, and likely timeline for implementation
  - Determine sequencing of implementation (with further input from stakeholders)
  - Develop action plans that detail what DEQ needs to do to accomplish each selected opportunity (e.g., scope, schedule, people)
  - Integrate the action plans into DEQ's Strategic Plan - 2010

Table of Contents

Methodology
Project Structure



PHILOSOPHY

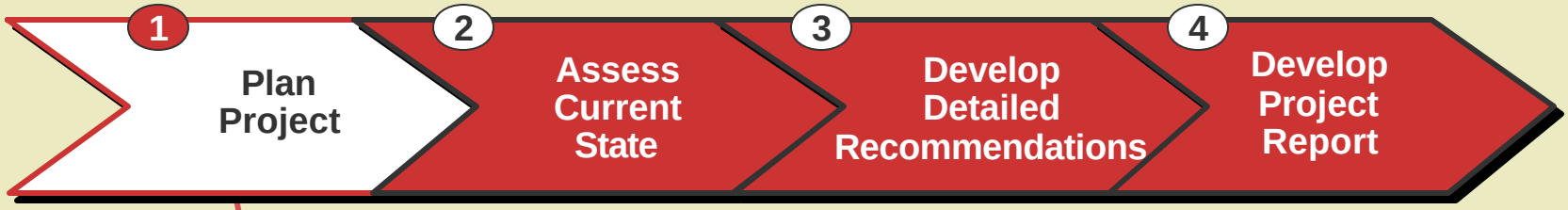
- **Be flexible in methodologies used based on needs**
- **Do high-level review to focus on priority opportunities, then drill down**
- **Engage stakeholders early and often; maintain good communications**

KEY ACTIVITIES

- **Direct interviews with service providers and customers; included focus groups**
- **Surveys to cost-effectively supplement interviews**
- **Reviews of guidance manuals, application forms, other key documents**
- **Process mapping to force detailed understanding and analysis; quantify costs and timing where possible**
- **Benchmarking**
- **Work sessions with key stakeholders to develop focused recommendations**

Methodology

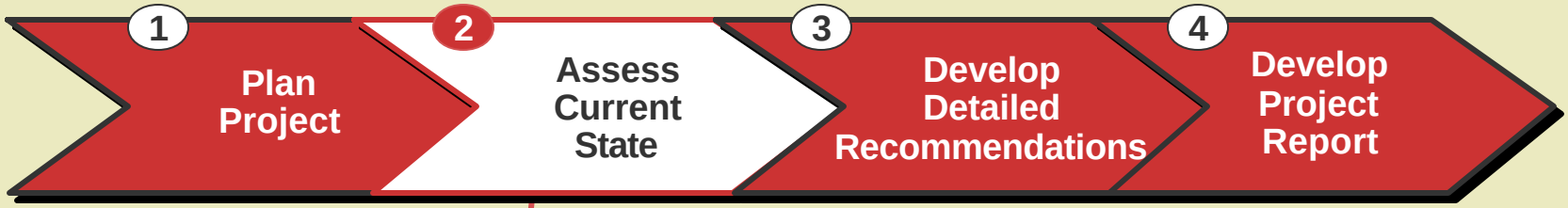
Project Schedule: November – December, 2004



1. **Plan and conduct kickoff meeting**
2. **Finalize project plan**

Methodology

Project Schedule: January – April, 2005



1. **Review existing documentation**
2. **Conduct interviews: 70+ in DEQ and 30+ external stakeholders**
3. **Survey regulated community (~125 responses)**
4. **Map existing processes**
5. **Conduct limited benchmarking in selected States**
6. **Identify opportunities and prepare summary lists for BPI work sessions**

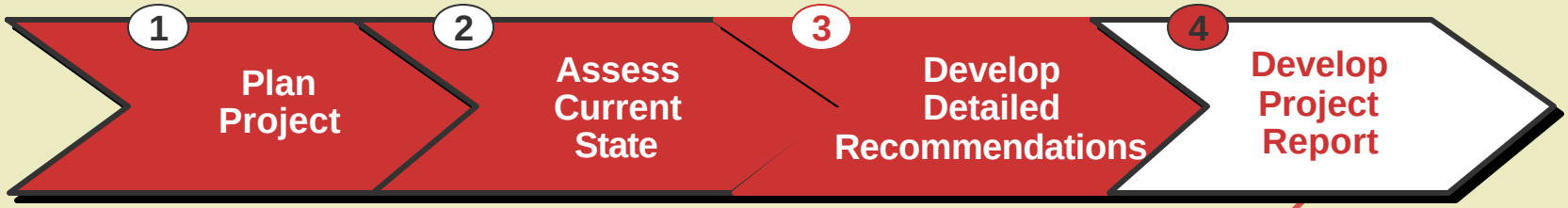
Methodology

Project Schedule: May – July, 2005

1. **Conduct BPI work sessions for each program area to agree on and work priority improvement opportunities**
2. **Validate/refine through further stakeholder engagement**
3. **Update process flow maps**

Methodology

Project Schedule: August - November2005



1. **Prepare draft report**
2. **Review report and opportunities lists with Peer Review Teams**
3. **Modify report and opportunities lists based on Peer Review Team input**
4. **Finalize report**

Table of Contents

Glossary of Acronyms

- **BACT-** Best Available Control Technology
- **CEDS-** Comprehensive Environmental Data System
- **CTO**– Certificate to Operate
- **DCR –** Department of Conservation and Recreation
- **DEQ-** Virginia Department of Environmental Quality
- **DGIF –**Department of Game and Inland Fisheries
- **DMR-** Discharge Monitoring Report
- **FOIA-** Freedom of Information Act
- **GP-** General Permit
- **HW-** Hazardous waste
- **IACM –** Inter-Agency Coordination Meeting
- **ICIS –** Integrated Compliance Information System
- **IP-** Individual Permit
- **LQG-** Large Quantity Generator
- **NGO-** Non-governmental organization
- **NOV-** Notice of Violation
- **NSR-** New Source Review
- **PRT-** Peer Review Team
- **PT-** Performance Track
- **RCRA-** Resource Conservation and Recovery Act
- **SQG-** Small Quantity Generator
- **SPGP –** State Programmatic General Permit
- **TSD-** Treatment , storage, disposal
- **USEPA-** United States Environmental Protection Agency
- **USACE** – United States Army Corps of Engineers
- **VDHR –** Virginia Department of Historic Resources
- **VEEP-** Virginia Environmental Excellence Program
- **VMRC** – Virginia Marine Resource Commission
- **VPDES-** Virginia Pollution Discharge Elimination System
- **VWP-** Virginia Water Protection Program

COMMONWEALTH of VIRGINIA

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L. Preston Bryant, Jr.
Secretary of Natural Resources

David K. Paylor
Director

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October 30, 2006

The Honorable Kirkland Cox, Chairman
House Committee on Agriculture, Chesapeake, and Natural Resources
1309 Appomattox Drive
Colonial Heights, VA 23834

The Honorable Vincent F. Callahan, Jr., Chairman
House Appropriations
P.O. Box 1173
McLean, VA 22101

The Honorable Charles R. Hawkins, Chairman,
Senate Committee on Agriculture, Conservation, and Natural Resources
P.O. Box 818
Chatham, VA 24531-0818

The Honorable John H. Chichester, Chairman
Senate Finance
P.O. Box 904
Fredericksburg, VA 22404-0904

Re: Supplemental Information to 2006 Senate Document 3
Review of DEQ's permit programs

Dear Gentlemen:

In November 2005, the Department of Environmental Quality (DEQ) provided you with results from a study conducted on the efficiency of DEQ's permit programs as required by passage of SB365 and HB1350 during the 2004 session of the General Assembly. This information has been posted on the General Assembly's website as 2006 Senate Document 3. DEQ continues to work with stakeholders to improve the agency's permit programs.

Enclosed you will find supplemental information to the 2006 Senate Document 3. Information relating to the solid waste permit program has been compiled and presented to you at the request of Solid Waste Program Peer Review Team members who represent regulated solid waste management facilities. This supplemental information includes additional program specific information to be provided to you in addition to the information included in 2006 Senate Document 3.

Additionally, over the course of the past year, ERM, the consulting firm selected to assist the agency with conducting a review of the permit programs, completed the development of a methodology to evaluate the adequacy and allocation of DEQ's staff in the permit programs. The results of their review are also enclosed. ERM identified steps the agency could consider implementing to minimize the impact employee turnover has on the efficiency of the agency's operations. ERM also suggested the agency continue to review staffing allocations to programs periodically to ensure that resources are deployed to meet the agency's strategic priorities.

This supplemental information will be posted on the agency's website at www.deq.virginia.gov in conjunction with the report that was issued in November 2005. If you have any questions concerning this supplemental information, please contact me at 804-698-4020.

Sincerely,

David K. Paylor

David K. Paylor

Enclosure

Supplemental Information to
2006 Senate Document 3

Solid Waste Program Peer Review Team Report

and

Virginia DEQ Permitting Process Efficiency Study
Agency Staffing Methodology Report

September 2006

Solid Waste Program Peer Review Team Report

Supplemental Information to
2006 Senate Document 3

Virginia Department of Environmental Quality

September 2006

Solid Waste Program Peer Review Team Report

Introduction

During the 2004 General Assembly, through passage of SB365 and HB1350, the permit fees assessed from regulated facilities were increased to replace general funds that were removed from the agency's budget. Included in these bills was a requirement for the Department of Environmental Quality (DEQ) to evaluate and implement measures to improve the long term effectiveness and efficiency of the solid waste permitting programs to ensure that maximum value is being achieved from the funding provided for the solid waste program. ERM, a consulting firm with experience in conducting similar reviews, assisted the peer review team with conducting this review. A separate report has been submitted that encompasses the Virginia Pollution Discharge Elimination System, Virginia Water Protection, Air, Hazardous Waste and Solid Waste programs. This report provides more detail on elements of the solid waste program.

Solid Waste Peer Review Team

A solid waste peer review team was formed to assist the agency with reviewing the solid waste program. The group was comprised of members familiar with the operation of solid waste facilities, and team members were recommended by the Virginia Waste Industries Association, The Solid Waste Association of North America, and the Southwest Virginia Solid Waste Management Association. DEQ program staff were also included on the team. Solid Waste Peer Review team members are listed in Attachment 1. The team focused on areas of the solid waste program that potentially could be improved the most, either by reducing costs or increasing efficiency for the regulated community or DEQ.

The solid waste program regulates over 470 active and closed facilities that treat, store, or dispose of solid waste. This includes solid waste landfills, transfer stations, incinerators, and other facilities that manage solid waste.

Solid Waste Permit Program Funding Information

No federal funds are available to support the solid waste program, and the program is currently funded through general fund appropriations and fees paid by regulated facilities. Prior to July 1, 2004, fees were collected for permit applications and all permit amendments. A new fee structure became effective July 1, 2004, that required fees for permit applications and major permit amendments, and annual fees. No fees are assessed for the processing of minor permit amendments. Annual fees are based on the operational status of the facility, and some annual fees are based on the amount of waste managed. In fiscal year 2005, the new fee structure provided funding for 53.6% of the direct solid waste program costs. The remainder of those costs, both direct and indirect, was paid for with general funds. Program funding information for fiscal year 2005 is presented in the table below. The FY 2005 Permit Program Evaluation Report is required to be submitted every even year and was submitted to the Virginia General Assembly by

January 1, 2006. The following information is based on the fiscal year 2005. The FY2005 Permit Program Evaluation Report is available at : http://www.deq.virginia.gov/regulations/documents/PERMIT.FEE.FY05.final.report.12.29.05.pdf

Solid Waste Program Costs

Direct Costs	$3,181,360
Indirect Costs	$998,909
Total costs	$4,180,269

Revenues

Permit Fee Collections	$1,705,560
Federal Funds	$0
Total non-general funding	$1,705,560

Program Funding Sources

Permit Fee Collections	$1,705,560
Federal Funds	$0
General Funds	$2,474,709
Total Funding	$4,180,269

Program Staffing

In July 2005 the agency had a total of 78 positions that work in the solid waste program. Some of these staff are dedicated to the solid waste program, while others work on solid waste projects and other projects outside of the solid waste program. The amount of time these 78 staff spend working on solid waste projects is equivalent to approximately 56 full time employees being dedicated to the solid waste program. In the past the agency has benefited from staff being trained in multiple programs. This allows the agency increased flexibility to handle changes in workload, allowing staff to be utilized to complete projects when turnover and vacancies occur. This flexibility allows the allocation of resources to be utilized more efficiently and minimizes disruptions caused by vacancies.

Solid Waste Program Staffing

# of people working in solid waste program	78
Approximate # of equivalent full time employees	56
Approximate # of positions funded by General funds	42
Approximate # of positions funded by fees	14
Approximate # of positions funded by tire program fees	1

Application and annual fees collected in the solid waste program are used to support activities conducted by staff in the waste division. The following table illustrates the position types and the number of staff that are filling those roles as of December 2005.

Position type	# of positions
Permit writers	8
Geologists	8
Regulation writers	3
Permit coordinator	1
Compliance coordinator	1
Inspector	24
Financial assurance	3

Attachment 2 is a list of all positions that work in the solid waste program as well an estimate of the percentage of time they work in the solid waste program. The actual percentages of time spent on solid waste issues by staff periodically vary, due to vacancies, special projects, and workload.

Workload analysis

The solid waste compliance program developed a workload analysis that assists the program with allocating available positions. The workload analysis considers the number, location, and types of regulated facilities, current agency priorities, and staffing levels of the program. Using this information, the agency is able to focus available resources to operate the solid waste compliance program. This workload analysis allows the agency to evaluate on an annual basis the number of facilities regulated, and the distribution of the staffing across the program to inspect the facilities. This tool is used to assist the agency with adjusting staffing levels to reflect changes in the distribution of facilities in the program. This is also a tool the agency uses to estimate the time and focus of inspections and initiatives. A copy of the workload analysis for fiscal year 2005 is included as Attachment 3.

Opportunities for improving the Solid Waste Program

Through conducting the review of the solid waste program, the Solid Waste Peer Review Team identified five key areas for improvement. The most difficult part of this review was the quantification of benefits of implementing opportunities. Due to the uniqueness of projects, quantification of the benefits to DEQ or the regulated community is difficult to identify. DEQ will continue to work with the Solid Waste Peer Review Team to assess the benefits that are realized from implementing the opportunities for improvement. The opportunities for improving the solid waste program are as follows:

1. **Streamline the permit application process**

2. **Expedite the permit review and issuance processes**
3. **Strengthen risk-based, performance-based permit approaches**
4. **Improve quality, consistency, and relevance of permits**
5. **Improve quality of inspections and timeliness of reports**

Attachment 4 contains more details on the specific benefits of implementing these opportunities, as well as tasks that need to be completed in order for the agency to implement them. Noted beside each task is the current status of the task, either that the task has been completed (indicated by the letter C), or plans are underway to implement the task (indicated by the letter U). In total 30 tasks were identified that needed to be completed to implement the opportunities identified by the Solid Waste Peer Review team. To date, 5 tasks have been completed and DEQ has assigned project teams and developed plans to complete the remaining tasks.

The opportunities identified by the Solid Waste Peer Review Team will take time to implement. Separate and apart from review and implementation of the recommendations, DEQ decided to include some items in DEQ's strategic plan- 2010. Action plans have been developed and the schedule for completing the tasks are well in advance of 2010. The Solid Waste program's progress towards implementing the opportunities identified can be tracked through the agency's website at http://www.deq.virginia.gov/info/permitreview.html . This website also provides information on staff working on the opportunities and the schedule that has been established for implementing tasks related to the opportunities. Over the course of the next year, the agency will be focusing efforts on streamlining the solid waste permit application and permit format, improving permit coordination, both internally and externally, and revising the permit workload analysis.

The information obtained from the Solid Waste Peer Review Team and agency staff has been valuable during this review process. DEQ is grateful for the time and effort expended by all on this project, and as a result of this study, DEQ, the regulated community, and the environment will receive many benefits. DEQ will continue to work with stakeholders on the implementation of the opportunities identified. Stakeholders are a valuable asset and DEQ hopes the stakeholders will be able to provide feedback to the agency in the future on benefits they have realized as a result of implementing these opportunities.

Attachment 1- Solid Waste Peer Review Team Members

Member	Organization	Representing
Bill Dennison	City of Bristol	SVSWMA
Aziz Farahmand	DEQ	West Central Regional Office
Joe Levine	New River Resource Authority	NRRA
Amarjit Riat	Fairfax County	SWANA
Leslie Romanchik	DEQ	Waste Division
Karen Sismour	DEQ	Waste Division
Lee Wilson	Waste Management, Inc.	VWIA

Attachment 2- Positions associated with the solid waste program, including approximate percentage of time spent working in the solid waste program

Position #	Position description	Approximate % of time allocated to solid waste*	Office location
P0619	compliance coordinator	100	CO-Waste
P4275	data specialist	100	CO-Waste
P0050	data specialist	40	CO-Waste
P1072	Enforcement	100	VRO
P4162	Enforcement	90	SCRO
P0641	Enforcement	50	PRO
P0891	Enforcement	50	TRO
P0933	Enforcement	50	TRO
P1068	Enforcement	50	NRO
P4024	Enforcement	40	NRO
P4291	Enforcement	25	SCRO
P4023	Enforcement	25	TRO
P4057	Enforcement	25	CO-Enforcement
P1064	Enforcement	10	SWRO
P4259	financial assurance	75	CO-Waste
P1136	financial assurance	60	CO-Waste
P4140	financial assurance	15	CO-Waste
P1144	Geologist	100	CO-Waste
P1151	Geologist	100	CO-Waste
P4272	Geologist	100	CO-Waste
P4273	Geologist	100	CO-Waste
P4274	Geologist	100	CO-Waste
P0509	Geologist	100	CO-Waste
P0545	Geologist	100	CO-Waste
P4061	Geologist	60	CO-Waste
P0627	Gw manager	60	CO-Waste
P4258	Inspector	100	PRO
P1120	Inspector	100	WCRO
P0263	Inspector	100	PRO
P0499	Inspector	100	SWRO
P0628	Inspector	100	PRO
P0656	Inspector	100	TRO
P1075	Inspector	100	NRO
P1079	Inspector	100	VRO
P4054	Inspector	100	TRO

P4060	Inspector	100	PRO
P4089	Inspector	100	PRO
P4091	Inspector	100	NRO
P4092	Inspector	100	NRO
P4105	Inspector	100	SWRO
P4150	Inspector	100	SCRO
P4103	Inspector	60	VRO
P0654	Inspector	50	WCRO
P4101	Inspector	50	WCRO
P0178	Inspector	40	VRO
P2014	Inspector	37	TRO
P0200	Inspector	25	PRO
P0633	Inspector	15	SWRO
P1074	Inspector	15	NRO
P1076	Inspector	15	NRO
P0987	Manager- regional	100	VRO
P0335	Manager- regional	90	WCRO
P1060	Manager- regional	90	NRO
P0580	Manager- regional	85	TRO
P0546	Manager- regional	75	PRO
P4145	Manager- regional	40	SCRO
P0040	Manager- regional	25	SWRO
P0625	permit coordinator	100	CO-Waste
P0541	permit writer	100	SWRO
P0559	permit writer	100	SCRO
P0583	permit writer	100	TRO
P0529	permit writer	100	PRO
P0544	permit writer	100	NRO
P0672	permit writer	100	VRO
P4048	permit writer	100	PRO
P4109	permit writer	100	WCRO
P0537	Permit manager	50	CO-Waste
P0961	recycle tax credits	75	CO-Waste
P4065	Reg. writer	100	CO-Waste
P4064	Reg. writer	75	CO-Waste
P0513	Reg. writer	55	CO-Waste
P4035	Regulations manager	65	CO-Waste
P0581	risk assess	30	CO-Waste
P1098	Secretary	100	CO-Waste
P0540	Secretary	25	CO-Waste
P0908	Secretary	25	TRO

P0357	Secretary	10	SWRO
P0611	Statistics	70	CO-Waste
Approximate # of equivalent full time employees		**56.17**	

* Actual percentages of time spent on solid waste issues periodically vary, due to vacancies, special projects, and workload.

Office Locations-
CO- Central Office
NVRO- Northern Virginia Regional Office
PRO- Piedmont Regional Office
SCRO- South Central Regional Office
SWRO- South West Regional Office
TRO- Tidewater Regional Office
VRO- Valley Regional Office
WCRO- West Central Regional Office

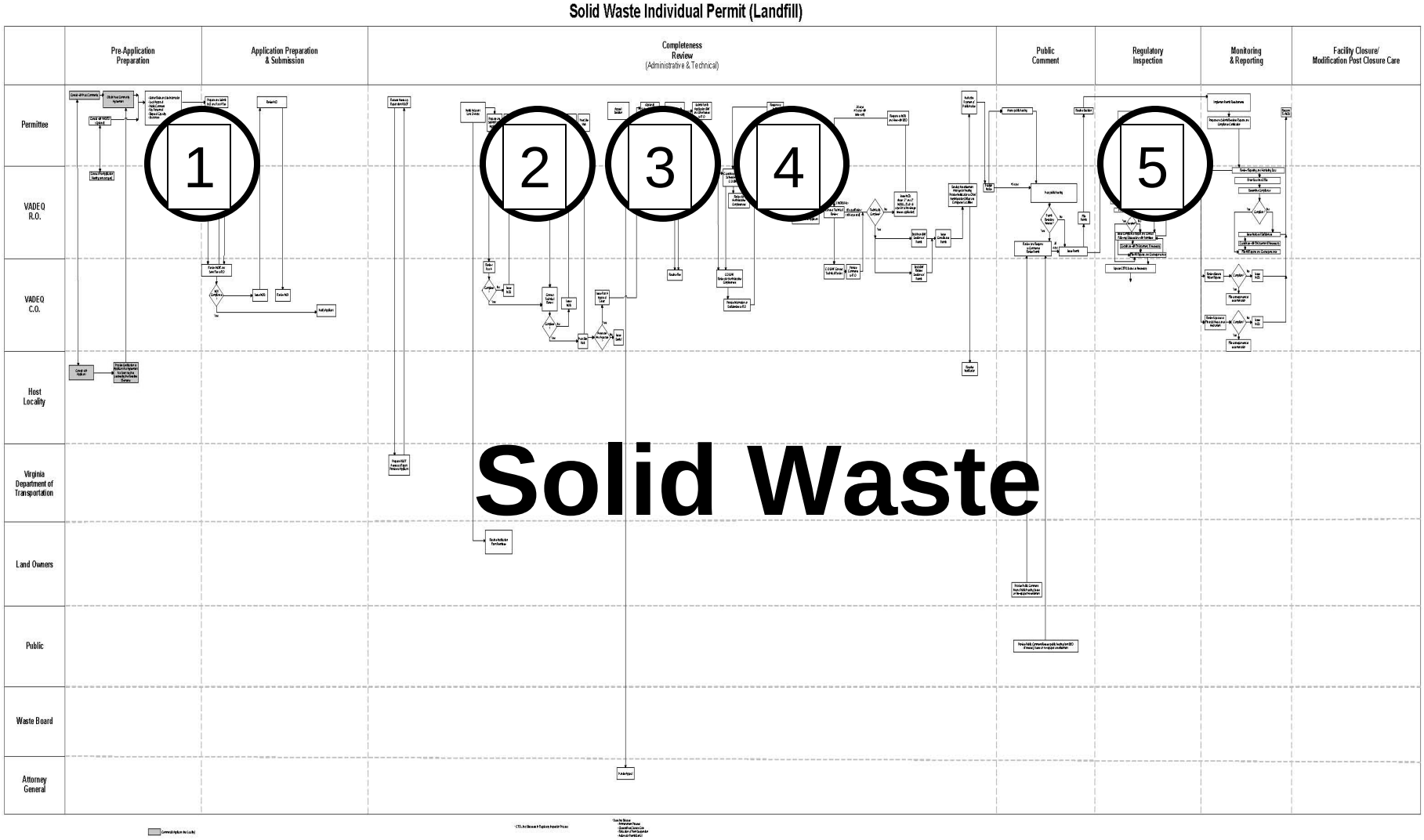
Attachment 3- Solid Waste Compliance Workload Analysis- Fiscal Year 2005

	FY05 Summary Solid Waste Compliance Workload Estimates						
Facility Status/Category	**Type of Facility**	**Number of Facilities or Actions**	**Average # of Inspections or Actions Per Year**	**Total Number of Inspections or Actions / Year**	**Average Hours Per Inspection or Action**	**Total Hours**	**Total Positions Needed**
Active Facilities							
Landfills	Sanitary Landfill	58	4	232	24	5,568	3.48
	Industrial Landfill	26	4	104	24	2,496	1.56
	CDD Landfill	17	4	68	24	1632	1.02
	Total Landfills	101		404		9,696	**6.06**
Treatment & Storage	Incinerator/Energy Recovery	7	4	28	16	448	0.28
	Material Recovery Facility	31	4	124	16	1984	1.24
	Transfer Station	54	4	216	16	3456	2.16
	Composters	14	4	56	16	896	0.56
	Miscellaneous	1	4	4	16	64	0.04
	RMW Alternate Treatment	5	4	20	16	320	0.20
	RMW Steam Sterlizer	14	4	56	16	896	0.56
	RMW Storage	1	4	4	16	64	0.04
	RMW Incinerator	2	4	8	16	128	0.08
	Landfill Mining	1	4	4	16	64	0.04
	Barge	1	26	26	24	624	0.39
	Total Treatment & Storage	131		546		8,944	**5.59**

Totals For All Active Facilities		232		950		18,640	**11.65**
Inactive Facilities							
	Sanitary Landfill	9	4	36	24	864	0.54
	Industrial Landfill	6	4	24	24	576	0.36
	CDD Landfill	6	4	24	24	576	0.36
	Incinerator/Energy Recovery	0	4	0	16	0	0.00
	Material Recovery Facility	1	4	4	16	64	0.04
	Transfer Station	1	4	4	16	64	0.04
	Composters	5	4	20	16	320	0.20
Totals For All Inactive Facilities		28		112		2,464	**1.54**
Post-Closure Facilities							
	Sanitary Landfill	95	1	95	16	1,520	0.95
	Industrial Landfill	15	1	15	16	240	0.15
	CDD Landfill	19	1	19	16	304	0.19
	Material Recovery Facility	1	1	1	16	16	0.01
	Other (Unpermitted)	20	1	20	16	320	0.20
Totals For All Post-Closure Facilities		150		150		2,400	**1.50**
Other Assignments							
	Complaints	519	1	519	7	3,633	2.28
	Compliance Assistance (5%)	16.7	1	16.7	100	1,670	1.06
	Waste Tire Inspections/Certificate	185	1	205	4	820	0.53
	Enforcement Support	42	1	42	4	168	0.14

	Groundwater Monitoring Reports	272	1	272	3	816	0.50
	New Regs/guidance	7	4	28	5	140	0.07
	Technical Permit Review	7	4	28	5	140	0.07
	Special Waste Request Review	81	1	81	2	162	0.11
	Training (5%)	16.7	1	16.7	100	1,670	1.06
	Brownfields/VRP/BFPP	117	1	117	10	1,170	0.74
	PREP/DEM Support	84	1	84	4	336	0.21
	EPA/CERCLA/Site Assess	84	1	84	4	336	0.21
	Community Outreach	7	10	70	4	280	0.21
	10 year permit review	31	1	31	5	155	0.12
	Surface Water Initiative/Guidance	7	12	84	8	672	0.42
	SWIA reports	239	1	239	1	239	0.16
	CEDS Maintenance	7	15.7	110	4	440	0.31
Totals For All Other Assignments		1,722.4		2,027.4		12,847.0	**8.03**
Special Assignments							
	Committees	14	6	84	5	420	0.28
Totals For Special Assignments		14		84		420	**0.26**
Grand Total For All Regions Workload		**2,146.40**		**3,323.40**		**36,771.00**	***22.98***

Attachment 4 Opportunities for Improving the Solid Waste Permit Program


Solid Waste Individual Permit (Landfill)
Pre-Application Preparation
Application Preparation & Submission
Completeness Review (Administrative & Technical)
Public Comment
Regulatory Inspection
Monitoring & Reporting
Facility Closure/ Modification Post Closure Care
Permittee
VADEQ R.O.
VADEQ C.O.
Host Locality
Virginia Department of Transportation
Land Owners
Public
Waste Board
Attorney General
1
2
3
4
5
Solid Waste

Solid Waste Priority Opportunities
Context

- **Permits have been required since 1971 with major revisions in 1988 and 1993**
- **The program was federally approved in 1993 but is not federally funded**
- **Annual permit fees are set by statute which required completion of this report with Peer Review Team participation**
- **Annual fees and permit action fees do not cover the full cost of the program (general funds are needed to make up the difference)**
- **Information on how these funds are used to support the program, staffing needs, and any efficiencies realized would ensure this evaluation process meets the expectations of some of the study participants.**
- **A report on fees collected to support the solid waste program as well program expenditures is prepared bi-annually as required by statute.**

Solid Waste Priority Opportunities
Top Solid Waste Opportunities and Actions

1. **Streamline permit application process**
2. **Expedite permit review and issuance processes**
3. **Strengthen risk-based, performance-based permit approaches**
4. **Improve quality, consistency, and relevance of permits**
5. **Improve quality of inspections and timeliness of reports**

Solid Waste Priority Opportunities
Relationship to Cross-Program Opportunities

The following improvements, identified as cross-program opportunities, are important to successful implementation of the solid waste priority opportunities:

- Intra-program communications
- Workforce retention and competency development
- Technology and infrastructure that support emerging work models (e.g., telecommuters, job sharing)
- Risk-based inspection scopes and frequencies
- Incentives for top tier environmental performers
- Facilitated public access via the Internet to non-confidential documents (e.g., FOIA requests)
- Timely, accurate, and clearly presented permit and inspection guidance documents
- User-friendly, streamlined application forms

Opportunity 1: Streamline permit application process

Efficiency and Effectiveness Outcomes

- Easier to understand and complete correctly
- Speed up the review process

1. Develop an application form that is more structured and amenable to electronic completion and submissions. Also provide for electronic submittal of supporting materials (e.g., Quality Assurance/Quality Control plan) (U)
2. Authorize electronic signature information (U).
3. Improve permit application guidance to make it easier to understand and use by permit applicants. (U)
4. Implement a more formal approach to pre-application meetings to achieve outcomes such as agreement on functionally equivalent construction materials and designs that qualify for an expedited permit amendment review.* Alternatively, provide more clarity in regulations about permit amendment scenarios. (U)

*** See Opportunity 2, #4, for additional points regarding pre-application meetings**

Opportunity 2: Expedite permit review and issuance processes

Efficiency and Effectiveness Outcomes

- Reduce amount of time permit waits at DEQ without progress.
- Streamline communications and coordination (within DEQ, between DEQ and permittee).

1. Improve internal coordination between Part A, Part B and Part B ground water reviews (U)
2. Provide dedicated DEQ staff resource for Part A reviews with appropriate combination of technical and regulatory knowledge (e.g., geological engineering, hydrogeology) (C). Ensure backup is available and obtain feedback from regulated community by 1/31/06 on the success of this strategy. (U)
3. Assign an accessible single point of contact (SPC) within DEQ to coordinate and expedite communications with permittee. Define the SPC role and responsibilities, ensure proper training, and pilot and refine the approach (e.g., this will typically be the Regional Waste Program Manager). (U)
4. Encourage the use and usefulness of pre-application meetings to communicate DEQ permit process, including DEQ's timeline commitments and the impact of incomplete applications on the DEQ schedule. Do this for Part A, Part B, CTO, and closure review processes (U)
5. Conduct resource needs assessment as part of manpower allocation, including outsourcing evaluation to catch up on backlog. (U)
6. Improve consistency and continuity of permit review process during transitions (e.g., when permit writer changes) by managing staff to adhere to permit review expectations and norms. Clearly articulate and communicate these expectations and norms to managers and staff and document guidance accessible both to DEQ staff and the regulated community. (U)
7. Establish criteria for field inspections and review of submitted material at critical steps during construction and closure to expedite final CTO approval and final closure certification (U)
8. Adhere to existing permit review timelines (U)
9. Develop list or guidance for applicants and DEQ staff regarding "functionally equivalent" construction materials that qualify for an expedited permit amendment review. (U)

Solid Waste Priority Opportunities

Opportunity 3: Strengthen risk-based, performance-based approaches to permitting to best utilize DEQ staff resources

Efficiency and Effectiveness Outcomes

- Speed review of approved alternatives
- Reduce level of effort spent on minor risks by permit writers, inspectors and permittees
- Refocus resources on ensuring consistent achievement of high standards of performance
- Increase opportunity to use DEQ resources for compliance monitoring of higher risk activities

1. Evaluate and revise regulations to incorporate a list of approved alternative designs that can be approved in the initial permit or a major permit amendment without going through the variance procedure. (U)
2. Amend regulations to distinguish whether specific kinds of changes (e.g., changes in kind, functionally or operationally equivalent changes) can be made by change order/notification rather than minor amendment process. (U)
3. Amend regulations to state that unless required by statute, public meetings and hearings will be held only when requested (U).
4. Establish hierarchy of DEQ review priorities, considering environmental protection objectives, the hierarchy of preferred waste management methods, and the applicant's business continuity issues. [Note: Benchmark states such as North Carolina that are successfully attracting and implementing preferred waste management methods such as composting, material recovery, and recycling.] (U)

Solid Waste Priority Opportunities

Opportunity 4: Improve quality, consistency and relevance of permits

Efficiency and Effectiveness Outcomes

- More consistent permit and permit application quality.
- Improved likelihood of faster permit application review and processing, including resolution of differences between applicant and DEQ.
- Clearer, more concise permits are easier for permittees to understand, making compliance easier to achieve.
- Clearer, more concise permits are easier for inspectors to understand, improving compliance monitoring.

1. Provide timely and understandable technical guidance and training to ensure consistency in permit writers' interpretation of the regulations. Use real life scenarios to improve relevance and usefulness. (U)
2. Improve content of technical guidance to permit writers on conducting administrative and technical completeness reviews. Reinforce the guidance as part of permit writer training. (C)
3. Improve the format and structure of DEQ procedures and guidelines, for both internal use and for the regulated community, to make these more concise, usable, timely, and accurate. Make the format and structure consistent across DEQ. (U)
4. Make permit format more consistent and concise by identifying key requirements for inclusion, common permit conditions, and boilerplate as well as information in the application that can be addressed in the permit by reference. Craft a strawman for review by DEQ and regulated community and other stakeholders. Consider if regulatory changes are needed to accomplish this. (U)
5. Ensure that permit writers receive timely and applicable training appropriate to job duties. (U)
6. Reinforce communications expectations between permit writer and applicant. (U)

Solid Waste Priority Opportunities

Opportunity 5 : Improve quality of inspections and timeliness of inspection reports

Efficiency and Effectiveness Outcomes

- More consistent inspection scope and execution.
- More communication/information transfer and certainty on findings before the inspector leaves locations (thus, fewer surprises)
- Faster creation of inspection checklists and reports.
- Timely issuance of inspection reports to permittee.

1. Reinforce communications expectations between inspector and permittee. (U)
2. Review agency guidelines with inspectors and provide training as necessary to ensure inspectors can discuss potential compliance issues with permittees at the completion of the field inspection and before leaving the site. (C)
3. Enhance inspector training through the inclusion of “real life” scenarios. (C)
4. Ensure adequate field oversight role for management to ensure consistency of inspection scope, quality and reports. (U)
5. Streamline input of routine data, preparation of inspection reports, and completion of inspection checklists. (U)
6. Re-emphasize with staff the importance of adhering to established guidelines on timely issuance of inspection reports. (C)

Virginia DEQ Permitting Process Efficiency Study

Agency Staffing Methodology Report

September 2006

Completed by ERM for the Virginia Department of Environmental Quality

Virginia DEQ Permitting Process Efficiency Study

Agency Staffing Methodology Report

September 2006

Delivering sustainable solutions in a more competitive world

ERM

Virginia Department of Environmental Quality
Agency Staffing Methodology Report

Table of Contents

Virginia Department of Environmental Quality

Permitting Process Efficiency Study

Agency Staffing Methodology Project

I. Project Objectives

In October 2004, ERM received a contract from the Virginia Department of Environmental Quality (DEQ) to conduct a comprehensive evaluation and review of the regulatory environmental permitting cycle to determine opportunities for process streamlining and cost savings. This contract was to be completed by November 2006. One of the tasks of this contract required the contractor (ERM) to develop methodology to evaluate the adequacy and allocation of DEQ's staff in the permit programs.

This report addresses the specific task of developing the methodology to evaluate the agency staffing levels and allocation. The balance of the deliverables for this contract were submitted previously.

To conduct this review, ERM conducted interviews with DEQ staff both in the Central Office and in regional offices. A previous study conducted internally by DEQ in 1999-2000 was also reviewed for applicability to this study.

II. Background of Project

In 2004, the General Assembly enacted legislation (Senate Bill 365 and House Bill 1350) directing DEQ to conduct a study, led by an outside consulting firm that would "evaluate (i) operational changes that would improve the efficiency and effectiveness of the agency's operations, (ii) ways to reduce the costs of compliance, and (iii) the adequacy and appropriateness of staffing levels to meet state and federal requirements". Subsequently, ERM was selected in late 2004 as the consultant to DEQ to assist them in conducting the process efficiency study. In late 2005, ERM issued its report that dealt with

the first two issues; efficiency and effectiveness of DEQ's operation, and opportunities to reduce the costs of compliance.

This report addresses the final requirement that a methodology be recommended in order to evaluate the adequacy and allocation of DEQ's staff in the permit programs. The information presented and recommendations are largely based on discussions with DEQ staff, reviewing previous studies conducted by DEQ and professional judgments.

III. Approach to Study

The study was conducted by ERM with the full co-operation and participation of DEQ management and staff. Data gathering for the complete study was largely derived from interviews and surveys of DEQ staff, regulated community representatives and non-governmental organizations. In addition, other state environmental agencies were researched and used as benchmarks for many process improvement opportunities.

During the course of the interviews with DEQ staff and outside organizations, the issue of the adequacy and appropriateness of the DEQ staff often was raised. However, the opinions offered were anecdotal in nature and not based or derived from any analytical tools. Some members of the DEQ staff would express the opinion that additional staff was needed but this was generally based on the current workload. Those interviewed from outside organizations generally commented on the "adequacy" of the DEQ staff in terms of technical competency. Both DEQ staff and the outside organizations often commented on the "adequacy" of the DEQ staff in terms of needing more training. This issue was often directly related to the higher than normal staff turnover rate being experienced in early 2005. The training and turnover issues were highlighted in the previous ERM report and will not further analyzed here. Analytical tools to access proper staffing levels from interviewed outside organizations were not available.

Other states' environmental agencies were solicited for any analytical methods used to access staffing levels. This effort was mostly conducted with state environmental directors during meetings of the Environmental Council of States. Though other states have conducted formal studies to evaluate their permitting process, none appear to have developed methodology to access staffing levels.

One of the consequences of staff turnover, be it derived from resignation or retirement, is that the replacement employee will most likely not have the same efficiency as the former employee who may have had one to thirty years (or more) of experience and training. ERM asked DEQ managers to comment on the relative efficiency or effectiveness of permit and compliance staff as their tenure with the agency increases. Once again the opinions offered were anecdotal and subjective but there was some general agreement that the efficiency progressed over the first five years of employment and then "plateaued" for the purposes of significant efficiency improvements thereafter.

The main reason that DEQ and other states' environmental agencies can only offer subjective opinions on the adequacy of staffing levels is that they do not track employees' time by specific activity. For instance, air staff must track Title V related work as that is a Federal requirement to use Title V derived permit fees to support staff work. However, the hour-by-hour specific project tasks are not tracked. Consequently, the number of hours needed to do a certain type of permit task is based on the best professional judgment of the program management which can have significant inconsistency. Also, the relative efficiency of an experienced employee compared to an inexperienced employee cannot be likewise determined. This issue will be discussed further in the Recommendations section of this report.

It should be noted that DEQ and other states environmental agencies do track permit issuance in terms of days since the receipt of a complete application. This is a useful management tracking tool and is of particular interest to the permit applicant. This metric does not give an adequate metric for permitting staff adequacy or effectiveness.

IV. Efficiency and Experience

It will be the assumption of this study that employees with more experience in a position are more efficient and effective at doing their job than are employees with less experience. Based on DEQ input, this study will also assume for planning purposes that an employee's efficiency increase is much more pronounced in the first five years of experience than in subsequent years.

To derive a staffing adequacy methodology, the relative efficiency of the staff must be included in the analysis. The surrogate that will be used for efficiency in this proposed methodology is experience in the current position or experience in the media program. From discussions with DEQ management, five years of experience was rated as being able to fully function in their current position. Therefore, employees with five years of experience will be assigned an efficiency factor of 1.0. The table that follows is a demonstration of a sample matrix of how a random employee's expected efficiency can be categorized based on the experience level. A general justification is also shown. It should be noted that these values are for modeling only and should be confirmed by the detailed time/task tracking mentioned previously.

Table 1: Employee Efficiency Relation to Experience

Number of years experience	Experience and Training	Efficiency Factor
< 2 years	Receives basic training, handles simple tasks and trains under senior staff	.50
2-3 years	Receives more advanced training and has reduced senior staff oversight but still requires more time to research subjects	.65
3-5 years	Training is supplemental. Able to handle more complex permits with minimal management oversight. Research time is reduced and over the course of the time most experiences are encountered.	.85
5+ years	Fully functional. Able to perform all tasks with minimal review. Able to train newer employees.	1.0

V. Internal DEQ Workload Analysis

In 1999 the DEQ Executive Management Team commissioned an internal study to analyze the staff allocation across the agency for the various regulatory functions. This study was conducted by several senior staff members from the central office as well as from regional offices. The report was completed and delivered to the Executive Management Team in September 2000.

This study was very comprehensive in scope and included a great deal of detailed analysis. The purpose of the study as stated in the reports summary "was to provide average activity / program levels that can be used across the Agency for workload analysis and planning". The report summary also noted that the times-per-task data was based on the best estimates of the experienced staff since detailed hourly task tracking is only minimally utilized. The study committee also investigated if other states in EPA Region III and Ohio had conducted any analytical studies involving empirical data. The committee reported that "none of those contacted were aware of a model that would address resource allocation within and across media.

The report notes that this study did not cover all the variables such as peak / off peak workloads, employee turnover impact, and experience levels. In the report each task within each program was assigned a hourly rate to complete and the expected number of those specific tasks in each region was listed. This resulted in a staff-hours required per program / activity area. This gross number was then divided by 1636 hours that each employee would likely have to work in these tasks (444 hours were assumed for vacations, administrative tasks, etc.). The product of this division was the number of full time equivalent (FTE) employees that would be needed in that program area in that region. This number was then compared to the FTE employees currently available to determine the deficit or excess of employees for that regional program. The amount of detail was fairly consistent program to program for work done in Regional Offices but the Central Office functions were not analyzed in any significant detail.

This study was used by the Executive Management Team to determine the proper staffing levels for the purposed West Central Regional Office in Lynchburg and to have an understanding where resources could be re-programmed from other regional offices if the workload study illuminated areas that may have an excess of staffing resources. The West Central

Regional Office was created in 2001. ERM was unable to determine if this Workload Study had been used for planning purposes since that time.

The 2000 Workload study assigned hourly per task rates based on the experience of the senior staff involved in the study. ERM was provided with an hourly task rate chart currently used by the Valley Regional Office (VRO) air permit program as a guide when allocating permit work among the air permit staff there. This chart has twelve different categories with times ranging from 8 hours for the simplest task up to 500 hours for a PSD / Complex Title V permit. It was noted that the number of hours in the this regional office's program chart for a particular task was often remarkably different than the hourly task rates for a similar task in the 2000 Workload study. For example, the 2000 Workload study assigned 1000 staff hours for a PSD permit whereas the Valley air permit office assigned a value of 500 hours for the same task. This observation is made not to judge the validity of either value but demonstrate the subjectivity, though both were derived by very experienced managers. For a proper methodology to be accomplished, complete time accounting for specific tasks would need to be conducted.

ERM was also provided with an hourly task rate chart being used by the Northern Regional Office (NRO) water permit program for estimating the staff time to perform certain tasks that are common in the Virginia Pollutant Discharge Elimination System (VPDES) permit process. This chart gives that manager a wide range of hours for each task. For instance, a new major industrial VPDES permit would have an expected staff time commitment of 150-300+ hours. Though this chart is likely useful as a guide for a day-to-day basis, it would not be adequate for staffing allocation considerations as the hourly ranges are too broad. The Water Permits section of the 2000 Workload study did not assign specific hours to each task type; instead the hours for that task were aggregated for that regional office and the algorithm. This makes comparisons with the Northern Regional office guide impractical. It should also be noted that no other regional water permits program uses this guide nor is ERM aware that any other regional water permit program has a similar guide.

During the discussion with the NRO water permit manager, the issue of public hearings was brought up. He pointed out that his chart showed an average expected time to complete all components that make up a public hearing to be approximately 120 staff hours. It should also be noted that in the 2000 Workload report, the time for a public hearing for a water permit would appear to be no more than 34 staff hours. In the same study, air permitting did not break out public hearings as a separate task. The VRO air

permit hour/task guide did not have a specific task value for public hearings but it appears from comparing task descriptions that the expectation is that the public hearing process is expected to take approximately 80 hours. This discussion on public hearings illustrates a potential need to track certain sub-tasks within a main task (e.g. issuing a VPDES permit). In this case, the manner by which a regional office conducts public hearings could have an effect on the number of hours to complete the permit that would not be related to the efficiency of the individual permit writer.

VI. Methodology

The analysis process used by the Workload study in 2000 was comprehensive and useful but used subjective data. In addition, that study did not account for the effects of various degrees of experience in determining the effective fully functional FTE employees available for a particular program area. Incorporate the efficiency factor into the analysis increases the complexity of the analysis and it may be useful to develop a simple computer program to run the analysis for the entire agency including variable staffing level scenarios. Otherwise each program area within each office will have to calculate the effective staffing levels for themselves.

Table 2, on the next page, outlines the methodology for determining the effective staffing level present from year with certain scenarios shown. These scenarios are shown as examples only. Again, a simple computer program could be developed to handle the many staffing permutations that could be encountered.

The first column shows a typical staffing distribution within a regional office. This column would be used as the baseline staffing scenario. For this scenario, the program manager has determined that the current staffing level is adequate for the expected workload. Once this is determined, the effects of staff turnover can be seen. For the purposes of this methodology, the efficiency factors that are in Table 1 of this report are used.

Table 2: Methodology for DEQ Staffing Assessments-Typical Regional Staffing Scenario

	Baseline Staffing Years Experience/ Efficiency Factor (Exp./Eff.)	Scenario# 1 Sr. Staff Leaves Position #1; Year Passes (Exp./Eff.)	Scenario# 2 Year Passes; No Turnover (Exp./Eff.)	Scenario# 3 Mid-level Staff Leaves Position #4 ; Year Passes (Exp./Eff.)	Scenario# 4 Scenario# 3 plus Sr. Staff Leaves Position #2 (Exp./Eff.)
Position 001	5+ / 1	1 / .5	2 / .65	3 / .85	3 / .85
Position 002	5+ / 1	5+ / 1	5+ / 1	5+ / 1	1 / .5
Position 003	3+ / .85	4+ / .85	5+ / 1	5+ / 1	5+ / 1
Position 004	2 / .65	3 / .85	4 / .85	1 / .5	1 / .5
Position 005	<1 / .5	<2 / .65	<3 / .65	3+ / .85	3+ / .85
Total Effective Staff	4.0	3.85	4.15	4.2	3.7

The table shows a staff experience distribution between five staff positions. Two employees are senior, one mid-level, one junior level and one who has recently been hired. Using the efficiency factor, the net effect is four total equivalent fully functional staff. For the purposes of this demonstration, it is assumed that the staff turnover occurs at the beginning of the year and the staff evaluation is occurring at the end of the year. It is also assumed that the position is replaced immediately upon vacancy.

Each change has a corollary effect on the total equivalent fully functional (TEFF) staff. In Scenario #1, a senior staff person leaves DEQ. He is replaced by a new hire. This changes the TEFF level to below the level considered adequate to perform the program functions in a timely manner but not significantly. This situation will be discussed again later in this report.

In Scenario #2, a year passes with no turnover but the TEFF staff rating goes above the baseline level because the staff has grown in experience. In Scenario #3, a mid-level person leaves and is replaced with a new hire but at the end of the year, the TEFF staff level is still higher than the previous year because the growth in experience in the remaining staff during the year more than offsets the loss in experience of the mid-level employee. Finally, in Scenario #4, the conditions of Scenario #3 are complicated by a concurrent loss of a senior level employee that is replaced by a new hire. In this case, the TEFF staff level may be considered significantly below the threshold needed to perform the program activities in a timely manner. This last scenario is meant to mimic a high turnover rate that hopefully is temporary.

This methodology also illustrates a misconception regarding staffing levels. It is sometimes suggested that staffing needs to be augmented because the work load is more than the staff can handle. For instance, in the case of Scenario #4, the need for additional resources could be felt from delays in getting permits completed on time. If a sixth position were added, and the turnover rate dropped, the staffing for this program would likely be in 5+ TEFF staff level the next year and would therefore be in a significantly over staffed condition. Instead, this methodology shows that within a year the TEFF staff level will have returned to the baseline staff level. Of course all of this assumes that no new significant program requirements are added to the workload which would change the baseline staff requirements.

This methodology also adds emphasis to many of the issues raised in the main permit process improvement study. The significance of staff turnover and training can be seen to directly translate into program staff effectiveness. Further, if a analytical staffing methodology is not used, then the full effectiveness of the permit process improvement study cannot be realized.

VII. Recommendations

This report has demonstrated that an analytical methodology for accessing staff levels can be a critical tool to the DEQ management. The 2000 Workload study was a significant step forward in developing this methodology but it was limited by the lack of empirical data to support hypotheses of the expected levels of effort needed to perform the various activities.

This methodology also illustrates that effective program staffing levels can be effected by turnover even when all positions are presently filled due to the loss of experience. This can result in temporary staff deficiencies that may need to be made up from additional resources. However, this methodology also shows that adding additional FTE's may be counter to the long term efficient utilization of the available FTE's. Instead, it is suggested that alternative supplemental staff resources be set up to deal with "holes" in the staffing. Some of these were outlined in the permit process improvement study and may be repeated again here. Possible sources of supplemental staffing are:

- Utilization of staff from other regions. This can be particularly applicable to the issuance of permits. The new Document Management system being implemented will be critical to the success this potential resource management tool;

- Utilization of P-14 temporary staff to add TEFF staff level. This option would need experienced outside labor as training inexperienced P-14 staff to be there only six months is not efficient. DEQ should seek to determine the potential workforce supply of temporary workers that could fill these needs. This workforce, for example, could consist of DEQ retirees or other former employees that could be part time workers;

- The methodology assumed that vacant positions are filled immediately which is not realistic. Replacing open positions often takes three months from vacancy to start date. This time gap creates a "hole" with a zero

TEFF staff level for that position during that time which can have serious consequences for program performance expectations. It is recommended that for planned turnover due to retirement, DEQ internal promotions, or other long notice resignations that the hiring process commence before the actual vacancy occurs in order to reduce the effect on the TEFF staff level; and

- During periods of high turnover, it is recommended that DEQ advertise for general positions that may not be vacant but is probable to be vacant during the next few months. In this way, applicants are in the process of being evaluated for hire and could be brought in much faster.

The methodology demonstrated in this report and the methodology used in the 2000 Workforce study both require empirical data to be accurate for use by DEQ management. When the 2000 Workforce study was begun, electronic time sheets were just coming into use. Today, electronic time sheets that can be utilized to track specific time spent on tasks are commonplace and used widely in the private sector to "charge" projects with employees' time. These systems are not difficult to implement and provide information for management that would be critical for the implementation of accurate staff level determinations as well as for other management functions. In addition, this empirical data could be useful in planning for future programs where the functions would be similar.

It is recommended that DEQ:

- Implement a task time tracking system that program staff would input electronically as an extension of their current timesheet system. Project codes could be registration or permit numbers for permit work and facility numbers for inspections. Other functions such as training, vacations, etc. would be assigned administrative codes;

- After one year of empirical data, the proposed methodology should be completely reviewed and adjusted as appropriately. This would likely impact the staff hour predictions for task completion as well as the employee efficiency factors;

- If a full Agency wide task time tracking system cannot be implemented, then it is recommended that a significant demonstration project be undertaken that would be separate from the normal electronic time sheet system and would capture this same task time data in another data base . This would involve several staff in the regional offices and central office to

track specific task times. The staff selected would have to have various experience levels and encompass the breadth of the different programs;

- Certain sub-tasks (e.g. conducting public hearings) within a major task should be tracked to determine if they are being implemented consistently among the regional offices;

- It is recommended that the periodic evaluation of the DEQ staffing level through an analytical method such as presented in this report be incorporated into the Agency's Strategic Plan so that proper planning in response to the periodic assessment can be undertaken. It is recommended that the Agency staffing levels be fully reviewed at least every two years, near the beginning of the Virginia Biennial Budget cycle so that the Director and his senior staff can insure that the staffing levels reflect the Agency's priorities; and

- It is further recommended that the existing Workload study from 2000 be utilized to assess the allocation of the Agency's Full Time Equivalent (FTE's) employees among the Agency's various programs and administrative tasks. The Agency's environmental programs and administrative functions change over time. As programs mature, new programs are started, or as Agency priorities change, the staffing levels in each respective program may change. Therefore the various activities should be periodically evaluated to determine if the Agency should re-allocate the available FTE's to meet the current business requirements.