



# WV DEP

Electronic Submission System

March 2017

Promoting a healthy environment

www.dep.wv.gov

West Virginia Department of Environmental Protection

Electronic Submission System

The screenshot shows the homepage of the West Virginia Department of Environmental Protection (DEP). At the top, there is a green header with the 'west virginia' logo, 'State Agency Directory | Online Services', and a search bar labeled 'Search WV DEP'. Below the header is the DEP logo and the text 'west virginia department of environmental protection - Promoting a Healthy Environment'. A navigation bar includes links for 'DEP Offices | Agency History | News | Outlook Web Access | Text size A A A'. A large banner image shows a pond with reeds and trees. Below the banner are four main sections: 'Air', 'Land', 'Water and Waste', and 'Inside DEP'. Each section has a representative image and a list of links. A large green arrow points to the 'Electronic Submission System' link in the 'Permitting' section.

**Air**  
Division of Air Quality Home  
Air Quality Index  
Open Burning Regulation  
Air Monitoring Data  
Permit Application Forms  
Policies  
See More

**Land**  
REAP  
Abandoned Mine Lands and Reclamation  
Division of Mining and Reclamation  
Office of Oil and Gas  
Special Reclamation of Abandoned Mine Lands  
See More

**Water and Waste**  
Water and Waste Home  
303(d) List  
Water Withdrawal Guidance Tool  
Permitting  
Water Use  
Aboveground Storage Tanks  
See More

**Inside DEP**  
Environmental Advocate  
Contact the Executive Office  
Environmental Enforcement  
Youth Environmental Program  
Public Information Office  
Proposed Legislative Rules  
See More

**Permitting**  
Narrative Water Quality Permitting Guidance  
Electronic Submission System  
DEP's Document Management

**How Do I...?**  
Find a job with DEP  
File a FOIA Request  
Find a Public Notice  
Request a Permit

**Agency Geospatial Technologies**  
ITO's GIS Unit  
Map Applications  
GIS Data

**Events**  
Environmental Protection Advisory Council Meeting  
03/16/2017  
DEP Earth Day Celebration  
04/22/2017

# Overview of Function

- Accepts Water, Waste, Mining, Oil and Gas and soon Air Permit applications, Permit Modifications, Permit Transfers and Compliance Data.
- Public interface for submissions to be public at the regulatory groups discretion some are automatic some are manual.
- Data in ESS is migrated into Regulatory information systems in Mining and Water used to semi automatically generate permits.
- ESS tracks all changes in the correction process and all changes of forms.
- We have over 10,000 industry users.

# Lessons Learned

- In retrieving old information we save versions of code and submissions so two versioning processes.
  - One for Data Submitted recording changes in the applicants submissions.
  - The other for Form changes due to changes in regulatory needs.
- Cluster-able web application is essential to meet scale of need.
  - The original application was not cluster-able using session variables.
  - We used Cold Fusion server application memory sharing and load balancers to enable clustering.
- Oracle Standard edition save money on licenses spend on hardware.
  - We could not afford performance with Enterprise oracle.
- Form Builder application
  - App to semi automate creation of forms speeds development approx 10 fold.

# Dollars - Costs

- 15 people full time to write over two years, 2 people to maintain.
- Cluster of 5 servers, Load Balancers, Web Application Firewall.
- Licenses for Cold Fusion Web application server.
- ORACLE RAC Standard Edition two node cluster (500Gb memory, 40 Cores, 6TB raid 10 , plus flash for redo).

# Credit Card Payment via State Treasury.



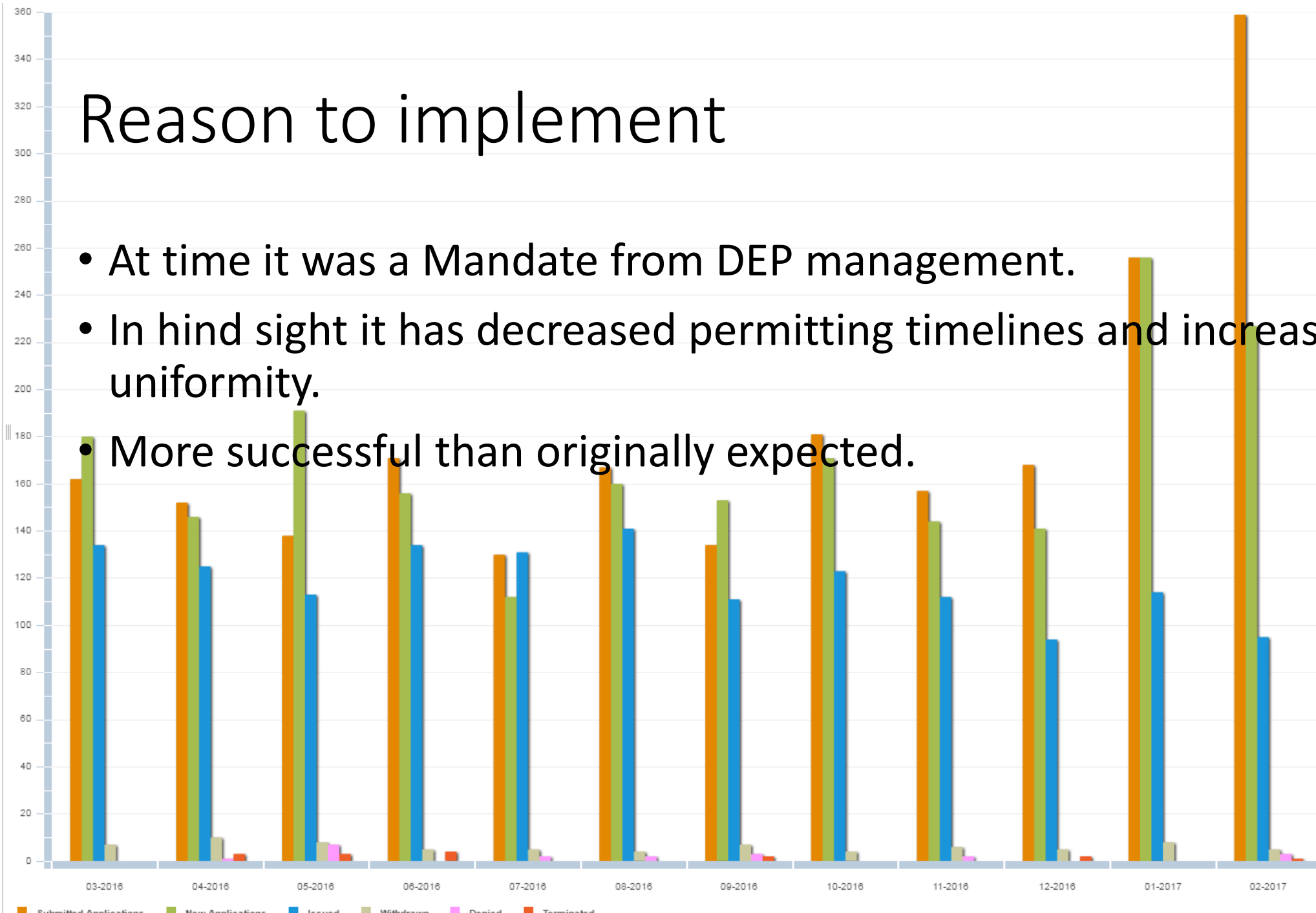
**John Perdue**  
West Virginia State Treasurer

Payment for permits is due prior to processing and can be done quickly online.



# Reason to implement

- At time it was a Mandate from DEP management.
- In hind sight it has decreased permitting timelines and increased uniformity.
- More successful than originally expected.



# Stage of Development

- 80% complete in terms of applications for DEP Mining, Water. Remaining is Air, more OOG and Waste.
- Air is currently in development (10 application types).



# CROMERR – our application is in progress.

- Our application is in progress
- Our ESS system is unique in terms of COPY of RECORD so we have to educate and persuade USEPA to get a fair review.

# Application types

1	<b>Coal Field Development</b>
6	Hydrologic Protection Unit
29	Mining and Reclamation
1	Oil and Gas
15	Water and Waste Management
5	Waste Management