

Air Pollution Control Division Stationary Sources Data Modernization Project Plan

Joint Technology Committee
December 15, 2022

Community Engagement Excerpt

Paper based



Electronically based

Information on request



Information on demand

Complex data



Complex data understood

Division's data needs



Everyone's needs

Stationary Sources System Project Summary

- A capital IT project to modernize the outdated stationary sources data system used by CDPHE, Air Pollution Control Division (APCD).
 - FY23: Year 1, \$4.1M
 - FY24: Year 2, \$4.5M
- The Stationary Sources database is the primary technology tool used by APCD to manage permitting, inspections, enforcement, compliance, billing, emissions, and data reporting associated with stationary sources
- The system scope is broad with 2,500 companies and 14,000 facilities
- Stationary source regulated entities include oil and gas, power utilities, manufacturing, construction, landfills, agriculture, mining, and retail (e.g., gas stations, dry cleaners)
- The Stationary Sources Database is an outdated technology – (developed in the mid-1990's)
- The system is paper-based, inefficient, and lacks critical functionality and agility

The Vision

- **Expedited Processes:** Timely processing of permits and inspection, compliance and enforcement work needs. Current systems directly contribute to bottlenecks and backlogs
- **Digital Services:** Transition away from outdated and inefficient paper-based system to an electronic workflow environment.
- **Streamlined Work:** Streamlined business processes and efficiencies across all applicable work products.
- **Data Reporting:** Improved data reporting, transparency and better public access to information.
- **Stakeholder Customer Service:** Reallocation of staff time will facilitate pro-active management, process improvements, responsiveness and stronger customer service.

Community Engagement Excerpt

Where we believe there may be gap in our thinking...

- Is air quality better than it was a decade ago?
- How is my air quality today?
- How many of the permit actions are pending?
- What's happening at the facility down the street?
- Is there an exceedance of emissions?
- How risky is it to live in this neighborhood?

We know the data system improvements will not close all of the gaps AND we want to address as many gaps as we can...

Process Mapping - Complete!

33 Total Processes Mapped

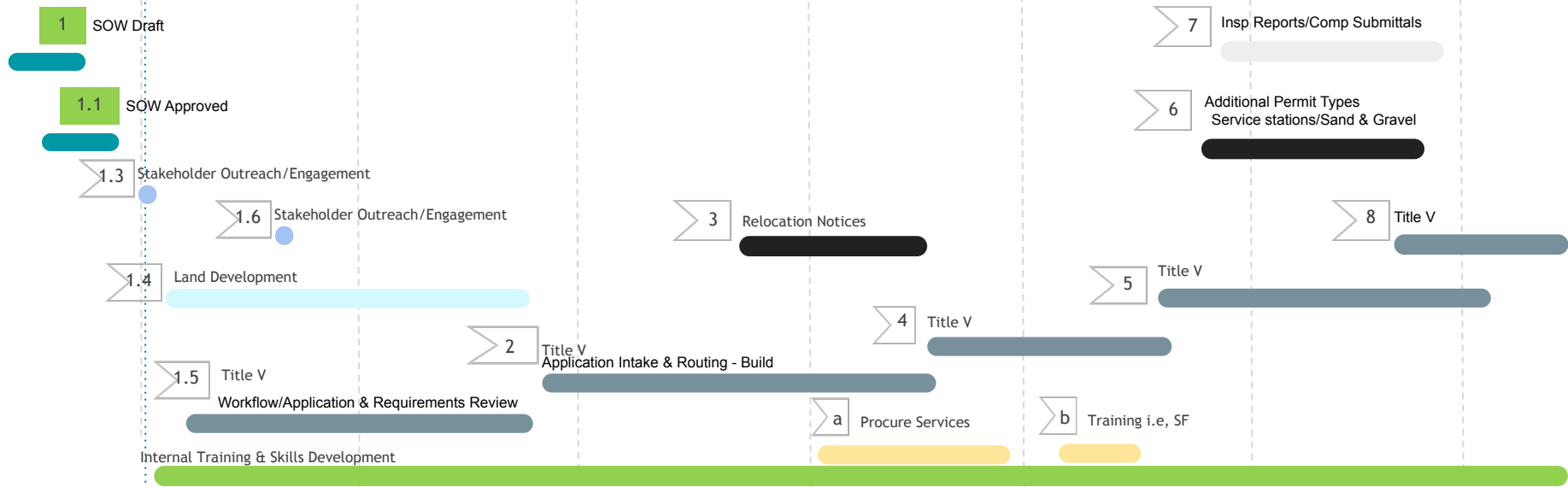
- General Permit Construction Permit } POC Workflow: Land Development
- ✓ Major Source (Title V) Permitting
- ✓ Relocation Notices
- ✓ Compliance Reports
- Inspection Report
- Title V Reporting
- Notice of Startup
- Stack Testing
- Settlements
- Self Audit
- Prescribed Fire
- Compliance Order/Consent Modifications
- Supplemental Environmental Project Agreements
- Landfill Design Capacity Reports
- Maximum Available Control Technology (MACT) and New Source Performance Standards (NSPS) Reports
- Landfill Gas Collection and Control
- Landfill Gas Collection and Control Systems (GCCS) Plans

- Landfill Design Capacity Reports
- Maximum Available Control Technology (MACT) and New Source Performance Standards (NSPS) Reports
- Landfill Gas Collection and Control Systems (GCCS) Plans
- Startup/ Shutdown/ Malfunction Reports
- Complaints
- New Source Performance Standards (NSPS) 0000 Annual Reports
- Regulation No. 7 Oil & Gas Emission Inventory Reports
- Mercury Reports
- Excess Emission Reports (EERs)
- Maximum Available Control Technology (MACT) and New Source Performance Standards (NSPS) Reports
- Infrared (IR) Camera Inspections
- Operation and Maintenance Plans
- Operation and Maintenance Plans (Oil & Gas)
- Operation and Maintenance Plans Modifications (Oil & Gas)
- Recertification and Relative Accuracy Testing Audits (RATAs)
- Continuous Emission Monitoring System (CEMS) Certification and Operation

<u>Process</u>	<u>Level of Effort (LOE)</u>
Land Development (GP & CP) - POC	Medium
Major Source (Title V) Permitting	High
Relocation Notices	Low - Medium
Compliance Reports	Low - Medium
Other Permit Types	Low - Medium

✓ Target processes after Proof of Concept

Roadmap/Target Schedule - Next 12 Months - Salesforce



today

	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
<ul style="list-style-type: none"> ✓ SOW drafted SOW signatures SmartComment purchased Fiscal Consultation Meeting 	<ul style="list-style-type: none"> Forms creation Platform established Title V flow mapping re-review 	<ul style="list-style-type: none"> Land Development Build Process mapping verification (as needed) 		<ul style="list-style-type: none"> Application Online Intake & Form 		<ul style="list-style-type: none"> SF Record/Platform setup and Build for Title V 		<ul style="list-style-type: none"> Training Procure Services 					2023

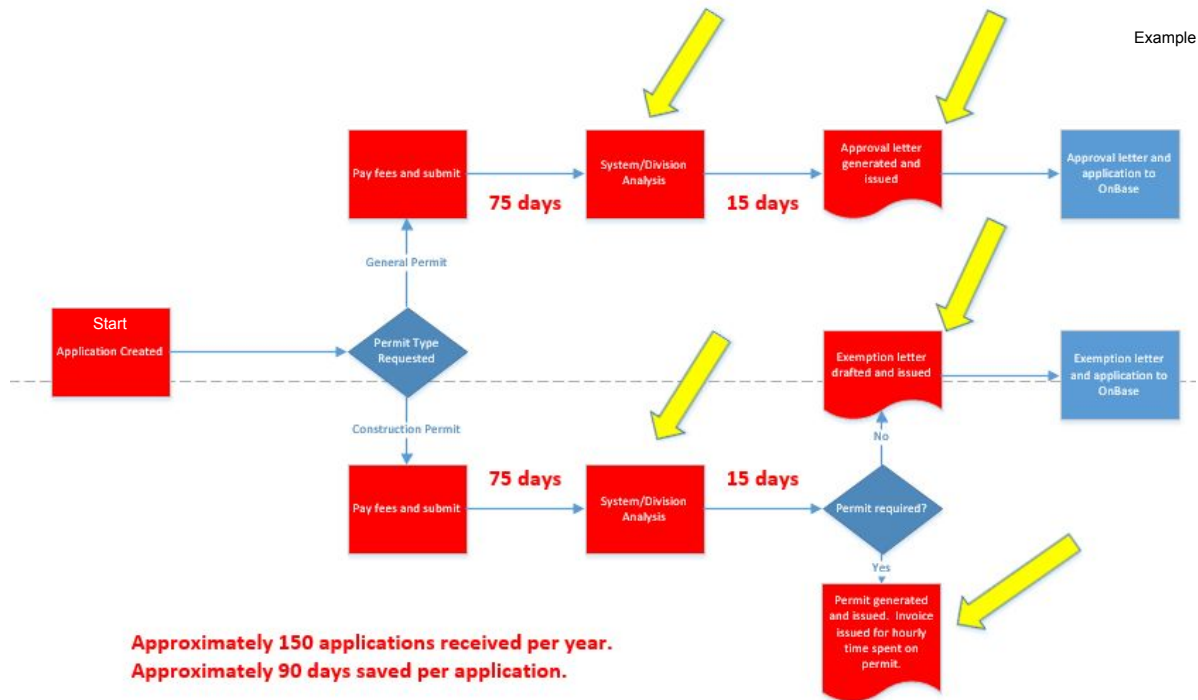


Desired health

Current health

Workflow: Land Development (POC)

Land Development Application Process



Value

- Customers may submit application in digital format, providing much greater convenience and accessibility
- With successful POC, staff will not need to process land development applications
- This work flow can be expanded upon to include other permit types (service stations, gravel pits, incinerators, etc)

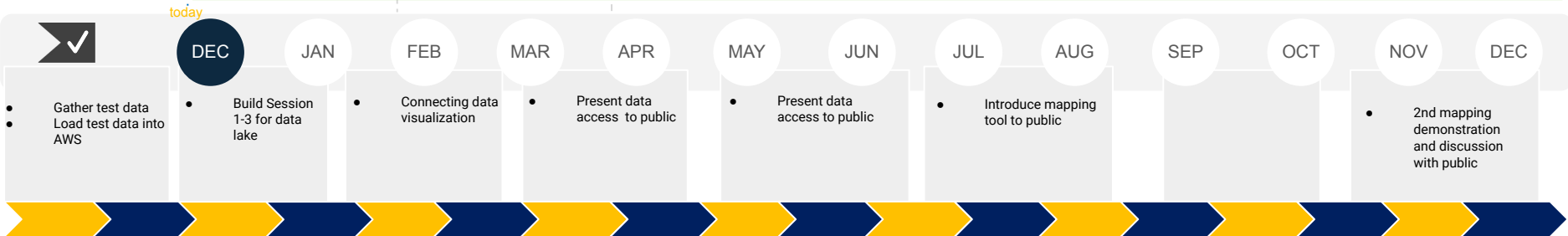
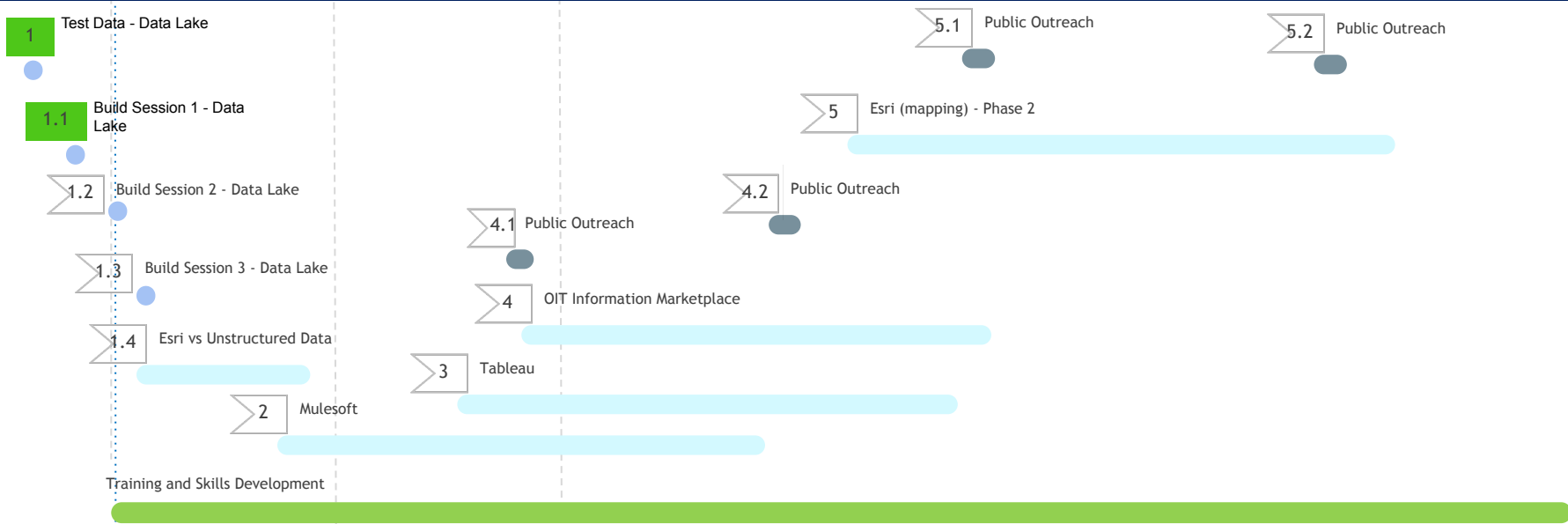
Remaining Processes for Years 2, 3, 4+

- ✓ • Inspection Report
- ✓ • Title V Reporting
- ✓ • Notice of Startup
- ✓ • Stack Testing
- ✓ • Settlements
- ✓ • Self Audit
- Prescribed Fire
- ✓ • Compliance Order/Consent Modifications
- ✓ • Supplemental Environmental Project Agreements
- ✓ • Landfill Design Capacity Reports
- ✓ • Maximum Available Control Technology (MACT) and New Source Performance Standards (NSPS) Reports
- ✓ • Landfill Gas Collection and Control
- ✓ • Landfill Gas Collection and Control Systems (GCCS) Plans

- ✓ • Landfill Design Capacity Reports
- ✓ • Maximum Available Control Technology (MACT) and New Source Performance Standards (NSPS) Reports
- ✓ • Landfill Gas Collection and Control Systems (GCCS) Plans
- ✓ • Startup/ Shutdown/ Malfunction Reports
- ✓ • Complaints
- ✓ • New Source Performance Standards (NSPS) 0000 Annual Reports
- Regulation No. 7 Oil & Gas Emission Inventory Reports
- ✓ • Mercury Reports
- ✓ • Excess Emission Reports (EERs)
- ✓ • Maximum Available Control Technology (MACT) and New Source Performance Standards (NSPS) Reports
- Infrared (IR) Camera Inspections
- ✓ • Operation and Maintenance Plans
- ✓ • Operation and Maintenance Plans (Oil & Gas)
- ✓ • Operation and Maintenance Plans Modifications (Oil & Gas)
- ✓ • Recertification and Relative Accuracy Testing Audits (RATAs)
- ✓ • Continuous Emission Monitoring System (CEMS) Certification and Operation

26 of 29 Remaining Processes Build from POC

Roadmap/Target Schedule - Next 12 Months - Amazon Web Services



Recent Accomplishments

Staffing - Data Manager, Product Owner, and Data Visualization Specialist hired

CDPHE-OIT Partnership

- Enterprise and Data Architect support hired
- Salesforce proof of concept - licenses being purchased and building has begun
 - Immediate Focus: Land development application receipt and workflow processing
- Evaluating Salesforce, an OIT approved, and is a low-code/no-code solution

- Amazon Web Services data lake is under development
 - Proof of concept is underway as we hold build sessions and integrate with other tools (Tableau, MuleSoft, existing database, ArcGIS)

- Public Comment Software purchased-SmartComment
 - Software is an off-the-shelf tool used and recommended by other states

Thank you!

Erick Scheminske, Chief Operating Officer, CDPHE

Kris Kiburz, Senior IT Director, OIT

Michael Ogletree - Division Director, APCD

Jim Reasor, Deputy Director of Business Operations, APCD

Stephen Johnson, Business Technology Manager, APCD

Adam Wozniak, Business Product Owner, APCD

JTC Presentation

Vital Event System of Colorado (VESCO) Phase II

Electronic Death Registry (EDR) and other Vital Record systems Replacement

12/15/2022

Agenda

- Situation
- Background
- Assessment
- Request
- Takeaways

Situation

Each of the current vital records systems suffer from 1 or more of the following issues:

- Aging with poor technology debt scores (D and below).
- Requiring connections to other older systems to enable functionality.
- Utilize paper based processes with data entry on OIT unsupported Microsoft Access databases.
- Little to no interoperability options.
- Outdated and unsupported servers at eFort.



Background

Current Electronic Death Registry (EDR) system

- Vendor managed system went live in 2015.
- Has an OIT technology debt score of D.
- Requires connectivity to either the current Electronic Birth Registration (EBR) or VESCO to issue death certificates and account management.
- No interoperability with Coroner or Funeral Home systems.
- EDR (and EBR) housed at eFort on aging Microsoft 2008 SQL servers.



Background (cont.)

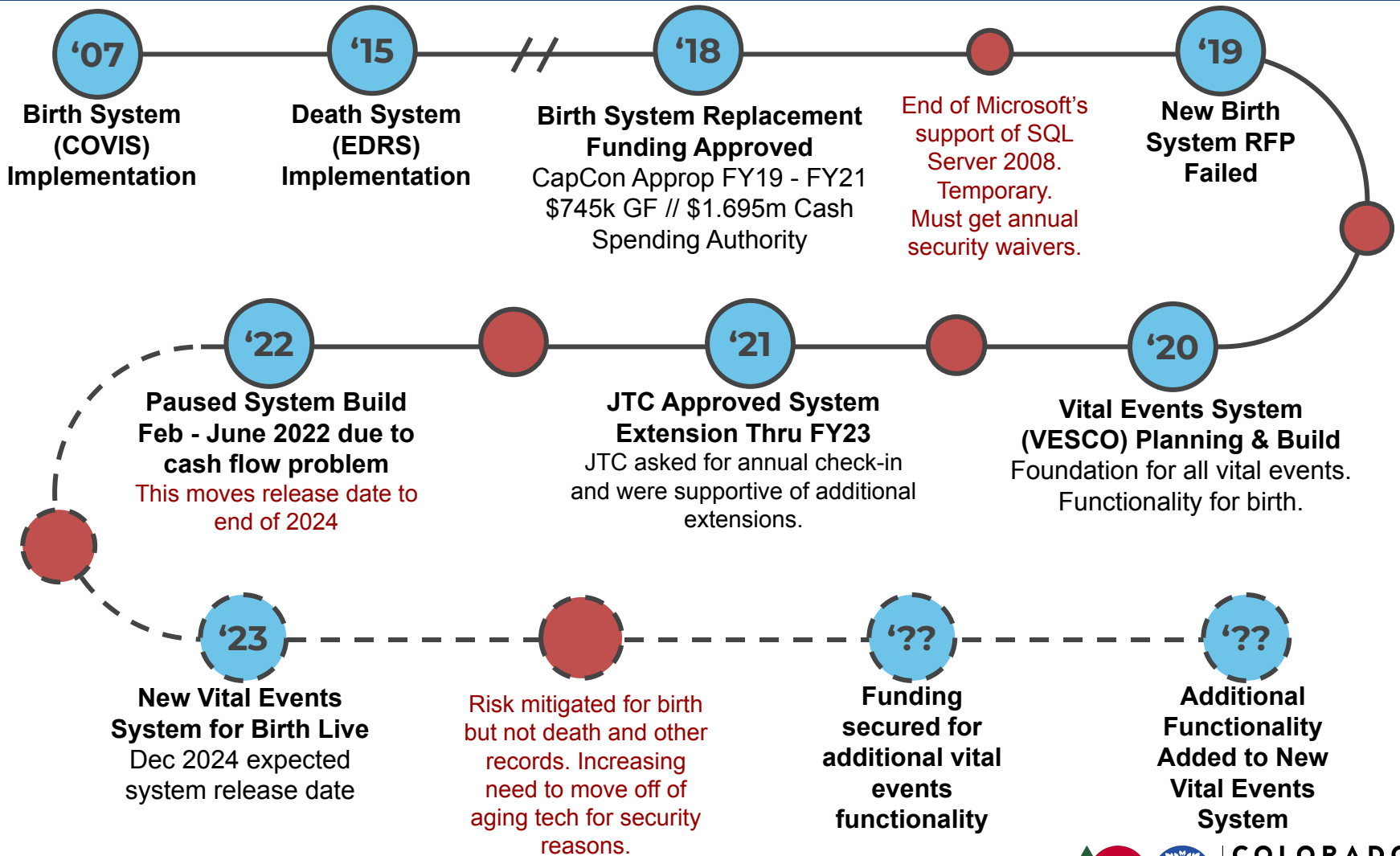
Fetal Death and Induced Termination of Pregnancy (ITOPS)

- Utilize paper based processes with data entry on OIT unsupported Microsoft Access databases.

Marriage and Dissolution system

- Separate stand-alone application.
- Printing and payment for Marriage and Divorce verifications has to be done via EBR.

Background (cont.)



Red dot represents growing security risk of housing system on ten aging OIT servers.

Background (cont.)

Why custom build using OIT resources?

- Vital Records conducted a solicitation (RFP) in 2019 and all vendor based systems either:
 - Did not meet requirements.
 - Did not improve upon the current 15 year old system in terms of functionality.
 - Were significantly more expensive.
- While VESCO is a custom build it is being built on standardized technologies for State applications (AWS).



Assessment

Transitioning to the new VESCO platform will

- Align with OIT's Cloud First strategy
- Migrate all vital event systems to modern Amazon Web Services (AWS) platform and reducing OIT maintained server footprint
- Reduce CDPHE technology debt and improve interoperability
- Help OIT with computer replacement, imaging and administrative and security rights
- Consolidate systems and provide single sign on opportunities

Assessment (cont.)

Transitioning to the new VESCO platform will

- Reduce double data entry by stakeholders and state staff
- Allow for better security, and tighter connections to our other web based platforms, such as the program's Document Management System (Perceptive)
- Allow for the latest backup technologies to be employed
- Increase opportunities for interoperability between vital event systems and external stakeholder systems such as Coroner and Funeral Home systems



Request

CDPHE is requesting \$1,925,234 in Capital Construction general funds

Beginning in FY 2023-24

- \$1,410,064 for the Electronic Death Registration module

Beginning in FY 2024-25

- \$254,165 for the Fetal Death module
- \$148,441 for the Induced Termination of Pregnancy module
- \$112,564 for the Marriage and Dissolution module

Takeaways

- Each of the current vital events systems suffer from issues related to security, technology debt, unsupported software, and lack of interoperability.
- VESCO Phase I (Replacement of current EBR and Issuance module) is in active development.
- Adding the requested systems as modules to VESCO will modernize the Colorado vital records program with improved technology, security, interoperability and single sign on options.

Thank you

- **Dr. Chris Wells**
Director, Center for Health and Environmental Data
chris.wells@state.co.us
- **A. Alex Quintana**
State Registrar and Director of the Office of the State Registrar of Vital Statistics
alex.quintana@state.co.us
- **Grahame Dryden**
Program Support Manager, Office of the State Registrar of Vital Statistics
grahame.dryden@state.co.us