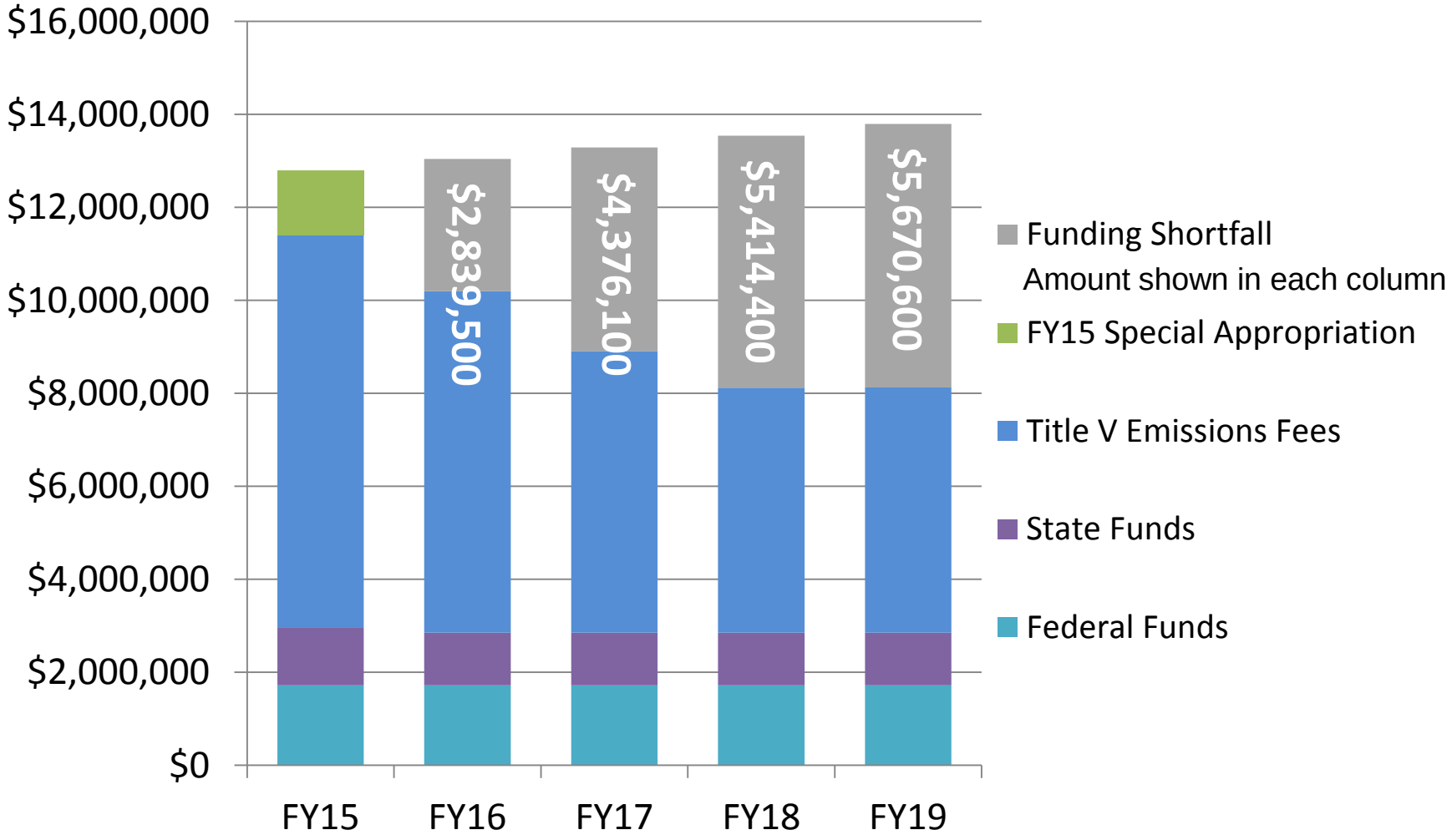
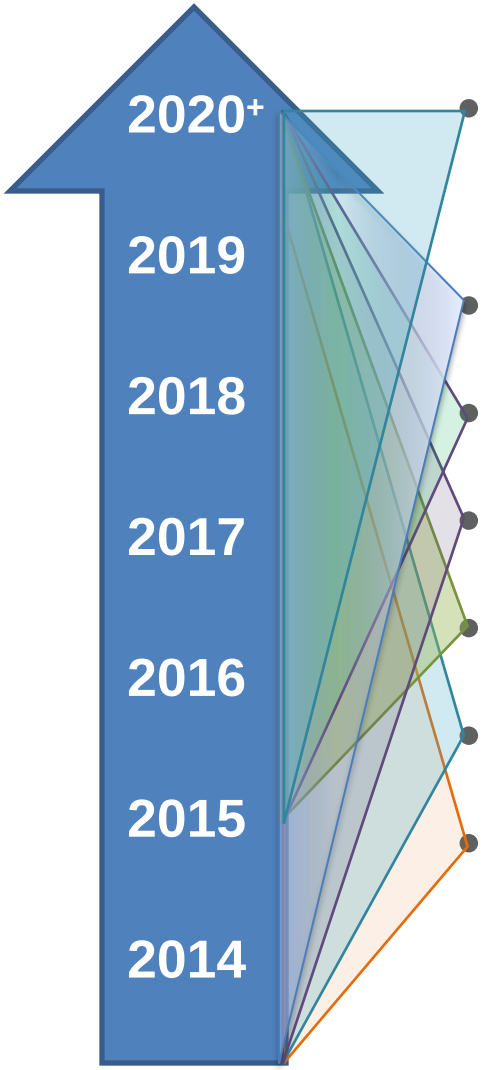
INTRODUCTION TO ADDITIONAL COSTS

Catharine Fitzsimmons, Air Quality Bureau

Current and Projected Expenses and Revenues



Future “non-status quo” expenses



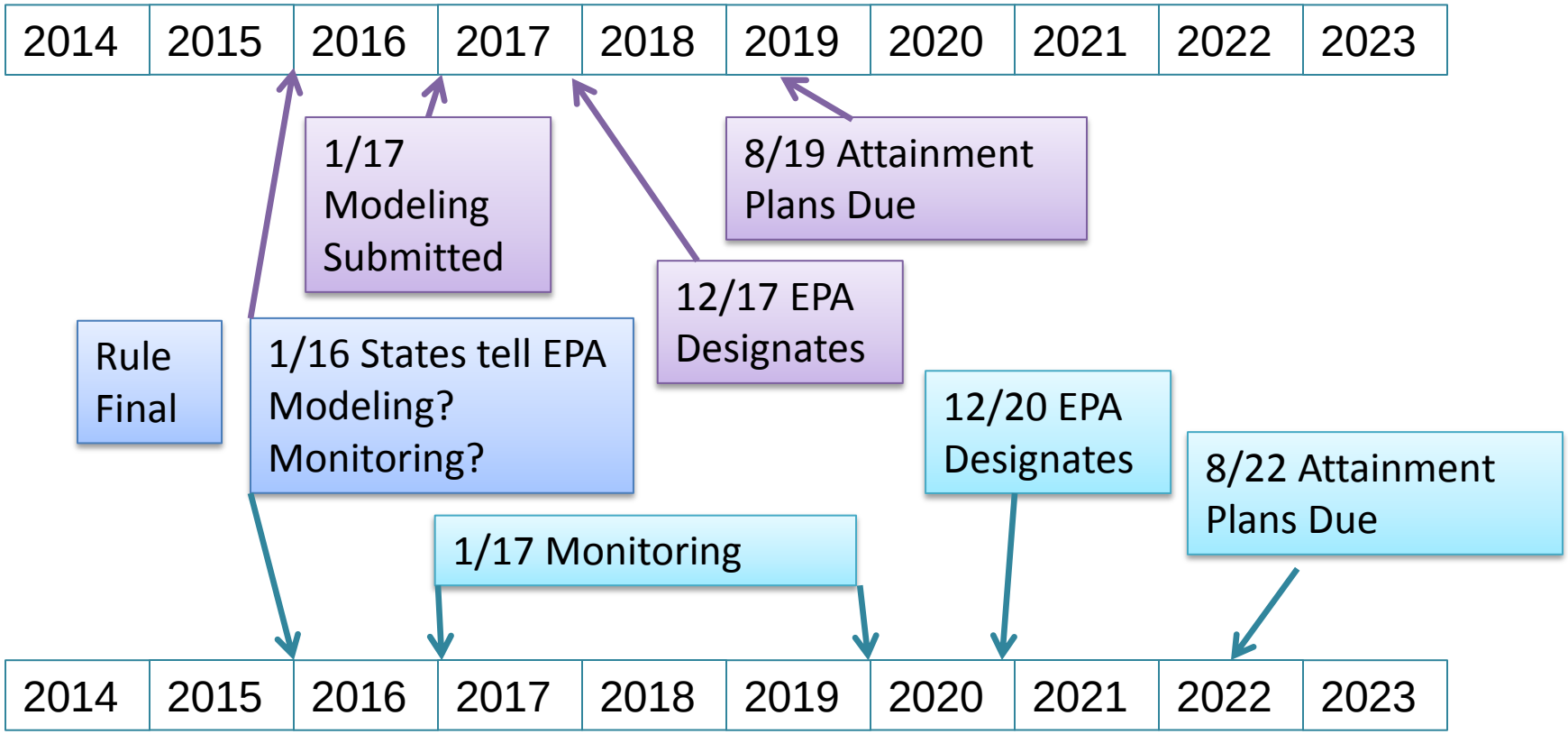
- Data Requirements Rule for sulfur dioxide National Ambient Air Quality Standard
- Revitalizing Communities - asbestos
- New ozone standards
- Construction Permit Backlog
- Operating Permit Backlog
- Information Technology Services
- Carbon Standards for existing electric generating units – 111(d)

SO_2 Data Requirements Rule

- May 13, 2014, EPA Proposed the Data Requirements Rule for the 1-Hour Sulfur Dioxide Primary NAAQS.
- EPA expects to finalize rulemaking in early 2015.
- EPA Goal: Determine SO2 attainment status where there are not currently monitors.
  - Dispersion Modeling
  - Monitoring
- Note – facilities may alternatively be impacted by new designations based on existing monitoring, or federal court settlements.

SO_2 Data Requirements Rule

Timelines:



SO_2 Data Requirements Rule

- EPA's proposed thresholds are expressed in terms of annual tons of SO_2.
- Two-pronged approach is proposed
  - Lower threshold in more populated areas
  - Higher threshold in less populated areas
- 3 Options: EPA preferred option
  - Inside CBSA's >1,000 tpy
  - Outside CBSA's >2,000 tpy
- Based on 2013 Inventory: 12 Facilities in Iowa

SO_2 Data Requirements Rule

FACILITY NAME	SULFUR DIOXIDE (TONS)
WALTER SCOTT JR ENERGY CTR	13,593
IPL - OTTUMWA GENERATING STATION	13,126
MIDAMERICAN ENERGY CO - GEORGE NEAL SOUTH	10,050
MIDAMERICAN ENERGY CO - GEORGE NEAL NORTH	8,421
MIDAMERICAN ENERGY CO - LOUISA STATION	8,285
CENTRAL IOWA POWER COOP - FAIR STATION	4,431
IPL - BURLINGTON GENERATING STATION	3,941
IPL - LANSING GENERATING STATION	3,820
MIDAMERICAN ENERGY CO - RIVERSIDE STATION	3,226
ADM CORN PROCESSING - CEDAR RAPIDS	3,163
IPL - M.L. KAPP GENERATING STATION	2,983
IPL - PRAIRIE CREEK GENERATING STATION	2,917

SO_2 Data Requirements Rule

Initial cost per monitoring site (one time):

Expense	Cost (per site)
Calibrator (Thermo 146i)	$10,000
Zero Air Generator (Teledyne 701H)	$6,500
SO2 Analyzer (Thermo 43i-TLE)	$12,000
Datalogger (Agilaire/DRDAS/ESC)	$8,500
Cellular Modem (Raven)	$700
Meteorological Sensors (WD/WS/T/RH)	$2,600
Trailer (Lone Star/Shelter One)	$40,000
Modeling the Point of Highest Impact for Monitor Placement	$7,900
Equipment purchase, contracting, site selection, etc.	$8,600
Total	**$96,800**

*Note that the estimates above do not include costs associated with power installation. Establishing electrical service requires installation of a power pole & meter. If there are no electrical lines nearby the cost for trenching power is approximately $4 per foot. If the length of the power line used for trenching exceeds 250 feet, then a transformer must be installed at additional cost. An electrician must be retained to make final connections to the trailer.

SO_2 Data Requirements Rule

Expenses per monitoring site (ongoing):

- Based on current network costs, we estimate the annual operation and maintenance costs for a SO2 site as approximately **$48,000**. These operation and maintenance costs include:
  - Salaries for field operations, data management, supervision and quality assurance.
  - Transportation and travel expenses.
  - Calibration gases, equipment replacement and site communications.
  - Electrical service.

SO_2 Data Requirements Rule

Total Cost to Establish the Attainment Status for a Facility with One Monitor

- $96,800 (est. site) + 3 x $48,000 (O&M cost for three years of monitoring) = $240,800

Total Cost to Determine Attainment Via the Monitoring Pathway

- 12 (sites) x $240,800 (per site) = $2,889,600

SO_2 Data Requirements Rule

Dispersion Modeling Costs:

Staff	Activity	Cost (per facility)
Permit Engineer	Emissions review	$2,900
Modeler	Protocol	$2,000
	Input files	$600
	Post process	$800
	Summaries	$800
	Admin time*	$800
Total		**$7,900**

Total Cost to Determine Attainment Via the Dispersion Pathway

- 12 (sites) x $7,900 (per site) = $94,800

SO_2 Data Requirements Rule

Other Costs:

Engineer and dispersion modeling staff time to establish new permit limits for sources that request new emission limits to stay out of the review entirely - $???

Agency costs for nonattainment area planning

Costs for nonattainment area planning include:

- Determination of nonattainment boundaries:
  - Emissions characterization (base-case, culpability),
  - Background ambient air technical justification,
  - Negotiations with EPA,
  - Dispersion Modeling,
  - Public meetings and hearings.
- Development of Attainment plan:
  - Working with facilities to develop emissions reductions and contingency plans,
  - Dispersion Modeling (attainment scenarios),
  - Development of detailed consent agreements,
  - Negotiations with EPA,
  - Public meetings and hearings.
- Monitoring progress, reporting, plan modifications, maintenance.

Agency costs for nonattainment area planning

Estimated cost for the agency for each nonattainment area:

Boundary determination:	$64,000
Attainment Plan development:	$356,000
Annual Follow-up until attainment:	$ 54,000
Maintenance work: 10 yrs	$ 64,000
Total	$538,000

Est. based on 6 major sources in county and 2-3 facilities in final nonattainment area.

Revitalizing Communities – Asbestos

- DNR's role: Iowa has adopted the federal Asbestos Standard (NESHAP) requiring inspections and appropriate removal of asbestos (over specified quantities) from all demolition or renovation projects in commercial structures (includes certain multi family dwellings).
- Community revitalization efforts often uncover both old and recently installed materials containing asbestos.

The original 1989 EPA ban on the U.S. manufacture, importation, processing, or distribution in commerce of many asbestos-containing product categories was set aside by the courts and did not remain in effect.

Revitalizing Communities – Asbestos

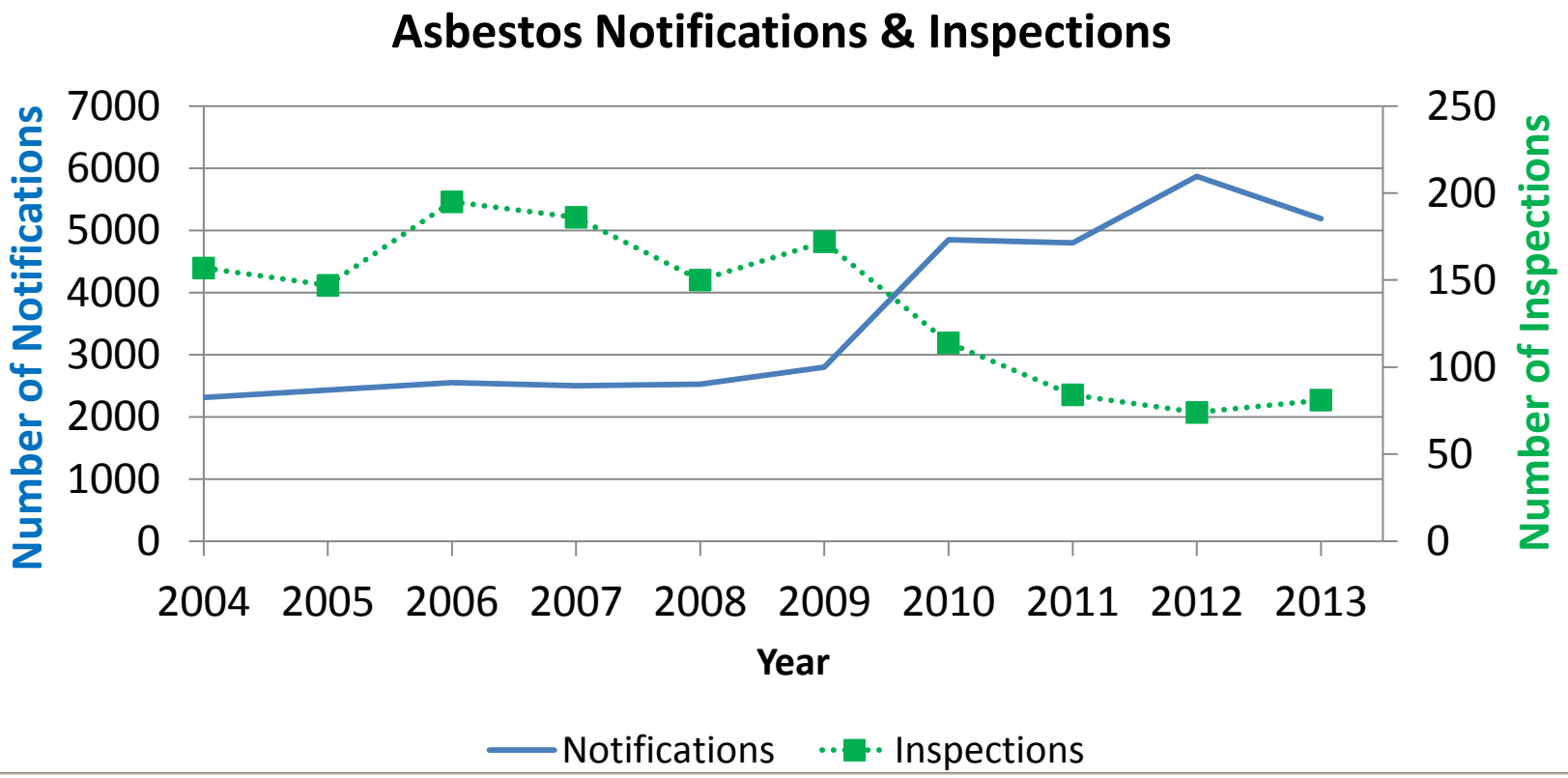
- Products still banned under the Ban and Phaseout rule –

Corrugated Paper	Rollboard
Commercial Paper	Specialty Paper
Flooring Felt	New Uses of Asbestos

- **Products not banned** - Asbestos-containing product categories no longer subject to the 1989 TSCA ban include:
  - Asbestos-cement corrugated sheet, asbestos-cement flat sheet, asbestos clothing, **pipeline wrap**,
  - **Roofing felt**, vinyl-asbestos floor tile, asbestos-cement shingle, millboard, **asbestos-cement pipe**,
  - Automatic transmission components, clutch facings, friction materials, disc brake pads & drums
  - Brake linings, brake blocks, gaskets, non-roofing coatings, and roof coatings.

Revitalizing Communities – Asbestos

Since 2009 there has been a large increase in the number of asbestos notifications for building demolitions & renovations.



Revitalizing Communities – Asbestos

- Due to declining Title V funds in 2010, DNR reduced the number of asbestos inspectors from two to one, eliminating the position funded by Title V fees.
- The combination of the above factors has led to less oversight of regulated asbestos projects and has reduced DNR's ability to help prevent asbestos exposure.
- Since 2011, DNR Solid Waste has funded the asbestos inspector's personnel costs, due to increasing costs, and stagnant state and federal funds. Funding challenges in the SWAP program make this an unsustainable option for the future.

Revitalizing Communities – Asbestos

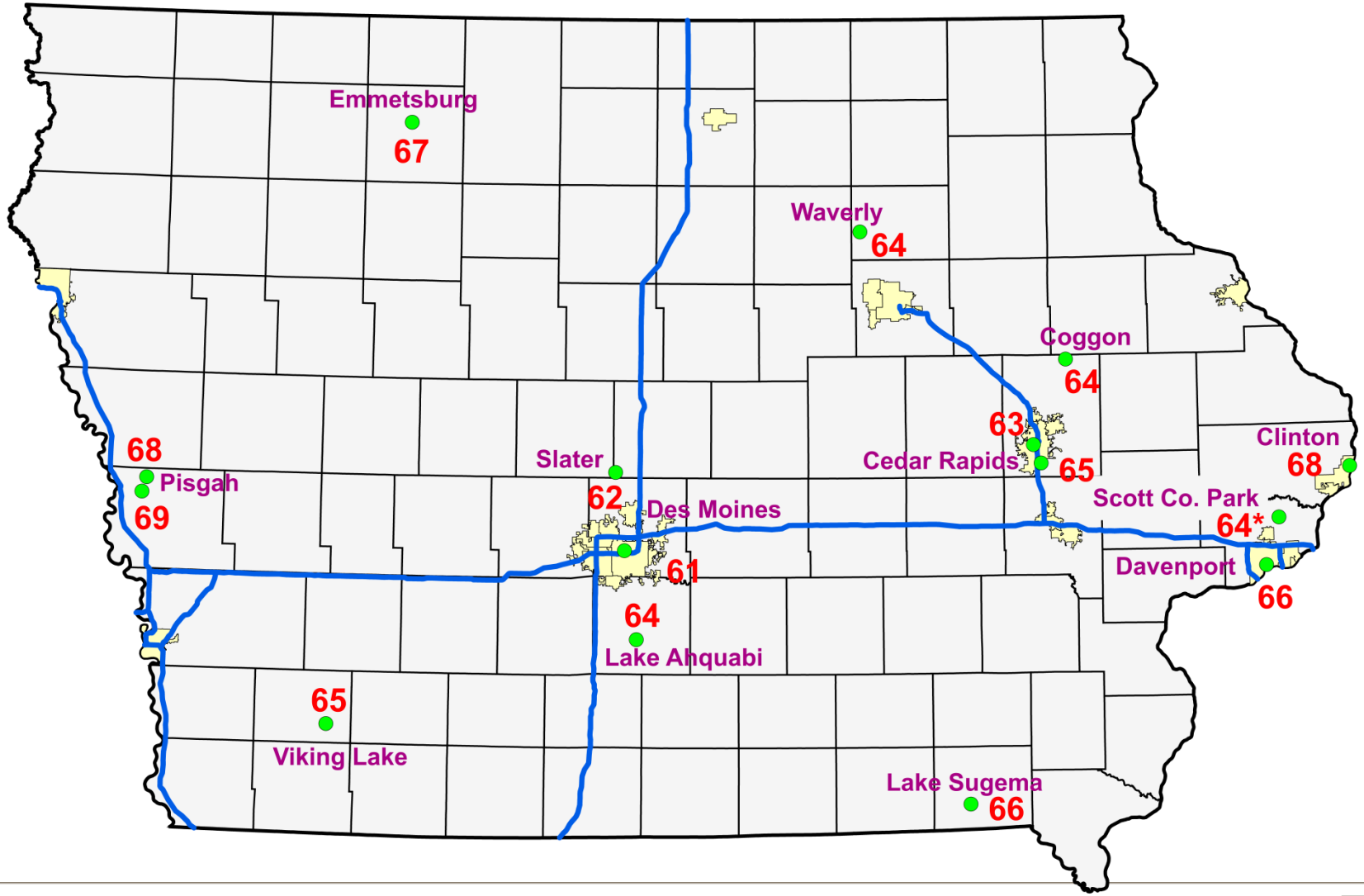
- DNR prioritizes inspections and complaint responses to those projects with the greatest potential for exposure to children and large numbers of individuals.
- To inspect 5% of the average annual notifications of asbestos removal at 4,500 sites*, 225 inspections or 3 times the current number would have to be conducted.
- Including training, a vehicle, computer equipment and support, specialized safety equipment, salary, benefits, agency indirect costs, an asbestos inspector (environmental specialist) costs run at about $130,000 per year.

* Est. 10% of notifications are updates on existing notifications

Revised Ozone National Ambient Air Quality Standard

- EPA will be proposing a new ozone standard before the end of 2014. New standard expected to be a value between 60 – 70 ppb.
- New Ozone Monitors will eliminate moisture impacts on data: $12,600 x 47 Monitors = $592,200.
- By October 2015, the standard will be finalized.
- State recommendations for designations and nonattainment boundaries if required will be due to EPA by October 2016.
- Nonattainment plan elements (marginal area) generally due to EPA by early 2020.

Ozone – 2015 Design values 2011-2013



Ozone 2015

Ozone nonattainment program cost estimate:

New Standard	Number of Nonattainment Areas
≥69	0
68	1
67	2
66	3
65	4 or 5
64	6 or 7
≤63	8 or 9 or entire state?

Boundary establishment and Attainment Plan:

$420,000 per area

Construction Permit Backlog

Projections of Construction Permit Staffing

- Analysis of past data and projections in the future:
  - Full staffing is anticipated to provide the correct staffing level.
  - Changes to current staffing or inclusion of other necessary services will significantly affect leadtime.*

*Leadtime is the time from permit application receipt by the DNR, until the permit is issued.

Construction Permit Backlog

Critical Services Beyond Permitting

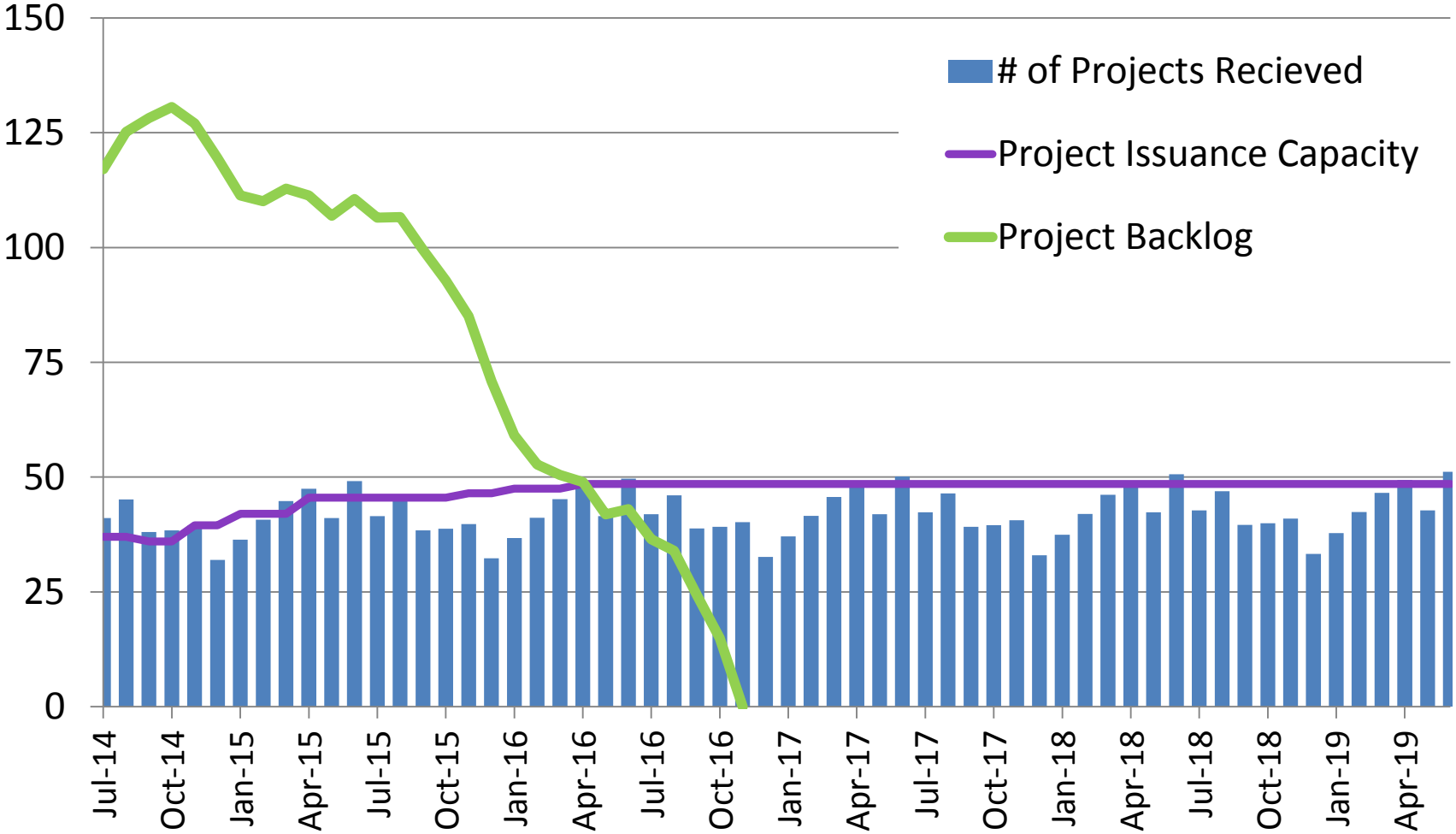
- ~20% of engineer time is spent providing additional services to Business and Industry, the Public and the rest of the Air Quality Bureau:
  - Applicability determinations / assistance,
  - Emissions estimation assistance,
  - Meetings and consultation with economic development prospects,
  - Review and assist local air quality programs,
  - SIP / Nonattainment plan development,
  - Rules review.

Basis for Construction Permit Projections

- Projects Received
  - Based on the monthly averages of the last 3 years,
  - Adjusts future years using 1% annual projected growth.
- Engineer Capacity Adjustments
  - Filling vacant positions (EES and EE),
  - Training/onboarding of new staff (EES and 3 EE),
  - Does not account for additional complex projects (take more staff resources).

Construction Permit Project Backlog Projection

The 3-year monthly average for 2011-2013 was used as the baseline, and 1% growth in # of projects received is projected.



Construction Permit Backlog - Conclusions

In the last quarter of 2016 we expect:

- To have the backlog of projects eliminated,
- To meet or exceed the goals of issuing projects:
  - Standard: within 30 days of receipt
  - Complex: within 90 days of receipt
  - PSD: within 180 days of receipt

But only if:

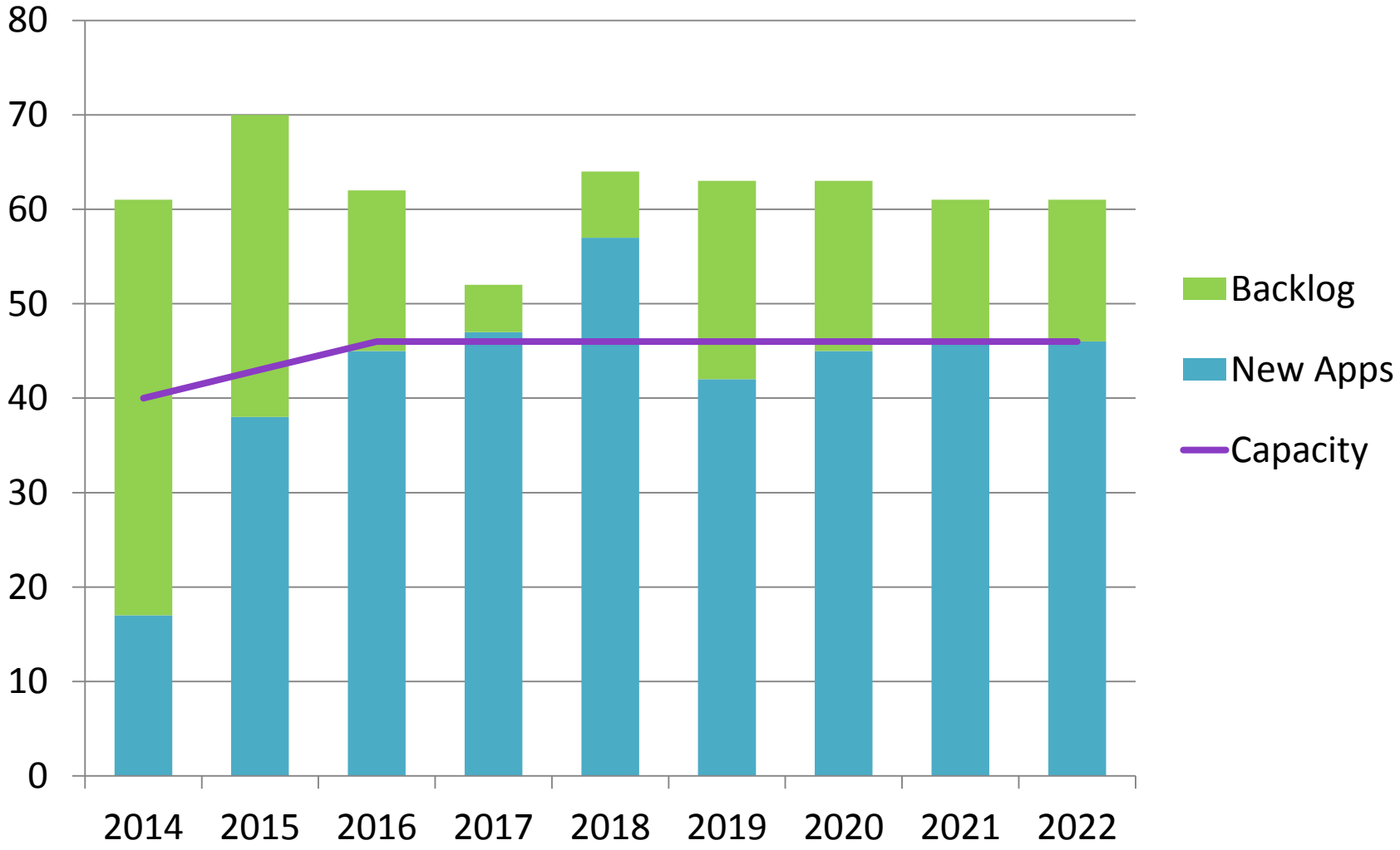
- We remain fully staffed,
- No other projects pull engineers off of regular permit issuance.*

*see SO2 data requirements rule, Ozone standard, Carbon standards activities

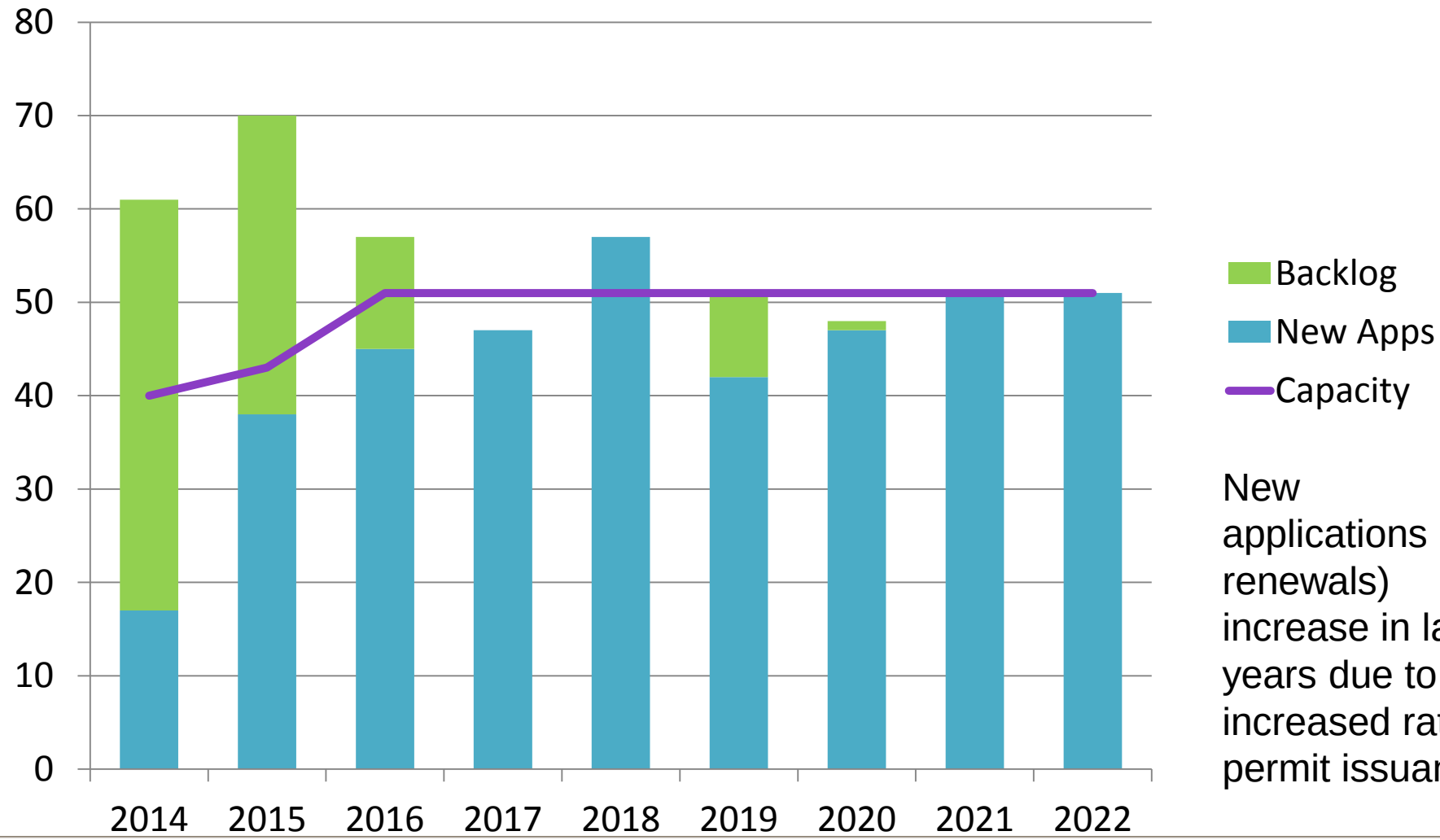
Title V Permit Backlog Projection

- Title V Backlog = applications > 18 months
- Backlog projection is based on:
  - Applications > 18 months + new applications
  - Assumes oldest permits issued first
  - Permit writer capacity adjusted for
    - Training/onboarding new staff
    - High historical staff turnover (5%)

Title V Backlog Projection – Current staffing



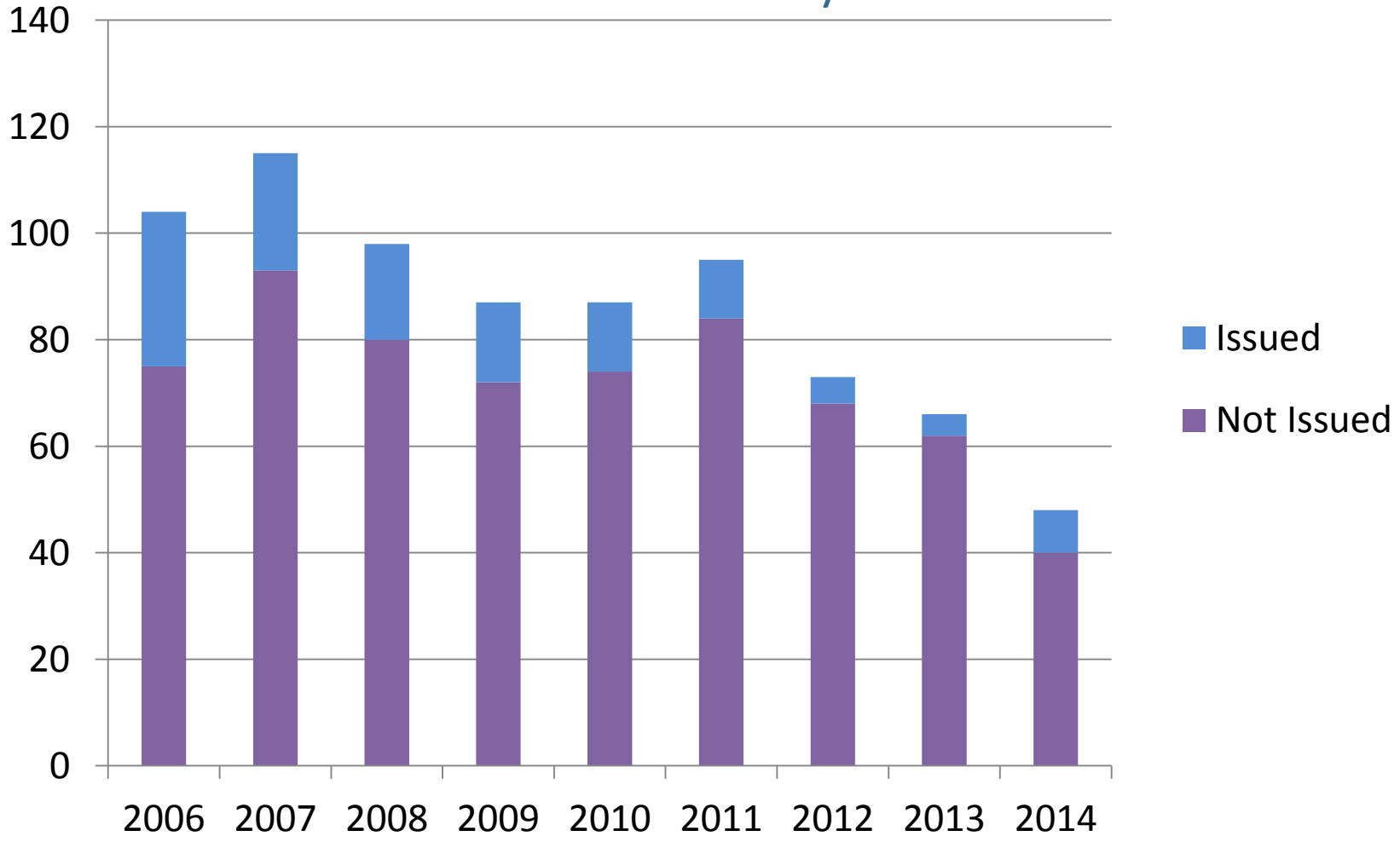
Title V Backlog Projection – Plus 1 staffing



New applications (for renewals) increase in latter years due to increased rate of permit issuance.

Title V Permit Modifications

Total Received by Year



Critical Services Beyond Permitting

With additional staff:

- Title V can meet requirement to issue permits within 18 month of receiving a complete application
- Better meet the needs of the regulated community
  - Issue permit modifications
  - Training / outreach
  - Revise application forms
  - Adjust to upcoming issues/ new federal regulations

Annual Cost of additional environmental specialist:

- $120,000 includes salary, benefits, DNR indirect charges, training, travel, computer, etc.

INFORMATION TECHNOLOGY SERVICES

CARBON STANDARDS – 111(D)

INFORMATION TECHNOLOGY SERVICES

Emissions Inventory & Support Section

Jason Marcel, Supervisor

August 20, 2014

Presentation Outline

- Information Technology Services:
  - State Permitting & Air Reporting System (SPARS)
  - State & Local Emissions Inventory Systems (SLEIS)
  - Ongoing Support
  - Idea List

"While many factors contribute to being an agile enterprise, an organization's information systems play a major role. Unfortunately, most legacy systems prevent businesses from being more adaptable to change."

Ulrich, William M.

Legacy Systems Transformation Strategies, 2002

SPARS

Brief History

- State Permitting & Air Reporting System (SPARS)
- Developed 1998-2000
- “Live” in 2000 – stand alone program installed on PC
- SPARS Web – 2006
- SPARS Advisory Committee

Brief History

- What SPARS is used for:
  - Online submittal of air quality permit applications & emissions inventories
  - Online permit tracking
  - Online permits (PDFs)
  - Specialized queries for planning, modeling, information requests, etc.
  - Emissions data for National Emissions Inventory
  - Flows data to other DNR systems

SPARS Functions

Construction Permits	Emissions Inventory	Title V Permits	Other Data Systems
Online Reporting	Online Reporting	Online Reporting	DNR Facility Explorer (“One Stop”)
Features: • Copy from previous Application • Store Attachments • Data Download	Features: • Copy from previous Inventory • Save Attachments • Data Download	Features: • Copy from previous Application • Store Attachments • Data Download	Field Office Database
Custom Data Queries	Custom Data Queries	Custom Data Queries	Stack Test Database
Project Tracking Online: • Search Application Status • View Issued Permits (PDF’s) • Public Comment Notice	National Emissions Inventory (NEI)		Construction Permit Search
			AQWebApps

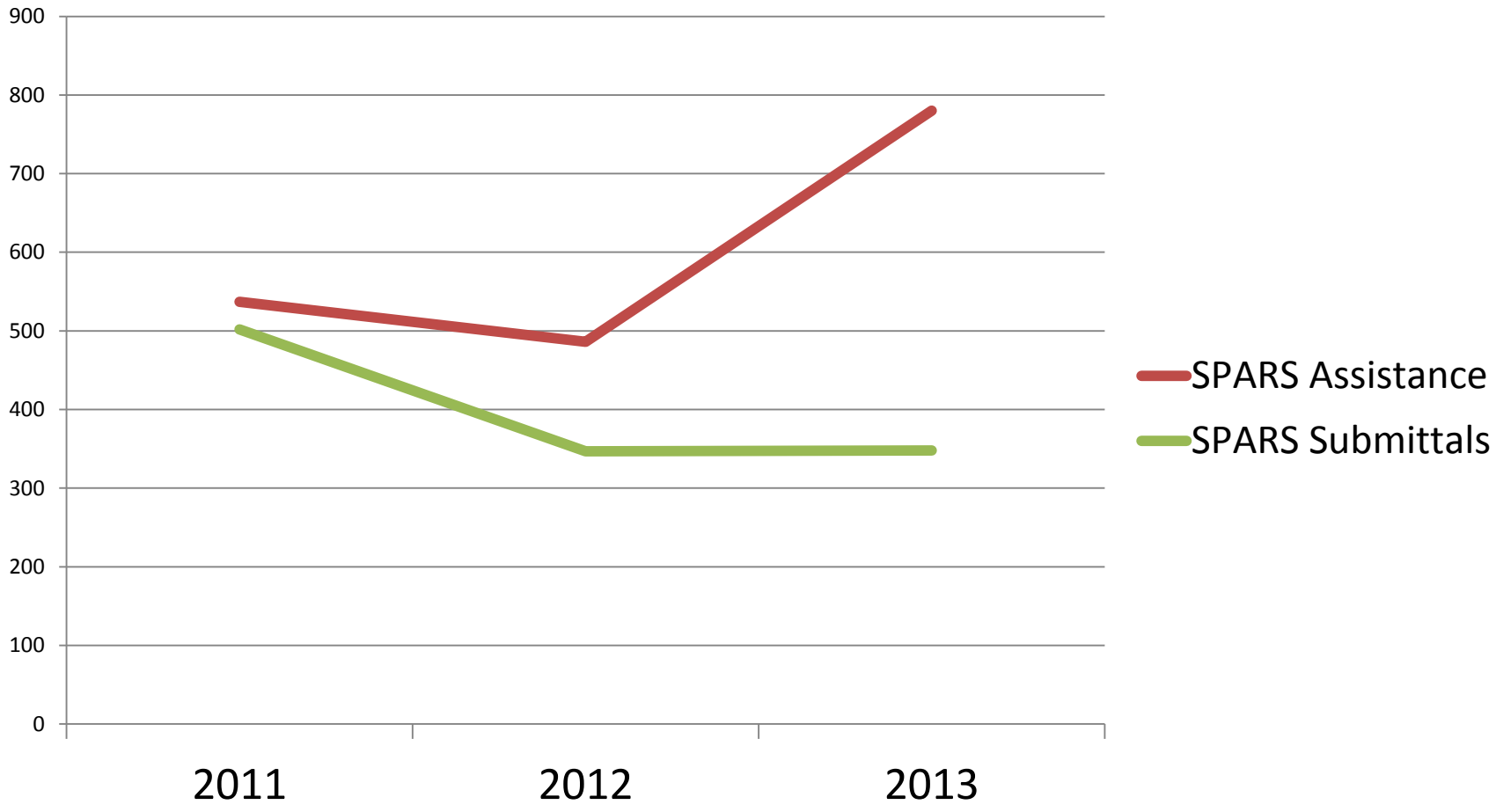
SPARS Costs

FY	Description	Total Cost
1996	Servers, Oracle Database & Software	$1,484,076
1997 – 2004	Professional Services (Computer Consultant)	$1,784,381
2005 – 2006	Professional Services (SPARS Web)	$260,140

Ongoing Maintenance:

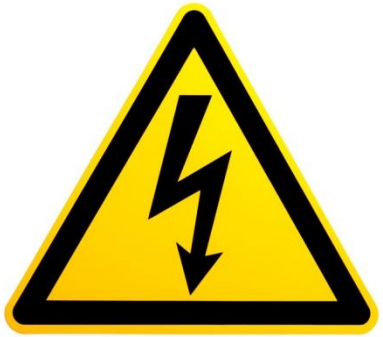
- Oracle - $14,042/yr
- PowerBuilder/Appeon - $13,213/yr
- TOAD - $1,660/yr

Trends – SPARS Submissions & Assistance

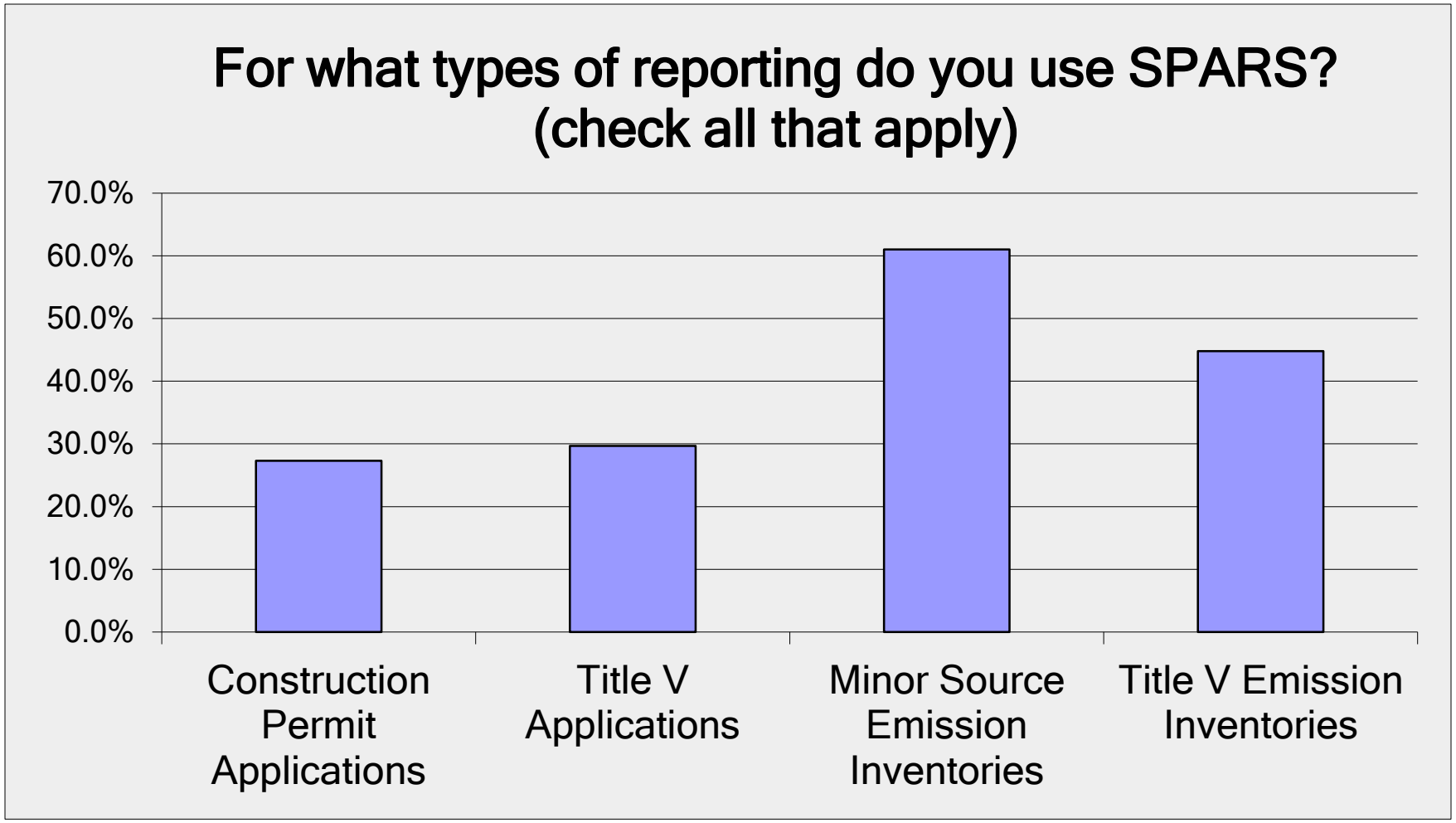


SPARS Risks

- Developer Support
- Web Browser Restrictions
- Security Settings
- CROMERR
- Business Changes
- Data Quality/Management



SPARS Survey



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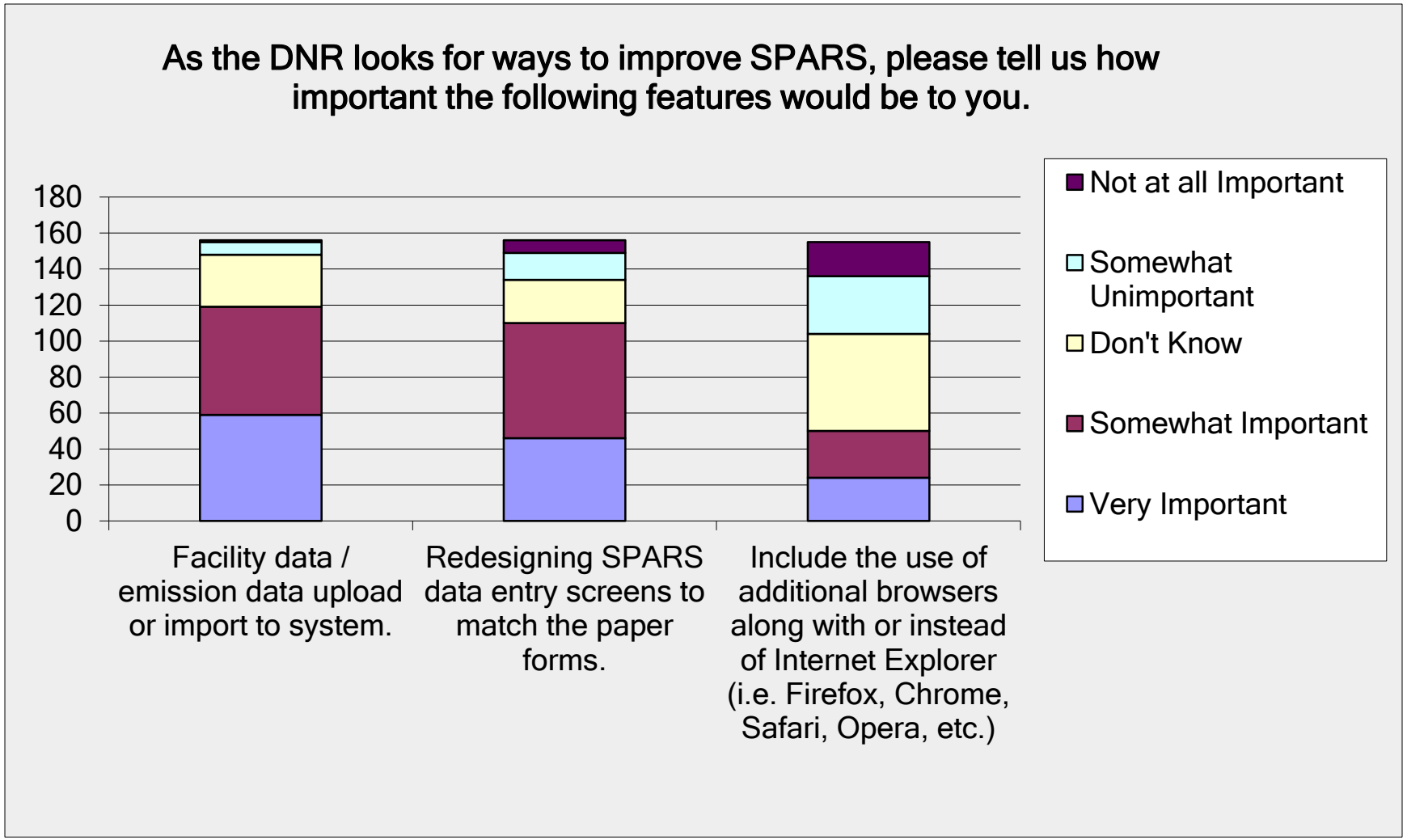
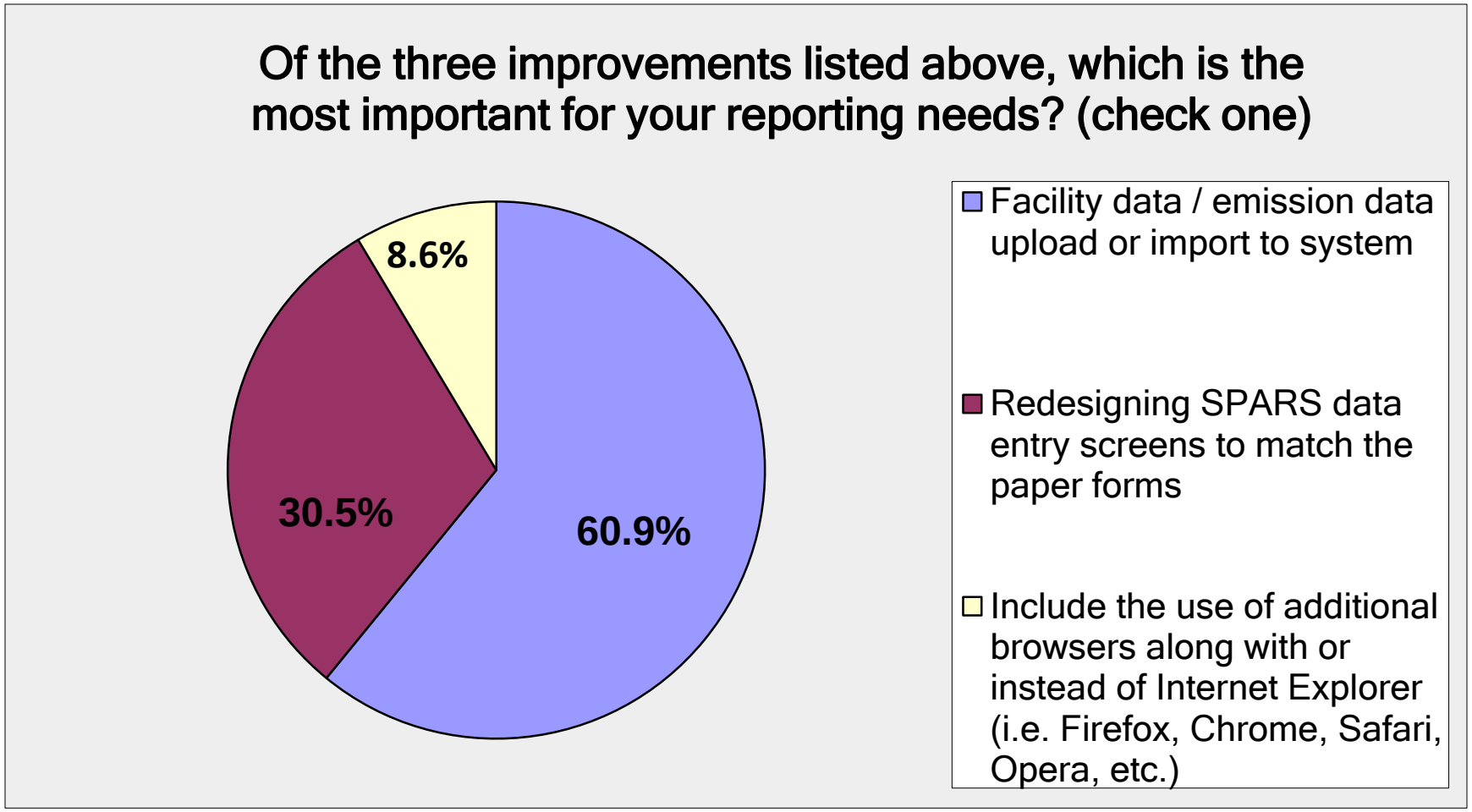


SPARS Survey



SLEIS

SLEIS State & Local Emissions Inventory System

- "Off the Shelf" system created under EPA Challenge Grant
- Developed by 6 States/local air quality programs and Windsor Solutions
- Implementation in Iowa funded by EPA Exchange Network Grant
- Partial replacement of SPARS

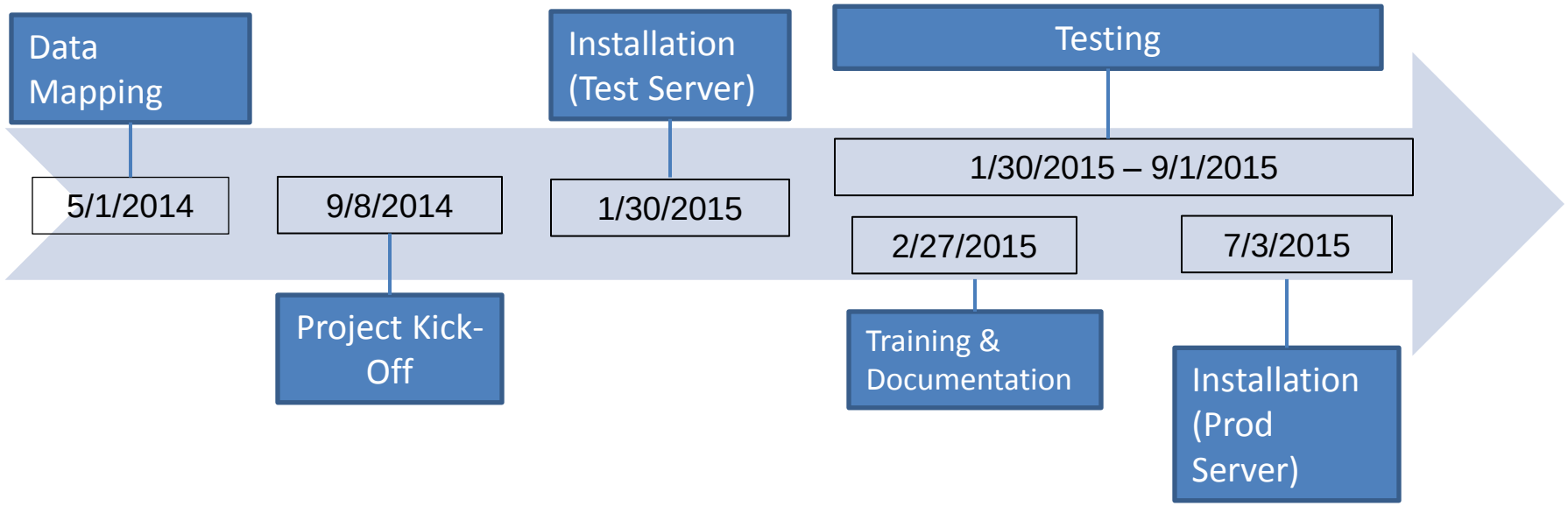
SPARS Functions

Construction Permits	Emissions Inventory	Title V Permits	Other Data Systems
Online Reporting	Online Reporting	Online Reporting	DNR Facility Explorer ("One Stop")
Features: • Copy from previous Application • Store Attachments • Data Download	Features: • Copy from previous Inventory • Save Attachments • Data Download	Features: • Copy from previous Application • Store Attachments • Data Download	Field Office Database
Custom Data Queries	Custom Data Queries	Custom Data Queries	Stack Test Database
Project Tracking Online: • Search Application Status • View Issued Permits (PDF's) • Public Comment Notice	National Emissions Inventory (NEI)		Construction Permit Search
			AQWebApps

Five "F" Analysis

Factor	Question to Ask	SLEIS Comments
FIT	How well does the application match the business and technology needs for the organization?	SLEIS uses DNR standard .NET and SQL Server technologies, and integrates directly into the Exchange Network for communicating with EPA. From a business standpoint, it matches reasonably well with emission inventory requirements but needs major additions to support permit application needs. (See SLEIS Customization Requirements section for details)
FEATURES	What features does the application provide, and will they be useful for the organization?	SLEIS features that were identified as useful by stakeholders include: ability to import emissions, the built in node client which enables direct EIS submissions to EPA, ability to make some system modifications by configurations (rather than programming), and built in CROMERR (electronic record submission) functions.
FUTURE	Is the application positioned to support the organization's requirements into the future?	SLEIS is based upon the latest emissions data reporting format. The SLEIS vendor has a good reputation for maintaining and supporting their products, and a growing base of user states should help drive future sustainability.
FLEXIBILITY	How easy is it to modify and adapt the application?	SLEIS is designed to allow some types of modifications to be done easily without programming. However, use of a system shared with other states may require additional time to define changes and enhancements, and may require design compromises that could limit flexibility.
FINANCIALS	What are the immediate and long term costs for the application?	SLEIS would involve fairly substantial short term costs for customization and conversion as described in Attachment 8. In the long term, the expectation would be that costs would be lower for several reasons: system cost sharing with other states, elimination of Oracle/PowerBuilder/Appeon licensing, reduction of EIS submission manual work, and shared infrastructure support.

SLEIS Timeline



What about updating SPARS for online permit applications?

SPARS Functions

Construction Permits	Emissions Inventory	Title V Permits	Other Data Systems
Online Reporting	Online Report	Online Reporting	DNR Facility Explorer (“One Stop”)
Features: • Copy from previous Application • Store Attachments • Data Download	Features • Copy from previous Inventory • Save Attachments • Data Download	Features: • Copy from previous Application • Store Attachments • Data Download	Field Office Database
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			AQWebApps

Ongoing Support

Ongoing Support

- RFI Summary
- Estimated Costs from other States

Request For Information

- 2009
- 17 Vendors Responded
- Solutions Offered:
  1. Customized Re-Write of SPARS
  2. Re-write PowerBuilder Code
  3. "Off-the Shelf"
- $500K - $2M

Est. Cost to Replace SPARS

Other States

- 2012 NACAA Survey
- More states appear to be moving to SLEIS
- Recent Examples of Updating Legacy Systems

Idea List

Idea List

- E-Reporting:
  - Portable Plant Relocations
  - Stack Tests
  - Annual Compliance Certifications
  - Semi-Annual Monitoring Reports
  - CEMS Reports
  - Asbestos NESHAP Notifications

Questions?

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EPA'S PROPOSED CLEAN POWER PLAN (111d)

Emissions Inventory & Support Section
Jason Marcel, Supervisor
August 20, 2014

Presentation Outline

EPA's Proposed Clean Power Plan:

- ~~X Emission Guidelines Section 111(d) overview~~
- ~~X In-depth review of proposal~~
- ~~X Summary of State Goal Computation~~
- ~~X Overview of Compliance Options~~

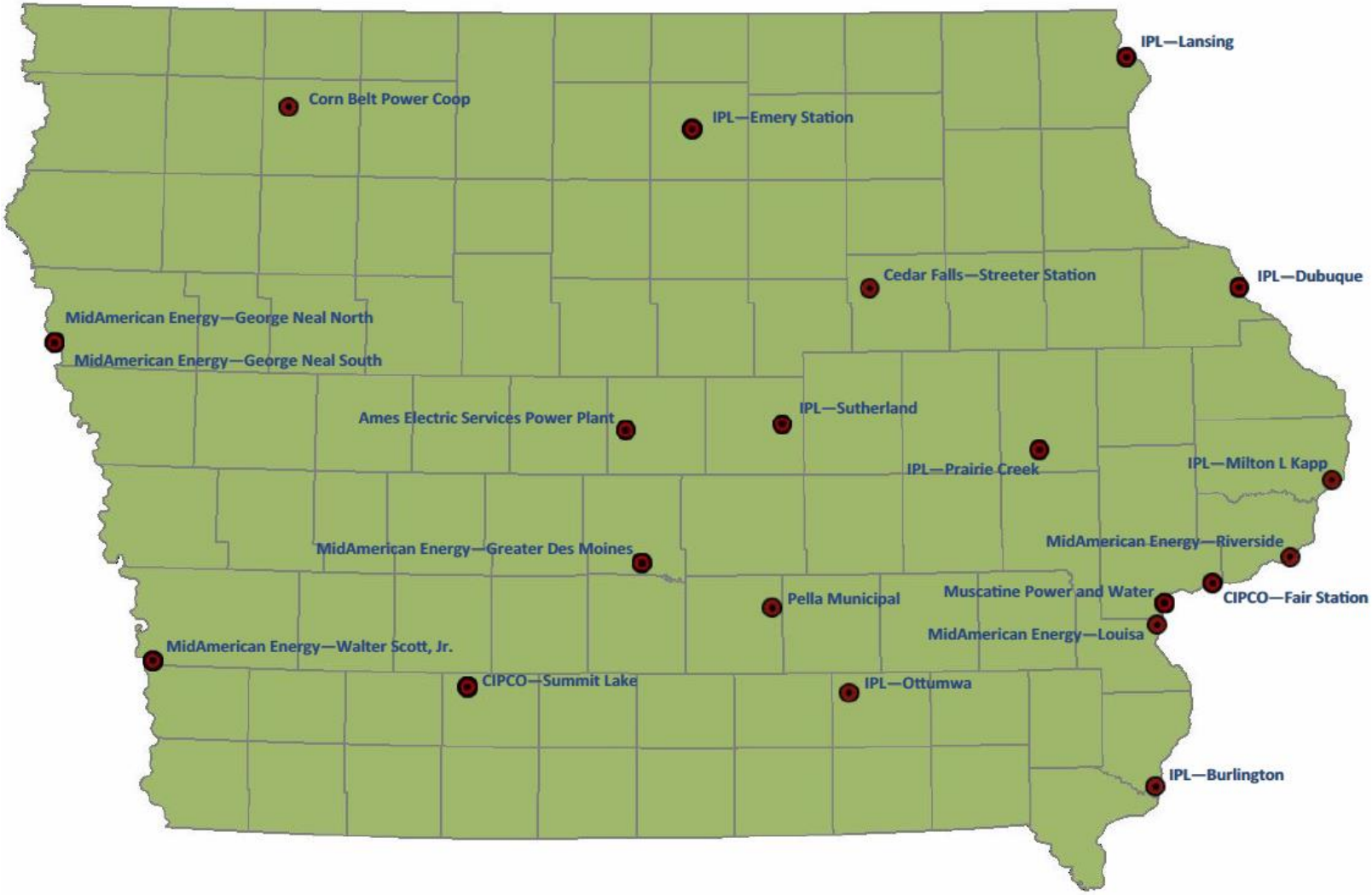
What I Will Cover

- Affected Units
- EPA's Proposed Timeline
- Summary of Work Ahead

Affected Units

EPA's Proposed Clean Power Plan -

21 Affected Facilities



EPA's Proposed Clean Power Plan—42 Affected Units

Plant Name	Generator ID	Fuel type [1]	Prime Mover Type	Nameplate Capacity (MW) [2]	Commercial Operation Year [2]	2012 CO2 (tons)[2]
Cedar Falls Municipal Electric - Streeter Station	7	Bituminous coal	Steam Turbine	35.0	1973	16,181
Central Iowa Power Cooperative - Fair Station [3]	1	Bituminous coal	Steam Turbine	25.0	1960	44,707
Central Iowa Power Cooperative - Fair Station [3]	2	Bituminous coal	Steam Turbine	37.5	1967	115,622
Central Iowa Power Cooperative - Summit Lake	1	Natural Gas	Combined Cycle	7.5	1951	1,877
Central Iowa Power Cooperative - Summit Lake	2	Natural Gas	Combined Cycle	7.5	1951	1,877
Central Iowa Power Cooperative - Summit Lake	3	Natural Gas	Combined Cycle	7.5	1957	1,877
Central Iowa Power Cooperative - Summit Lake	GT1	Natural Gas	Combined Cycle	27.0	1973	6,758
Central Iowa Power Cooperative - Summit Lake	GT2	Natural Gas	Combined Cycle	35.3	1975	8,835
City of Ames Electric Services Power Plant	7	Subbituminous Coal	Steam Turbine	37.5	1968	95,738
City of Ames Electric Services Power Plant	8	Subbituminous Coal	Steam Turbine	71.3	1982	378,847
City of Pella Municipal Power Plant [3]	6	Subbituminous Coal	Steam Turbine	26.5	1963	0
Corn Belt Power Cooperative - Wisdom	1	Bituminous coal	Steam Turbine	33.0	1960	6,513
IPL - Burlington Generating Station	1	Subbituminous Coal	Steam Turbine	212.0	1968	1,464,970
IPL - Dubuque Generating Station	3	Natural Gas	Steam Turbine	28.7	1952	39,787
IPL - Dubuque Generating Station	4	Natural Gas	Steam Turbine	37.5	1941	40,900
IPL - Emery Generating Station	11	Natural Gas	Combined Cycle	173.4	2004	110,851
IPL - Emery Generating Station	12	Natural Gas	Combined Cycle	173.4	2004	110,851
IPL - Emery Generating Station	ST1	Natural Gas	Combined Cycle	256.0	2004	163,656
IPL - Lansing Generating Station	3	Subbituminous Coal	Steam Turbine	37.5	1958	0
IPL - Lansing Generating Station	4	Subbituminous Coal	Steam Turbine	274.5	1977	1,389,770
IPL - M.L. Kapp Generating Station	2	Subbituminous Coal	Steam Turbine	218.5	1967	690,518
IPL - Ottumwa Generating Station	1	Subbituminous Coal	Steam Turbine	725.9	1981	3,772,270
IPL - Prairie Creek Generating Station	3	Subbituminous Coal	Steam Turbine	50.0	1958	251,076
IPL - Prairie Creek Generating Station	4	Subbituminous Coal	Steam Turbine	148.8	1967	677,427
IPL - Sutherland Generating Station	1	Natural Gas	Steam Turbine	37.5	1955	79,570
IPL - Sutherland Generating Station	3	Natural Gas	Steam Turbine	81.6	1955	209,185

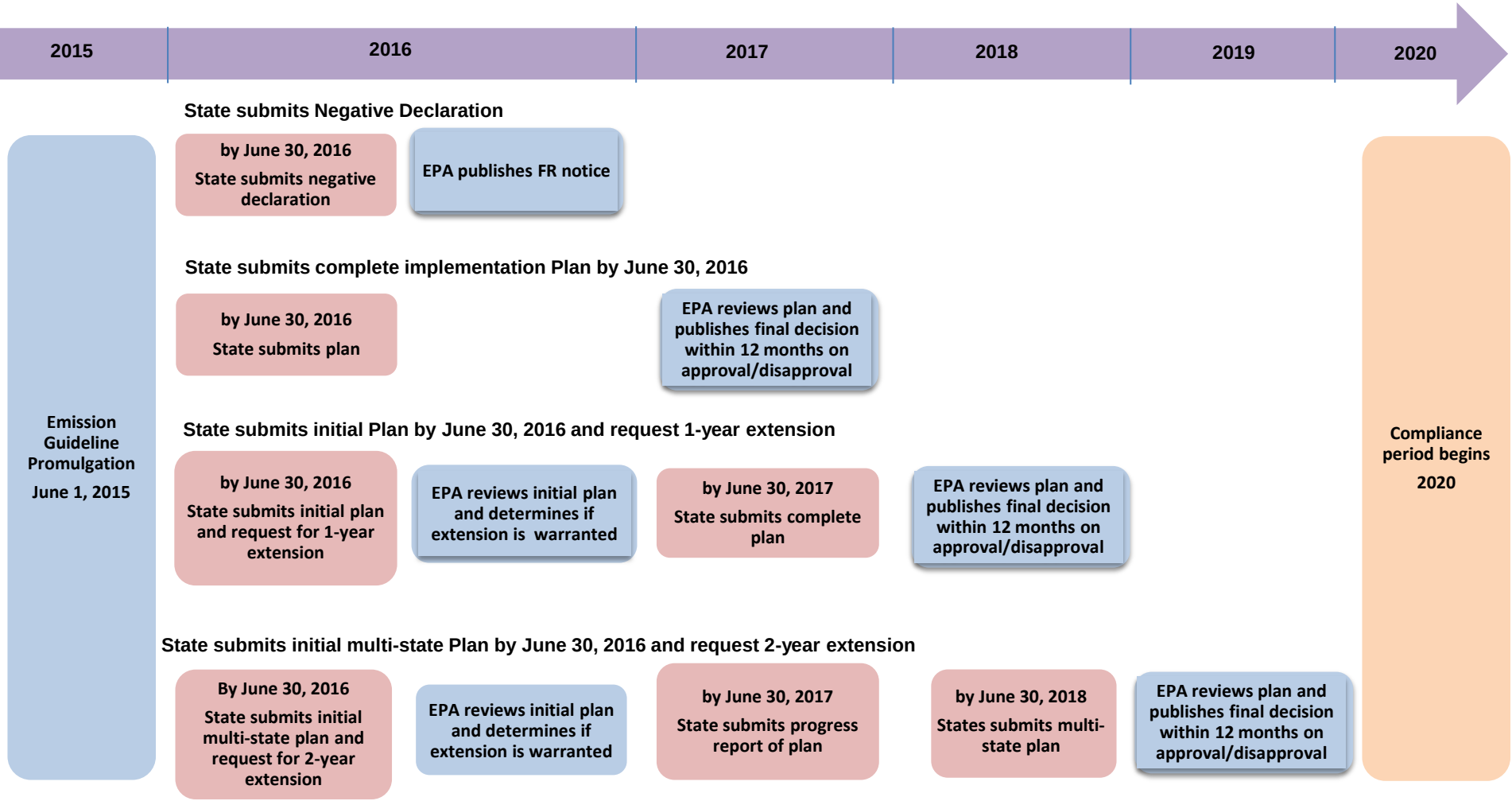
EPA's Proposed Clean Power Plan—42 Affected Units

Plant Name	Generator ID	Fuel type [1]	Prime Mover Type	Nameplate Capacity (MW) [2]	Commercial Operation Year [2]	2012 CO2 (tons)[2]
MidAmerican Energy - Louisa Station	1	Subbituminous Coal	Steam Turbine	811.9	1983	5,446,776
MidAmerican Energy Company - George Neal North	1	Subbituminous Coal	Steam Turbine	147.0	1964	518,145
MidAmerican Energy Company - George Neal North	2	Subbituminous Coal	Steam Turbine	349.2	1972	1,332,873
MidAmerican Energy Company - George Neal North	3	Subbituminous Coal	Steam Turbine	549.8	1975	2,780,939
MidAmerican Energy Company - George Neal South	4	Subbituminous Coal	Steam Turbine	640.0	1979	4,693,781
MidAmerican Energy Company - Greater Des Moines	GT1	Natural Gas	Combined Cycle	190.4	2003	78,018
MidAmerican Energy Company - Greater Des Moines	GT2	Natural Gas	Combined Cycle	190.4	2003	78,018
MidAmerican Energy Company - Greater Des Moines	ST1	Natural Gas	Combined Cycle	195.5	2003	80,108
MidAmerican Energy Company - Riverside Station	5	Subbituminous Coal	Steam Turbine	136.0	1961	672,879
MidAmerican Energy Company - Walter Scott Jr	1	Subbituminous Coal	Steam Turbine	49.0	1954	262,894
MidAmerican Energy Company - Walter Scott Jr	2	Subbituminous Coal	Steam Turbine	81.6	1958	521,852
MidAmerican Energy Company - Walter Scott Jr	3	Subbituminous Coal	Steam Turbine	725.8	1978	5,284,146
MidAmerican Energy Company - Walter Scott Jr	4	Subbituminous Coal	Steam Turbine	922.5	2007	5,720,046
Muscatine Power and Water	7	Subbituminous Coal	Steam Turbine	25.0	1958	35,457
Muscatine Power and Water	8	Subbituminous Coal	Steam Turbine	75.0	1969	87,328
Muscatine Power and Water	9	Subbituminous Coal	Steam Turbine	175.5	1983	948,326

1. Source: EPA Data File—Goal Computation—Appendix 7
2. Source: EPA Data File—2012 Unit-Level Data Using the eGRID Methodology (XLS)
3. Retired

Timeline

Proposed Implementation Timeline



Scope of Work

Scope of Work

Size of EPA's June 2 Proposal:

- Proposal (645 pages)
- Regulatory Impact Analysis (376 pages)
- 7 Technical Support Documents (492 pages)
  - 10 data files
- 2 Memos (125 pages)
- 6 Fact Sheets
- Modeling Files

Scope of Work

Since the Rule was Proposed:

- 14 webinars/briefings/Q&A calls
- 8 calls with Region 7 EPA & States
- 12 meetings/calls with stakeholders
- 3 Multi-State group meetings

12 Components Required in the State Plan

- Identification of affected entities
- Description of plan approach and geographic scope
- Identification of state emission performance level
- Demonstration that plan is projected to achieve emission performance level
- Identification of milestones
- Identification of corrective measures
- Identification of emission standards and any other measures
- Demonstration that each emission standard is quantifiable, non-duplicative, permanent, verifiable, and enforceable
- Identification of monitoring, reporting, and recordkeeping requirements
- Description of state reporting
- Certification of hearing on state plan
- Supporting material

Reports Due after the State Plan is in Place

- Annual state reporting to EPA starting July 1, 2021:
  - The level of emissions performance achieved by all affected entities both during the reporting period and prior reporting periods.
  - A list of all affected entities and their compliance status; identification of whether they are on schedule to meet performance goals
  - For each rolling 2 year period from 2020 – 2029, a comparison of the average CO2 emission performance of affected entities versus their projected performance in the state plan.
  - If performance is >10% in excess of the projected performance, the deviation must be explained and corrective actions specified
- The 2029 annual report must include the calculation of average emissions over the 2020 – 2029 interim performance period to determine compliance with the interim state goal.
- Starting with the 2032 annual report, calculate a 3-calendar year rolling average used to determine compliance with the final state goal.

Estimated Cost to DNR – Similar to a Nonattainment Plan Development.

– or more if regional?

Questions?

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Summary of Future Funding Challenges

Program Activity	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
(Alternate approaches or costs)	CY15-16	CY16-17	CY17-18	CY18-19	CY19-20	CY20-21	CY21-22	CY22-23	CY23-24
SO2 Data Requirements Rule									
Attainment Evaluation - Dispersion Modeling	$47,400	$47,400							
Nonattainment Planning Each Site		$64,000	$119,000	$237,000	$54,000	$6,400	$6,400	$6,400	$6,400
Nonattainment Planning 12 Sites		$768,000	$1,428,000	$2,844,000	$648,000	$76,800	$76,800	$76,800	$76,800
Attainment Evaluation - Ambient Monitoring	$1,161,600	$576,000	$576,000	$576,000	$432,000				
Nonattainment Planning Each Site					$64,000	$119,000	$237,000	$54,000	$6,400
Nonattainment Planning 12 Sites					$768,000	$1,428,000	$2,844,000	$648,000	$76,800
Revitalizing Communities - Asbestos									
Current staffing (no SWAP funding)	$130,000	$130,000	$130,000	$130,000	$130,000	$130,000	$130,000	$130,000	$130,000
Fund for 5% inspection rate	$390,000	$390,000	$390,000	$390,000	$390,000	$390,000	$390,000	$390,000	$390,000
Revised Ozone Standard									
Updated Ozone Monitors to address stds	$592,200								
Nonattainment Planning for 1 areas	$32,000	$151,000	$237,000	$237,000	$145,548	$33,000	$6,400	$6,400	$6,400
Nonattainment Planning for 9 areas	$288,000	$1,359,000	$2,133,000	$2,133,000	$1,309,932	$297,000	$57,600	$57,600	$57,600
Title V Permit									
Backlog & Modifications	$120,000	$120,000	$120,000	$120,000	$120,000	$120,000	$120,000	$120,000	$120,000
Information Technology									
Limited functionality SPARS replacement			$100,000	$400,000					
Full functionality SPARS replacement			$100,000	$1,500,000	$400,000				
Carbon Standards for Existing EGUs 111(d)									
Within Iowa only implementation	$237,000	$237,000	$237,000	$237,000	$174,000	$174,000	$174,000	$174,000	$174,000
Multistate implementation (costs unknown)									

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