IOWA DEPARTMENT OF NATURAL RESOURCES

DNR e-Application Project

Software Requirements Specification (SRS)

Status: Draft
Version: 1.5

Software Requirements Specification (SRS)

Revision History

Name (Author)	Date	Change and Reason For Changes (Description)	Version
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Revision History – Post Approval

Name (Author)	Date	Change and Reason For Changes	Version	PIR #

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7. Approvers Error! Bookmark not defined.

1. Introduction

1.1 Purpose Overview

This Software Requirements Specification document provides the complete program level description of all functions, requirements and constraints for developing the Iowa Department of Natural Resources e-Application. The intended audience of this document includes the DNR Air Quality Bureau, Office of the Chief Information Officer (OCIO), and internal or external (contract) development personnel.

1.2 Overview

This Software Requirements Specification will provide the overall included scope for e-Application Requirements; Context Level Diagram; Use Case Diagram; Business Process Flows; Requirements. This project will deliver a solution that simplifies the application process for customers providing an easy-to-use portal for submitting and tracking permit applications online to replace the legacy system, State Permitting & Air Reporting System (SPARS).

1.2.1 Inclusions

Goals

- Increase On Time Delivery by 25%
- Reduce support hours by 33%
- Increase the volume of applications submitted electronically to 75%
- Reduce the number of screens required to submit a permit application by 33%
- Increase the number of application forms complete on submission to 90%
- Increase Customer Satisfaction Score for electronic application system by 25%
- Remove expense of Middleware and Support Software (Appeon, PowerBuilder, Toad)
- Reduce expense of Oracle licensing in DNR
- Eliminate redundant data entry
- Employees are able to change application forms without the use of IT staff
- Employees are able to produce reports from available data without the use of IT staff

1.2.2 Exclusions

- e-Application will not replace SLEIS for submitting emissions inventories
- e-Application will not change the functionality of One Stop Data Warehouse
- e-Application will not change the functionality of Field Office Compliance Database (FOCD)
- e-Application will not change the functionality of Stack Test Database
- e-Application will not diminish the role of Environmental staff in performing technical review of permit applications or in writing permits

1.3 Scope

This project will build an easy-to-use system for electronically submitting Construction and Title V Permit applications with all necessary forms and attachments. The system will provide a single point of access for collecting permit application information, tracking, and storing the application, including information updates as deemed necessary by agency staff. The system will provide the option to export certain information (such as emission unit/point descriptions and IDs, facility location, and

facility contacts) into Word templates used by Air Quality staff to write permits so as to eliminate redundant data entry.

1.4 Related Documents (References)

The following table lists project artifacts. All GFORGE items will be in eAirPermitting project/docs. A copy of all documents and process flows will also be saved on the Air Quality Bureau SharedPerm (N) drive \\iowa.gov.state.ia.us\data\DNR_AQ_Shared\AQBureau\IT Projects\ePermitting for internal staff.

Title	Author	Version #	Location
Charter	LeAnn Larsen	1.0	N:\ePermitting\Artifacts
Critical Success Factors	LeAnn Larsen	1.3	N:\ePermitting\Artifacts
All Documents			

1.5 Glossary of Program Terms

Term	Definition
A&A	Iowa's Secure Login System to Authorize and Authenticate.
AQWebApps	An internal resource for running queries against current permit application and tracking system.
Actual Emissions	The actual rate of emissions of a pollutant from an emissions unit, as determined in accordance with 567 IAC 22.100.
Business Process Diagram	A diagram showing the logical process of a permit application form.
Construction Permits	A pre-construction permit issued under the New Source Review program. New Source Review (NSR) permitting requires stationary sources (any building, structure, facility or installation that emits or may emit any regulated air pollutant or any pollutant listed under the Clean Air Act) to obtain permits before construction begins for both major and minor sources of air pollution.
Construction Permit Search	An external resource for tracking status of construction permitting projects, publishing draft construction permits for public comment, and publishing final construction permits.
Context Level Diagram	A diagram showing the interactions between systems.
Control Equipment	Any equipment that has the function to prevent the formation of or the emission to the atmosphere of air contaminants from any fuel burning, incinerator or process equipment.
CROMERR	Cross Media Electronic Reporting Rule – certifies truth and accuracy of original submission and bind electronic signature to the online document. http://www.epa.gov/cromerr

Term	Definition
DAS	Department of Administrative Services.
DNR	Department of Natural Resources.
Emission Point	A stack or vent that discharges air pollutants.
Emission Unit	Any part or activity of a stationary source that emits or has the potential to emit any regulated air pollutant or any pollutant listed under Section 112(b) of the Clean Air Act, 42 U.S.C. Sections 7401.
EPA	Environmental Protection Agency.
EPC	Environmental Protection Commission.
Facility	With reference to a stationary source, any apparatus which emits or may emit any air pollutant or contaminant.
Facility Explorer	An internal resource for locating a facility on a map and viewing facility information for state regulated programs that is a component of One Stop Data Warehouse.
Fugitive Dust	Any airborne solid particulate matter emitted from any source other than a flue or stack.
Fugitive Emissions	Those emissions which could not reasonably pass through a stack, chimney, vent or other functionally equivalent opening.
GFORGE	A Project Management and Collaboration system use by the State.
Greenhouse Gases (GHGs)	The aggregate group of six greenhouse gases that includes carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.
Hazardous Air Pollutant (HAP)	Any of the air pollutants listed in Section 112 of the Clean Air Act, 42 U.S.C. Sections 7401. See Appendix A.
Modeling	The process of conducting local scale dispersion modeling, or regional scale modeling. Modeling is used to predict the air quality impact of new or modified emission sources.
Potential to Emit	The maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation is enforceable by the administrator.
Responsible Official (Construction)	The person with the authority to submit the application on behalf of the company.
Responsible Official (Title V)	The person who is designated for taking responsibility for the truth, accuracy, and completeness of the Title V Permit Application meeting the definition under 567 IAC 22.100.
Program Area	Business User area that is non-IT.

Term	Definition
Project Charter	A document that clearly defines the scope of a project, articulating boundaries (objectives and risks) as well as participants and their areas of responsibility.
Project Manager	The staff person that is responsible for the specific project.
Requirements	Technical and non-technical requirements that must be met in order to fulfill a business need.
Prevention of Significant Deterioration (PSD) permits	A subset of New Source Review construction permits for major sources of pollution in attainment or unclassifiable areas which serve to prevent significant deterioration of air quality in those areas.
SLEIS	State and Local Emission Inventory System – software that allows facilities to record and submit emission inventory to Iowa, and Iowa to submit emission inventory to EPA.
SPARS	State Permitting and Reporting System – legacy software for facilities to submit electronic permit applications to Iowa DNR.
Stack Test Database	The DNR database used by Air Quality staff to indicate testing has been required of a facility in its permits and track the testing of facility exhaust stacks and the results of those tests.
Stationary Source	Any building, structure, facility, or installation that emits or may emit any regulated air pollutant or any pollutant listed under Section 112(b) of the Clean Air Act, 42 U.S.C. Sections 7401.
Title V Operating Permits	Any permit as required according to Title V of the federal Clean Air Act, including permits for those facilities with potential emissions exceeding 100 tons per year of any air pollutant subject to regulation or 25 tons per year of any combination of hazardous air pollutant or 10 tons per year of any individual hazardous air pollutant. In addition, select smaller industries are subject under Title V due to New Source Performance Standards (NSPS) or National Emissions Standards for Hazardous Air Pollutants (NESHAP) as well as solid waste incinerators.

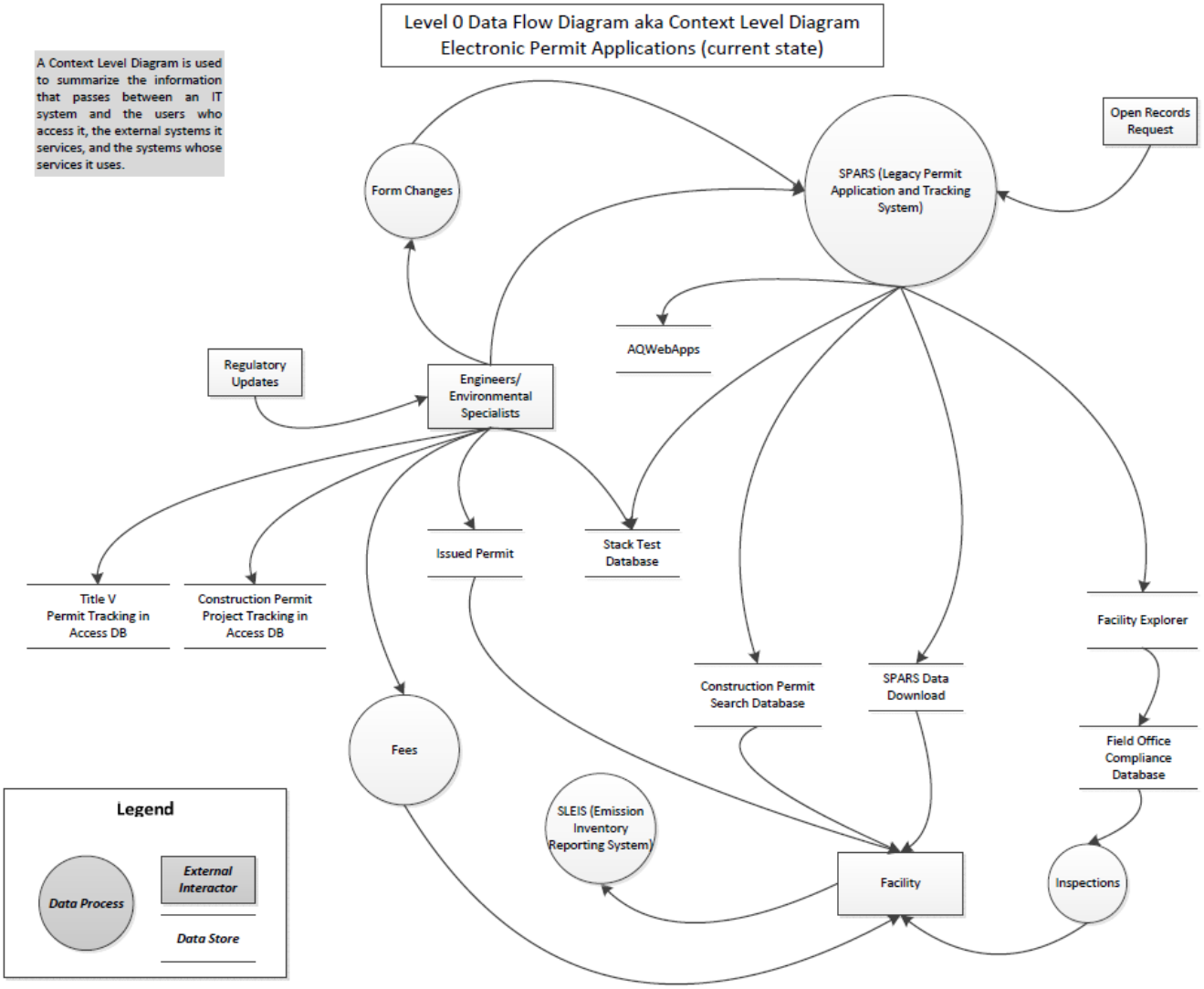
1.6 Assumptions, Constraints, and Dependencies

A/C/D	Description	Source
1.6.A1	Code must pass State of Iowa Security standards All Code will be Scanned for Security threats once the code has been delivered to the test environment and is ready for the second code review. The scan will not contain any High or Critical threats	State of Iowa Standards
1.6.A2	All Database tables will continue to follow the DNR C# and SQL database standards and new tables will contain fields for CreatedDate, CreatedBy, UpdateDate, UpdateBy and meet the DNR SQL Server standards.	DNR Standards
1.6.C1	Interaction with One Stop Data Warehouse will meet the One Stop Standards(Facility Explorer)	Standards
1.6.C2	Interaction with Stack Test Database will meet SQL Standards	Standards
1.6.C3	Interaction with Records Center Database will meet SQL Standards	Standards
1.6.D1	System will interact with SLEIS without changing user interface	Project Team

1.7 Context

A context diagram describes the flow of information between a system and entities outside.

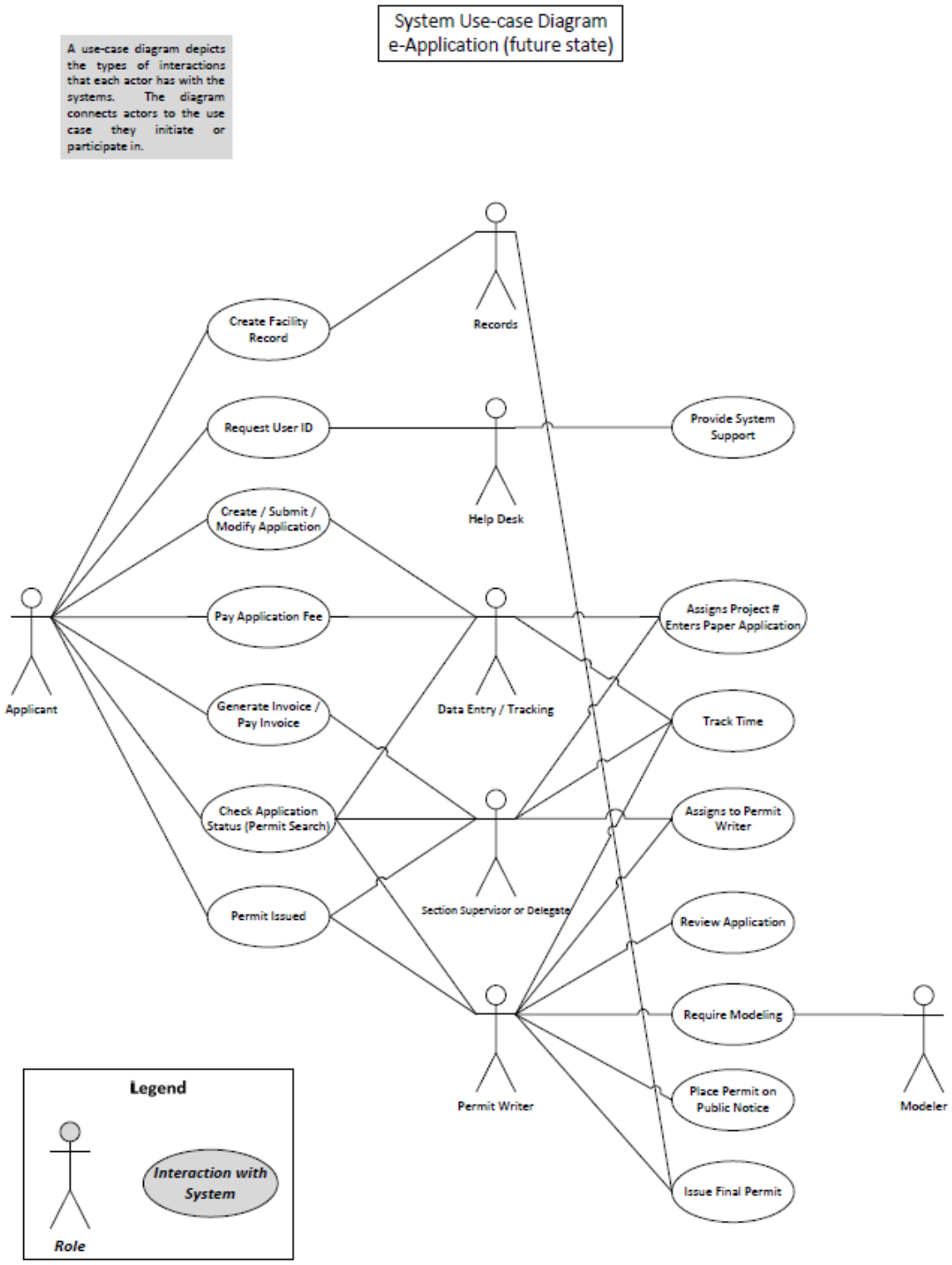
1.7.1 Context Diagram



1.8 Use Case Specification

A use-case specification describes the various ways that an interaction may play out.

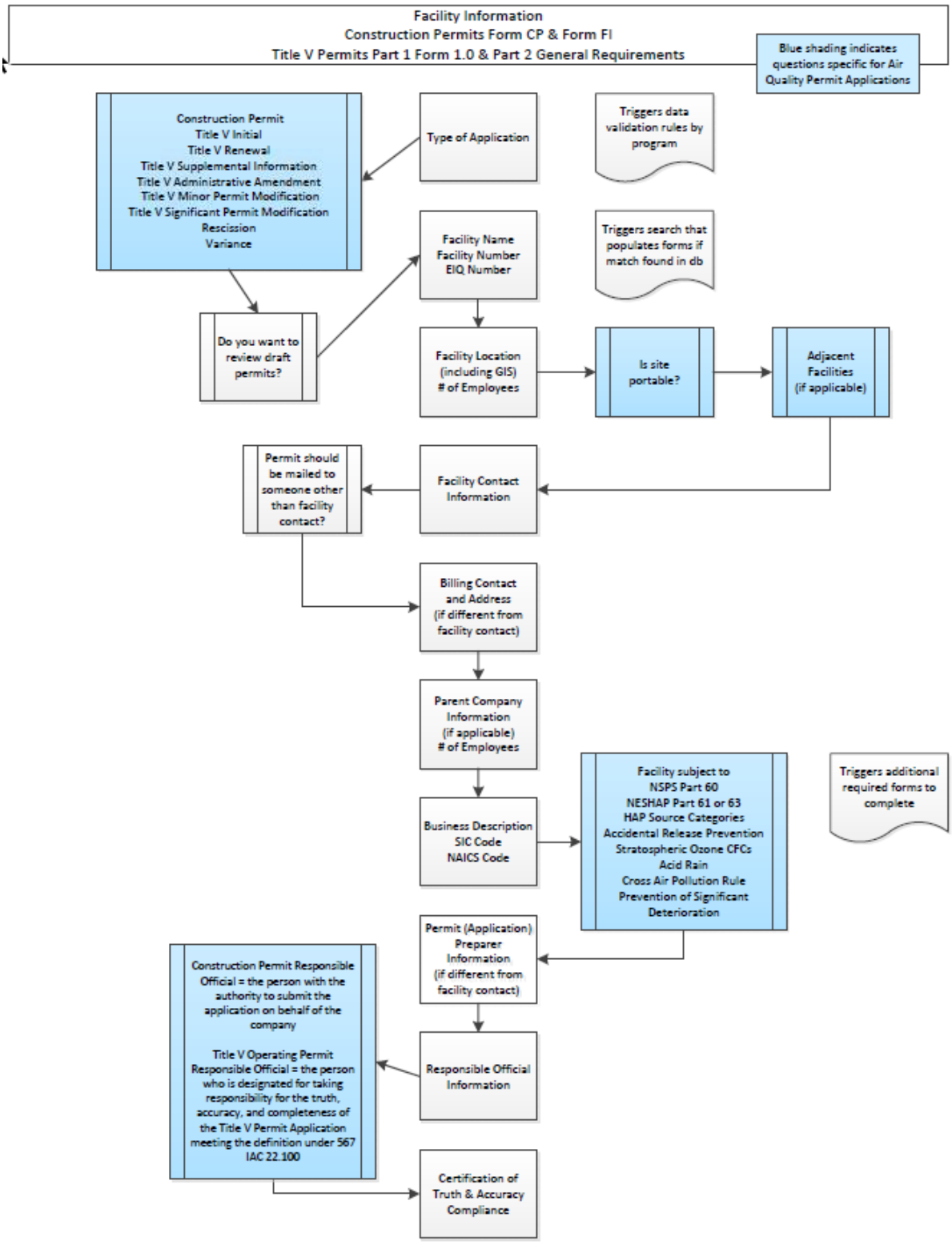
1.8.1 Use Case Diagram

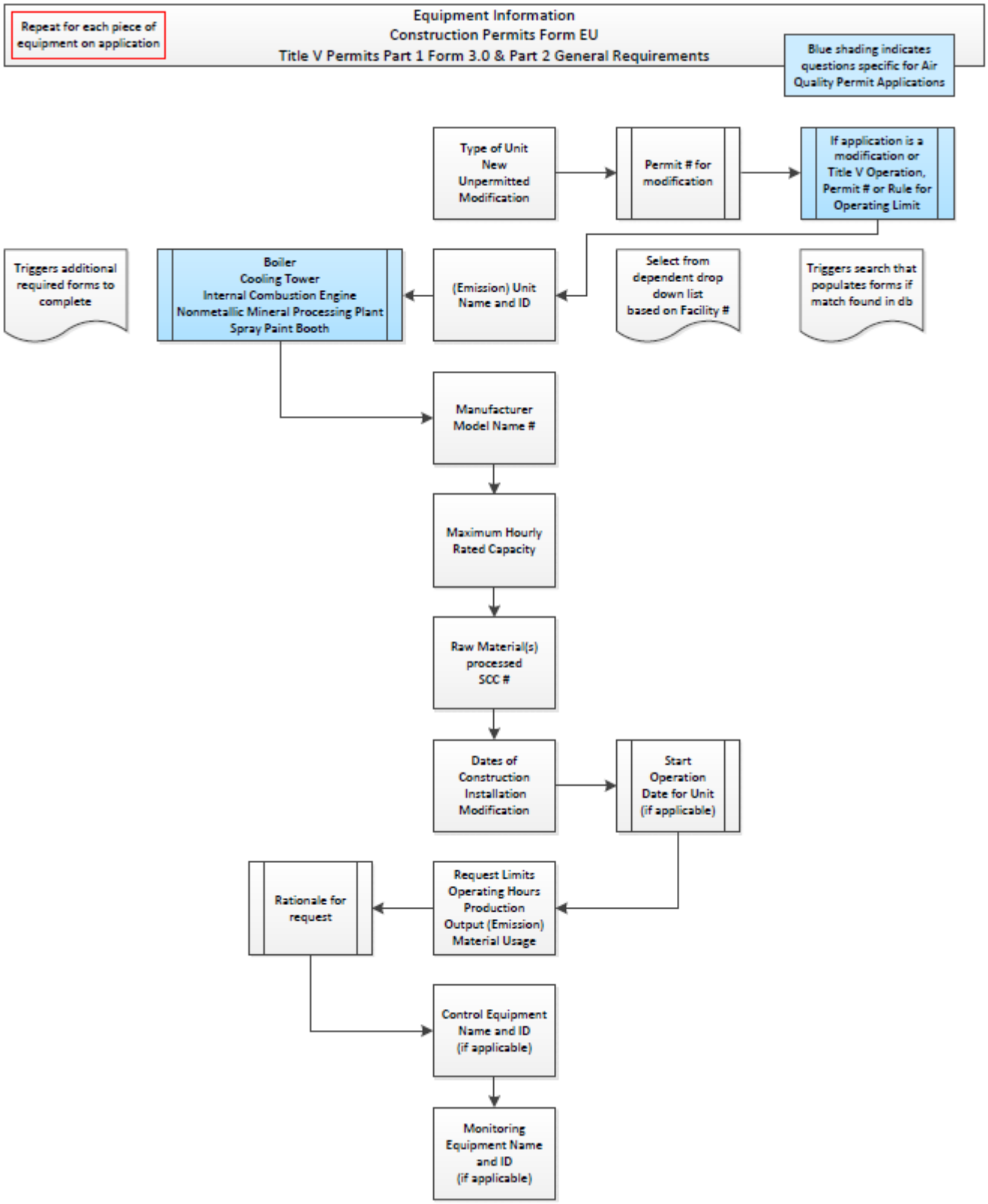


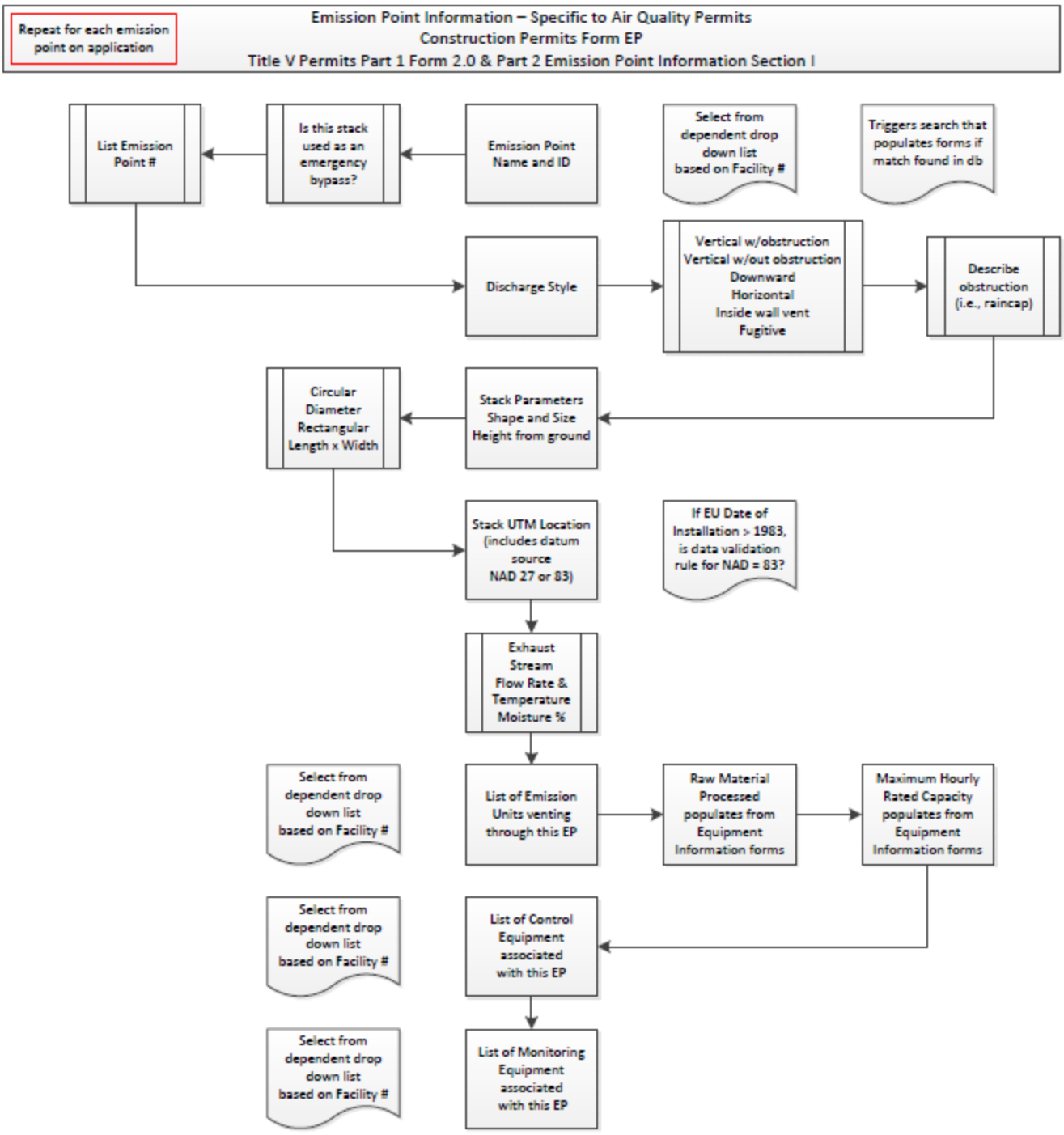
1.9 Business Process Flow Diagram

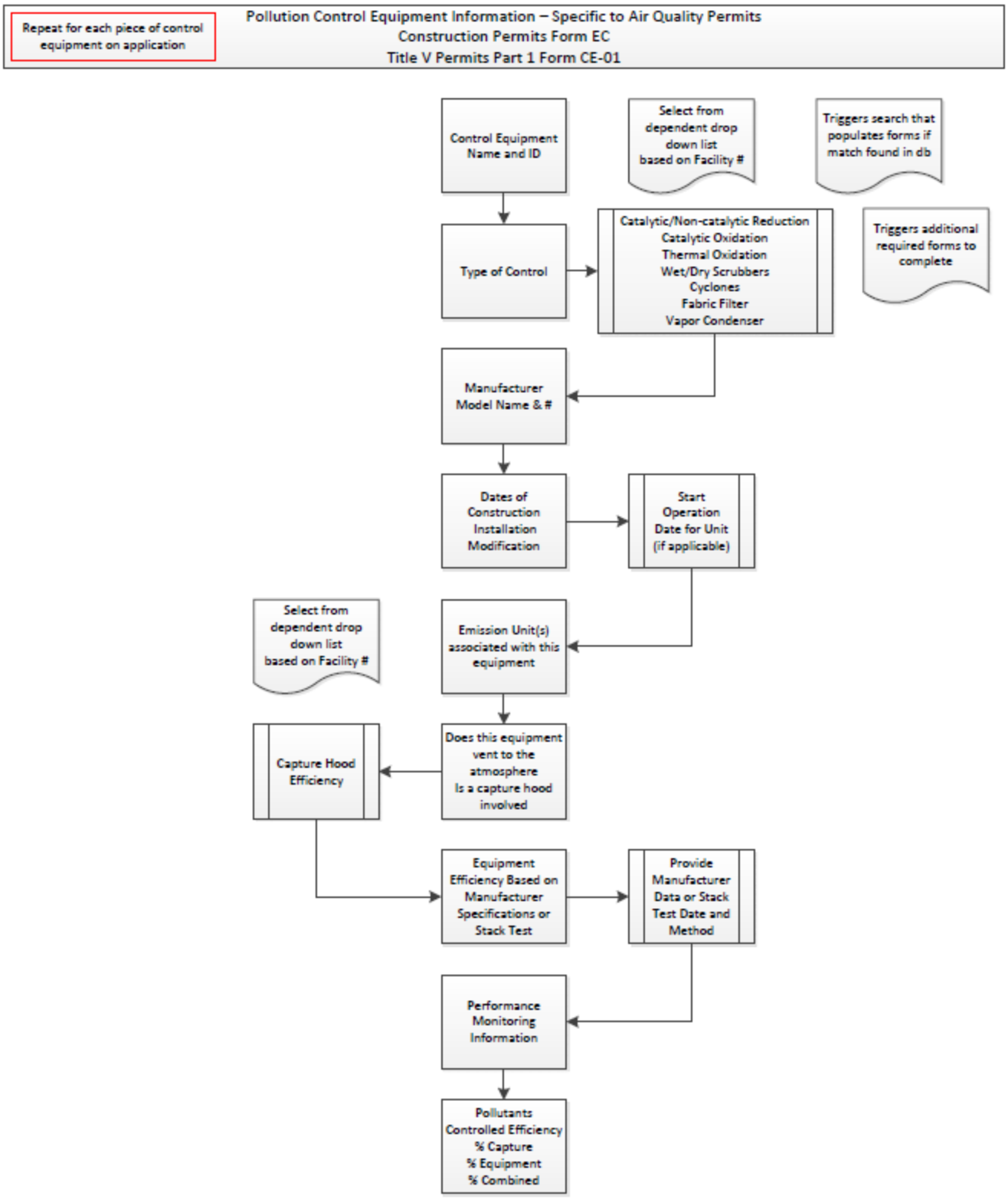
A Business Process Diagram describes the sequencing of activities within a business process.

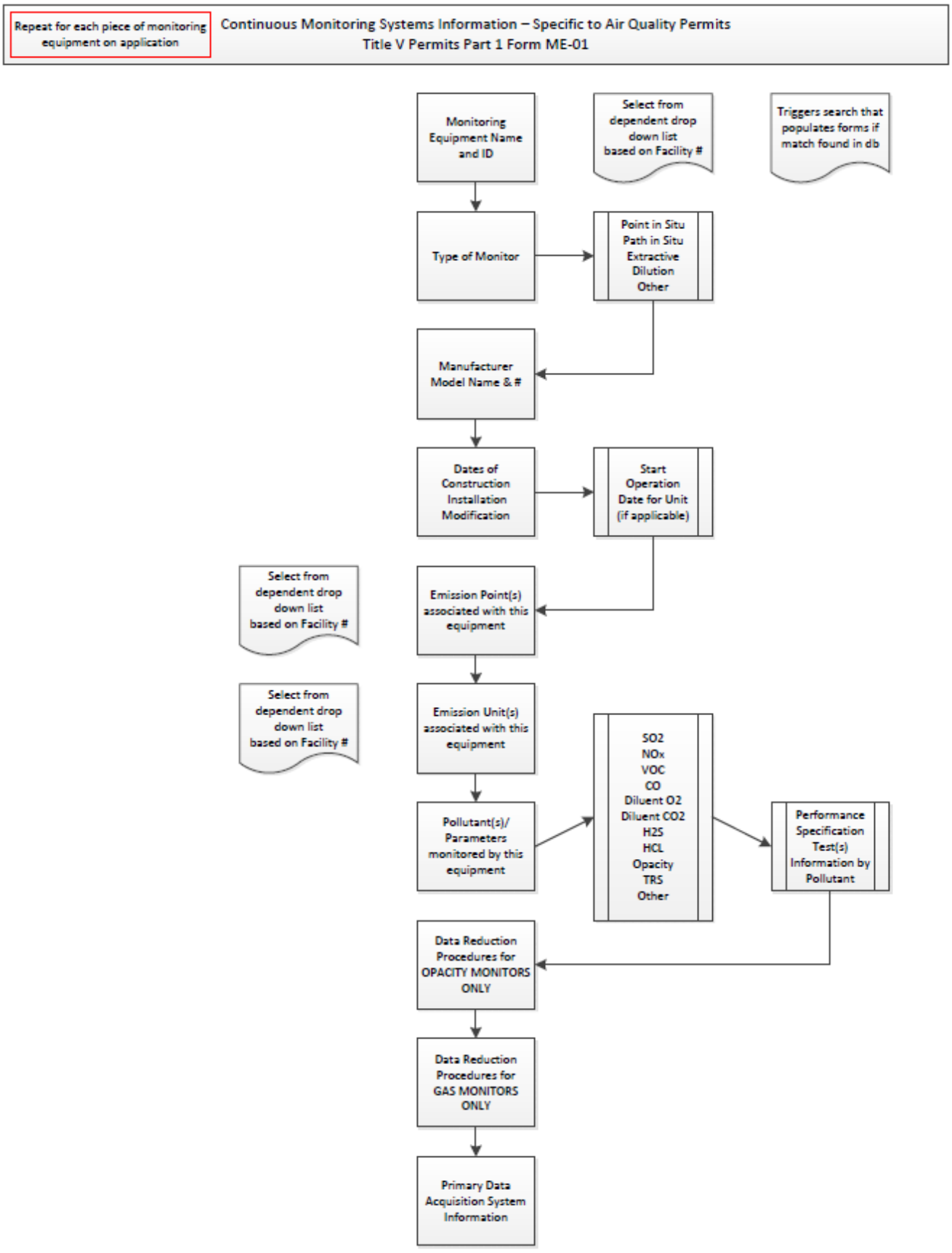
1.9.1 Future State Business Process Diagram

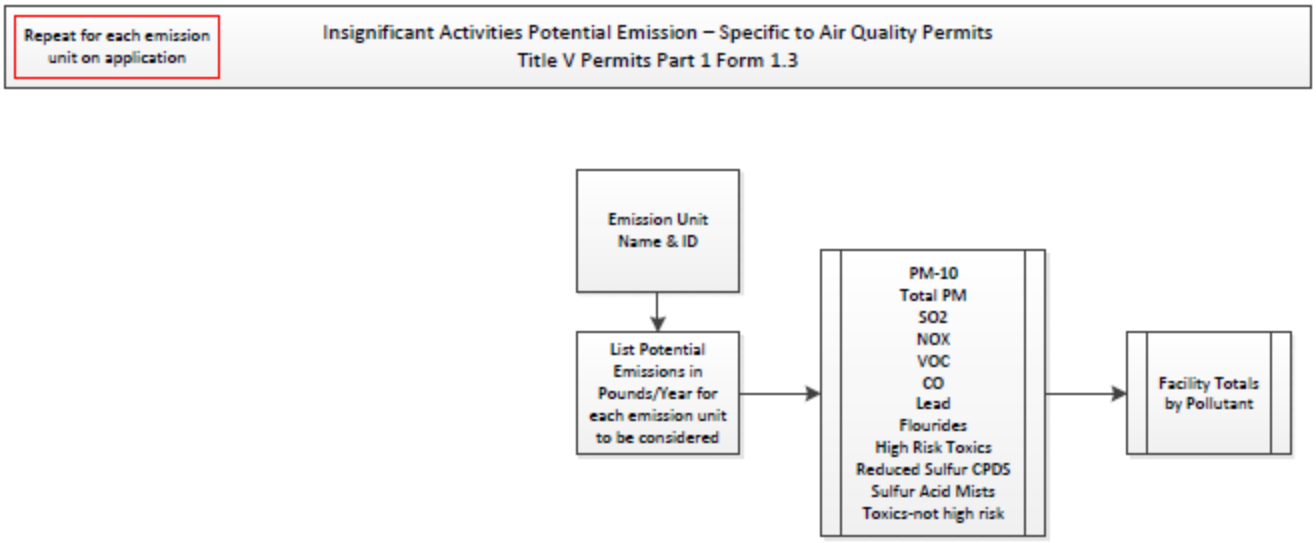


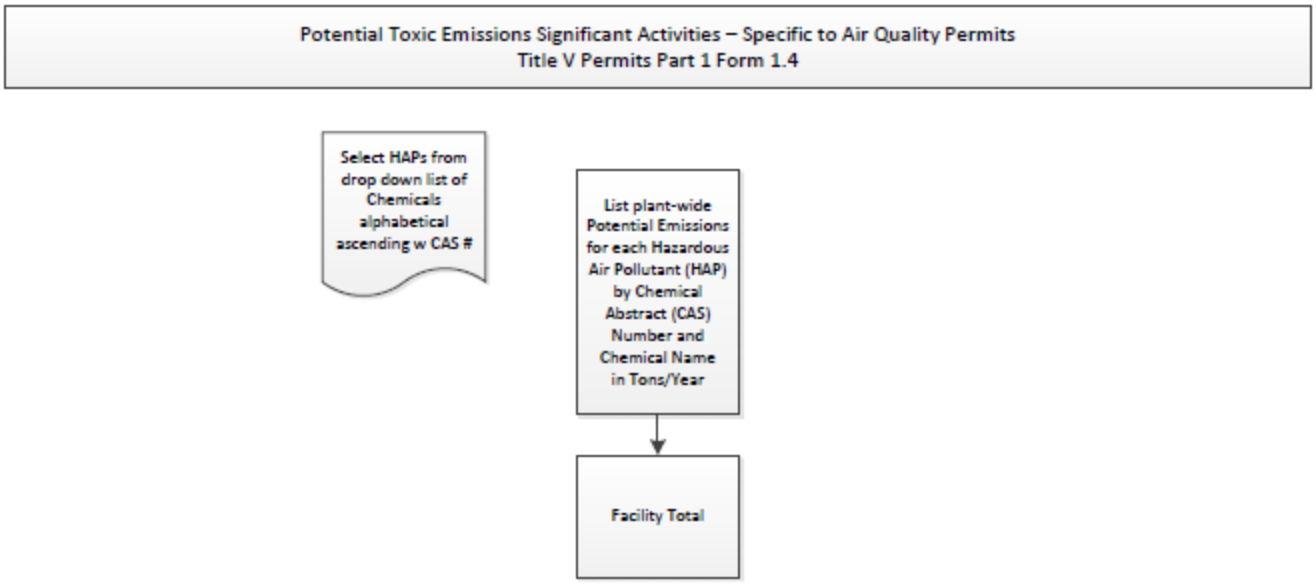

Repeat for each piece of equipment on application
Equipment Information
Construction Permits Form EU
Title V Permits Part 1 Form 3.0 & Part 2 General Requirements
Blue shading indicates questions specific for Air Quality Permit Applications
Type of Unit
New
Unpermitted
Modification
Permit # for modification
If application is a modification or Title V Operation, Permit # or Rule for Operating Limit
Triggers additional required forms to complete
Boiler
Cooling Tower
Internal Combustion Engine
Nonmetallic Mineral Processing Plant
Spray Paint Booth
(Emission) Unit Name and ID
Select from dependent drop down list based on Facility #
Triggers search that populates forms if match found in db
Manufacturer Model Name #
Maximum Hourly Rated Capacity
Raw Material(s) processed SCC #
Dates of Construction Installation Modification
Start Operation Date for Unit (if applicable)
Rationale for request
Request Limits Operating Hours Production Output (Emission) Material Usage
Control Equipment Name and ID (if applicable)
Monitoring Equipment Name and ID (if applicable)

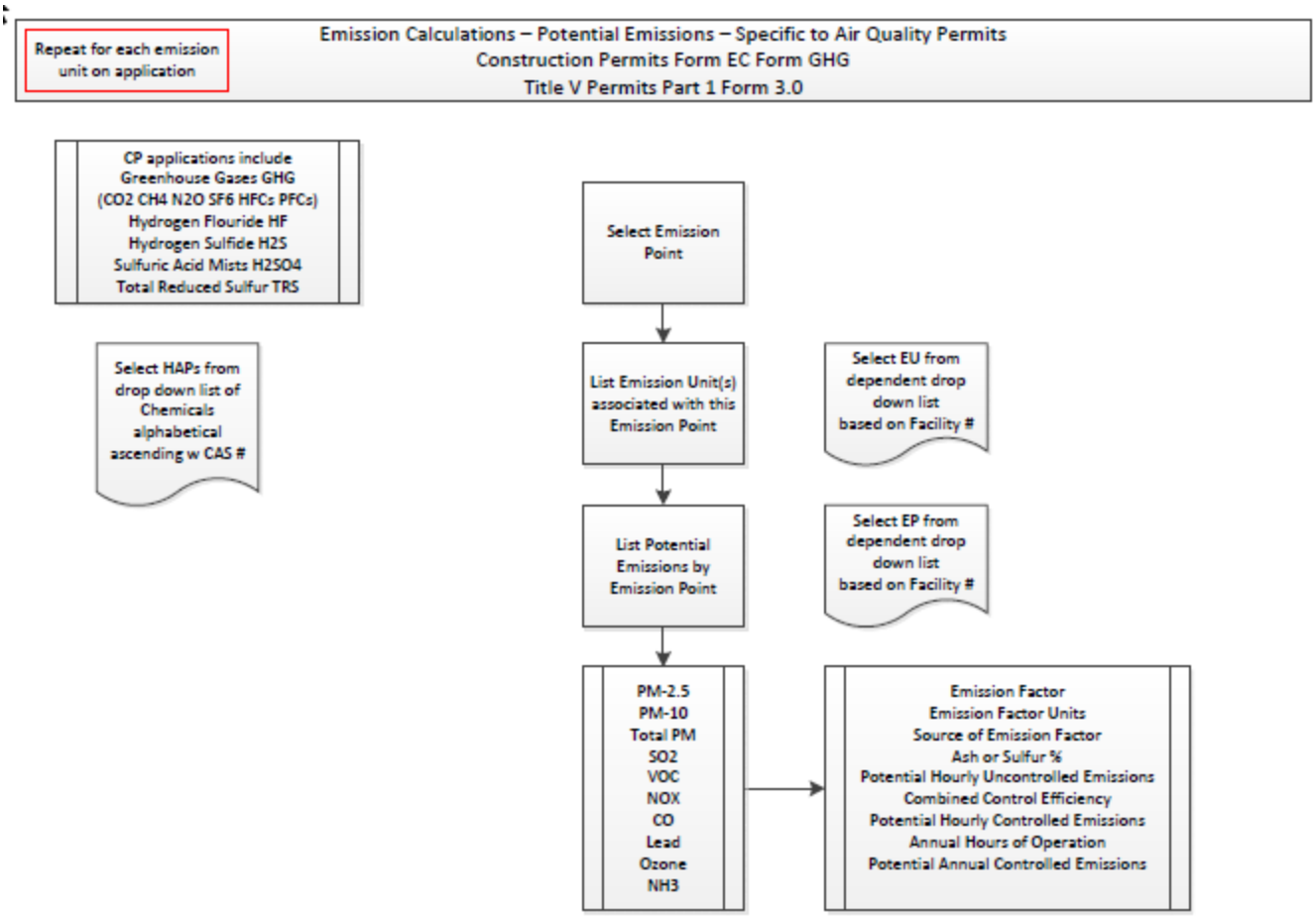

Repeat for each emission point on application
Emission Point Information – Specific to Air Quality Permits
Construction Permits Form EP
Title V Permits Part 1 Form 2.0 & Part 2 Emission Point Information Section I
List Emission Point #
Is this stack used as an emergency bypass?
Emission Point Name and ID
Select from dependent drop down list based on Facility #
Triggers search that populates forms if match found in db
Discharge Style
Vertical w/obstruction
Vertical w/out obstruction
Downward
Horizontal
Inside wall vent
Fugitive
Describe obstruction (i.e., raincap)
Circular
Diameter
Rectangular
Length x Width
Stack Parameters
Shape and Size
Height from ground
Stack UTM Location (includes datum source NAD 27 or 83)
If EU Date of Installation > 1983, is data validation rule for NAD = 83?
Exhaust Stream
Flow Rate &
Temperature
Moisture %
Select from dependent drop down list based on Facility #
List of Emission Units venting through this EP
Raw Material Processed populates from Equipment Information forms
Maximum Hourly Rated Capacity populates from Equipment Information forms
Select from dependent drop down list based on Facility #
List of Control Equipment associated with this EP
Select from dependent drop down list based on Facility #
List of Monitoring Equipment associated with this EP

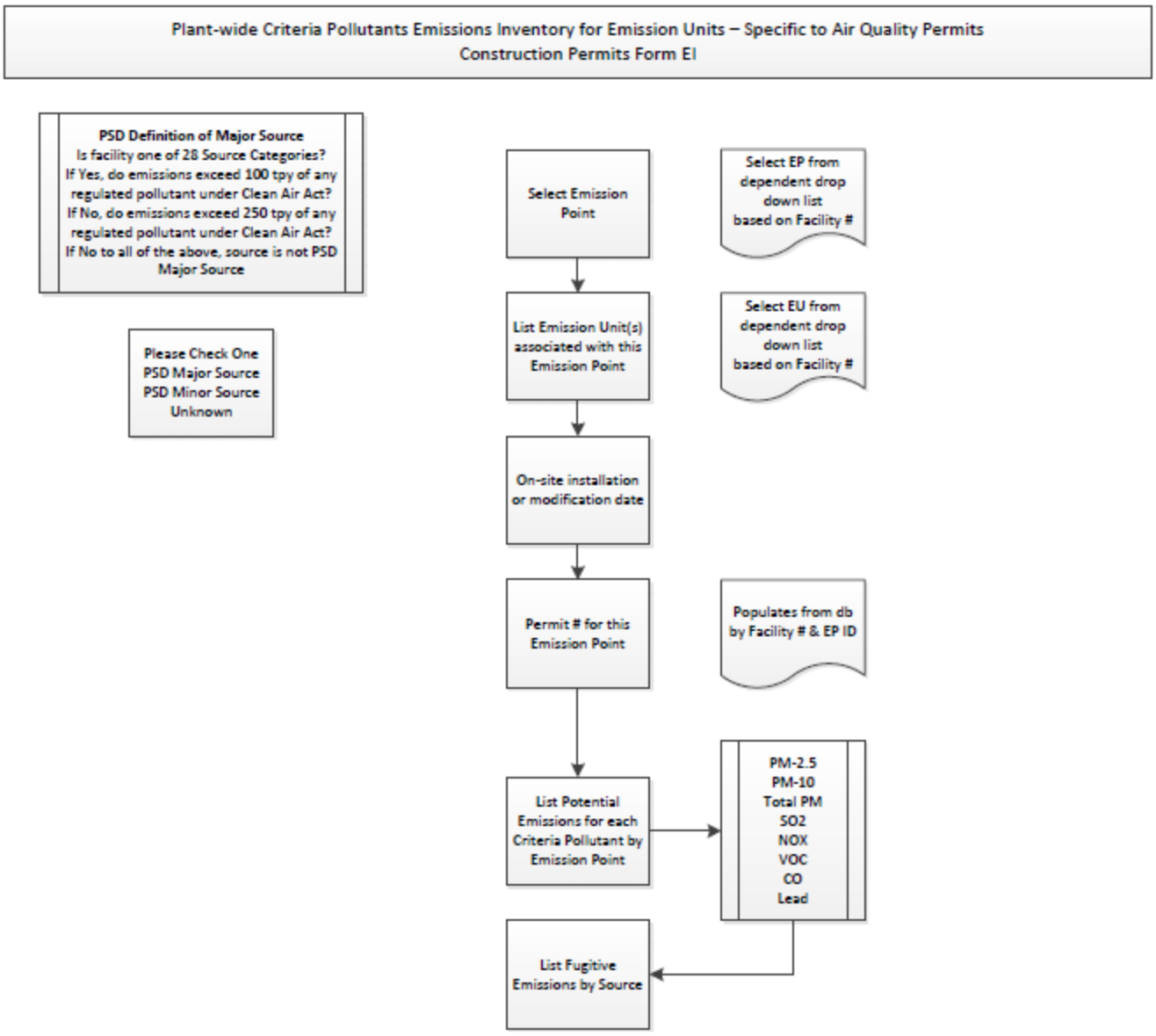

Repeat for each piece of control equipment on application
Pollution Control Equipment Information – Specific to Air Quality Permits
Construction Permits Form EC
Title V Permits Part 1 Form CE-01
Control Equipment Name and ID
Select from dependent drop down list based on Facility #
Triggers search that populates forms if match found in db
Type of Control
Catalytic/Non-catalytic Reduction
Catalytic Oxidation
Thermal Oxidation
Wet/Dry Scrubbers
Cyclones
Fabric Filter
Vapor Condenser
Triggers additional required forms to complete
Manufacturer Model Name & #
Dates of Construction Installation Modification
Start Operation Date for Unit (if applicable)
Select from dependent drop down list based on Facility #
Emission Unit(s) associated with this equipment
Capture Hood Efficiency
Does this equipment vent to the atmosphere Is a capture hood involved
Equipment Efficiency Based on Manufacturer Specifications or Stack Test
Provide Manufacturer Data or Stack Test Date and Method
Performance Monitoring Information
Pollutants Controlled Efficiency
% Capture
% Equipment
% Combined

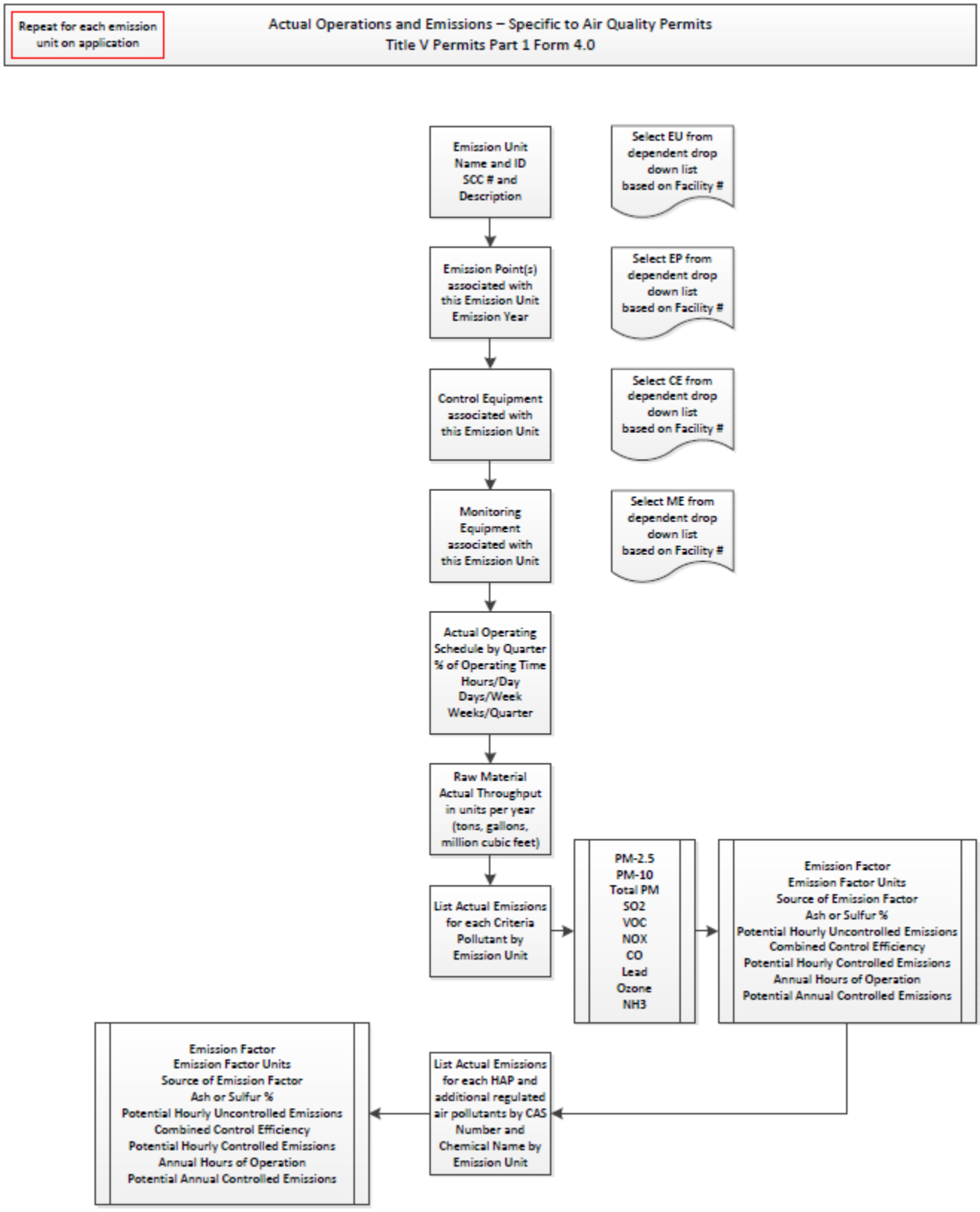

Repeat for each piece of monitoring equipment on application
Continuous Monitoring Systems Information – Specific to Air Quality Permits
Title V Permits Part 1 Form ME-01
Monitoring Equipment Name and ID
Select from dependent drop down list based on Facility #
Triggers search that populates forms if match found in db
Type of Monitor
Point in Situ
Path in Situ
Extractive
Dilution
Other
Manufacturer Model Name & #
Dates of Construction Installation Modification
Start Operation Date for Unit (if applicable)
Select from dependent drop down list based on Facility #
Emission Point(s) associated with this equipment
Select from dependent drop down list based on Facility #
Emission Unit(s) associated with this equipment
Pollutant(s)/ Parameters monitored by this equipment
SO2
NOx
VOC
CO
Diluent O2
Diluent CO2
H2S
HCL
Opacity
TRS
Other
Performance Specification Test(s) Information by Pollutant
Data Reduction Procedures for OPACITY MONITORS ONLY
Data Reduction Procedures for GAS MONITORS ONLY
Primary Data Acquisition System Information

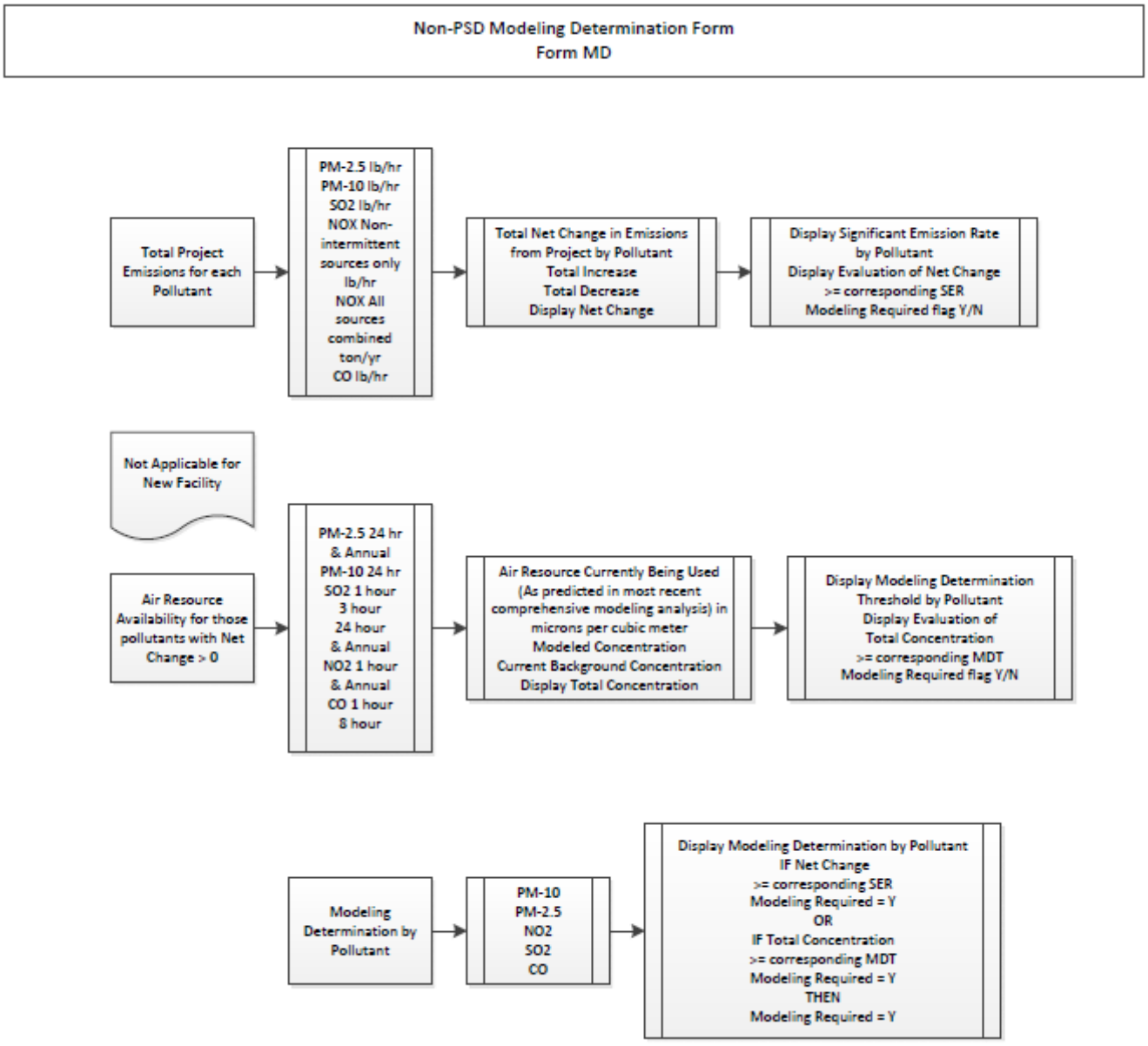

Repeat for each emission unit on application
Insignificant Activities Potential Emission – Specific to Air Quality Permits
Title V Permits Part 1 Form 1.3
Emission Unit Name & ID
List Potential Emissions in Pounds/Year for each emission unit to be considered
PM-10
Total PM
SO2
NOX
VOC
CO
Lead
Flourides
High Risk Toxics
Reduced Sulfur CPDS
Sulfur Acid Mists
Toxics-not high risk
Facility Totals by Pollutant

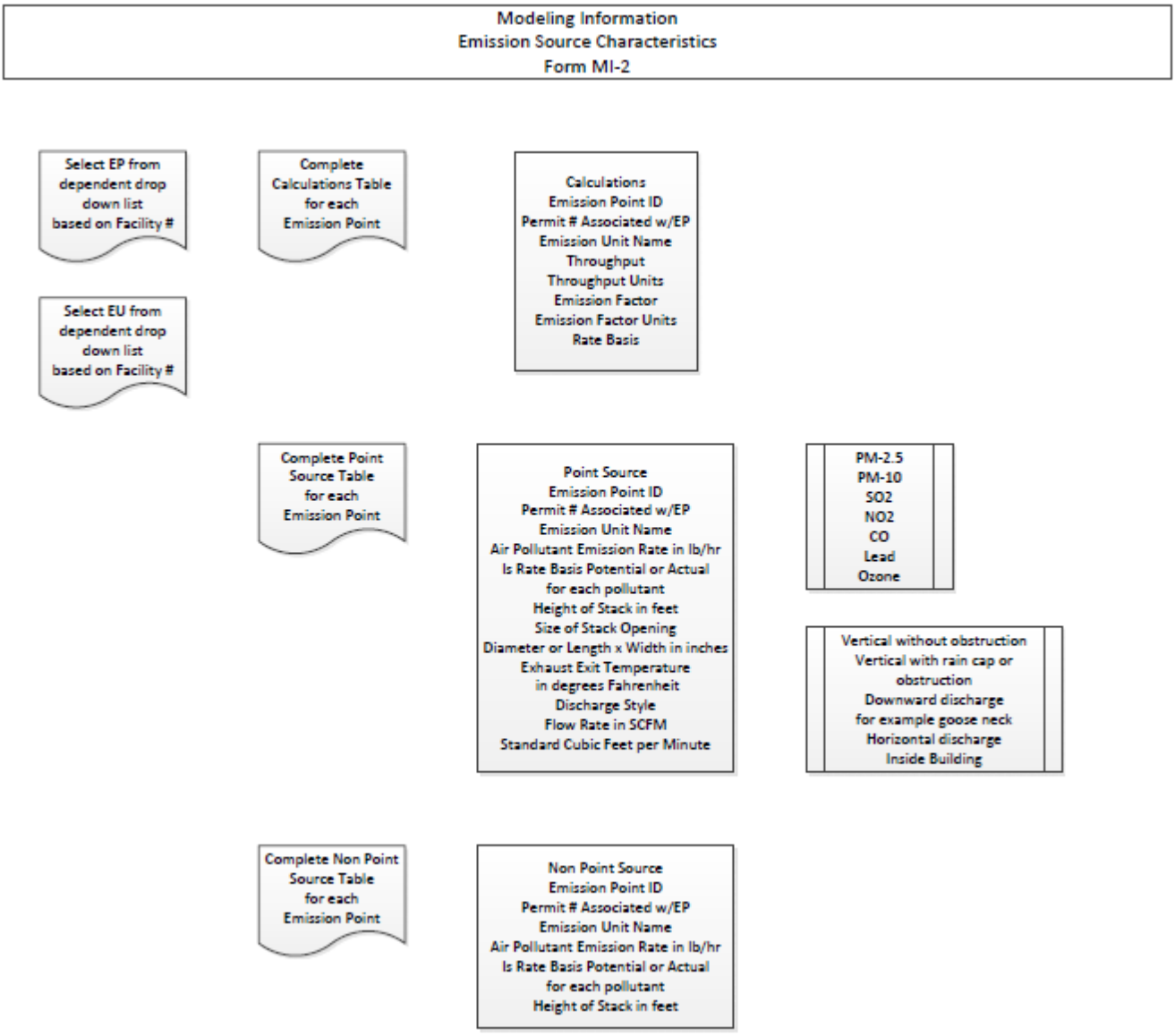

Potential Toxic Emissions Significant Activities – Specific to Air Quality Permits
Title V Permits Part 1 Form 1.4
Select HAPs from drop down list of Chemicals alphabetical ascending w CAS #
List plant-wide Potential Emissions for each Hazardous Air Pollutant (HAP) by Chemical Abstract (CAS) Number and Chemical Name in Tons/Year
Facility Total


Repeat for each emission unit on application
Emission Calculations – Potential Emissions – Specific to Air Quality Permits
Construction Permits Form EC Form GHG
Title V Permits Part 1 Form 3.0
CP applications include Greenhouse Gases GHG (CO2 CH4 N2O SF6 HFCs PFCs) Hydrogen Flouride HF Hydrogen Sulfide H2S Sulfuric Acid Mists H2SO4 Total Reduced Sulfur TRS
Select HAPs from drop down list of Chemicals alphabetical ascending w CAS #
Select Emission Point
List Emission Unit(s) associated with this Emission Point
Select EU from dependent drop down list based on Facility #
List Potential Emissions by Emission Point
Select EP from dependent drop down list based on Facility #
PM-2.5
PM-10
Total PM
SO2
VOC
NOX
CO
Lead
Ozone
NH3
Emission Factor
Emission Factor Units
Source of Emission Factor
Ash or Sulfur %
Potential Hourly Uncontrolled Emissions
Combined Control Efficiency
Potential Hourly Controlled Emissions
Annual Hours of Operation
Potential Annual Controlled Emissions


Plant-wide Criteria Pollutants Emissions Inventory for Emission Units – Specific to Air Quality Permits
Construction Permits Form EI
PSD Definition of Major Source
Is facility one of 28 Source Categories?
If Yes, do emissions exceed 100 tpy of any regulated pollutant under Clean Air Act?
If No, do emissions exceed 250 tpy of any regulated pollutant under Clean Air Act?
If No to all of the above, source is not PSD Major Source
Please Check One
PSD Major Source
PSD Minor Source
Unknown
Select Emission Point
Select EP from dependent drop down list based on Facility #
List Emission Unit(s) associated with this Emission Point
Select EU from dependent drop down list based on Facility #
On-site installation or modification date
Permit # for this Emission Point
Populates from db by Facility # & EP ID
List Potential Emissions for each Criteria Pollutant by Emission Point
PM-2.5
PM-10
Total PM
SO2
NOX
VOC
CO
Lead
List Fugitive Emissions by Source


Repeat for each emission unit on application
Actual Operations and Emissions – Specific to Air Quality Permits
Title V Permits Part 1 Form 4.0
Emission Unit Name and ID SCC # and Description
Select EU from dependent drop down list based on Facility #
Emission Point(s) associated with this Emission Unit Emission Year
Select EP from dependent drop down list based on Facility #
Control Equipment associated with this Emission Unit
Select CE from dependent drop down list based on Facility #
Monitoring Equipment associated with this Emission Unit
Select ME from dependent drop down list based on Facility #
Actual Operating Schedule by Quarter % of Operating Time Hours/Day Days/Week Weeks/Quarter
Raw Material Actual Throughput in units per year (tons, gallons, million cubic feet)
List Actual Emissions for each Criteria Pollutant by Emission Unit
PM-2.5
PM-10
Total PM
SO2
VOC
NOX
CO
Lead
Ozone
NH3
Emission Factor
Emission Factor Units
Source of Emission Factor
Ash or Sulfur %
Potential Hourly Uncontrolled Emissions
Combined Control Efficiency
Potential Hourly Controlled Emissions
Annual Hours of Operation
Potential Annual Controlled Emissions
List Actual Emissions for each HAP and additional regulated air pollutants by CAS Number and Chemical Name by Emission Unit
Emission Factor
Emission Factor Units
Source of Emission Factor
Ash or Sulfur %
Potential Hourly Uncontrolled Emissions
Combined Control Efficiency
Potential Hourly Controlled Emissions
Annual Hours of Operation
Potential Annual Controlled Emissions


Non-PSD Modeling Determination Form
Form MD
Total Project Emissions for each Pollutant
PM-2.5 lb/hr
PM-10 lb/hr
SO2 lb/hr
NOX Non-intermittent sources only lb/hr
NOX All sources combined ton/yr
CO lb/hr
Total Net Change in Emissions from Project by Pollutant
Total Increase
Total Decrease
Display Net Change
Display Significant Emission Rate by Pollutant
Display Evaluation of Net Change >= corresponding SER
Modeling Required flag Y/N
Not Applicable for New Facility
Air Resource Availability for those pollutants with Net Change > 0
PM-2.5 24 hr & Annual
PM-10 24 hr
SO2 1 hour
3 hour
24 hour
& Annual
NO2 1 hour
& Annual
CO 1 hour
8 hour
Air Resource Currently Being Used (As predicted in most recent comprehensive modeling analysis) in microns per cubic meter
Modeled Concentration
Current Background Concentration
Display Total Concentration
Display Modeling Determination Threshold by Pollutant
Display Evaluation of Total Concentration >= corresponding MDT
Modeling Required flag Y/N
Modeling Determination by Pollutant
PM-10
PM-2.5
NO2
SO2
CO
Display Modeling Determination by Pollutant
IF Net Change >= corresponding SER
Modeling Required = Y
OR
IF Total Concentration >= corresponding MDT
Modeling Required = Y
THEN
Modeling Required = Y


Modeling Information
Emission Source Characteristics
Form MI-2
Select EP from dependent drop down list based on Facility #
Select EU from dependent drop down list based on Facility #
Complete Calculations Table for each Emission Point
Calculations
Emission Point ID
Permit # Associated w/EP
Emission Unit Name
Throughput
Throughput Units
Emission Factor
Emission Factor Units
Rate Basis
Complete Point Source Table for each Emission Point
Point Source
Emission Point ID
Permit # Associated w/EP
Emission Unit Name
Air Pollutant Emission Rate in lb/hr
Is Rate Basis Potential or Actual for each pollutant
Height of Stack in feet
Size of Stack Opening Diameter or Length x Width in inches
Exhaust Exit Temperature in degrees Fahrenheit
Discharge Style
Flow Rate in SCFM
Standard Cubic Feet per Minute
PM-2.5
PM-10
SO2
NO2
CO
Lead
Ozone
Vertical without obstruction
Vertical with rain cap or obstruction
Downward discharge for example goose neck
Horizontal discharge Inside Building
Complete Non Point Source Table for each Emission Point
Non Point Source
Emission Point ID
Permit # Associated w/EP
Emission Unit Name
Air Pollutant Emission Rate in lb/hr
Is Rate Basis Potential or Actual for each pollutant
Height of Stack in feet

2. Global Requirements

This project will deliver a permitting application system with components of reusable code whenever possible to facilitate inter agency usability.

Creation of the following items will provide the DNR with a workable set of tools to enable e-Application solutions across multiple environmental media (e.g. air, water, solid waste, etc.). These tools will increase online reporting by industry, decrease manual data entry by agency staff, improve data quality, and incorporate easy online payment processing and tracking.

At a high-level, the following items benefit the DNR Bureaus and regulated business required to have air quality permits:

1. A sharable air e-Application system and associated documentation that can create, store, and maintain permit application forms submitted by regulated entities. Environmental agencies across the country are interested in e-Application as a means to streamline processes and reduce turnaround time. Since many of the permitting components across different environmental media are similar, other agencies that have an interest in implementing similar e-Application systems will be able to utilize the framework, modules, system architecture, programming code, documentation, and lessons learned from this project.
2. An administrative interface that will allow bureau staff to define custom data validation rules, processing rules, and form instructions.
3. A sharable module for permit workflow tracking.
4. A system that is scalable to include a permit fee payment module.
5. Adherence to EPA's Cross Media Electronic Reporting Rule (CROMERR) requirements (40 CFR Part 3).
6. Architecture designed to incorporate custom modules to allow for unique permit or state requirements.

2.1 Technical (Non-functional) Requirements

Number	Description	Requirement
NF1.0	Compatibility	System will work with MS Windows OS
NF1.1	Compatibility	System will work with iOS
NF1.2	Compatibility	System will work on Google Chrome
NF1.3	Compatibility	System will work on Internet Explorer and Edge
NF1.4	Compatibility	System will work on Mozilla Firefox
NF1.5	Compatibility	System will work on Safari
NF1.6	Compatibility	System will work on Android OS
NF2.0	Standard Design	If built as software on DNR server, system will be built to conform to DNR IT application development guidelines in SQL/C#/.NET for relational database management systems. Does not apply if solution is cloud-based.
NF2.1	Standard Design	Application code must meet the usability standard of Universal Design and Section 508 of the U.S. Rehabilitation Act of 1973 (Group B Requirement). https://www.access-board.gov/guidelines-and-standards/communications-and-it/about-the-section-508-standards/section-508-standards#subpart_b

Number	Description	Requirement
NF2.2	Standard Design	Field attributes will conform to EPA Data Standards https://www.epa.gov/data-standards/list-epa-data-standards#file-150391
NF3.0	Capacity	System must be able to accommodate up to 999,999 unique equipment numbers per facility number
NF3.1	Capacity	System must be able to accommodate 999,999 unique facilities.
NF3.2	Capacity	System must be able to accommodate 500-1,000 concurrent external connections.
NF4.0	Dependencies	System will be built to push data to Stack Test Database
NF4.1	Dependencies	System will be built to push data to Construction Permit Search Database
NF4.2	Dependencies	System will be built to push data to One Stop Data Warehouse
NF4.3	Dependencies	System will be built to push data to AQWebApps
NF4.4	Dependencies	System will be built to push data to records center database
NF5.0	Sustainability	System will allow Agency Admin User to add/edit/delete records in data flows to dependent systems as requirements change.
NF5.1	Sustainability	System will allow enhancements to changes in operating systems and browser compatibility as requirements change
NF6.0	Application Security Refer to http://www.epa.gov/cromerr	Provide online interface to certify truth and accuracy of original submission
NF6.1	Application Security	Provide mechanism to perform identity proofing of the submitter
NF6.2	Application Security	Create the office copy of record
NF6.3	Application Security	Bind electronic signature to online document
NF6.4	Application Security	Provide means to prove that the copy of record was not altered
NF6.5	Application Security	Provide means to repudiate a submission
NF7.0	Change Control	Change control process will allow changes in user interface to be in production within 30 days of start
NF7.1	Change Control	Change control process will allow changes in application forms to be in production within 15 days of start

2.2 User Experience (Functional) Requirements

Number	Description	Requirement
F1.0	Cursor Focus	All screens will open with cursor active in first data entry field
F2.0	Navigation	<Enter> advances cursor to next field
F2.1	Navigation	Cursor advances left to right and then down to next row
F2.2	Navigation	All links open in the same window enabling user to use the 'Back' button that corresponds with the browser's 'Back' button
F2.3	Navigation	<Enter> key will function as Find/Search when a search value is entered into a field
F2.4	Navigation	System will have one user interface for attaching files
F2.5	Navigation	User Interface will mimic paper forms – See Section 3.2.2
F3.0	Drop Down lists	All drop down lists will be sorted alphabetically ascending
F3.1	Drop Down lists	Cursor will jump to item in list matching input
F4.0	Save and Continue	All screens will allow user to save application and resume data entry later

Number	Description	Requirement
F4.1	Save and Continue	Auto save will run every 15 minutes if keyboard is active
F4.2	Save and Continue	If browser crashes, application will resume at last manual save/auto save when user logs into system
F5.0	Eliminate Redundant Data Entry	Fields will populate with stored values based on facility number. Example Facility #01-23-456 location information, contact information and equipment lists populate all application forms with the option to add or remove data on new application (cannot edit must add and select)
F6.0	Field Masks	All fields with specialized format will use an input mask. Example ZIP Code, Phone Number, Professional Engineer License Number
F7.0	Required Information	Fields marked required cannot be left blank or contain a null value
F8.0	Field Help	All context help pop-up boxes will explain how to enter data in plain language.
F9.0	Error Messages	All error message pop-up boxes will give user error message detail in plain language and provide guidance to correct data entry
F10.0	Time Indicators	System will show 'progress bar' if a command takes more than 10 seconds
F10.1	Time Indicators	System will show 'busy' cursor if a command takes more than one second
F11.0	Search	Search results from any module can be sorted in tabular format

2.3 Implementation Requirements

This section is dependent on vendor proposal.

2.4 Decommissioning Requirements

Number	System
Decom1	State Permitting and Reporting System will be archived and removed from eAirServices
Decom2	AQWebApps will be archived and removed from Air Quality Employee Manual website
Decom3	Construction Permitting Project Tracker Access database will be evaluated for elements that may be discontinued
Decom4	Title V Operating Permit Project Tracker Access database will be evaluated for elements that may be discontinued

3. Agency Neutral Processes and Requirements

This section provides detail for the development team concerning components which perform tasks determined not specific to Air Quality permitting.

3.1 Administrative Module

3.1.1 Administrative Module Process

Provide easy to use interface allowing agency staff to modify application fields such as turn on/off required data entry, add/edit/delete data validation rules, add new field, change placement of field, and add/edit/delete users and user permissions. Includes management of drop-down lists and a security level for agency staff different from Information Technology staff.

3.1.2 Administrative Module Requirements

Number	Category	Description	Requirement
A1.0	Permissions	Define Roles	Drop Down List: Facility User, Consultant, Agency User, Agency Senior, Agency Admin, Agency IT
A2.0	Permissions	Facility User	User will be able to start new permit application
A2.1	Permissions	Facility User	User will be able to resume partial application
A2.2	Permissions	Facility User	User will be able to edit application prior to submit
A2.3	Permissions	Facility User	User will be able to edit application after submission and send 'update' notification
A2.4	Permissions	Facility User	User will be able to submit application
A2.5	Permissions	Facility User	User will be able to view application during data entry and after submission.
A3.0	Permissions	Consultant	User will inherit Facility User Permissions
A3.1	Permissions	Consultant	User will be able to complete & submit applications for more than one facility
A4.0	Permissions	Agency User	User will inherit Facility User Permissions
A4.1	Permissions	Agency User	User will be able to review submitted application
A4.2	Permissions	Agency User	User will be able to review history of changes to an application
A4.3	Permissions	Agency User	User will be able to update application for agency view
A4.4	Permissions	Agency User	User can add/edit/remove content in drop down Lists
A4.5	Permissions	Agency User	User can modify data validation rules
A4.6	Permissions	Agency User	User can add/edit/remove application questions
A4.7	Permissions	Agency User	User can add/edit/remove fields from application user interface
A6.0	Permissions	Agency Admin	User will inherit Agency User Permissions
A6.1	Permissions	Agency Admin	User will be able to create new facility records
A6.2	Permissions	Agency Admin	User will be able to create new user id accounts
A6.3	Permissions	Agency Admin	User will be able to deactivate user id accounts
A6.4	Permissions	Agency Admin	User will be able to change user id permissions
A6.5	Permissions	Agency Admin	User will be able to move/edit/delete 'undo' permits from one facility to another

Number	Category	Description	Requirement
A6.6	Permissions	Agency Admin	User will be able to edit/remove incorrect data from application
A6.7	Permissions	Agency Admin	User will be able to move equipment from one facility to another facility
A6.8	Permissions	Agency Admin	User will be able to merge equipment from two or more facilities
A6.9	Permissions	Agency Admin	User will be able to add/edit/delete fields from all module user interfaces
A6.10	Permissions	Agency Admin	User can adjust fee schedule
A7.0	Permissions	DBA	User will NOT inherit permissions from any other defined role
A7.1	Permissions	DBA	User will be able to replicate database tables
A7.2	Permissions	DBA	User will be able to install software upgrades
A7.3	Permissions	DBA	User will be able to add rows in database tables
A7.4	Permissions	DBA	User will be able to add columns in database tables
A7.5	Permissions	DBA	User will be able to backup database
A7.6	Permissions	DBA	User will be able to restore database
A8.0	Authentication	User Authentication	All users can ask for password reset from sign in page.
A8.1	Authentication	User Authentication	User ID authentication will conform to established DNR protocols

3.2 Review Module

3.2.1 Review Module Process

Provide easy to use interface for agency staff to review submitted permit application online with option to generate a printed copy of the permit application.

3.2.2 Review Module Requirements

Number	Description	Requirement
B1.0	Facility User Review	Facility User will be able to review permit application online at any point of data entry before submitting to agency
B1.1	Facility User Review	Facility User will be able to submit completed application or close review and edit application
B1.2	Facility User Review	Facility User will be able to review application following submission
B2.0	Agency User Review	Agency User will be able to review submitted permit application or close review and edit application
B2.1	Agency User Review	Agency User will be able to view application as 'read only' before facility user submission
B2.2	Agency User Review	Agency User will be able to indicate that application review is in progress and notify other users who view application with an easily recognizable signal "flashing red"
B2.3	Agency User Review	Agency User will be able to turn 'application in review' flag off when appropriate
B3.0	Print Preview	Any user will be able to populate current 'paper' forms with a button that runs in the background to push application field values to pdf or Word or similar tools.

3.3 Attachment Module

3.3.1 Attachment Module Process

Provide easy to use interface allowing attachment of common file types for supplemental information including, but not limited to, word processing documents, spreadsheets, photos, flowcharts, process diagrams, and maps.

3.3.2 Attachment Module Requirements

Number	Description	Requirement
C1.0	Attach files	Facility User will be able to attach common file types for supplemental information including, but not limited to, word processing documents, spreadsheets, photos, flowcharts, process diagrams, and maps.
C1.1	Attach files	User will receive message box "File successfully uploaded" when file upload is complete
C1.2	Attach files	On error, user will receive error message box "File did not upload because" with a clear explanation i.e., - file upload timed out
C1.2.1	Attach files	If the error is size of attachment, provide messaging that file size is too large and allow applicant to upload smaller files.
C2.0	File Size	System will allow large attachments up to 40 MB in size

3.4 Confidential Business Information Module

3.4.1 Confidential Business Information Module Process

Provide secure mechanism for facility to request portions of permit application as 'Confidential' as allowed by Rule 567 Iowa Administrative Code section 22.107(2). Agency needs option to deny request in which case the system will not store a public copy of the application with redacted information.

3.4.2 Confidential Business Information Requirements

Number	Description	Requirement
D1.0	Confidential Data	Facility User will be able to request indicated Confidential Business Information (CBI) in application
D1.0.1	Confidential Data	Facility User will agree to provide a letter of substantiation to support their claim.
D1.1	Confidential Data	Confidential Process can be redacted
D1.2	Confidential Data	Confidential Equipment Specifications can be redacted
D1.3	Confidential Data	*Message box to advise emissions cannot be confidential*
D2.0	Public	System will store a public copy of the permit application with redacted information completely blacked out
D3.0	Private	System will store a confidential copy of the permit application with all information for Agency User to perform technical review and issue permit

3.5 Payment Module

3.5.1 Payment Module Process

Provide method for a regulated entity applying for air quality permit to pay fees. The fee mechanism must conform to Payment Card Industry Data Security Standard (PCI DSS) rules and must allow for online payment with credit, debit or e-check. U.S. Bank is the current state vendor for online banking.

3.5.2 Payment Module Requirements

Number	Description	Requirement
E1.0	Pay online	Facility User chooses to pay application fee online
E2.0	Type of application	Check box select one
E2.1	Type of application	Minor Source Construction Permit Application
E2.2	Type of application	Minor Source Registration Permit Application
E2.3	Type of application	Minor Source Permit by Rule Application
E2.4	Type of application	Minor Source Permit Template Application
E3.0	Invoice	If the type of permit application is not listed, display message box advising of billable hours and provide link to Air Quality Fees page
E3.1	Invoice	User can pay invoice for billed hours online using invoice number
E4.0	Type of payment	Secure website payment process authorized by OCIO

3.6 Project Tracking Module

3.6.1 Project Tracking Module Process

Provide easy to use project tracking tool to facility (read only) and agency staff (update) with status/workflow stage for each active permit application (see G2.11).

Permit application status includes, but is not limited to, the following: submitted, received, complete and accurate, assigned, technical review, requesting information, public notice, issued, and expiration date. Please include a component to track billable hours. The status of current Construction Permit applications, as well as Draft and Final Permits, are shown in the Construction Permit Search database. Current Title V Draft and Final Permits are published on DNR's website: Title V Draft and Final Permits. Both Construction Permit and Title V Operating Permit program areas use an Access database for project tracking. We are seeking recommendations for an alternate solution.

3.6.2 Project Tracking Module Field Requirements

Facility data is agency neutral. Project/Application data and Permit data are specific to Air Quality program but would easily be modified to fit another program.

Number	Category	Description	Validation rules
G1.0	Facility Data	Facility Name	Text Box
G1.1	Facility Data	Facility Number	Text Box 10 characters
G1.2	Facility Data	EIQ Number	Text Box 7 characters
G1.3	Facility Data	Type of Facility	Drop Down List: Minor EI, Title V, Title V/Minor EI, Aggregate Processing Plant, Hot Mix Asphalt Plant, Concrete Batch Plant, Compression Ignition Engines, Spark Ignition Engines, Large Bulk Gas Plant, Small Bulk Gas Plant, Group 1 Grain Elevators, Group 2 Grain Elevators, Prepared Feeds, Permit by Rule Spray Booth.
G1.5	Facility Data	Contact Last Name	Text Box
G1.6	Facility Data	Contact Title	Text Box
G1.7	Facility Data	Contact Phone Number	All phone numbers will store only the number. The special characters will be displayed as a mask in the user interface. Mask will be (nnn) nnn-nnnn. This field will be varchar 15 to match One Stop Standard. The input mask will be displayed while the user is entering the information.
G1.8	Facility Data	Contact Email Address	Email address must have a valid domain name format
G1.9	Facility Data	Parent Company Name	Text Box
G1.10	Facility Data	Mailing Address 1	Text Box
G1.11	Facility Data	Mailing Address 2	Text Box
G1.12	Facility Data	Mailing City	Text Box
G1.13	Facility Data	Mailing State	Drop Down List defaults to IA
G1.14	Facility Data	Mailing Zip	All ZIP Codes will store only the number. The special characters will be displayed as a mask in the user interface. Mask will be nnnnn-nnnn. This field will match One Stop Standard. The input mask will be displayed while the user is entering information

Number	Category	Description	Validation rules
G1.10	Facility Data	Billing Address 1	Text Box (if different from Mailing Address)
G1.11	Facility Data	Billing Address 2	Text Box
G1.12	Facility Data	Billing City	Text Box
G1.13	Facility Data	Billing State	Drop Down List defaults to IA
G1.14	Facility Data	Billing Zip	All ZIP Codes will store only the number. The special characters will be displayed as a mask in the user interface. Mask will be nnnnn-nnnn. This field will match One Stop Standard. The input mask will be displayed while the user is entering information
G1.15	Facility Data	Site Address 1	Text Box
G1.16	Facility Data	Site Address 2	Text Box
G1.17	Facility Data	Site City	Text Box
G1.18	Facility Data	Site State	Drop Down List defaults to IA
G1.19	Facility Data	Site Zip	All ZIP Codes will store only the number. The special characters will be displayed as a mask in the user interface. Mask will be nnnnn-nnnn. This field will match One Stop Standard. The input mask will be displayed while the user is entering information
G1.20	Facility Data	Site County	Drop Down List of Iowa county names
G1.21	Facility Data	Responsible Official First Name	Text Box
G1.22	Facility Data	RO Last Name	Text Box
G1.23	Facility Data	RO Title	Text Box
G1.24	Facility Data	RO Company	Text Box
G1.25	Facility Data	RO Address 1	Text Box
G1.26	Facility Data	RO Address 2	Text Box
G1.27	Facility Data	RO City	Text Box
G1.28	Facility Data	RO State	Drop Down List defaults to IA
G1.29	Facility Data	RO Zip	All ZIP Codes will store only the number. The special characters will be displayed as a mask in the user interface. Mask will be nnnnn-nnnn. This field will match One Stop Standard. The input mask will be displayed while the user is entering information
G1.30	Facility Data	SIC Code	Text Box 4 characters
G1.31	Facility Data	NAICS Code	Text Box 6 characters
G1.32	Facility Data	Field Office	Drop Down List of DNR field office locations
G2.0	Project Data	Project Number	Text Box 12 characters

Number	Category	Description	Validation rules
G2.1	Project Data	Type of Application	Drop Down List: Title V Initial, Title V Renewal, Construction Permit Initial, Title V Supplemental Information, Title V Administrative Amendment, Title V Minor Permit Modification, Title V Significant Permit Modification, Rescission, Variance; CP Other Complex; CP Standard, CP PSD/NA-NSR Complex; Other Complex Type (dependent drop down list): SIP, PSD Synthetic, Title V Synthetic, Greenfield biofuel, Netting, Legal, Compliance, Consent Decree; Type of Application table includes billable rate by type of application for management reports
G2.2	Project Data	Submitted by Consultant	Yes/No Radio Button, if Yes text box displays to enter Consultant Name
G2.3	Project Data	If Yes, Consultant Name	Drop down List based on table of frequently used Consultants
G2.4	Project Data	Facility Requested Draft Permit	Yes/No Radio Button
G2.5	Project Data	Facility Requested Confidentiality	Yes/No Radio Button
G2.6	Project Data	Date Received	Pop up Calendar selection tool
G2.7	Project Data	Application Late	Yes/No Radio Button
G2.8	Project Data	Application Incomplete	Yes/No Radio Button
G2.9	Project Data	Date Assigned to Staff	Pop up Calendar selection tool
G2.10	Project Data	Assigned Staff	Drop Down List: Name of Environmental Specialist or Engineer assigned to permit application; table of employees includes job classification and billable rate for management reports.
G2.11	Project Data	Project Status	Drop Down List: Waiting to be assigned, Permit writer assigned, Technical review in progress, Request additional information from applicant, Referred to compliance, Referred to legal, Referred to other, Draft permit issued, Public notice, Final permit issued (list can be edited by Agency User Role see A4.4)
G2.12	Project Data	Project Status Date	Pop up Calendar selection tool

Number	Category	Description	Validation rules
G2.13	Project Data	Project Event	Drop Down List: Construction Welcome Call, Administratively Complete, Construction Request Information, Construction Awaiting Engineer Assignment, Construction Review Engineer Assigned, Construction Engineer Review, Modeling Assessment, Construction Draft Permit Issued, , Title V Received, Title V Assigned, Title V Information Request, Title V Technical Review, Title V Facility Review, Title V Expiration Date, Public Notice, Final Permit Issued, (list can be edited by Agency User Role see A4.4)
G2.14	Project Data	Project Event Date	Pop up Calendar selection tool
G2.23	Project Data	Copy Application sent to EPA	Yes/No Radio Button
G2.24	Project Data	CP Projects to Title V Sources	List of each project attached to Facility Number
G2.25	Project Data	CP Permits per Project	Numeric 3 characters
G2.26	Project Data	Time Tracking Activity Code	Drop Down List joined to Type of Application table and includes billable rate for management reports
G2.27	Project Data	Time Tracking Duration	Numeric 6 characters
G2.28	Project Data	Time Tracking Activity Date	Pop up Calendar selection tool
G2.29	Project Data	Time Tracking Activity Approval Date	Pop up Calendar selection tool
G2.30	Project Data	NSPS Flag	Yes/No Radio Button, if Yes text box displays to enter NSPS Subpart
G2.31	Project Data	if Yes, NSPS Subpart	Memo Box
G2.31.1	Project Data	+ for additional NSPS Subpart	Memo Box
G2.32	Project Data	NESHAP Flag	Yes/No Radio Button, if Yes text box displays to enter NESHAP Subpart
G2.33	Project Data	if Yes, NESHAP Subpart	Memo Box
G2.33.1	Project Data	+ for additional NESHAP Subpart	Memo Box
G2.34	Project Data	Acid Rain	Yes/No Radio Button
G2.35	Project Data	CSAPR	Yes/No Radio Button
G2.36	Project Data	CP Exempt Determination	Numeric 3 characters
G2.37	Project Data	Denials	Numeric 3 characters
G2.38	Project Data	Withdrawals	Numeric 3 characters
G2.39	Project Data	Rescissions	Numeric 3 characters
G2.40	Project Data	CP Comments	Memo Box
G2.41	Project Data	TV Comments	Memo Box
G3.0	Permit Data	Permit Number	Text Box 16 characters
G3.1	Permit Data	Date Permit Issued	Pop up Calendar selection tool

Number	Category	Description	Validation rules
G3.2	Permit Data	Permit Type	Drop Down List: Concrete Batch, Aggregate Processing, Asphalt, Grain Elevators Group 1, Grain Elevators Group 2, Group of Identical Permits, Collection of Air Permits, Plant-wide Applicability Limits, Standard Permit, Bulk Gasoline Plant Small, Bulk Gasoline Plant Large, Title V Initial Operating Permit, Title V Renewal Operating Permit, Title V Supplemental, Title V Minor Modification, Title V Significant Modification, Title V EZ Mod. (list can be edited by Agency User Role see A4.4)
G3.3	Permit Data	Date Permit Expires	Pop up Calendar selection tool
G3.4	Permit Data	Emission Point ID	Drop Down List populated by EP IDs associated with Facility Number
G3.5	Permit Data	Emission Point Description	Populated from EP ID read only
G3.6	Permit Data	Stack Shape	Populated from EP ID read only
G3.7	Permit Data	Stack Size	Populated from EP ID read only
G3.8	Permit Data	Discharge Style	Populated from EP ID read only
G3.9	Permit Data	Exhaust Stream Flow Rate	Populated from EP ID read only
G3.10	Permit Data	Exhaust Stream Exit Temperature	Populated from EP ID read only
G3.11	Permit Data	Emission Point Start Operations Date	Pop up Calendar selection tool
G3.12	Permit Data	Emission Point Cease Operations Date	Pop up Calendar selection tool
G3.13	Permit Data	Emission Unit ID	Drop Down List populated by EU IDs associated with Facility Number
G3.14	Permit Data	Emission Unit Description	Populated from EU ID read only
G3.15	Permit Data	Emission Unit Start Operations Date	Pop up Calendar selection tool
G3.16	Permit Data	Emission Unit Cease Operations Date	Pop up Calendar selection tool
G3.17	Permit Data	Control Equipment ID	Can select from drop down list populated based facility number
G3.18	Permit Data	Control Equipment Description	Populated from CE ID read only
G4.0	User Interface	Issued permit can be uploaded when data entry is complete without waiting for an overnight cycle	Upload takes no more than 5 minutes from start; Eliminate duplicate storing of documents for time & money.
G4.0.1	User Interface	Draft construction permit can be uploaded to Construction Permit Search, draft Title V permit posted to the website.	Upload takes no more than 5 minutes from start

Number	Category	Description	Validation rules
G4.0.2	User Interface	All permits that require a public comment can be uploaded. This can include minor projects, SIP projects, etc	Upload takes no more than 5 minutes from start
G4.1	User Interface	User can upload multiple permits in single session	Browse and select multiple documents
G4.2	User Interface	View issued permit as soon as agency uploads document	
G4.3	User Interface	Final signed permit will show date stamp and user id	
G4.4	User Interface	System will compare final projects to posted permits and produce a report of missing permits for section supervisor	
G4.5	User Interface	System will notify section supervisor when construction project is marked final so invoice can be generated and sent to facility	
G4.6	User Interface	System will notify section supervisor, permit writer, and facility contact when issued permit is posted	
G4.7	User Interface	Search for project status by facility name, facility number, project number, city, county	
G4.8	User Interface	Search for all current applications by facility name, facility number, city, county, date range	
G4.9	User Interface	Search for all permits by facility name, facility number, city, county, date range	
G4.10	User Interface	Search by Emission Point Description	
G4.11	User Interface	Search by Engineer/Environmental Specialist name	

3.7 Report Module

The reporting module will be built agency neutral. The program area using the system will define the standard reports.

3.7.1 Report Module Process

Provide easy to use interface for requesting 'stock' reports such as how many open applications, how many issued permits, number of construction projects by facility. Provide ability to build on demand 'ad hoc' reports. Examples of current standard reports are available at Select DNR-Air Quality Databases.

3.7.2 Report Module Requirements

Number	Description	Requirement
H1.0	Standard reports	All Open Applications
H1.1	Standard reports	All Applications in date range
H1.2	Standard reports	All Applications by Facility in date range
H1.3	Standard reports	All Applications by Type of Permit in date range
H1.4	Standard reports	All Applications within x distance of GIS point
H1.5	Standard reports	Source parameters for neighboring facilities to the applicant
H1.6	Standard reports	Source parameters for emission points at the facility that are not part of current application
H1.7	Standard reports	Turn-around time by type of permit by date range
H1.8	Standard reports	On Time Delivery by type of permit, permit event and by date range
H1.9	Standard reports	Issued permits by date range
H1.10	Standard reports	Issued permits by facility

Number	Description	Requirement
H1.11	Standard reports	Current equipment list for facility
H1.12	Standard reports	Summary of actual emissions data by pollutant at the emission point level
H1.13	Standard reports	Summary of potential emissions data by pollutant at the emission point level
H1.14	Standard reports	Issued permits by project type and facility type
H2.0	Ad hoc reports	Allow fields to be added to standard report
H2.1	Ad hoc reports	Create new queries/reports
H3.0	Export	Allows user to export data in tabular format
H3.1	Export	Allows user to configure tabular output to allow easier import into various software formats

3.8 Facility Module

Facility module will be built agency neutral. The link to view specific forms is for context purposes.

3.8.1 Facility Module Process

Provide easy to use interface to collect basic facility information (including, but not limited to, location with GIS and associated metadata, contact, type of permit, responsible official.). Current forms are part of this RFP as RFP-DNR eApp-Attachment 7a-Construction Permit Application Forms, RFP-DNR eApp-Attach 7b-Construction Permit Application Instructions, RFP-DNR eApp-Attach 7c-Construction Permit Templates & Registrations, RFP-DNR eApp-Attach 8a-Title V Operating Permit Application Forms, and RFP-DNR eApp-Attach 8b-Title V Operating Permit Application Instructions.

Facility Module Requirements

Number	Description	Requirement	Validation rules
K1.0	Facility Location	Street Address	Text Box
K1.1	Facility Location	City	Text Box
K1.2	Facility Location	State	Drop Down List defaults to IA
K1.3	Facility Location	ZIP Code	All ZIP Codes will store only the number. The special characters will be displayed as a mask in the user interface. Mask will be nnnnn-nnnn. This field will match One Stop Standard. The input mask will be displayed while the user is entering information
K1.4	Facility Location	County	Drop Down List of Iowa county names
K1.5	Facility Location	UTM Easting	Numeric
K1.6	Facility Location	UTM Northing	Numeric
K1.7	Facility Location	UTM Zone	Radio Buttons: 14 or 15
K1.8	Facility Location	Latitude Measure	Numeric
K1.9	Facility Location	Longitude Measure	Numeric
K1.10	Facility Location	Reference Point	Text Box
K2.0	Facility Contact	First Name	Text Box
K2.1	Facility Contact	Last Name	Text Box
K2.2	Facility Contact	Title	Text Box
K2.3	Facility Contact	Street Address	Text Box
K2.4	Facility Contact	City	Text Box

Number	Description	Requirement	Validation rules
K2.5	Facility Contact	State	Drop Down List defaults to IA
K2.6	Facility Contact	ZIP Code	All ZIP Codes will store only the number. The special characters will be displayed as a mask in the user interface. Mask will be nnnnn-nnnn. This field will match One Stop Standard. The input mask will be displayed while the user is entering information
K2.7	Facility Contact	Phone	All phone numbers will store only the number. The special characters will be displayed as a mask in the user interface. Mask will be (nnn) nnn-nnnn. This field will be varchar 15 to match One Stop Standard. The input mask will be displayed while the user is entering the information.
K2.8	Facility Contact	email	Email address must have a valid domain name format
K3.0	Responsible Official	First Name	Text Box
K3.1	Responsible Official	Last Name	Text Box
K3.2	Responsible Official	Title	Text Box
K3.3	Responsible Official	Street Address	Text Box
K3.4	Responsible Official	City	Text Box
K3.5	Responsible Official	State	Drop Down List defaults to IA
K3.6	Responsible Official	ZIP Code	All ZIP Codes will store only the number. The special characters will be displayed as a mask in the user interface. Mask will be nnnnn-nnnn. This field will match One Stop Standard. The input mask will be displayed while the user is entering information
K3.7	Responsible Official	Phone	All phone numbers will store only the number. The special characters will be displayed as a mask in the user interface. Mask will be (nnn) nnn-nnnn. This field will be varchar 15 to match One Stop Standard. The input mask will be displayed while the user is entering the information.
K3.8	Responsible Official	email	Email address must have a valid domain name format
K4.0	Facility General	Company Name	Text Box
K4.1	Facility General	Facility Number	Text Box 10 characters
K4.2	Facility General	EIQ Number	Text Box 7 characters
K4.3	Facility General	Grain Elevator Usage Code	Text Box 4 character; must be complete; if not a grain elevator, defaults to Not Applicable
K4.4	Facility General	Employee Count	Numeric
K4.5	Facility General	Portable Site	Yes/No Radio Button

Number	Description	Requirement	Validation rules
K4.6	Facility General	SIC Code	Required: Text Box 4 characters; Enter if known or use search http://www.osha.gov/pls/imis/sicsearch.html
K4.6.1	Facility General	Secondary SIC Code	Text Box 4 characters; Optional
K4.6.2	Facility General	Tertiary SIC Code	Text Box 4 characters; Optional
K4.7	Facility General	NAICS Code	Required: Text Box 6 characters; Enter if known or use search http://www.census.gov/eos/www/naics/index.html
K4.7.1	Facility General	Secondary NAICS Code	Text Box 6 characters; Optional
K4.7.2	Facility General	Tertiary NAICS Code	Text Box 6 characters; Optional
K4.8	Facility General	Type of Permit	Drop Down List: Construction Permit, Title V Initial, Title V Renewal, Title V Supplemental Information, Title V Administrative Amendment, Title V Minor Permit Modification, Title V Significant Permit Modification, Rescission, Variance
K4.9	Facility General	Close Date	Pop up Calendar selection tool
K4.10	Facility General	Close Date Comments	Text Box
K4.11	Facility General	Former Name	Text Box; Optional
K4.12	Facility General	Draft Permits	Yes/No Radio Button; Defaults to No
K4.13	Facility General	Business Description	Text Box
K4.14	Facility General	Adjacent Facilities	Text Box; Optional
K4.15	Facility General	Emission Units subject to Part 60 NSPS?	Yes/No Radio Button, if Yes is selected user must enter list of emission units in K4.15.1 else receive error message
K4.15.1	Facility General	If Yes, please list the emission units and the applicable NSPS subparts	Text Box
K4.16	Facility General	Emission Units subject to Part 61 or Part 63 NESHAP standard?	Yes/No Radio Button, if Yes is selected user must enter list of emission units in K4.16.1 else receive error message. See Appendix B
K4.16.1	Facility General	If Yes, please list the emission units and the applicable NESHAP subparts	Text Box

Number	Description	Requirement	Validation rules
K5.0	Permit Preparer	Is Permit Application Prepared by Consultant?	Yes/No Radio Button, if Yes, expand accordion to display K5.1-K5.10
K5.1	Permit Preparer	Permit Preparer First Name	Text Box
K5.2	Permit Preparer	Permit Preparer Last Name	Text Box
K5.3	Permit Preparer	Permit Preparer Address	Text Box
K5.4	Permit Preparer	Permit Preparer City	Text Box
K5.5	Permit Preparer	Permit Preparer State	Drop Down List defaults to IA
K5.6	Permit Preparer	Permit Preparer ZIP Code	All ZIP Codes will store only the number. The special characters will be displayed as a mask in the user interface. Mask will be nnnnn-nnnn. This field will match One Stop Standard. The input mask will be displayed while the user is entering information
K5.7	Permit Preparer	Permit Preparer Email Address	Email address must have a valid domain name format
K5.8	Permit Preparer	Permit Preparer Phone Number	All phone numbers will store only the number. The special characters will be displayed as a mask in the user interface. Mask will be (nnn) nnn-nnnn. This field will be varchar 15 to match One Stop Standard. The input mask will be displayed while the user is entering the information.
K5.9	Permit Preparer	Permit Preparer Iowa P.E. Number	Text Box; max length for Iowa PE Number is 8 characters
K5.10	Permit Preparer	Permit Preparer Signature	Mechanism to acknowledge authority to prepare application on behalf of Responsible Official

4. Agency Specific Processes and Requirements.

This section provides detail for the development team concerning components which perform tasks determined specific to Air Quality permitting.

4.1 Import Module

Decision to make - will system allow import? Facility could import new data with each application, concerns raised about data integrity

4.1.1 Import Module Process

System will be built to allow import of certain data fields (i.e., facility information, equipment lists, and emission information) from a common file format such as *.csv. Knowledge of Environmental Management Systems would be beneficial when building this module. Import will be designed to balance ease of use with data integrity.

4.1.2 Import Module Requirements

Number	Description	Requirement
I1.0	Emission Unit Information	Emission Unit Number
I1.1	Emission Unit Information	Emission Unit Description
I1.2	Emission Unit Information	SCC Number
I1.3	Emission Unit Information	Manufacturer
I1.4	Emission Unit Information	Model Name
I1.5	Emission Unit Information	Model Number
I1.6	Emission Unit Information	Serial Number
I1.7	Emission Unit Information	Construction Date
I1.8	Emission Unit Information	Installation Date
I1.9	Emission Unit Information	Modification Date
I1.10	Emission Unit Information	Maximum Hourly Design Rate
I2.0	Emission Point Information	Emission Point Number
I2.1	Emission Point Information	Emission Point Description
I2.2	Emission Point Information	Emission Point Type
I2.3	Emission Point Information	Stack Shape
I2.4	Emission Point Information	Stack Dimensions
I2.5	Emission Point Information	Stack Height above ground
I2.6	Emission Point Information	Stack Location UTM Easting
I2.7	Emission Point Information	Stack Location UTM Northing
I2.8	Emission Point Information	Stack UTM Zone
I2.9	Emission Point Information	Stack UTM Datum
I2.10	Emission Point Information	Exhaust Stream Flow Rate Units of Measure
I2.11	Emission Point Information	Exhaust Stream Flow Rate Value
I2.12	Emission Point Information	Exhaust Stream Exit Temperature
I3.0	Control Equipment by Emission Unit	Control Equipment Number
I3.1	Control Equipment by Emission Unit	Control Equipment Type
I3.2	Control Equipment by Emission Unit	Manufacturer
I3.3	Control Equipment by Emission Unit	Model Number
I3.4	Control Equipment by Emission Unit	Serial Number
I3.5	Control Equipment by Emission Unit	Installation Date

4.2 Data Flow Module

4.2.1 Data Flow Module Process

System will be built to provide data to dependent downstream systems including, but not limited to, Stack Test Database, Construction Permit Search, One Stop Data Warehouse, SLEIS, and AQWebApps. It is acceptable if this is achieved with an overnight batch process.

4.2.2 Data Flow Module Requirements

Data Flow requirements are found in Attachment 9-Data Flow Modules.

4.3 Equipment Module

4.3.1 Equipment Module Process

Provide easy to use interface to collect equipment for each unit/process, each stack/vent/release point location with GIS and associated metadata, each piece of control equipment, and, if applicable, each piece of continuous monitoring equipment. Current forms are part of this RFP as RFP-DNR eApp-Attachment 7a-Construction Permit Application Forms, RFP-DNR eApp-Attach 7b-Construction Permit Application Instructions, RFP-DNR eApp-Attach 7c-Construction Permit Templates & Registrations, RFP-DNR eApp-Attach 8a-Title V Operating Permit Application Forms, and RFP-DNR eApp-Attach 8b-Title V Operating Permit Application Instructions.

4.3.2 Equipment Module Requirements

L1.0-L1.15 Do not apply to Cooling Towers, see L9.7-L9.14

Number	Description	Requirement	Validation rules
L1.0	Emission Point Information	Facility Name	Applies to all types of permit. Facility Name populates from Facility Module
L1.1	Emission Point Information	Emission Point Number	Duplicate section for each new Emission Point
L1.2	Emission Point Information	Emission Point Description	Text box
L1.3	TV only-Emission Point Information	Is this stack used as an Emergency Bypass Stack?	Yes/No Radio Button, if Yes is selected user must specify Emission Point else receive error message
L1.3.1	TV only-Emission Point Information	If Yes, for which stack?	Text box to list Emission Point Numbers
L1.4	Emission Point Information	Emission Point Type	Drop Down List: Vertical (without rain cap or obstruction), Vertical with rain cap or obstruction, Downward discharge (gooseneck), Horizontal discharge, Vent inside building, Fugitive, Other if Other text box displays to specify
L4.4.1	Emission Point Information	Other Emission Point Type, please specify	Text box
L1.5	Emission Point Information	Stack Shape	Drop Down List: Circular, Rectangular, Other if Other text box displays to specify
L1.5.1	Emission Point Information	Other Stack Shape, please specify	Text box
L1.6	Emission Point Information	Dimensions	If circular, radius in inches, if rectangular width and length in inches, if Other, text box displays to specify
L1.6.1	Emission Point Information	Other Dimensions (specify)	Text box
L1.7	Emission Point Information	Height above ground	Numeric in feet
L1.8	TV only-Emission Point Information	Stack Location UTM Easting	Numeric
L1.9	TV only-Emission Point Information	Stack Location UTM Northing	Numeric
L1.10	TV only-Emission Point Information	Stack UTM Zone	Radio Buttons: 14 or 15
L1.11	TV only-Emission Point Information	Stack UTM Datum	Radio Buttons: NAD 27 or NAD 83
L1.13	Emission Point Information	Exhaust Stream Flow Rate Units of Measure	Radio Buttons: ACFM or SCFM

Number	Description	Requirement	Validation rules
L1.14	Emission Point Information	Exhaust Stream Flow Rate Value	Numeric
L1.15	Emission Point Information	Exhaust Stream Exit Temperature	Numeric in degrees Fahrenheit
L1.15.1	TV only-Emission Point Information	Exhaust Stream Exits at Ambient Temperature?	Yes/No Radio Button
L1.16	TV only-Emission Point Information	Bypass Stack (Associated with this Emission Point) Emission Point Number	Text box; Optional but if complete user must provide description i.e., does this bypass a process? Is this an emergency bypass stack?
L1.17	TV only-Emission Point Information	Bypass Stack Description	Text box
L1.18	TV only-Emission Point Information	Secondary Bypass Stack Emission Point Number	Text box; Optional but if complete user must provide description i.e., does this bypass a process? Is this an emergency bypass stack?
L1.19	TV only-Emission Point Information	Secondary Bypass Description	Text box
L1.20	TV only-Emission Point Information	Tertiary Bypass Stack Emission Point Number	Text box; Optional but if complete user must provide description i.e., does this bypass a process? Is this an emergency bypass stack?
L1.21	TV only-Emission Point Information	Tertiary Bypass Description	Text box
L1.22	Emission Units Venting through this Emission Point	EU Number	Displays in tabular format with new row for each new EU; following fields are column headers;
L1.23	TV only-Emission Units Venting through this Emission Point	SCC Number	Required; Enter if known or use search for SCC by keyword or partial code https://cfpub.epa.gov/webfire/
L1.24	TV only-Emission Units Venting through this Emission Point	Secondary SCC Number	Optional; Search for SCC by keyword or partial code https://cfpub.epa.gov/webfire/
L1.25	TV only- Emission Units Venting through this Emission Point	Tertiary SCC Number	Optional; Search for SCC by keyword or partial code https://cfpub.epa.gov/webfire/
L1.26	Control Equipment Associated with this Emission Point	CE Number	New row for each new CE
L1.27	TV only-Monitoring Equipment Associated with this Emission Point	ME Number	New row for each new ME
L1.28	TV only-Monitoring Equipment Associated with this Emission Point	Installation Date	Pop up Calendar selection tool
L1.29	TV only-Monitoring Equipment Associated with this Emission Point	Modification Date	Pop up Calendar selection tool
L1.30	TV only-Monitoring Equipment Associated with this Emission Point	Construction Permit Number	Text box 16 characters
L1.31	TV only-Monitoring Equipment Associated with this Emission Point	Exhaust Stream Moisture Content % (if known)	Numeric

Number	Description	Requirement	Validation rules
L2.0	Emission Unit Information	Facility Name	Applies to all types of permit. Facility Name populates from Facility Module
L2.1	Emission Unit Information	Emission Unit Number	Duplicate section for each new Emission Unit; Every EP-EU join in L1.22 requires an EU in L2.1; System will not allow an orphan EU
L2.2	Emission Unit Information	Emission Unit Description or Description of Process	Text box
L2.3	Emission Unit Information	Emission Point Associated with EU	Text box
L2.4	Emission Unit Information	Emission Point Description Associated with EU	Text box
L2.5	Emission Unit Information	Control Equipment Associated with EU	Text box
L2.6	TV only-Emission Unit Information	Monitoring Equipment Associated with EU	Text box
L2.7	TV only-Emission Unit Information	SCC Number	Required; Search for SCC by keyword or partial code https://cfpub.epa.gov/webfire/
L2.8	TV only-Emission Unit Information	Secondary SCC Number	Optional; Search for SCC by keyword or partial code https://cfpub.epa.gov/webfire/
L2.9	TV only-Emission Unit Information	Tertiary SCC Number	Optional; Search for SCC by keyword or partial code https://cfpub.epa.gov/webfire/
L2.10	Emission Unit Information	Name of Manufacturer	Text box
L2.11	Emission Unit Information	Model Name	Text box
L2.12	Emission Unit Information	Model Number	Text box
L2.13	TV only-Emission Unit Information	Serial Number	Text box
L2.14	Emission Unit Information	Construction Date	Text box to enter anticipated date
L2.15	Emission Unit Information	Installation Date	Text box to enter anticipated date
L2.16	Emission Unit Information	Modification Date	Text box to enter anticipated date
L2.17	Emission Unit Information	Maximum Hourly Design Rate (Nameplate Capacity)	Text Box with Drop Down List: Pounds/Hour; Tons/Year; mmBTU/Hour; Units/Day and Other; if Other, text box displays to specify
L2.17.1	Emission Unit Information	Other Unit of Measure, please specify	Text Box
L2.17.2	Emission Unit Information	Maximum Process Design Capacity if different from L2.17	Text Box with Drop Down List: Pounds/Hour; Tons/Year; mmBTU/Hour; Units/Day and Other; if Other, text box displays to specify
L2.17.3	Emission Unit Information	Other Unit of Measure, please specify	Text Box
L2.18	Construction Permit Only	Type of Emission Unit	Drop Down List: New Unit, Unpermitted Existing Unit, Modification to the Permitted Unit, if Modification text box displays to enter Construction Permit Number
L2.18.1	Construction Permit Only	Modification to Construction Permit Number	Text box 16 characters
L2.19	Construction Permit Only	Specialized Equipment	Drop Down List: Internal Combustion Engine, Nonmetallic Mineral Processing Plant, Spray Paint Booth, Cooling Tower, Boiler. If selected accordion section for specific equipment questions displays

Number	Description	Requirement	Validation rules
L6.0	Construction Permit Only Internal Combustion Engine	Use of Engine	Drop Down List: Non-emergency, Emergency, Black Start, Emergency with Demand Response, Fire Pump
L6.1	Construction Permit Only Internal Combustion Engine	Engine's Rated Power Unit of Measure	Radio Buttons: Brake Horsepower or Kilowatts
L6.2	Construction Permit Only Internal Combustion Engine	Engine's Rated Power Value	Text box
L6.3	Construction Permit Only Internal Combustion Engine	Engine Ignition Type	Radio Buttons: Compression Ignition or Spark Ignition
L6.4	Construction Permit Only Internal Combustion Engine	For CI engines only: Displacement per cylinder	Numeric in liters
L6.5	Construction Permit Only Internal Combustion Engine	For SI engines only: Type of engine	Radio Buttons: 2 stroke or 4 stroke
L6.6	Construction Permit Only Internal Combustion Engine	For SI engines only: Fuel ratio	Radio Buttons: Rich burn or Lean burn
L6.7	Construction Permit Only Internal Combustion Engine	Engine certified to EPA Tier Standard	Yes/No Radio Buttons if Yes, text box displays to provide Tier No.
L6.7.1	Construction Permit Only Internal Combustion Engine	If Yes, provide Tier No.	Text box
L6.8	Construction Permit Only Internal Combustion Engine	If engine is certified, provide copy of the Certificate of Conformity and manufacturer's technical information.	Message box
L6.9	Construction Permit Only Internal Combustion Engine	If engine is not certified, include a copy of manufacturer's technical information if available	Message box
L6.9.1	Construction Permit Only Internal Combustion Engine	Attachments	Radio Buttons: Certificate of Conformity or Manufacturer's technical information
L6.10	Construction Permit Only Internal Combustion Engine	Fuel Type	Drop Down List: Diesel Fuel, Gasoline Fuel, Natural Gas, Other Fuels if Other Fuels text box displays to identify fuel
L6.10.1	Construction Permit Only Internal Combustion Engine	Other Fuel, please identify	Text box
L6.11	Construction Permit Only Internal Combustion Engine	Fuel Load Consumption Rate	Numeric in gallons/hour or cubic feet/hour
L6.12	Construction Permit Only Internal Combustion Engine	Sulfur Content if Diesel or Other fuel	Numeric in % wt. or ppm
L7.0	Construction Permit Only Nonmetallic Mineral Processing Plant Fugitive Only	Text box advises to complete L2.1, L2.2, L2.14, L2.17, and L2.5	Message box
L8.0	Construction Permit Only Spray Paint Booth	Spray gun type	Text box
L8.0.1	Construction Permit Only Spray Paint Booth	Spray gun capacity	Numeric in gallons/min or ounces/min
L8.1	Construction Permit Only Spray Paint Booth	Transfer Efficiency %	Numeric

Number	Description	Requirement	Validation rules
L8.2	Construction Permit Only Spray Paint Booth	Number of guns to be used simultaneously	Numeric
L8.3	Construction Permit Only Spray Paint Booth	Type of Material Used	Text box
L8.4	Construction Permit Only Spray Paint Booth	Type of Material Coated	Text box
L8.5	Construction Permit Only Spray Paint Booth	Solid Content	Numeric in pounds/gallon
L8.6	Construction Permit Only Spray Paint Booth	VOC Content	Numeric in pounds/gallon
L8.7	Construction Permit Only Spray Paint Booth	SDS Attached	Yes/No Radio Button
L8.8	Construction Permit Only Spray Paint Booth	Do any of the spray materials contain compounds of chromium, lead, manganese, nickel, or cadmium?	Yes/No Radio Button
L8.9	Construction Permit Only Spray Paint Booth	Dry Filter Manufacturer	Text box
L8.10	Construction Permit Only Spray Paint Booth	Dry Filter Model	Text box
L8.11	Construction Permit Only Spray Paint Booth	Dry Filter Rated Control Efficiency %	Numeric
L8.12	Construction Permit Only Spray Paint Booth	Dry Filter Dimension	Numeric in inches
L9.0	Construction Permit Only Cooling Tower	Number of Cells in Tower	Duplicate section for each tower. Numeric
L9.1	Construction Permit Only Cooling Tower	Tower Maximum Water Flow Rate	Numeric in gallons/min
L9.2	Construction Permit Only Cooling Tower	Measured Total Dissolved Solids (TDS) Content	Text box
L9.3	Construction Permit Only Cooling Tower	Do You Use Additives in the Water?	Yes/No Radio Button
L9.3.1	Construction Permit Only Cooling Tower	If Yes, provide SDS sheets for each additive	Message box
L9.4	Construction Permit Only Cooling Tower	Mist Eliminator	Yes/No Radio Button
L9.5	Construction Permit Only Cooling Tower	Mist Eliminator Control Equipment ID	Text box
L9.6	Construction Permit Only Cooling Tower	Mist Eliminator Efficiency (% transmitted)	Numeric
L9.7	Construction Permit Only Cooling Tower	Emission Point ID	Text box
L9.8	Construction Permit Only Cooling Tower	Cell Height from the ground	Numeric in feet
L9.9	Construction Permit Only Cooling Tower	Cell Stack Size	Numeric in radius inches diameter or rectangle inches wide by inches long
L9.10	Construction Permit Only Cooling Tower	Cell Rated Air Flow Rate Units of Measure	Radio Buttons: ACFM or SCFM
L9.11	Construction Permit Only Cooling Tower	Cell Rated Air Flow Rate Value	Numeric

Number	Description	Requirement	Validation rules
L9.12	Construction Permit Only Cooling Tower	Total Rated Air Flow Rate Units of Measure	Radio Buttons: ACFM or SCFM
L9.13	Construction Permit Only Cooling Tower	Total Rated Air Flow Rate Value	Numeric
L9.14	Construction Permit Only Cooling Tower	Exhaust Exit Temperature	Numeric in degrees Fahrenheit
L10.0	Construction Permit Only Boiler	Fuel Type	Drop Down List: Natural Gas, Fuel Oil, Wood, Coal, Other Fuel if Other Fuel text box displays to specify
L10.1	Construction Permit Only Boiler	Other Fuel, please identify	Text box
L10.2	Construction Permit Only Boiler	Full Load Consumption Rate	Numeric in cubic feet/hour or gallons/hour or pounds/hour
L10.3	Construction Permit Only Boiler	Sulfur Content if Fuel Oil, Coal, or Other Fuel	Text box
L10.4	Construction Permit Only Boiler	For Coal boilers only: What type of coal will be burned?	Drop Down List: Bituminous, Sub-bituminous, Lignite
L10.5	Construction Permit Only Boiler	For Solid boilers only: Include copy of both the ultimate and proximate fuel analyses	Message box
L3.0	Control Equipment by Emission Unit	Facility Name	Applies to all types of permit. Facility Name populates from Facility Module
L3.1	Control Equipment by Emission Unit	Control Equipment Number	Duplicate section for each new piece of Control Equipment; Every EP-CE join in L1.26 requires a CE in L3.1; System will not allow an orphan CE
L3.2	Control Equipment by Emission Unit	Control Equipment Type	Drop Down List: Baghouse Filter, Cartridge Filter, Bin Vent Filter, Packed Bed Scrubber, Spray Chamber Scrubber, Venturi Scrubber, Dry Scrubber, Regenerative Thermal Oxidation, Flare Thermal Oxidation, Afterburner Thermal Oxidation, Recuperative Thermal Oxidation, Enclosed Flame Thermal Oxidation, Diesel Oxidation Catalyst, Electrostatic Precipitator, Flue Gas Recirculation, Gravity Setting Chamber, Internal Floating Roof Tank, Low NOx Burner, Vapor Condenser, Cyclone, Multiclone
L3.3	Control Equipment by Emission Unit	Manufacturer	Text box
L3.4	Control Equipment by Emission Unit	Model Number	Text box
L3.5	TV only-Control Equipment by Emission Unit	Serial Number	Text box
L3.6	Control Equipment by Emission Unit	Installation Date	Text box to enter anticipated date
L3.7	TV only-Control Equipment by Emission Unit	Does this equipment vent to the atmosphere?	Yes/No Radio Button
L3.8	Control Equipment by Emission Unit	Emission Unit Number Associate with this CE	Text box

Number	Description	Requirement	Validation rules
L3.9	TV only-Control Equipment by Emission Unit	Control Efficiency Based on	Radio Buttons: Manufacturer Specifications, if Manufacture Specifications, skip L3.18+, or Stack Test, if Stack Test then must provide date and method, Other, if other text box displays to specify
L3.9.1	TV only-Control Equipment by Emission Unit	Stack Test Date	Pop up Calendar selection tool
L3.9.2	TV only-Control Equipment by Emission Unit	Reference Test Method	Text box
L3.9.3	TV only-Control Equipment by Emission Unit	Other Control Efficiency, please specify	Text box
L3.10	Control Equipment by Emission Unit	Pollutant Controlled	Displays tabular format with new row for each air pollutant selected from list (PM-2.5, PM-10, Total PM, SO2, NOX, VOC, CO, Lead, Ozone, NH3); following fields as column headers; possibly list air pollutants by CAS number
L3.11	TV only-Control Equipment by Emission Unit	% Capture Efficiency of this Control Device	Numeric
L3.12	Control Equipment by Emission Unit	% Control Equipment Efficiency of this Control Device	Numeric
L3.13	Control Equipment by Emission Unit	% Combined Control Efficiency	Numeric
L3.14	Control Equipment by Emission Unit	Is a capture hood involved?	Yes/No Radio Button if Yes, text box displays to specify efficiency
L3.14.1	Control Equipment by Emission Unit	If Yes, capture hood efficiency percentage	Numeric
L3.15	Control Equipment by Emission Unit	Emission Point Number Associated with this CEM	Text box
L3.16	Control Equipment by Emission Unit	How will your facility monitor the performance of this control equipment?	Drop Down List: Pressure Drop, Bag Leak Detection System, Visible Emissions Observation, Parametric Pollution Concentration, Outlet Pollutant Concentration, Control Equipment Inspections and Maintenance, Cleaning Operation Frequency, Total Liquor Flow Rate, Recycled Liquor Flow Rate, Combustion Chamber Temperature Range, Minimum Operating Temperature, Flare Pilot Flame, Residence Time, Predictive Emissions Monitoring System, Continuous Emissions Monitoring System, Other if Other text box displays to specify.
L3.17	Control Equipment by Emission Unit	Describe the range and frequency of your control device monitoring choices	Text box
L3.18	For Fabric Filters Only	Pressure Drop Range	Numeric in inches of H2O
L3.19	For Fabric Filters Only	Material Filter Media	Drop Down List: Teflon, Polyester, Fiberglass, Polypropylene, Cotton, Other if other text box displays to specify
L3.19.1	For Fabric Filters Only	Other Material Filter Media, please specify	Text box

Number	Description	Requirement	Validation rules
L3.20	For Fabric Filters Only	Total filter Face Area of Control Device	Numeric in square feet
L3.21	For Fabric Filters Only	Bag Cleaning Method	Drop Down List: Pulse Jet, Shaking, Reverse Air, Other if Other text box displays to specify
L3.21.1	For Fabric Filters Only	Other Bag Cleaning Method, please specify	Text box
L3.22	For Cyclones Only	Inlet Duct Velocity	Numeric
L3.23	For Cyclones Only	Cyclone Body Length	Numeric in inches
L3.24	For Cyclones Only	Internal diameter	Numeric in inches
L3.25	For Cyclones Only	Pressure Drop Range	Numeric in inches of H2O
L3.26	For Scrubbers Only	Total Liquor Flow Rate	Numeric in gallons/minute
L3.27	For Scrubbers Only	Recycled Liquor Flow Rate	Numeric in gallons/minute
L3.28	For Scrubbers Only	Normal Liquor PH Range	Numeric
L3.29	For Scrubbers Only	Pressure Drop Range	Numeric in inches of H2O
L3.30	For Thermal Oxidation Only	Minimum Operating Temperature	Numeric in degrees Fahrenheit
L3.31	For Thermal Oxidation Only	Residence Time	Numeric in seconds
L3.32	For Catalytic Oxidation Only	Catalyst Material	Text box
L3.33	For Catalytic Oxidation Only	Catalyst Lifetime	Text box
L3.34	For Catalytic Oxidation Only	Residence Time	Numeric in seconds
L3.35	For Catalytic Oxidation Only	Minimum Operating Temperature	Numeric in degrees Fahrenheit
L3.36	For Catalytic Oxidation Only	Catalyst Inlet Temperature	Numeric in degrees Fahrenheit
L3.37	For Catalytic and Non-Catalytic Reduction Only	Catalyst Material	Text box
L3.38	For Catalytic and Non-Catalytic Reduction Only	Catalyst Lifetime	Text box
L3.39	For Catalytic and Non-Catalytic Reduction Only	Number of Catalyst Beds	Numeric
L3.40	For Catalytic and Non-Catalytic Reduction Only	Total Catalyst Bed Volume	Numeric
L3.41	For Catalytic and Non-Catalytic Reduction Only	Residence Time	Numeric in seconds
L3.42	For Catalytic and Non-Catalytic Reduction Only	Operating Temperature Range	Numeric in degrees Fahrenheit
L3.43	For Catalytic and Non-Catalytic Reduction Only	Pressure Drop Range	Numeric in inches of H2O
L3.44	For Catalytic and Non-Catalytic Reduction Only	Additive Injection	Drop Down List: Anhydrous Ammonia, Liquid Ammonia, Urea
L3.44.1	For Catalytic and Non-Catalytic Reduction Only	Additive Injection Rate	Numeric
L3.45	For Catalytic and Non-Catalytic Reduction Only	Maximum Ammonia Slip	Numeric in ppm
L3.46	For Catalytic and Non-Catalytic Reduction Only	NOX Control Efficiency % Reduction	Numeric
L4.0	TV only-Continuous Monitoring Systems	Does this facility use Continuous Monitoring Systems?	Yes/No Radio Buttons if Yes, accordion section expands with CEMS questions

Number	Description	Requirement	Validation rules
L4.0.1	TV only-Continuous Monitoring Systems	Facility Name	Applies to Title V Initial and Renewal and Construction Permits only if modification to an existing source. Facility Name populates from Facility Module
L4.1	TV only-Continuous Monitoring Systems	Monitoring Equipment Number	Duplicate section for each new piece of Monitoring Equipment; Every EP-ME join in L1.27 requires n ME in L4.1; System will not allow an orphan ME
L4.2	TV only-Continuous Monitoring Systems	Manufacturer	Text box
L4.3	TV only-Continuous Monitoring Systems	Model Name	Text box
L4.4	TV only-Continuous Monitoring Systems	Model Number	Text box
L4.5	TV only-Continuous Monitoring Systems	Model Year	Text box
L4.6	TV only-Continuous Monitoring Systems	Installation Date	Pop up Calendar selection tool
L4.7	TV only-Continuous Monitoring Systems	Type of Monitor	Drop Down List: (allows select more than one): Point in Situ, Path in Situ, Extractive, Dilution, Other, if Other text box displays to specify
L4.7.1	TV only-Continuous Monitoring Systems	Other Type of Monitor, please specify	Text box
L4.8	TV only-Continuous Monitoring Systems	Measurement Basis	Radio Buttons: Wet or Dry
L4.9	TV only-Continuous Monitoring Systems	Pollutants/Parameters Monitored by this CEM	Drop Down List: SO2, NOX, VOC, CO, Diluent CO2, Diluent O2, H2S, HCL, Opacity, Total Hydrocarbons, TRS, Other if Other text box displays to specify
L4.9.1	TV only-Continuous Monitoring Systems	Other Pollutant, please specify	Text box
L4.10	TV only-Continuous Monitoring Systems	Emission Point Number Associated with this CEM	New row for each new EP
L4.11	TV only-Continuous Monitoring Systems	Emission Unit Number Associate with this CE	New row for each new EU
L4.12	TV only-Continuous Monitoring Systems	Type of Pollutant/Parameter	Text box
L4.13	TV only-Continuous Monitoring Systems	Performance Test	40 CFR 60 Appendix B Yes/No Radio Button; 40 CFR 75 Appendix A Yes/No Radio Button
L4.13.1	TV only-Continuous Monitoring Systems	If Yes for either, Test Date	Pop up Calendar selection tool
L4.13.2	TV only-Continuous Monitoring Systems	Did it pass?	Yes/No Radio Button
L4.14	TV only-Continuous Monitoring Systems	What was the span value for this pollutant/parameter?	Text box
L4.15	TV only-Continuous Monitoring Systems	How did you determine the span value?	Drop Down List: Procedures outline in 40 CFR 60 Appendix B, Procedure outlined in 40 CFR 75 Appendix A, Requirements of applicable rule, 1.5 of the Emission Limit, Other if other text box displays to specify

Number	Description	Requirement	Validation rules
L4.15.1	TV only-Continuous Monitoring Systems	Other span value determination, please specify	Text box
L4.16	TV only-Data Reduction Procedures for Opacity Monitors Only	Inside Stack or Duct Diameter at the location of the CMS	Numeric in inches; hide if no Opacity Monitors listed in L4.9
L4.17	TV only-Data Reduction Procedures for Opacity Monitors Only	Has a stack exit correlation factor been applied to opacity measurements?	Yes/No Radio Button if Yes, text box displays to describe
L4.17.1	TV only-Data Reduction Procedures for Opacity Monitors Only	If Yes, describe factor	Text box
L4.18	TV only-Data Reduction Procedures for Opacity Monitors Only	What averaging period is used?	Radio Buttons: 6 minutes or Other, if other text box displays to specify
L4.18.1	TV only-Data Reduction Procedures for Opacity Monitors Only	Other averaging period, please specify	Text box
L4.19	TV only-Data Reduction Procedures for Opacity Monitors Only	Is a combiner system used?	Yes/No Radio Button if Yes, text box displays to explain
L4.20	TV only-Data Reduction Procedures for Opacity Monitors Only	Explain how the stack exit opacity is calculated from the monitor signals	Text box
L4.21	TV only-Data Reduction Procedures for Gas Monitors only	Are the data reduced to hourly averages?	Yes/No Radio Button; hide if no Gas Monitors listed in L4.9
L4.22	TV only-Data Reduction Procedures for Gas Monitors only	Explain how the data are converted to units of the emission standard and the appropriate averaging time	Text box
L5.0	TV only-Primary Data Acquisition System (DAS) information	Type of System	Drop Down List: Chart Recorder, Digital Recorder, Computer, Microprocessor, Telemetry, Other, if other text box displays to specify type of system
L5.0.1	TV only-Primary Data Acquisition System (DAS) information	Other type of system, please specify	Text box
L5.1	TV only-Primary Data Acquisition System (DAS) information	Manufacturer	Text box
L5.2	TV only-Primary Data Acquisition System (DAS) information	How often does the DAS record sample values?	Text box
L5.3	TV only-Primary Data Acquisition System (DAS) information	DAS full scale values during normal operation	Pollutant Monitor in units or Diluent Monitor in units
L5.4	TV only-Primary Data Acquisition System (DAS) information	DAS resolution or the smallest scale division	Pollutant Monitor in units or Diluent Monitor in units

Number	Description	Requirement	Validation rules
L5.5	TV only-Primary Data Acquisition System (DAS) information	Is there a secondary DAS?	Yes/No Radio Button if Yes, text box displays to describe
L5.5.1	TV only-Primary Data Acquisition System (DAS) information	If Yes, describe secondary DAS	Text box
L5.6	TV only-Primary Data Acquisition System (DAS) information	Additional Comments	Text box

4.4 Title V Emissions Module

4.4.1 Title V Emissions Module Process

Provide easy to use interface to collect potential pollutants for each unit/process, and/or each stack/vent/release point. Specific forms may be viewed at Operating Permits – Title V Permit Forms and Instructions – Part 1 Application – Forms 1.3, 1.4, 1.5 and 3.0.

4.4.2 Title V Emissions Module Requirements

Number	Description	Requirement	Validation rules
M1.0	Insignificant Activities	Facility Name	Facility Name populates from Facility Module based on Facility Number as 1:1 join in tables
M1.1	Insignificant Activities	Emission Unit Number	Displays tabular format with list of pollutants across top columns, new row for each emission unit; alpha numeric text box
M1.2	Insignificant Activities	Emission Unit Description	Displays tabular format with list of pollutants across top columns, new row for each emission unit; alpha numeric text box
M1.3	Insignificant Activities	PM-10	Particulate Matter 10 microns. Provide potential emissions in pounds/year
M1.4	Insignificant Activities	Total PM	Particulate Matter. Provide potential emissions in pounds/year
M1.5	Insignificant Activities	SO2	Sulfur Dioxide. Provide potential emissions in pounds/year
M1.6	Insignificant Activities	NOX	Nitrous Oxides. Provide potential emissions in pounds/year
M1.7	Insignificant Activities	VOC	Volatile Organic Compounds. Provide potential emissions in pounds/year
M1.8	Insignificant Activities	CO	Carbon Monoxide. Provide potential emissions in pounds/year
M1.9	Insignificant Activities	Lead	Pb. Provide potential emissions in pounds/year
M1.10	Insignificant Activities	Fluorides	Provide potential emissions in pounds/year
M1.11	Insignificant Activities	High Risk Toxics	Provide potential emissions in pounds/year
M1.12	Insignificant Activities	Sulfur Acid Mists	Provide potential emissions in pounds/year
M1.13	Insignificant Activities	Toxics - not high risk group	Provide potential emissions in pounds/year

Number	Description	Requirement	Validation rules
M1.14	Insignificant Activities	Facility Totals	Column totals in tons/year
M2.0	Potential Toxic Emissions Significant Activity	Facility Name	Facility Name populates from Facility Module
M2.1	Potential Toxic Emissions Significant Activity	CAS number of Hazardous Air Pollutant	Displays in tabular format with new row for each hazardous air pollutant. Following fields as column headers. Search or drop down list? 28 defined HAPs
M2.2	Potential Toxic Emissions Significant Activity	Chemical Name of Hazardous Air Pollutant	Text box
M2.3	Potential Toxic Emissions Significant Activity	Potential Emissions	Tons/Year
M2.4	Potential Toxic Emissions Significant Activity	Facility Totals	Column totals in tons/year
M3.0	Potential Emissions Significant Activities	Facility Name	Facility Name populates from Facility Module
M3.1	Potential Emissions Significant Activities	Air Pollutant	Displays tabular format with new row for each air pollutant selected from list (PM-2.5, PM-10, Total PM, SO2, NOX, VOC, CO, Lead, Ozone, NH3); following fields as column headers;
M3.2	Potential Emissions Significant Activities	Potential Emissions	Tons/Year facility totals not by emission unit
M3.3	Potential Emissions Significant Activities	Which condition(s) listed subject this facility to obtaining an Operating Permit?	Radio Buttons multiple selections allowed: Source is subject to the provisions of Title IV of the Act 567 IAC 22.120-148; Source is a major source 567 IAC 22.100: Potential to emit 100 tons per year or more of any air pollutant, Potential to emit, in the aggregate, 10 tpy or more any hazardous air pollutant or 25 tpy or more of any combination of hazardous air pollutants, For nonattainment areas as specified in 567 IAC 22.100
M3.4	Potential Emissions by Emission Unit	Emission Unit Number	Text box
M3.5	Potential Emissions by Emission Unit	Emission Unit Description	Text box
M3.6	Potential Emissions by Emission Unit	Emission Point Associated with EU	Text box
M3.7	Potential Emissions by Emission Unit	Emission Point Description	Text box
M3.8	Potential Emissions by Emission Unit	Control Equipment Number Associated with this EU	Text box
M3.9	Potential Emissions by Emission Unit	Monitoring Equipment Number Associated with this EU	Text box

Number	Description	Requirement	Validation rules
M3.10	Potential Emissions by Emission Unit	Raw Material Processed or Fuel Used	Text box
M3.16	Potential Emissions by Emission Unit	Federally Enforceable Operating Limit	Text box
M3.17	Potential Emissions by Emission Unit	Permit or Rule establishing limit	Text box; generally expecting construction permit number here
M3.18	Potential Emissions by Emission Unit	Air Pollutant	Displays tabular format with new row for each air pollutant selected from list (PM-2.5, PM-10, Total PM, SO2, NOX, VOC, CO, Lead, Ozone, NH3); following fields as column headers;
M3.19	Potential Emissions by Emission Unit	Emission Factor	Text box
M3.20	Potential Emissions by Emission Unit	Emission Factor Units	Text box
M3.21	Potential Emissions by Emission Unit	Emission Factor Source	Drop Down List: CEM, Stack Test, Mass Balance, AP-42, EPA-WebFIRE, EPA-TANKS, EPA-L&E, Worksheet, Other if other text box displays to specify
M3.21.1	Potential Emissions by Emission Unit	Other Source Emission Factor, please specify	Text box
M3.22	Potential Emissions by Emission Unit	Ash or Sulfur %	Numeric
M3.23	Potential Emissions by Emission Unit	Potential Hourly Uncontrolled Emissions	Numeric in pounds/hour
M3.24	Potential Emissions by Emission Unit	Combined Control Efficiency %	Numeric
M3.25	Potential Emissions by Emission Unit	Potential Hourly Controlled Emissions	Numeric in pounds/hour
M3.26	Potential Emissions by Emission Unit	Potential Annual Controlled Emissions	Numeric in tons/year

4.5 Construction Permit Emissions Module

4.5.1 Construction Permit Emissions Module Process

Provide easy to use interface to collect pollutants for each unit/process, and/or each stack/vent/release point. Specific forms may be viewed at Construction Permits – Construction Permitting Materials – Forms EU, EC, EI, and GHG.

4.5.2 Construction Permit Emissions Module Requirements

Number	Description	Requirement	Validation rules
N1.0	Emissions Inventory	Facility Name	Facility Name populates from Facility Module
N1.1	Emissions Inventory	PSD Classification	Radio Buttons: Major, Minor, Unknown
N1.2	Emissions Inventory	Emission Point Associated with EU	Displays tabular format with list of pollutants across top columns, new row for each emission point; following fields as column headers; alpha numeric text box
N1.3	Emissions Inventory	Emission Point Description	Text box
N1.4	Emissions Inventory	Emission Unit Number	Text box
N1.5	Emissions Inventory	Emission Unit Description	Text box
N1.6	Emissions Inventory	PM 2.5	Particulate Matter 2.5 microns. Provide Potential or Permitted Emission Rate in tons/year
N1.7	Emissions Inventory	PM 10	Particulate Matter 10 microns. Provide Potential or Permitted Emission Rate in tons/year
N1.8	Emissions Inventory	Total PM	Particulate Matter. Provide Potential or Permitted Emission Rate in tons/year
N1.9	Emissions Inventory	SO2	Sulfur Dioxide. Provide Potential or Permitted Emission Rate in tons/year
N1.10	Emissions Inventory	NOX	Nitrous Oxide. Provide Potential or Permitted Emission Rate in tons/year
N1.11	Emissions Inventory	VOC	Volatile Organic Compounds. Provide Potential or Permitted Emission Rate in tons/year
N1.12	Emissions Inventory	CO	Carbon Monoxide. Provide Potential or Permitted Emission Rate in tons/year
N1.13	Emissions Inventory	Lead	Pb. Provide Potential or Permitted Emission Rate in tons/year
N1.14	Emissions Inventory	Single HAP	Provide Potential or Permitted Emission Rate in tons/year
N1.15	Emissions Inventory	Total HAP	Provide Potential or Permitted Emission Rate in tons/year
N1.16	Emissions Inventory	Total Stack/Vent Emissions	Subtotal columns
N1.17	Emissions Inventory	Fugitive Emissions	New row for each EP with Fugitive Emissions
N1.18	Emissions Inventory	Total Fugitive Emissions	Subtotal columns
N1.19	Emissions Inventory	Total Plant Emissions	Sum of two subtotal columns
N2.0	Greenhouse Gas Emissions Inventory	Greenhouse gases are not emitted from any of the emission units this project	Check box only for Yes; if not checked accordion expands with GHG questions
N2.1	Greenhouse Gas Emissions Inventory	Facility Name	Facility Name populates from Facility Module

Number	Description	Requirement	Validation rules
N2.2	Greenhouse Gas Emissions Inventory	Emission Point Associated with EU	Displays tabular format with list of pollutants across top columns, new row for each emission point; following fields as column headers; alpha numeric text box
N2.3	Greenhouse Gas Emissions Inventory	Emission Point Description	Text box
N2.4	Greenhouse Gas Emissions Inventory	Emission Unit Number	Text box
N2.5	Greenhouse Gas Emissions Inventory	Emission Unit Description	Text box
N2.6	Greenhouse Gas Emissions Inventory	CO2	Carbon Dioxide. Provide Potential or Permitted Emission Rate in tons/year
N2.7	Greenhouse Gas Emissions Inventory	HFCs	Hydrofluorocarbons. Provide Potential or Permitted Emission Rate in pounds/year
N2.8	Greenhouse Gas Emissions Inventory	CH4	Methane. Provide Potential or Permitted Emission Rate in tons/year
N2.9	Greenhouse Gas Emissions Inventory	N2O	Nitrous Oxide. Provide Potential or Permitted Emission Rate in tons/year
N2.10	Greenhouse Gas Emissions Inventory	PFCs	Perfluorocarbons. Provide Potential or Permitted Emission Rate in pounds/year
N2.11	Greenhouse Gas Emissions Inventory	SF6	Sulfur hexafluoride. Provide Potential or Permitted Emission Rate in pounds/year
N2.12	Greenhouse Gas Emissions Inventory	Total Stack/Vent Emissions	Subtotal columns
N2.13	Greenhouse Gas Emissions Inventory	Fugitive Emissions	New row for each EP with Fugitive Emissions
N2.14	Greenhouse Gas Emissions Inventory	Total Fugitive Emissions	Subtotal columns
N2.15	Greenhouse Gas Emissions Inventory	Total Project Emissions	Sum of two subtotal columns
N3.0	Emission Calculations	Facility Name	Facility Name populates from Facility Module
N3.1	Emission Calculations	Emission Point ID	Text box
N3.2	Emission Calculations	Emission Calculation Method	Drop Down List: Emission Factors, Stack Test, Mass Balance, Other if other text box displays to specify
N3.3	Emission Calculations	Other Calculation Method, please specify	Text box
N3.4	Emission Calculations	Air Pollutant	Displays tabular format with new row for each air pollutant selected from list (PM-2.5, PM-10, Total PM, SO2, NOX, VOC, CO, Lead, Single HAP, Total HAP); following fields as column headers
N3.5	Emission Calculations	Emission Factor	Text box
N3.6	Emission Calculations	Emission Factor Units	Text box
N3.7	Emission Calculations	Emission Factor Source	Text box

Number	Description	Requirement	Validation rules
N3.8	Emission Calculations	Control Efficiency %	Numeric
N3.9	Emission Calculations	Potential Hourly Emissions	Numeric in pounds/hour
N3.10	Emission Calculations	Annual Hours of Operation	Numeric
N3.11	Emission Calculations	Potential Annual Emissions	Numeric in tons/year
N4.0	Requested Limits	Requested Operation Hour Limits	Text box; Optional
N4.1	Requested Limits	Requested Production Limits	Text box; Optional
N4.2	Requested Limits	Requested Material Usage Limits	Text box; Optional
N4.3	Requested Limits	Requested Emission Limits	Text box; Optional
N4.4	Requested Limits	Rationale for Requested Limit	Text box; if a limit is requested, this is a required field
N4.5	For Spray Paint Booth Only	VOC or HAP Content Limits	Text box
N4.6	For Cooling Towers Only	TDS Limits	Numeric in ppm
N4.7	For Boilers Only	Quantity of Fuel Burned Limit	Text box
N4.8	For Boilers Only	Fuel Material Content Limit	Text box

4.6 Dispersion Modeling Module

4.6.1 Dispersion Modeling Module Process

Provide easy to use interface to collect necessary modeling information. Current forms are part of this RFP as RFP-DNR eApp-Attachment 7a-Construction Permit Application Forms, RFP-DNR eApp-Attach 7b-Construction Permit Application Instructions, RFP-DNR eApp-Attach 7c-Construction Permit Templates & Registrations, RFP-DNR eApp-Attach 8a-Title V Operating Permit Application Forms, and RFP-DNR eApp-Attach 8b-Title V Operating Permit Application Instructions.

4.6.2 Dispersion Modeling Module Requirements

Number	Description	Requirement	Validation rules
O1.0	Project Emissions	Facility Name	Facility Name populates from Facility Module
O1.1	Project Emissions	Pollutant	Displays tabular format with new row for each air pollutant selected from list (PM-2.5, PM-10, SO2, NOX non intermittent sources only, NOX all sources combined, CO); following fields as column headers
O1.2	Project Emissions	Total increase in emissions from this project	Numeric in pounds/hour or tons/year

Number	Description	Requirement	Validation rules
O1.3	Project Emissions	Total decrease in emissions from this project	Numeric in pounds/hour or tons/year
O1.4	Project Emissions	Net change in emission from this project	Sum of O1.2 + O1.3
O1.5	Project Emissions	Significant Emission Rate (SER)	Each pollutant shows allowable threshold in read only box. System evaluates if net change (O1.4) >= and shows Yes/No for O1.6
O1.6	Project Emissions	Net change is >= corresponding SER	Read only box displays value from O1.4 compared to value from O1.5
O2.0	Air Resource Availability	Only calculate Air Resource Availability for each pollutant in the project emissions section that is greater than zero	
O2.1	Air Resource Availability	Pollutant	Displays tabular format with new row for each air pollutant selected from list (PM-2.5, PM-10, SO2, NOX non intermittent sources only, NOX all sources combined, CO); following fields as column headers
O2.2	Air Resource Availability	Averaging Period	Displays averaging period for selected pollutant in a read only box.
O2.3	Air Resource Availability	Modeled Concentration	Numeric in $\mu g/m^3$
O2.4	Air Resource Availability	Current Background Concentration	Numeric in $\mu g/m^3$
O2.5	Air Resource Availability	Total concentration	Sum of O2.3 + O2.4
O2.6	Air Resource Availability	Modeling Determination Threshold (MDT)	Each pollutant shows allowable threshold in read only box. System evaluates if net change (O2.5) >= and shows Yes/No
O2.7	Air Resource Availability	Net change is >= corresponding MDT	Read only box displays value from O2.5 compared to value from O2.6
O3.0	Modeling Determination	Is modeling required?	Displays tabular format with new row for each air pollutant selected from list (PM-2.5, PM-10, NO2, SO2, CO) with Yes/No flag for each pollutant based on O1.6 & O2.7
O4.0	Emission Source Characteristics	Facility Name	Facility Name populates from Facility Module
O4.1	Emission Source Characteristics	Modeling Contact	Text box
O4.2	Emission Source Characteristics	Modeling Contact Phone	All phone numbers will store only the number. The special characters will be displayed as a mask in the user interface. Mask will be (nnn) nnn-nnnn. This field will be varchar 15 to match One Stop Standard. The input mask will be displayed while the user is entering the information.
O4.3	Emission Source Characteristics	Modeling Contact email	Email address must have a valid domain name format
O4.4	Emission Source Characteristics	Calculations	Displays tabular format with new row for each emission point; following fields as column headers
O4.5	Emission Source Characteristics	Emission Point ID	Text box

Number	Description	Requirement	Validation rules
O4.6	Emission Source Characteristics	Permit Number	Text box 16 characters
O4.7	Emission Source Characteristics	Emission Unit Name	Text box
O4.8	Emission Source Characteristics	Throughput	Numeric
O4.9	Emission Source Characteristics	Throughput Units	Text box
O4.10	Emission Source Characteristics	Emission Factor	Numeric
O4.11	Emission Source Characteristics	Emission Factor Units	Text box
O4.12	Emission Source Characteristics	Rate Basis	Text box
O4.13	Emission Source Characteristics	Point Source	Displays tabular format with new row for each emission point; following fields as column headers
O4.14	Emission Source Characteristics	Emission Point ID	Text box
O4.15	Emission Source Characteristics	Permit Number	Text box
O4.16	Emission Source Characteristics	Emission Unit Name	Text box
O4.17	Emission Source Characteristics	PM2.5	Particulate Matter 2.5 microns. Provide Potential or Actual Emission Rate in pounds/hour
O4.18	Emission Source Characteristics	PM10	Particulate Matter 10 microns. Provide Potential or Actual Emission Rate in pounds/hour
O4.19	Emission Source Characteristics	SO2	Sulfur Dioxide. Provide Potential or Actual Emission Rate in pounds/hour
O4.20	Emission Source Characteristics	NO2	Nitrous Dioxide. Provide Potential or Actual Emission Rate in pounds/hour
O4.21	Emission Source Characteristics	CO	Carbon Monoxide. Provide Potential or Actual Emission Rate in pounds/hour
O4.22	Emission Source Characteristics	Lead	Pb. Provide Potential or Actual Emission Rate in pounds/hour
O4.23	Emission Source Characteristics	Ozone	O3. Provide Potential or Actual Emission Rate in pounds/hour
O4.24	Emission Source Characteristics	Rate Basis	Radio Buttons: Potential or Actual
O4.25	Emission Source Characteristics	Height	Numeric in feet
O4.26	Emission Source Characteristics	Diameter	Numeric in inches
O4.27	Emission Source Characteristics	Exit Temperature	Numeric in degrees Fahrenheit
O4.28	Emission Source Characteristics	Discharge Style	Drop Down List: Vertical (without rain cap or obstruction), Vertical with rain cap or obstruction, Downward discharge (gooseneck), Horizontal discharge, Vent inside building, Fugitive, Other if Other text box displays to specify

Number	Description	Requirement	Validation rules
O4.29	Emission Source Characteristics	Flow Rate	Numeric in SCFM
O4.30	Emission Source Characteristics	Non-point Source	Displays tabular format with new row for each emission point; following fields as column headers
O4.31	Emission Source Characteristics	Emission Point ID	Text box
O4.32	Emission Source Characteristics	Permit Number	Text box 16 characters
O4.33	Emission Source Characteristics	Emission Unit Name	Text box
O4.34	Emission Source Characteristics	PM2.5	Particulate Matter 2.5 microns. Provide Potential or Actual Emission Rate in pounds/hour
O4.35	Emission Source Characteristics	PM10	Particulate Matter 10 microns. Provide Potential or Actual Emission Rate in pounds/hour
O4.36	Emission Source Characteristics	SO2	Sulfur Dioxide. Provide Potential or Actual Emission Rate in pounds/hour
O4.37	Emission Source Characteristics	NO2	Nitrous Dioxide. Provide Potential or Actual Emission Rate in pounds/hour
O4.38	Emission Source Characteristics	CO	Carbon Monoxide. Provide Potential or Actual Emission Rate in pounds/hour
O4.39	Emission Source Characteristics	Lead	Pb. Provide Potential or Actual Emission Rate in pounds/hour
O4.40	Emission Source Characteristics	Ozone	O3. Provide Potential or Actual Emission Rate in pounds/hour
O4.41	Emission Source Characteristics	Rate Basis	Radio Buttons: Potential or Actual
O4.42	Emission Source Characteristics	Height	Numeric in feet

5. Data Migration

5.1.1 What to Migrate

DNR would like to solicit cost estimate to migrate the following sets of data

- Construction and Title V permit project tracking database information (MS Access)
- Facility information from SPARS
- Most recent equipment list from SLEIS
- Any equipment in SPARS with insert date > 12/21/15 (cut-off date for SLEIS migration)
- Insignificant activities from SPARS
- Potential Emissions from all equipment even if there is a cease operations date
- Attachments from most recent Title V application
- Project Tracking from SPARS

5.1.2 Migration Source

DNR has three sources of data for migration

- MS Access
- SLEIS
- SPARS

5.1.3 Migration Plan

DNR drafted the following Data Migration Plan

i. Establish migration team members
ii. Define data requirements of destination systems
iii. Communicate to internal & external stakeholders
iv. Map source & destination fields
v. Create test plan
vi. IT analysis and ETL (data migration software & procedure)
vii. Communicate to internal & external stakeholders
viii. Execute test plan
ix. Revise IT ETL & re-test
x. Pilot with select external stakeholders
xi. Communicate to internal & external stakeholders
xii. Move to production
xiii. Archive SPARS

6. Appendices

6.1 Appendix A EPA list of Hazardous Air Pollutants

CAS #	Chemical Name
75343	1,1-Dichloroethane
57147	1,1-Dimethyl hydrazine
71556	1,1,1-Trichloroethane
79005	1,1,2-Trichloroethane
79345	1,1,2,2-Tetrachloroethane
106887	1,2-Butylene oxide
96128	1,2-Dibromo-3-chloropropane
106934	1,2-Dibromoethane
107062	1,2-Dichloroethane
78875	1,2-Dichloropropane
122667	1,2-Diphenylhydrazine
120821	1,2,4-Trichlorobenzene
106990	1,3-Butadiene
542756	1,3-Dichloropropylene
106467	1,4-Dichlorobenzene
123911	1,4-Dioxane
53963	2-Acetylaminofluorene
532274	2-Chloroacetophenone
79469	2-Nitropropane
540841	2,2,4-Trimethylpentane
1746016	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TC-DD)
94757	2,4-D salts and esters
95807	2,4-Diaminotoluene
51285	2,4-Dinitrophenol
121142	2,4-Dinitrotoluene
95954	2,4,5-Trichlorophenol
88062	2,4,6-Trichlorophenol
91941	3,3’-Dichlorobenzidine

CAS #	Chemical Name
119904	3,3’-Dimethoxybenzidine
119937	3,3’-Dimethylbenzidine
92671	4-Aminobiphenyl
60117	4-Dimethylaminoazobenzene
92933	4-Nitrobiphenyl
100027	4-Nitrophenol
101144	4,4’-Methylenebis(2-chloroaniline)
101779	4,4’-methylenedianiline
534521	4,6-Dinitro-o-cresol, and salts
75070	Acetaldehyde
60355	Acetamide
75058	Acetonitrile
98862	Acetophenone
107028	Acrolein
79061	Acrylamide
79107	Acrylic acid
107131	Acrylonitrile
107051	Allyl chloride
62533	Aniline
0	Antimony Compounds
0	Arsenic Compounds (inorganic including arsine)
1332214	Asbestos (friable)
71432	Benzene
92875	Benzidine
98077	Benzoic trichloride
100447	Benzyl chloride
0	Beryllium Compounds
57578	Beta-Propiolactone
92524	Biphenyl
111444	Bis(2-chloroethyl) ether

CAS #	Chemical Name
542881	Bis(chloromethyl) ether
75252	Bromoform
74839	Bromomethane
0	Cadmium Compounds
156627	Calcium cyanamide
133062	Captan
63252	Carbaryl
75150	Carbon disulfide
56235	Carbon tetrachloride
463581	Carbonyl sulfide
120809	Catechol
133904	Chloramben
57749	Chlordane
7782505	Chlorine
79118	Chloroacetic acid
108907	Chlorobenzene
510156	Chlorobenzilate
75003	Chloroethane
67663	Chloroform
74873	Chloromethane
107302	Chloromethyl methyl ether
126998	Chloroprene
0	Chromium Compounds
0	Cobalt Compounds
0	Coke Oven Emissions
1319773	Cresol/Cresylic acid (isomers & mixture)
98828	Cumene
0	Cyanide Compounds[1]
72559	DDE
117817	Di(2-ethylhexyl) phthalate
334883	Diazomethane

CAS #	Chemical Name
132649	Dibenzofuran
84742	Dibutyl phthalate
75092	Dichloromethane
62737	Dichlorvos
111422	Diethanolamine
64675	Diethyl sulfate
68122	Dimethyl formamide
131113	Dimethyl phthalate
77781	Dimethyl sulfate
79447	Dimethylcarbamyl chloride
106898	Epichlorohydrin
140885	Ethyl acrylate
100414	Ethylbenzene
107211	Ethylene glycol
75218	Ethylene oxide
96457	Ethylene thiourea
151564	Ethyleneimine
0	Fine Mineral Fibers[3]
50000	Formaldehyde
0	Glycol Ethers[2], except cas #111-76-2, ethylene glycol mono-butyl ether, also known as EGBE or 2-Butoxyethanol
76448	Heptachlor
87683	Hexachloro-1,3-butadiene
118741	Hexachlorobenzene
77474	Hexachlorocyclopentadiene
67721	Hexachloroethane
822060	Hexamethylene-1,6-diisocyanate
680319	Hexamethylphosphoramide
110543	Hexane
302012	Hydrazine
7647010	Hydrochloric acid

CAS #	Chemical Name
7664393	Hydrogen fluoride
123319	Hydroquinone
78591	Isophorone
0	Lead Compounds
58899	Lindane (all isomers)
108394	m-Cresol
108383	m-Xylene
108316	Maleic anhydride
0	Manganese Compounds
0	Mercury Compounds
67561	Methanol
72435	Methoxychlor
60344	Methyl hydrazine
74884	Methyl iodide
108101	Methyl isobutyl ketone
624839	Methyl isocyanate
80626	Methyl methacrylate
1634044	Methyl tertbutyl ether
101688	Methylene bis(phenylisocyanate)
684935	N-Nitroso-N-methylurea
62759	N-Nitrosodimethylamine
59892	N-Nitrosomorpholine
91203	Naphthalene
0	Nickel Compounds
98953	Nitrobenzene
121697	N,N-Dimethylaniline
90040	o-Anisidine
95487	o-Cresol
95534	o-Toluidine
95476	o-Xylene
106445	p-Cresol

CAS #	Chemical Name
106503	p-Phenylenediamine
106423	p-Xylene
56382	Parathion
87865	Pentachlorophenol
108952	Phenol
75445	Phosgene
7803512	Phosphine
7723140	Phosphorus (yellow or white)
85449	Phthalic anhydride
1336363	Polychlorinated biphenyls
0	Polycyclic Organic Matter [4]
1120714	Propane sultone
123386	Propionaldehyde
114261	Propoxur
75569	Propylene oxide
75558	Propyleneimine
91225	Quinoline
106514	Quinone
82688	Quintozene
0	Radionuclides (including Radon) [5]
0	Selenium Compounds
100425	Styrene
96093	Styrene oxide
127184	Tetrachloroethylene
7550450	Titanium tetrachloride
108883	Toluene
584849	Toluene-2,4-diisocyanate
8001352	Toxaphene
79016	Trichloroethylene
121448	Triethylamine
1582098	Trifluralin

CAS #	Chemical Name
51796	Urethane
108054	Vinyl acetate
593602	Vinyl bromide
75014	Vinyl chloride
75354	Vinylidene chloride
1330207	Xylene (mixed isomers)

NOTE: For all listings above which contain the word “compounds” and for glycol ethers, the following applies: Unless otherwise specified, these listings are defined as including any unique chemical substance that contains the named chemical (i.e., antimony, arsenic, etc.) as part of that chemical’s infrastructure.

[1]X’CN where X=H’ or any other group where a formal dissociation may occur. For example KCN or $Ca(CN)_2$

[2]Includes mono- and di-ethers of ethylene glycol, diethylene glycol, and triethylene glycol $R(OCH2CH2)_n$-OR’ where n=1,2, or 3; R=alkyl or aryl groups; R’=R,H, or groups which, when removed, yield glycol ethers with the structure $R(OCH2CH)_n$-OH. Polymers are excluded from the glycol category.

[3]Includes mineral fiber emissions from facilities manufacturing or processing glass, rock, or slag fibers (or other mineral derived fibers) of average diameter 1 micrometer or less.

[4]Includes organic compounds with more than one benzene ring, and which have a boiling point greater than or equal to 100 degrees C.

[5]A type of atom which spontaneously undergoes radioactive decay.

6.2 Appendix B Emission Units subject to Part 61 or Part 63 NESHAP standard

PSD source categories

1. Coal cleaning plants (with thermal dryers)
2. Kraft pulp mills
3. Portland cement plants
4. Primary zinc smelters
5. Iron and steel mills
6. Primary aluminum ore reduction plants
7. Primary copper smelters
8. Municipal incinerators capable of charging
9. Hydrofluoric acid plants
10. Sulfuric acid plants
11. Nitric acid plants
12. Petroleum refineries
13. Lime plants
14. Phosphate rock processing plants
15. Coke oven batteries
16. Sulfur recovery plants
17. Carbon black plants (furnace process)
18. Primary lead smelters
19. Fuel conversion plants
20. Sintering plants
21. Secondary metal production plants
22. chemical process plants more than 250 tons/day of refuse
23. Petroleum storage and transfer units with a total capacity more than 300,000 barrels
24. Taconite ore processing plants
25. Glass fiber processing plants
26. Charcoal production plants
27. Fossil fuel-fired steam electric plants of more than 250 MMbtU/hr heat input
28. Fossil fuel-fired boilers totaling more than 250 MMbtU/hr heat input