Combined Air Emissions Short-Term Wins
Project Description

1. Project Name: Source Classification Codes (SCC) Data Presentation and Web Services Project

2. Project Participants:

Julia Gamas, OAQPS, Co-Lead
Matthew Kelly, OEI, Co-Lead
Chun-Yi Wu, Minnesota, Co-Lead
Ketan Patel, OAQPS, Member,
Ron Ryan, OAQPS, Member,
Mark Wert, Massachusetts, Member,
Shana Harbour, OCFO, E-Enterprise

3. Project Funding: $35K

We will need contractor support in two ways: First, to assist in the presentation of SCC data and development of search features. This work is to be done through the front end developers of EPA's System of Registries (SoR), CGI. CGI support will also be required in developing the back-end regular refresh processes that pull data from EIS and push it to a format that is usable for SoR. Second, INDUS will be the contractor for the development of SCC web services that may be leveraged in direct reporting applications.

4. How project fits within the larger Combined Air Emissions "to be" state

The ability for users to look-up and submit requests for new SCCs is one piece of a larger goal to make emissions information easier to retrieve and submit. The project will also provide web services to be leveraged in direct reporting applications. This will increase data quality submitted to EPA. Aspects of the project will support the desire to move towards streamlining data flows within EPA to save time and resources. Figure 1 shows the emissions lifecycle and highlights all the places where SCCs are relevant or where they could be included as part of the process (e.g. as pertains to permits being issued with an SCC versus the SCC being assigned to the process later and after data has already been moved or transformed).

5. Goals:

- Develop the specifications for having the most up-to-date SCC data uploaded to a publically-accessible web page or portal on a regular basis.
- Develop/leverage a web page or portal that allows a user to search for a specific SCC using keywords and provides other SCC-relevant information.
- Develop web services so that SCCs may be used for various methods, such as look-ups for an application that supports direct reporting to states or EPA.
- Develop web services to allow user submit requests for new SCCs.
- Coordinate with system owners that use SCCs and would benefit from project. See Figure 2.

Figure 1. Emissions Lifecycle and SCC Needs

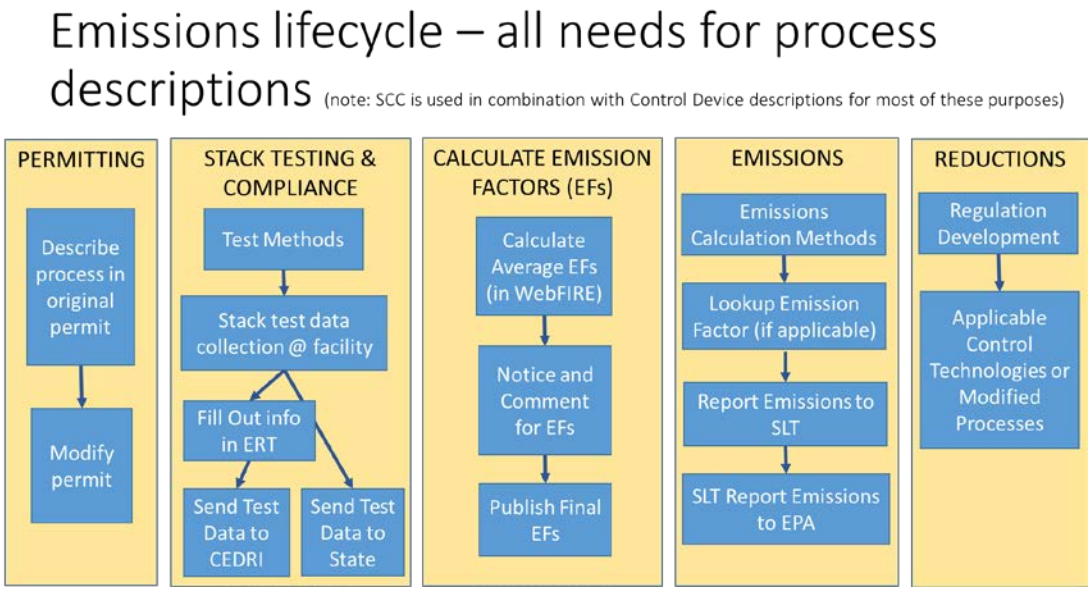
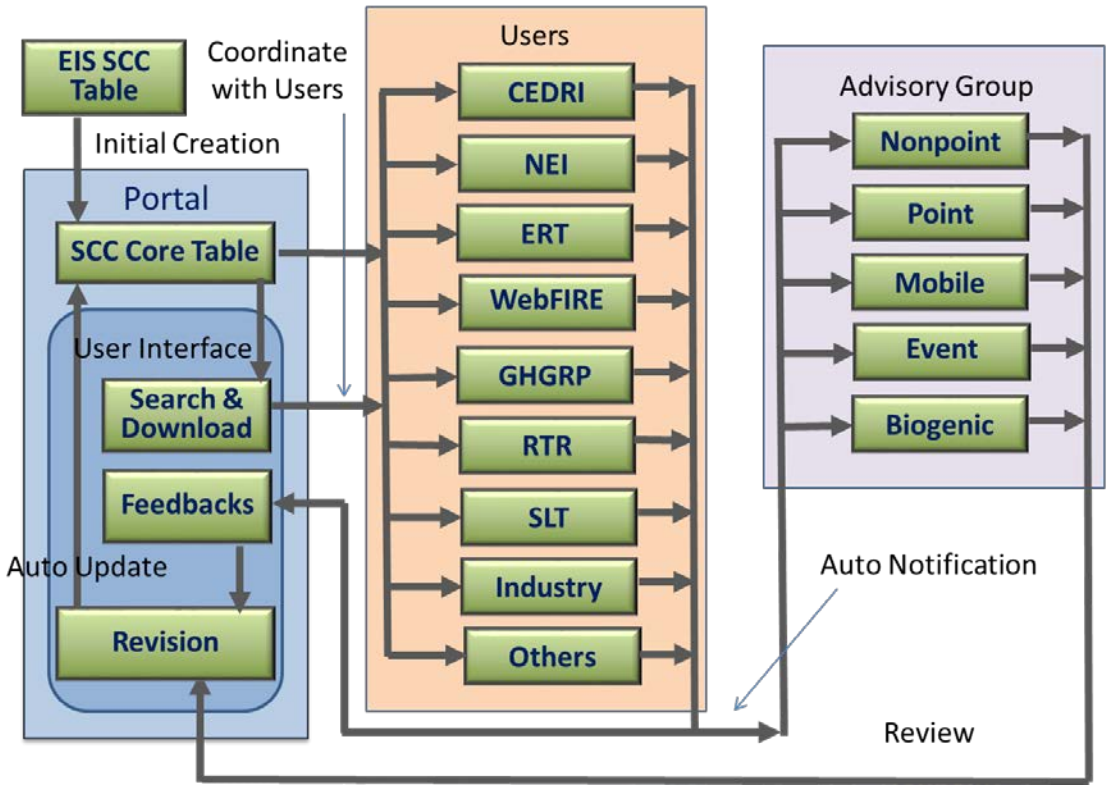


Figure 2. Potential SCC Users



6. Project description:

In the ideal "to be" state, it is possible for any user (EPA staff person, state, facility, or member of the public) to:

1. Find the most up-to-date SCC table in one well known location on the EPA website
2. Find basic information of the elements of an SCC code to help understand the table (variable names, descriptions of source categories, etc.)
3. Search, select and submit one or more SCC codes directly from a drop down menu in the web service.
4. No post-processing of the entered data is required by the State or EPA. Input errors are minimum and data quality assurance is reduced. Only users with specific problems such as the need to classify a new technology require assistance to enter their SCC code without error.
5. There is a clear link to obtain help with either finding the right SCC code or obtaining a new SCC that sends the request directly to the relevant EPA staff person.
6. Auto QA/QC is performed when EPA updates the SCC table for the web and user submits request for new SCCs. The steps we will follow are:

<u>Research and scoping phase:</u>
Step 1: Understand what SCCs are, who generates them, business rules of SCC code creation and retirement, types of SCC codes, and their uses. Also, understand "pain points" in current SCC code use.
Step 2. Identify how SCC data will be presented and the relevant contractor to assist in the work.
Step 3: Work with the group to develop a common understanding of SCC codes and needs, and to determine the details of delivering items 1 through 6 above.

<u>Development phase:</u>
Step 4: Develop web services for SCCs. We are working along four tracks:

a) Flow SCC data from EIS to FRS. Given that FRS will ultimately be the repository of facilities data, it makes sense to use it as the venue for the SCCs. We need to modify the existing FRS database link refresh. We should include all relevant SCC attributes, such as source and tier descriptions.
b) Flow SCC data from EIS or FRS to Synaptica for SCC distribution, so that other users can access the updated table. – Pending review as to whether it will be needed.
c) Emissions factor search page(s) modifications. We are looking into exploring the technology behind the Emissions Factors search page to see if we could use it in FRS for SCCs. This requires understanding how it works in Webfire and how it might apply to our project
d) SCC request language (and possible modification of the SCC table to include "notes" field). We would like users to be able to submit requests for new SCCs or questions about existing ones, follow SCC code requests and changes and to be able to link back to old SCCs. We need to check in with the content owners of the different web services to see if we can develop robust language on new code requests/existing code questions and embed it in as many places as needed/possible. The question of an audit trail is something the group thinks important to consider to be able to follow changes. There are two levels this could potentially be done. 1) At a database level, we could track and report out on database changes (such as inserts, updates, or deletes). 2) If there are notes coded into EIS as codes are managed we could look to publish the notes dynamically.

Implementation phase:
Step 6: Deploy the first generation of SCC code look up service.
Step 7: Receive feedback.
Step 8: Incorporate feedback.

Key Challenges:

The state of California has unique SCCs. We will have to coordinate with them to make sure their codes are also included to ease submissions from that state and make sure that their requirements are considered. We have looked into these and have found that they report using EPA SCCs to EPA.

Determining what to provide users outside of NEI may be a challenge. We would ideally want any person to find SCC data. While a main use of SCCs is for the NEI, we want to make sure that the data is available at as fine a resolution or detail as possible. We will have to identify other potential users and understand their needs. We need to determine the frequency of refreshes so that NEI activity (3 year cycle) is not interrupted but shorter term users (RTR, e.g.) can be as up-to-date as possible.

In the longer term, it will be important to keep in mind that SCC codes may need revising, updating and that perhaps standardized business rules will be in order. For example, SPPD is currently working on a project to review SCCs from chemical manufactures. While it is beyond the scope of an "early wins" project, this kind of work is very important. It would require time and resources investments to scope out and work on. We should keep in mind that this would be a logical next step to take after the "early wins" part has concluded. Also for future reference is the fact that SCC code management itself could be incorporated into the web-service in some way.

8. Expected workload for team participants:

We will aim for having certain milestones completed with our contractor. We know that team members will be busy and acknowledge that frequent (weekly and even bi-weekly) meetings may be difficult. Instead, we will operate in two ways. First, we will elicit advice on each step of the process. When progress has been made we will check back in with team members to ask for feedback. In order not to lose momentum and maintain a certain pace towards completion, we could make sure we have checked in at least every month.

Because each step may require a specific focus or level of expertise we may check in with some team members more frequently as needed, while keeping the others informed at every stage.

The contractor will develop the web service to our specifications and this will be where the majority of the resources will be expended. Team members will be informed of progress and will be asked for feedback during the implementation process (progress in the development of the web service).

9. Quality Assurance: *If applicable, list quality assurance issues that might arise during this project and how quality review will be included to ensure the best outcomes. Add work products if needed to ensure any potential quality problems will be addressed.*

10. Project tasks, work products, costs, task leads, and expected completion dates:

Task	Work product	Expected Task Cost	Task Lead	Expected end date
Task 1	Research and scoping			
	Work product 1: Understand SCC codes		JG	Complete
	Work product 2: Find the data repository space	$0	MK	In progress
Task 2	Development of web service			
	a) Flow SCC data from EIS to FRS		MK	1 week
	b) Flow SCC data from EIS or FRS to Synaptica		MK	1 month
	c) Look into emissions factor search page modifications technology		MK	2 – 3 months
	d) SCC request language			1 month
Total Cost		$35,000		