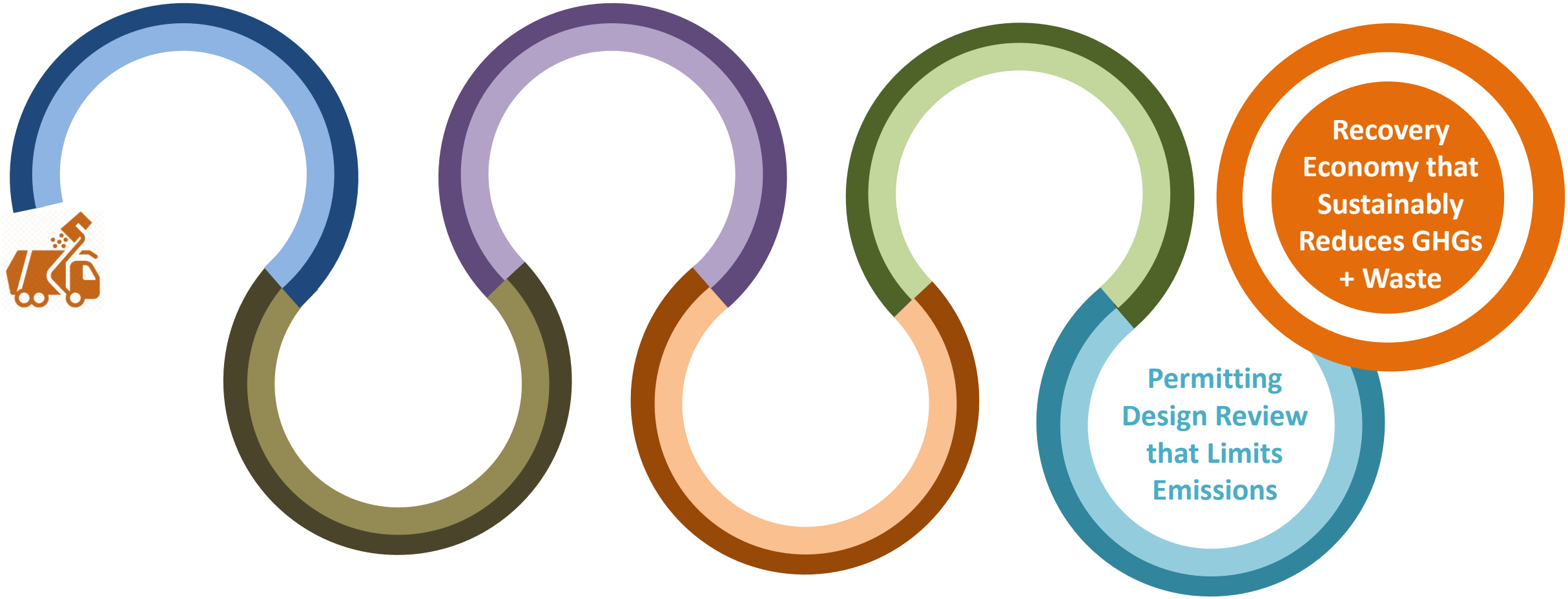


Permitting Facilities

Ensuring air quality goals and consistency for organics recovery operations

Pollutants of Concern from Organic Recovery Operations

Pollutant	Activities in Supply Chain	Permit?
POC	material handling, stockpiling, processing	yes – New Source Review
PM2.5/PM10	material handling, stockpiling, processing	yes - New Source Review
speciated toxics - TO15 panel, H2S, NH3	material handling, stockpiling, processing	yes – health risk (also odor)
GHG: CH4, N2O	material handling, stockpiling, processing	yes – global warming, Reg 13 under development
odors	material handling, stockpiling, composting, digestion	yes & no (LEA)
PM2.5/PM10	transportation	yes & no (CEQA)
CO2	transportation	no (CEQA)

Permit Thresholds for Organic Recovery Operations

Exemptions:

- Reg 2-1-113.1.2: Agricultural sources emitting < 50 tpy of any regulated pollutant, except GHG & fugitive dust
- Reg 2-1-114.2.1: Internal combustion engines with maximum output 50 bhp or less
- Reg 2-1-115.2.3: Non-agricultural sources processing < 500 tpy of organic feedstock
- Reg 2-1-121.18: Transfer stations < 50 tons/day

Permits Required:

- Material recovery facilities processing ≥ 500 tpy organic materials
- Chip and grind facilities with engine > 50 hp and/or processing ≥ 500 tpy organic materials
- Composting operations processing ≥ 500 tpy organic materials
- Organic material storage operations handling ≥ 500 tpy organics
- Anaerobic digestion facilities
- Agricultural composting operations emitting ≥ 50 tpy of a regulated pollutant

Types of Sources: Feedstock stockpiles, Active composting, curing, & compost piles, Anaerobic digesters, Diesel engines > 50 bhp, Handling/grinding/screening equipment, some PERP-registered equipment

New Source Review Permitting: Abatement and Emission Offset Requirements

Trigger for Control Requirements:

- Best Available Control Technology for Criteria Pollutants, Regulation 2-2: Emissions of POC, NPOC, NOx, CO, PM2.5, PM10, or SO2 are 10 pounds per highest day or more
- Health Risk for Toxic Air Contaminants, Regulation 2-5: The project causes an increase in cancer risk exceeding 1.0 in a million or chronic hazard index greater than 0.20. If the increase in cancer risk from the project > 10 in a million or acute or chronic hazard indices > 1.0, the project cannot be permitted.

Pollutant Specific Emission Offsets Required if Facility-wide Potential Emissions:

- POCs or NOx emissions are more than 10 tons per year
- PM or SO2 emissions are 100 tons per year or more

Permitting Hurdles for Composting Operations

Control Requirements

- Current minimum control requirements are covered aerated static piles and limits on residence time in stockpiles. New open windrow composting is allowed only for very small operations that do not trigger BACT.
- High health risk impacts to nearby receptors can limit the approvable size of a project or prohibit approval altogether.

Emission Offsets

- Based on current emission estimates, composting facilities that process > 12,500 tons biomass per year trigger POC emission offset requirements.
- Facilities processing < 44,000 tons of biomass per year (emit < 35 tons per year of POC) must offset emissions at a 1 to 1 ratio. Credits from the Small Facility Bank may be possible.
- Larger facilities (emit ≥ 35 tons per year of POC) must obtain emission reduction credits from the private market and offset emissions at a 1.15 to 1 ratio. Recent ERC prices: $4,500-8,500/ton POC and $5,700-15,500/ton NOx

Concerns

- High health risks may prohibit projects at certain locations and siting of new facilities will be difficult or impossible if all emission credits are exhausted.

Upcoming Influences: Increasing Attention to Cumulative Impacts to Neighborhood Air Quality: Facility-Driven Analysis

Recently Adopted

Regulation 11-18: Reducing Cumulative Health Risk from Existing Facilities

Existing facilities: A facility-wide Health Risk Assessment is required for cancer score ≥ 10 or non-cancer score ≥ 1. If a facility's health risk exceeds an action level, the facility must submit, then implement a risk reduction plan after public input and District approval. The District expects the first round of risk reduction plans for the initial facilities with the highest impacts to be implemented 2020 - 2025; the second round of risk reduction plans for the other facilities following.

New facilities: A Health Risk Assessment is required under the Regulation 2-5 at the time of initial permitting, if TAC emissions exceed trigger levels. New facilities causing an increase in cancer risk > 10 in a million or non-cancer score > 1 cannot be permitted. However, as additional sources are permitted, Regulation 2-5 review may not include impacts from initial permitting of the facility, so Reg 11-18 requirements could apply at that time.

Upcoming Influences: Increasing Attention to Cumulative Impacts to Neighborhood Air Quality: Community-Based Analysis

Being Developed

AB617 Community Air Protection Program: Reducing Emissions in Highly Impacted Areas

This program requires reductions in criteria pollutant and toxic air contaminants from stationary and mobile sources in the most impacted communities. The District's proposal of West Oakland for an Emission Reduction Action Plan and Richmond for a Community Monitoring Plan for Year 1 is under review by CARB.

Implementation includes:

- Screening and identification of impacted communities
- Emission studies and development of a community monitoring plan
- Monitoring and evaluation of collected emission data
- Development, Review, Approval, and Implementation of an Emission Reduction Action Plan

Action Plans have not been established for any community yet, but may include measures to reduce emissions from both existing stationary and mobile sources (BARCT standards), as well as permitting of new facilities.

Timeline:

- Oct 2018: Deadline for CARB statewide monitoring plan; CARB selects Year 1 communities.
- End of 2018: Plan for updating BARCT determinations
- July 2019: Deployment of community monitors
- Oct 2019: Adoption of community action plan
- Dec 2023: BARCT implementation

Interagency Collaboration: Impacts Defined by Project Siting

Site specific characteristics define certain requirements and impacts:

- Existing operations may have other sources of toxic emissions which must be considered in the health risk analysis for the proposed project.
- Conversion of uncontrolled existing operations reduces emissions or may not constitute modification of the source (which may limit applicable requirements).
- Project location affects health risk impacts – size of buffer zone to nearest residents/workers/students, wind direction and speed, terrain and building downwash effects

These parameters are determined by project location. The CEQA review and approval by the local permitting agency defines these project impacts.

Vision: A Well-Designed and Properly Functioning Facility

Biological processes experience variability in feedstock and operating conditions, so no single set of operating parameters ensures proper functioning. As such, these operations present challenges not encountered in standard types of mechanical operations.

A properly functioning facility requires:

- Properly designed process and abatement equipment (to handle variable feedstock)
- Operations manual defining “normal” operation and procedures
- Well-trained and motivated operators
- Diligent monitoring of operation/process parameters to ensure within defined acceptable ranges
- Management plan to address conditions outside of normal parameters
- Emergency response measures for extreme upsets

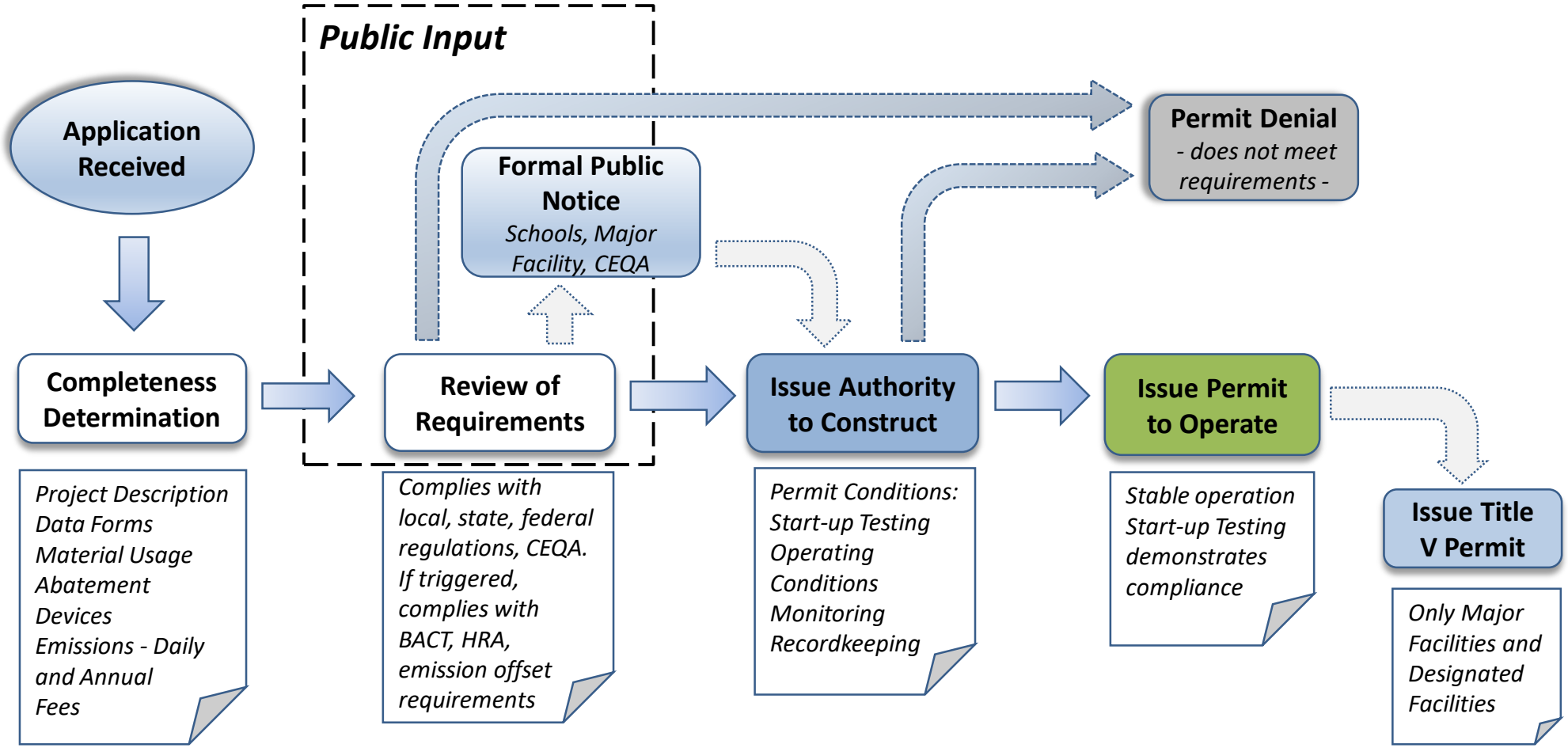
The CEQA process can regulate many of these aspects and assist where the District has limited jurisdiction.

District Goals: Improving Consistency in Permitting

The District is working to define permitting standards for organics recovery operations. Permitting of these operation is not currently ministerial under CEQA (subject to defined standards, emission estimation procedures, permit conditions) and has been subject to the District's developing understanding of these processes. The District is striving for permitting consistency through development of:

- Better understanding of the processes. Training such as the methane expert panel series on anaerobic digestion and composting.
- Developing emission data for decomposition of organic materials in stockpiles, composting operations, and recovery separation to supplement the limited available data. Planning, Source Test, and Engineering are collaborating to develop additional data.
- The District's Methane Strategy - development of Regulation 13 rules for composting and anaerobic digestion. These rules will set standards and operational requirements for these processes.
- Permit guidance for organics processing operations once regulations are in place and emission data has been approved.

Permitting Process



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