

Air Quality Update

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HEALTH RISK ASSESSMENTS

The State of California and Local Air Districts Roll Out New Health Risk Assessment Procedure, Increasing Estimated Risks

The State of California and many local California air districts have now begun adopting and implementing new procedures for preparing health risk assessments (HRAs) for industrial and commercial facilities. The new procedures will impact air toxicity evaluations in four key programs: Permitting, AB 2588, California Environmental Quality Act (CEQA), and Public Noticing (including Proposition 65). Although procedures for preparing HRAs have been around for many years, the State legislature passed a bill in 1999 requiring HRAs to consider the impacts of toxic air contaminants (TACs) on children. Research has shown that children are disproportionately affected by exposure to TACs.

The bill (SB 25) is now taking effect in the form of revisions to the HRA procedures. When adding up the impacts of these revisions, calculated cancer risks will likely increase 2 to 6 times, depending on the type of pollutants emitted.

The California Office of Environmental Health Hazard Assessment (OEHHA) adopted several significant revisions. First, OEHHA incorporated new procedures to account for children's increased probability of developing cancers due to exposure to TACs, known as Age Sensitivity Factors (ASFs). Second, OEHHA incorporated new data on exposure impacts related to revised breathing rate data

for adults and children. OEHHA also updated the exposure duration guidance. HRA preparers no longer need to assume a 70-year exposure duration for residential receptors. Instead, shorter exposure durations may be used, such as 30 years. Workplace receptors may use a 25-year exposure duration.

Permitting

Air district permitting programs will incorporate the new HRA procedures for new or modified equipment when determining compliance with health risk limits. The increased toxic risk estimates may more readily trigger usage limits, the addition of TAC emission controls, and/or public notice. In many cases, default emission factors, which overestimate emissions, should be replaced with more accurate emission factors. If the thresholds are still exceeded, dispersion modeling may also be needed prior to permit application submittal.

Air Toxics "Hot Spots"

Air Toxics "Hot Spots" (AB 2588) programs will also be impacted by the new HRA procedures when larger facilities are required to prepare a new or revised HRA for the purposes of updating their facility-wide risk estimates. The impact of this will result in higher calculated risk values, making it more difficult to remain below public notification and risk reduction thresholds. Again, more accurate emission quantification and dispersion modeling may be used to demonstrate lower risks.

CEQA

CEQA projects may also be affected by the revised HRA procedures.

Commercial, industrial, and larger construction projects with HRA requirements will likely be impacted by potential increases in calculated risk values, thus affecting the public review and public notification processes. In particular, construction projects with large fleets of diesel equipment may have challenges in preparing approved HRAs.

Air Quality Tip

To prepare for the changes to the HRA procedures, if permitting projects are planned in the near future that may result in an increase in TAC emissions, facilities may wish to consider an in-house risk assessment prior to permit application submittal. Also, facilities should be as accurate as possible when providing emissions data to their local air district, since this information can be used to trigger an HRA for AB 2588 purposes. Lastly, stay abreast of your local air district's activities related to the new risk assessment procedures.

Upcoming Training Offered by Yorke Engineering

- California Multi-Media Environmental Regulations: Permitting, Compliance, and Reporting Seminar:
October 28 – October 29, 2015
<http://www.yorkeengr.com/AirQualityClasses.htm>

Upcoming Due Dates for 2015/2016

- CARB GHG Verification 9/1/2015
- CARB GHG Cap-and-Trade Annual Compliance Surrender 11/2/2015
- CARB On-Road Heavy-Duty Diesel Vehicle Reporting for Flexibility Options 1/31/2016
- Semi-Annual Title V Report Semi-Annually
- Annual Title V Compliance Certification Annually
- Title V – Application for Permit Renewal – Due 180 Days Prior to Permit Expiration

REVISED HEALTH RISK ASSESSMENTS IN THE SJVAPCD

As indicated in this newsletter's cover story, the State of California and many local California air districts began rolling out new procedures for preparing HRAs for industrial and commercial facilities to implement the new 2015 OEHHA guidance. The San Joaquin Valley Air Pollution Control District (SJVAPCD) has developed a policy to provide basic procedures for conducting HRAs, APR-1906 "Framework for Performing Health Risk Assessments." In addition, the SJVAPCD has revised its Risk Management Policy, APR-1905, to address OEHHA's Newly Adopted Risk Assessment Guidance Document. Both policies, APR-1905 and APR-1906, are effective as of July 1, 2015.

For permitting purposes, the SJVAPCD will still require Toxics Best Available Control Technology (T-BACT) for a new or modified emissions unit with a health risk increase of greater than 1 in a million cancer risk. In addition, projects that result in a cumulative 20 in a million or greater cancer risk will not be approved, except for projects requesting discretionary approval. For permitting, the SJVAPCD will consider the cumulative increase in health risks from projects permitted since 1995, including the health risk increases contributed by the proposed new or modified emissions unit.

For CEQA purposes, the SJVAPCD will consider projects that result in a 20 in a million or greater cancer risk to have a significant air quality impact.

For AB 2588 purposes, the SJVAPCD has decided to maintain the significant risk threshold at 10 in a million for public notice and now requires a risk

reduction audit and plan for 100 in a million or greater cancer risk.

CARB REGISTRATION FOR FACILITIES WITH SMALL-SIZED REFRIGERATION SYSTEMS BEGINS JANUARY 1, 2016

Under the California Air Resources Board's (CARB's) Refrigerant Management Program (RMP), registration for facilities with small-sized refrigeration systems will begin January 1, 2016, and must be completed by March 1, 2016. Small-sized refrigeration systems are systems with a full charge of greater than 50 pounds but less than 200 pounds. Unlike medium and large-sized refrigeration systems, no fees or annual reporting will be required for small-sized systems. Currently, CARB's RMP does not apply to heating, ventilation, and air conditioning (HVAC) systems, which are typically used for comfort cooling.

In the past, local air districts, such as the SJVAPCD, have been designated as the local enforcement agency for CARB's air quality programs, such as RMP. At this time, the enforcement of this program is conducted by CARB's Enforcement Division.

PORTABLE ANALYZER REQUIREMENTS

For facilities with internal combustion engines, boilers, steam generators, or process heaters, monitoring via portable analyzer may be proposed as an alternative to continuous emissions monitoring systems (CEMSs). SJVAPCD policies SSP-1105 and

SSP-1810 specify the standards for portable analyzers, which are summarized in the table below.

Table 1: Portable Analyzer Standards

Detector	Resolution	Error	Max. Response Time
CO	High: 20 ppm, Low: 2 ppm	± 5%	1 min
O ₂	0.1%	Larger of ± 4% of reading or 0.2% O ₂	1 min
NO _x	2 ppm	± 5%	1 min

The policy requires that the stack exhaust flow be checked for stratification, which must be done by sampling three different locations within the same plane across the stack for at least 1 minute each. If any of the emission concentration values differ by >10% from the mean, then the stack is considered stratified and the emission concentration measurements must be taken using at least five readings evenly spaced out over a consecutive 15-minute period, with at least one reading taken at each of the three locations in the stack used to determine stratification. If no stratification is found, the emission concentration measurements are to be determined either by taking an average of a cumulative 15-consecutive-minute sample reading or by taking at least five readings evenly spaced out over the 15-consecutive-minute period and providing the average of the readings. The 15-consecutive-minute period starts after 1 minute or after the reading stabilizes, whichever is earlier.

Yorke Engineering, LLC specializes in air quality and environmental consulting for stationary and mobile sources, including dispersion modeling, health risk assessments, permitting, emission inventories, air quality compliance systems, etc. Yorke Engineering has assisted over 450 customers, including a wide variety of industrial facilities and government organizations throughout California.