

BOARD MEETING DATE: December 5, 2008

AGENDA NO. 31

PROPOSAL: Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans

SYNOPSIS: This action is to adopt a resolution approving the Interim CEQA GHG Significance Threshold for Stationary Sources, Rules, and Plans where AQMD is the lead agency. This interim threshold will be used for determining significant impacts for proposed projects. Once CARB adopts the statewide significance thresholds, staff will report back to the Board regarding any recommended changes or additions to the AQMD's interim threshold.

COMMITTEE: Climate Change, September 19, 2008 and October 29 2008

**RECOMMENDED ACTION:**

Adopt the attached resolution approving the Interim CEQA GHG Significance Threshold for Stationary Sources, Rules, and Plans for use by the AQMD.

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Executive Officer

EC:LT:SN:SS

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**Background**

The California Environmental Quality Act (CEQA) requires public agencies in California to analyze potential adverse impacts from proposed projects undertaken by a public agency, funded by a public agency, or requiring discretionary approval by a public agency. To disclose potential adverse impacts from a proposed project, pursuant to CEQA, lead agencies typically prepare a multidisciplinary environmental impact analysis and make decisions based on the analysis regarding the environmental effects of the proposed project (CEQA Guidelines §15002[a]).

In the past, air quality analyses tended to focus on potential adverse impacts from criteria pollutants and toxic air contaminants. Subsequent to the adoption of Assembly

Bill (AB) 32 – The California Global Warming Solutions Act of 2006, lead agencies have increasingly faced legal challenges to their CEQA documents for failure to analyze greenhouse gases (GHGs) or failure to make a determination of significance regarding GHG emission impacts.

Subsequent to the adoption of AB 32, there had been little regulatory guidance with regard to analyzing GHG emission impacts in CEQA documents until the Governor's Office of Planning and Research (OPR) released its Technical Advisory on CEQA and Climate Change (June 19, 2008). Consistent with Senate Bill (SB) 97, OPR's Technical Advisory was developed in cooperation with the Resources Agency, the California Environmental Protection Agency (Cal/EPA), and the California Air Resources Board (CARB). According to OPR, the Technical Advisory offers informal interim guidance regarding the steps lead agencies should take to address climate change in their CEQA documents, until CEQA guidelines are developed pursuant to SB 97 on how state and local agencies should analyze, and when necessary, mitigate greenhouse gas emissions.

Because of its expertise in establishing air quality analysis methodologies and comprehensive efforts to establish regional and localized significance thresholds for criteria pollutants, local public agencies have asked the AQMD for guidance in quantifying GHG impacts and recommending GHG significance thresholds to assist them with determining whether or not GHG impacts in their CEQA documents are significant. In response to these requests from the various stakeholders, AQMD established a stakeholder working group to receive input on establishing a GHG significance threshold. In the meantime, AQMD staff has joined many other stakeholders urging CARB to establish a statewide threshold for GHGs. AQMD has been making GHG significance determinations for its CEQA documents on a case-by-case basis. Staff believes it is more prudent to make GHG significance determinations using a GHG significance threshold that has gone through a public process and has been adopted by resolution by the Board than making GHG significance determinations on a case-by-case basis. In the absence of a statewide threshold, AQMD staff recommends its interim approach to the Board for consideration and it will also become part of the AQMD's input to the statewide process. The interim GHG significance threshold proposal recommended by staff to the Board that applies only to industrial (stationary source) projects where the AQMD is the lead agency is a narrower recommendation than the version presented at the October 29, 2008 Climate Change Committee meeting.

**GHG Working Group** – The GHG significance threshold Working Group was formed to assist staff's efforts to develop an interim GHG significance threshold and is comprised of a wide variety of stakeholders including: state agencies, OPR, CARB, and the Attorney General's Office; local agencies, city and county planning departments, utilities such as sanitation and power, etc.; regulated stakeholders, industry and industry groups; and organizations, both environmental and professional. Working group meetings are also open to the public. Part of the purpose of the Working Group is to

provide a forum to solicit comments and suggestions from the various stakeholders to assist AQMD staff with developing an interim GHG significance threshold that is consistent with CEQA requirements for developing significance thresholds, is supported by substantial evidence, and provides guidance to CEQA practitioners with regard to determining whether GHG emissions from a proposed project are significant. Since April 2008, seven Working Group meetings have been held. Detailed information on the GHG Working Group process is contained in Attachment E to this Board letter – *Draft Guidance Document – Interim Greenhouse Gas (GHG) Significance Threshold*. The staff-proposed interim GHG significance threshold resulting from the Working Group process is described later in this Board letter.

### **Legal Authority**

CEQA Guidelines §15022(a) states that a public agency shall adopt objectives, criteria, and specific procedures consistent with CEQA and these [State] Guidelines for administering its responsibilities under CEQA. CEQA Guidelines §15022(d) states further, “In adopting procedures to implement CEQA, a public agency may adopt the State CEQA Guidelines through incorporation by reference. The agency may then adopt only those specific procedures or provisions described in subsection [15022] (a) which are necessary to tailor the general provisions of the guidelines to the specific operations of the agency.” AQMD previously adopted the state guidelines and has since adopted specific provisions such as regional and localized air quality significance thresholds. Adopting GHG significance thresholds would be consistent with the CEQA Guidelines §15022 provision to tailor a public agency’s implementing guidelines by adopting criteria relative to the specific operations of the AQMD.

Specifically with regard to thresholds of significance, CEQA Guidelines §15064.7(a) states, “Each public agency is encouraged to develop and publish thresholds of significance that the agency uses in the determination of the significance of environmental effects.” Subsection (b) of the same section states further, “Thresholds of significance to be adopted for general use as part of the lead agency’s environmental review process must be adopted by ordinance, resolution, rule or regulation, and developed through a public review process and be supported by substantial evidence.” Staff’s recommended GHG significance threshold has undergone a public review process as part of stakeholder working group meetings that are open to the public. The currently proposed interim GHG significance threshold will be for projects where the AQMD is the lead agency.

### **Proposal**

**Policy Objective** – The overarching policy objective with regard to establishing a GHG significance threshold for the purposes of analyzing GHG impacts pursuant to CEQA is to establish a performance standard or target GHG reduction objective that will ultimately contribute to reducing GHG emissions to stabilize climate change. Full implementation of the Governor’s Executive Order S-3-05 would reduce GHG

emissions 80 percent below 1990 levels or 90 percent below current levels by 2050. It is anticipated that achieving the Executive Order's objective would contribute to worldwide efforts to cap GHG concentrations at 450 ppm, thus, stabilizing global climate.

As described below, staff's recommended interim GHG significance threshold proposal uses a tiered approach to determining significance. Tier 3, which is expected to be the primary tier by which the AQMD will determine significance for projects where it is the lead agency, uses the Executive Order S-3-05 goal as the basis for deriving the screening level. To avoid hindering attaining this goal, new or modified projects will need to be analyzed under CEQA and mitigated to the maximum extent feasible. Specifically, the Tier 3 screening level for stationary sources is based on an emission capture rate of 90 percent for all new or modified projects. A 90 percent emission capture rate means that 90 percent of total emissions from all new or modified stationary source projects would be subject to a CEQA analysis, including a negative declaration, a mitigated negative declaration, or an environmental impact report, which includes analyzing feasible alternatives and imposing feasible mitigation measures.

Therefore, the policy objective of staff's recommended interim GHG significance threshold proposal is to achieve an emission capture rate of 90 percent of all new or modified stationary source projects. A GHG significance threshold based on a 90 percent emission capture rate may be more appropriate to address the long-term adverse impacts associated with global climate change because most projects will be required to implement GHG reduction measures. Further, a 90 percent emission capture rate sets the emission threshold low enough to capture a substantial fraction of future stationary source projects that will be constructed to accommodate future statewide population and economic growth, while setting the emission threshold high enough to exclude small projects that will in aggregate contribute a relatively small fraction of the cumulative statewide GHG emissions. This assertion is based on the fact that staff estimates that these GHG emissions would account for slightly less than one percent of future 2050 statewide GHG emissions target (85 MMTCO<sub>2</sub>eq/yr). In addition, these small projects may be subject to future applicable GHG control regulations that would further reduce their overall future contribution to the statewide GHG inventory. Finally, these small sources are already subject to BACT for criteria pollutants and are more likely to be single-permit facilities, so they are more likely to have few opportunities readily available to reduce GHG emissions from other parts of their facility.

Staff does not believe a zero threshold, as recommended by some working group members would be feasible to implement. A 90 percent emissions capture rate will assure that all feasible GHG reduction measures will be implemented for a large majority of emissions from new or modified GHG stationary sources, while avoiding overwhelming the AQMD's capabilities to process environmental documents. Implementing the interim GHG significance threshold is expected to at least double or

triple the number of CEQA documents for permit application projects that are prepared by the AQMD each year (from approximately 10 to 15 to more than 45). Based on the number of permit applications received per year, it is likely that a zero GHG significance threshold would require preparing hundreds of additional CEQA documents per year with minimal additional environmental benefits.

**Applicability** – At this time, staff is recommending consideration of an interim GHG significance threshold that would apply to stationary source/industrial projects where the AQMD is the lead agency under CEQA. The types of projects that the staff proposal would apply to include: AQMD rules, rule amendments, and plans, e.g., Air Quality Management Plans. In addition, the AQMD may be the lead agency under CEQA for projects that require discretion approval, i.e., projects that require discretionary air quality permits from the AQMD. It should be noted that stationary source equipment associated with these projects are either at BACT or must comply with source-specific rules that reduce criteria pollutants and/or air toxics.

**Emission Calculations and Significance Threshold Proposal** – For the purposes of determining whether or not GHG emissions from affected projects are significant, project emissions will include direct, indirect, and, to the extent information is available, life cycle emissions during construction and operation. Construction emissions will be amortized over the life of the project, defined as 30 years, added to the operational emissions, and compared to the applicable interim GHG significance threshold tier. The following bullet points describe the basic structure of staff’s tiered GHG significance threshold proposal for stationary sources.

- **Tier 1** – consists of evaluating whether or not the project qualifies for any applicable exemption under CEQA. For example, SB 97 specifically exempts a limited number of projects until it expires in 2010. If the project qualifies for an exemption, no further action is required. If the project does not qualify for an exemption, then it would move to the next tier.
- **Tier 2** – consists of determining whether or not the project is consistent with a GHG reduction plan that may be part of a local general plan, for example. The concept embodied in this tier is equivalent to the existing concept of consistency in CEQA Guidelines §§15064(h)(3), 15125(d), or 15152(a). The GHG reduction plan must, at a minimum, comply with AB 32 GHG reduction goals; include emissions estimates agreed upon by either CARB or the AQMD, have been analyzed under CEQA, and have a certified Final CEQA document. Further, the GHG reduction plan must include a GHG emissions inventory tracking mechanism; process to monitor progress in achieving GHG emission reduction targets, and a commitment to remedy the excess emissions if GHG reduction goals are not met (enforcement).

If the proposed project is consistent with the qualifying local GHG reduction plan, it is not significant for GHG emissions. If the project is not consistent with a local

GHG reduction plan, there is no approved plan, or the GHG reduction plan does not include all of the components described above, the project would move to Tier 3.

- **Tier 3** – establishes a screening significance threshold level to determine significance using a 90 percent emission capture rate approach as described above.

The 90 percent capture rate GHG significance screening level in Tier 3 for stationary sources was derived using the following methodology. Using AQMD's Annual Emission Reporting (AER) Program staff compiled reported annual natural gas consumption for 1,297 permitted facilities for 2006 through 2007 and rank-ordered the facilities to estimate the 90th percentile of the cumulative natural gas usage for all permitted facilities. Approximately 10 percent of facilities evaluated comprise more than 90 percent of the total natural gas consumption, which corresponds to 10,000 metric tons of CO<sub>2</sub> equivalent emissions per year (MTCO<sub>2</sub>eq/yr) (the majority of combustions emissions is comprised of CO<sub>2</sub>). This value represents a boiler with a rating of approximately 27 million British thermal units per hour (mmBtu/hour) of heat input, operating at a 80 percent capacity factor. It should be noted that this analysis did not include other possible GHG pollutants such as methane, N<sub>2</sub>O; a life-cycle analysis; mobile sources; or indirect electricity consumption. Therefore, when implemented, staff's recommended interim proposal is expected to capture more than 90 percent of GHG emissions from stationary source projects.

If the project exceeds the GHG screening significance threshold level and GHG emissions cannot be mitigated to less than the screening level, the project would move to Tier 4.

- **Tier 4** – consists of a decision tree approach that allows the lead agency to choose one of three compliance options based on performance standards. *(For the purposes of Board consideration, Tier 4 is not recommended for approval at this time.)*

The purpose of Tier 4 is to provide a means of determining significance relative to GHG emissions for very large projects that include design features and or other measures to mitigate GHG emissions to the maximum extent feasible, but residual GHG emissions still exceed the interim Tier 3 screening levels. In this situation, since no additional project-related GHG emission reductions are feasible, staff is considering whether it is reasonable to consider that residual emissions are not significant. The intent of the Tier 4 compliance options is to encourage large projects to implement the maximum feasible GHG reduction measures instead of shifting to multiple smaller projects that may forego some design efficiencies that can more easily be incorporated into large projects than small projects. CARB's interim GHG significance threshold proposal incorporates a similar, but modified approach for determining GHG significance along with other suggested approaches that may have merit to consider and incorporate into AQMD staff's recommended

interim proposal. There are also policy and legal questions that need to be further resolved before adopting such an approach.

- **Tier 5** – under this tier, the project proponent would implement offsite mitigation (GHG reduction projects) to reduce GHG emission impacts to less than the proposed screening level. Any offsite mitigation measures that include purchase of offsets would require the project proponent provide offsets for the life of the project, which is defined as 30 years. If the project proponent is unable to implement offsite GHG reduction mitigation measures to reduce GHG emission impacts to less than the screening level, then GHG emissions from the project would be considered significant. Since it is currently uncertain how offsite mitigation measures, including purchased offsets, interact with future AB 32 Scoping Plan measures, the AQMD would allow substitution of mitigation measures that include an enforceable commitment to provide mitigation prior to the occurrence of emissions. The intent of this provision is to prevent mitigating the same emissions twice.

**Mitigation Preference** – If a project generates significant adverse impacts, CEQA Guidelines §15126.4 requires identification of mitigation measures to minimize potentially significant impacts. Because GHG emissions contribute to global change, mitigation measures could be implemented locally, nationally, or internationally and still provide global climate change benefits. Because reducing GHG emissions may provide co-benefits through concurrent reductions in criteria pollutants, when considering mitigation measures when the AQMD is the lead agency under CEQA, staff recommends that mitigation measures that are real, quantifiable, verifiable, and surplus be selected in the following order of preference.

- Incorporate GHG reduction features into the project design, e.g., increase a boiler's energy efficiency, use materials with a lower global warming potential than conventional materials, etc.
- Implement onsite measures that provide direct GHG emission reductions onsite, e.g., replace onsite combustion equipment (boilers, heaters, steam generators, etc.) with more efficient combustion equipment, install solar panels on the roof, eliminate or minimize fugitive emissions, etc.
- Implement neighborhood mitigation measure projects that could include installing solar power, increasing energy efficiency through replacing low efficiency water heaters with high efficiency water heaters, increasing building insulation, using fluorescent bulbs, replacing old inefficient refrigerators with efficient refrigerators using low global warming potential refrigerants, etc.
- Implement in-district mitigation measures such as any of the above identified GHG reduction measures; reducing vehicle miles traveled (VMT) through greater rideshare incentives, transit improvements, etc.

- Implement in-state mitigation measures, which could include any of the above measures.
- Implement out of state mitigation measure projects, which may include purchasing offsets if other options are not feasible.

### **GHG Significance Threshold Components Deferred to the Future**

**Tier 4 Performance Standards** – Based on reasons stated earlier, staff recommends that further evaluation be conducted to address comments raised and to consider other approaches as appropriate. Specifically, CARB staff proposed a hybrid approach in their Draft Proposal that combines the AQMD’s Tier 3 and Tier 4 concepts for stationary source projects. If CARB’s board does not take final action on their interim GHG significance threshold proposal by February 2009, AQMD staff will report back in the following month regarding the viability of the Tier 4 performance standards and recommended actions, if any.

**Residential/Commercial Sectors GHG Significance Threshold** – To achieve the same policy objective of capturing 90 percent of GHG emissions from new development projects in the residential/commercial sectors and implement a “fair share” approach to reducing emission increases from each sector, staff discussed with the working group a proposal combining performance standards and screening thresholds. The performance standards primarily focus on energy efficiency measures beyond Title 24 and a screening level of 3,000 MTCO<sub>2</sub>eq/yr based on the relative GHG emissions contribution between residential/commercial sectors and stationary source (industrial) sectors. Additional analysis is needed to further define the performance standards and to coordinate with CARB staff’s interim GHG proposal. Staff, therefore, recommends bringing this item back to the Board for discussion and possible action in March 2009 if the CARB board does not take its final action by February 2009.

A comparison between CARB staff’s initial concepts and AQMD staff’s recommended interim GHG significance threshold proposal for stationary projects and approaches for residential/commercial sectors is summarized in Table 1 for reference. A more detailed discussion is contained in the Draft Guidance Document in Attachment E.



Table 1  
Comparison of CARB's and AQMD Staff's Interim GHG Significance Threshold Approaches

	Stationary/Industrial Sector Projects	
	CARB	AQMD
Policy Objective	Capture 90% of statewide stationary project emissions	Capture 90% of district wide GHG emissions (industrial)
Exemption	Apply applicable exemption	Apply applicable exemption
Regional GHG Reduction Plan	N.A.	Project Consistent with Applicable GHG Reduction Plan with GHG inventorying, monitoring, enforcement, etc.
Thresholds	Project < 7,000 MTCO <sub>2</sub> eq/yr & meets construction & transportation performance standards	GHG emissions from industrial project is < 10,000 MTCO <sub>2</sub> eq/yr, includes construction emissions amortized over 30 years & added to operational GHG emissions
Performance Standards	See above	N.A.
Offsets	Offsite substitution allowed	Implement offsite mitigation for life of project, i.e., 30 years, with mitigation preference
Determination	GHG emissions significant, EIR is prepared, if meeting none of the above	GHG emissions significant, EIR is prepared, if meeting none of the above

Since not recommending specific GHG significance thresholds for residential/commercial sectors at this time, staff will perform its intergovernmental review (IGR) commenting function as a commenting and responsible agency by providing technical assistance in quantifying GHG emissions and making reference materials available to lead agencies. Reference materials from organizations other than AQMD may include the following:

- CAPCOA's *CEQA and Climate Change* white paper (<http://www.capcoa.org/ceqa/CAPCOA%20White%20Paper%20-%20CEQA%20and%20Climate%20Change.pdf>),
- CARB's Interim GHG significance threshold proposal (<http://www.arb.ca.gov/cc/localgov/ceqa/meetings/102708/wkspslides102708.pdf>), and

**Future Activities** – To assist other public agencies and CEQA practitioners with preparing a scientifically sound GHG analysis as part of preparing a CEQA document, staff will perform surveys of available data bases to compile GHG emission factors for as many GHG emission sources as possible. Staff has already compiled CO<sub>2</sub> and methane emission factors for on-road and off-road mobile sources. Other GHG emission factors would be compiled and listed on the AQMD's CEQA webpages.

In addition to compiling GHG emission factors, staff will compile GHG mitigation measures to the extent specific measures with GHG control efficiencies are available. Mitigation measures will be compiled by source category and uploaded to the AQMD's CEQA webpages. Staff will continue the stakeholder working group process to seek input from working group members.

Finally, to further evaluate and refine the interim GHG significance threshold for residential/commercial projects and evaluate the compliance options in Tier 4, staff will participate in the statewide efforts and continue to work with stakeholders.

### **Resource Impacts**

The AQMD periodically carries out the role of lead agency for permit application projects that have the potential to generate significant adverse impacts. On average, AQMD staff prepares 10 – 15 CEQA documents per year for permit application projects. In addition, all new and amended AQMD rules and regulations and Plans, e.g., Air Quality Management Plan, are evaluated for CEQA applicability and CEQA documents are prepared as necessary. If AQMD staff's proposed interim screening threshold of 10,000 MTCO<sub>2</sub>eq./yr is implemented, based on the permitting activities for 2006-2007 it will result in at least 31 additional CEQA documents per year, either MNDs or EIRs, being prepared by the AQMD as the lead agency unless another tier option is selected to demonstrate that the project is exempt or is consistent with a GHG reduction plan.

**Attachments**

- A. Flow Chart of Staff's Recommended Interim GHG Significance Threshold Proposal
- B. Development of Interim GHG Significance Thresholds
- C. Resolution
- D. GHG Significance Thresholds – Key Issues/Comments
- E. Draft Guidance Document – Interim CEQA Greenhouse (GHG) Significance Threshold Document