To: District Air Toxics Coordinators

Standardized Forms For Use With Submittal of Updated and Screening Health Risk Assessments

In an effort to streamline the submittal and review of health risk assessments (HRAs) by the Office of Environmental Health Hazard Assessment (OEHHA), staff from the Air Resources Board (ARB), the OEHHA, and local air districts have developed several standardized HRA submittal forms. These forms are meant to accompany the submittal of updated HRAs and screening HRAs.

We are enclosing the final versions of these forms for use by your district when submitting updated, or screening, HRAs to OEHHA. The purpose of the forms is to focus the HRA reviewer on specific areas of change in an updated HRA or areas of significance in a screening HRA. If completed properly, use of the forms should reduce the time and costs to review HRAs.

Also enclosed is Attachment A to these forms and Attachment B (Appendix F of the Emission Inventory Criteria and Guidelines Report). During the course of the development of the forms, district staff requested a list of the minimum data fields needed by OEHHA staff to complete a streamlined review of updated, or screening HRAs. Attachment A is a list of those data fields. If a district chooses to use a format other than the enclosed forms, the district should make sure the format they choose includes the data fields listed in Attachment A. Attachment B is the criteria that must be fulfilled when performing a screening risk assessment. District staff must submit adequate documentation that the procedures outlined in Attachment B were followed when they submit a screening risk assessment for OEHHA's review.

If you have any questions, please call Dale Shimp, Manager of the Environmental Justice and Special Projects Section, at (916) 324-7156.

Sincerely,

Linda C. Murchison, Assistant Division Chief
Planning and Technical Support Division

Enclosures

cc: Dale Shimp

Updated Health Risk Assessment Evaluation Form

This form is to be used only for updating existing HRAs. If you choose not to use this form when submitting updated HRAs, there is a set of the minimum data fields that must be included. Please see Attachment A for those data fields.

Facility Name:
Facility Address:

District: County: Facility ID:

Previous Risk (if applicable):

Actual Receptor	Risk:	Chronic H.I.:
	Inventory Year:	Acute H.I.:
PMI * (if different)	Risk:	Chronic H.I.:
	Inventory Year:	Acute H.I.:

Updated Risk (if applicable):

Actual Receptor	Risk:	Chronic H.I.:
	Inventory Year:	Acute H.I.:
PMI * (if different)	Risk:	Chronic H.I.:
	Inventory Year:	Acute H.I.:

Reasons For Updating HRA (please check one or more):
[ ] Changes in Emission Values - please attach documentation**

[ ] Changes in Health Considerations (examples include health values, changes in exposure pathways, etc.)- please attach documentation**

[ ] Changes in Modeling Parameters (examples include use of a new dispersion model, change in receptor distance, stack height changes, process or equipment addition or removal, implementation of control measures, etc.)- please attach documentation**

[ ] None of the Above - please attach justification

_____ _____ _____
Signature of HRA Preparer Representing Date

_____ _____
District Contact Person Phone Number

* - PMI means “Point of Maximum Impact”, the theoretical point of maximum concentration.
**Documentation includes Attachment A data fields, tables, figures, or text which clearly present the data that support the reason(s) for revising the risk assessment must be attached.

Attachment A

Minimum Information Required When Submitting Updated Health Risk Assessments

In addition to the standardized form, or if district staff chooses to use a previously developed format, the following are the minimum data fields required when submitting updated HRAs for review by the staff of the Office of Environmental Health Hazard Assessment.

Facility Information –
District, County, Facility ID, Facility Name, and Facility Address

Cancer Risk - 70-year Lifetime Cancer Risk By Substance For Actual and Point of Maximum Impact Receptors

Substance
CAS Number
Cancer Risk, For All Substances and Pathways That Drive Risk
(include inhalation, dermal, animal ingestion, water ingestion, soil ingestion, mother's milk)
Total Cancer Risk

Chronic Hazard Index - By Substance For Actual and Point of Maximum Impact Receptors

Substance
CAS Number
Chronic Reference Exposure Level (REL)
Toxicological Endpoints (include respiratory, kidney, nervous system, circulatory, alimentary, endocrine, immune, teratogen, reproductive)
Total Hazard Index By Endpoint

Acute Hazard Index - By Substance For Actual and Point of Maximum Impact Receptors

Substance
CAS Number
Acute Reference Exposure Level (REL)
Toxicological Endpoints (include respiratory, kidney, nervous system, circulatory, alimentary, endocrine, immune, teratogen, reproductive)
Total Hazard Index By Endpoint

Attach all tables, figures, or text which clearly present the data that support the reason(s) for updating the risk assessment.

Screening Health Risk Assessment Evaluation Form

This form is intended for use in conjunction with the criteria for screening risk assessments as set forth in Appendix F of the Emission Inventory Criteria and Guidelines Report, which is Attachment B. You may chose to submit this data in a different format, but that new format must contain all the information shown below.

Facility Name: Facility ID: County:
Facility Address:
District:

Cancer Risk (PMI *): Chronic H.I.: Main Endpoint(s):
Inventory Year: Acute H.I.: Main Endpoint(s):

Substances Modeled (the information below is an example of how to complete this section...please attach list if necessary):

Proposed Format:

		Multi-pathway Impacts		Non-cancer Impacts	
Substance	**Cancer**	**Cancer**	**Non-cancer**	**Chronic**	**Acute**
Beryllium	**X**	**X**	**X**	**X**	
Perc	**X**			**X**	**X**

Model Used To Evaluate Risk: / (Dispersion/Risk Assessment)
Pathways Considered: [ ] Inhalation [ ] Dermal Exposure [ ] Soil Ingestion
[ ] Mother's milk [ ] Others:

Health Effects Values:

Proposed Format:

Source	Substance	URF	(Noninhalation) Oral Potency Value	Oral REL	Chronic REL	Acute REL

If district staff choose to use a format other than this form when submitting the results of screening HRAs, the information on this form, at a minimum, is required.

_____ _____ _____
Signature of HRA Preparer Representing Date

_____ _____
District Contact Person Phone Number

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Attachment B
(Appendix F of the Emission Inventory Criteria and Guidelines Report)

Criteria For Inputs for Risk Assessment Using Screening Air Dispersion Modeling

(A) The emissions must represent all listed substances emitted from the facility. Emission estimates must be health-protective and approved by the district, and the assessment must take into account both the highest actual emissions and the facility's potential to emit, including use of the highest levels enforceable under the facility's permit(s), if the process(es) are subject to permits.

(B) Source characterization for the facility for air dispersion modeling (including but not limited to stack parameters, choice of volume or area source configurations, building downwash, raincaps, position of release point(s) within the facility) must be health protective. The most health-protective characterization which applies to the actual conditions at the facility must be chosen for the modeling analysis.

(C) Air dispersion modeling must use worst-case meteorological conditions and the most health-protective parameters applicable to the facility. Generic, default meteorological data, not site-specific data, should be used. A matrix representing all possible combinations of wind speed and stability classes should be used. The combination which results in the worst-case concentration should be selected. Ambient air temperature and mixing height must represent worst-case conditions. The rural or urban dispersion coefficients should represent the worst case which is applicable to the actual facility site. Some acceptable meteorological conditions are the "full meteorology" option in the U.S. Environmental Protection Agency (U.S. EPA) SCREEN3 (96043) model, February 1996, which is incorporated by reference herein.

(D) The most appropriate computer models must be used, including the most recent version, with all the correct switches (including but not limited to switches for downwash, rural vs. urban, and complex vs. flat terrain). The district must approve switches used in the model and ensure that the most health-conservative estimates of dose are obtained. Some acceptable models are the U.S. EPA SCREEN3 (96043) model, February 1996, the U.S. EPA ISC3 (95250) model, September 1995, and AERMOD, November 2005, which are incorporated by reference herein.

(E) Other procedures must use methods in HARP or available guidelines as follows:

(1) The potential health impact must be calculated for the point of maximum impact (PMI) or maximum off-site concentration.

(2) The potential non-cancer acute inhalation total hazard index (H.I.) must be calculated for all substances for each toxicological endpoint.

(3) The potential non-cancer chronic inhalation hazard index (H.I.) must be calculated for all substances for each toxicological endpoint.

(4) The potential non-cancer chronic non-inhalation (ingestion and dermal exposure) hazard index (H.I.) must be calculated for all applicable substances for each toxicological endpoint.

(5) The non-cancer chronic inhalation and non-inhalation hazard indices (H.I.s) must be added for each toxicological endpoint to determine the total hazard index (total H.I.) for each endpoint.

(6) The total potential carcinogenic impact from inhalation exposure and non-inhalation exposure pathways (where applicable for the substance) must be calculated. At a minimum, multipathway exposure must include the inhalation, soil ingestion, and dermal exposure, and mother's milk pathways; exposure through food ingestion including vegetables/fruits, meat, milk, and fish, and exposure through consumption of contaminated surface water should be included if those pathways exist at a specific site.

(7) Health effects values used for cancer and non-cancer health effects are subject to the approval by the Office of Environmental Health Hazard Assessment (OEHHA). Health effects values used for cancer risk assessment are those available in the California Environmental Protection Agency (Cal/EPA), Standards and Criteria Working Group document entitled "California Cancer Factors: Update", 1994, available through the Office of Environmental Health Hazard Assessment, and incorporated by reference herein. Some health effects values for assessing non-cancer health impacts are available in the OEHHA "Air Toxics 'Hot Spots' Risk Assessment Guidelines, October 2003,", including the use of health values from the Consolidated Table of OEHHA / ARB approved risk assessment health values (April 2005), which are incorporated by reference herein.

(8) Screening health risk assessment tables that are consistent with OEHHA Risk Assessment methodologies may be used at district discretion. Some examples are provided here: http://www.arb.ca.gov/ab2588/ab2588.htm. In order to use the tables, the configuration of the diesel engine(s) must reflect what was used in the modeling analysis, including the requirement that the diesel engine have a vertical stack with no restrictions such as a rain cap.

(9) Any other assumptions, if needed, must be consistent with the procedures approved by OEHHA for preparing health risk assessments.

(F) Stochastic modeling exercises are not acceptable as screening level risk assessments.

Screening Health Risk Assessment Evaluation Form

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Facility Name:	Facility ID:	County:
Facility Address:		District:
Cancer Risk (PMI *):	Chronic H.I.:	Main Endpoint(s):
Inventory Year:	Acute H.I.:	Main Endpoint(s):

Substances Modeled:

Model Used To Evaluate Risk: / (Dispersion/Risk Assessment)

Pathways Considered: [ ] Inhalation [ ] Dermal Exposure [ ] Soil Ingestion
[ ] Mother's milk [ ] Others:

Health Effects Values:

Proposed Format:

Source	Substance	URF	(Noninhalation) Oral Potency Value	Oral REL	Chronic REL	Acute REL

If district staff choose to use a format other than this form when submitting the results of screening HRAs, the information on this form, at a minimum, is required.

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Signature of HRA Preparer Representing Date

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District Contact Person Phone Number

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