## GLI Air Toxics Task Force
## Summary of Revisions To The STAR Program

### Reg. 1.02 – Definitions

**Primary Purpose: Conform the STAR Program definitions to be the same as state or federal agency definitions**

- Amend definition of "ambient air" to be the same as the state definition in 401 KAR 50:010 § 1(8).
- Amend definition of "cancer", "cancer risk" and "carcinogen" to be consistent with Agency for Toxics Substance and Disease Registry (ATSDR) Glossary.
- Add definition of "district-only enforceable" based upon Michigan R.339.119(q). The STAR Program is a local program to address local issues and the requirements of the STAR Program should not be federally enforceable.
- Amend definition of "emission standard" to be consistent with the current APCD definition.
- Amend definition of "excess emission" to provide that excess emissions are emissions that exceed an applicable emission standard. It is arbitrary to determine that emissions that are 125% of a normal rate are excessive, unless there is a demonstration that either the emissions exceed an applicable emission standard or emissions above that rate pose an actual risk to human health.
- Amend definition of "malfunction" to be the same as the state definition in 401 KAR 50:010 § 1(72).
- Add definition of "peer review" to define the extent of peer review necessary to establish that scientific evidence or data is credible. The definition of "peer review" is taken from *Peer Review in the Department of Energy – Office of Science and Technology: Interim Report* (1997), Commission on Geosciences, Environment and Resources. The STAR Program should provide that only scientific evidence or data that has been peer reviewed should be acceptable for purposes of decision making under the STAR Program.
- Amend definition of "process" to provide that the use of a material is not a process. This is consistent with the current APCD definition.

**Reg. 1.06 – Enhanced Emissions Reporting**

**Primary Purpose – Allow adequate time for implementation of collection of new data and preparation of enhanced reports**

- Section 3 has been amended to provide that the collection of the new data required by this regulation shall commence 60 days after the effective date of the regulation. As currently drafted, the collection of this data applies retroactively to Title V facilities. A regulation cannot apply retroactively. If the District believes that the data that is required by this regulation is already required to be and is being collected, then there are existing regulatory provisions that provide for the collection of the data and a new regulation is not required. Companies should be provided a short period of time following the effective date of the regulation in which to make arrangements for the collection of the required new data.
- Section 5 has been amended to delete provisions related to "uncontrolled emissions." It is unnecessary to address uncontrolled emissions when the purpose of the STAR Program is to further reduce already controlled emissions and the proposed regulations address the potential for excess emissions through the increased requirements for startups, shutdowns and malfunctions.
- In Section 5.2 the dates for compliance with the new information requirements have been amended to extend the deadlines to be consistent with the change to Section 3.
- Section 5.6, which would allow the District to require an accelerated schedule for the submittal of data, has been deleted since it is not reasonable to require an accelerated schedule for the collection of new data. All facilities should be kept on the same schedule for the submittal of required information.

**Regulation 1.07 - Startups, Shutdowns, and Malfunctions**

**Primary Purpose – Streamline the new reporting requirements**

- Delete provision requiring that "consistent with safe operating procedures," an owner or operator is required to stop input feed to the process or process equipment and shut down the process or process equipment if excess emissions would likely result from a malfunction. The provision was removed: (1) to clarify that alternate emission limits, such as those provided in Reg. 6.07 § 3.3.2 and Reg. 7.06 §4.2, apply during startup and shutdown events; and (2) to remove the requirement that an owner or operator is required to stop input feed to the process or process equipment or to shut down the process or process equipment if excess emissions would likely result from a malfunction. Such a blanket requirement may not be appropriate in all situations. As noted by the District in its Response to Comments, the "[i]t is the responsibility of a company to comply with the applicable requirements, including emission standards. *The decision to shut down a process or process equipment rests with the company, not the District.*" See *Response to Comment, No. 1.07-23 (emphasis added).*
- Delete the provision specifying that electronic mail notification would be deemed received by the date and time *received* by the District. The provision was revised to clarify the District's intent as specified in *Response to Comment 1.07-34,* in which the District acknowledges that electronic notification is deemed received by "…the date and time identified as sent" rather than as received by the District.
- Add provision requiring that the "appropriate" operating procedures be followed. Not every operating procedure is appropriate or applicable to every startup/shutdown situation. Process equipment design, pollution prevention measures may be considered as part of the "reasonable, available and practicable emission reduction measures," however, they are not substitutes for following appropriate operating procedures.
- Add a provision requiring the frequency of operation in startup/shutdown mode and bypasses to prevent loss of life, property damage, etc. to be "minimized to the extent practicable." Delete provision requiring startup/shutdowns to be minimized to the "maximum" extent necessary, allowing bypass only if "reduced as much as necessary to minimize excess emissions." Allowing bypasses only "as much as necessary to reduce excess emissions" and limiting the frequency of startup/shutdowns to the "maximum" extent practicable may require a company to take actions or operate in a manner that is contrary to the equipment manufacturer's guidelines.
- Amend the provision allowing a call to be placed to 911 to be "within one hour or as soon as reasonably possible." Allowing a call to be placed to 911 during a true emergency allows facility personnel to concentrate on minimizing the impact of the event, not making duplicative phone calls.
- Delete the requirement to explain how each provision of Section 4.4 was met and the requirement to provide an "analysis" of what caused the malfunction and the steps to be take to prevent or minimize similar occurrences in the future. These provisions were clarified to reduce redundancy and require one report indicating the cause of the malfunction and the steps that will be taken to prevent or minimize similar occurrences in the future.

**Reg. 1.20 – Malfunction Prevention Program**

**Primary Purpose – Require a Malfunction Prevention Program when necessary and streamline requirements of the Program**

- Revise the definition of "affected facility" in Section 1.1.2 to apply only when the District determines that a malfunction "has" occurred. "May have occurred" is not sufficient justification to subject a facility to a malfunction prevention program requirement.
- Add a self-terminating provision in Section 3.1 for process and process equipment not meeting the definition of "affected facility" in Section 1 for three years following the requirement to develop a malfunction prevention program. If compliance is achieved for three years, the process or process equipment should be allowed to be removed from the program. Sections 3.1.11 and 3.7 were deleted consistent with the self-terminating provision added in Section 3.1.
- Amend Sections 3.1.3 – 3.1.5 to provide that maximum intervals for routine inspection and calibration are to be those recommended by the manufacturer unless a longer period is specifically identified in the malfunction prevention program.
- Delete the provision in Sections 3.18 and 3.1.9 requiring the description of any additional air pollution control equipment to be installed and operational changes to be implemented. The purpose of the program is to prevent malfunctions. Specific air pollution control equipment and operational changes may not be capable of being determined until a malfunction occurs. Once a malfunction occurs, specific air pollution control equipment and operation changes may be developed to address the actual malfunction.
- Revise the provision in Sections 3.3 and 3.4 to allow implementation of the initial and any subsequently revised plan within 60 days of receiving notice from the District that a plan has been approved. A reasonable time period following approval of the plan by the District should be allowed for implementation.
- Delete reference to including OSHA or other program requirements as part of the malfunction prevention program on the basis that such a requirement may cause conflicts with OSHA requirements.

**Reg. 1.21 – Enhanced Leak Detection and Repair (LDAR) Program**

**Primary Purpose – Establish an LDAR Program that addresses the leak detection and repair requirements for Louisville Metro.**

- APCD has used the Texas Air Quality Study as a justification for needing the enhanced leak detection and repair regulation. However, APCD has failed to take into account some significant differences between the industries that participated in the study and the affected facilities located in Jefferson County. The Texas facilities were both olefin facilities which operate large pipelines at throughputs of 450,000 to 600,000 lbs/hour for each process unit. A fugitive leak at these types of facilities is significant because even the tiniest leak will emit large quantities of material. Leaks at these facilities, as well as the numerous refineries and other large petrochemical facilities, merit additional scrutiny. By comparison, the throughput of all of the facilities in Jefferson County that are currently subject to a federal leak detection and repair program don't add up to the throughput of just one olefin facility each day. In addition, the olefin units are predominantly processing gasses, while the Louisville facilities are processing a combination of liquids and gasses. So, the impacts of a leak in Louisville are not significant because of limited throughput and lower vapor pressures.
- Revised the program to incorporate the affected facility-specific federal LDAR program, rather than generically applying the HON, 40 CFR Part 63, Subpart H. The federal LDAR programs are process and organic hazardous air pollutant specific regulations based upon the chemical, concentration, hours of operations and other requirements. The enhanced LDAR program proposed by the District does not adequately define the scope of the program as it applies to processes or chemicals used at affected sources currently subject to affected facility-specific LDAR programs. As a result, the District's program could conceivably apply to equipment within covered processes that have been evaluated by U.S. EPA to have insignificant emissions due to minimal hours of operation or dilute concentrations of organic hazardous air pollutants.
- Revised the program to delete provisions, such as Sections 1.6, 3.1 and 5.3 relating to water seal controls and process drains, which were taken in part, but not in total, from Texas regulations. Incorporating a portion of a regulation is inappropriate. For example, provisions defining the applicability of the regulation to specific systems, concentrations, and components were not included by the District.
- Revised the applicability of the program to "organic hazardous air pollutants" rather than "organic compounds" to clarify the scope of the program. As proposed by the District, the program applies to "organic compounds," a term which encompasses thousands of potential chemicals.
- Revised the audit requirements in Section 12 to clarify that auditing requirements are intended to demonstrate that the monitoring performed by the affected facility is comprehensive and complete, much like auditing requirements imposed by the Sarbanes Oxley Act. As proposed by the District, it is not clear whether the purpose of the audit provision is to determine whether the affected facility is accurately verifying its leak rate or repairing leaking components. Moreover, the District's program is similar to and based on Texas regulations, including 30 Tex. Admin, Code §115.788, Audit Provisions, which applies only to a limited class of volatile organic compounds determined by Texas

to be highly reactive ozone precursors. Consequently, the District's program, which applies to organic compounds, unnecessarily encompasses thousands of potential chemicals.

**Reg. 2.08 – Fees**

**Primary Purpose – To require an explanation of how the STAR Program will be funded after FY 2005**

- The Task Force does not propose an alternative to Regulation 2.08. However, Regulation 2.08 does not explain how the STAR Program will be funded after Fiscal Year 2005. Since it is apparent that the majority of the implementation of the STAR Program will occur after FY 2005, the District should explain how the Program will be funded after FY 2005.
- The failure to explain how the Program will be funded after Fiscal Year 2005 is inconsistent with the requirement that the District explain in the Regulatory Impact Assessment the cost of the STAR Program. If it will be necessary to increase fees on the regulated industries to fund the Program after FY 2005, the District should state that now and provide the estimate of what increase in fees will be necessary to fund the STAR Program through the entire period of implementation, which will extend at least until 2012. Otherwise, the District should explain what funding sources other than increased fees will be used after FY 2005 to fund the STAR Program.

**Reg. 5.01 – General Provisions**

**Primary Purpose – Consistency**

- Amend definition of "benchmark ambient concentration" to be consistent with Michigan R336.1109(d) definition of "initial risk screening level."
- Add to definition of "de minimus emission" to amend Section 1.6.5 and add a new Section 1.6.6, to extend the exemption for a new or modified surface coating process with emissions of less than 5 tons per year of VOC emissions to any existing, new or modified process that has emissions of less than 5 tons per year. It is arbitrary to exempt a surface coating operation which has volatile organic compounds emissions of less than 5 tons per year, and not also exempt all other processes that emit less than 5 tons per year. Similarly, it is arbitrary to not apply the exemption to existing processes.
- Add new Section 1.7.5 to provide that all cold cleaners, not merely the cold cleaners at stationary sources as listed in Section 1.7.4, are exempt.
- Amend the general duty provision to be the same as the state general duty provision in 401 KAR 63:020 § 3.

**Reg. 5.20 – Benchmark Ambient Concentration**

**Primary Purpose – BAC should be based upon peer reviewed scientific evidence and data**

- Amend Section 2 to provide that a toxic air contaminant shall only be determined to be a carcinogen if it is identified as a carcinogen by:
  - * the U.S. EPA Integrated Risk Information System;
  - * the International Agency for Research on Cancer (IARC);
  - * the Agency for Toxic Substances and Disease Registry (ATSDR); or
  - * the National Toxicology Program in the most recent report on carcinogens.

  These agencies make a determination of whether a toxic air contaminant is a carcinogen on the basis of peer reviewed scientific evidence and data.
- Delete the provision that the District may determine that a TAC should be considered to be a carcinogen. The agencies listed above make the determination of whether a TAC is a carcinogen based on peer reviewed scientific evidence and data.
- Amend Section 3 to provide that if a Unit Risk Estimate (URE) has not been identified by IRIS, then the methodology presented in EPA's Technology Transfer Network FERA Air Toxics Risk Assessment Reference Library shall be used to develop the URE. The Air Toxics Risk Assessment Reference Library establishes the fundamental principles for risk based assessment for air toxics and how to apply those principles. The use of factors from California and Michigan is inappropriate because those programs do not identify what specific scientific methodology and criteria were used to develop cancer potency estimates for the respective TACs or whether the determinations were based upon peer reviewed scientific evidence or data.
- Provide as an alternative that the District shall approve an alternative cancer risk benchmark determination methodology, if it is demonstrated to be more appropriate based upon peer reviewed scientific evidence and data.
- The other equations for determining a $BAC_C$ have been deleted because those equations have not been demonstrated to be based upon peer-reviewed scientific evidence or data. In addition, the scientific basis for these equations has high levels of uncertainty and variability. This methodology is no longer recommended by the EPA for quantitative risk analysis and would provide only a general qualitative estimation of theoretical health risks that is not suitable for establishing specific, quantitative risk-based standards.
- If a URE or $BAC_C$ for a TAC not been determined by one of the above agencies, the TAC should be evaluated only on a chronic non-cancer risk basis.
- Amend Section 4 to provide that a $BAC_{nc}$ for non-cancer risks shall only be determined on the basis of a reference concentration identified in IRIS, or by use of the methodology presented in EPA's Technology Transfer Network FERA Air Toxics Risk Assessment Reference Library.
- The other equations for determining a $BAC_{nc}$ have been deleted because those equations have not been demonstrated to be based upon peer-reviewed scientific evidence or date. In addition, the scientific basis for these equations has high levels of uncertainty and variability. This methodology is no longer recommended by the EPA for quantitative risk analysis and would provide only a general qualitative

estimation of theoretical health risks that is not suitable for establishing specific, quantitative risk-based standards.

- Delete Section 5, which allows the District to determine whether a $BAC_{nc}$ does not provide adequate protection from the acute effects of a TAC. A determination of acute effects from a TAC should be made by the above-listed agencies.

**Reg. 5.21 –Environmental Acceptability Levels**

**Primary Purpose – Establish environmental acceptability levels consistent with EPA methodology.**

- The definition of "best available technology for toxics (T-BAT)" has been amended to be consistent with Michigan R336.1102(a). The District's addition of a consideration of "limiting hours of operation" in determining T-BAT has been deleted, since this is intended to be a definition of a technology, and limitations on hours of operation are not technologically based.
- The definition of "existing process or process equipment" has been amended to include and existing permitted process or process equipment, or a process or process equipment for which a construction permit was issued prior to the effective date of the regulation or for which a construction permit application was pending as of January 14, 2005, the date that the second version of the STAR Program was released for public comment.
- The definition of "new or modified process or process equipment" has been amended to provide that a new or modified process or process equipment is a process or process equipment for which a construction permit application was submitted after January 14, 2005, the date that the second version of the STAR Program was released for public comment.
- In Section 2.2.1, the environmental acceptability goal for non-cancer risk from an individual TAC from an individual new or modified process or process equipment has been changed from an Hazard Quotient of 0.2 to 1. According to EPA, no adverse effects are expected as a result of exposure for a HQ calculated to be 1 or less than 1. An HQ of 1 is also the equivalent of a cancer risk of 1-in-a-million. This is consistent with the methodology used in the WLATS Risk Assessment, the residual risk standard determination by the EPA that was mandated by Congress under the Clean Air Act, and the National Contingency Plan (NCP).
- The goals for an individual Category 1, 2 or 3 TAC from all new or modified processes or process equipment at a facility has been changed to a cancer risk of $1x10^{-5}$ and an HQ of 5. This is based upon the secondary risk screening level used in Michigan for cancer risk and takes into account that the calculation of a $BAC_c$ and $BAC_{nc}$ are already based on a continuous lifetime exposure of 70 years. In addition, this takes into account the NCP (which uses the cancer risk range of $1x10^{-6}$ to $1x10^{-4}$), *Risk Assessment Guidelines for Superfund*, the benzene National Emission Standard for Hazardous Air Pollutant (NESHAP) rule, the EPA methodology for residual risk under the Clean Air Act, and the Kentucky Voluntary Environmental Remediation Program (VERP).
- Section 2.2.3, which provides for summing of all TACs, has been deleted, since summing of all TACs for this purpose is inappropriate, because theoretical risk levels are based on calculations that estimate the upper bound of possible risk. The summing of multiple upper bound estimates is mathematically and biologically incorrect. This is also stated in the WLATS Risk Assessment. However, Section 5 does allow the District to consider synergistic or additive effects and to apply more stringent standards if synergistic or additive effects are demonstrated on the basis of peer reviewed scientific evidence or data. In addition, the summing of all carcinogenic TACs is provided as a consideration