Comments of Matt Haber on Proposed SMOP
Engineering Evaluation Report on Application 14029
Pacific Steel Casting
September 9, 2016

1. Section titled, "SMOP EMISSIONS LIMITS/REQUIREMENTS"

A Synthetic Minor Operating Facility is a facility which, at maximum capacity, has the potential to exceed major facility thresholds, but through the imposition of enforceable permit limitations has its potential to emit (PTE) limited to below threshold levels for a major facility. BAAQMD Regulation 2-6-230. For any physical or operational limitations on the facility's emissions to be treated as part of the facility design for purposes of determining PTE, permit conditions and limitations must be both legally and "practicably enforceable." BAAQMD Regulation 2-6-218 (defining PTE); BAAQMD Manual of Procedures Vol. II, Pt. 3 pages 3-10 (stating that SMOPs "must have practically enforceable limits and conditions to ensure that the facility never exceeds the thresholds for a major facility"). As the U.S. Environmental Protection Agency recently reiterated, "[o]ne of the key concepts in evaluating the enforceability of PTE limits is whether the limit is enforceable as a practical matter." *In the Matter of Yuhuang Chemical Inc.,* Order on Petition No. VI-2015-03 (Aug. 31, 2016), at page 14.

In the context of permitting, the term "practicably enforceable" is generally interpreted to require permit conditions and limitations that are enforceable as a practical matter. *Id*. Thus, "the permit must clearly specify how emissions will be measured or determined for purposes of demonstrating compliance" with permit limitations. *Id.* Permit limitations or conditions must be supported by monitoring, recordkeeping, and reporting requirements which are sufficient to enable both regulators and citizens alike to determine whether a limit has been exceeded, and if so, to take appropriate enforcement action. *Id.*

To the extent that this section purports to be the synthetic minor portion of the permit, it fails completely. It only contains blanket TPY limits, which are not practically enforceable. *See id*. at 17. To the extent that this section relies on the rest of the permit, there is no demonstration as to how the conditions that follow operate together to limit PTE. It is possible that some combination of these conditions could effectively and enforceably limit PTE, but the District has not made that demonstration. The District cannot state that all of the conditions operate to limit PTE, as many are not enforceable as a practical matter.

2. Capture efficiency

Most of the emissions limits that are intended to be enforceable to keep Pacific Steel as a synthetic minor source are dependent on a capture efficiency. The capture efficiencies required are thus a critical element of the proposed permit. If they are unrealistically high (i.e., they assume a higher capture than is actually possible), less of the pollution will be abated through

control devices and thus more will escape as fugitive emissions. It is therefore important that capture efficiencies have a sound basis. Without that sound basis, it is difficult to conclude that the potential to emit calculations are properly done; and if those calculations are not correctly done, then it is difficult for me to conclude that Pacific Steel will in fact be operating as a synthetic minor source.

The Engineering Evaluation Report does not provide a basis for the required capture efficiencies. No explanation is provided for the capture efficiencies selected. Most, although not all, capture efficiencies that are associated with these limits are either in the 99-100% or 86.5-90% ranges.

For capture efficiencies in the 99/100% range, a reasonable assumption is that the sources are totally enclosed and under negative pressure. For example, Source 1018 (heat treating furnaces) is required to have a 100% capture efficiency and so it could be that it is totally enclosed and under negative pressure. From the Engineering Evaluation, however, it is difficult to tell that it is totally enclosed and under negative pressure.

While Condition 22 (page 26) requires Pacific Steel to "maintain a negative pressure at each of the plant's exterior doors, windows, and other openings as identified and required within Appendix D of the facility's Odor Management Plan," I am unable to review that plan. It has not been provided to the public with this proposed SMOP. In any event, the negative pressure that Pacific Steel is required to maintain does not appear to be for specific sources within the plants and therefore it is difficult for me to evaluate whether sources such as Source 1018 will in fact be operating under negative pressure.

Other sources, such as Source 1014 (arc-electric air booth) may not be totally enclosed. For non-totally enclosed emissions units, 90% capture efficiency is a very high capture efficiency, and usually not possible without advanced engineering design. It is not reasonable for the District to assume 90%. If other than a default capture efficiency (60%?) is assumed, the District should require demonstration of capture efficiency with a known protocol. For example, SCAQMD published one for use for certain VOC sources. See SCAQMD Protocol for Determination of Volatile Organic Compounds (VOC) Capture Efficiency, Source Testing and Engineering Branch, Applied Science and Technology (May 1995), available from http://www.aqmd.gov/docs/default-source/laboratory-procedures/methods-procedures/cap_eff_protl.pdf?sfvrsn=2.

Minnesota Pollution Control Agency assumes only 80% capture efficiency for certain sources. The agency states:

> You may assume a capture efficiency of 80 percent for a hood included in an enforceable permit if the hood has been evaluated and conforms with the design and operating practices recommended in "Industrial Ventilation - A Manual of

> Recommended Practices, 21st ed., American Conference of Governmental Industrial Hygienists".

See Minnesota Pollution Control Agency, Instructions for Form GI-05A (Pollution Control Equipment Information), page 3, available from https://www.pca.state.mn.us/sites/default/files/aq-f1-gi05a.pdf.

The U.S. Environmental Protection Agency states that for emissions units that do not have permanent total enclosure, testing is always required to determine capture efficiency:

> An enclosure that does not meet the minimum criteria for a PTE [potential to emit] is not a total enclosure; it is a non-PTE, or partial enclosure (PE), and capture efficiency is determined by measurement.

U.S. Environmental Protection Agency, Technology Transfer Network, Clearinghouse for Inventories & Emissions Factors, https://cfpub.epa.gov/oarweb/mkb/contechnique.cfm?ControlID=22.

In other words, much more must be fundamentally explained before we can assume that the selected capture efficiencies are justified.

3. Compliance with Prevention of Significant Deterioration Requirements

The Engineering Evaluation Report states that the District became aware that Pacific Steel's operations could potentially be large sources of CO emissions, which the Report says "were previously unknown" (page 5). Did the emissions increase at some point in time after 1977? If so, were Prevention of Significant Deterioration requirements triggered, requiring application of Best Available Control Technology? Or were CO emissions always such that Pacific Steel Castings was a major source? In any case, Pacific Steel Castings currently is a major source, and has been for at least some time, and will be until a practically enforceable SMOP permit is issued. The District should determine if past production increases may have triggered PSD requirements, requiring, in part, application of BACT.

4. Director's Discretion

There are some instances in the proposed permit where the meaning of a requirement is subject to decisions by the District at a subsequent date. It is therefore not possible to tell whether that particular requirement is adequate for practical enforceability. Notably, Conditions 2 and 3, critical to demonstrating that Pacific Steel is in fact a synthetic minor, are dependent on calculation methods that are not contained in the permit.

In addition, baghouses associated with carbon or electric arc furnaces are required to be equipped with broken bag detectors or "APCO pre-approved alternative" (page 27). I cannot determine what those alternatives are and when they are required to be installed. Broken baghouse detection is important as the community has repeatedly expressed concerns about heavy metals, and monitoring requirements should be determined in the final permit rather than in the future.

5. CO Characterization

Conditions 42-44 appear to be data gathering requirements, rather than compliance assurance requirements. If the District is unsure about the total PTE of CO, it should have required testing prior to proposing a SMOP permit.

6. Conditions for Monitoring the Carbon Adsorption System

Requiring FID as a monitoring device is a good step. However, there are two glaring problems that I saw even in the limited time I have had for reviewing the proposed SMOP.

First, at Plants 1 and 2, the proposed SMOP would require in the near term, not an FID, but daily manual tests; an automated FID device will be required, but only once Pacific Steel has either exceeded or there is "an indication" that production will exceed 4,500 tons of steel. This two step monitoring structure contemplates action once breakthrough is detected. Since we were not provided an engineering analysis, we don't know how large excess emissions between breakthrough and carbon replacement are. We also don't know how frequently breakthrough might occur. For example, if the emissions are significant, and carbon has to be replaced monthly, the excess emissions could cause emissions limits in the SMOP to be exceeded, potentially causing Pacific Steel Castings to again be a major source. In addition, those emissions may impact the community significantly, especially since the emissions, if they are unabated, can cause a nuisance, as they historically have. It is also unclear whether these excess emissions are being accounted for in fugitive emissions for the total emissions. Some of the remaining questions I have include how the adsorption systems are monitored currently and how they will be monitored until the SMOP becomes effective.

Second, the permit contemplates situations where the FID breaks down, but does not seem to have a procedure for what happens to data during the period that the FID is not functioning. Again, if emissions during breakthrough are significant, and breakthrough is not detected because of a broken FID, it could be an important issue for the community. Again, without an engineering analysis, it is difficult to say whether this issue is significant.