DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection

A186435205

FACILITY: INDUSTRIAL STEEL TREAT CO		**SRN / ID:** A1864
LOCATION: 613 CARROLL ST, JACKSON		**DISTRICT:** Jackson
CITY: JACKSON		**COUNTY:** JACKSON
CONTACT: Jim Matthews , Facilities Manager/Environmental		**ACTIVITY DATE:** 06/24/2016
STAFF: Michael Gabor	**COMPLIANCE STATUS:** Non Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT: Full Compliance Evaluation (FCE) and Inspection (PCE) of Industrial Steel Treat Co., a Synthetic Minor / Opt-Out Source. A Rule 201 Violation was identified.		
RESOLVED COMPLAINTS:		

Synthetic Minor / Opt-Out Source. Full Compliance Evaluation (FCE) and Inspection (PCE) of Industrial Steel Treating, located at 613 Carroll Street, Jackson, Michigan 49202.

State Registration Number (SRN): A1864

Facility Contacts

Jim Matthews (JM), Facilities Manager, 517-780-9032, jwmatthews@indstl.com.

Purpose

On June 24, 2016, I conducted a scheduled, unannounced inspection of the Industrial Steel Treating (IST) facility located in Jackson, Michigan (Jackson County) at 613 Carroll Street. The purpose of the inspection was to determine the facility's compliance status with applicable federal and state air pollution regulations, particularly with the Michigan Natural Resources and Environmental Protection Act 451 of 1994, Part 55, Air Pollution Control and the administrative rules, and the conditions of IST's Permit to Install (PTI) number 388-96B, issued May 6, 2008. This facility was last inspected on September 15, 2011.

Facility Location

The facility is located within the city limits of Jackson. It is immediately surrounded by a combination of other commercial / industrial sources and residential areas.

Arrival & Facility Contacts

Slight visible emissions were observed upon my approach to the facility via Caroll Avenue, and appeared from a stack located on the northwest corner of IST's second building (see Figure 1). Later in the inspection, as documented below, I determined that the emissions were associated with EU9HTEMPER. I arrived at approximately 9:45 am, proceeded to the facility office to request access for an inspection, provided my identification to JM, and asked if he or someone else was available to meet with me, etc. JM escorted me to his office and a pre-inspection conference was held. I provided a copy of the Michigan Department of Environmental Quality (MDEQ) brochures entitled *Rights and Responsibilities Environmental Regulatory Inspections and Boiler NESHAP Navigation Tool,* and invited JM to complete the customer service survey upon receipt of my inspection report. I informed JM of my intent to conduct a facility inspection and to review the various records required by their permit. JM extended his full cooperation during the inspection and he accompanied me during the site tour portion of the inspection.

Regulatory Applicability

The facility is a Synthetic Minor / Opt-Out Source for VOC emissions. IST accepted a VOC emission limit in order to remain below major source emission thresholds. The facility is regulated by PTI 394-07 and reports its emissions to the Michigan Air Emissions Reporting System (MAERS).

In addition, two ammonia tanks are onsite and operate under the PTI exemption found under Michigan Air Pollution Control Rule R 336.1285(l)(iv) (Rule 285(l)(iv)). They use the ammonia as an atmosphere generator in conjunction with the metal heat treating process.

Nine Induction Lines, consisting of a hardening furnace, polymer/water quenching, and a tempering furnace are not permitted. During the engineer's permit review, it was determined that the polymer / water quenching lines are not sources of air pollution. The natural-gas fired burners associated with the furnaces qualify as exempt under Rule 282(b)(i).

The facility uses several water-based alkaline metal part washing tanks and operate under PTI exemption Rule 285(l)(iii). The facility uses 3 alkaline-based cleaners and SDSs were provided by the facility to substantiate their qualification (attached).

Emission Unit (EU) / Flexible Group (FG) Details

EMISSION UNIT SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Emission Unit ID	*Emission Unit Description*	Stack Identification
EU1CHARDENTEMPER	Continuous heat treat belt line consisting of a natural gas-fired hardening furnace with an oil quench tank controlled by four (4) flares, a natural gas-fired post-washer with heated blow-off, and a natural gas-fired tempering furnace.	SV1CCHARGEHOOD, SV1CPREHEATEFF, SV1CPREHEATBRN, SV1CQUENCHEFF, SV1CHARDBURNSO, SV1CHARDBURNNO, SV1CWASHBURNER, SV1CWASHEX, SV1CTEMPCHRGEX, SV1CTEMPCHRGIN, SV1CCOOLEX, SV1CCOOLIN
EU2CHARDENTEMPER	Continuous heat treat belt line consisting of a natural gas-fired pre-washer, a natural gas-fired hardening furnace with an oil quench tank controlled by three (3) flares, a natural gas-fired post-washer, and a natural gas-fired tempering furnace.	SV2CHARDENEREX, SV2CTEMPEREX
EU3CHARDENTEMPER	Continuous heat treat belt line consisting of a natural gas-fired	SV3CPREWASHEX, SV3CCHARGEHOOD,

	pre-washer, a natural gas-fired hardening furnace with an oil quench tank controlled by two (2) flares, a natural gas-fired post-washer, a natural gas-fired tempering furnace, and a soluble oil spray.	SV3CQUENCHEFF, SV3CHARDBURNSO, SV3CHARDBURNNO, SV3CPOSTWASHEX, SV3CPOSTBURN, SV3CTEMPCHRGEX, SV3CTEMPCHRGIN, SV3CTEMPFLUE, SV3CCOOLEX, SV3CCOOLIN
EU4CHARDENTEMPER	Continuous heat treat belt line consisting of a natural gas-fired hardening furnace with an oil quench tank controlled by four (4) flares, a natural gas-fired post-washer with heated blow-off, and a natural gas-fired tempering furnace.	SV4CCHARGEHOOD, SV4CPREHEATEFF, SV4CPREHEATBRN, SV4CQUENCHEFF, SV4CHARDBURNSO, SV4CHARDBURNNO, SV4CWASHBURNER, SV4CWASHEX, SV4CTEMPCHRGEX, SV4CTEMPCHRGIN, SV4CCOOLEX, SV4CCOOLIN
EU5KHARDENTEMPER	Continuous heat treat belt line consisting of a natural gas-fired pre-washer, a natural gas-fired pre-heat furnace, a natural gas-fired hardening furnace with an oil quench tank controlled by two (2) flares, a natural gas-fired post-washer, and a natural gas-fired tempering furnace.	SV5KPREWASHEX, SV5KPREWASHBRN, SV5KPREWSHHOOD, SV5KHARDCHARGE, SV5KQUENCHEFF, SV5KHARDBURNNO, SV5KHARDBURNSO, SV5KPOSTWASHEX, SV5KPOSTWSHBRN, SV5KTEMPCHGHD, SV5KTEMPDISCHD, SV5KCOOLEX, SV5KCOOLIN
EU9CTEMPER	Continuous natural gas-fired tempering furnace that is used off-line by the belt lines.	SV9CDISCHRGHD
EU1KTEMPER	Continuous natural gas-fired tempering furnace that is used off-line by the belt lines.	SV1KCHRGHOOD, SV1KDISCHHOOD
EU7AHARDEN	Natural gas-fired heat treat batch furnace with integral oil quench controlled by one (1) flare.	SV7AHARDBRNREX, SV7ACHARGEFF
EU8AHARDEN	Natural gas-fired heat treat batch furnace with integral oil quench controlled by one (1) flare.	SV8AHARDBRNREX, SV8ACHARGEFF
EU9AHARDEN	Natural gas-fired heat treat batch furnace with integral oil quench controlled by one (1) flare.	SV9AHARDBRNREX, SV9ACHARGEFF

EU1ATEMPER	Natural gas-fired batch tempering furnace.	SV1ATEMPEX
EU2ATEMPER	Natural gas-fired batch tempering furnace.	SV2ATEMPEX
EU4ATEMPER	Natural gas-fired batch tempering furnace.	SV4ATEMPEX
EU11ATEMPER	Natural gas-fired batch tempering furnace.	SV11ATEMPEX
EU11BHARDEN	Natural gas-fired pusher heat treat furnace with integral oil quench controlled by two (2) flares, and a natural gas-fired pre-washer.	SVP6PREWASHEX, SVP6PREWASHBRN, SV11BCHRGEFF, SVP6CHGHOOD, SV11BQUENCHEFF, SV11BHARDBRN
EU12BHARDEN	Natural gas-fired pusher heat treat furnace with integral oil quench controlled by two (2) flares, and a natural gas-fired post-washer.	SVP6POSTWSHEX, SVP6POSTWSHBRN, SV12BCHRGEFF, SV12BQUENCHEFF, SVP6DISCHGHOOD, SV12BHARDBRN
EU1BTEMPER	Natural gas-fired pusher tempering furnace with soluble oil dunk tank.	SV1BCHRGHOOD, SV1BRNFLUE, SV1BSOLOILEX, SV1BTEMPEX
EU1HHARDENTEMPER	Batch pre-washer, natural gas-fired pusher pre-heat furnace, natural gas-fired pusher hardener furnace with integral oil quench controlled by three (3) flares, batch post-washer, and a natural gas-fired pusher tempering furnace.	SV1HPREWASHEX, SV1HCHRGEFF, SV1HPRECHRGHOD, SV1HPREFLUE, SV1HHARDCHRGHD, SV1HHARDZ1EFF, SV1HHARDBURN, SV1HQUENCHEFF, SV1HDISCRGHOOD, SV1HPOSTWSHEX, SV1HTEMPCHRGHD, SV1HTEMPDISHD
EU2HHARDENTEMPER	Batch pre-washer, natural gas-fired pusher pre-heat furnace, natural gas-fired pusher hardener furnace with integral oil quench controlled by three (3) flares, batch post-washer, and a natural gas-fired pusher tempering furnace.	SV2HPREWASHEX, SV2HCHRGHEFF, SV2HPRECHRGHOD, SV2HPREFLUE, SV2HHARDCHRGHD, SV2HHARDZ1EFF, SV2HHARDBURN, SV2HQUENCHEFF, SV2HDISCRGHOOD, SV2HPOSTWSHEX, SV2HTEMPCHRGHD, SV2HTEMPDISHD
EU9HTEMPER	Natural gas-fired batch tempering furnace.	SV9HTEMPEX

EU11FTEMPER	Natural gas-fired batch tempering furnace.	SV11FTEMPEX
EU12ATEMPER	Continuous natural gas-fired tempering furnace that is used off-line by the pusher lines.	SV12CCHRGHOOD, SV12CBURNFLUE, SV12CDISHOODEX, SV12CDISHOODIN
Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1290.		

Flexible Group Identification

Flexible Group ID	Emission Units Included in Flexible Group	Stack Identification
FG-BELT LINES	EU1CHARDENTEMPER, EU2CHARDENTEMPER, EU3CHARDENTEMPER, EU4CHARDENTEMPER, EU5KHARDENTEMPER, EU9CTEMPER, EU1KTEMPER	See above.
FG-BATCH PUSHER	EU7AHARDEN, EU8AHARDEN, EU9AHARDEN, EU1ATEMPER, EU2ATEMPER, EU4ATEMPER, EU11ATEMPER, EU11BHARDEN, EU12BHARDEN, EU1BTEMPER, EU1HHARDENTEMPER, EU2HHARDENTEMPER, EU9HTEMPER, EU11FTEMPER, EU12ATEMPER	See above.

Rule 201 Exempt Emission Unit Summary Table

EU or Process	Exemption Rule	Comments
2 Ammonia Tanks	285(l)(iv)	Used in conjunction with atmosphere generators.
9 Induction Lines	282(b)(i)	Natural gas-fired burners exempt and polymer quench previously determined not to generate air pollution during permit application review.
Several Metal Parts Wash Tanks	285(l)(iii)	Alkaline cleaner is used.

Facility Background

IST provides hardening services for various automotive-related fasteners using heat treatment. Operations are conducted in 2 buildings, with main operations occurring at the East Building (where administrative offices are also located), and additional process operations occurring in the West Building. They currently employ about 100 persons and operate Monday through Friday over 3, 8-hour shifts. On occasions, they may also operate on Saturdays.

Heat treatment is conducted using two types of processes, including quenching in oil or a polymer / water solution, and tempering. Oil quenching based hardening involves heating the metal part to a high temperatures and quenching it in oil or polymer / water solution. Oil quenching is done in a sealed chamber. Tempering based hardening involves reheating the metal part to medium temperatures and then air cooling it. The process equipment is equipped with flares to control VOC-generated emissions from the heating of oil coated parts and from the oil quenching process.

The facility has various heat treat lines that employ various combinations of natural gas (NG)-fired hardening and tempering furnaces and components. IST employs continuous and "batch-type" equipment. Not all parts are tempered after quenching in oil. Typical combinations and order of components include the following:

- **Belt (continuous, like a conveyer line and most efficient, FG-BELT LINES) Line: pre-wash tank, hardening furnace, oil quench tank, post-wash tank, and temper furnace. This process uses "beltline quenching," and includes a furnace and an oil quench tank and a conveyor belt that runs through both components.**
- **Pusher (semi-continuous, FG-Batch Pusher) Line: pre-wash tank, hardening furnace, oil quench tank, post-wash tank, and temper furnace that is not directly connected to this line and the parts need to be loaded into it. The pusher furnace heats up multiple loads of metal parts and then is quenched one at a time at a specific cycle.**
- **Batch (used for fewer parts, separate hardening and tempering areas, FG-Batch Pusher) Line: pre-wash tank, hardening furnace, oil quench tank, post-wash tank, and temper furnace that is not directly connected to this line and the parts need to be loaded into it. The batch furnace heats up an individual load of metal parts and then is quenched one at a time at a specific cycle.**

IST 2015 MAERS reported facility wide, 3.67 tons VOC emissions using a combination of 2007 stack test derived and MAERS emission factors (EFs). These emissions are below both of the Flexible Group emission limits, FG-BELT LINES, 15.6 VOC tons per year (tpy) emission limit, and FG-BATCH PUSHER, 3.8 VOC tpy emission limit.

Pre-Inspection Meeting

The pre-inspection began with a background summary of IST, which was provided by JM. The summary included various operational characteristics, product line descriptions, etc. as summarized above. JM also briefly summarized their permit history, as they were previously a major / ROP source until they conducted stack testing in 2007 to obtain site specific EFs to reevaluate their potential to emit and to support their reclassification to an Opt-Out Source. In 2008, an Opt-Out PTI was issued and has since been operating under that PTI.

Next, I asked if any process changes have occurred at the facility and asked why IST's 2015 MAERS did not report emissions from EU3CHARDENTEMPER. JM confirmed that it was removed from the site and the equipment was replaced. JM did bring to my attention that they have recently replaced equipment, etc. and I asked whether such activities qualified for a Rule 201 exemption, and he wasn't sure. He stated that he sent an email dated 10/3/2014 to the previous inspector, Sersena White (SW) (a copy of which I later confirmed was in the IST's office file) and she did respond on 10/6/2014 (a copy of this email was forwarded to me and was attached to this report). SW asked JM to provide the various exemptions to cover the varies changes made at the facility.

AQD has not received any such response since SW's request.

Later, after the inspection, on 6/27/2016, I sent JM a follow up email regarding this issue (attached). I pointed out that several changes have been made to IST's permitted emission units. I requested that they submit a Rule 278a Scope of Permit Exemption demonstration to indicate whether each EU / equipment change was exempt from Rule 201, which requires obtaining (or modifing) a PTI. I also provided a link to the PTI-Determining Applicability guidance document. Rule 278a requires that they provide this demonstration within 30 days of the Department's request and was requested by COB July 27, 2016. I also recommended that they consider modifying their existing PTI to better reflect what they have on site.

Next, I advised the JM to determine whether IST is subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP): Nine Metal Fabrication and Finishing Source Categories at Area Sources, 40 CFR 63, Subpart XXXXXX. JM indicated that he would evaluate and determine applicability to this NESHAP and submit an initial notification, if required.

Then I followed up on several items flagged by SW during her last inspection conducted on 9/15/2011. It was previously determined by SW and JM that the ammonia tank was exempt by Rule 285(l)(iv) because it was employed as an atmosphere generator used in connection with metal heat treating process. JM told me that they use the nitrogen to "carborize" parts or add a thin nitrogen layer to metal parts to increase its resistance to wear, etc. SW also previously noted several discolored stacks. JM responded that it was due to previous buildup that caused the paint to burn off. They now have someone service / inspect the stacks to remove buildup, etc. and have not had any issues since then. Finally, SW also noted that several flares were not in operation during the inspection. I asked JM what they have done since then to ensue flare operation and he responded that they improved training and addition to daily checklist to check each flare's operation.

Next, we reviewed their permit conditions and I requested records required by permit Special Conditions (SCs) FG-BELTLINES VI.2 and FG-BATCHPUSHER VI.2 for June 2015 through May 2016. He then pulled up the records on screen and we walked through them, but final preparation was required and was provided via email on 6/29/2016 (attached).

Onsite Inspection Narrative

JM then provided a site tour and overview of the facility's operations. The tour began in the East Building and then proceeded to the West Building. Due to many EUs, etc. found on site, I provided my observations and findings in the table provided below.

EU ID	Observations / Comments
EU1CHARDENTEMPER	Observed excess emissions emanating from the wash tank and from the temper furnace. Some emissions were not captured by the hood and routed outside via the stacks (see Figures 2 and 3). During the inspection I asked JM to investigate the cause and report his findings to me. On 6/27/2016, I sent an email request to investigate and report findings by

	COB 7/11/2016. JM responded timely via email (attached) and reported that maintenance staff found that the stack fan on the temper furnace hood was not operating due to broken bearings, which was to be replaced by 7/11/2016. Additional emissions observed during the inspection were caused by a combination of air induction caused by the operation of blowers designed to blow off excess water from the parts after going through the wash tank, and to excessively wet parts. This will be addressed by tweaking the blower fans at the end of July. Proposed resolutions are satisfactory.
EU2CHARDENTEMPER	Observed operation and it was recently rebuilt by IST. It was equipped with 2 of the 3 flares indicated by the EU description. One of the flares was removed due to impacts upon the process.
EU3CHARDENTEMPER	No longer onsite. Dismantled and removed from the site.
EU4CHARDENTEMPER	Observed a clean operation. This EU was rebuilt and was equipped with 2 of the 4 flares indicated by the EU description.
EU5KHARDENTEMPER	Was not in operation during the inspection and both flares were installed.
EU9CTEMPER	Removed from the site.
EU1KTEMPER	Not in operation.
EU7AHARDEN	Observed.
EU8AHARDEN	Observed.
EU9AHARDEN	Observed. Not in operation.
EU1ATEMPER	Observed.
EU2ATEMPER	Observed.
EU4ATEMPER	Observed.
EU11ATEMPER	Observed.
EU11BHARDEN	Removed and replaced.
EU12BHARDEN	Removed and replaced.
EU1BTEMPER	Removed and replaced with 4 individual temper furnaces. Previously was 1 large temper furnaces with 4 internal zones. New furnaces have same capacities and improved fuel efficiency.
EU1HHARDENTEMPER	Observed its operation and its 3 flares.
EU2HHARDENTEMPER	Not in operation.
EU9HTEMPER	Observed excesses emissions exiting from around the furnace's door. During the inspection, I asked JM to investigate the cause and report his findings to me. On 6/27/2016, I sent an email request to investigate and report findings by COB 7/11/2016. JM responded timely via email (attached) and reported that maintenance staff found that the stack fan was in operation, but the fan was not activated via a push-button. Workers will receive additional training to

	address the issue. In addition, the gap at the top of the furnace door was found to be too large, which was adjusted and reduced. Operation was confirmed by JM and determined improved operations. Response is satisfactory. See figure 4.
EU11FTEMPER	Observed.
EU12ATEMPER	Observed. Not in operation.

FACILITY WIDE OBSERVATIONS / COMMENTS

All process / EUs in operation had its flare(s) in operation. I did not evaluate compliance with all of the stack conditions indicated by IST's permit due to the large number of onsite stacks.

Post-Inspection Meeting

We returned to PL's office and held a brief post-inspection meeting. I informed him that my only concerns included my observations of smoky operations of EU1CHARDENTEMPER and EU9HTEMPER and the facility making numerous changes that may not have been exempt. I informed him that I wanted him to investigate and report to me the causes and remediation of the smoky emissions, and that I would send him a Rule 278a Scope of Permit Exemption demonstration request via email (sent on 6/27/2016). I thanked JM for his excellent cooperation and assistance, and departed the facility at approximately 1:40 pm.

Recordkeeping Review

Below is a summary of the requested and reviewed records, as specified by the following permit SCs for the period of June 2015 through May 2016. On 6/27/2016, I sent, via email (attached), a summary of my records request. On 6/29/2016 and 7/20/2016, JM provided the requested records (attached).

EU or FG Designation	Record Request per Permit SC(s) for June 2015 through May 2016	Comments (if applicable)	Substantial Compliance (Yes or No) / Comments
	VI.2.a	Tons of metal processed per calendar month.	Yes
	VI.2.b	Requested records to also demonstrate compliance with SC II.1, 157,061 tpy material usage limit per 12-month rolling time period.	Yes / 24,035.4 tons, highest 12-month rolling metal usage reported for April 2016.

FG-BELT LINES	VI.2.c	The VOC EFs were determined during stack testing conducted in 2007.	Yes / Observed during inspection and during review of 2015 MAERS report supporting documentation.
	VI.2.d	VOC mass emission calculations determining the monthly emission rate in tons per calendar month.	Yes
	VI.2.e	Requested records to also demonstrate compliance with SC I.1, 15.6 tpy VOC emission limit per 12-month rolling time period.	Yes / 2.60 tons VOC, highest 12-month rolling emissions reported for April 2016.
FG-BATCH PUSHER	VI.2.a	Tons of metal processed per calendar month.	Yes
	VI.2.b	Requested records to also demonstrate compliance with SC II.1, 50,447 tpy material usage limit per 12-month rolling time period.	Yes / 6,983.1 tons, highest 12-month rolling metal usage reported for May 2016.
	VI.2.c	The VOC EFs were determined during stack testing conducted in 2007.	Yes / Observed during inspection and during review of 2015 MAERS report supporting documentation.
	VI.2.d	VOC mass emission calculations determining the monthly emission rate in tons per calendar month.	Yes
	VI.2.e	Requested records to also demonstrate	Yes /

		compliance with SC I.1, 3.8 tpy VOC emission limit per 12-month rolling time period.	0.55 tons VOC, highest 12-month rolling emissions reported for May 2016.

Compliance Summary

Based upon the visual observations and the review of the records, IST appears to be in substantial compliance with the requirements of their PTI, except for an identified Rule 201 violation. As a result, IST is not in compliance. My observations of excessive smoky operation of EU1CHARDENTEMPER and EU9HTEMPER appear to have been resolved by the facility.

On July 26, 2016, JM responded to my Rule 278a Scope of Permit Exemption demonstration request (attached), to indicate whether each EU / equipment change was exempt from Rule 201, which requires obtaining (or modifying) a PTI. He responded that the parts washers and temper furnaces installed are exempt per Rules 285(l)iii and Rule 282(a), respectively. However, the tempering / hardening furnaces with integral quenching (EU4CHARDENTEMPER and EU1BTEMPER) were replaced and don't meet an exemption, specifically Rule 282(a). Therefore, a PTI modification application should have been submitted prior to making EU changes. In addition, a PTI modification would also allow them to clean up their permit to better reflect current operations, e.g. update EU descriptions, account for additionally installed and removed EUs, etc. He proposed to attend AQD's PTI workshop on 9/7/2016 and to submit the PTI modification application shortly after.

I reviewed IST's source totals for VOC emissions, as reported in their 2012 through 2015 MAERS, and emissions remained relatively consistent, somewhere between 2.95 and 3.8 tons VOCs. This suggests that the EU changes did not have large impacts on overall facility emissions and it appears to have not become a major source. After discussing with my supervisor, Scott Miller, we decided to issue a Rule 201 Violation Notice (VN). An appropriate VN response from IST, would include to submit a PTI modification application. I also called JM to inform him of our decision.

I advised the facility to determine whether it is subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP): Nine Metal Fabrication and Finishing Source Categories at Area Sources, 40 CFR 63, Subpart XXXXXX.

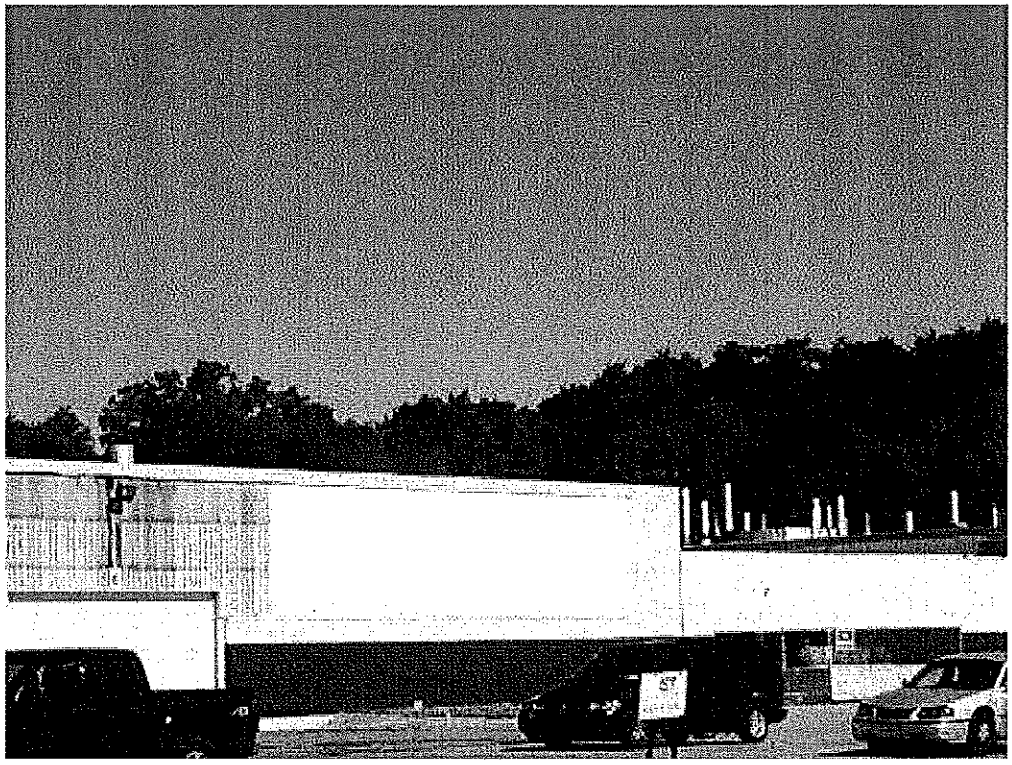

Image 1(Figure 1) : Slight visible emissions were observed upon my approach to the facility via Caroll Avenue, and appeared from a stack located on the northwest corner of IST's second building.

Image 2(Figure 2) : Observed smoky emissions emanating from EU1CHARDENTEMPE's temper furnace during the inspection. Some emissions were not captured by the hood and routed outside via the stacks.

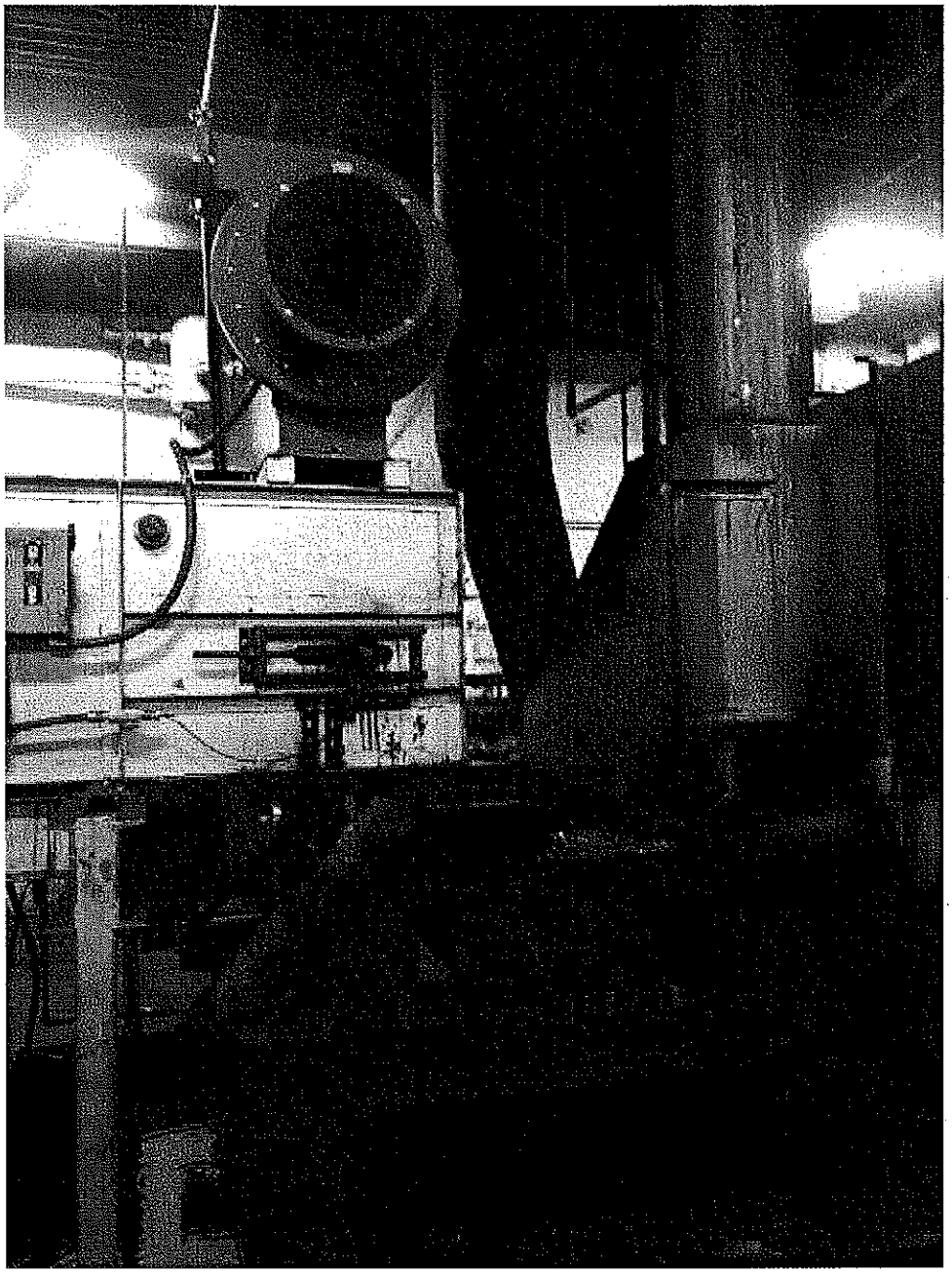

Image 3(Figure 3) : Observed smoky emissions emanating from EU1CHARDENTEMPE's temper furnace during the inspection. Some emissions were not captured by the hood and routed outside via the stacks.

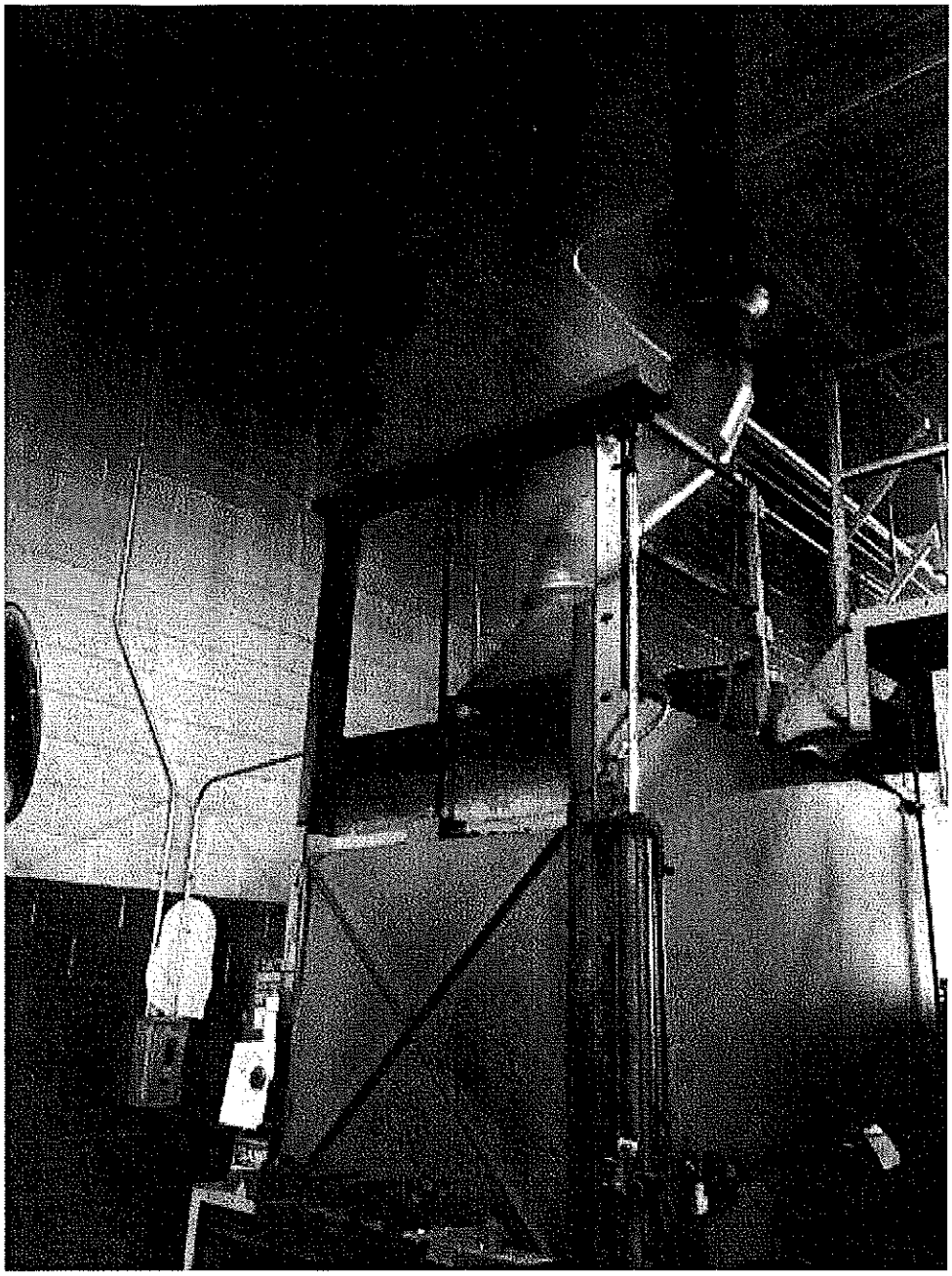

Image 4(Figure 4) : Observed excesses emissions exiting from around EU9HTEMPER's furnace door.

NAME Michael M. Mann DATE 8/10/16 SUPERVISOR