EGLE 3/7/23 air audit response

Violation 1 &2 - Rack burn off oven EURBO2 showing visible emissions from stack and failure to operate burn off oven afterburner properly.

Once the situation was identified, we pulled oven charts showing main burner temperatures holding at 950F while the afterburner was shut off. It was determined that the combustion in the oven was still happening due to the product in the oven continuing to combust, even though the main burner and after burner were shut down by the controller due to the oven detecting a combustion fault. The combustion in the oven was being fed by the product being oxidized, fueling the combustion yet still being controlled with water spray inside the oven.

Actions taken with the OEM, Jackson Oven Supply. (attachment 1)

1. Repaired and replaced door seals which allowed excess oxygen into the combustion chamber.
2. Inspected all insulation for any damage and repaired or replaced as necessary.
3. Installed baffle to prevent back pressure into the afterburner causing a fault and ultimately shutting down the oven prior to combustion completion.
4. Adjusted water pressure and nozzle locations to factory settings.
5. Adjusted oxidation cycle time to 1.5 hrs from 30 mins to allow for complete oxidation prior to cycle completion.
6. Adjusted burner settings to compensate for low gas pressure coming from main gas lines.

After completion of the above, a trial burn was set and witnessed by the OEM's technician and deemed as acceptable operation of the equipment as designed (attachment 2). No further repairs or adjustments were necessary.

Additional procedural actions completed.

1. Decc has implemented an annual PM with the OEM to visit on site for a complete review, adjustment and repair as necessary of all functions and components of the EURBO2 burn off oven. A detailed PM checklist is attached for the Jackson Oven annual PM (attachments 3 & 4)
2. Continue monthly internal PM's and inspections. Decc's current monthly PM is attached (attachment 5).
3. Decc has implemented a daily operator sign off on the oven chart to confirm proper operation of the oven and its afterburner (attachment 6). All signed oven charts will be forwarded to the engineering manager for review and filing. If any failure is detected by the operator or supervisor in the oven charts, the oven will be taken out of service while an investigation takes place as to the root cause of the failure.
4. EURBO1 does not have dual oven charting for the main burner and after burner. Decc will purchase and install a new chart recorder to include both the main burner and after burner temperature recording. This should be completed by June 30th of this year once the new chart recorder is available. All oven charting signoffs and approvals will then be implemented for EURBO1 once the new chart recorder is in place. Monthly internal PM's will continue for EURBO1 as well as adding an annual OEM inspection and PM (attachments 7, 8 & 9).

5. Decc has implemented a monthly visual inspection of both EURBO1 and EURBO2 stack emissions, observing the stacks for any improper visual emissions. This will be issued through a separately scheduled PM through Decc's PM system with documented results and completion (attachment 10).
6. A preventative maintenance and malfunction abatement plan (PM/MAP) has been written for both EURBO1 and EURBO2 and is attached to this response (attachment 11). A copy will also be sent to the AQD district supervisor.

Violation 3 – Failure to capture all purge solvents in closed containers.

Decc has flushed our spray equipment into filters for many years and has been known in previous inspections to not be a problem. Our current permit allows for flushing into the filters and any subsequent, more stringent requirements would be taken under advisement for potential implementation. However, it is our assumption that we are governed by the original permit issued to us. This was the direction taken in 2019 where in our inspection it was noted that this procedure was not proper but did not result in a violation. With that inspection it was determined by Decc that all robot manipulated spray equipment as well as manual or stationary spray equipment could be safely purged into buckets and disposed of as hazardous waste. This practice continues today. However, purging into filters for our rotary electrostatic applicators is the only way possible to clean this particular type of equipment safely without damaging the applicator cups that spin at 40,000 rpm. Due to the volatility of the solvents being flushed, it is not recommended to purge into any container due to static charge build up around the rotating applicator cups. Also, these cups cost $2500 each and the risk of damage is too great if they come into contact with any container capturing the solvents. Since the solvents are being destructed thru the RTO in the same manner as coatings, the emissions are negligible and within permit requirements. The amount of flush solvent is being documented in our VOC tracking software and can be pulled up to view at any time. Any other type of coating application equipment being flushed such as robot guns or stationary/manual spray guns is being captured in a container and disposed of as hazardous waste or recycled thru our solvent reclamation still. The lack of calculation in our VOC totals will be addressed in the response to violation 4 below.

Violation 4 – Failure to maintain records of purge/clean up solvent used and reclaimed

All solvents that had been used in the past for purging and cleaning had been recorded properly by our operators in our coating tracking software. Due to a software programming issue, the solvents were not calculating into the aggregate VOC tracking of the plant. This has since been resolved and all solvents are calculated into the VOC tracking system going back as far as needed. Additionally, the software defaulted all new coatings to a 100% VOC content so that worst case VOC's were being calculated until the actual coatings' VOC content could be determined and updated in the software database. Once the purging solvents were calculated correctly in the VOC reporting, and all new coatings VOC contents were updated in the coating database, the recalculation of VOC's for the past year resulted in a net decrease in VOC's for the plant. Attached are the before and after VOC totals for the month of January, 2023 (attachments 12 & 13). More months can be provided as necessary. Also included is a 12 month revised and updated VOC total for line 4 (attachment 14). An updated MAERs report can be submitted for 2022 if required.

Additionally, Decc records all solvents as if they are purged into the filters, regardless of them being purged into containers for hazardous waste disposal or purged into the filters for RTO destruction in the case of the rotary applicators. Decc does not record separately the quantity of trapped/contained solvents vs solvent sprayed directly into the booth filters. This recording method would represent worst case of VOC's going to the RTO for destruction, while the amount of solvent actually being exhausted is much less than being recorded.

Violation 5 – Failure to properly calculate HAP emissions

The amount of HF had been recorded for each load of the burnoff oven EURBO2. This was reported in our MAERs report under burnoff oven EURBO2 but not calculated in our overall aggragate HAPs for the plant. Decc will be re-evaluating the calculation for amount of HF produced per load by calculating the amount of fluorine left in the ash vs what was assumed to be converting to HF. In the meantime, calculations have been added to the plant's overall HAP aggregate to account for HF being produced by EURBO2. Decc has also made changes to record keeping for EURBO1. Since this oven was permitted under a previous air permit with limited special conditions, it is assumed that no record keeping is required. However, going forward Decc has implemented the same load documentation and HAP calculations for EUROB1 that has been used for EUROB2. EUROB1 HAP totals have also been integrated into the overall plant HAP calculations (attachment 15).

General comments

1. In the activity report it was sighted that Decc operates electrostatic hand spray operations in one of our booths. We no longer incorporate any electrostatic hand spray operations in the facility.
2. The activity report states that EULINE5 is not vented to the RTO. Per a modification request to our permit to install submitted in June of 2021 and approved in the same month, EULINE5 is now connected to our current RTO. RTO capacity was deemed sufficient to handle the volume of air generated by EULINE5 at that time. This modification went into service in September of 2022 when production volumes generating VOC's required the destruction of VOC's to remain compliant with our general permit 87-09. It has now allowed for continued improvement in Decc's overall VOC reduction and air permit compliance.
3. All RTO repairs recommended by the manufacturer are planned for the next OEM PM event scheduled for 2024. In addition, ongoing repairs and maintenance remain in effect as needed to maintain the proper operation of the RTO including upgraded blower bearings, automatic greasers to the bearings and upgraded ductwork to strengthen the ability of the RTO to function.

Thank you for the time spent on your sight visit and helping Decc through the improvement process. I believe the actions we have taken will help mitigate any future issues. If you have any further questions, please do not hesitate to contact me.

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