

## STATEMENT OF BASIS

For the issuance of Draft Air Permit # 2467-A AFIN: 29-00745

1. PERMITTING AUTHORITY:

Division of Environmental Quality  
5301 Northshore Drive  
North Little Rock, Arkansas 72118-5317

2. APPLICANT:

Tyson Chicken, Inc- Hope Hatchery  
2510 AR-73  
Hope, Arkansas 71801

3. PERMIT WRITER:

Elliott Marshall

4. NAICS DESCRIPTION AND CODE:

NAICS Description: Poultry Hatcheries  
NAICS Code: 11234

5. ALL SUBMITTALS:

The following is a list of ALL permit applications included in this permit revision.

Date of Application	Type of Application (New, Renewal, Modification, Deminimis/Minor Mod, or Administrative Amendment)	Short Description of Any Changes That Would Be Considered New or Modified Emissions
12/1/2022	New	All emissions are considered new.

6. REVIEWER'S NOTES:

Tyson Chicken, Inc – Hope Hatchery is proposing to construct and operate and a new chicken hatchery, located at 2510 Highway AR-73 Hope, AR 71801. The facility submitted an application for an initial minor source permit for the existing Hope hatchery and the new hatchery. Permitted emissions are 2.3 tpy PM/PM<sub>10</sub>, 4.4 tpy SO<sub>2</sub>, 37.1 tpy VOC, 16.8 tpy CO, 39.6 tpy NO<sub>x</sub>, and a facility wide HAP limit of 9.59 tpy Single HAP and 24.50 tpy Total HAPs.

After construction of the New Hatchery is complete, Tyson plans to discontinue operations at the Old Hatchery.

## 7. COMPLIANCE STATUS:

The following summarizes the current compliance of the facility including active/pending enforcement actions and recent compliance activities and issues.

There are no active or pending enforcement actions.

## 8. PSD/GHG APPLICABILITY:

a) Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, etc.)? N  
If yes, were GHG emission increases significant? N

b) Is the facility categorized as a major source for PSD? N

- *Single pollutant  $\geq 100$  tpy and on the list of 28 or single pollutant  $\geq 250$  tpy and not on list*

If yes for 8(b), explain why this permit modification is not PSD.

## 9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
21, 22	NO <sub>x</sub> , CO, PM	40 C.F.R. Part 60, Subpart IIII
10, 21, 22	HAPs	40 C.F.R. Part 63, Subpart ZZZZ

## 10. UNCONSTRUCTED SOURCES:

Unconstructed Source	Permit Approval Date	Extension Requested Date	Extension Approval Date	If Greater than 18 Months without Approval, List Reason for Continued Inclusion in Permit
N/A				

## 11. PERMIT SHIELD – TITLE V PERMITS ONLY:

Did the facility request a permit shield in this application? N

(Note - permit shields are not allowed to be added, but existing ones can remain, for minor modification applications or any Rule 18 requirement.)

If yes, are applicable requirements included and specifically identified in the permit? N  
If not, explain why.

For any requested inapplicable regulation in the permit shield, explain the reason why it is not applicable in the table below.

Source	Inapplicable Regulation	Reason
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Source	Inapplicable Regulation	Reason
N/A		

## 12. COMPLIANCE ASSURANCE MONITORING (CAM) – TITLE V PERMITS ONLY:

List sources potentially subject to CAM because they use a control device to achieve compliance and have pre-control emissions of at least 100 percent of the major source level. List the pollutant of concern and a brief summary of the CAM plan (temperature monitoring, CEMs, opacity monitoring, etc.) and frequency requirements of § 64.

Source	Pollutant Controlled	Cite Exemption or CAM Plan Monitoring and Frequency
N/A		

## 13. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

## 14. AMBIENT AIR EVALUATIONS:

The following are results for ambient air evaluations or modeling.

## a) NAAQS

A NAAQS evaluation is not required under the Arkansas State Implementation Plan, National Ambient Air Quality Standards, Infrastructure SIPs and NAAQS SIP per Ark. Code Ann. § 8-4-318, dated March 2017 and the DEQ Air Permit Screening Modeling Instructions.

## b) Non-Criteria Pollutants:

The non-criteria pollutants listed below were evaluated. Based on Division of Environmental Quality procedures for review of non-criteria pollutants, emissions of all other non-criteria pollutants are below thresholds of concern.

1<sup>st</sup> Tier Screening (PAER)

Estimated hourly emissions from the following sources were compared to the Presumptively Acceptable Emission Rate (PAER) for each compound. The Division of Environmental Quality has deemed the PAER to be the product, in lb/hr, of 0.11 and the Threshold Limit Value (mg/m<sup>3</sup>), as listed by the American Conference of Governmental Industrial Hygienists (ACGIH).

Pollutant	TLV (mg/m <sup>3</sup> )	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
Acrolein	0.229	0.0252	0.005582	Yes
Arsenic	0.010	0.0011	7.63E-06	Yes
Beryllium	0.00005	0.0000055	4.58E-07	Yes
Cadmium	0.002	0.00022	4.19E-05	Yes
Chromium	0.5	0.055	5.34E-05	Yes
Chromium VI	0.0002	0.000022	6.85E-07	Yes
Cobalt	0.020	0.0022	3.34E-06	Yes
Manganese	0.020	0.0022	0.000151	Yes
Mercury	0.010	0.0011	1.06E-05	Yes
Nickel	0.10	0.0110	8.01E-05	Yes
Lead	0.05	0.0055	1.91E-05	Yes
POM	0.20	0.0220	0.010143	Yes
Selenium	0.20	0.0220	9.15E-07	Yes

c) H<sub>2</sub>S Modeling:

A.C.A. §8-3-103 requires hydrogen sulfide emissions to meet specific ambient standards. Many sources are exempt from this regulation, refer to the Arkansas Code for details.

Is the facility exempt from the H<sub>2</sub>S Standards

Y

If exempt, explain: No H<sub>2</sub>S Emissions

## 15. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
09, 16, 17, 18, 19, 20	AP-42 Chapter 1	<u>lb/MMscf</u> NO <sub>x</sub> : 100 CO: 84 VOC: 5.5 PM/PM <sub>10</sub> : 7.6 SO <sub>2</sub> : 0.6	-	-	8,760 hr/yr
13, 14,	Mass Balance	Emissions calculated	-	-	Emissions

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
24, 25		based on amount of products used and their concentrations. A variety of products can be used at these sources. Based on the following usage assumptions: SN-13: 1,700 gal/yr SN-24: 3,952 gal/yr SN-14: 660 gal/yr SN-25: 1,980 gal/yr			calculated monthly as required by SC#7
10	AP-42 Chapter 3	<u>lb/hp-hr</u> NO <sub>x</sub> : 3.10E-02 CO: 6.68E-03 VOC: 2.47E-03 PM/PM <sub>10</sub> : 2.20E-03 SO <sub>2</sub> : 2.05E-03	-	-	500 hr/yr
21, 22	AP-42 Chapter 3 and Manufacturer	<u>Manufacturer (g/bhp-hr)</u> NO <sub>x</sub> + VOC: 4.26 CO: 0.57 PM/PM <sub>10</sub> : 0.06  <u>AP-42 lb/hp-hr</u> SO <sub>2</sub> : 2.05E-03	-	-	500 hr/yr, each

## 16. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
N/A				

## 17. MONITORING OR CEMS:

The permittee must monitor the following parameters with CEMS or other monitoring equipment (temperature, pressure differential, etc.)

SN	Parameter or Pollutant to be Monitored	Method (CEM, Pressure Gauge, etc.)	Frequency	Report (Y/N)
N/A				

## 18. RECORDKEEPING REQUIREMENTS:

The following are items (such as throughput, fuel usage, VOC content, etc.) that must be tracked and recorded.

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
13, 14, 24, 25	VOC HAP containing products used and their SDS	TLV > 1.0 mg/m <sup>3</sup> and up to 9.50 tpy, no air contaminants	Monthly	N
	Calculated Single HAP/Total HAPs (no air contaminants per SC#10)	≤ 9.59 tpy Single HAP ≤ 24.50 tpy Single HAP	Monthly	N
10, 21, 22	Hours per calendar year	500 hr/yr	Monthly	N
10, 21, 22	Documentation of sulfur content in diesel fuel	≤ 0.0015% Sulfur by weight	As necessary	N
10	Items required by 63.6655(a)(1-5)	See SC#24	As Necessary	N

## 19. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
09, 16, 17, 18, 19, 20	5%	Rule 18.501 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311	Burning only pipeline quality natural gas
10, 21, 22	20%	Rule 19.503 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311	Inspector Observation and burning diesel fuel with a sulfur content of 0.5% by weight or less

## 20. DELETED CONDITIONS:

Former SC	Justification for removal
	N/A

## 21. GROUP A INSIGNIFICANT ACTIVITIES:

The following is a list of Insignificant Activities including revisions by this permit.

Source Name	Group A Category	Emissions (tpy)						
		PM/PM <sub>10</sub>	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs	
							Single	Total
Boiler #1 Existing Hatchery (0.3 MMBtu/hr)	A-1	0.1	0.1	0.1	0.2	0.2	0.0024	0.0025
Boiler #2 Existing Hatchery (0.3 MMBtu/hr)	A-1	0.1	0.1	0.1	0.2	0.2	0.0024	0.0025
Boiler #3 Existing Hatchery (0.3 MMBtu/hr)	A-1	0.1	0.1	0.1	0.2	0.2	0.0024	0.0025
Boiler #4 Existing Hatchery (0.3 MMBtu/hr)	A-1	0.1	0.1	0.1	0.2	0.2	0.0024	0.0025
Boiler #5 Existing Hatchery (0.375 MMBtu/hr)	A-1	0.1	0.1	0.1	0.2	0.2	0.0030	0.0031
Boiler #6 Existing Hatchery (0.375 MMBtu/hr)	A-1	0.1	0.1	0.1	0.2	0.2	0.0030	0.0031
Boiler #7 Existing Hatchery (0.375 MMBtu/hr)	A-1	0.1	0.1	0.1	0.2	0.2	0.0030	0.0031
Ludell Water Heater Existing Hatchery (3.0MMBtu/hr)	A-1	0.1	0.1	0.1	1.1	1.4	0.0237	0.0248
<b>Total</b>	<b>A-1</b>	<b>0.8</b>	<b>0.8</b>	<b>0.8</b>	<b>2.5</b>	<b>2.8</b>	<b>0.0420</b>	<b>0.0040</b>
Existing Diesel Tank	A-3			1.4E-03				
New Diesel Tank #1	A-3			1.5E-03				
New Diesel Tank #2	A-3			1.5E-03				
<b>Total</b>	<b>A-3</b>			<b>0.0044</b>				
Welding Electrode E6011	A-7	1.92E-03					4.99E-04	5.05E-4
Egg Shell	A-13	0.18						

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Source Name	Group A Category	Emissions (tpy)						
		PM/PM <sub>10</sub>	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs	
							Single	Total
Separator Existing Hatchery								
Egg Shell Separators New Hatchery	A-13	0.32						
A-13	Total	0.5						

Total Formaldehyde emissions from IA's are 1.75E-03 tpy, with all formaldehyde contributions coming from the A-1 IA's. Permitted formaldehyde emissions of 9.59 tpy + 1.75E-03 tpy = 9.59175 tpy, which is less than the 10 tpy Single HAP major source of HAP threshold.

22. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

The following is a list of all active permits voided/superseded/subsumed by the issuance of this permit.

Permit #
N/A



## APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

## Fee Calculation for Minor Source

Revised 03-11-16

Facility Name: Tyson Chicken, Inc -  
 Hope Hatchery  
 Permit Number: 2467-A  
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			Old Permit	New Permit
\$/ton factor	27.27	Permit Predominant Air Contaminant	0	39.6
Minimum Fee \$	400	Net Predominant Air Contaminant Increase	0	
Minimum Initial Fee \$	500			
		Permit Fee \$	1079.892	
Check if Administrative Amendment	<input type="checkbox"/>	Annual Chargeable Emissions (tpy)	39.6	

Pollutant (tpy)	Old Permit	New Permit	Change
PM	0	2.3	2.3
PM <sub>10</sub>	0	2.3	2.3
PM <sub>2.5</sub>	0	0	0
SO <sub>2</sub>	0	4.4	4.4
VOC	0	37.1	37.1
CO	0	16.8	16.8
NO <sub>x</sub>	0	39.6	39.6
Formaldehyde	0	9.59	9.59
Single HAP	0	9.59	9.59
Total HAPs	0	24.5	24.5