



**NORTH VERNON  
MANUFACTURING FACILITY**

**2021 ESP Project**

April 31, 2021

Project Champion: Jeff Gee, Environmental Maintenance Tech

Significant Aspect: Air Emissions

Objective: Reduce Air Emissions

Target: To reduce the deflash dust collector emissions to HEPA quality air.

Project: Install new Torts Donaldson dust collector with HEPA after filter on one of the 4 exciting machines.

- Replace dust collector 1 for 1
- Current dust collectors are 99% efficient; replacing with dust collectors with HEPA after filters is anticipated to be 99.9999% efficient.

Plan for evaluation:

- Reduce air emissions discharged in the plant by replacing 1 for 1 dust collector with higher efficiency and equipped with HEPA after filters.
- Maintain or increase the level of housekeeping throughout the facility

Test Results:

- Projections show a decrease of emissions by **~9,560 pounds** annually

Cost Savings:

- No measurable tangible cost savings are projected
- Intangibles is cleaner air for a cleaner plant resulting in a better working environment for our employees

Plan for Installation:

- Purchase and install one Dust Collector with HEPA Quality after filters.
- Projected time for completion is 2020 year end
- Monitor

Note: As part of this project all in-take duct work is being replaced due to the age of the current duct work



# INDIANA ENVIRONMENTAL STEWARDSHIP PROGRAM ANNUAL PERFORMANCE REPORT

State Form 53475 (R7 / 2-21)  
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
ENVIRONMENTAL STEWARDSHIP PROGRAM

Indiana Department of Environmental Management  
Office of Program Support  
MC 64-00, Room IGCN 1316  
100 North Senate Avenue  
Indianapolis, IN 46204-2251  
Telephone: (800) 988-7901  
FAX: (317) 233-5627  
E-mail: [esp@idem.IN.gov](mailto:esp@idem.IN.gov)

Please use this form if you are a member of the Indiana Environmental Stewardship Program (ESP) to report on progress toward objectives and targets AND certify ESP requirements continue to be achieved. Indiana ESP facilities must submit an Annual Performance Report (APR) by April 1<sup>st</sup> of every year, for each calendar year in which the entity has been a member for at least three (3) full months. Membership terms are renewed every four (4) years through submitting your APR. Your APR should be reviewed and signed by a senior manager at your facility prior to submittal. Once signed, e-mail the APR to IDEM at [esp@idem.IN.gov](mailto:esp@idem.IN.gov). Please do not include any confidential business information in your annual performance report. Public access laws require IDEM to make the APR publicly available, which may include posting all portions of your report on the Indiana ESP Web site. If you have any questions, please contact IDEM at [esp@idem.IN.gov](mailto:esp@idem.IN.gov) or (800) 988-7901.

This form will also be used for ESP members who are also members of the Indiana Partners for Pollution Prevention Program to recertify their membership and reaffirm their commitment to the Partners Pledge.

## SECTION A FACILITY INFORMATION

Name of facility	MPG SinteredForge Products
Name of parent company (if applicable)	American Axle
Street address (number and street)	3100 North highway 3
City / State / ZIP code	North Vernon In. 47265
County	Jennings
Website of facility / company	<a href="http://www.aam.com">www.aam.com</a>
How many employees (full time equivalents) currently work at your facility?	272

## CONTACT INFORMATION

Name of Primary Contact (Mr. / Mrs. / Ms. / Dr.)	Mr. Jeff Gee		Title	Environmental Maintenance Tech	
Telephone number	(812) 346-0363	FAX number	(812) 346-4970	E-mail address	<a href="mailto:jeff.gee@aam.com">jeff.gee@aam.com</a>
Mailing address (if different from facility address)					
City / State / ZIP Code					

Name of Secondary Contact (Mr. / Mrs. / Ms. / Dr.)	Mrs. Tamme McDaniel		Title	EHS Leader	
Telephone number	(812) 346-0399	FAX number	(812) 346-4970	E-mail address	<a href="mailto:tamme.bright@aam.com">tamme.bright@aam.com</a>
Mailing address (if different from facility address)					
City / State / ZIP Code					

## REPORTING PERIOD

Reporting period dates from prior calendar year (mm/dd/yyyy – mm/dd/yyyy)	01/01/2020-12/31/2020
1a. Is this the fourth ESP Annual Performance Report of your membership term? <input checked="" type="checkbox"/> Yes—If yes, answer question 1b. <input type="checkbox"/> No—If no, skip to the "Change In Information" section of this report.	
1b. Do you wish to renew your Indiana Environmental Stewardship Program membership? <input checked="" type="checkbox"/> Yes—If yes, please complete all sections of this annual report. <input type="checkbox"/> No—If no, please complete all sections of this annual report except for Section F.	
2a. Are you a member of the Indiana Partners for Pollution Prevention (Partners) Program? <input type="checkbox"/> Yes—If yes, answer question 2b. <input checked="" type="checkbox"/> No—If no, skip to the "Change In Information" section of this report.	

**REPORTING PERIOD (CONTINUED)**

- 2b. Do you wish to recertify your Partners for Pollution Prevention (Partners) Pledge?
- ☐ Yes—If yes, please complete all sections of this annual report.
- ☐ No—If no, please complete all sections of this annual report except for Section F.

**CHANGE IN INFORMATION**

In your ESP application and, perhaps, in previous annual performance reports, you described what your facility does or makes. Have there been any changes or additions to your facility's list of products or activities?

☐ Yes—If yes, please describe them: \_\_\_\_\_

☒ No

**SECTION B****PUBLIC OUTREACH AND PERFORMANCE REPORTING****Why do we need this information?**

IDEM needs to know how environmental information was shared with the public.

**What do you need to do?**

Describe how the facility has shared and plans to share environmental information.

Please briefly describe the activities that your facility conducted during this reporting period to interact with the community on environmental issues and to report publicly on its environmental performance.

Please indicate which of the following methods your facility plans to use to make its ESP Annual Performance Report available to the public. Please check as many as appropriate.

☒ Web site (<http://www.aam.com>) ☐ Open house ☐ Meetings ☒ Press releases ☐ Other \_\_\_\_\_

**SECTION C****ENVIRONMENTAL MANAGEMENT SYSTEM ASSESSMENT****Why do we need this information?**

Facilities need to have implemented an EMS that meets certain criteria and use an ISO 14001 EMS Lead Auditor at least every thirty-six (36) months to assess the EMS.

**What do you need to do?**

Answer the following questions about your EMS.

1. What is the most recent date that an ISO 14001 EMS Lead Auditor performed an EMS assessment at your facility? 08/01/2018

2. Name, title, and organization of ISO 14001 EMS Lead Auditor who conducted the most recent EMS assessment: \_\_\_\_\_  
Amanda Lowe ISO14001 Lead Auditor BSI

3. Is the date of the most recent EMS assessment performed by an ISO 14001 EMS Lead Auditor within the past thirty-six (36) months?

☒ Yes—If yes, skip to Question 4.

☐ No—If no, please have your ISO 14001 EMS Lead Auditor complete and sign the following checklist, indicating whether or not your EMS meets the listed criteria for ESP membership:

- |                              |                             |   |
|------------------------------|-----------------------------|---|
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Evidence of senior management support, commitment, and approval.  |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | A written environmental policy directed toward compliance, pollution prevention, and continuous improvement.  |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Identification of the environmental aspects at the entity.  |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Prioritization of the environmental aspects and a determination of those aspects deemed significant considering, at the minimum, environmental impacts and applicable laws and regulations.   |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Established priorities, and environmental objectives and targets for continuous improvement in environmental performance and for ensuring compliance with applicable environmental laws, regulations, and permit conditions. Objectives and targets must go beyond current legal requirements and specify the environmental media, types of pollution to be prevented or reduced, implementation activities, and projected time frames. |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | An established community outreach mechanism that includes identifying and responding to community concerns; informing the community of important matters that affect the community; and reporting on the EMS, including reporting to the public on the environmental policy and significant aspects.  |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Incorporation of environmental and pollution prevention planning in the development of new products, processes, and services and modifications of existing processes.   |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Evidence of clear responsibility for implementation, training, monitoring, EMS maintenance, taking corrective action, and ensuring compliance with applicable environmental laws, regulations, and permit conditions.   |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Documentation of the implementation procedures and the results of implementation.   |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Appropriate written EMS procedures.   |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | An annual evaluation of the EMS with written results provided to senior management and affected employees.  |

Signature of ISO 14001 EMS Lead Auditor

Date (month, day, year)

**SECTION C****ENVIRONMENTAL MANAGEMENT SYSTEM ASSESSMENT  
CONTINUED**

4. Were any deficiencies found during the most recent EMS assessment?  
☐ Yes—If yes, describe any deficiencies found and the corrective action taken to address each deficiency: \_\_\_\_\_  
☒ No

5. What type of protocol was used to perform the independent EMS assessment?  
☒ ISO 14001:2015 Certified audit  
☐ ESP Independent Assessment Protocol  
☐ Other (please specify): \_\_\_\_\_

6. Is the EMS certified to a recognized standard?  
☒ Yes—If yes, what standard does the EMS follow (please provide a copy of the most recent certificate)?  
☒ ISO 14001:2015  
☐ Responsible Care EMS  
☐ Responsible Care 14001  
☐ No

7. When was the last Senior Management review of your EMS completed?  
Month / Year: 10/22/2010  
Who headed the review (name and title)? Jay Zemmol Regional EHS Manager

8. When did your facility last conduct an internal or corporate environmental compliance audit? Do not include inspections or site visits by regulatory organizations.  
Scope of the compliance audit: Compliance to S4 American Axle EHS Program  
Month(s) / Year(s): 9/2020  
Who conducted the audit(s) (e.g., facility staff, corporate, third party)? Steve Massey Columbus Indiana Plant

9. Explain the emergencies experienced within the facility during the past year. Were the applicable emergency and contingency plans detailed in the EMS effective? What changes, if any, have been made to your facility's emergency or contingency plans?  
None,

10. Has your facility corrected all instances of potential environmental non-compliance and EMS non-conformance identified during your audits and other assessments?  
☒ Yes—If yes, briefly summarize corrective actions taken and other improvements made as a result of your EMS assessment(s) or compliance audit(s).  
Housekeeping  
☐ No—If no, please explain your plans to correct these instances.  
☐ No such instances identified.

**SECTION D****ADDITIONAL INFORMATION****Why do we need this information?**

This information will help IDEM to effectively manage the Environmental Stewardship Program.

**What do you need to do?**

Answer the questions as completely as possible.

1. In addition to ESP, please list environmental awards received or voluntary programs participated in during the past twelve (12) months.  
None

2. Has your facility taken advantage of any ESP incentives? If so, please describe the implementation process and list additional benefits IDEM should consider.  
Speed up Title V permit modifications

3. If your facility was not registered to the ISO 14001 standard prior to becoming an ESP member, has ESP helped you to pursue registration? If so, how has ESP been instrumental in achieving registration?  
N/A

4. Are the ESP and/or Partners group meeting your expectations? Please provide feedback or suggestions.  
Yes

## SECTION D

## ADDITIONAL INFORMATION (CONTINUED)

5. If you are a member of Partners, please reaffirm your facility's or organization's pledge to the Partners and provide additional information regarding commitment to pollution prevention (P2).

Yes	No	
<input type="checkbox"/>	<input type="checkbox"/>	1. Ensure employees are aware of the facility's commitment to P2 and understand their role in implementing P2 objectives and goals in the facility.
<input type="checkbox"/>	<input type="checkbox"/>	2. Your facility has incorporated P2 planning in the development of new products, processes, and/or services.
<input type="checkbox"/>	<input type="checkbox"/>	3. Your facility established a mechanism to monitor waste generation and identify realistic P2 goals.
<input type="checkbox"/>	<input type="checkbox"/>	4. Your facility has established a process to listen and respond to stakeholder concerns.
<input type="checkbox"/>	<input type="checkbox"/>	5. Your facility makes available your general waste reduction and P2 information to members of our community, IDEM, and the Partners, if requested?
<input type="checkbox"/>	<input type="checkbox"/>	6. Your facility has participated in or conducted outreach activities that include details of your P2 efforts; please specify: _____
<input type="checkbox"/>	<input type="checkbox"/>	7. Your facility has participated in two or more Partners meetings in the last year.
<input type="checkbox"/>	<input type="checkbox"/>	8. Your facility supported the annual Pollution Prevention Conference and Trade Show. Please check all that apply: <input type="checkbox"/> Financial sponsorship <input type="checkbox"/> One or more attendees from your facility <input type="checkbox"/> Other (specify) _____

## SECTION E

## ENVIRONMENTAL IMPROVEMENT INITIATIVE RESULTS

## Why do we need this information?

Facilities need to share the results of the environmental improvement initiative that was pursued during the reporting period. IDEM needs to report cumulative program reduction results.

## What do you need to do?

Reference Section F for "Category" and "Indicator" options to complete this section. Summarize your facility's progress on achieving the initiative you identified in the application or last year's APR. For assistance, please call (800) 988-7901 or email [esp@idem.in.gov](mailto:esp@idem.in.gov).

## Initiative #1

Category 1: <b>air emissions</b> Indicator 1: <b>particulate matter</b>	Baseline (indicate measurement unit)	Current (indicate measurement unit)	Cost Savings
Calendar year	2019	2020	
Actual quantity (per year)	9650 pounds	0 pounds Hepa quality	
Production unit (select one)	Earned Labor Hours Other -- specify (e.g. Gallons, length, etc.)	Production units Production lbs.	
Production Quantity			NA
Normalization factor (Current year production ÷ Baseline year production)			
Normalized quantity (Actual current year quantity - Actual baseline quantity) x Normalization factor			
Briefly describe how you achieved improvements for environmental initiative #1 or, if relevant, any circumstances that delayed progress. Install a Torts Donaldson dust collector with a HEPA after filter and new ductwork. Covid-19 <b>This is one of five total that will be replaced over the next 5 years, one per year as production allows.</b>			

## Initiative #2

Category 2: Indicator 2:	Baseline (indicate measurement unit)	Current (indicate measurement unit)	Cost Savings
Calendar year			
Actual quantity (per year)			
Production unit (select one)	Earned Labor Hours Other -- specify (e.g. Gallons, length, etc.)	Production units Production lbs.	
Production Quantity			NA
Normalization factor (Current year production ÷ Baseline year production)			
Normalized quantity (Actual current year quantity - Actual baseline quantity) x Normalization factor			
Briefly describe how you achieved improvements for environmental initiative #2 or, if relevant, any circumstances that delayed progress.			

SECTION E ENVIRONMENTAL IMPROVEMENT INITIATIVE RESULTS CONTINUED			
Initiative #3			
Category 3: Indicator 3:	Baseline (indicate measurement unit)	Current (indicate measurement unit)	Cost Savings
Calendar year			
Actual quantity (per year)			
Production unit (select one)	Earned Labor Hours      Production units      Production lbs. Other -- specify (e.g. Gallons, length, etc.)		
Production Quantity			NA
Normalization factor (Current year production ÷ Baseline year production)			
Normalized quantity (Actual current year quantity ÷ Actual baseline quantity) × Normalization factor			
Briefly describe <i>how</i> you achieved improvements for environmental initiative #3 or, if relevant, any circumstances that delayed progress.			
1. Briefly describe the <i>impacts or wastes</i> eliminated resulting from the environmental initiative(s). If multiple initiatives, please indicate which specifically. <b>The dust collectors discharge into the building so replacing them would be a major improvement for our housekeeping and potential to emit for air permit.</b>			
2. Are there other best management practices (BMPs) you can share correlating to your initiative(s)?			
3. If the objectives and targets associated with the environmental improvement initiative(s) were not attained, please verify continued progress toward the environmental initiative(s). If multiple initiatives, please indicate which specifically.			
4. Please provide a narrative summary of progress made toward <i>qualitative, significant</i> EMS objectives and targets, if any.			
5. Please list any state, U.S. EPA, or other partnership programs to which you are reporting this data (e.g., Energy Star, Project XL).			
6. Is your entity willing to share the environmental improvement initiative(s) and its best management practices (BMPs) at the ESP Annual Meeting and/or a Partners for Pollution Prevention quarterly meeting or conference? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			

**SECTION F**
**ENVIRONMENTAL IMPROVEMENT INITIATIVE**
**Why do we need this information?**

Facilities need to show they are committed to improving their environmental performance.

**What do you need to do?**

Refer to the Environmental Performance Table and answer the following questions.

1. Select the appropriate boxes in the following table to indicate the category and indicator(s) that represents the next environmental improvement initiative selected by your facility. For the category and indicator selected, list the baseline year (e.g., 2015) and the future year (e.g., 2016). Next, list the baseline annual quantity (e.g., 5 tons) and future annual quantity (e.g., 2 tons) you are committing to achieve by the end of the future year.

Category	Indicator	Baseline Year 20__	Future Year 20__	Unit
<input type="checkbox"/> Material Procurement	<input type="checkbox"/> Recycled content			Pounds, tons
	<input type="checkbox"/> Hazardous/toxic components			Pounds, tons
<input type="checkbox"/> Suppliers' Environmental Performance	<input type="checkbox"/> Specify indicator: _____			As specified for the particular indicator
<input type="checkbox"/> Material Use	<input type="checkbox"/> Materials used			Pounds, tons
	<input type="checkbox"/> Hazardous materials used			Pounds, tons
	<input type="checkbox"/> Ozone depleting substances used			CFC-11 equivalent pounds
	<input type="checkbox"/> Total packaging materials used			Pounds, tons
<input type="checkbox"/> Water Use	<input type="checkbox"/> Total water used			Gallons
<input type="checkbox"/> Energy Use	<input type="checkbox"/> Electricity			kWh / MWh, Btu / MMBtu
	<input type="checkbox"/> Steam			kWh / MWh, gallons, ft <sup>3</sup>
	<input type="checkbox"/> Natural gas			Btu / MMBtu
	<input type="checkbox"/> Diesel			Gallons
	<input type="checkbox"/> Propane / LPG			Btu / MMBtu, gallons
	<input type="checkbox"/> Gasoline			Gallons
	<input type="checkbox"/> Solar			kWh / MWh
	<input type="checkbox"/> Wind			kWh / MWh
	<input type="checkbox"/> Landfill gas			Btu / MMBtu
	<input type="checkbox"/> Combined heat and power			kWh / MWh, Btu / MMBtu
	<input type="checkbox"/> Other: _____			_____
<input type="checkbox"/> Land and Habitat	<input type="checkbox"/> Land and habitat conservation			Square feet, acres
	<input type="checkbox"/> Community land revitalization			Square feet, acres
<input checked="" type="checkbox"/> Air Emissions	<input type="checkbox"/> Total GHGs			MTCO <sub>2</sub> E
	<input type="checkbox"/> VOCs			Pounds, tons
	<input type="checkbox"/> NO <sub>x</sub> , SO <sub>x</sub> , PM <sub>2.5</sub> , PM <sub>10</sub> , or CO			Pounds, tons
	<input type="checkbox"/> Air toxics			Pounds, tons
	<input type="checkbox"/> Odor			European Odour Units
	<input type="checkbox"/> Radiation			Curies, Becquerels
	<input checked="" type="checkbox"/> Dust	9560 pounds	0 pounds Hepa Quality	Pounds, tons
<input type="checkbox"/> Discharges to Water	<input type="checkbox"/> COD or BOD			Pounds, tons
	<input type="checkbox"/> Toxics			Pounds, tons
	<input type="checkbox"/> Total suspended solids			Pounds, tons
	<input type="checkbox"/> Nutrients			Pounds, tons of N or P
	<input type="checkbox"/> Sediment from runoff			Pounds, tons
	<input type="checkbox"/> Pathogens			MPN/ml, CFU/ml
<input type="checkbox"/> Non-hazardous Waste	<input type="checkbox"/> Landfill			Pounds, tons
<input type="checkbox"/> Hazardous Waste	<input type="checkbox"/> Incineration			Pounds, tons
	<input type="checkbox"/> Reused/recycled off-site			Pounds, tons, gallons
	<input type="checkbox"/> Other: _____			Pounds, tons, gallons
<input type="checkbox"/> Noise	<input type="checkbox"/> Noise			dBA
<input type="checkbox"/> Vibration	<input type="checkbox"/> Vibration			Inches per second
<input type="checkbox"/> Products	<input type="checkbox"/> Expected lifetime energy use			kWh / MWh, Btu / MMBtu
	<input type="checkbox"/> Expected lifetime water use			Gallons
	<input type="checkbox"/> Expected lifetime waste to air, water, or land from product use			Pounds, tons
	<input type="checkbox"/> Waste to air, water, or land from disposal or recovery			Pounds, tons

If you need assistance filling out the form, please contact the ESP program manager at either [esp@idem.in.gov](mailto:esp@idem.in.gov) or 1-(800) 988-7901.

## SECTION F

## FUTURE YEAR ENVIRONMENTAL IMPROVEMENT INITIATIVE

## CONTINUED

2. If the environmental improvement initiative(s) will be *qualitative* in nature, please describe. \_\_\_\_\_  
Reduce dust emissions from 9560 pounds per year to discharging HEPA quality air
3. What activities or process changes do you plan to undertake at your facility to accomplish your initiative (e.g., technology changes in a particular process line, employee training)? \_\_\_\_\_  
Install Torts Donaldson dust collector with Hepa after filter and new duct work **This is 2nd of a total of 5 dust collector replacements at the facility.**
4. Does this initiative address a significant aspect in your EMS?  
☒ Yes  
☐ No—If no, please explain why you believe this indicator should be included as an environmental improvement initiative: \_\_\_\_\_

## CERTIFICATION AND PLEDGE

On behalf of (name of facility) MPG Sintered Forge Products ( American Axle)

I certify that the information contained in this Annual Performance Report and attachments is accurate to the best of my knowledge and that this facility is, to the best of my knowledge and based on reasonable inquiry, currently in compliance with all applicable federal, state, and local environmental requirements, or has a corrective action program in place to attain compliance.

We, MPG ( American Axle), commit to maintaining the principles and goals outlined in our Environmental Management System for our facility's Indiana Environmental Stewardship Program status. We agree to strive for full compliance with all regulations promulgated by the U.S. EPA, state, or local jurisdictions. We agree to promote the Indiana Environmental Stewardship Program and to share our success stories with other facilities. We understand that we must meet the requirement of implementing one (1) new, independent environmental improvement initiative each year of membership (for a total of four (4) initiatives), that the Annual Performance Report must be submitted to IDEM by April 1<sup>st</sup> of each year, and that we must reapply to the Indiana Environmental Stewardship Program every four (4) years.

I understand that the information provided in this Annual Performance Report will be public record. I am the senior facility manager or authorized facility signatory, and fully authorized to execute this statement on behalf of the corporation or other legal entity whose facility is submitting this Annual Performance Report.

Signature

Date (month, day, year)

03/31/2021

Printed signature  
Jeff Gee

Title

Environmental Maintenance Tech





By Royal Charter

# Certificate of Registration

ENVIRONMENTAL MANAGEMENT SYSTEM - ISO 14001:2015

This is to certify that:

American Axle Manufacturing  
AAM - Plymouth, MI  
One Dauch Drive  
Detroit  
Michigan  
48211  
USA

Holds Certificate No:

**EMS 69611**

and operates an Environmental Management System which complies with the requirements of ISO 14001:2015 for the following scope:

The management of environmental risk associated with manufacturing processes that include powder metal sintering, aluminum die casting, forging, metal rubber bonding, machining, ductile iron casting, and fabrication of metal automotive components.

For and on behalf of BSI:

  
Carlos Pitanga, Chief Operating Officer Assurance – Americas

Original Registration Date: 2003-01-22

Effective Date: 2018-10-12

Latest Revision Date: 2018-10-03

Expiry Date: 2021-10-11

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Information and Contact: BSI, Kitemark Court, Davy Avenue, Knowlhill, Milton Keynes MK5 8PP. Tel: + 44 345 080 9000  
BSI Assurance UK Limited, registered in England under number 7805321 at 389 Chiswick High Road, London W4 4AL, UK.  
A Member of the BSI Group of Companies.

Certificate No: **EMS 69611**

Location	Registered Activities
Albion Automotive-Glasgow Facility AAM (QMS) 1187 South Street Scotstoun Glasgow G14 0DT United Kingdom	Manufacture and assembly of axles and components.
American Axle & Manufacturing, Inc. One Manufacturing Drive Three Rivers Michigan 49093 USA	Manufacture of axles and associated driveline components.
AAM Poland Sp. z o.o. ul. Szarych Szeregów 16-18 Swidnica 58-100 Poland	Manufacture of axles and associated driveline components.
Changshu AAM Automotive Driveline High Technology Manufacturing Co., Ltd. No. 16 Tonglian Rd. Yanjiang Development Zone Changshu Jiangsu 215537 China	The manufacture of axles and associated driveline components.
American Axle & Manufacturing (Thailand) Co., Ltd. RMF Rayong Manufacturing Facility 500/52 Moo 3, Thasit Sub-district Pluakdaeng District Rayong Province 21140 Thailand	Manufacture of axles and drive shafts.

Original Registration Date: 2003-01-22

Latest Revision Date: 2018-10-03

Effective Date: 2018-10-12

Expiry Date: 2021-10-11

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To be read in conjunction with the scope above or the attached appendix.

Information and Contact: BSI, Kitemark Court, Davy Avenue, Knowlhill, Milton Keynes MK5 8PP. Tel: + 44 345 080 9000  
BSI Assurance UK Limited, registered in England under number 7805321 at 389 Chiswick High Road, London W4 4AL, UK.  
A Member of the BSI Group of Companies.

Certificate No: **EMS 69611**

Location	Registered Activities
AAM - Aracucaria, Brazil Av. das Nações, 2051 Estação Araucária Paraná 83705-335 Brasil	Machining services and assembly of functional components.
American Axle & Manufacturing de Mexico AAM - Guanajuato Manufacturing Complex, Mexico Comerciantes #1300 Parque Industrial FIPASI Carretera Silao-Irapuato Km. 3 Silao Guanajuato 36100 Mexico	Manufacture of axles and associated driveline components; Manufacturer of small and medium Forgings.
HHI Formtech, LLC AAM - Plymouth, MI 18450 Fifteen Mile Road Fraser Michigan 48026 USA	Cold forging and machining operations.
HHI Formtech, LLC AAM - Troy, MI 690 West Maple Troy Michigan 48089 USA	Manufacture of specialty cold ferrous forgings and components, including surface treatment.
HHI Formtech, LLC AAM - Royal Oak, MI 2727 West 14 Mile Rd. Royal Oak Michigan 48073 USA	Hot, warm, and cold ferrous forging, including machining, heat treat, and coatings.

Original Registration Date: 2003-01-22

Latest Revision Date: 2018-10-03

Effective Date: 2018-10-12

Expiry Date: 2021-10-11

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BSI Assurance UK Limited, registered in England under number 7805321 at 389 Chiswick High Road, London W4 4AL, UK.  
A Member of the BSI Group of Companies.

Certificate No: **EMS 69611**

Location	Registered Activities
American Axle Manufacturing AAM - Plymouth, MI One Dauch Drive Detroit Michigan 48211 USA	The management of environmental risk associated with the corporate environmental oversight activities.
Metaldyne International (UK) Ltd. AAM - Halifax, United Kingdom 131 Parkinson Lane Halifax HX1 3RD United Kingdom	Machining and assembly of fabricated metal components.
Metaldyne GmbH AAM - Zell, Germany Buchenwald Str. Z Zell am Harmersbach 77736 Germany	Forging and assembly of fabricated metal components.
Metaldyne International France SAS AAM - Lyon, France 33 Rue Roger Salengro Venissieux Cedex Lyon 69633 France	Metal rubber bonding and machining of fabricated metal components.
Metaldyne International Spain, SLU AAM - Barcelona, Spain C/ Miquel Servet, nº 22-24 Gavà Barcelona Barcelona 08850 Spain	Machining and assembly of fabricated metal components.

Original Registration Date: 2003-01-22

Latest Revision Date: 2018-10-03

Effective Date: 2018-10-12

Expiry Date: 2021-10-11

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Location	Registered Activities
Metaldyne M&A Bluffton, LLC AAM - Bluffton, IN 131 West Harvest Road Bluffton Indiana 46714-0477 USA	Machining and assembly of fabricated metal components.
Metaldyne Sintered Components Services, S. de R.L. de CV AAM - Ramos Arizpe, Mexico Blvd. Industria de la Transformacion 3120 Parque Ind. Saltillo - Ramos Arispe Ramos Arizpe Coahuila C.P. 25900 Mexico	Powder metal sintering and assembly of fabricated metal components.
Metaldyne SinterForge Products, LLC AAM - St. Marys, PA 197 West Creek Road St. Mary's Pennsylvania 15857 USA	Powder metal sintering and assembly of fabricated metal components.
Metaldyne Powertrain Components, Inc. AAM - Twinsburg, OH 8001 Bavaria Road Twinsburg Ohio 44087 USA	Aluminum die casting and machining of fabricated metal components.
Metaldyne SinterForge Products, LLC AAM - North Vernon, IN 3100 North State Highway # 3 North Vernon Indiana 47265 USA	Powder metal sintering and assembly of fabricated metal components.

Original Registration Date: 2003-01-22

Latest Revision Date: 2018-10-03

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Location	Registered Activities
Metaldyne Sintered Ridgway, LLC AAM - Ridgway, PA 1149 Rocky Road Ridgway Pennsylvania 15853 USA	Powder metal sintering and assembly of fabricated metal components.
Metaldyne Powertrain Components, Inc. AAM - Litchfield, MI 917 Anderson Road Litchfield Michigan 49252-0177 USA	Machining and assembly of fabricated metal components.
Metaldyne BSM, LLC AAM - Fremont, IN 307 South Tillotson Fremont Indiana 46737-0615 USA	Machining of fabricated metal automotive components.
Metaldyne Sintered Components Espana SLU AAM - Valencia, Spain La Granja, 5 Almussafes Valencia 46440 Spain	Powder metal sintering and assembly of fabricated metal components.
Metaldyne Nurnberg GmbH AAM - Nurnberg, Germany Otto-Kraus-Straße 11 Nürnberg 90411 Germany	Forging and machining of fabricated metal components.

Original Registration Date: 2003-01-22

Latest Revision Date: 2018-10-03

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Location	Registered Activities
Punchcraft Machining and Tooling, LLC AAM - Warren, MI 30500 Ryan Road Warren Michigan 48092 USA	Machining of tooling components.
Metaldyne Oslavany , spol. So AAM - Oslvany, Czech Republic Padochovska 1 Oslavany CZ-664 12 Czech Republic	Forging and machning of fabricated metal components.
Metaldyne Componentes Automotivos Do Brasil Ltda. AAM - Sao Paulo R. Augusto Tonin, 704, Cond. Ind. American Park. Indaiatuba São Paulo 13347-393 Brasil	Powder metal sintering and assembly of fabricated metal components.
Metaldyne Korea Limited AAM - Pyeongtaek, South Korea 893 Eoyoen-ri Cheongbuk-myeon Pyeongtaek-shi, Kyeonggi-do 17792 Republic of Korea	Machining and assembly of fabricated components.
Metaldyne Suzhou Automotive Components Co., Ltd AAM - Suzhou, China No. 178 Qingqiu Street Suzhou Industrial Park Suzhou Jiangsu 215021 China	Machining and assembly of fabricated components.

Original Registration Date: 2003-01-22

Effective Date: 2018-10-12

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Location	Registered Activities
Metaldyne Oslavany , spol. s.r.o. AAM - Zbysov, Czech Republic Na Lane 643 664 11 Zbysov Czech Republic	Machining and assembly of fabricated components.
Metaldyne International France SAS AAM - Décines, France 51 Rue Vaucanson, Décines Charpieu Rhône 69150 France	Metal rubber bonding and machining of fabricated metal.
Grede II LLC AAM - Brewton, AL 210 Ann Avenue Brewton Alabama 36426 USA	Ductile Iron Foundry.
Grede II LLC AAM - Columbiana, AL 130 Industrial Parkway Columbiana Alabama 35051 USA	Steel Foundry.
Grede LLC AAM - New Castle, IN 2700 East Plum Street New Castle Indiana 47362 USA	Ductile Iron Foundry.
Grede LLC AAM - Reedsburg, WI 700 Ash Street Reedsburg Wisconsin 53959 USA	Ductile Iron Foundry.

Original Registration Date: 2003-01-22

Latest Revision Date: 2018-10-03

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Location	Registered Activities
Impact Forge Group, LLC AAM - Columbus, IN (Plant 1) 2805 Norcross Drive Columbus Indiana 47201 USA	Hot Forging.
Jernberg Industries, LLC AAM - Bolingbrook, IL 455 Gibraltar Drive Bolingbrook Illinois 60440 USA	Machining and assembly of fabricated components.
Jernberg Industries, LLC AAM - Chicago, IL 328 West 40th Place Chicago Illinois 60609 USA	Low hot, warm and cold forging.
Jernberg Industries, LLC AAM - Chicago, IL (plant 2) 329 Pershing Road Chicago Illinois 60609 USA	Forging - hot and warm.
Citation Lost Foam Patterns LLC AAM - Bessemer, AL 3152 Dublin Lane Bessemer Alabama 35020 USA	Foam molding for castings.

Original Registration Date: 2003-01-22

Latest Revision Date: 2018-10-03

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Location	Registered Activities
Grede II LLC AAM - Biscoe, NC 530 East Main Street Biscoe North Carolina 27209 USA	Ductile Iron Foundry.
Grede Wisconsin Subsidiaries LLC AAM - Browntown, WI N2480 County Highway M Brownstown Wisconsin 53522 USA	Cold forging.
Impact Forge Group, LLC AAM - Columbus, IN (Plant 2) 2705 Norcross Drive Columbus Indiana 47201 USA	Hot forging.
Grede LLC AAM - Kingsford, WI (Iron Mt.) 801 South Carpenter Avenue Kingsford Michigan 49802 USA	Ductile Iron Foundry.
Grede II LLC AAM - Menomonee Falls, WI W139 N5470 Oak Lane Menomonee Falls Wisconsin 53007 USA	Forging and machining of fabricated metal components.

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Location	Registered Activities
Impact Forge Group, LLC AAM - Remington, IN 18325 S. 580 West Remington Indiana 47977 USA	Cold Forging.
Grede LLC AAM - Wauwatosa, WI 6432 West State Street Wauwatosa Wisconsin 53213 USA	Ductile Iron Foundry.
Grede LLC AAM - St, Cloud, MN 5200 Foundry Circle St. Cloud Minnesota 56303 USA	Ductile Iron Foundry.
Cloyes Gear and Products, Inc. AAM - Subiaco, AR Lee Street at Highway 22 Subiaco Arkansas 72865 USA	Machining and assembly of fabricated metal components.
ACCUGEAR, an AAM Company AAM-Fort Wayne 6710 Innovation Blvd. Fort Wayne Indiana 46818 USA	Machining and assembly of fabricated metal components.

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Location	Registered Activities
MSP Industries Corporation AAM - Oxford, MI 45 W. Oakwood Road Oxford Michigan 48371 USA	Forging of metal components.
Novocast, S de R.L. de C.V. AAM - El Carmen, Mexico Carretera Monterrey-Monclova KM 12 El Carmen Nuevo León 66550 Mexico	Ductile Iron Foundry.

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