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POCONO RACEWAY
Proposal Submittal – Designation of Automated Vehicle Proving Grounds
December 19, 2016

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Disclaimer: Elements of this application can be found in the Pennsylvania Department of Transportation's umbrella application to the US Department of Transportation for a unique statewide Proving Grounds approach. Pocono Raceway is submitting this application for a **standalone designation** but are aligned with the Pennsylvania Department of Transportation and the other partners should the US Department of Transportation select the Pennsylvania Department of Transportation's umbrella application.

EXECUTIVE SUMMARY

Called the Tricky Triangle, three-cornered Pocono Raceway is utterly unique. Situated in the Pocono Mountains of northeastern Pennsylvania, the 2.5-mile tri-oval features three very different turns connected by straightaways of varying length. Turn One is banked at fourteen (14) degrees, Turn Two (aka the "Tunnel Turn") is banked at eight degrees and Turn Three at six degrees. Pocono's main straightaway is the longest on any North American speedway at 3,740 feet, the "Long Pond" straightaway stretches for 3,055 feet between Turns One and Two, while the run from Turn Two to Turn Three is a mere 1,780 feet.

Today, Marylouise McNally serves as Chairman of the Board of Pocono Raceway, the lone private major series racetrack that is overseen by an individual female business head. Her sons, Brandon and Nick serve as the President & CEO and Chief Operating Officer, respectively, and Pocono Raceway thrives, hosting seven national racing events, various additional motorsports events and community –oriented events like Warrior Dash, Lantern Fest, Various 5K series and the Pennsylvania Wing Fest.

Pocono Raceway's mission is to create exciting experiences and lifelong memories at a beautiful and **sustainable** motorsports and entertainment facility. Pocono Raceway is optimistic that the Department of Transportation will share the assessment that Pocono Raceway is ideally positioned to hold the designation as an Automated Vehicle Proving Ground. Pocono Raceway is an existing facility with growth ambitions that tie to future of the automotive industry and automated vehicles. With this designation, Pocono Raceway will be able to compound the economic impact we are able to make on Northeastern Pennsylvania, bring an industry's worth of technical knowledge to the cause of advancing automotive safety, and help showcase the positive impact a commitment to sustainability brings to businesses and communities alike.

Ultimately, Pocono Raceway believes the methodology has the potential to address several pertinent objectives that are of shared interest to the Department of Transportation and the Commonwealth of Pennsylvania. This include:

- Encouraging new levels of public safety in transportation
- Transforming personal and commercial mobility
- Opening new doors to disadvantaged people and certain communities, e.g.,
    - Persons with Disabilities
    - Aging population
    - Communities where vehicle ownership is prohibitively expensive
    - Those who prefer not to drive or own a vehicle
- Forming a safe environment for testing and then sharing data, knowledge, and best practices through Community of Practice opportunities.
- Encouraging collaboration and partnerships among those engaged in the various facets of the technology's development (including government, academia, and technical experts).
- Providing an opportunity to retrofit/test technologies to existing fleets

WHY POCONO RACEWAY WORKS AS A PROVING GROUND?

LEADERSHIP IN SAFETY

Pocono Raceway has a strong commitment to the safety of racing, spectators, and those that utilize the facilities for various other reasons. The Pocono Raceway team takes pride in safety and recognizes the safety benefits that automated vehicles provide off-track for the public. Pocono Raceway has technical expertise that can be shared and incorporated into new technology testing on a designated Proving Ground.

LEADERSHIP IN DIVERSITY

Where Pocono Raceway differs with other proving ground applicants in the category of race tracks is the ownership of the company. Where in almost all other large race facilities are owned by large publicly traded companies, Pocono Raceway is a family owned business with the Chairman of the Board being a respected female in motorsports. Dr. Rose Mattioli and her husband Dr. Joseph Mattioli opened Pocono Raceway in 1968 and despite financial and sanctioning body trouble, grew the facility to one of Pennsylvania's top tourist destinations.

Women hold three of the top six administrative and leadership positions of Pocono Raceway. Currently, Marylouise McNally is not only the Chairman of the Board, but also President of Mountain Concessions, and Michelle Mattioli-Kulick holds a board position as well as an operational position of Director of Special Projects and Archives. Ashley Igdalsky, one of Dr. Rose's granddaughters is the Assistant Secretary and Treasurer of Pocono Raceway.

ECONOMIC DEVELOPMENT

Consistent with the Department of Transportation's Ladders of Opportunities agenda where the Department plays a critical role in connecting Americans and communities to economic opportunity, so too does Pocono Raceway. Transportation infrastructure choices made at the Federal, State, and local levels can strengthen communities, create pathways to jobs, and improve the quality of life for all Americans.

A 2013 Economic Impact study conducted by East Stroudsburg University determined that Pocono Raceway contributes $257.5 million to the income of Northeast Pennsylvania residents, supports approximately 2,752 jobs, generates almost $15 million of tax revenue for the Commonwealth of Pennsylvania and $8 million of tax revenue for local and federal governments.

Adding Pocono Raceway as a designated Automated Vehicle Proving Ground will only compound these economic development numbers by continuing the Department of Transportation's vision for revitalizing, connecting and working by driving more income for residents, supporting more jobs and generating more revenue for our local, state and federal governments by expanding the mixed-use of our facility and schedule of operations beyond our major motorsport events.

POCONO RACEWAY'S VARIETY OF PROVING GROUND OPTIONS

Pocono Raceway offers not only its 2.5-mile raceway, made famous by INDYCAR drivers topping 220 miles per hour and NASCAR drivers going only slightly slower but also its versatile road courses that feature forty (40) different racing configurations, and can be setup in any configuration required by the Automated Vehicle Proving Grounds site team. See Appendix 1 for the variety of options of road course established options, however, any mix or match can be accommodated.

Inclusive in Pocono Raceway's vision for proving grounds is not only the racing surfaces, but additionally a

variety of closed roadways, a variety of road surfaces (from off road, to dirt, to gravel to asphalt paved), and numerous parking lots. This complete portfolio of real world vehicle areas sets Pocono Raceway apart from many other testing facilities.

A few more topical concepts for proving ground activities which set Pocono Raceway apart from many other applicants could be envisioned as:

- High-Speed Testing
  - Pocono can allow for 85 mph or higher test to accommodate the legal speed limit in Texas
- Multiple Intersection Configurations (2-way, 3-way, and 4-way Intersections)
  - Intersection movement tests
  - Intersection crash avoidance tests
- High-Speed Single Vehicle and Platoon Testing
  - Both commercial and passenger vehicles
  - The 3,740' front stretch is 75' wide, almost the equivalent of a 5-lane highway system
  - Possible uses could be to test Automated Vehicles responses to simulated work zones, test connected and automated vehicle technology to prevent crashes, or to test high-speed braking
- Merging
  - Normal Speeds
  - High-Speed Merging into Platoons
- Automated Parking Technology
  - With and without human interaction
  - Paved and gravel parking lot scenarios
- Four Season Testing
  - Beginning in 2018

SUSTAINABILITY

In designating Pocono Raceway as an approved Automated Proving Grounds, the Department of Transportation aligns themselves with a true sustainability champion in the field of motorsports. Brandon Igdalsky is Pocono Raceway President and Chief Executive Officer and is one of the leaders in the green space. He has involvement in several national and international organizations dedicated to sustainable energy and serves as a board member of the Green Sports Alliance.

Pocono Raceway is the first motorsports facility to utilize a solar farm for its primary electrical energy source. The solar farm, consisting of 39,960 American-made ground-mount photovoltaic modules, sits on 25 acres of Pocono Raceway property. The excess energy generated is then used by the local community. The solar farm has generated more than 19 million kilowatt hours, a total energy produced that is equal to 35,700 propane cylinders and nearly 10,000 gallons of gas saved. The total offset is equal to more than 22,000 trees.

Pocono Raceway is currently planning to install electric vehicle (EV) charging stations that will be powered by the solar field. These EV stations will provide an alternative source of energy for testers and reflect the trend of automated vehicles being powered by electric drivetrains. A solar powered EV charging station would be a unique aspect for Pocono Raceway as a Proving Grounds and align itself with US Department of Transportation goals of being sustainable and reducing carbon emissions. Further, other alternative fueling stations, including Compressed Natural Gas, are being considered for installation.

With a fruitful partnership with Pocono Raceway, the Department of Transportation can continue in their mission

to pursue opportunities for the national transportation system which:

- Promotes energy and natural resource conservation,
- Decreases emissions of greenhouse gasses (GHGs) and other pollutants,
- Enhances our operations by minimizing use of hazardous materials and chemicals,
- Advances our national interest in increasing energy efficiency,
- Reduces our dependence on fossil fuels,
- Ensures transportation infrastructure resiliency and
- Builds livable communities.

EXISTING POCONO RACEWAY PRIVATE/PUBLIC PARTNERSHIP EXAMPLE …….

As a true example of how Pocono Raceway views the burgeoning Autonomous Vehicle Proving Grounds pilot with the Pennsylvania Department of Transportation, Pocono Raceway recently announced a partnership with the Pennsylvania Game Commission and Chevrolet to donate bat houses. The bat houses were created by repurposing Chevrolet's Volt battery covers, which was challenging to recycle by traditional means providing an easy-to-cling-to surface for the bats.

BUSINESS-TO-BUSINESS OPPORTUNITIES

Pocono Raceway boasts a host of local, regional and national partners, including the Chevrolet brand of General Motors, Ford Motor Company, Honda American Motor Company and Toyota, which open up a variety of business-to-business opportunities for all partners.

Pocono Raceway's sanctioning body partner NASCAR helps in driving business-to-business opportunities as well. According to a recent internal NASCAR analysis, the number of Fortune 100 companies investing in NASCAR has increased five percent year-over-year. Also, the number of Fortune 500 companies investing in the sport has either grown or sustained year-over-year since 2012. Overall, more than one in four Fortune 500 companies integrate NASCAR into their business strategies.

While being a Fortune 500 company is the gold standard of success for publicly traded companies in the United States, there are several global corporations involved in NASCAR that weren't included in the analysis because they do not meet Fortune's criteria. A number of blue-chip brands significantly involved in the sport did not qualify, including Mars, Miller Coors, Shell and Toyota.

Pocono Raceway is proud to partner in the community with these Pennsylvania companies:

- Axalta
- Comcast
- Mod Space
- Sunoco
- Lehigh Valley Health Networks
- Unique Pretzels
- REV Group/KME/Kovatch
- Pocono Medical Center
- Pennsylvania Lottery
- Ditech Financial
- Tork
- Kalahari Resorts and Conventions
- Independent Graphics
- Stock Car Racing Experience

RELATIONSHIP TO AUTOMOBILE MANUFACTURERS

The potential safety implications of the responsible development of automated vehicles is a natural extension of the commitment to safety that Pocono Raceway and its collective partners throughout NASCAR and INDYCAR champion every day on behalf of fans and competitors alike. Further, this commitment to safety is increasingly driven by testing and adopting new technologies. Computer simulation, data analytics, and the development of high-performance materials and integrated technologies is making motorsports safer, period. And, Pocono Raceway is certain that this track-record will serve to accelerate the responsible development of automated vehicles.

Through the major racing series of NASCAR and IndyCar, Pocono Raceway has provided a research and testing

facility unlike most proving grounds as the research and development in the motorsports drives the technology developments on street cars that cannot be tested in a laboratory or live roadway test simulation.

Pocono Raceway's champion partner of General Motors' division of Chevrolet, along with their peer competitors Ford Motor Company, Toyota Racing Development/Toyota USA, and the Honda Performance/Honda American Automobile Company from an automobile manufactures perspective have extensive research and technical manuals on Pocono Raceway to include items such as racetrack driver computer based simulators, digital scans of the racing surfaces and asphalt make up.

For the most part, testing by manufacturers in the past has been done with high speed vehicles testing the rigorous demands of motorsports; however moving forward the relationships and research and development that Pocono Raceway brings to the Automated Vehicle Proving Grounds enables manufacturers and scientists alike and affords them the same testing laboratory under the same conditions to see if there are valid results that will drive the technology developments for race vehicles and automated vehicles alike

Additionally, the Goodyear Tire and Rubber Company, and Firestone Bridgestone tire companies individually have research and development technical specifications for Pocono Raceway.

Within the other non-major racing events hosted by Pocono Raceway, Pocono Raceway's road course circuits have in the past been used on event based relationships with the General Motors' Chevrolet Brand, Ford Motor Company, Toyota USA, Automobili Lamborghini America, Mercedes-Benz, and Bavarian Motor Works (BMW) North America amongst others. In addition, heavy manufacturers from Freightliner, Peterbilt Motors Company, and Mack Trucks have all tested new technologies at Pocono Raceway.

Additionally, Pocono Raceway maintains a critical partnership with Safety-Kleen, a Safe Harbors Company, North America's largest collector, recycler and re-refiner of used oil for the safe disposal and refining of used oil and environmental services. In addition to oil, Pocono Raceway partners with Sunoco Fuels to operate a fully functional fuel station exclusive to users of Pocono Raceway. Relationships with Sunoco and Safety-Kleen truly make proving grounds at Pocono Raceway a turnkey experience for all users.

The relationships with automobile and freight manufacturers form a foundation for a continued relationship into newer technology sectors. These manufacturers already utilize the Pocono Raceway, so bringing in new automated vehicle technology to test at the track is a logical next step.

PARTNERSHIPS WITH THE COMMONWEALTH OF PENNSYLVANIA

Pocono Raceway is a proud resident of the Commonwealth of Pennsylvania and is proud to call Pennsylvania home. Pocono Raceway has many relationships with Commonwealth of Pennsylvania agencies. The most critical partnerships that Pocono Raceway hold in the highest esteem are with the Pennsylvania Department of Transportation and the Pennsylvania State Police. Large race events require a diverse group of involvement and these two organizations are at the top of the list.

The Pennsylvania Department of Transportation, District 5-0 has assisted in approval of the temporary traffic plans, the coordination of area infrastructure projects to not preclude economic development, the programming and use of variable message boards within the interstate highway system of Northeast Pennsylvania, along with many other vital methods of assistance. Should Pocono Raceway be selected as a designated Automated Vehicle Proving Ground, Pocono Raceway envisions this cooperation to deepen. Pocono Raceway in cooperation with Pennsylvania Department of Transportation could share traffic control devices, portable traffic

signals and other tangible assets that would help both Pocono Raceway's mission in autonomous vehicles as well as Pennsylvania Department of Transportation's maintenance and operations initiatives in the 5th District.

Pocono Raceway's other valuable partner the Pennsylvania State Police bring with them the Authority Having Jurisdiction on the Commonwealth roads near Pocono Raceway. In large events, it is the Pennsylvania State Police that executes the temporary traffic plans that are developed in conjunction with Pocono Raceway and the Pennsylvania Department of Transportation. This established relationship shall extend into the world of autonomous vehicle testing, by perhaps testing the response of an autonomous vehicle to a "real" law enforcement presence or Pocono Raceway becoming an educational proving ground to show the members of the Pennsylvania State Police what to expect before the approved vehicles are actively on the state roads that they patrol.

As noted earlier, Pocono Raceway has an established relationship with Pennsylvania Game Commission, this relationship can be envisioned to be put to the test as autonomous vehicles are brought into the off-road, 4x4 and utility vehicle segment of transportation. As manufacturers attempt to gain their share of different markets Pocono Raceway is positioned to assist in the recreational aspects of Autonomous Vehicle testing and can offer multiple acres of property to provide as proving grounds.

Not to be discounted but Pocono Raceway has relationships that vary in the Commonwealth of Pennsylvania to include relationships with the esteemed members of the legislative and the executive branch as well as the Departments of Community and Economic Development, the state Tourism Board and many other governmental interests within the Commonwealth of Pennsylvania.

APPROACH TO AUTONOMOUS VEHICLE PROVING GROUNDS

While Pocono Raceway believes that it can singularly be an Automated Vehicle Proving Ground, Pocono Raceway is also committed to fostering a relationship with the Pennsylvania Department of Transportation and its partners. Pocono Raceway recognizes that based on NHTSA's recommendation, there should be one lead agency in each state for Highly Automated Vehicles, and the Pennsylvania Department of Transportation has assumed that role.

The approach that Pocono Raceway utilizes brings the resources of the Commonwealth of Pennsylvania's Automated Vehicle Task Force, which has been instrumental in developing a recommended policy for the management and oversight for the safe testing of Highly Automated Vehicles in the state. This policy comes just as the Pennsylvania General Assembly will be considering the issue during the next session. The framework also naturally allows for the sharing of experiences, as the Pennsylvania Department of Transportation and all of its designated partners participate in various committees and organizations, all of which would help inform a federal Community of Practice.

Pocono Raceway's partnership with the Pennsylvania Department of Transportation features a collaborative process involving government, industry, and academia. Pocono Raceway agrees that the Pennsylvania Department of Transportation has laid out a logical framework that can lay the foundation for future success. Pocono Raceway plans to use. The Pennsylvania Department of Transportation as a facilitator or convener – an entity that is uniquely positioned to provide oversight and legal support to testers and testing facilities alike. The role for the Pennsylvania Department of Transportation puts both the Commonwealth of Pennsylvania and Pocono Raceway in contact with each of our designated partners and able to understand what they're doing and promote their efforts, all while breaking down governmental barriers that can have an unintended consequence of stifling innovation and progress.

MANDATORY SELECTION CRITERIA

DESIGNATED SAFETY OFFICER

A Designated Safety Officer responsible for the entity's safety management plan and who will participate in the Community of Practice's regular quarterly meeting of Safety Officers.

Pocono Raceway will designate the Sr. Director of Facility Operations as the Designated Safety Officer responsible for the entity's safety management plan, who will participate in the Community of Practice's regular quarterly meeting of Safety Officers.

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SHARING POCONO RACEWAY'S APPROACH TO SAFETY

Commitment to sharing the entity's approaches to safety and safety data generated through testing and application.

As part of being granted designation and participation in the Community of Practice, Designated Proving Grounds, Pocono Raceway as a thought leader in the field of motorsports safety will share established safety management plans, grant access to non-proprietary testing data, and engage with stakeholders.

Pocono Raceway has shown a successful history of sharing best practices in the field of Spectator Sport Safety and Security, with the current Sr. Director of Facility Operations sitting on the Professional Sports Facilities Advisory Committee of the National Center for Spectator Sports Safety and Security at the University of Southern Mississippi and serving as a Subject Matter Expert for the State University of New Jersey - Rutgers - Command, Control and Interoperability Center for Advanced Data Analysis— a US Department of Homeland Security University Center of Excellence. Working with these two institutions of higher education is just an example level of commitment and willingness Pocono Raceway will apply to the Community of Practice approach in Automated Vehicle Proving Grounds Designated pilot to outline the proposed relationship with US Department of Transportation, to include aspects such as potential participation in conferences, meetings, joint research efforts, and submission of significant activity reports to US Department of Transportation on a routine basis.

ELIGIBILITY

The extent to which the applicant meets the above eligibility and administers an established automated vehicle program, either independently or through a partnership

Constructed in 1968, Pocono Raceway has been hosts to Major Races from sanctioning bodies of NASCAR, IndyCar and United States Auto Club. Additionally with the other areas of the facility mentioned previously, such as internal roadways, parking lots, and ancillary facilities, Pocono Raceway can also be considered a Corporate Campus.

Currently all vehicle testing is conducted through partnership. Testing is typically done by the automotive manufacturers or the industries that support them such as Firestone or Goodyear. Pocono Raceway meets the eligibility guidelines and is flexible to accommodate various types of programs and technologies.

NATIONAL/REGIONAL LEADERSHIP

The capability of the applicant to provide leadership in making national and regional contributions to the solution of both long-range and immediate mobility challenges through the testing and deployment of automated vehicle technology.

In major automobile racing, the safety of all participants, officials, and spectators is paramount. Currently, the Sr. Director of Facility Operations is the designated Safety Officer for the Pocono Raceway Corporate entity internally as well as a seat holder with NASCAR's Track Services Safety Standards Committee, participating, providing feedback and subject matter expert information in the continuous process improvement as it relates to the Safety Standards as required by the Sanctioning Body and the interaction of safety teams in major racing environments nationwide. This specific example shows Pocono Raceway's commitment to the leadership in making national and regional contributions to the solution of both long-range and immediate challenges to safety and Pocono Raceway's commitment to sharing lessons learned.

Pocono Raceway acknowledges that the testing performed on the track is a stepping stone for increasing the safety and mobility of society. There are varying levels of maturity in automated vehicle testing, and those that are not yet deemed appropriate for real-world interaction are prime for testing at Pocono Raceway. Improvements in the automated vehicle field will help provide Ladders of Opportunity and access for those that cannot afford and are disable from utilizing automotive travel.

PROPOSED CONTRIBUTIONS

The applicant's proposed contributions to the Community of Practice. Examples include established safety management plans, access to testing data, engagement with stakeholders, or ability to generate results that have broad applicability.

Within Pocono Raceway's Operations Department, under the leadership of the Sr. Director of Facility Operations consists of a robust corporate safety team. This safety approach while regular in motorsports is not the normal operating procedure for normal testing environments. Pocono Raceway proposes to bring this format to the Automated Proving Ground Community of Practice. The safety team consists of branches Fire, Medical, Recovery, and Restoration. For all on-track activity, Pocono Raceway, through their users' needs assessment, insurance guidelines, or other client requirements, provides safety teams on the behalf of the party utilizing the racing surface. As it relates to Automated Vehicle Proving Grounds, these safety team members either work for or are contracted by Pocono Raceway, where they minimize or possibly eliminate impact on the communities' public safety needs around the Long Pond/Monroe County/Greater Poconos Areas.

Pocono Raceway is currently in the process of developing a fiber installation plan as mandated by NASCAR that will be installed in the next two years. With this improvement, testers will be able to collect and store a variety of data as well as have access to feeds that will cover the entire grounds. Wireless communications will also cover the property allowing for various connected vehicle application testing to supplement the automated features. The data collected by the track would be made available to the Community of Practice for furthering the research.

In utilizing Pocono Raceway's emergency staff and contracted responders, a unique aspect of this application is that Pocono Raceway can provide training for emergency responders related to automated vehicles. This encompasses both approaching an automated vehicle and enacting the "Safety Override Control" as well as utilizing automated response vehicle to ensure safety at an incident scene.

WILLINGNESS TO WORK WITH DEPARTMENT OF TRANSPORTATION

Ability and willingness to maintain a working relationship with the Department's relevant research program offices, including potential participation in conferences, meetings, joint research efforts, and submission of significant activity reports to the Department of Transportation on a routine basis.

Pocono Raceway is approaching the Proving Grounds Designation as an open-door policy that allows the US Department of Transportation, its research partners, the Pennsylvania Department of Transportation, and other contracted participants to utilize the track and its facilities in a variety of manners. Pocono Raceway is also committed to sharing information at conferences and engaging in other activities with the community.

It is envisioned that the designation will require some aspect of measurement and reporting, so the Pocono Raceway is prepared to collect data and report as requested by the US Department of Transportation. Pocono Raceway, also, plans to document the types of tests and variety of testers that utilize the track facilities to further engage the Community of Practice and showcase what can be accomplished on site.

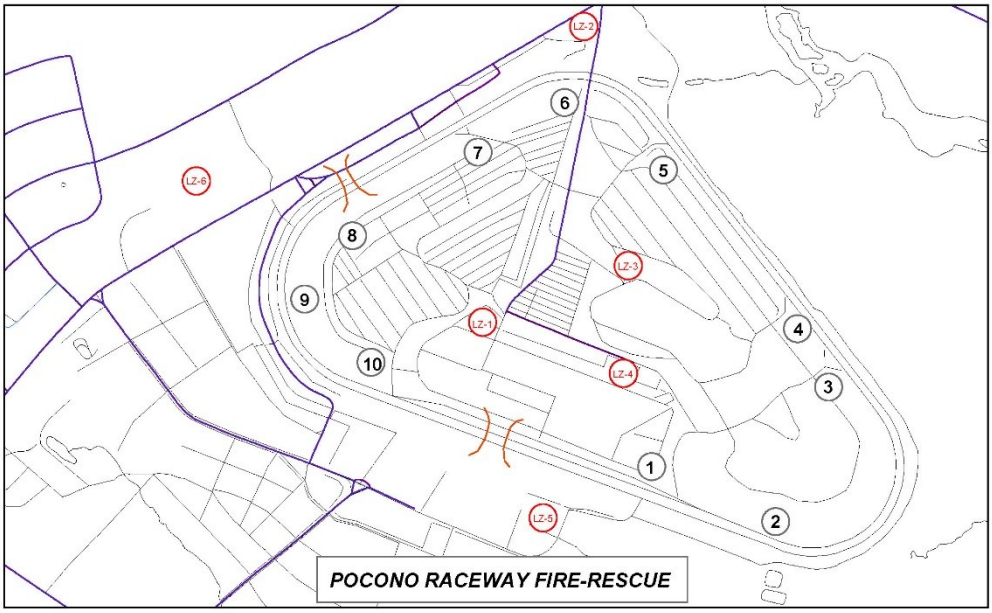
SAFETY MANAGEMENT PLAN

The demonstrated capability to control risks through the implementation of robust safety precautions through a published safety management plan in all proving ground testing and operations.

For each track use day or event, the Sr. Director of Operations or his designee and the client utilizing the track develop a Safety Management Plan that best suits the type of driving, the speed, the course utilized and the amount of safety deliverables needed by third parties (Client themselves, Sanctioning Bodies or Insurance Companies). Largely, the approach is not one size fits all, but rather customized to handle the approach and request of the user of the facility.

To further illustrate the commitment to a robust safety management plan, FIGURE 1 illustrates the high level of resources and planning that have been committed by Pocono Raceway for NASCAR races at Pocono Raceway.

FIGURE 1



Fire	Station
Truck #1-------	1
Truck #2-------	2
Truck #5-------	5
Truck #7-------	7
Truck #9-------	9
Truck #10-----	10

Rescue Tool	Station
Tool Truck #1-------	3
Tool Truck #2-------	6
Tool Truck #3 ------	8

Cleanup	Station
Cleanup #1-------	1
Cleanup #2-------	5
Cleanup #3-------	7
Cleanup #4-------	10

Pumpers	Location
KME #1-------	Station 1
KME # 10 ---	Station 10
KME #2-------	Fuel Dump
KME #3-------	Grandstand

Rollbacks	Station
Rollback #1-------	1
Rollback #2-------	7

Wreckers	Station
Wrecker #1-------	1
Wrecker #1A ----	1
Wrecker #3-------	3
Wrecker #7-------	7
Wrecker #10-----	10

Ambulances	Station
Ambulance #2-------	2
Ambulance #3-------	3
Ambulance #5-------	5
Ambulance #7-------	7
Ambulance #10-----	10

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Pocono Raceway
THE TRICKY TRIANGLE

DEMONSTRATED SPECIFIC SAFETY CONSIDERATIONS OVER THE COURSE OF OPERATIONS

Demonstrate that specific safety considerations have been met over the course of operation, including safety of proving ground personnel, safety protocols when making use of public roads, and attention to safe design, deployment, and operations of automated devices.

Pocono Raceway's Operations Department consists of a robust corporate safety team. The safety team consists of branches Fire, Medical, Recovery, and Restoration. These safety team members either work for or are contracted by Pocono Raceway, where there is minimal to no impact on the communities' public safety needs around the Monroe County/Greater Poconos/Long Pond Areas.

The Pocono Raceway Fire Rescue Department consists of a 175-plus personnel Industrial Fire Brigade, which when fully activated is the third largest paid fire department in the Commonwealth of Pennsylvania. This Brigade of Firemen has been meticulously trained for vehicle rescue, vehicle fire suppression, driver extraction, safe vehicle operations and race track safety and security. At the disposal of the Fire Teams are at minimum two (2) fully outfitted quick response fire apparatus with suppression and Holmatro extrication tools at the ready.

The medical department is contracted by individual event scheduling needs and can be as robust as physicians and nurses and Medevac helicopters to the minor needs such as EMTs, Paramedics and Basic Life Support and Advanced Life Support Ambulances. These individuals carry all Pennsylvania Department of Health certifications for the level of health care at which they are educated, as well as Pocono Raceway, NASCAR and IndyCar training for racetrack specific medical needs. These medical professionals are also trained at emergent care for spectators or associated individual's working in a race track environment. In addition to the proper medical training, these individuals are cross-trained in the fire training of vehicle rescue, vehicle fire suppression, driver extraction, safe vehicle operations and race track safety and security.

The departments of Recovery and Restoration have the task of providing a safe circuit for the vehicles to operate. They are responsible for all safety devices, traffic control devices, traffic attenuators, wall repairs, catch fence repairs and any associated SAFER wall certification, placement and repairs.

Pocono Raceway's unique access to the responder community allows it the ability to also be a Proving Grounds for responders. Incidents can be staged at the track that involved automated vehicles or with the responders using automated vehicles in the response. The layout of the track allows for simulations on highways as well as local roads and intersections.

STATE OR LOCALITY PROVISIONS

The extent to which the State or locality can provide applicable solutions for the broader region and surrounding corridor for improved mobility through the advancement of automated vehicle technology

Although Pocono Raceway has established partnerships within the Commonwealth of Pennsylvania, Pocono Raceway supports the proposed Pennsylvania Department of Transportation framework, all partners bring various strengths to the application – See FIGURE 2. As not all partners have expertise in all areas of Automated Vehicle testing, a matrix approach combines the strengths of each into a more compelling application, overall.

FIGURE 2

Required Expertise			Partners					
				PennState	Pocono Raceway THE TRICKY TRIANGLE	PENNA TURN PIKE	PENN	
Admin	✓		✓	✓				
Legal	✓	✓						
Legislative/ Policy	✓	✓						
Research				✓		✓	✓	✓
Safety	✓	✓	✓	✓	✓	✓	✓	✓
Security				✓	✓			
Technical				✓	✓	✓	✓	✓
US Department of Transportation Guidance	✓	✓						
Testing Facility			✓	✓	✓			
Additional Testing Equipment	✓					✓		

RESEARCH AND EXTENSION RESOURCES AVAILABLE

The demonstrated research and extension resources available for carrying out activities and programs as they relate to automated vehicle advancements.

Pocono Raceway, as a business, is not a research and extension institution. However, over the past racing season, Pocono Raceway has partnered with Penn State University to help establish a corporate and event based sustainability program. Pocono Raceway, Penn State University, and Hendrick Motorsports in 2015 partnered with Axalta Coatings system to bring a motorsports learning experience to the Mechanical Engineering Program within Penn State's College of Engineering's Mechanical Engineering Program.

Penn State University as the Commonwealth's Land Grant Research institution has a primary mission of research, education, and outreach and Pocono Raceway would look to further the relationship with a concentration in Automated Vehicle Technology.

Working under the framework umbrella proposed by the Pennsylvania Department of Transportation, Pocono Raceway feels that the relationships are in place to be able to pull together the proper research and extension resources to be able

to further automated vehicle advancements. Pocono Raceway has an established relationship with a research institution and is looking to continue fostering that relationship as well as new research-based ventures.

EDUCATION AND OUTREACH

The degree to which the applicant can disseminate results of automated vehicle research through a statewide or region-wide ***education program*** *to support the national deployment of automated vehicle technology.*

Pocono Raceway can disseminate results of automated vehicle research through a statewide or region-wide education program to support the national deployment of automated vehicle technology in a multitude of ways. The main approach to sharing can be accomplished through a successful partnership with the testing agencies and US Department of Transportation to provide outreach at Pocono Raceway's major race events. Through this outreach and educational opportunity, Pocono Raceway can provide over 100K impressions to vehicle enthusiasts in that represent a wide demographic and represent a multitude of locals and demographics.

Additionally, Pocono Raceway can use the racing national media and social media as a jumping off point to launch major initiatives and to give the national deployment of automated vehicle technology a medium of transport.

OPEN DATA

A commitment to open data and sharing performance metrics and results of objective tests.

Pocono Raceway is committed to making every effort to share data. However being a private entity and granting license agreements for users of the facility, Pocono Raceway would provide data sharing for non-proprietary data as allowed by the testing agency or company. Data collected by Pocono Raceway itself for performance metrics and reporting would be shared, and any information allowed by testing partners would be provided as well.

DEMONSTRATED INVESTMENTS

Capital improvements to the proving ground to advance automated vehicles

Over the past six (6) years, Pocono Raceway's road course circuits and the 2.5-Mile superspeedway have been resurfaced to meet the exact specifications of championship drivers, crews, and researchers. In 2013 a multi-million dollar repaving project was completed on the road courses, where all road courses were widened to forty (40) feet, where thirty (30) feet of clean runoff per Federation Internationale de l'Automobile (FIA) specifications and multi-directional FIM curbing was added to all the corners.

Over the past three (3) years concluding in April of 2017, Pocono Raceway has exemplified their commitment to safety by committing funds to ensure the safety of divers and spectators. Upon completion this coming spring, 11,700 feet of SAFER barrier will have been added to the Raceway's famed 2.5-mile tri-oval. In addition, new catch fences have been installed to protect spectators and participants alike.

Pocono Raceway is also committed and invested in protecting the environment as showcased by the installation of a solar field to meet the electric needs of the facility. Pocono Raceway is continually evaluating alternative and sustainable sources of energy to reduce carbon emissions, and currently are planning to install electric vehicle charging stations that will be powered by the solar field.

AUTHORIZATION & FUTURE INVESTMENTS

Authorization for the proving grounds to address regulatory challenges associated with higher levels of automation.

As it relates to Automated Vehicle Proving Grounds, Pocono Raceway believes itself to be authorized to conduct private vehicle testing if requested by a potential user at this time. Pocono Raceway as a privately held entity incorporated in Pennsylvania is committed to making necessary capital expenditures to keep its status as an approved Automated Vehicle Proving Ground. Underdeveloped or not yet developed property within the Pocono Raceway property may be available for future use as the Automated Vehicle Proving Grounds needs change and the market and the Automated Vehicle industry change. That said the improvements must either dovetail into or meet and match with the Pocono Raceway business plan and overriding mission of the facility to be a motorsports and entertainment facility.

In the coming years, Pocono Raceway will be installing fiber communications throughout the facility to meet the needs of NASCAR racing. This investment will result in the installation of miles of fiber to accommodate wireless communications, fan access points, and television camera broadcasts. Leveraging this infrastructure investment to automated and connected vehicle testing and research is a unique benefit to those utilizing Pocono Raceway.

Should Pocono Raceway be designated an Automated Vehicle Proving Ground, a feasibility study will be conducted to determine if additional investment into the undeveloped property would benefit the Automated Vehicle Proving Ground partners, the Community of Practice, or the track itself.

READINESS

Designated facility is open for testing, or the ability of the applicant to demonstrate that the facility will be open for testing by January 1, 2018.

One of the strongest aspects of this application is that the Pocono Raceway is an existing facility with the exterior racetrack, internal roadway network, and external grounds with the ability to expand and grow. To recreate this facility, it would take years of planning, constructing, and finding funding. Pocono Raceway is committed to enhancing the existing facility to accommodate automated vehicle testing, mainly for data collection and documentation purposes. The facility can already accommodate the testing of automated vehicles.

The facility is currently open for scheduling and has been in continuous seasonal operations since the 1960s. Pocono Raceway is currently a seasonal facility open on or about April 1st and closing on or about November 1st. However, Pocono Raceway ownership is currently transitioning the seasonal status to a year-round operation to better meet the needs of the marketplace for an event site year-round. Pocono Raceway will be available for automated vehicle testing in a four season environment in 2018 and beyond.

MULTIPLE USERS AND DATA SHARING

The facility supports testing by multiple users, or the data generated by the proving ground is shared openly to the public.

Pocono Raceway supports testing by multiple users concurrently. Pocono Raceway depending on track configuration chosen by testing agency, and any proprietary information and data sharing issues the testing agency requires, can accommodate singular or multiple users. Data sharing would only be allowed for non-proprietary data as allowed by the testing agency or company.

POCONO RACEWAY'S FACILITY DESIGNATED POINT OF CONTACT

Designated facility provides a Designated Point of Contact (DPOC)

POCONO RACEWAY
OPERATIONS
ATTN: KEVIN HENRY, SR, DIRECTOR OF FACILITY OPERATIONS
570-646-2300
PO BOX 500
1234 LONG POND ROAD
LONG POND, PA 1834

ADHERENCE TO LAWS REGULATIONS AND FEDERAL POLICY

The degree to which the application addresses how the automated testing facility will adhere to all state and local laws and Federal regulations.

Pocono Raceway is a private, closed race track property committed to following all relevant laws, regulations and federal policy as it relates to Autonomous Vehicle Proving Grounds and Autonomous Vehicle Operations.

Respectfully submitted,
POCONO RACEWAY

Kevin Henry
Sr. Director of Facility Operations