

# ELECTRATHONOFAMPABAY.ORG INCORPORATED

## 2011-2015 Business Plan

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The Lomax Solar Panthers and their "Solar Prowler" Sprint Car

Florida's 1<sup>st</sup> Elementary School Junior Solar Sprint Team

March 26, 2011 Plant City High School

**Strawberry 120**

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## I. ETO 2011-2015 Business Plan Executive Summary

Electrathon of Tampa Bay Organization (**ETO**) was formed in 2008 as a Florida Nonprofit Corporation to promote and strengthen interest in Engineering in the (7) County **TBARTA** Service Area plus neighboring Polk County. We are an umbrella organization (9) Electrathon Car Clubs and (21) Junior Solar Sprint Clubs (JSS). Our Board is comprised of Educators, Engineers, Physicists and Community Business Leaders who have a demonstrated passion and a solid track record of providing our student teams with hands-on accessible learning opportunities related to Science, Technology, Engineering and Mathematics (**STEM**). This all volunteer group of visionary and strategic thinking adults are welded together by a common vision of improving the future of our students, our families and our Country through competitive engineering endeavors and real world learning projects open and accessible to all. We are the only such organization in the Southeastern United States.

*ETO's Vision* is to contribute to the laying of a foundation for a green, vibrant, low carbon future full of possibilities and opportunities for tomorrow's children throughout Florida. It is *ETO's Mission* to make this contribution by promoting Electrathon Racing and Solar and other Alternative Fuels Technologies involved in Junior Sprint Racing, endeavors full of technological entrepreneurial challenges and adventure.

*ETO's Management Operations* are characterized by cooperativeness, inclusivity and streamlined flexible decision making. All of ETO's Management Operations are fully transparent with periodic accountability reviews/mechanisms prescribed by our Corporate Bylaws. Given our present situation of imminent growth, there are a number of antecedent business needs and goals that must be met to insure that ETO's Management Operations continue to be well managed as we pursue our growth plans.

*ETO's Competitive Technological Events and Educational Programs* are unique when compared to other related programs such as Robotics Programs because of their accessibility to a wider student academic base and because of their ongoing cost advantages. Our Event Operations conform to the requirements of Electrathon America (**EA**) the national sanctioning body for Electrathon Racing while our Junior Sprint Division Operations conform to the guidelines of the National Renewable Energy Laboratory (**NREL**). While our Competitive Racing Events, Electrathon Program and our Educational Projects have demonstrably spurred student academic interest and attainment in Science, Technology, Engineering and Mathematics (STEM) there are needs for event equipment, project funding and logistics.

*ETO's (4) Year Operational Goals and Outreach* stand at the doorway of a soaring future with an eagerly anticipated ETO Electrathon Program Certification in August 2011 by **SkillsUSA**, a federal nationwide technical educational organization. This certification, together with several developing and supportive relationships with professional technical groups such as the IEEE Tampa Bay RAS, the Florida Solar Energy Center and Gulf Power Engineering Society when coupled with the solid interest expressed by school systems across Florida and Georgia, puts ETO in a solid position to expand statewide into the six Florida SkillsUSA Regions and potentially across the Southeast and beyond.

*ETO's (4) Year Projections and Financial Statement* cover the next four school years and solidly undergirds our nascent and ambitious expansion plans. Our expansion plans are already coalescing. However while ETO has demonstrated its self be a dynamic and agile organization capable of responding quickly and adapting to change and while we are confident in our abilities to expand, we are presently resource constrained and thus offer a huge opportunities for meaningful and productive partnerships and sponsorships. One unknown in our financial projections is the potential for team funding access provided by our affiliation with SkillsUSA. ETO has no doubt that our SkillsUSA imprimatur will result in some alternate sources of funding for individual teams and perhaps ETO as well.

## II. Management Operations

### A. Who We Are:

ETO is a non-profit corporation chartered in Florida that is seeking to expand through Florida. We are seeking 501(3)(c) status to more effectively carryout its mission. Our (12) member Board of Directors is comprised of Educators, Engineers, Physicists ad Community Business Leaders committed to the advancing of Science and Engineering through competitive engineering endeavors and real world learning projects open and accessible to all. We are the only such organization in the Southeastern United States involved in Electrathon Racing.

### B. Our Philosophy:

ETO's Board believes that "hands-on" approach to the education of today's students can contribute greatly to the learning of fundamental physical principals and the building of a technical foundation. This approach has received less emphasis in the education of youth due to changing cultural influences, changes in educational expectations and opportunities and changes in technology itself. All of these changes have diminished the opportunities for basic hands on understanding of physical phenomena. Culturally today's youth are less hands on when compared to the shade tree car and bicycle mechanics of the 50's. Today's students are more "connections oriented" with respect to the devices they use whereas in the 50's they may have picked up a tool and opened up their car radio to check the vacuum tubes inside. Further compounding this move away from hands on learning is that today's education system has shifted more to training for service oriented occupations as manufacturing has disappeared from America's shores further depressing the gaining of knowledge through hands on experience. Lastly technology has become software based for example to carry out such basic functions such as braking or adjusting fuel/air mixture making the acquisition of basic principles somewhat less accessible through hands on tinkering. We believe, as Educators and Engineers that the providing of opportunities through "the hands on application of science and engineering knowledge in a competitive technical arena" can strengthen students in their preparation for tomorrow's jobs in transportation and engineering. Through our competitions, outreach, partnerships and support of K12 and College Clubs ETO's Engineering and Educational staff will make a lasting difference in the lives of its members and they will in turn impact their communities in a positive way.

### C. Transparency and Accountability

As stated in our By-Laws (Appendix A) the financial records of ETO are public information and shall be made available to the membership, Board members and the public.

No Board member receives compensation other than for reasonable reimbursable expenses as approved by the Board as required by By-Laws. There being little day-to-day business, in the conventional business sense, there are no paid permanent employees in the business plan of the organization. All activities are carried out by ETO officers or volunteers.

The Treasurer is chair of our Finance Committee, which includes three other Board members. Per our By-Laws, the Finance Committee is responsible for developing and reviewing periodically all fiscal procedures, developing a fund-raising plan and an annual budget with other Board members. Additionally, the Board must approve the budget and all expenditures must be within the budget. The Board must conduct an Annual Review of the Finance Committee's Report of Finance and Property Transactions. ETO's By-Laws also contain a well defined conflict of interest policy. Our conflict of interest policy is keeping with all applicable state and federal laws governing conflict of interest applicable to nonprofit and charitable organizations. Lastly ETOs has also retained the services of Alan Geer CPA to advise and represent ETO as it pursues 501(3)(c) status. We believe that all of ETO's corporate charter and bylaws comport with the requirements of operating as a 501(3)(c) organization.

## D. Management Goals

### 1. Goal 1: Improve our Back Office Operations.

#### a. *Improve Accounting System*

Currently we are tracking our finances in a spreadsheet tied to our Business Savings Account and our PayPal account. While the spreadsheet is basically a cash-basis accounting system we need to acquire an accounting system software package to better handle our reporting and financial accountability needs as we grow. We feel that Intuit's Quickbooks for Non-Profits will meet our regulatory and donor reporting needs, grants management, financial forecasting needs. It is anticipated that the financial recording keeping will be principally executed through volunteer staff online. The projected cost of meeting this onetime need is estimated to be \$300 plus \$250 for an annual professional review. This essential component as we move forward.

#### b. *Physical Space*

While a portion of ETO's activities are online such as cloud base document storage, remote collaborative meetings and other web based such activities, ETO could benefit by a physical presence. It is anticipated that a minimum 250sq.ft office space would be needed along with Internet Access to allow normal ETO business functions, projects R&D lab and equipment storage. It estimated that the necessary space would run around \$15,000 annually plus an annual utilities cost of \$1,800 including the Internet. It is hoped that this need could be met through in kind contributions. *This would be a great aid moving forward but is not critical to future growth at this time.* These needs could also be met with Portable Storage or Portable Buildings.

#### c. *Facilitate and Improve our Online Presence*

We are currently using WordPress as our basic content management system for updating and maintaining our website with race results, pictures and announcements. We would like to make different arrangements for this routine work so that our Web efforts are focused more on the Moodle component of our website to aid with our automation projects. We have in the past hired a very deserving student from a Web design class at Sickles to do some modest paid design work and we have also used students to do video photography as well. One possibility for meeting this need is to consider establishing a web support and videography club in one of our schools that could help with this need. It is estimated and hoped that we could incentivize this need with one or two school based clubs for \$2,000 annually. We also need to explore ways of enhancing revenues through Web Ads. Lastly we need to establish a Face Book presence. This is an important need for facilitating our interactions with other entities.

### 2. Goal 2: File 501(3)c Application.

Our Corporate Charter and our By-Laws all conform to the IRS requirement of operating as a 501(3). Attainment of this critical Goal will enhance our stature and enable us to strengthen the financial aspects of our programs. We have in the past prepared the necessary forms but lacked the filing fees. Our application data does need to be updated to reflect the current content of this Business Plan. We urgently need the filing fee of \$400.

### 3. Goal 3: Strengthen our Team Support Framework.

ETO must strengthen its support framework for recruitment, training and support of our Club Sponsors and Mentors to insure that Club continuity and quality of experience. Many of our current Electrathon Team Sponsors are nearing retirement thus posing some new challenges to program continuity. This is a non monetary goal and is an ongoing focus of our Board.

All annual cost projections of meeting these goals are contained in V. (4) Year Financial Projections and Financial Statement

### III. Competitive Technology Events and Educational Programs

*ETO's Competitive Technological Events and Educational Programs* are unique when compared to other related programs such as Robotics Programs because of their accessibility to a wider student academic base and because of their ongoing cost advantages. Our Competitive Racing Events and our Educational Programs have demonstrably spurred student academic interest and attainment in Science, Technology, Engineering and Mathematics (STEM).

#### A. Competitive Technology Events

1. Basic Structure:

The *Basic Structure* of ETO's competitive racing events consist of an Electrathon race in the morning, a haft time show and a second Electrathon race in the afternoon. Our two hour Haft Time Shows are used for Solar Sprint events, to showcase Green Technology Exhibits, other types of alternative Transportation Technology and the judging of Student Design projects involving computer based propulsion systems and instrumentation. These events allow student teams from within the state and from out of state to test their Electrathon and Junior Sprint designs in a competition best described as an "Engineering Sporting Event".

These are community centered events with free exhibit space available for School Programs such as Robotics and Recycling, Green or related Businesses and Non Profits.

2. Event Operations:

Our *Event Operations* conform to the requirements of Electrathon America (EA) the national sanctioning body for Electrathon Racing while our Junior Sprint Division Operations conform to the guidelines of the National Renewable Energy Laboratory (NREL). The rules and specifications for our Electrathon event operations can be found at our website

<http://electrathonoftampabay.org/www/Documents/ElectrathonAmericaHandbook2010-11.pdf>. The guidelines ETO follows for our Junior Solar Sprint/Hydrogen Fuel Cell Car Competitions differ slightly in that ETO drops the grade level participation down to 4<sup>th</sup> grade for the solar sprint cars. This is in keeping with material contained in the state of Florida's Sunshine Science Standards. The guidelines ETO follows for its Junior Solar Sprint/Hydrogen Fuel Cell Car Competitions can be found at [http://www.nrel.gov/education/jss\\_hfc.html](http://www.nrel.gov/education/jss_hfc.html).

3. Event Management:

*Event management* is assigned to the Executive Director and the Associate Executive Director coordinating with the Program Director. Community and business involvement, including recruitment of volunteers and mentors, is planned and executed by the Director of Community Outreach and our Director of Public Relations.

4. Event Equipment Needs

While we have met all of our *event equipment needs* with borrowed equipment and through simple innovative solutions such as our Touch and Tally Lap Counting System, we have identified some event equipment needs which would give us a more professional air. Of the equipment listed below only item (1) could be considered as an essential item for our future growth. However all of the items are included in our Financial Projections.

- i. I-Lap Lap Counting System, Portable Aluminum Bridge and Transponders for (30) Electrathons \$3,500.
- ii. (10) Hands free Walkie-Talkies for Event Communications. \$2,500
- iii. (5) 100' #10AWG Extension Cords and (3) GFCI Pigtails \$1,000
- iv. (2) 10'x10' Garden Canopy Tents \$300
- v. (1) 5KW Quiet Portable Generator \$1600
- vi. (4) 6'x3' Portable Tables \$600



- vii. (12) Portable Chairs \$600
- viii. (1) First Aid Kit \$50
- ix. (2) Laptops \$1500
- x. (1) 4digit Elapse Timer Display \$600
- xi. Outdoor LCD Display \$1,500

## B. Educational Programs

The two basic components of our Educational Programs are: An Electrathon Racer Program aimed at high schools and colleges And Junior Solar Sprint Racer Program aimed at Elementary and Middle Schools. These two main components build and enhance STEM knowledge through a hands-on design/build process where students immediately see the need ***to work as a team to succeed in a competitive technological environment.*** They quickly see the need ***to develop their entrepreneurial skills to manage a technological business endeavor.*** From a technical career point of view the ***teamwork*** and ***entrepreneurial skills*** are invaluable life lessons.

From a **STEM** point of view, students are actively exposed to a wide variety subjects from Aerodynamics, AutoCAD, Automotive Technology, Chemistry, Circuit Theory, Fabrication and Assembly, Electronics, Electric Motors, Machine Design, Math concepts involving Algebra, Trigonometry and Geometry, Physics and Photo-Voltaics, Performance Testing and Data Analysis, Structural Analysis. The Electrathon Students also gain a rudimentary knowledge of Power Electronics and Computer Control of Electric Vehicle Propulsions Systems.

ETO's Online Coursework is from the perspective of teaching fundamental physical concepts that directly relate to the design, performance and construction of Electrathons and the application of Micro Controllers in Transportation systems such as motor speed control, amperage and voltage measurements, charging systems, real-time onboard battery performance modeling and the application of basic physics and mathematics concepts. The emphasis here is on applying simple conceptual and computational knowledge to the practical hands on challenges of designing and building an Electrathon. Our online courseware engine is Moodle. Moodle is a Course Management System (CMS), also known as a Learning Management System (LMS). It is a free open source web application that educators can use to create effective online learning sites. Our Moodle Site is up and running at <http://ElectrathonOfTampaBay.org/SEED/> (caps for SEED). SEED is acronym for Simple Engineering Education on Demand. The acronym reflects our philosophy that from a simple little seed of knowledge a great tree can grow. We expect to rollout our own first course Semester I 2011. It is entitled "Simple Electrathon Math and Physics" (SEMP). Through the need to design and build an Electrathon, we will introduce students to simple linear equations from a physics perspective that involve force, work, potential energy, kinetic energy and power e.g.  $Work=Force \times Distance$ ,  $Volt=Amps \times Resistance$ . Simple geometric and trigonometric concepts and calculations will be introduce for weight calculations such as  $Weight= Volume \times Density$ . Our aim is not to teach Algebra, Geometric, Trigonometry or Physics. Our aim is to aid the student in mastering simple concepts and computational skills from an applications perspective where such activities makes sense and relates directly to building an Electrathon.

At the Electrathon level we augment the program with (5) Automation Projects involving Electronic Instrumentation and Telemetry through the use of embedded microcontrollers and wireless mesh networking. (else where discussed)

At the Junior Solar Sprint Middle School level we add a component involving Hydrogen Fuel Cells to power the Junior Solar Sprint Car.

### 1. Electrathon Program

#### a. *What exactly is an Electrathon?*

An **Electrathon** is a student designed and built three or four wheeled electric vehicle, somewhat similar in overall appearance to a Go-Kart but is powered by an electric motor





and batteries. To compete as a sanctioned Electrathon, the vehicle must meet some design requirements set by ElectrathonAmerica.Org which include but are not limited to:

- max 12 feet long and max 4 feet wide.
- Battery weight limited 73 pounds max using a battery chemistry of sealed gel lead acid. Other battery chemistries can be employed with weight adjustments reflecting the equivalent energy density of the lead acid batteries.
- Driver's weight is ballasted to 180 lbs for fairness.
- Safety regulations require features such as braking systems, 5 point seatbelt restraint, roll bars, and electrical disconnects.

b. *How are Electrathon Raced?*

The basic racing format is to determine which car can travel the furthest distance in one hour's time within the limitations of battery weight and other factors mentioned above. The main design problem is posed by the fact that fast speeds drain the batteries rapidly resulting in the car not being able to continue in motion for the entire hour, so design teams must compromise speed in order to gain distance.

c. *How Much Does an Electrathon Cost to Build?*

The relatively low cost of the Electrathon Car (\$1500 to \$5000) has made the sport a popular activity for many colleges and technical schools although it has achieved largest participation among high school age students world-wide. We are seeking multiyear multi-recipient seed grants of \$1,500 but as stated earlier the big unknown is the degree of funding that will come from our SkillsUSA association. A complete breakdown of what it cost to build and field an Electrathon is provide in Appendix B. We have included annual aggregate requests for seed grants in our Section VII Financial Projections

d. *How Does an Electrathon Club Function?*

Outlined below are some of the necessary but not necessarily complete operational tasks for fielding an Electrathon Team. We have found that at the high school level a strong club sponsor/coach is necessary while a greater degree of autonomy is possible at the community college and university levels.

1. Electric Car Club Organization.
  - a. Elect Officers
  - b. Draft Club Charter
  - c. Set Goals and Timetable

2. Membership and Recruitment.
    - a. Identify Human Resources:
 

Who has machine shop or mechanic experience? Accounting experience? Who is a good presenter or organizer? Who can lead a team? Who has ACAD, physics and math strengths? Who has Robotics or RC experience? Who has Website and Publicity Experience?
    - b. What other departments or programs can we call on Computer Science, Welding, Auto Mechanics, AVID, JROTC, School Newspaper?
  3. Initial Design Specification
    - a. Design Specification Research Reports (3 teams 3 reports)
    - b. Review and Evaluate for Compliance with Electrathon Requirements
    - c. Select a Design: front wheel Drive or Rear wheel drive? (3) or (4) wheels?
  4. Construction Drawings
    - a. Progress reviews of AutoCad drawings: electrical wiring, fabrication requirements and target weight.
    - b. Stability calculations What are speeds and turning radii necessary for Stability
    - c. Electrathon Compliance
  5. Cost Estimates
    - a. Materials
    - b. Electronic, Electrical and Mechanical Components
    - c. What tools or fabrication equipment do we need to purchase or arrange for?
    - d. Welding and Bending Requirements In-house or Contracted
  6. Workshop
    - a. Material Storage Requirements
    - b. Workshop floor plan and tool setups
    - c. Adequate lighting and electrical
  7. Procurement and Sponsorships
    - a. Set appointments present Drawings and estimates for Sponsorships
    - b. Document material and \$ commitments.
    - c. Arrange for accounting transfers and materials deliveries.
    - d. Will there be a presentation ceremony or other publicity?
  8. Materials Storage and Inventory
    - a. How are we going to store, track and account for material inventories?
  9. Construction and Assembly
    - a. Safety Procedures and Work methods
    - b. Determine Order of Assembly
    - c. Cut and Assemble
  10. Startup and Testing
    - a. Initial hookups and bench testing
    - b. Final Inspection
    - c. Test Track Area and Procedures
    - d. Test Drive Procedures initial speed restrictions
    - e. Collect Longitudinal Performance Data and Analyze
    - f. Re-engineer as required
  11. Race Training and Logistics
    - a. Train Drivers and Pit Crew Mechanics on Troubleshooting and on the fly repairs
    - b. Electrathon transport
    - c. Traveling Workshop: battery chargers, air compressors, generators, communications gear
    - d. Overnight Travel Requirements and Chaperones
- e. Automation Projects

Our Educational Automation Projects involve (5) projects and are straight forward simple applications of computer based instrumentation and wireless networking that take Electrathon Racing to a new level. These projects are kits comprised of Electronic Parts and Software. We intend to sell the kits to Electrathon Teams across the country and have already received interest. These Projects have Online Curriculum Components utilizing Moodle. These ETO Projects Kits are:

- An Automated Battery Testing Circuit
- A Point to Point Zigbee Wireless Serial Link
- Electrathon Instrumentation and Telemetry Package
- A Wireless Zigbee Mesh Network for Events.
- A Semi-Automated Lap Counting System (Touch and Tally)

The Projects are interrelated with the Battery Test Circuit being a prerequisite for the Instrumentation and Telemetry Project and the Point to Point Serial Link being a lead-in to the Wireless Mesh Network. The Wireless Mesh Network Project is intended to attract Computer Science Students. *A complete description of these Projects can be found under the Projects Link on our Website.*

#### 1. Project Microcontroller Development Platform:

We have standardized for all of our automation projects on the open source Arduino microcontroller because they are cheap, versatile and user friendly and due to its open source nature and huge and growing support base. Arduinos can be found in high schools, college campuses curriculums around the world and in the USA at such places as Columbia, Stanford and even at USF. We are using a (32) bit clone of the Arduino Uno known as the Uno32 because it is nominally (4) faster and has (4) times the flash memory. This (32) bit microcontroller development platform costs only \$27.

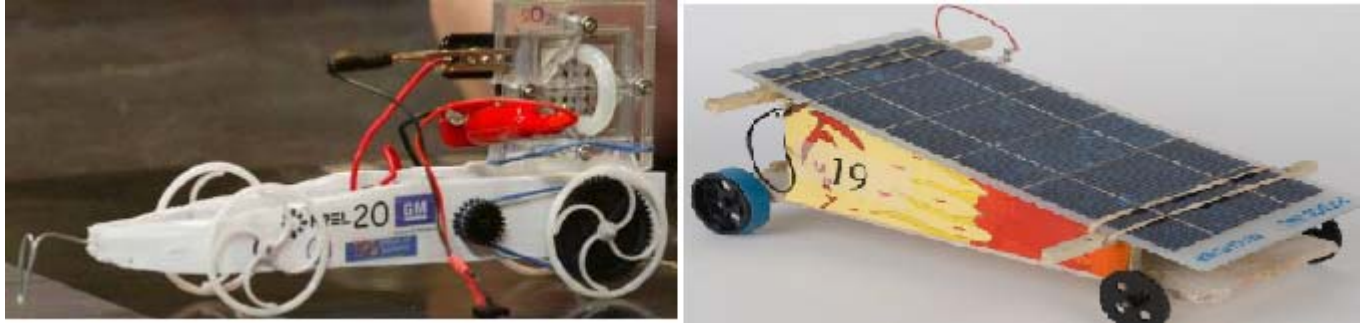
#### 2. Project Wireless Mesh Network Platform:

Originally ETO built a working wireless Ethernet network and Instrumentation Prototype System that was field tested and reviewed by several people including the IEEE RAS. However after further analysis it was determined that the use of Ethernet was too costly, bulky and could pose problems due to the ubiquity and problematic security issues of Ethernet wireless. After further research of (2) possible alternatives: Blue Tooth and the IEEE 802.15.4 Zigbee. A decision was made to go with Zigbee because Blue Tooth proved to be more of a device centric architecture with little range and no network features. Zigbee has built in routing, is designed to be fully scalable to a mesh network topology and can seamlessly pass connections from mobile devices much like cell phones moving between towers. We have standardized on the series II Xbee brand of Zigbee radios due to the low cost and great support that is available. Xbee works right out of the box and it is expected to have a wide appeal to our computer science students due to its simplicity and self healing robust mesh network features.

#### 2. Junior Solar Sprint Program

##### a. *What is the JSS Program?*

The Junior Solar Sprint (**JSS**) Car Competition is a hands-on educational program for 4th, 5th, 6th, 7th, and 8th grade students. Student teams apply math, science, and engineering creativity to construct and race model solar or fuel cell powered shoe box sized cars.



Pictured: L-Hydrogen Fuel Cell Sprint Car; R-Photovoltaic Sprint Car

b. *The Goals of our Junior Solar Sprint are similar to and align with our Electrathon Program.*

1. Generate enthusiasm for math, science and engineering (STEM) by fostering teamwork in a competitive technological arena;
2. Improve students' understanding of scientific concepts and renewable energy technologies;
3. Encourage young people to consider technical careers at an early age.
4. Provide a Pathway to Electrathon Racing

c. *What are the Benefits of the JSS Program?*

Just like in our Electrathon Program, Students learn to work together in teams and are solidly exposed to engineering problem solving skills and project management skills in a mini -Entrepreneurial STEM Endeavor.

d. *How are Junior Solar Sprint Cars Raced?*

Junior Solar Cars are raced on a (20) meter smooth surface track on a guide wire. The cars run (4) timed heats to determine their order of finish followed by a Double Elimination Round for the top (3) Teams in each division. Teams are also judged on their overall project activities i.e. “Best Entrepreneurial Endeavor” (write up of activities including overcoming obstacles, design lessons and design choices). The JSS Races are held in between the morning and afternoon Electrathon Races. The JSS teams must participate in at least (5) of (9) to establish race season rankings. The culminating race is held at the Florida Solar Energy Center in May.

The Middle School Hydrogen Fuel Cell competitions are carried out the same way as the solar sprint competitions but on a (10) meter track. A measured amount of hydrogen for the fuel cell is generated by the students using batteries by electrolysis of distilled water. The students then use the hydrogen to charge the fuel cell prior to racing.

e. *How Much Does It Cost to build a Junior Solar Sprint Car?*

A Basic Parts Kits for the Junior Solar Sprint car runs \$35 (Motor, PV Panel, Gears and Wheels). Additional structural materials can run as high as depending \$40 depending on the degree of creativity procurement. The hydrogen fuel cell parts kit run on the order of \$100. We do not anticipate that the funding will be a major problem for the entry of new teams but we have included a line item in our financial projects for JSS seed grants.

f. *How Does a Junior Solar Sprint Club Function?*

Each JSS team consists of 4 students in an entrepreneurial learning framework. The team is expected to run like a micro business. The students are expected to organize and manage the “the business” as autonomously as possible. Some suggested student roles:

1. CEO - Chief Engineering Officer responsible for managing the engineering, the timeline and work execution
2. CFO- Chief Financial Officer responsible for raising the operating capital for the business through car washes, solicitations or selling candy
3. PTO-Publicity and Travel Officer responsible for making team travel arrangements to the competitions and for documenting the team activities
4. CSO- Construction Safety Officer responsible for workplace safety, for obtaining and ordering parts, and for parts storage
5. The teacher’s role is ideally limited to classroom activities related to understanding STEM Aspects of JSS and the providing suggestions on how to run a business. The STEM classroom activities involve aerodynamic testing, hands on lab exercises involving dc electric motors and PV panels, use of the digital multi-meter to understand the V-I characteristics of the PV panel and rudimentary discussions of the Photo Electric Effect and PN junctions.

The key ingredients for the success of a JSS team just like in Electrathon Racing are: Team Work, Communication and Organization.

#### IV. (4) Year Operational Goals

This section outlines Operational Goals for ETO for the next (4) years of Operation. The following Out Reach Section lays out a framework for how we are going to expand and bring other entities into Electrathon and JSS Racing by crossing borders and forging links.

##### A. Operational Goals for 2011/2012 School Year:

1. To put on (9) Races ( includes (2) out of town races and the Regional and State Races for SkillsUSA) \$6,300
2. To acquire SkillsUSA Clothing to outfit (5) Teams \$400
3. To Have (9) Teams build the Automated Battery Test Circuit \$1,800
4. Provide ETO Race Officials with SkillsUSA Polo Shirts \$200
5. To sell (4) Touch and Tally Scoring Systems to other Electrathon Entities
6. To Provide (10) JSS See Grants \$1000
7. To recruit (5) new teams with seed grants \$7,500
8. To have ASME@USF, Middleton, King and Tampa Bay Technical field another car \$6,000
9. To have the ILAP scoring system in place and have all of our member cars equipped with ILap Transponders
10. To help set up ETO like Regional Organizations in (3) of the (6) SkillsUSA Regions through established resources in Region 1 Panhandle , Region 3 Space Coast and Region 5 Miami-Dade
11. To have both ETO trainer cars equipped with the Telemetry and Instrumentation \$500
12. To have the “Simple Electrathon Math and Physics” SEMP Moodle Course Operational by 12/11
13. To meet our 3 Management Goals (Section II.D).
14. To have all Project Documentation posted on the Website
15. To continue the planning for the super umbrella Corporation “Electrathon Florida”
16. To participate with at least (4) Teams at the Pensacola and Georgia Races.
17. To provide (8) Travel Stipends of \$250 to our existing teams

##### B. Operational Goals 2012/2013 School year:

1. To put on (9) Races ( includes (2) out of town races and the Regional and State Races for SkillsUSA) \$6,300
2. To acquire SkillsUSA Clothing to outfit (5) Teams \$400

3. To participate with at least (5) Teams at the Pensacola and Georgia Races.
4. To Provide (10) JSS See Grants \$1000
5. To provide (10) Travel Stipends of \$250 to our existing teams
6. To have all teams build and install the Instrumentation and Telemetry Project. \$1,800
7. To have the Zigbee based Mesh Network rollout at our Race at Tampa Bay Technical Race.
8. To sell (4) Touch and Tally Scoring Systems to other Electrathon Entities
9. To Provide (10) JSS See Grants \$1000
10. To recruit (5) new teams with seed grants \$7,500
11. To send our top (3) teams to a National Competition \$6,000
12. To establish a ETO inventory of wheels, tires and batteries based on bulk purchases for team support \$6,000
13. To have teams in all (8) Tampa Bay Counties
18. To design and build a hydrogen powered Electrathon and construct a hydrogen generation station
14. To help set up ETO like Regional Organizations in SkillsUSA Regions 2 and 6.
15. To incorporate the super umbrella organization as a 501(3)c and make it operationally functional \$1000

C. Operational Goals 2013/2014 School year:

1. To put on (9) Races ( includes (2) out of town races and the Regional and State Races for SkillsUSA) \$6,300
2. To acquire SkillsUSA Clothing to outfit (5) Teams \$400
3. To participate with at least (5) Teams at the Pensacola and Georgia Races.
4. To Provide (10) JSS See Grants \$1000
5. To provide (10) Travel Stipends of \$250 to our existing teams
6. To have new teams build and install the Instrumentation and Telemetry Project. \$1,000
7. To have the Zigbee based Mesh Network rollout at our Race at Tampa Bay Technical Race.
8. To sell (4) Touch and Tally Scoring Systems to other Electrathon Entities
9. To Provide (10) JSS See Grants \$1000
10. To recruit (5) new teams with seed grants \$7,500
11. To send our top (3) teams to a National Competition \$6,000
12. To continue the ETO inventory of wheels, tires and batteries based on bulk purchases for team support \$6,000

D. Operational Goals 2014/2015 School year:

1. To put on (9) Races ( includes (2) out of town races and the Regional and State Races for SkillsUSA) \$6,300
2. To acquire SkillsUSA Clothing to outfit (5) Teams \$400
3. To participate with at least (5) Teams at the Pensacola and Georgia Races.
4. To Provide (10) JSS See Grants \$1000
5. To provide (10) Travel Stipends of \$250 to our existing teams
6. To have new teams build and install the Instrumentation and Telemetry Project. \$1,000
7. To have the Zigbee based Mesh Network rollout at our Race at Tampa Bay Technical Race.
8. To sell (4) Touch and Tally Scoring Systems to other Electrathon Entities
9. To Provide (10) JSS See Grants \$1000
10. To recruit (5) new teams with seed grants \$7,500
11. To send our top (3) teams to a National Competition \$6,000
12. To continue the ETO inventory of wheels, tires and batteries based on bulk purchases for team support \$6,000

The these annual operational goals may appear ambitious but we are confident after achieving all of our previous goals in 2008-2009) and (2009-2010) that we can through continued careful planning, vision and teamwork make these subsequent year objectives happen.

V. Outreach Goals (covers all (4) years)

A. Outreach Within Hillsborough County

1. Do (3) presentations/speaking services annually to community organizations, i.e. Rotary, Kiwanis, Chamber of Commerce, etc.
2. Have each club attend at least (1) community event each year, i.e. Brandon Business Expo, Taste of Terrace Business Expo, Family Activity, Plant City Classic Car Show etc.
3. Have each club participate in their School's Club Day
4. Tap into local media outlets and establish contact with Tampa Tribune and St. Petersburg Times (corporate and neighborhood offices), keeping local education reporters up to date with ETO schedules, events, etc.
5. Ensure media coverage of all events – designate key personnel to notify TV stations, newspapers, etc., someone to submit to online news sources (TBO.com, etc.)
6. Encourage all club members to recruit sponsors/advertisers from personal circles.

#### B. Outreach TBARTA (Citrus, Hernando, Hillsborough, Pasco, Pinellas, Manatee, Sarasota) Counties plus Polk

1. Using established contacts through Hillsborough County Public Schools, make information available to POC's in partner counties.
2. Provide contacts in partner counties with presentations, publications, internet links, and videos that contain up-to-date information regarding the status of ETO, such as where races are being held, any new important factors in the area of Electrathons, etc. By becoming the data central for Electrathon and Junior Solar Sprint, we can establish our organization as the point of contact for the other counties.
3. Meet on a timely basis with Electrathon representatives from partner counties. Ensure that competition schedules are well-publicized across the span of the 8 counties, and make a point of inviting the other counties to attend even when they are not going to compete.
4. Invite Chamber of Commerce Education Committee members from partner counties to become involved. Almost every C of C has a standing Education Committee, and they are the most likely to see the value of Electrathons, their concept and the positive effect they can have on students who participate.
5. Continue to be contributing members of professional and academic organizations such as the Florida West Coast Section of the American Society of Mechanical Engineers, IEEE Robotics and Automation, student societies and organizations, etc.

#### C. Outreach State and Regional Levels

This outreach component will create a new 501(3)c Organization with its own Business Plan. We have had several discussions with interested parties such as Gulf Power Engineering Society, Georgia Electrathon Schools, some Florida Schools and Electrathon America State Coordinator Jim Robinson about this new super umbrella entity. This Outreach would involve working through the (6) SkillsUSA Regional Coordinators and the existing SkillsUSA structure

1. We anticipate becoming the Primary Contractor for SkillsUSA Electrathon Competitions in Florida and in this role we will recruit leadership from each of the (6) SkillsUSA regions to set up Regional Organizations along the ETO Model.



2. Setup a super umbrella 501(3)c corporation to coordinate and manage inter-regional competitions. Such an Organization might be known as Electrathon Florida-SkillsUSA.

#### D. Benefits of Outreach (in and out of county)

1. Mentorships – club sponsors, business sponsors, and other interested parties would serve as formal and informal mentors for club members.
2. One club – one marketing plan. With careful communication between ETO members from both within and outside of the county, efforts to advertise and increase membership and participation will not be duplicated.
3. Linking education to real-world applications.
4. Actual connection of academic and theoretical concepts with concrete, hands-on construction and operation.
5. Placing students into an environment where technical skills are of equal importance with academic skills substantiates the importance of integration of CTE concepts with academia.

#### E. Image and Marketing

1. Design a logo and tagline, produce marketing materials that integrate logo and tagline (business cards and letterhead, brochures, signage, and interior signage for sponsors' place of business)
2. Expand use of online marketing services, i.e National Electrathon websites and organizational listserves
3. Offer cross-promotion of our club with clubs from other counties and states.

VI. (4) Year Financial Projections and Financial Statement (placeholder only)

Revenues	Actual	Projected			
Income Source	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015
Individual Contributions	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00
Corporate Contributions and Grants	980.00	12,000.00	12,000.00	12,000.00	12,000.00
Educational Materials Sales	0.00	500.00	500.00	500.00	500.00
School In-kind Contributions for Facilities Use	4,000.00	4,800.00	3,200.00	4,000.00	4,800.00
Event Food Sales					
Event 50/50 Donations					
Event Entry Fees	500.00	500.00	500.00	500.00	500.00
Online PayPal Donations	500.00	500.00	500.00	500.00	500.00
Account Interest					
In-Kind Donation Event Equipment/Supplies	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00
<b>Annual Total Revenues</b>	<b>8,480.00</b>	<b>20,800.00</b>	<b>19,200.00</b>	<b>20,000.00</b>	<b>20,800.00</b>

Expenses	Actual	Projected			
Expense:	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015
Member Electrathon Construction Grants	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00
Member Project Kit Grants	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00
State of Fla./IRS Corporate Filing Fees and Reporting	100.00	100.00	100.00	100.00	100.00
Web Site Hosting	110.00	110.00	110.00	110.00	110.00
Event Consumables Supplies	300.00	300.00	200.00	300.00	300.00
Event Equipment Purchases	2,000.00	2,000.00	2,300.00	2,000.00	2,000.00
Event Equipment Depreciation	470.00	470.00	270.00	470.00	470.00
Event Facilities Use In-Kind Donation for Event Staging	4,000.00	4,800.00	3,200.00	4,000.00	4,800.00
Event Insurance	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00
Document Expenses, Printing, Postage and Copying	20.00	20.00	20.00	20.00	20.00
<b>Total Expenses</b>	<b>#REF!</b>	<b>#REF!</b>	<b>20,000.00</b>	<b>20,800.00</b>	<b>19,200.00</b>

**Total Revenues - Total Expenses**      **#REF!**      **#VALUE!**      **(11,520.00)**      -      -

**Current Balance Sheet**

Current Assets		Current Liabilities	
Cash in Bank	375.59	Accounts Payable	
Event Equipment	450.00	Interest Payable	
Loaner Parts	0.00	Taxes Payable	
Educational Materials		Other Current Liabilities	
<b>Total Current Assets</b>	<b>\$ 825.59</b>	<b>Total Current Liabilities</b>	

**Total Assets- Liabilities**      **\$ 825.59**



## VII. Appendices

### Appendix A. BYLAWS of ELECTRATHON of TAMPA BAY

#### ARTICLE I - NAME, PURPOSE

##### Section 1 Organization Name:

The name of the organization shall be Electrathon of Tampa Bay or herein referred to as ETO.

##### Section 2 Purpose:

The Electrathon of Tampa Bay is organized exclusively for charitable, scientific and educational purposes, to educate students and the general public concerning electrically powered vehicles using “Electrathon Racing” and “Solar Sprint Racing” as primary themes. More specifically its purpose is to provide a supporting organization that will arrange for and hold or run competitions for students and supported other groups under the guidelines and rules of Electrathon of America; to mentor the sponsors of vehicles and their race teams; to provide financial support to assist schools or other such supported organizations with participation; and to maintain the experience and competence to expand and sustain the objectives Electrathon of America in the Tampa Bay area as well as across the center of the State of Florida.

#### ARTICLE II ETO BOARD OF DIRECTORS (herein referred to as the Board):

##### Section 1 Board Membership Composition:

Membership shall consist only of the team sponsors of the supported organizations who are limited to one (1) voting representative per school or organization on the Board, one (1) voting representative of the auxiliary mentoring group, and the elected officers of the Board.

#### ARTICLE III BOARD RESPONSIBILITIES:

##### Section 1: Board Role, Size, Compensation.

The Board is responsible for overall policy and direction of the Electrathon of Tampa Bay, and delegates the responsibility for day-to-day operations to the Electrathon of Tampa Bay Executive Director, its officers and committees. The Board shall consist of team sponsors and the elected officers. No Board member shall receive compensation other than for reasonable reimbursable expenses as approved by and submitted to the Board.

##### Section 2: Meetings:

The Board shall meet at least quarterly at an agreed upon time and place. Electronic video conferencing or telephonic meetings of the Board are permitted and encouraged in order to model appropriate actions for environmental concerns.

##### Section 3: Board Elections:

Election of new directors or re-election of current directors to subsequent terms will occur as the first item of business at the annual meeting of the corporation. Directors and Officers will be elected by a majority vote of the voting membership on the Board of Directors.

Section 4: Terms:

All Board members shall serve two (2) year terms, but are eligible for reelection

Section 5 Quorum:

A quorum must be attended by at least 60 percent of the Board members before business can be transacted or motions made or passed. Minutes for these meetings must be taken and mailed out or posted to the Electrathon of Tampa Bay web site.

Section 6 Notice:

An official Board meeting requires that each Board member have written or electronic notice two weeks in advance.

Section 7: Board Officers and Duties.

There shall be seven officers of the Board consisting of:

1. President,
2. Vice President,
3. Executive Director,
4. Associate Director,
5. Recording Secretary,
6. Treasurer,
7. Publicist.

These Board Officers may be members of the community at large or team sponsors. In the case where a Board Officer is also a team sponsor, their vote is limited to one vote. With the exception of the Treasurer position no officer can hold more than one position.

The duties are as follows:

The President shall convene regularly scheduled Board meetings, shall preside or arrange for other members of the executive committee to preside at each meeting in the following order: Vice-President, Recording Secretary and Treasurer. The President may not be elected nor rise to that position and also retain sponsorship of a team within the Electrathon of Tampa Bay organization.

The Vice-President will chair committees on special subjects as designated by the board.

The Recording Secretary shall be responsible for keeping records of Board actions, including overseeing the taking of minutes at all board meetings, sending out meeting announcements, distributing copies of or electronically posting minutes and the agenda to each of the Board members, and assuring that corporate records are maintained. In addition he/she shall make a financial report at each Board meeting, shall chair the finance committee, assist in the preparation of the budget, help develop fundraising plans, and make financial information available to Board members and the public. The Secretary shall also maintain and archive all written Materials at the Google Documents Site under the [Info@ElectrathoOfTampaBay.Org](mailto:Info@ElectrathoOfTampaBay.Org) account.

The Executive Director, Associate Director, Director of Communications, and Publicist will assist the Board in training mentors, gathering data, staging races and community events, as well as such other duties as may be needed to meet the Electrathoning needs of the sponsored groups as required by Article I.

#### Section 8 Vacancies:

When a vacancy on the Board exists, nominations for new members may be received from present Board members by the Secretary two weeks in advance of a Board meeting. These nominations shall be sent out to Board members with the regular Board meeting announcement, to be voted upon at the next Board meeting. These vacancies will be filled only to the end of the particular Board member's term.

#### Section 9 Resignation, Termination and Absences:

Resignation from the Board must be in writing and received by the Secretary. A Board member shall be dropped for excess absences from the Board if s/he has three unexcused absences from Board meetings in a year. A Board member may be removed for other reasons by a three-fourths vote of the remaining directors.

#### Section 10 Special Meetings:

Special meetings of the Board shall be called upon the request of the President or one-third of the Board. Notices of special meetings shall be sent out by the Secretary to each Board member postmarked or posted to the website two weeks in advance.

### ARTICLE IV COMMITTEES:

#### Section 1: Committee Creation

The Board may create committees as needed, fundraising, race safety; etc. The Board President appoints all committee chairs. The standing committees of the Electrathon of Tampa Bay organization shall be Executive Committee, Community Outreach Committee, and Finance Committee.

#### Section 2: Executive Committee

The seven officers serve as the members of the Executive Committee. Except for the power to amend the Articles of Incorporation and Bylaws, the Executive Committee shall have all of the powers and authority of the Board of Directors in the intervals between meetings of the Board of Directors, subject to the direction and control of the Board of Directors.

### Section 3: Finance Committee.

The Recording Secretary is chair of the Finance Committee, which must include three other Board members. The Finance Committee is responsible for developing and reviewing fiscal procedures, a fund-raising plan, and annual budget with staff and other Board members. The Board must approve the budget, and all expenditures must be within the budget. Any major change in the budget must be approved by the Board or the Executive Committee. The fiscal year shall be the academic calendar year. Annual reports including the federal form E990 are required to be submitted to the Board showing income, expenditures and pending income. The financial records of the organization are public information and shall be made available to the membership, Board members and the public.

## ARTICLE V – POLICY OF NON DISCRIMINATION

Section 1: Electrathon of Tampa Bay in pursuit of its 501(3)(c) purposes shall not discriminate against any individual or group meeting the provisions of 501(3)(c) on the basis of: age, creed, economic circumstances, origin, race, religion, sex, or sexual orientation.

## ARTICLE VI - AMENDMENTS

Section 1: These Bylaws may be amended when necessary by a two-thirds majority of the Board of Directors. Proposed amendments must be submitted to the Secretary to be sent out with regular Board announcements.

## ARTICLE VII CONFLICT OF INTEREST POLICY

### Section 1 Purpose:

The purpose of the conflict of interest policy is to protect this tax-exempt status of ETO as it is contemplating entering into a transaction or arrangement that might benefit the private interest of an officer or director of the ETO or might result in a possible excess benefit transaction. This policy is intended to supplement but not replace any applicable state and federal laws governing conflict of interest applicable to nonprofit and charitable ETOs.

### Section 2 Definitions:

#### 1. Interested Person:

Any director, principal officer, or member of a committee with governing board delegated powers, who has a direct or indirect financial interest, as defined below, is an interested person.

#### 2. Financial Interest:

A person has a financial interest if the person has, directly or indirectly, through business, investment, or family:

- a. An ownership or investment interest in any entity with which the ETO has a transaction or arrangement,
- b. A compensation arrangement with the ETO or with any entity or individual with which the ETO has a transaction or arrangement, or
- c. A potential ownership or investment interest in, or compensation arrangement with, any entity or individual with which the ETO is negotiating a transaction or arrangement. Compensation includes direct and indirect remuneration as well as gifts or favors that are not insubstantial. A financial interest is not necessarily a conflict of interest. Under Article III, Section 2, a person who has a financial interest may have a conflict of interest only if the appropriate governing board or committee decides that a conflict of interest exists.

### Section 3 Procedures:

#### 1. Duty to Disclose

In connection with any actual or possible conflict of interest, an interested person must disclose the existence of the financial interest and be given the opportunity to disclose all material facts to the directors and members of committees with governing board delegated powers considering the proposed transaction or arrangement.

#### 2. Determining Whether a Conflict of Interest Exists

After disclosure of the financial interest and all material facts, and after any discussion with the interested person, he/she shall leave the governing board or committee meeting while the determination of a conflict of interest is discussed and voted upon. The remaining board or committee members shall decide if a conflict of interest exists.

#### 3. Procedures for Addressing the Conflict of Interest

- a. An interested person may make a presentation at the governing board or committee meeting, but after the presentation, he/she shall leave the meeting during the discussion of, and the vote on, the transaction or arrangement involving the possible conflict of interest.
- b. The chairperson of the governing board or committee shall, if appropriate, appoint a disinterested person or committee to investigate alternatives to the proposed transaction or arrangement.
- c. After exercising due diligence, the governing board or committee shall determine whether the ETO can obtain with reasonable efforts a more advantageous transaction or arrangement from a person or entity that would not give rise to a conflict of interest.
- d. If a more advantageous transaction or arrangement is not reasonably possible under circumstances not producing a conflict of interest, the governing board or committee shall determine by a majority vote of the disinterested directors whether the transaction or arrangement is in the ETO's best interest, for its own benefit, and whether it is fair and reasonable. In conformity with the above determination it shall make its decision as to whether to enter into the transaction or arrangement.



#### 4. Violations of the Conflicts of Interest Policy

- a. If the governing board or committee has reasonable cause to believe a member has failed to disclose actual or possible conflicts of interest, it shall inform the member of the basis for such belief and afford the member an opportunity to explain the alleged failure to disclose.
- b. If, after hearing the member's response and after making further investigation as warranted by the circumstances, the governing board or committee determines the member has failed to disclose an actual or possible conflict of interest, it shall take appropriate disciplinary and corrective action.

#### Section 4 Records of Proceedings:

The minutes of the governing board and all committees with board delegated powers shall contain:

1. The names of the persons who disclosed or otherwise were found to have a financial interest in connection with an actual or possible conflict of interest, the nature of the financial interest, any action taken to determine whether a conflict of interest was present, and the governing board's or committee's decision as to whether a conflict of interest in fact existed.
2. The names of the persons who were present for discussions and votes relating to the transaction or arrangement, the content of the discussion, including any alternatives to the proposed transaction or arrangement, and a record of any votes taken in connection with the proceedings.

#### Section 5 Compensation:

1. A voting member of the governing board who receives compensation, directly or indirectly, from the ETO for services is precluded from voting on matters pertaining to that member's compensation.
2. A voting member of any committee whose jurisdiction includes compensation matters and who receives compensation, directly or indirectly, from the ETO for services is precluded from voting on matters pertaining to that member's compensation.
3. No voting member of the governing board or any committee whose jurisdiction includes compensation matters and who receives compensation, directly or indirectly, from the ETO, either individually or collectively, is prohibited from providing information to any committee regarding compensation.

#### Section 6 Annual Statements:

Each director, principal officer and member of a committee with governing board delegated powers shall annually sign a statement which affirms such person:

1. Has received a copy of the conflicts of interest policy,
2. Has read and understands the policy,

3. Has agreed to comply with the policy, and
4. Understands the ETO is charitable and in order to maintain its federal tax exemption it must engage primarily in activities which accomplish one or more of its tax-exempt purposes.

Section 7 Periodic Annual Executive Committee Reviews:

1. To ensure the ETO operates in a manner consistent with charitable purposes and does not engage in activities that could jeopardize its tax-exempt status, Annual reviews shall be conducted. The Annual reviews shall, at a minimum, include the following subjects:
  - a. Whether outside party compensation arrangements and benefits are reasonable, based on competent survey information and the result of arm's length bargaining.
  - b. Whether partnerships, joint ventures, and arrangements with management ETOs conform to the ETO's written policies, are properly recorded, reflect reasonable investment or payments for goods and services, further charitable purposes and do not result in inurement, impermissible private benefit or in an excess benefit transaction.
  - c. Conduct an Annual Review of the Finance Committee Report of Finance and Property Transactions.

Section 8 Use of Outside Experts:

When conducting the periodic reviews as provided for in Section 7, ETO may, but need not, use outside advisors. If outside experts are used, their use shall not relieve the governing board of its responsibility for ensuring periodic reviews are conducted.

APPROVED 1/8/2010 by Unanimous vote of the Board of Directors of Electrathon of Tampa Bay at a meeting at Middleton High School.

Amended 5/25/2010 by Unanimous vote of the Board of Directors of Electrathon of Tampa Bay.Org at a meeting at Apparition-Levy Technical Center

Amended 6/6/11 by Electronic Circulation and Recorded Response Below:

1. Charles Harrison (Y) 4. Fredi Cary (Y) 7. George Nieves (Y) 10. Ken Nay(Y)
2. Gilbert Truitt (Y) 5. Mike Frederick (Y) 8. David Reese (Y) 11. Sean Motta (Y)
3. Debbie Alfonso-Harrison (Y) 6. Ken Fiallos (Y) 9. Anthony Rinaldi (Y) 12. Mark Frost(Y)

# *State of Florida*

## *Department of State*

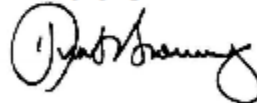
I certify from the records of this office that **ELECTRATHONOFTAMPABAY.ORG INCORPORATED** is a corporation organized under the laws of the State of Florida, filed on August 20, 2008, effective August 20, 2008.

The document number of this corporation is N08000007846.

I further certify that said corporation has paid all fees due this office through December 31, 2011, that its most recent annual report was filed on April 20, 2011, and its status is active.

I further certify that said corporation has not filed Articles of Dissolution.

*Given under my hand and the Great Seal of Florida, at Tallahassee, the Capital, this the Twenty First day of April, 2011*



*Secretary of State*



Authentication ID: 000202979170-042111-N08000007846

To authenticate this certificate, visit the following site, enter this ID, and then follow the instructions displayed.

<https://efile.sunbiz.org/certauthver.html>

Appendix C: Articles of Incorporation (Original)

**ARTICLES OF INCORPORATION**  
In Compliance with Chapter 617, F.S., (Not for Profit)

**ARTICLE I NAME**

The name of the corporation shall be:  
ElectrathonofTampabay.Org Incorporated

**ARTICLE II PRINCIPAL OFFICE**

The principal place of business and mailing address of this corporation shall be:  
9608 Joe Ebert Road  
Seffner, Florida 33584

**ARTICLE III PURPOSE**

The purpose for which the corporation is organized is:  
The purpose of Electrathonof Tampabay.Org Incorporated is the Promotion and Education of Tampabay students and the general public about Electrical Vehicle Technologies, Electrathon Racing and Solar Sprint Racing and related endeavors.

**ARTICLE IV MANNER OF ELECTION**

The manner in which the directors are elected or appointed:  
The Officers listed herein shall be elected by the majority vote of the membership of ElectrathonofTampaBay.Org annually or as circumstances may dictate.

**ARTICLE V INITIAL DIRECTORS AND/OR OFFICERS**

List name(s), address(es) and specific title(s):  
David N.Smith, President 19110 St. Laurent Drive, Lutz FI 33558  
Jim Truitt, Vice President 1786 Lakeview Village Dr.Brandon, FL. 33510  
Vic Nieves, Treasurer 7323 Brookview Cir,Tampa, FI 33634  
Ken Fiallos, Executive Director 9608 Joe Ebert Road, Seffner, FI 33584  
Mike Frederick, Associate Director 459 Holiday Blvd, Lakeland, FI 33815

**ARTICLE VI INITIAL REGISTERED AGENT AND STREET ADDRESS**

The name and Florida street address (P.O. Box NOT acceptable) of the registered agent is:  
Kenneth A. Fiallos  
9608 Joe Ebert Road  
Seffner, FI 33584

**ARTICLE VII INCORPORATOR**

The name and address of the Incorporator is:  
Kenneth A. Fiallos  
9608 Joe Ebert Road  
Seffner, FI 33584

\*\*\*\*\*  
*Having been named as registered agent to accept service of process for the above stated corporation at the place designated in this certificate, I am familiar with and accept the appointment as registered agent and agree to act in this capacity.*

\_\_\_\_\_  
Signature/Registered Agent

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature/Incorporator

\_\_\_\_\_  
Date

Appendix D: Amended Articles

Amendment Section Amendment Section

Division of Corporations Division of Corporations  
P.O. Box 6327 Clifton Building  
Tallahassee, FL 32314 2661 Executive Center Circle  
Tallahassee, FL 32301

**ELECTRATHONoftAMPABAY.ORG INCORPORATED**  
**N08000007846**

**KENNETH A. FIALLOS**  
**ELECTRATHONoftAMPABAY.ORG INCORPORATED**  
**9608 JOE EBERT ROAD**  
**SEFFNER, FLORIDA 33584-2647**  
**KFIALLOS@TAMPABAY.RR.COM**  
**KENNETH A. FIALLOS 813 431-1290**

**Articles of Amendment**

**to**

**Articles of Incorporation**

**of**

**(Name of Corporation as currently filed with the Florida Dept. of State)**

**(Document Number of Corporation (if known))**

Pursuant to the provisions of section 617.1006, Florida Statutes, this *Florida Not For Profit Corporation* adopts the following amendment(s) to its Articles of Incorporation:

**A. If amending name, enter the new name of the corporation:**

*The new name must be distinguishable and contain the word "corporation" or "incorporated" or the abbreviation "Corp." or "Inc." "Company" or "Co." may not be used in the name.*

**B. Enter new principal office address, if applicable:**

**(Principal office address MUST BE A STREET ADDRESS )**

**C. Enter new mailing address, if applicable:**

**(Mailing address MAY BE A POST OFFICE BOX)**

**D. If amending the registered agent and/or registered office address in Florida, enter the name of the new registered agent and/or the new registered office address:**

*Name of New Registered Agent:*

*New Registered Office Address: (Florida street address)*

*, Florida*

*(City) (Zip Code)*

**New Registered Agent's Signature, if changing Registered Agent:**

*I hereby accept the appointment as registered agent. I am familiar with and accept the obligations of the position.*

*Signature of New Registered Agent, if changing*

**Page 1 of 3**

**ELECTRATHONoftAMPABAY.ORG INCORPORATED**  
**N08000007846**

N/A

N/A

N/A

N/A

N/A

N/A

N/A

**If amending the Officers and/or Directors, enter the title and name of each officer/director being removed and title, name, and address of each Officer and/or Director being added:**

*(Attach additional sheets, if necessary)*

**Title Name Address Type of Action**

- Add
- Remove
- Add
- Remove
- Add
- Remove

**E. If amending or adding additional Articles, enter change(s) here:**  
*(attach additional sheets, if necessary). (Be specific)*

**Page 2 of 3**

Dir. of Commu Outreach **ROBERT CLARKE** 1510 Highcrest Circle ✓  
 Valrico, FL 33596

Treasurer **GEORGE NIEVES** 7323 Brockview Circle  
 Tampa, FL 33634 ✓

Dir. of Communications **GEORGE NIEVES** 7323 Brockview Circle ✓  
 Tampa, FL 33634

Non Profit Florida Corporation, organized exclusively for the purposes of the Advancement of Science and Engineering Education through Educational Programs and Engineering Sports Competitions involving solely Transportation Technologies and Systems in Publicly Supported K12 Public Schools and Colleges and Churches located in Tampa Bay Area's (8) Florida Counties consisting of Citrus, Hernando, Hillsborough, Manatee, Pasco, Pinellas Polk and Sarasota Counties. Such purposes shall include, educational seminars, program design and logistics, making grants to, holding competitions for, the supported member organizations of ETO in strict conformance to the purposes contained in Section 501(3)(c) of the Internal Revenue Code. ETO will be operated as the supporting organization "operating in connection with" its founding supported organizations consisting of 1. Brandon High School as represented by Brandon High School Electric Car Club, 2. King High School as represented King High School Technology Club, 3. Middleton High School as represented by the Middleton Student Branch of the American Institute of Aeronautics and Astronautics and 4. Tampa Bay Technical High School as represented by the Tampa Bay Technical High School Electric Car Club under the administrative supervision of the Customer Service and Support Department of Hillsborough County Public Schools Division of Information and Technology as subject to its Bylaws adopted by the supported organizations ."

Remove in its entirety Article III and replace with: "Electrathon of Tampabay (herein referred to as ETO), a

**See Attachment 1**

See Attachment 2

**The date of each amendment(s) adoption:**

*(date of adoption is required)*

**Effective date if applicable:**

*(no more than 90 days after amendment file date)*

**Adoption of Amendment(s) (CHECK ONE)**

The amendment(s) was/were adopted by the members and the number of votes cast for the amendment(s) was/were sufficient for approval.

There are no members or members entitled to vote on the amendment(s). The amendment(s) was/were adopted by the board of directors.

Dated

Signature

(By the chairman or vice chairman of the board, president or other officer-if directors have not been selected, by an incorporator – if in the hands of a receiver, trustee, or other court appointed fiduciary by that fiduciary)

(Typed or printed name of person signing)

(Title of person signing)

**Page 3 of 3**

SEPTEMBER 1, 2009  
SEPTEMBER 28, 2009

**Attachment 1**

**1 of 2**

Articles of Amendment  
to  
Articles of Incorporation  
Of  
ElectrathonofTampabay.Org Incorporated  
Document No. N08000007846

Title Name Address  
Treasurer  
Fred Cary  
3510 High Hampton Circle  
Tampa, Florida 33610

**Attachment 2**

**2 of 2**

Articles of Amendment  
to  
Articles of Incorporation  
Of  
ElectrathonofTampabay.Org Incorporated  
Document No. N08000007846

ADD: Article IX

Non-Profit Corporation Policies and Net Earnings

ETO shall not conduct any activities not permitted under Section 501(3)(c)

No part of its net earnings of the ETO shall inure to the benefit of any officer or member of ETO, or any private individual or company except that reasonable compensation may be paid for services and/or goods rendered to the corporation affecting one or more of its purposes.

ETO shall not participate in or intervene in any political campaign or advocate for any issue on behalf the organization.

ADD: Article X

Dissolution

In the event of dissolution or liquidation of ETO the distribution of assets as determined by majority of vote of it membership shall be exclusively charitable or educational and be consistent with the provisions of Section 501(3)(c)

ADD: Article XI

Non Discrimination Policy

ETO in pursue of its 501(3)(c) purposes shall not discriminate against any individual or group meeting the provisions of 501(3)(c) on the basis of Sex, Sexual Orientation, Age, Origin, Economic Circumstance, Creed or Race.



## Appendix E. Electrathon of Tampa Bay Board , Volunteers and Advisers

1. Lt. Charles Harrison, ETO President, HCPS Security Services (Executive Committee)
2. Gilbert (Jim) Truitt, ETO Vice President, Tampa Bay Technical (Executive Committee)
3. Harold Andrews, ETO Director Of Statistics and Programs Assessment
4. Debbie Alonso-Harrison, ETO Recording Secretary (Executive Committee)
5. Fredi Cary, ETO Publicist and Treasurer (Executive Committee)
6. Bob Clarke ETO Director of Community Outreach
7. Pat Bias, Back Office Volunteer
8. Scott Mead, ETO Board Member Middleton High
9. Cyd Nagy, Back Office Volunteer
10. Michael Frederick, ETO Associate Executive Director (Executive Committee)
11. Greg Verrill, Director JSS, Lomax Magnet Elementary (Executive Committee)
12. Thomas Beck, Event Volunteer
13. Gail Jayson, ETO Director of Grants, Durant High School
14. Terese O'Connell, ETO Event Volunteer
15. Kenneth Fiallos P.E., ETO Executive Director (Executive Committee)
16. Kenneth Nay ETO Board Member Plant City High
17. George Nieves ETO Board Member Brandon High
18. Louis Nagy, ETO Board Member, King High School
19. Jonathan Smith, ETO Board Member, Foundation Christian Academy
20. Alessandro Anzalone PhD, ETO Board Member, Hillsborough Community College
21. John Camacho, ETO Board Member, ASME@USF
22. Gordon Jones, Event Chef
23. Chris McLaughlin Event DJ
24. Irene McLaughlin Event Volunteer
25. Karyl Pelligrino, Event Volunteer

### Advisors

1. Sean Denny, IEEE RAS
2. Alan Geer, CPA, Temple Terrace, Fl
3. James Robinson, Electrathon America
4. Sean Motta, ASME
5. Henrik Jeanty PhD, USF Computer Science

## SkillsUSA Florida now has Six Regions



## APPENDIX G: Race Schedules

### 2011-2012 Race Schedule

1. 9/17/11 Hillsborough Community College (Road)
2. 10/08/11 Tampa Bay Technical (Oval)
3. 11/05/11 Plant City High (Road)
4. 12/03/11 Middleton High (Road)
5. 1/14/12 North East High Pinellas (Oval)
6. 2/25/12 USF Engineering Expo (Road) (Displays on 2/24/12)
7. 3/17/12 Aparicio-Levy (Road)
8. 4/14/12 Green STEM Florida State Fair Grounds
9. 5/05/12 Cinco de Mayo Florida Solar Energy Center (Oval )

### 2010-2011 Races COMPLETED:

1. 9/11/10, Tampa Bay Tech, Road
2. 10/30/10, Great Pumpkin Chase, Aparicio-Levy, Road
3. 12/04/10, Middleton High, Road
4. 1/29/11, Brandon High, Oval
5. 2/19/11, USF ASME, Road (our biggest and best)
6. 3/26/11, Plant City High Electric Raider 1075' Oval
7. 4/16/11, Emerald Coast 120 Pensacola Oval
8. 4/17/11 Demo Race Tallahassee Auto Museum
9. 5/14/11, Run for the Peaches Quitman, Georgia
10. 5/21/11 Green STEM Electrathon Festival  
Fla State Fair Grounds