

# THE AWARDS



# TABLE OF CONTENTS

5 THE AWARDS	
5.1 FIRST ROBOTICS COMPETITION AWARDS	
<ul> <li>5.2 DAIMLERCHRYSLER TEAM SPIRIT AWARD</li></ul>	3
5.3 DELPHI "DRIVING TOMORROW'S TECHNOLOGY <sup>™</sup> AWARD	3
5.4 ENGINEERING INSPIRATION AWARD	
5.5 GENERAL MOTORS INDUSTRIAL DESIGN AWARD	
5.6 HIGHEST ROOKIE SEED AWARD	3
5.7 IMAGERY AWARD	
5.8 *ROCKWELL AUTOMATION INNOVATION IN CONTROL AWARD	
5.9 JOHNSON & JOHNSON - SPORTSMANSHIP AWARD	
5.10 JUDGES' AWARD	4
5.11 KLEINER PERKINS CAUFIELD & BYERS ENTREPRENEURSHIP AWARD	
5.12 MOTOROLA QUALITY AWARD	
5.13 REGIONAL FINALIST (REGIONAL ONLY)	
5.14 REGIONAL WINNER (REGIONAL ONLY)	4
5.15 ROOKIE ALL-STAR AWARD	
5.16 ROOKIE INSPIRATION AWARD	
5.17 INDUSTRIAL SAFETY AWARD	
5.18 XEROX CREATIVITY AWARD	
5.19 WEBSITE AWARD	
5.19.1 Submission and Deadline Information	
5.19.2 Scoring Criteria	
5.19.3 Evaluating Process	
5.19.4 Award Presentation	
5.19.5 2007 Website Award Scoring Sheet	1
5.20 WOODIE FLOWERS AWARD	
5.20.1 Award is Students' Choice	
5.20.2 Spirit of the Award	
5.20.3 Judging Criteria	
5.20.4 Entry Requirements	
5.20.5 Submission Deadline	
5.20.6 Entry Process	
5.20.7 Prior Regional Woodie Flowers Award Winners	
5.21 CHAIRMAN'S AWARD	6
5.21.1 Overview	6
5.21.2 First-Year (Rookie) and NASA Grant Teams:	
5.21.3 Submission Information	
5.21.4 Judging Process	9
5.21.5 The Allaire Medal - Leadership Exemplified	
5.22 HALL OF FAME (CHAMPIONSHIP ONLY)	
5.22.1 DVD Submission	.10
© <i>FIRST</i> 2007 <i>FIRST</i> Robotics Competition Manual, Section 5 – The Awards Page 1 of 20	

5.22.2 Display Specifications	.10
5.22.3 Hall of Fame Teams	.10
5.23 THE FOUNDER'S AWARD (CHAMPIONSHIP ONLY)	.11
5.24 THE AUTODESK INVENTOR AWARD (CHAMPIONSHIP ONLY)	.11
5.24.1 Purpose of Award:	.11
5.24.2 Award Overview	
5.25 THE AUTODESK VISUALIZATION AWARD (CHAMPIONSHIP ONLY)	.12
5.25.1 Purpose of Award	.12
5.25.2 Award Overview	
5.26 CHAMPION (CHAMPIONSHIP ONLY)	.12
5.27 CHAMPIONSHIP FINALIST (CHAMPIONSHIP ONLY)	.12
5.28 DIVISION FINALIST (CHAMPIONSHIP ONLY)	
5.29 DIVISION CHAMPION (CHAMPIONSHIP ONLY)	.12
5.30 FIRSTAWARDS.ORG SITE	.12
5.30.1 Formatting	.12
5.30.2 Accounts	.12
5.30.3 Verification of Submission	.13
5.31 GET PUBLISHED	
5.31.1 About the Publisher	.13
5.31.2 The Content of the Book	
5.31.3 How It All Works	.13
5.31.4 Submission Requirements	.14
5.31.5 Electronic Submission Guidelines	.14
5.31.6 Submission Questionnaire	.16
5.31.7 F. A. Q's	.19
5.32 GRANT OF RIGHTS	.20

# 5 THE AWARDS

#### 5.1 FIRST ROBOTICS COMPETITION AWARDS

This chapter contains descriptions of the *FIRST* Robotics Competition Awards as well as any required submission criteria. Note an asterisk designates a new or "changed" award in the listing. The "Innovation in Control" Award was previously known as the RadioShack Innovation in Control Award. Unless otherwise noted all awards are given at both the Regional events and the *FIRST* Championship.

*FIRST* will hold an Awards Celebration at each Regional and at the Championship presenting these awards.

#### 5.2 DAIMLERCHRYSLER TEAM SPIRIT AWARD

This award celebrates extraordinary enthusiasm and spirit through exceptional partnership and teamwork.

# 5.3 DELPHI "DRIVING TOMORROW'S TECHNOLOGY<sup>™</sup>, AWARD

This award celebrates an elegant and advantageous machine feature. This award recognizes any aspect of engineering elegance including, but not limited to: design, wiring methods, material selection, programming techniques, and unique machine attributes. The criteria for this award are based on the team's ability to concisely describe verbally, as well as demonstrate, this chosen machine feature.

#### 5.4 ENGINEERING INSPIRATION AWARD

This award celebrates a team's outstanding success in advancing respect and appreciation for engineering and engineers, both within their school as well as their community. Criteria include: the extent and inventiveness of the team's efforts to recruit students to engineering, the extent and effectiveness of the team's community outreach efforts, and the measurable success of those efforts. This is the second highest team award *FIRST* bestows.

#### 5.5 GENERAL MOTORS INDUSTRIAL DESIGN AWARD

This award celebrates form and function in an efficiently designed machine that effectively achieves the game challenge.

#### 5.6 HIGHEST ROOKIE SEED AWARD

This award celebrates the highest-seeded rookie team at the conclusion of the qualifying rounds.

#### 5.7 IMAGERY AWARD

This award celebrates attractiveness in engineering and outstanding visual aesthetic integration from the machine to team appearance.

## 5.8 \*ROCKWELL AUTOMATION INNOVATION IN CONTROL AWARD

This award celebrates an innovative control system or application of control components to provide unique machine functions.

#### 5.9 JOHNSON & JOHNSON - SPORTSMANSHIP AWARD

This award celebrates outstanding sportsmanship and continuous gracious professionalism in the heat of competition, both on and off the playing field.

#### 5.10 JUDGES' AWARD

During the course of the competition, the judging panel may encounter a team whose unique efforts, performance, or dynamics merit recognition.

# 5.11 KLEINER PERKINS CAUFIELD & BYERS ENTREPRENEURSHIP AWARD

This award celebrates the entrepreneurial spirit. This award recognizes a team, which since its inception has developed the framework for a comprehensive business plan in order to scope, manage, and obtain team objectives. This team displays entrepreneurial enthusiasm and the vital business skills for a self-sustaining program.

## 5.12 MOTOROLA QUALITY AWARD

This award celebrates machine robustness in concept and fabrication.

## 5.13 REGIONAL FINALIST (REGIONAL ONLY)

This award celebrates the team or alliance that makes it to the final match of the competition.

## 5.14 REGIONAL WINNER (REGIONAL ONLY)

This award celebrates the team or alliance that wins the competition.

## 5.15 ROOKIE ALL-STAR AWARD

This award celebrates the rookie team exemplifying a young but strong partnership effort, as well as implementing the mission of *FIRST* to inspire students to learn more about science and technology.

**NOTE:** We encourage, but do not require, rookie teams to enter a Chairman's Award submission relative to this award.

#### **5.16 ROOKIE INSPIRATION AWARD**

This award celebrates a rookie team's outstanding success in advancing respect and appreciation for engineering and engineers both within their school, as well as in their community. It is the 2<sup>nd</sup> highest honor *FIRST* bestows to a rookie team.

## 5.17 INDUSTRIAL SAFETY AWARD

This award celebrates the team that progresses beyond safety fundamentals by using innovative ways to eliminate or protect against hazards. The winning team consistently demonstrates excellence in industrial safety performance that shines throughout the competition from uncrating to re-pack.

## 5.18 XEROX CREATIVITY AWARD

This award celebrates creative design, use of a component, or a creative or unique strategy of play.

#### 5.19 WEBSITE AWARD

The Website Award recognizes excellence in student-designed, built, and managed *FIRST* team websites. Eligible websites are scored *PRIOR* to the competition by a panel of evaluators. **Two** subcategories of awards will be given for website design:

- 1) "Website Excellence"
- 2) "Best Website"

Every submission that meets the *FIRST* website design standards of excellence will receive the Website Excellence award. Website Excellence award winners will receive an electronic certificate to include on their websites. At each Regional Competition, there will be one award for Best Website. The overall championship Best Website award winners will be chosen from among the regional winners.

#### 5.19.1 Submission and Deadline Information

Only team websites that are entered into *First*awards.org by **11:59 p.m. EST on February 22**, **2007** will be evaluated. Team websites are eligible for these awards at every regional event in which the team is competing. You must enter your website separately into each event where you want it evaluated. The websites must be completed and functioning by the date of submission. Any website found to be "down," and not able to be viewed by the evaluators, will be disqualified at that particular event.

Any website, which in the evaluator's opinion, contains distasteful or objectionable material will be disqualified from consideration in all events in which the website was entered. Any team whose website is disqualified will be notified by e-mail of the disqualification and the reason for it.

Only one electronic Website Excellence certificate will be awarded per team for the entire competition season. A team is eligible to win the Best Website award at multiple regional events.

## 5.19.2 Scoring Criteria

The following criteria will be used to evaluate the Website Awards:

#### 5.19.2.1 General

The ideal website is a genuine reflection of the team, its participants, spirit, and goals. It should not be just a bulletin board with information accessible via a menu. It should tell an individual story and also detail how it is part of the larger *FIRST* community.

#### 5.19.2.2 Content and Design

The content (text, pictures, music, etc,) and design of a website should work together to provide a pleasing user experience. Good content with a confusing interface, or vice versa, will not be scored as highly as a site with better balance.

#### 5.19.2.3 Content (25 points)

Does the website:

Clearly tell the team story and articulate its mission?

Include recognition of sponsors and volunteers?

Explain *FIRST* and promote its vision?

Include helpful resources for other FIRST teams?

Contain interesting non-text content such as music, sound, animation, or video?

#### 5.19.2.4 Structure and Navigation (25 points)

How easy is it, in general, to navigate throughout the site?

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Does it have HTML links that provide easy access to external content?

Do links open new, separate browser windows?

Is important information easily accessible?

Is there a prominent link to the FIRST website on the home page?

#### 5.19.2.4.1 Visual Design (25 points)

- Is the site engaging, and does it encourage exploration?
- Does the website:
- Communicate a visual experience reflective of the team identity?
- Use color and iconography in a consistent way?
- Use the official FIRST logo?
- Include photos of the team participants, volunteers, and sponsors?

#### 5.19.2.5 Functionality and Interactivity. (25 points)

- Does the website work well?
- Does the home page load quickly?
- Do the links work throughout the site?
- Does it take into consideration those with diverse user requirements including file sizes, file formats, special access needs, (i.e. alt tags for images) and download speeds?
- Are there effective opportunities for a visitor to interact with the website?

## 5.19.3 Evaluating Process

Each website submitted for consideration will be reviewed by a panel of evaluators prior to each competition.

There will be no on-site interviews. If the evaluators have questions about a particular website, they may contact the team via email prior to the competition to resolve their questions.

Websites receiving a score of 80% or more, but not winning the Regional Best Website Award, will receive the Website Excellence Award.

## 5.19.4 Award Presentation

Each team that wins Best Website at a competition will receive an award at that event.

Teams that earn the Website Excellence award will receive an e-mailed, electronic certificate to place on their websites following the Championship.

# 5.19.5 2007 Website Award Scoring Sheet

Event:

Content (25 points)       Image: Content (25 points)         Does the website clearly tell the team story and articulate their mission?       Does the website include recognition of sponsors and volunteers?         How well does the site explain <i>FIRST</i> and promote its vision?       Does the website include helpful resources for other <i>FIRST</i> teams?         Does the website contain interesting non-text content such as music, sound, animation, or video?       Image: Content such as music, sound, animation, or video?         Structure and Navigate through the site?       Does it have HTML links that provide easy access to external content?         Is it easy to navigate through the site?       Does it have HTML links that provide easy access to external content?         Is is there a prominent link to the <i>FIRST</i> website?       Do links open new, separate browser windows?         Visual Design (25 points)       Image: Content accessible?         Does the website communicate a visual experience reflective of the team identity?       Is the site engaging and does it encourage exploration?         Does the website homepage use the official <i>FIRST</i> logo?       Image: Content accessible?         Does the website homepage use the official <i>FIRST</i> logo?       Image: Content accessible?         Does the website homepage use the official <i>FIRST</i> logo?       Image: Content accessible?         Does the website homepage load quickly?       Does the site work well?         Does the site work well?       Image: Content accessible?		Event:	#	#	#	#	#
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# 5.20 WOODIE FLOWERS AWARD

The Woodie Flowers Award celebrates effective communication in the art and science of engineering and design. Dr. William Murphy and Small Parts, Inc. founded this prestigious award in 1996 to recognize mentors who lead, inspire, and empower using excellent communication skills.

*FIRST* will recognize one adult team member at each of the thirty-seven (37) Regional Competitions as a Woodie Flowers Finalist Award (WFFA) winner. These finalists will be combined with past years' WFFA winners, and one will be judged to receive the Woodie Flowers Award at the 2007 Championship in Atlanta.

Past winners of this award also include: Elizabeth Calef, Teacher, Bridgewater-Raynham Regional High School (1997); Michael Bastoni, Teacher, Plymouth North High School (1998); Ken Patton, Engineer, GM Powertrain (1999); Ms. Kyle Hughes, Teacher, OSMTech Academy (2000); and William Beatty, Beatty Machine & Manufacturing Company (2001); David Verbrugge, Engineer, GM Proving Ground (2002); Andy Baker, Engineer, Delphi Automotive Systems (2003); David Kelso, Teacher, Central High School (2004), Paul Copioli, Staff Engineer, FANUC Robotics America (2005), and Rob Mainieri, Teacher, The Preuss School at UCSD (2006).

#### 5.20.1 Award is Students' Choice

High school students on a *FIRST* Robotics team will choose one adult team member as their WFFA candidate. They will describe how this mentor has given them the best understanding of the challenges, opportunities, and satisfaction involved in the discipline of engineering and design. Professor Flowers will lead the past Championship Woodie Flowers Award (WFA) winners as they judge and select the 2007 Finalists and Championship winner based on student essays.

Team mentors should direct their students to the entry site and let the student nominators decide who to nominate. Adults can help edit, but this must be a student-led effort, since any team mentor is eligible. Authors must be clearly identified as high school students in the submission paperwork.

## 5.20.2 Spirit of the Award

Two aspects of this award are important. The accomplishments in communication by the mentor are essential. Also important is the student's ability to communicate clearly and concisely through their written nomination. This award recognizes an individual who has done an outstanding job of motivation through communication while also challenging the student body to be clear and succinct in recognizing the value of communication.

In the spirit of recognizing additional deserving mentors, past WFFA winners are not eligible to win the Regional award again. These previously recognized mentors are only eligible to win the Championship WFA.

## 5.20.3 Judging Criteria

Each FRC team may nominate one candidate to be a WFFA winner. This candidate must be an adult mentor on the same team as the student nominator(s). Students may also re-nominate one of their team's past WFFA winners by submitting a new essay for this past Finalist to be eligible for the Championship WFA. Judging criteria is based on the team's description of how the mentor inspired each member of the team in some or all of the following ways:

- Level of student participation
- Creativity of effort

- Clear explanation of mathematical, scientific, and engineering concepts
- Demonstration of enthusiasm for science and engineering
- Encouragement to work on projects as a team effort
- Inspiration to use problem-solving skills
- Inspiration to become an effective communicator

Each *FIRST* team completes a product development cycle as it designs a concept, develops a prototype, and builds and debugs a unique machine. This requires teamwork, attention to detail, scheduling, and hard work. The award-winning essay should answer this question; "How did the candidate inspire your team throughout this process?" If the essay best describes how this individual excels above all others as he or she inspires the team, then that mentor truly deserves to be recognized with the award that honors Professor Woodie Flowers and his contribution to engineering, education, and communication.

## 5.20.4 Entry Requirements

Students enter their candidate at the Woodie Flowers Award entry web page: <u>www.firstawards.org/</u>They enter team and candidate information, reference information, and a six hundred-word (600) essay, written in English. Teams may also add up to six (6) pictures, totaling no more than 1.0 Mb. of memory. This essay should be a team effort and will stand alone as the team's entry to award their candidate the deserved recognition.

For students to re-nominate a past WFFA winner (one per team) for the WFA, they must write a new six hundred word essay.

As in the past, teams may only submit at one Regional competition for judging. Teams submitting for both the Chairman's Award and the Woodie Flowers Award should note that both awards are judged at the same event. Students working on the Woodie Flowers Award submission and those team members working on the Chairman's Award submission must coordinate to select the best event for the team.

#### 5.20.5 Submission Deadline

The Woodie Flowers Award entries are due on Thursday, February 22<sup>rd</sup> at 11:59 p.m. EST.

## 5.20.6 Entry Process

The Woodie Flowers Award submission is submitted on-line at <u>www.firstawards.org/</u>. Nomination entry directions are listed on this site. This site will be available beginning January 16<sup>th</sup>, 2007 at noon EST.

Student nominators must follow the directions listed on the screen. Each team can only submit one WFFA candidate for this award. Teams can also enter an essay for one of their team's past WFFA winners (if applicable) in order to make them eligible for the Championship WFA. As the student nominator fills out the required information, he/she will choose their selected regional.

Student nominators can easily enter information, save it, and return to the site to edit their entry information until they are ready to submit it for judging. All entries will be final on Thursday, February 22<sup>nd</sup> at 11:59 p.m. EST (midnight). No entries will be accepted or altered after this date.

Students will go to the website to enter information in the following fields:

#### Team Number

Candidate Information: First Name, Middle Initial, Last Name Address, City, State, zip code Employer Occupation Position on team

#### High School Student Nominator's information: (Student recommending candidate)

First Name, Last Name Phone Number High School E-mail Address Position on Team Year in School (9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup>)

#### Adult Reference (On the same team)

First Name, Last Name Phone Number E-mail Address Position on Team

#### Adult Reference (Any FIRST affiliation)

First Name, Last Name Phone Number E-mail Address

Regional Selection (Team must attend this Regional)

Upload Pictures (Up to 6, no more than 1.0 Mb total)

**Essay** (600 words or less) - The students will see a quote from Dr. Murphy and/or Woodie about the value of concise and clear writing. Once candidates' information and essays are submitted, they are sorted and posted on a private, password-protected site where only the Judges can read the entries. Each Regional will have its candidates listed and the Judges will review the Prior Regional Woodie Flowers Award Winners

#### 5.20.7 Prior Regional Woodie Flowers Award Winners

A team may refresh the submission of any past WFFA winner on their team for their eligibility to win the Championship WFA. Only one past year WFFA winner per team can be eligible for the Championship WFA. Student nominators will not be able to edit the original submission but can refresh it by adding a new 600-word (maximum) essay to make the submission current. Past winners without a new essay will not be eligible for the WFA in 2007.

Judges will read only the new essay.

Students nominators who entered an essay for a past year WFFA winner and for a 2007 WFFA winner will be asked to pick between one of the two mentors to be their team's Championship WFA candidate. Each *FIRST* team can have a maximum of one candidate for the Championship WFA.

# 5.21 CHAIRMAN'S AWARD

The concept of the Chairman's Award includes Regional Chairman's Awards, which enable *FIRST* to recognize more teams for their exemplary efforts in spreading the *FIRST* message, as well as their talents in organizing materials for their presentations. Refer to the *Chairman's Award* section for specifics.

The winning entries of the Regional Chairman's Awards will travel to the Championship for the continuing process of consideration for the most prestigious 2007 Chairman's Award.

The *FIRST* Robotics Competition is about much more than the mechanics of building a robot or winning a competitive event. It is about the partnership among people who are part of the *FIRST* community and the impact on those who participate in *FIRST* programs with a united goal of achieving *FIRST*'s mission. *FIRST*'s mission is to change the way young people regard science and technology and to inspiring an appreciation for the real-life rewards and career opportunities in these fields.

## 5.21.1 Overview

The Chairman's Award was created to keep the central focus of the *FIRST* Robotics Competition as our ultimate goal for transforming the culture in ways that will inspire greater levels of respect and honor for science and technology, as well as encourage more of today's youth to become scientists, engineers, and technologists

The Chairman's Award represents the spirit of *FIRST*. It honors the team that, in the judges' estimation, best represents a model for other teams to emulate, and which embodies the goals and purpose of *FIRST*. It remains *FIRST*'s most prestigious award.

*FIRST* will present a Regional Chairman's Award at each regional competition. There are thirtyseven (37) regional competitions scheduled for the 2007 season, therefore, there will be thirtyseven Regional Chairman's Award winners. Only the winners of the Regional Chairman's Award will be eligible to compete for the Chairman's Award presented at the *FIRST* Championship.

Hall of Fame members, a/k/a teams that have already won the Chairman's Award are ineligible to compete for the Regional Chairman's Award. However, as *FIRST* believes that the process of submitting for the Chairman's Award is a very valuable exercise in itself, *FIRST* encourages Hall of Fame members to complete a submission which will be used by Hall of Fame judges to verify that each Hall of Fame team is maintaining its Hall of Fame status. Accordingly, all submissions by Hall of Fame teams will be electronically routed to a folder judging as part of the Hall of Fame.

# 5.21.2 First-Year (Rookie) and NASA Grant Teams:

Because the Chairman's Award recognizes sustained excellence and impact, not just a oneyear team effort, it is not possible for a first-year (rookie) team to receive this honor. However, *FIRST* invites and encourage rookies to develop a Chairman's Award submission which may be evaluated by the judges determining the winner of the **Rookie All-Star Award**. This submission will document where your team started its *FIRST* journey and will also provide background for documenting the results of your team's efforts – it will be a great way to start your team's efforts to win the Chairman's Award. *Rookie Teams*: If you prepare a Regional Chairman's Award, print a copy to give the Judges when they visit you at your Pit Station, judges will not be viewing them online.

Teams receiving **NASA Grants** must provide a copy of this submission as part of the grant.

All teams are encouraged to print a copy of their final submission for their records and to confirm for themselves that the submission was accepted.

## 5.21.3 Submission Information

The criteria for the 2007 Chairman's Award are essentially identical to those in 2006, with special emphasis on recent accomplishments in both the 2006/2007-year and the preceding two years. The judges focus on teams' activities over a sustained period, as distinguished from just the six-week design-and-build time frame.

The *FIRST* Robotics Competition is not about machines; it is about the experience of people working together toward a shared goal. Documenting and preserving your team's *FIRST* experience becomes an important component of the over-all *FIRST* experience.

As in the past, teams may only submit at one Regional competition for judging. Teams submitting for both the Chairman's Award and the Woodie Flowers Award should note that both awards are judged at the same event. Students working on the Woodie Flowers Award submission and the those team members working on the Chairman's Award submission should coordinate to select the best event for the team.

#### 5.21.3.1 Submission Content

The Chairman's Award is presented to the team judged to have created the best partnership effort among team participants and which best exemplified the true meaning of *FIRST* through measurable impact on its participants, school, and community at large. There is no single "best way" for a team to win the Chairman's Award. Many factors come into play. The primary factors the judges will evaluate are:

- 1) How strongly does the submission document the impact *FIRST* has on the learning experience of the students, school curriculum, engineers, and/or community during the 2006/2007 team year as well as in prior years?
- 2) Has the team explained/demonstrated why/how it should be a role model for other *FIRST* teams to emulate?
- 3) How well has the team communicated its excitement and impact within the entire school, community, and beyond (state/nation) through participation in *FIRST* during the 2006/2007 team year as well as in prior years?
- 4) Has the team documented an innovative way to spread the FIRST message?
- 5) How strong of a year-round team partnership effort is reflected during the 2006/2007team year as well as in prior years? (You can define partnership in many ways, including: the partnership among the team's students/corporate sponsor/engineers; school/university sponsor/engineers; students/adults; community/team)
- 6) As a whole, does the content of the documentation exemplify the true meaning of *FIRST*?

Your Chairman's Award submission should include documentation for all the above factors.

## 5.21.3.2 Submission Format

Regional Chairman's Award submissions will be submitted on line. The submission, excluding the Executive Summary, will be limited to 10,000 characters, including spaces and punctuation, and may include up to four (4) photographs totaling no more than 1.0Mb of memory.

#### Submission Process

The URL for the Chairman's Award Submission is <u>www.firstawards.org/</u>Follow the directions shown on the site to submit your team's entry. Teams may only submit at one regional event at which the team will compete. This site will be available beginning January 16, 2007 at noon EST.

Submitters can easily enter information, save it, and return to the site to edit the Chairman's Award submission until they are ready to submit it for final judging. All entries will be final on Thursday, February 22, 2007 at 11:59 p.m. EST. No entries will be accepted or altered after this date.

Chairman's Award submitters will go to the website and enter the required information.

Team Number:

**Regional Selection:** 

**Executive Summary** – Teams *must complete the following fields* in order to be considered for this award. The information included in the Executive Summary is <u>not</u> included in the total character/word count for the Chairman's Award Submission.

- Team Name
   Corporate/University Sponsors
- Briefly describe the impact of the *FIRST* program on team participants with special emphasis on the 2006/2007 year and the preceding two years (500 characters allowed, including spaces and punctuation)
- Examples of role model characteristics for other teams to emulate (500 characters allowed, including spaces and punctuation)
- Describe the impact of the *FIRST* program on your team and community with special emphasis on the 2006/2007 year and the preceding two years (500 characters allowed, including spaces and punctuation)
- Team's innovative methods to spread the *FIRST* message (500 characters allowed, including spaces and punctuation)
- Describe the strength of your partnership with special emphasis on the 2006/2007 year and the preceding two years (500 characters allowed, including spaces and punctuation)
- Team's communication methods and results (500 characters allowed, including spaces and punctuation)
- Other matters of interest to the *FIRST* judges, if any (500 characters allowed, including spaces and punctuation)
- Upload pictures (maximum of 4 allowed, not to exceed 1.0Mb in total)
- Essay (10,000 characters allowed, including spaces and punctuation, or approximately 1500 words)
- Electronic signature of Team Captain/Student Representative certifying that the document is complete and accurate
- Electronic signature of adult team mentor certifying that the document is complete ad accurate

Once the Chairman's Award submissions are completed, they are sorted and posted on a private, password-protected site where only the judges can read the entries. Each regional will have all the candidates who successfully completed the submission listed and the judges

will review the submissions. Teams should always print and bring a hard copy of their submission to the event.

In preparing this document, bear in mind that students, engineers, teachers, community, school, sponsors, families, and other supporters, as well as the machine itself are all integral parts of your team experience. Your submission does need to clearly convey the factors outlined above.

• *Important Note:* Chairman's Award Judges look for and review the information entered in the Yearbook Page as part of the Chairman's Award submission. This information is entered as part of the Team Information Management System (TIMS) at <a href="http://www.my.usfirst.org/">www.my.usfirst.org/</a> Refer to Section 1 Communications for more details about the Yearbook Page.

#### 5.21.3.3 Submission Deadline

Chairman's Award submissions are due no later than Thursday, February 22, 2007. 11:59 p.m. EST.

# 5.21.4 Judging Process

## 5.21.4.1 The Regional Award Process:

By 10 a.m. on Friday mornings of each Regional Competition a list of interview times (which will either be pre-assigned by the judges or available for self selection by the teams, at the option of the judges) for the submitting teams will be available at the Pit Administration station. Interviews will take place during the day on Friday. A panel of judges will review the Chairman's Award entries at each Regional and will conduct on-site Chairman's Award interviews with those teams who have entered a submission for that regional event. Judges will select one winner for the Regional Chairman's Award at each regional competition.

Interviews are limited to ten (10) minutes with not more than three (3) team members (student or adult mentors). The team selects these representatives. During the first five (5) minutes of the interview, the team members give a presentation to the judges, and the judges will use the second five (5) minutes for their questions and answers.

<u>NOTE 1</u>: If the presentation requires special equipment, the team is responsible for bringing it to the interview, and the time required to set up the equipment will count as part of the team's allotted 5 minutes.

<u>NOTE 2</u>: Teams are encouraged to bring copies of documentation, supporting their submission, to leave with the judges. This documentation may include, but is not limited to:

- Letters of reference
- Newspaper and magazine articles
- Program Books

As part of the Chairman's Award judging process, *FIRST* judges will also review the Executive Summary page *AND* the yearbook page for each of the submitting teams. Your team's submission will be a key factor in the selection process, along with the judges' own observations of the team at the competitions.

## 5.21.4.2 The Chairman's Award Championship Award Process

At The Championship, a panel of judges will review the winning thirty-seven (37) Regional Chairman's Award submissions and will select one ultimate Chairman's Award winner. This

winning team has the additional honor of choosing one of its junior or senior student members to be the recipient of the Allaire Medal.

# 5.21.5 The Allaire Medal - Leadership Exemplified

The Chairman's Award is presented at the Championship to the *FIRST* team judged to have the best partnership effort. The Allaire Medal recognizes leadership exemplified and is awarded to an individual student on the winning Chairman's Award team.

Named in honor of Paul A. Allaire, a long-serving *FIRST* Chairman of the Board, the Allaire Medal is given to the student who has demonstrated outstanding leadership on his/her *FIRST* team, within his/her school and community, and whose personal character best embodies the spirit of *FIRST*.

The team receiving The Chairman's Award at the Championship will select the Allaire Medal recipient. The adult and student team members determine the winner. The recipient must be a high school junior or senior who has been accepted into a four-year degree program at a college or university. The Allaire Medalist receives the Allaire medallion and up to \$10,000 in total scholarship support for undergraduate tuition, room and board, fees, and books at his or her intended university or college.

# 5.22 HALL OF FAME (CHAMPIONSHIP ONLY)

*FIRST* Robotics created The Hall of Fame to recognize the teams that have had the most impact on *FIRST* growth. A team earns permanent Hall of Fame status by winning the Championship Chairman's Award, *the* most prestigious *FIRST* award. Unlike other Halls of Fame, the model teams in the *FIRST* Hall of Fame are not retired, but begin a new phase of participation, requiring additional activities to achieve Hall of Fame Star Status. To achieve Hall of Fame Star Status, a team must submit a Chairman's Award entry, using the same criteria as all other Chairman's Award applicants as described above in "Submission Process." These submissions need to include all activities that the team has participated in during 2006 that enhance the community's awareness of *FIRST*. Hall of Fame Chairman's Award submissions will not be included in the Regional Chairman's Award judging process.

## 5.22.1 DVD Submission

*FIRST* encourages teams to enhance each submission by creating a DVD, which should be mailed to *FIRST* headquarters, attention Sue Robinson, postmarked no later March 28, 2007. Teams are encouraged to bring a copy of the DVD and have equipment to show it in their booths at The Championship.

Congratulations to all the previous Chairman's Award winners! This year's thirty-seven (37) Regional Chairman's Award winners will vie for the one spot reserved for the 2007 winner.

#### 5.22.2 Display Specifications

TBD

## 5.22.3 Hall of Fame Teams

THE FIRST HALL OF FAME			
Year	Team #	Official Team Name	
2006	111	Motorola & Rolling Meadows High School & Wheeling High School	
2005	67	General Motors Milford Proving Ground and Huron Valley Schools	
2004	254	NASA Ames Research Center/Laron Incorporated/Unity Care Group/Line-X of San	

		Jose/PK Selective Metal Plating, Inc. & Bellarmine College Preparatory San Jose, CA USA
2003	103	NASA/Amplifier Research/Custom Finishers/Lutron Electronics/BAE Systems & Palisades High School
2002	175	Hamilton Sundstrand Space Systems International/The New England Air Museum/Techni-Products/Veritech Media & Enrico Fermi High School
2001	22	NASAJPL/Boeing/Rocketdyne/FADL Engineering/Decker Machine & Chatsworth High School
2000	16	Baxter Healthcare Corporation & Mountain Home High School
1999	120	NASA Lewis Research Center/TRW, Inc./Battelle Memorial Institute & East Technical High School
1998	23	Boston Edison & Plymouth North High School
1997	47	Delphi International & Pontiac Central High School
1996	144	Procter & Gamble & Walnut Hills High School
1995	151	Lockheed Sanders & Nashua High School
1994	191	Xerox Corporation & JC Wilson Magnet High School
1993	7	AT&T Bell Labs & Science High School
1992	191	Xerox Corporation & JC Wilson Magnet High School

# 5.23 THE FOUNDER'S AWARD (CHAMPIONSHIP ONLY)

Each year *FIRST* presents this award to honor an organization or individual that has contributed significantly to the growth of *FIRST*.

The Founder's Award is presented each year, by *FIRST* Founder Dean Kamen, to one organization or individual for exceptional service in advancing the ideals and mission of *FIRST*. Past winners of this award include: Motorola, Inc. (1993), Honeywell (1994), Walt Disney World's Epcot (1995), The City of Manchester, NH (1996), Francois Castaing of Chrysler Corporation (1997), Johnson & Johnson (1998), NASA (1999), Dr. William Murphy, Founder of Cordis Corporation & Small Parts, Inc. (2000), Autodesk, Inc. (2001), John Doerr, partner, Kleiner Perkins Caufield & Byers (2002), Innovation First (2003), FedEx Corporation (2004), The LEGO Group (2005), and United Technologies Corporation (2006).

# 5.24 THE AUTODESK INVENTOR AWARD (CHAMPIONSHIP ONLY)

#### 5.24.1 Purpose of Award:

This award honors excellence in student mechanical design, coordination, and presentation.

## 5.24.2 Award Overview

Autodesk wants to honor those young inventors and engineers that make the *FIRST* Robotics Competition possible! Once again we are excited to offer the Autodesk Inventor Award. With Autodesk Inventor we have provided the tool that allows you to design without limits. Now we want to see what you do with this tool. We know that before your team can start building your robot you need to design it. We want to see the exciting journey of how your designs evolved into a real-life robot! Autodesk Inventor allows you to quickly and easily design and modify your robot using the same iterative techniques employed by professional engineers. From concept through completion, the Autodesk Inventor Award was created to honor those who bring their ideas to reality.

Additional information about this award, along with the specific award criteria, judging process and deadlines will be posted on the Autodesk website: <u>www.autodesk.com/firstbase</u>

# 5.25 THE AUTODESK VISUALIZATION AWARD (CHAMPIONSHIP ONLY)

#### 5.25.1 Purpose of Award

This award honors excellence in student animation.

#### 5.25.2 Award Overview

All *FIRST* teams are invited to create a submission for the Autodesk Visualization Award (AVA) using Autodesk **3ds Max**® software. Additional information about this award, along with the specific award criteria, judging process and deadlines will be posted on the Autodesk website: <u>www.autodesk.com/firstbase</u>

# 5.26 CHAMPION (CHAMPIONSHIP ONLY)

This award celebrates the team or alliance that wins the Championship.

# 5.27 CHAMPIONSHIP FINALIST (CHAMPIONSHIP ONLY)

This award celebrates the team or alliance that makes it to the final match of the Championship.

# 5.28 DIVISION FINALIST (CHAMPIONSHIP ONLY)

This award celebrates the team or alliance that makes it to the final match in its division at the Championship.

# 5.29 DIVISION CHAMPION (CHAMPIONSHIP ONLY)

This award celebrates the team or alliance that wins the final match in their division at the Championship.

# 5.30 FIRSTAWARDS.ORG SITE

*FIRST* will once again be using <u>www.firstawards.org/</u> as a submission site for the Regional Chairman's Award, Hall of Fame, the Woodie Flowers Award and the Website Award. The *FIRST*awards.org site will open for submissions at noon EST on January 16, 2007 and close for all submissions on Thursday, February 22, 2007 at 11:59PM EST. The submission requirements for each award are listed in the section for the specific award.

Teams should carefully read the following information about this site before proceeding.

# 5.30.1 Formatting

Entries cannot contain any formatting only plain text. The only formatting supported is paragraph spacing by way of the 'return' key.

## 5.30.2 Accounts

Teams must register for a new *FIRST*awards.org account every year. A team's TIMS account and their *FIRST*awards.org account are not the same. Teams can only have one *FIRST*awards.org account. There are not separate logins for Chariman's and WFA entries.

# 5.30.3 Verification of Submission

Teams should always log in to the *FIRST*awards.org site to verify the content and the submission date of their entry after it has been submitted. For Chairman's, Hall of Fame, Rookie All Star and Woodie Flowers Award entries, teams should print a copy of the submission and bring it with them to the Regional Event. NASA Grant teams should download a copy to have should NASA request it. NASA does have access to this site, but in prior years some entries have not been completed successfully or the team did not check the NASA box and were required to supply a copy to NASA.

# 5.31 GET PUBLISHED

Rockport Publishers will be once again be publishing a book featuring 30 award-winning robots from the 2007 FRC competition that demonstrate engineering and design excellence. Each of the robots featured will be documented over several pages outlining the design and the design processes used through information and process images that the FRC teams supply. This book will offer technology enthusiasts, including FRC members interested in learning how creative processes are applied to develop sophisticated robots, with an intimate understanding of what it took to design and build these winning robots. The book will be published and available through major bookstore chains such as Amazon, Borders, and B&N, as well as around the globe and possibly in multiple languages, in the spring of 2008.

# 5.31.1 About the Publisher

Rockport Publishers specializes in books for design professionals-their publishing program includes product design, graphic design, interior design, and architecture. Their worldwide book distribution offers designers the opportunity to show their work in an international forum. Please visit their website at <u>www.rockpub.com</u>.

# 5.31.2 The Content of the Book

The book will feature approximately 30 robot designs that demonstrate exceptional performance in the following award categories at the regional events and the *FIRST* Championship. Only winners of at least one of these awards at the regional or championship level will be eligible for consideration:

- Delphi "Driving Tomorrow's Technology" Award
- General Motors Industrial Design Award
- Innovation in Control Award
- Motorola Quality Award
- Xerox Creativity Award

## 5.31.3 How It All Works

The book will be written based on information provided by the teams participating in the 2007 *FIRST* Robotics Competition season. Only 2007 FRC teams who have won one of the above mentioned awards are invited to submit documentation of their design for consideration as a featured profile/case-study that will be included in the book. The submitted information will form the raw material the book is created from so please provide all the visuals of all kinds and from all points during the development process. This is extremely important because if you do not submit enough written information or visuals, you will not be eligible for consideration.

Teams that want to be considered for inclusion in this book must document their design process and submit that documentation to FIRST no later than one month from the day the award was won. FIRST will forward the submitted material to the book author. The author will select designs to be included in the book from those submitted by teams winning one of the above awards. The quality of your submitted material will be a key important factor that determines which robots will be chosen for inclusion in this book.

A series of questions have been prepared for each award and teams must fully answer these questions and provide an in-depth narrative of the design and development process as one part of their submitted material.

Teams must include a minimum of 15 high-quality graphic images (see *Electronic Submission Guidelines*) that illustrate the evolution of their robot design from inception to its final creation. These graphic images must include a final image (or two) of the finished robot shot clearly against a white background or wall, as well as the following:

- Original hand-sketches of robot
- Photographs of robot concepts, development or prototypes
- CAD models of robot

The submitted graphics are as important as the submitted text to tell the story of how your team progressed from original idea to reality and a good variety of images and image types will communicate this best. Images that correlate well with the details in the submitted text are most useful. Be sure to read the *Electronic Submission Guidelines* carefully to ensure the correct content is provided.

Each image must be supported with a caption to describe the activity captured in the image. Each caption should not exceed 45 words.

# 5.31.4 Submission Requirements

You must provide the following materials in order to be eligible for consideration:

- A fully filled out questionnaire submitted as a Microsoft Word document
- A minimum of 15 images submitted according the *Electronics Submission Guidelines* attached
- A list of captions for all images (each image should include a caption, up to 45 words)
- A signed Grant of Rights form
- An electronic file (word document) of all team participants

## 5.31.5 Electronic Submission Guidelines

Files may be provided on either a MAC or PC formatted media: (be sure to copy MAC files to MAC formatted disks...MAC files copied onto PC formatted disks may be corrupted). Files must be sent on one of the following media: CD-ROM, or DVD.

Submit a copy of your files (keep the original) with the following specifications:

5.31.5.1 Size and format:

- 350 dpi resolution or (72 DPI for screen grabs only)
- **Minimum** size 4" x 5" (larger dimensions preferred)

- .TIFF or .EPS files only RGB color or CYMK color
- Illustrator files need to be EPS and all fonts need to be converted to outline (vector)

The only accepted files are TIFF or EPS. **Do NOT** send JPG, Quark Express files, Quick Time, PDF, PSD, GIF, or Pagemaker files, they will not be accepted.

The information you provide will be used in a credit to accompany your submission and in the directory should it be selected, so write legibly, be as complete as possible, and double check spelling. <u>Incomplete or illegible forms will be disqualified</u>.

<u>Note to teams:</u> You can convert Autodesk Inventor files to .TIFF files by saving them as .bmp files, opening them in Paint, and resaving as .TIFF.

#### 5.31.5.2 Labeling Submission

Please label each disk with the following information:

- FIRST Robot Book
- Team Number
- Award submission is for
- Contact Name
- Contact Phone Number
- Contact email

Include the following items with the disk:

- Disk directory printout listing contents of the disk
- 8" x 10" color or black and white print out (hi resolution on photo paper) of each image labeled with:
  - 1. Team Number
  - 2. File Name(s)
  - 3. Award Submission is for
  - 4. File Format (.TIFF, .EPS)
  - 5. File size in megabytes (Mb)
  - 6. Image size (inches or metric)
  - 7. DPI (resolution)
- Completed "Grant of Rights" form (included in the following pages) please list all team members/mentors in a text document and include on the disk of images as well as a printout attached to the Grant of Rights form.
- Completed "Submission Questionnaire" (included in the following pages) in a Word .doc format.

#### 5.31.5.3 Packaging/Shipping

Package all media well for shipping. We recommend a padded envelope and do not use paper clips, binder clips, or staples near any photographs as they will damage the images.

Send the completed submission package to: FIRST Robotics Competition

# *FIRST* Robot Book Opportunity 200 Bedford Street Manchester, NH 03102

#### You must include your team number on the package as part of the return address.

#### 5.31.5.4 Deadline to submit materials:

Must be postmarked no later than exactly one month from the day the award was won.

Take the time to double check that you have put everything in the package, that all the forms are completed, all criteria is met and the disk can be read before you mail it *FIRST*. Incomplete packages will not be forwarded to the author.

Upon publication, teams whose work is selected for the book will be notified and will receive a 50% discount on purchasing unlimited copies of the book.

#### 5.31.6 Submission Questionnaire

The following team questions will aid in the creation of the *FIRST* Robots: *Behind the Design 2.* Questions must be submitted as a Word document.

The "General Robot Description Question" must be completed for every award submission.

General Robot Description Question:

Please describe in-depth the design, development process, and any challenges you faced along the way. Provide step-by-step images to illustrate the important moments.

Award: Delphi "Driving Tomorrow's Technology"– This award celebrates an elegant and advantageous machine feature, which includes any aspect of engineering elegance including, but not limited to: design, wiring methods, material selection, programming techniques, and unique machine attributes. The criteria for this award is based on the team's ability to verbally describe in a concise manner, as well as demonstrate, this chosen machine feature.

Questions:

- 1) What was the machine feature that won this award?
- 2) How does the feature contribute to the robot's performance?
- 3) Describe the design process of that feature, from initial ideas to concepts to prototypes to final design.
- 4) What design alternatives were suggested for this machine feature before the chosen design was selected?
- 5) What engineering analysis was done before the device was constructed?
- 6) Was any software used as a design tool? Please describe how that software benefited the design process.
- 7) What challenges were overcome in getting the feature functioning on the robot?
- 8) When was the first functioning prototype of this feature ready for testing, and how was that testing accomplished?

- 9) Was the feature modified during testing to improve performance?
- 10) How did team members guide the design and development of this feature?

**Award:** <u>General Motors Industrial Design</u> – This award celebrates form and function in an efficiently designed machine that effectively achieves the established challenge.

Questions:

- 1) Describe your team's strategy for playing the 2007 FRC game.
- What was the most important feature or function to execute your game strategy? Describe its function and the problems solved while creating and constructing this feature.
- 3) Please provide specific examples of overcoming the design challenges created by limits of time and resources.
- 4) What assembly and integration problems were solved while building the robot?
- 5) What was the most difficult portion of the design process (idea generation, selection of alternatives, analysis, fabrication, testing, integration) and why? Please walk us through the design that produced your machine.
- 6) What features had to be sacrificed in order to achieve the present machine?
- 7) Did practices reveal any unexpected features of the machine (positive or negative)?
- 8) Is this machine modeled on any real world systems, or can the design be applied to any real world system? If so, please explain the relationship between the machine and other existing systems.

Award: Innovation in Control – This award celebrates an innovative control system or

application of control components to provide unique machine functions.

Questions:

- 1) What is the innovative control or application of control components on your robot?
- 2) What can the robot do in autonomous mode, and how does it accomplish those tasks?
- 3) Control requires an integration of the hardware and software on a robot. Can you describe how the software was integrated with the robot mechanisms and sensors?
- 4) How did the design of the control system morph while the robot was developed and what aspects of the robot design influence the control system the most?"
- 5) How did the control system improve human-machine interaction? (For example, many teams program in dead bands for motors, change the slope of the input to output relationships for joysticks and motors, or use other means to improve the human's ability to control the robot).
- 6) What sensors were used in the control system and how were these sensors used?
- 7) Was the control system "bench tested" before being implemented on the robot, and what was discovered from those original tests? How was the control system tested?
- 8) Control is based on feedback. What forms of feedback to the human and the robot are achieved in your design and how is the feedback measured?
- 9) How does the control function contribute to the robot's performance?
- 10) Was the machine designed with control in mind, or was the control system built to accommodate the mechanical design?
- 11) What surprises were discovered during the development of the control system?

**Award:** <u>Motorola Quality</u> – This award celebrates machine robustness in concept and fabrication.

Questions:

- 1) What makes this machine robust?
- 2) Provide some examples of how the machine's robustness contributes to the machine's performance.
- 3) What factors established the need for a robust design?
- 4) What was the most important component in the Kit of Parts in the area of machine robustness?
- 5) How did experimentation and testing assist in creating a high quality robot?
- 6) What research was conducted to aid the design process?
- 7) What were the goals and objectives of this design and how did these goals result in producing the high quality finished product?
- 8) Describe the creative process (from brainstorming to the final build).
- 9) Where did your design inspiration come from?
- 10) Before products are developed, a series of design reviews are often conducted, such as Concept Review and Selection, Preliminary Design Review, Design Safety Review, Prototype Review, Customer Testing Review, Detailed Design Review, Quality Review). Though your team may not have established a formal review process, can you describe how the design was
- 11) reviewed and improved over the six week time period?

Award: <u>Xerox Creativity</u> – This award celebrates creative design, use of a component, or a creative or unique strategy of play.

Questions:

- 1) What are the creative attributes of your design?
- 2) Creativity can either be instantaneous (i.e. the Eureka moment) or the result of a systematic process to generate ideas (such as brainstorming, using analogies, applying checklists, word associations, manipulating an existing solution). Please describe the process which produced the creative aspect of your design.
- 3) What design ideas or robot functions were thought of but not implemented on the final robot, and why?
- 4) For the existing design, how many different alternatives were considered and why was the existing system selected?
- 5) Moving from an idea to reality is often difficult. How has the design changed from its original concept to the constructed device?
- 6) How did the FIRST robot rules or FIRST game rules affect your creative process?
- 7) What design tools were used to first describe the idea, refine the design, and construct the device? (Note these tools may range from a sketch, to a CAD model, to engineering calculations).
- 8) Did the schedule impact your creative process? Did the time constraint force an alternative solution? Did the small amount of time for the entire process (from inception, to concept, to prototype, to testing, to refinement, to final design) dampen creativity?

#### 5.31.7 F. A. Q's

- **Q.** Who owns the design?
- **A.** The team will continue to own the design. By signing the "Grant of Rights" form, the team is giving permission for Rockport Publishers to publish the design (read the Grant of Rights form for specific rights being granted).
- Q. Will someone be able to patent our design from the book?
- **A.** The book will contain a copyright statement indicating that all of the photos and drawings are property of the team who submitted them.
- Q. Will teams get any payment for being published?

**A.** No.

- Q. What happens if the disk is corrupted, can we resubmit?
- **A.** We encourage all teams to double check the package before they submit. Due to the planned timing of getting this book written and published, any problems with the submission package will decrease the odds that a team will be considered as a robot design case study for this book.
- **Q**. Will someone contact our team to ask us questions about our design?
- A. The "Submission Questionnaire" is designed to give the author all the information needed to publish the book. Be sure to complete it fully. Teams may wish to emphasize one award over others in their submitted material.
- Q. When will we know if our team has been selected for publication?
- **A**. Teams will know if their submission was chosen upon publication, currently scheduled for April 2008.
- **Q**. We created all of our CAD drawings using Autodesk Inventor. How do we convert these files to .EPS or .TIFF files?
- **A.** You can convert Autodesk Inventor files to .TIFF files by saving them as .bmp files, opening them in Paint, and resaving as .TIFF. You cannot convert them to .EPS.
- Q. How do I submit a Word.doc when the submission questionnaire is in a .pdf format?
- A. Acrobat Reader has a Select Text tool. Use it to highlight the Submission Questionnaire portion of the .pdf file and copy to Clipboard (PC users, right mouse click). Open a new Word document and paste the copied text. This will allow you to answer the questions using Word and without retyping.

#### 5.32 GRANT OF RIGHTS

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[to be filled in by author]

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